CHINO BASIN WATERMASTER

NOTICE OF MEETINGS

Thursday, January 12, 2006

9:00 a.m. – Annual Appropriative Pool Meeting
11:00 a.m. – Annual Non-Agricultural Pool Meeting

AT THE CHINO BASIN WATERMASTER OFFICES
9641 San Bernardino Road
Rancho Cucamonga, CA 91730
(909) 484-3888

Tuesday, January 17, 2006

9:00 a.m. – Annual Agricultural Pool Meeting

AT THE INLAND EMPIRE UTILITIES AGENCY OFFICES
6075 Kimball Ave. Bldg. A Board Room
Chino, CA 91710
(909) 993-1600

CHINO BASIN WATERMASTER

January 12, 2006

9:00 a.m. - Annual Appropriative Pool Meeting

11:00 a.m. - Annual Non-Agricultural Pool Meeting

January 17, 2006

9:00 a.m. – Annual Agricultural Pool Meeting

AGENDA PACKAGE

CHINO BASIN WATERMASTER
ANNUAL APPROPRIATIVE POOL MEETING

9:00 a.m. – January 12, 2006
At The Offices Of
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730

AGENDA

CALL TO ORDER

AGENDA - ADDITIONS/REORDER

II. ANNUAL ELECTIONS - ACTION

A. Calendar Year 2006 Appropriative Pool Officers
Nominations will be heard for the Appropriative Pool Chair to serve during calendar year 2006.

Chair	_____
Vice-Chair	_____
Secretary/Treasurer	Watermaster Chief Executive Officer

B. Calendar Year 2006 Advisory Committee Members & Officers
According to the rotation sequence established among the pools, the appropriators will be asked to appoint a designated representative to serve on the Advisory Committee during calendar year 2006.

Chair	Agricultural Pool	_____
Vice-Chair	**Appropriative Pool**	_____
2nd Vice-Chair	Non-Agricultural Pool	_____

C. Calendar Year 2006 Pool Representation on the Watermaster Board
Based on the Court-adopted Rotation Schedule for Representatives to the Watermaster, during calendar year 2006, the following will represent the Appropriative Pool on the Watermaster Board.

Monte Vista Water District – New Member: _____

West End Consolidated Water Company – New Member: Mr. Ken Willis

II. CONSENT CALENDAR

Note: All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by one motion in the form listed below. There will be no separate discussion on these items prior to voting unless any members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

A. MINUTES

1. Minutes of the Joint Appropriative and Non-Agricultural Pool Meeting held December 8, 2005 *(Page 1)*

B. CHINO BASIN WATERMASTER INVESTMENT POLICY
Resolution 06-01 - Resolution of the Chino Basin Watermaster, San Bernardino County, California, re-authorizing the Watermaster's Investment Policy *(Page 11)*

C. LOCAL AGENCY INVESTMENT FUND
Resolution 06-02 – Resolution Authorizing Investment of Monies in the Local Agency Investment Fund (LAIF) *(Page 19)*

D. ASSESSMENTS
Resolution 06-03 – Resolution of the Chino Basin Watermaster Levying Replenishment and Administrative Assessments for Fiscal Year 2005-2006 *(Page 21)*

E. NOTICE OF INTENT
Annual Filing of Notice of Intent Regarding the Determination of Operating Safe Yield *(Page 25)*

III. BUSINESS ITEMS

A. PROPOSAL FOR PROFESSIONAL ENGINEERING SUPPORT SERVICES FOR THE CHINO BASIN FACILITIES IMPROVEMENT PROJECT
Consider the proposal to secure an outside professional engineering support service "Santec" in the amount of $10,000.00 to be billed monthly on a time-and-materials basis *(Page 29)*

B. BASIN OPERATIONS MANUAL
Consider approval of the Basin Operations Manual which will be available on the Wildermuth Environmental Inc. web site and the Chino Basin Watermaster FTP site *(Page 33)*

C. MONTE VISTA WATER DISTRICT APPLICATION TO RECHARGE
Consider approval for the Monte Vista Water District application to the Chino Basin Watermaster dated November 1, 2005, requesting to recharge up to 3,500 acre-ft/yr of State Water Project water by injection at its wells 1, 4, 30, and 32 *(Page 37)*

IV. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT
1. Board Reappointment Motion
2. Peace II Process

B. CEO/STAFF REPORT
1. Engineers Report
2. Ontario International Airport Data Request
3. Water Activity Update

V. INFORMATION

1. Newspaper Articles *(Page 127)*
2. NWRA Election Results *(Page 133)*
3. AGWA Hydrologic, Environmental and Legislative Challenges to Southern California's Present and Future Managed Aquifer Recharge Programs Monday, February 6, 2006 *(Page 135)*

VI. POOL MEMBER COMMENTS

VII. OTHER BUSINESS

VIII. FUTURE MEETINGS

January 12, 2006	9:00 a.m.	Annual Appropriative Pool Meeting
January 12, 2006	11:00 a.m.	Annual Non-Agricultural Pool Meeting
January 12, 2006	1:00 p.m.	MZ1 Technical Committee Meeting
January 16, 2006	1:00 p.m.	Water Quality Committee Meeting

January 17, 2006	9:00 a.m.	Annual Agricultural Pool Meeting @ IEUA
January 26, 2006	9:00 a.m.	Annual Advisory Committee Meeting
January 26, 2006	11:00 a.m.	Annual Watermaster Board Meeting

Meeting Adjourn

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FOR PAGINATION

CHINO BASIN WATERMASTER
ANNUAL NON-AGRICULTURAL POOL MEETING

11:00 a.m. - January 12, 2006
At The Offices Of
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730

AGENDA

CALL TO ORDER

AGENDA - ADDITIONS/REORDER

I. ANNUAL ELECTIONS – Action

A. **Calendar-Year 2006 Non-Agricultural Pool Officers**
Nominations will be heard for Pool Chair, followed by nominations for Pool Vice-Chair, to serve during Calendar-Year 2006.

Chair	_____
Vice-Chair	_____
Secretary/Treasurer	Watermaster Chief Executive Officer

B. **Calendar-Year 2006 Advisory Committee Members**
Pool member(s) will be asked to elect representatives and alternates to serve on the Advisory Committee during Calendar-Year 2006.

Member:_____ Alternate:_____

C. **Calendar-Year 2006 Advisory Committee Officers**
Based on the rotation sequence established among the pools, the members of the Non-Agricultural Pool will be asked to appoint a designated representative, 2nd Vice-Chair of the Advisory Committee during Calendar-Year 2006. If the appointed representative is unable to attend an Advisory Committee meeting, a remaining pool officer may serve as his/her alternate.

Agricultural Pool	Chair _____
Appropriative Pool	Vice-Chair _____
Non-Agricultural Pool	**2nd Vice-Chair** _____

D. **Calendar-Year 2005 Pool Representation on Watermaster Board**
The Pool members will be asked to select one representative to serve on the Watermaster Board during Calendar-Year 2005 and one alternate representative.

Member:_____ Alternate:_____

II. CONSENT CALENDAR

Note: All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by one motion in the form listed below. There will be no separate discussion on these items prior to voting unless any members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

A. MINUTES

1. Minutes of the of the Non-Agricultural held December 8, 2005 *(Page 1)*

B. CHINO BASIN WATERMASTER INVESTMENT POLICY

Resolution 06-01 - Resolution of the Chino Basin Watermaster, San Bernardino County, California, re-authorizing the Watermaster's Investment Policy *(Page 11)*

C. LOCAL AGENCY INVESTMENT FUND

Resolution 06-02 – Resolution Authorizing Investment of Monies in the Local Agency Investment Fund (LAIF) *(Page 19)*

D. ASSESSMENTS

Resolution 06-03 – Resolution of the Chino Basin Watermaster Levying Replenishment and Administrative Assessments for Fiscal Year 2005-2006 *(Page 21)*

E. NOTICE OF INTENT

Annual Filing of Notice of Intent Regarding the Determination of Operating Safe *(Page 25)*

III. BUSINESS ITEMS

A. PROPOSAL FOR PROFESSIONAL ENGINEERING SUPPORT SERVICES FOR THE CHINO BASIN FACILITIES IMPROVEMENT PROJECT

Consider the proposal to secure an outside professional engineering support service "Santec" in the amount of $10,000.00 to be billed monthly on a time-and-materials basis *(Page 29)*

B. BASIN OPERATIONS MANUAL

Consider approval of the Basin Operations Manual which will be available on the Wildermuth Environmental Inc. web site and the Chino Basin Watermaster FTP site *(Page 33)*

C. MONTE VISTA WATER DISTRICT APPLICATION TO RECHARGE

Consider approval for the Monte Vista Water District application to the Chino Basin Watermaster dated November 1, 2005, requesting to recharge up to 3,500 acre-ft/yr of State Water Project water by injection at its wells 1, 4, 30, and 32 *(Page 37)*

IV. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT

1. Board Reappointment Motion
2. Peace II Process

B. CEO/STAFF REPORT

1. Engineers Report
2. Ontario International Airport Data Request
3. Water Activity Update

V. INFORMATION

1. Newspaper Articles *(Page 127)*
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VI. POOL MEMBER COMMENTS

VII. OTHER BUSINESS

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January 16, 2006	1:00 p.m.	Water Quality Committee Meeting
January 17, 2006	9:00 a.m.	Annual Agricultural Pool Meeting @ IEUA
January 26, 2006	9:00 a.m.	Annual Advisory Committee Meeting
January 26, 2006	11:00 a.m.	Annual Watermaster Board Meeting

Meeting Adjourn

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CHINO BASIN WATERMASTER
ANNUAL AGRICULTURAL POOL MEETING
9:00 a.m. – January 17, 2006
At The Offices Of
Inland Empire Utilities Agency
6075 Kimball Ave., Bldg. A, Board Room
Chino, CA 91710

AGENDA

CALL TO ORDER

AGENDA - ADDITIONS/REORDER

I. **ANNUAL ELECTIONS - ACTION**

A. **Calendar-Year 2006 Agricultural Pool Members**

The Agricultural Pool membership shall consist of not less than ten representatives selected at large by members of the pool. Pool members will be asked to make any necessary changes to the following list in order to establish pool membership and alternates during calendar year 2006:

Current Agricultural Pool Members		Current Alternates:	
Crops:	Glen Durrington	Crops:	Dan Hostetler
	Jeff Pierson		
Dairy:	Robert Feenstra	Dairy:	Syp Vander Dussen
	Gene Koopman		
	Peter Hettinga		
	Nathan deBoom		
	John Huitsing		
State:	Pete Hall	State:	Gary Lord
	Edward Gonsman		
	Robert Nobles		
	Nate Mackamul		

B. **Calendar Year 2006 Agricultural Pool Officers**

Nominations will be heard for Pool Chair, followed by nominations for Pool Vice-Chair.

Chair	_____
Vice-Chair	_____
Secretary/Treasurer	Watermaster Chief Executive Officer

C. **Calendar Year 2006 Advisory Committee Members & Officers**

The pool members will be asked to determine the ten agricultural representatives to serve on the Advisory Committee and, according to the rotation sequence established among the pools, appoint a representative to serve as Chair of the Advisory Committee during calendar year 2006

Chair	**Agricultural Pool**	
Vice-Chair	Non-Agricultural Pool	_____
2nd Vice-Chair	Appropriative Pool	_____
		_____

D. Calendar-Year 2006 Pool Representation on Watermaster Board
The Pool members will be asked to consider selecting two representatives to serve on the Watermaster Board during Calendar-Year 2006 and one or two alternate representatives.

Member:_____Alternate:_____

Member: _____ Alternate:_____

II. CONSENT CALENDAR

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A. MINUTES
1. Minutes of the Agricultural Pool Meeting held December 6, 2005 *(Page 7)*

B. CHINO BASIN WATERMASTER INVESTMENT POLICY
Resolution 06-01 - Resolution of the Chino Basin Watermaster, San Bernardino County, California, re-authorizing the Watermaster's Investment Policy *(Page 11)*

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C. MONTE VISTA WATER DISTRICT APPLICATION TO RECHARGE
Consider approval for the Monte Vista Water District application to the Chino Basin Watermaster dated November 1, 2005, requesting to recharge up to 3,500 acre-ft/yr of State Water Project water by injection at its wells 1, 4, 30, and 32 *(Page 37)*

IV. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT
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2. Peace II Process

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January 12, 2006	11:00 a.m.	Annual Non-Agricultural Pool Meeting
January 12, 2006	1:00 p.m.	MZ1 Technical Committee Meeting
January 16, 2006	1:00 p.m.	Water Quality Committee Meeting
January 17, 2006	9:00 a.m.	Annual Agricultural Pool Meeting @ IEUA
January 26, 2006	9:00 a.m.	Annual Advisory Committee Meeting
January 26, 2006	11:00 a.m.	Annual Watermaster Board Meeting

Meeting Adjourn

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CHINO BASIN WATERMASTER

II. CONSENT CALENDAR

A. MINUTES

1. Joint Appropriative and Non-Agricultural Pool– December 8, 2005

Draft Minutes
CHINO BASIN WATERMASTER
JOINT APPROPRIATIVE & NON-AGRICULTURAL POOL MEETING
December 8, 2005

The Joint Appropriative and Non-Agricultural Pool Meeting were held at the offices of Chino Basin Watermaster, 9641 San Bernardino Road, Rancho Cucamonga, CA, on December 8, 2005 at 9:00 a.m.

APPROPRIATIVE POOL MEMBERS PRESENT

Dave Crosley, Chair	City of Chino
Robert DeLoach	Cucamonga Valley Water District
Raul Garibay	City of Pomona
Ken Jeske	City of Ontario
J. Arnold Rodriguez	Santa Ana River Water Company
Gerald J. Black	Fontana Union Water Company
Charles Moorrees	San Antonio Water Company
Mike Maestas	City of Chino Hills
Rosemary Hoerning	City of Upland
Mark Kinsey	Monte Vista Water District

NON-AGRICULTURAL POOL MEMBERS PRESENT

Justin Scott-Coe	Vulcan Materials Company (Calmat Division)

Watermaster Staff Present

Kenneth R. Manning	Chief Executive Officer
Sheri Rojo	CFO/Asst. General Manager
Danielle Maurizio	Senior Engineer
Sherri Lynne Molino	Recording Secretary

Watermaster Consultants Present

Michael Fife	Hatch & Parent
Andy Malone	Wildermuth Environmental Inc.

Others Present

David De Jesus	Three Valleys Municipal Water District
Josephine Johnson	Monte Vista Water District

Chair Crosley called the meeting to order at 9:08 a.m.

AGENDA - ADDITIONS/REORDER
There were no additions or reorders made to the agenda.

I. CONSENT CALENDAR

A. MINUTES

1. Minutes of the Joint Appropriative and Non-Agricultural Pool Meeting held November 10, 2005

B. FINANCIAL REPORTS

1. Cash Disbursements for the month of November 2005
2. Combining Schedule of Revenue, Expenses and Changes in Working Capital for the Period July 1, 2005 through November 30, 2005
3. Treasurer's Report of Financial Affairs for the Period November 1, 2005 through November 30, 2005
4. Profit & Loss Budget vs. Actual July through November 2005

Motion by Jeske, second by DeLoach, and by unanimous vote – Non-Ag concurred
Moved to approve Consent Calendar Items A through B, as presented

II. BUSINESS ITEMS

A. MOTION FOR EXTENSION OF THE WATERMASTER BOARD

Mr. Manning noted that due to the calendar of the court it was necessary to schedule a December meeting and bring this item before the committee members for approval to forward this item to the Advisory Committee and Watermaster Board in order to meet the February 9, 2006 court date. Counsel Fife stated the motion which is in today's meeting packet is the motion that was before this committee a few months prior. At that past meeting a request was made by this committee to approach the Watermaster Board to file an alternate motion to request more time in order to allow the Peace II Agreement to be completed. Counsel did ask the court for an extension and the court granted an extension until February 9, 2006; at the court hearing the judge made it very clear he was willing to move the court date out, however, at that hearing a continuance would not be granted again. Counsel Fife stated it was anticipated the Peace II Agreement would be completed by this time; unfortunately that is not the case, however in order to make the February 9, 2006 hearing date a motion must be filed by January 9, 2006. Mr. Jeske inquired if the motion is to file for "the" nine member board or to appoint "a" board. Counsel Fife stated that counsel represents the board, the board has instructed counsel specifically to file a motion to reappoint "the" nine member board. A discussion ensued with regard to past discussions and the desire to complete the Peace II process prior to making this motion. Mr. Jeske noted that the City of Ontario is not in a position, at this time, to support a motion to reappoint "the" nine member board without the Peace II Agreement process in place. Mr. DeLoach stated that he felt it was clear by past meetings that the majority of this committee was not ready or willing to make a motion regarding the nine member board reappointment until the completion of the Peace II process and that Agreement is not concluded. Mr. DeLoach noted that Cucamonga Valley Water District is not in a position, at this time, to support a motion to reappoint "the" nine member board without the Peace II Agreement process in place. A lengthy discussion ensued with regard to linking or not linking the items of the Peace II Agreement and the issue of the nine member board reappointment together. The question what would happen if no action was taken today was presented. Counsel Fife stated that the issue has not been addressed and that counsel is unclear what happens if it expires, leaving a few options open for the committee to look at. Counsel Fife stated that the court appointed the Watermaster Board and in theory if the Watermaster Board expires the court will take over making the decisions. An extensive discussion ensued with regard to gain clarification of the process. Mr. Manning stated the motion being presented to the Pool today gives the committee members an opportunity to either reaffirm its earlier position, or to change that position, or to modify that position in any way. It was noted that the majority of the committee members felt they have not had enough time for thought and/or discussion on this item to present a motion at this time. Mr. Kinsey commented on the situation at hand which has a time constraint attached to it regarding the February 9, 2006 scheduled court date and a twenty day prior filing date.

Motion by Kinsey, second by Garibay
Motion was made to approve the reappointment of the Watermaster Board for another five year term and to keep this item open for discussion

At 9:52 a.m. the open Appropriative & Non-Agricultural Pool meeting was adjourned and the confidential session convened.

At 10:01 a.m. the confidential session was adjourned and the open Appropriative & Non-Agricultural Pool meeting reconvened.
It was decided more time was needed for discussion and a separate Appropriative Pool member meeting would meet next week prior to the Advisory Committee meeting for the sole purpose of discussing the motion for the reappointment of the Watermaster Board and to bring back a motion at the December 15, 2005 continued Appropriative & Non-Agricultural Pool meeting. It was decided a roll call vote was needed to table this motion until further discussion can take place. A roll call vote was recorded to table the

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motion for a vote to be taken on December 15, 2005 after a special separate Appropriative committee member meeting took place; yes votes were recorded from all but one pool committee member and the Non-Agricultural Pool member opted to vote at the December 15, 2005 meeting.

Motion by Kinsey, second by Garibay, and by majority vote – Non-Ag concurred
Moved to table the motion for the extension of the Watermaster Board until December 15, 2005 at 8:30 a.m., as presented

III. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT

1. Attorney Manager Process/Discussion of Peace II Agreement
   Counsel Fife stated there was a follow up workshop held on December 7, 2005 which went very smoothly with questions and answers which were brought about by Counsel Slater reading the complied list of previously presented questions which came out of the first workshop. This item was discussed in great detail at the Agricultural Pool meeting earlier this week. A discussion ensued with regard to time lines and suggestions that have come out of the workshops. It was noted that more workshops will be needed and scheduled in a timely manner and that no action is required today and is being presented for comment and discussion.

B. CEO/STAFF REPORT

1. Volume Vote Calculations and 85/15 Credit for Non-Agricultural Assignments Review for January Meeting
   Mr. Manning noted this item will be presented with a full report at the January 2006 meeting.

IV. INFORMATION

1. Newspaper Articles
   No comment was made regarding this item.

V. POOL MEMBER COMMENTS

No comment was made regarding this item.

VI. OTHER BUSINESS

No comment was made regarding this item.

VII. FUTURE MEETINGS

December 6, 2005	9:00 a.m.	Agricultural Pool Meeting @ IEUA
December 8, 2005	9:00 a.m.	Appropriative & Non-Agricultural Pool Meeting
December 15, 2005	9:00 a.m.	Advisory Committee Meeting
December 15, 2005	11:00 a.m.	Watermaster Board Meeting
January 12, 2006	9:00 a.m.	Annual Appropriative Pool Meeting
January 12, 2006	11:00 a.m.	Annual Non-Agricultural Pool Meeting
January 17, 2005	9:00 a.m.	Annual Agricultural Pool Meeting @ IEUA
January 26, 2006	9:00 a.m.	Annual Advisory Committee Meeting
January 26, 2006	11:00 a.m.	Annual Watermaster Board Meeting

The Appropriative Pool meeting was called to recess until December 15, 2005 at 8:30 a.m.

The Joint Appropriative and Non-Agricultural Pool Meeting came together from the recess which was called from the December 8, 2005 joint meeting and was held at the offices of Chino Basin Watermaster, 9641 San Bernardino Road, Rancho Cucamonga, CA, on December 15, 2005 at 8:30 a.m.

APPROPRIATIVE POOL MEMBERS PRESENT

Dave Crosley, Chair	City of Chino
Robert DeLoach	Cucamonga Valley Water District
Raul Garibay	City of Pomona
Ken Jeske	City of Ontario
J. Arnold Rodriguez	Santa Ana River Water Company
Gerald J. Black	Fontana Union Water Company
Charles Moorrees	San Antonio Water Company
Mike Maestas	City of Chino Hills
Rosemary Hoerning	City of Upland
Mark Kinsey	Monte Vista Water District
Chris Diggs	Fontana Water Company
Carole McGreevy	Jurupa Community Services District

NON-AGRICULTURAL POOL MEMBERS PRESENT

Bob Bowcock	Vulcan Materials Company (Calmat Division)

Watermaster Staff Present

Kenneth R. Manning	Chief Executive Officer
Danielle Maurizio	Senior Engineer
Sherri Lynne Molino	Recording Secretary

Watermaster Consultants Present

Scott Slater	Hatch & Parent
Mark Wildermuth	Wildermuth Environmental Inc.

Others Present

David De Jesus	Three Valleys Municipal Water District
Josephine Johnson	Monte Vista Water District
Justin Scott-Coe	Vulcan Materials Company (Calmat Division)
Rick Hansen	Three Valleys Municipal Water District

Chair Crosley called the meeting from recess to order at 8:30 a.m.

II. BUSINESS ITEMS

A. MOTION FOR EXTENSION OF THE WATERMASTER BOARD

Mr. Kinsey asked to modify the motion that he made at the December 8, 2005 meeting to reflect an alternative motion which was formed at the separate committee meeting earlier this week. Mr. Manning clarified that Mr. Kinsey was withdrawing his original motion and replacing it with the new stated motion; Mr. Kinsey acknowledged that was correct. It was noted this item needs to remain open for discussion. Mr. Kinsey stated he was able to address this situation in closed session with his board and noted the Monte Vista Water District Board appears to be willing to go along with the alternate motion in hopes to make the process better. The decision to form a committee came out of the separate meeting; however, how the make up of the committee will be comprised was not fully discussed. Mr. DeLoach stated the Advisory Committee meeting is set to start here shortly and this new motion will be brought forward to that committee along with a different motion offered by the Agricultural Pool and that only after the Advisory and Watermaster Board meet should the discussion of the composition of the new committee be discussed. Mr. Kinsey noted there might be suggestions that come out of the Advisory Committee meeting which will contain give and take on the part of the composition. A discussion ensued with regards to the motion made and the possible governance structure changes. Counsel Slater stated the subject under consideration is an important one and one that there will be some sensitivity around. Counsel Slater stated that given the nature of the subject counsel wanted to call attention to the procedure that is called for in the Judgment where there is a recommendation coming from a pool and a requirement where the recommendation which requires Watermaster action being noticed to the other pools prior to it being considered by the

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Advisory Committee. There are some challenges related to the timing in which the pleading might be filed. Counsel Slater recited paragraph 38a in the Judgment which makes reference to the thirty day notice. A discussion ensued with regard to the statements made by counsel. Mr. Jeske noted that the intention of the provided motion is to create a better working and more effective governance of Watermaster. Mr. Kinsey offered comment and inquired to counsel that if because the motion is different than the Agricultural Pool's motion if a thirty day notice needs to take place; Counsel Slater stated he was simply reading what the Judgment calls out with regards to a pool recommendation to Watermaster for implementation. Counsel Slater stated he is not counsel to the pool, however a considered argument for the pool could be that this is a subject matter that has been under deliberation for several months and the subject matter is not new and that there has been full and fair notice by the other pools of the pleadings specifically. Mr. Manning asked that he reiterate what the motion on the table is in that this pool is recommending the nine members board reappointment contingent upon the formation of a committee which does not cross over into the area that Counsel Slater noted. A question regarding the two year contingency was presented. Mr. Manning stated that this pool is asking for two years, although the base of the motion is this pool is supporting the nine member board reappointment. Mr. Kinsey stated the goal of Monte Vista Water Company is to only improve the processes and advance the governance of the decision makers.

Motion by Kinsey, second by Garibay, and by unanimous vote – Non-Ag concurred

Moved to approve to recommend the reappointment of the nine member Watermaster Board contingent upon the formation of a Watermaster committee to review and make recommendations regarding possible changes in the Watermaster governance structure including the roles and functions of the Pools, Advisory Committee, and the Watermaster Board of Directors no later than December 31, 2007, as presented

The Joint Appropriative & Non-Agricultural Pool Meeting Adjourned at 8:50 a.m.

Secretary: _____

Minutes Approved: _____

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II. CONSENT CALENDAR

A. MINUTES

1. Agricultural Pool – December 6, 2005

Draft Minutes

CHINO BASIN WATERMASTER

AGRICULTURAL POOL MEETING

December 6, 2005

The Agricultural Pool Meeting was held at the offices of the Inland Empire Utilities Agency, 6075 Kimball Avenue, Chino, CA, on December 6, 2005 at 9:00 a.m.

Agricultural Pool Members Present

Nathan deBoom, Chair	Milk Producers Council
Gene Koopman	Milk Producers Council
Glen Durrington	Crops
John Huitsing	Dairy
Pete Hettinga	Dairy
Bob Feenstra	Dairy
Edward Gonsman	State of California, CIM
Dan Hostetler	Cal Poly Pomona

Watermaster Board Member Present

Geoffrey Vanden Heuvel	Crops
Al Lopez	Western Municipal Water District

Watermaster Staff Present

Kenneth R. Manning	Chief Executive Officer
Sheri Rojo	CFO/Asst. General Manager
Gordon Treweek	Project Engineer
Danielle Maurizio	Senior Engineer

Watermaster Consultants Present

Michael Fife	Hatch & Parent
Mark Wildermuth	Wildermuth Environmental Inc.

Others Present

Steve Lee	Reid & Hellyer
Ken Jeske	City of Ontario
Mark Kinsey	Monte Vista Water District
Sandra Rose	Monte Vista Water District
Josephine Johnson	Monte Vista Water District
Rick Rees	Geomatrix for California
Frank Brommenschenkel	Consultant for Reid & Hellyer

Chair deBoom called the meeting to order at 9:10 a.m.

AGENDA - ADDITIONS/REORDER

I. **CONSENT CALENDAR**

A. **MINUTES**

1. Minutes of the Agricultural Pool Meeting held November 15, 2005

B. **FINANCIAL REPORTS**

1. Cash Disbursements for the month of November 2005
2. Combining Schedule of Revenue, Expenses and Changes in Working Capital for the Period July 1, 2005 through November 30, 2005

3. Treasurer's Report of Financial Affairs for the Period November 1, 2005 through November 30, 2005
4. Profit & Loss Budget vs. Actual July through November 2005

Motion by Koopman, second by Durrington, and by unanimous vote
Moved to approve Consent Calendar Items A through B, as presented

II. BUSINESS ITEMS

A. MOTION FOR EXTENSION OF THE WATERMASTER BOARD

Mr. Manning introduced the Watermaster Board item and stated there have been extensive discussions regarding this item and noted action must be presented to the court on the hearing date of February 9, 2006 which is why the meetings in December needed to take place. Counsel Fife stated this motion has been presented at a prior meeting and is only slightly different from the one which was presented a few months prior. The motion is asking for a reappointment of the Watermaster's nine member Board for another five year term. The structure of the motion is to go through all the conditions that the court has laid out, both when it made the first reappointment five years ago and anything subsequent to that be satisfied also. There are several references to the State of the Basin Report which has been made available to the Watermaster parties for a few months; this will be one of the other items submitted to the court on February 9, 2006. A question regarding the make up of the board remaining as it currently comprised was presented. Counsel Fife stated this motion is for a rollover of the current make up of the board for another five year term.

Motion by Feenstra, second by Koopman, and by unanimous vote
Moved to approve the motion for the extension of the Watermaster Board, as presented

III. REPORTS/UPDATES

A. WATERMASTER GENERAL LEGAL COUNSEL REPORT

1. Attorney Manager Process/Discussion of Peace II Agreement

Counsel Fife stated there was a recent Peace II Workshop held which was widely attended and there has been a follow up workshop scheduled for December 7, 2005. The outcome of the workshop was presented to the Watermaster Board and the Board decided to schedule a follow up workshop and instructed staff to distribute the agreement to the Pools so the Pool members could begin discussing the agreement. No action is required today and is being presented for comment and discussion. Mr. Koopman presented several technical questions to Mr. Wildermuth. Mr. Wildermuth offered comments on Mr. Koopman's technical questions. A discussion ensued with regard to Agricultural Pool transfers and it was noted there are no Agricultural Pool transfers, only a Watermaster accounting procedure. A further discussion ensued with regard to who could possibly be considered an Agricultural Pool member later on down the road. Counsel Fife stated the members of the Agricultural Pool are specifically listed in the Judgment. Mr. Manning offered comment on conversion area 1 and noted that Watermaster staff is confident regarding what properties are available for Agricultural conversion and when and how to take that process forward. A lengthy discussion ensued with regard to Agricultural water rights to pump or not to pump. It was asked that Mr. Wildermuth give a short presentation on why water is going to be drawn down in the middle of the basin. Mr. Wildermuth stated he had nothing official prepared, however, would offer comment. Mr. Wildermuth gave a brief summary of the implementation of Peace I and how tools were developed to operate the basin (computer simulation tools). During the analysis various issues and forethoughts arose regarding the basins operation. Mr. Wildermuth offered different scenarios regarding replenishment and its possible effects and noted that when pumping started many many years ago it changed the water levels in the basin. Mr. Wildermuth stated that when the original adjudication was done for this basin, the assumption was that the basin was a bowl, and had a constant outflow, which was basically based on very limited data and basin knowledge. The storage arrangement and how we think about how the basin

operates is based on a flawed conceptual model; in the real world the basin is tilted. A lengthy discussion ensued with regard to pumping and desalter replenishment with regard to inflow and water levels. Mr. Vanden Heuvel offered comment regarding a chart that was presented at the recent workshop and made reference to the examples given in the chart regarding full, half, and no replenishment obligations and in looking to other sources where we can get maximum benefit without full forgiveness. Mr. Vanden Heuvel stated that we would be foolish to ignore our future water legacy. While Mr. Vanden Heuvel fully supports Hydraulic Control, he voiced his vast concerns over the proposed Peace II Agreement and its possible long term affect on legacy. Mr. Atwater spoke on blending and water management strategies. A discussion ensued with regard to water treatments and replenishment with treated and/or blended water. It was noted that Wildermuth Environmental's proposal is mirroring what Orange County has already done successfully. Mr. Jeske stated the proposed Peace II Agreement has a lot of advantages regarding pumping and drawdown "incentives" and managing hydraulics. A discussion ensued with regard to moving forward with the proposed Peace II Agreement and the use of desalter water. Chair deBoom inquired if there will be any type of checks and balances that will be put into place to see that projects and improvements are moving forward and are on track. Mr. Manning stated there needs to be a movement now towards recharge facilities and access to water, whether it be advanced treatment on reclaimed water, additional water from MET, or an outside purchase that would be guaranteed. Watermaster staff has been looking into these areas along with the purchase of additional recharge facilities as part of the strategic planning process. Counsel Fife noted that several of the inquiries will be addressed at the Peace II Workshop tomorrow. Mr. Kinsey commented on purchasing water in the future and a discussion ensued with regards to Mr. Kinsey's comments. Counsel Fife stated this discussion was a good start and noted dialog will continue on this matter.

B. CEO/STAFF REPORT

1. Agricultural Pool Transfer Credit
   No comment was made regarding this item.

2. Review Land Use Conversion Area Maps
   No comment was made regarding this item.

3. MZ1 Transfer Discussion
   No comment was made regarding this item.

Added Item:

Mr. Manning stated there were discussions with the possible responsible parties (PRP) on the Ontario Airport issue and one thing the PRP's has requested is access to data within in the zone of contamination. Many of the wells in that zone are Agricultural wells; notification will be sent to well owners on this request. A discussion ensued with regard to what information is already available at the Regional Board. Mr. Wildermuth noted the plume is now much larger and more information that was not previously gathered from additional wells is now needed. A question regarding releasing information on other contaminants was presented. Mr. Manning noted that the "confidentiality" agreement" to not make released data available to the public will be enforced. Counsel Lee stated the notification to the pump well owner will include the notice of confidentially and will be up to those individual well owners if they want to release such data. Mr. Manning noted that Watermaster is anxious to get the letters out in the mail to assist the Regional Board and enter into a meaningful dialog with the PRP's on the plume issue.

IV. INFORMATION

1. Newspaper Articles
   No comment was made regarding this item.

V. POOL MEMBER COMMENTS

No comment was made regarding this item.

VI. OTHER BUSINESS

No comment was made regarding this item.

VII. FUTURE MEETINGS

December 6, 2005	9:00 a.m.	Agricultural Pool Meeting @ IEUA
December 8, 2005	9:00 a.m.	Appropriative & Non-Agricultural Pool Meeting
December 15, 2005	9:00 a.m.	Advisory Committee Meeting
December 15, 2005	11:00 a.m.	Watermaster Board Meeting
January 12, 2006	9:00 a.m.	Annual Appropriative Pool Meeting
January 12, 2006	11:00 a.m.	Annual Non-Agricultural Pool Meeting
January 17, 2005	9:00 a.m.	Annual Agricultural Pool Meeting @ IEUA
January 26, 2006	9:00 a.m.	Annual Advisory Committee Meeting
January 26, 2006	11:00 a.m.	Annual Watermaster Board Meeting

The Agricultural Pool Meeting Adjourned at 11:00 a.m.

Secretary: _____

Minutes Approved: _____

CHINO BASIN WATERMASTER

II. CONSENT CALENDAR

B. CHINO BASIN WATERMASTER INVESTMENT POLICY

RESOLUTION 06-01

RESOLUTION OF THE CHINO BASIN WATERMASTER, SAN BERNARDINO COUNTY, CALIFORNIA, ESTABLISHING A WATERMASTER INVESTMENT POLICY

WHEREAS, the normal and prudent operation of the Watermaster's daily business generates cash balances, operating and fund reserves; and

WHEREAS, the cash management system is designed to accurately monitor and forecast expenditures and revenues on behalf of Watermaster, thus enabling the Watermaster to invest funds to the fullest extent possible; and

WHEREAS, the cash funds are to be placed in investments authorized for public agencies of the State of California (Judgment Paragraph 23); and

WHEREAS, Watermaster deems it to be in the best interests of the parties to the Judgment to delegate the authority to invest and reinvest the funds of Watermaster to the Watermaster Finance Manager subject to the provisions of its Investment Policy and the ongoing review and control of Watermaster and the Watermaster Advisory Committee.

WHEREAS, it is the Watermaster's policy to annually review, update, and adopt an investment policy;

NOW, THEREFORE, BE IT RESOLVED, by the Chino Basin Watermaster that:

Section 1. The authority to invest and reinvest funds of Watermaster is hereby delegated to the Watermaster Chief Financial Officer subject to the provisions of said Investment Policy and the ongoing review and control of Watermaster and the Watermaster Advisory Committee.

Section 2. This resolution shall take effect from and after its date of adoption and Resolution 00-09 is rescinded in its entirety.

**Watermaster's Investment Policy originally adopted by the Advisory Committee on February 13, 1997 and the Watermaster Board on March 5, 1998.

APPROVED by the Advisory Committee this 26th day of January 2006.
ADOPTED by the Watermaster Board on this 26th day of January 2006.

By: _____
Chairman, Watermaster Board

APPROVED:

_____
Chairman, Advisory Committee

ATTEST:

_____
Secretary
Chino Basin Watermaster

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN BERNARDINO)

I, _____, Secretary of the Chino Basin Watermaster, DO HEREBY CERTIFY that the foregoing Resolution being No. 06-01, was adopted at a regular meeting of the Chino Basin Watermaster Board by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

CHINO BASIN WATERMASTER

_____
Secretary

Date: _____

CHINO BASIN WATERMASTER
INVESTMENT POLICY

I PURPOSE

This statement provides guidelines for the prudent investment of the Chino Basin Watermaster's (Watermaster) cash, and outlines the policies for maximizing the efficiency of Watermaster's cash management system. The ultimate goal, through the implementation of the investment policy, is to maintain the security, the liquidity, and yield (in that order of priority) of the investments made with the Watermaster's reserves and temporarily idle funds to maximize the economic position of the Watermaster while protecting its pooled cash assets through a system of checks and balances.

II SCOPE

This policy covers all funds and investment activities under the direct authority of the Watermaster as administered by the Treasurer and/or Controller and Watermaster Services Staff, that are collected pursuant to adoption of the Watermaster Budget and subsequent assessment levy by the Watermaster for any given fiscal year.

III OBJECTIVE

The Watermaster's cash management system is designed to accurately monitor and forecast expenditures and revenues, thus enabling the Watermaster to invest funds to the fullest extent possible. The objective is to receive the highest yield obtainable on behalf of Watermaster, as long as investments meet the criteria established for safety and liquidity. The investment portfolio will be diversified to minimize risks and to assure safety and probable income.

IV POLICY

The Watermaster operates its temporary pooled idle cash investments under the prudent person rule (Civil Code Section 2261, et seq.) which obligates a fiduciary to insure that:

> "...investments shall be made with the exercise of that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment considering the probable safety of their capital as well as the probable income to be derived."

V DEPOSITS AND INVESTMENTS CRITERIA:

A. DEPOSITS:

1. In selecting financial institutions for the deposit or investment of Watermaster funds, the Treasurer and/or the Controller shall consider the creditworthiness of institutions, including the Depositories' latest equity/asset ratio data. They shall continue to monitor the financial institutions' credit characteristics and financial history throughout the period during which Watermaster funds are deposited or invested. Institutions must be at least three (3) years old, have total assets in excess of ten (10) billion dollars and an equity to assets ratio of 5% or better, or have total assets in excess of one hundred (100) million dollars and an equity to assets ratio of 6% or better.

2. Total deposits placed with any local savings and loan institution shall not exceed $100,000.

3. Except for those funds necessary to meet day-to-day cash demands and the amount required by the bank to maintain Watermaster checking accounts, all Watermaster funds are deposited in interest-bearing accounts.

4. Total deposits placed with any financial institution shall not exceed three (3) million dollars of available funds. The computation of this limitation shall not include the funds in demand deposits, passbook savings accounts, or invested in U.S. Government securities.

5. Upon request by a financial institution, the Watermaster may waive up to 90% of the collateral requirement on funds insured by either the Federal Deposit Insurance Corporation or the Savings Association Insurance Fund (SAIF).

6. All financial "Brokers" utilized in conjunction with Investments or Deposits shall be authorized by an Advisory Committee adopted Resolution.

B. INVESTMENTS:

1. Securities of the United States Government, its agencies and instrumentality's with remaining maturities of five years or less, provided that the yield exceeds the currently available yield on Time Certificates of Deposit. These may include Treasury Bills, Notes, Bonds, Certificates of Indebtedness and Government National Mortgage Association issues (GNMA's). Securities may be purchased on a when-issued basis at prices set in the open market prior to the issuance auction and before the settlement date in order to eliminate uncertainty about prices and amounts purchased. When investing in "when-issued" securities, trading will be based on documented ability and intention to accept delivery and make payment on the settlement date to avoid speculation.

2. Insured or Collateralized Certificates of Deposit placed with commercial banks and/or savings and loan institutions.

3. Negotiable Certificates of Deposit issued by a nationally or state chartered bank or savings and loan association; total of purchases shall not exceed 30% of available funds.

4. Commercial Paper rated "prime quality" or of the highest letter and numerical rating by Moody's or Standard and Poor's. The corporations issuing the commercial paper must be organized and operating within the United States, have assets of $500,000,000 and an "AAA" or better rating on debentures other than commercial paper. The term of the investment shall not exceed 180 days, nor shall the amount placed exceed 10% of the outstanding commercial paper of an issuing corporation. Purchases of commercial paper shall not exceed 15% of the Watermaster's funds available for investment.

5. Local Agency Investment Fund (LAIF) - State Pool. Investment of funds cannot exceed the maximum per agency "floating" cap of the LAIF.

6. Passbook Savings Account and Demand Deposits offered by federally insured institutions and meeting all aforementioned criteria.

VI INVESTMENT SELECTION AND PRIORITY CRITERIA

A. Safety: The safety and risk associated with an investment refers to the potential loss of principal, interest, or a combination of these amounts. Since it is the primary duty and responsibility of the Treasurer and/or Controller to protect, preserve, and maintain cash and investments placed in his/her trust on behalf of the Watermaster, those instruments that are considered very safe will be used for investment.

B. Liquidity: This refers to the ability to "cash in" at any moment in time with a minimal chance of losing some portion of the principal or interest. Liquidity is an important investment component since cash requirements cannot be fully anticipated and an unexpected need for funds may occur occasionally.

C. Yield: Yield is the potential dollar earnings an investment can provide, and sometimes is described as the rate of return. It should become a consideration only after the basic requirements of safety and liquidity have been met.

VII SAFEKEEPING

Securities purchased from broker/dealers shall be held in segregated customer accounts, in the Watermaster's name, either by possession or at an approved depository pursuant to SEC Rule 15C3-3. Securities purchased through the financial institutions shall be held by the institutions' agent(s). All Certificates of Deposit and Government Agency Issues must be issued to and held by Watermaster.

VIII PUBLIC TRUST

All participants in the investment process shall act as custodians of the public trust. Investment officials shall recognize that the investment portfolio is subject to public review and evaluation. The overall program shall be designed and managed with a degree of professionalism that is worthy of the public trust. In a diversified portfolio, it must be recognized that occasional measured losses are possible, and must be considered within the context of the overall portfolio's investment return, provided that adequate diversification has been implemented.

IX RISK TOLERANCE

Portfolio diversification is employed as a way to control risk. Investment managers are expected to display prudence in the selection of securities, as a way to minimize default risk. No individual investment transaction shall be undertaken which jeopardizes the total capital position of the overall portfolio. The Treasurer and/or Controller shall, on behalf of Watermaster, periodically prepare and recommend guidelines and strategies to the Advisory Committee to control risks of default, market price changes, and illiquidity. Any changes to the policy will be effectuated by resolution to be adopted by the Watermaster following recommendation of the Advisory Committee. All investment periods shall be for one (1) year or less.

X REPORTING

The Treasurer and/or Controller shall submit a monthly investment report to the Watermaster Advisory Committee and shall submit reports to Watermaster when Watermaster convenes. This report will include all required elements of the monthly report as prescribed by Government Code Section 53646.

Required elements of the monthly report include:

a. Type of investment
b. Name of institution
c. Date of maturity
d. Amount of deposit or cost of the security
e. Current market value of a security with a maturity in excess of 12 months
f. Rate of interest/earning
g. Statement relating the report to the Statement of Investment Policy
h. Statement that there are sufficient funds to meet the next 30 days' obligations

XI DELEGATION OF AUTHORITY

The financial and accounting duties imposed by Government Code Section 40802-40805 have been transferred to the _____.

XII INTERNAL CONTROLS

The Treasurer and/or Controller shall establish a system of internal controls, which shall be documented in writing. The internal controls shall be reviewed with the Chief of Watermaster and an independent auditor and presented to the Advisory Committee. The controls shall be designed to prevent losses of public funds arising from fraud, employee error, misrepresentation by third parties, unanticipated changes in financial markets, or imprudent action by employees and/or officers of the Watermaster.

XIII POLICY ADOPTION

The above investment policy will be adopted periodically by resolution of the Watermaster. The policy is reviewed on a periodic basis by the Treasurer and/or Controller and by the Watermaster, and any modifications made thereto are subsequently reviewed and approved by a resolution of the Watermaster Advisory Committee prior to implementation.

The Treasurer and/or Controller will strive to maintain the level of investment of all Watermaster funds as near 100% as possible, through daily and projected cash flow determination. Idle cash management and investment transactions are also the assigned responsibility of the Treasurer and/or Controller. The basic premise underlying Watermaster's investment philosophy is, and will continue to be, to insure that money is always safe and available when needed.

mls:invest.wm

RESOLUTION 00-09

RESOLUTION OF THE CHINO BASIN WATERMASTER,
SAN BERNARDINO COUNTY, CALIFORNIA, ESTABLISHING
A WATERMASTER INVESTMENT POLICY

WHEREAS, the normal and prudent operation of the Watermaster's daily business generates cash balances, operating and fund reserves; and

WHEREAS, the cash management system is designed to accurately monitor and forecast expenditures and revenues on behalf of Watermaster, thus enabling the Watermaster to invest funds to the fullest extent possible; and

WHEREAS, the cash funds are to be placed in investments authorized for public agencies of the State of California (Judgment Paragraph 23); and

WHEREAS, Watermaster deems it to be in the best interests of the parties to the Judgment to delegate the authority to invest and reinvest the funds of Watermaster to the Watermaster Office Manager/Accountant subject to the provisions of its Investment Policy and the ongoing review and control of Watermaster and the Watermaster Advisory Committee.

WHEREAS, it is the Watermaster's policy to periodically review, update, and adopt an investment policy;

NOW, THEREFORE, BE IT RESOLVED, by the Chino Basin Watermaster that:

Section 1. That the Chino Basin Watermaster Investment Policy dated the 28th of October, 1999, revising "Controller" to "Office Manager/Accountant", remains in effect.

Section 2. The authority to invest and reinvest funds of Watermaster is hereby delegated to the Watermaster Office Manager/Accountant subject to the provisions of said Investment Policy and the ongoing review and control of Watermaster and the Watermaster Advisory Committee.

Section 3. This resolution shall take effect from and after its date of adoption and Resolution 99-11 is rescinded in its entirety.

**Watermaster's Investment Policy originally approved by the Advisory Committee on February 13, 1997 and the Watermaster Board on March 5, 1998.

APPROVED by the Advisory Committee this 22nd day of December 2000.
ADOPTED by the Watermaster Board on this 22nd day of December 2000.

By: _____
Chairman, Watermaster Board

APPROVED:
_____
Chairman, Advisory Committee

ATTEST:
_____
Secretary
Chino Basin Watermaster

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN BERNARDINO)

I, Josephine Johnson, Secretary of the Chino Basin Watermaster, DO HEREBY CERTIFY that the foregoing Resolution being No. 2000-09, was adopted at a regular meeting of the Chino Basin Watermaster Board by the following vote:

AYES: Members Arbelbide, Boston, Catlin, Hofer, Johnson, King, Krueger, Neufeld, and Vanden Heuvel

NOES: None

ABSENT: None

ABSTAIN: None

CHINO BASIN WATERMASTER

Secretary

CHINO BASIN WATERMASTER

II. CONSENT CALENDAR

C. LOCAL AGENCY INVESTMENT FUND

RESOLUTION 06-02 OF CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, Ca 91730 **PHONE: 909-484-3888**

AUTHORIZING INVESTMENT OF MONIES

IN THE LOCAL AGENCY INVESTMENT FUND

WHEREAS, Pursuant to Chapter 730 of the statutes of 1976 Section 16429.1 was added to the California Government Code to create a Local Agency Investment Fund in the State Treasury for the deposit of money of a local agency for purposes of investment by the State Treasurer; and

WHEREAS, the Chino Basin Watermaster was appointed on January 27, 1978, under San Bernardino Superior Court Case No. WCV51010 (formerly Case No. SCV164327) entitled Chino Basin Municipal Water District V. City of Chino, et al., with powers to authorize the investment or deposit of surplus funds pursuant to the California Government Code, Section 53600; and

WHEREAS, upon filing of an appropriate resolution, local agencies are permitted to remit money to the State Treasurer for deposit in the fund for the purpose of investment; and pursuant to Section 16429.3 of said Government Code, such monies are not subject to impoundment of seizure by any state official or state agency.

NOW THEREFORE, BE IT RESOLVED, that the Board of Directors does hereby authorize the deposit and withdrawal of Chino Basin Watermaster monies in the Local Agency Investment Fund in the State Treasury in accordance with the provisions of Section 16429.1 of the Government Code for the purpose of investment as stated therein, and verification by the State Treasurer's Office of all banking information provided in that record.

BE IT FURTHER RESOLVED, that the following Chino Basin Watermaster officers and designated employees or their successors in office/position shall be authorized to order the deposit or withdrawal of monies in the Local Agency Investment Fund.

_____ (NAME)	Chairman of the Board (TITLE)	_____ (SIGNATURE)
_____ (NAME)	Vice-Chair (TITLE)	_____ (SIGNATURE)
_____ (NAME)	Secretary/Treasurer (TITLE)	_____ (SIGNATURE)
Kenneth R. Manning (NAME)	Chief Executive Officer/Secretary (TITLE)	_____ (SIGNATURE)
Sheri Rojo (NAME)	C.F.O./Asst. G.M. (TITLE)	_____ (SIGNATURE)

PASSED AND ADOPTED, by the Board of Directors of Chino Basin Watermaster, San Bernardino County, State of California on January 26, 2006.

Note: Resolution must be adopted by the governing body. Please submit a certified copy of the resolution to LAIF. A certified copy is 1) a copy of the resolution affixed with the seal of the agency or 2) a copy of the resolution attested by the Board Secretary with his/her original signature.

ATTEST:

_____
Secretary
Chino Basin Watermaster

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN BERNARDINO)

I, _____, Secretary of the Chino Basin Watermaster, DO HEREBY CERTIFY that the foregoing Resolution of Chino Basin Watermaster, was adopted at a regular meeting of the Chino Basin Watermaster Board by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

CHINO BASIN WATERMASTER

_____
Secretary

Date:

CHINO BASIN WATERMASTER

II. CONSENT CALENDAR

D. ASSESSMENTS FOR FISCAL YEAR 2005-2006

- DRAFT -

RESOLUTION 06-03

A RESOLUTION OF THE CHINO BASIN WATERMASTER LEVYING REPLENISHMENT AND ADMINISTRATIVE ASSESSMENTS FOR FISCAL YEAR 2005- 2006

WHEREAS, the Chino Basin Watermaster was appointed on January 27, 1978, under Case No. RCV 51010 (formerly case No. SCV 164327) entitled Chino Basin Municipal Water District v. City of Chino, et al., with powers to levy and collect administrative and replenishment assessments necessary to maintain water levels and to cover the cost of administering the Chino Basin Judgment; and

WHEREAS, the Watermaster Advisory Committee approved and the Watermaster Board adopted the Fiscal Year 2005-2006 Budget on November 17, 2005 to carry out the necessary Watermaster functions under the Judgment; and

WHEREAS, the parties named in this Judgment have pumped _____ acre-feet of water in excess of the operating safe yield, which is required to be replaced at the expense of the parties in accordance with the assessment formulas for the respective pools.

NOW, THEREFORE, BE IT RESOLVED that the Chino Basin Watermaster levies the respective assessments for each pool effective November 17, 2005 as showed on Exhibit "A" attached hereto.

BE IT FURTHER RESOLVED, that pursuant to the Judgment, each party has thirty-days from the date of invoice to remit the amount of payment for assessments due. After that date, interest will accrue on that portion which was due as provided for in Section 55 (c) of the Judgment.

THE FOREGOING RESOLUTION was

APPROVED by the Advisory Committee on the 26th day of January 2006.

ADOPTED by the Watermaster Board on the 26th day of January 2006.

By: _____

Chairman, Watermaster Board

APPROVED:

_____

Chairman, Advisory Committee

ATTEST:

_____

Secretary, Watermaster Board

Exhibit "A"
Resolution 06-02

Summary
of
Assessments
Fiscal Year 2005-2006
Production Year 2004-2005

1. OVERLYING (N0N-AGRICULTURAL) POOL

a. 2005-2006 Administrative Budget $ 5.92 Per AF/Production Admin.
$ 22.02 Per AF/Production OBMP

b. Replenishment $ 251.00 Per AF

2. APPROPRIATIVE POOL

a. Administration

1. 2005-2006 Administrative Budget $ 5.92 Per AF/Production Admin.
$ 22.02 Per AF/Production OBMP

2. 2004-2005 Ag Pool Unallocated Safe Yield Water Transfers $ 5.92 Per AF Reallocated Admin.
$ 22.02 Per AF Reallocated OBMP

b. 100% Net Replenishment $ 251.00 Per AF

c. 15/85

Gross - 15% $_____ Per AF

Net - 85% $_____ Per AF

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN BERNARDINO)

I, _____, Secretary of the Chino Basin Watermaster, DO HEREBY CERTIFY that the foregoing Resolution being No. 06-02 was adopted at a regular meeting of the Chino Basin Watermaster Board by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

CHINO BASIN WATERMASTER

_____
Secretary

Date: _____

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CHINO BASIN WATERMASTER

II. CONSENT CALENDAR

E. NOTICE OF INTENT

CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, CA 91720
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

Kenneth R. Manning
Chief Executive Officer

STAFF REPORT

DATE: **January 12, 2006**
January 17, 2006
January 26, 2006

TO: **Committee Members**
Watermaster Board Members

SUBJECT: **Annual Filing of Notice of Intent Regarding the Determination of Operating Safe Yield**

Summary

Issue – Reservation of Right to Re-determine Safe Yield as per Chino Basin Watermaster Judgment.

Recommendation – Recommends the approval of the filing of Watermaster's "Notice of Intent to Change the Operating Safe Yield of the Chino Groundwater Basin".

Fiscal Impact - None

Discussion

In an effort to comply with the Judgment requirement that a five-year notice of change be provided should a re-determination of the safe yield of the Chino Basin be made, Watermaster has approved its Notice of Intent in each year since 1982.

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Watermaster's "Notice of Intent" to Change the Operating Safe Yield of the Chino Groundwater Basin

PLEASE TAKE NOTICE that on this 26th day of January 2006, Chino Basin Watermaster hereby files this 'NOTICE OF INTENT' to change the operating safe yield of the Chino Groundwater Basin Pursuant to the Judgment entered in Chino Basin Municipal Water District v. City of Chino, et al., San Bernardino Superior Court, Case No. RCV 51010 (formerly Case No. 164327) (Exhibit I, Paragraph 2b, Page 80).

Approved by
CHINO BASIN WATERMASTER
ADVISORY COMMITTEE

By: _____
Chair

CHINO BASIN WATERMASTER
BOARD OF DIRECTORS

By: _____
Chair

ATTEST:

By: _____
Secretary

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CHINO BASIN WATERMASTER

III. BUSINESS ITEM

A. PROPOSAL FOR PROFESSIONAL ENGINEERING SUPPORT SERVICES FOR THE CHINO BASIN FACILITIES IMPROVEMENT PROJECT

CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

KENNETH R. MANNING
Chief Executive Officer

STAFF REPORT

DATE: **January 12, 2006**
January 17, 2006
January 26, 2006

TO: **Committee Members**
Watermaster Board Members

SUBJECT: **Professional Engineering Services for Reviewing SBCFCD/DSOD Operating Procedures**

SUMMARY:

Issue – During FY 2004/2005, Staff determined that the existing recharge basins have two shortcomings which should be corrected prior to FY2006/2007

Fiscal Impact – The contract ceiling for this effort is $10,000 with labor and expenses to be billed on a time and materials basis.

RECOMMENDATION:

During FY 2004/2005, Staff determined that the existing recharge basins have two shortcomings which should be corrected prior to FY2006/2007. The first shortcoming relates to the earthen berms which were constructed as internal conservation berms in several of the recharge basins. Originally designed as soil cement berms, they were eventually constructed as earthen berms as a cost saving measure. Regrettably the first major storm of the season breeched the earthen berms, and rendered them ineffective. A recent feasibility study by Stantec determined that the berms should be hardened with soil cement, and heightened to store up to 50 AF as allowed by DSOD requirements. Based on the feasibility study, IEUA is currently selecting a design engineer to prepare detailed designs for the "heightening and hardening" of the intermediate berms with construction to occur in 2nd and 3rd quarters of CY 2006.

The second shortcoming relates to the SBCDCF/DSOD requirements to begin emptying the DSOD regulated basins immediately following a storm event. This means that several large basins, such as Etiwanda Debris Basin, Hickory Basin, San Sevaine #5 Basin and Jurupa Basin are not able to store and recharge the stormwater which results from major storm events. Staff feels that some flexibility exists within the DSOD requirements such that only 50% of the stored volume needs to be released (or recharged) within a 7 day period following a storm event. Of course a variety of engineering tests may be required, such as slope stability and drawdown analyses, to allay SBCFCD/DSOD concerns. The

purpose of this contract with Stantec is to more precisely determine exactly what the SBCFCD/DSOD requirements are, what engineering analyses have already been performed, and what additional tests are needed in order that modifications to current operating practices can be negotiated with the respective agencies.

The contract ceiling for this effort is $10,000 with labor and expenses to be billed on a time and materials basis. Both the "heightening and hardening" and the modifications to operating procedures have been discussed in GRCC meetings, and the four parties have agreed to proceed as presented above.

Stantec Consulting Inc.
19 Technology Drive
Irvine CA 92618-2334
Tel: (949) 923-6000 Fax: (949) 923-6121
stantec.com

Stantec

November 8, 2005

Gordon Treweek, Ph.D.
Project Engineer
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730

Reference: Letter Proposal for Professional Engineering Support Services
Chino Basin Facilities Improvement Project (CBFIP)

Dear Gordon:

Thank you for the opportunity to provide Chino Basin Watermaster (CBWM) with continued Professional Engineering Support Services for the Chino Basin Facilities Improvement Project (CBFIP). It is my understanding that services to be provided will include, but may not be limited to the following:

- review of San Bernardino County Flood Control District (SBCFCD) DSOD facilities including Etiwanda Basin, Hickory Basin, Jurupa Basin and San Sevaine Basins;
- review of actual DSOD criteria for the subject SBCFCD facilities;
- review of geotechnical investigations previously prepared under the CBFIP;
- review of conservation dike locations with respects to dam embankments;
- perform drawdown analyses; and
- summarize information gained during the review and analysis process.

Actual scope of work to be performed will be per the direction of CBWM and as agreed to by Stantec in order to further define scopes and estimated fees for tasks to be performed. The proposed total fee for these services is $10,000.00 to be billed monthly on a time-and-materials

basis in accordance with the existing contract between CBWM and Stantec. Thank you for your consideration and please contact me at (949) 923-6211 with any questions or comments regarding this proposal.

Sincerely,

STANTEC CONSULTING INC.

Kevin B. Brandt
Project Manager
Tel: (949) 923-6211
Fax: (949) 923-6077
kbrandt@stantec.com

CHINO BASIN WATERMASTER

III. BUSINESS ITEM

B. BASIN OPERATIONS MANUAL

CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

KENNETH R. MANNING
Chief Executive Officer

STAFF REPORT

DATE: **January 12, 2006**
January 17, 2006
January 26, 2006

TO: **Committee Members**
Watermaster Board Members

SUBJECT: **Approval of the Chino Basin Recharge Facilities Operating Procedures Manual**

SUMMARY

Issue – The staff members of the Watermaster, Inland Empire Utilities Agency (IEUA), Chino Basin Water Conservation District (CBWCD) and San Bernardino County (County) have jointly developed the *Chino Basin Facilities Operating Procedures Manual* (Manual) and are nearing the completion of the final draft. The County is requiring that the Manual be completed and approved by all parties prior to allowing the basins to be operated for maximum stormwater recharge (pursuant to the Manual).

Recommendation – Approve the *Chino Basin Recharge Facilities Operating Procedures Manual* with minor revisions.

BACKGROUND

This manual was prepared pursuant to the *Agreement for Operation and Maintenance of Facilities to Implement the Chino Basin Recharge Master Plan* (Agreement) dated January 2004. The manual describes the operation of the basins during storm, non-storm and maintenance periods.

The final draft will be completed in the next month or so and will be nearly identical to Administrative Draft No. 3—the difference being the correction of typographical errors and other minor edits and clarifications. The *Chino Basin Facilities Operating Procedures Manual, Administrative Draft No. 3* is available for review at the Watermaster ftp site www.cbwm.org/ftp. The Manual has been vetted by the staff and management of the Watermaster, CBWCD, IEUA, and the County. Watermaster staff is seeking the Watermaster's approval of the Manual. The IEUA, CBWCD, and the County are concurrently asking their boards to approve the Manual.

DISCUSSION

The Manual contains the operating procedures for the Chino Basin recharge facilities as the facilities currently exist. This document was developed jointly by the Watermaster, CBWCD, IEUA, and the County. It is anticipated that these operating procedures will be routinely revised as the recharge facilities are completed over time and with operational experience. The Manual contains the following sections:

Section	Contents
1	Introduction
2	*General Description of the Recharge Plan* as developed in the OBMP and implemented pursuant to the Peace Agreement
3	*General Pattern of Operation.* This section describes operation of the recharge facilities and roles of the various agencies that are participating in the operation of the recharge basins
4	*Montclair and Brooks Basins, San Antonio Creek System.* This section describes the details of basin operation for the San Antonio Creek system.
5	*7th and 8th Street and Ely Basins, West Cucamonga Creek System.* This section describes the details of basin operation for the West Cucamonga Creek system.
6	*Turner Basins, Cucamonga and Deer Creeks System.* This section describes the details of basin operation for the Cucamonga and Deer Creeks system.
7	*Lower Day Basin, Day Creek Systems.* This section describes the details of basin operation for the Day Creek system.
8	*San Sevaine, Victoria, Banana, Hickory, Jurupa, RP3, Declez Basins, Etiwanda and San Sevaine Creeks System.* This section describes the details of basin operation for the Etiwanda and San Sevaine Creeks system.
Exhibits	The *Exhibits* contain the full agreement between the Watermaster, IEUA, CBWCD, and County for recharge, the Sample Supplemental Water Recharge Plan, and the Elevation-Area-Volume curves developed by Tettemer and Associates for each basin.

Section 3 is the most interesting section of the document, as it describes the operating concepts that are infused in all the facilities. Sections 4 through 8 describe the operations of specific facilities by drainage system and the responsibilities of the parties to the Agreement. Some of the main concepts incorporated in the Manual are:

- The recharge interests of the Watermaster, CBWCD, and IEUA are sometimes in conflict with the flood control function of the recharge basins. The plan of operation described recognizes the different goals of recharge and flood control and provides for the restoration of the flood control function of the multipurpose basins prior to significant storm events.
- The IEUA will be the operator of the recharge basins for the benefit of the CBWCD, IEUA, and Watermaster. The IEUA will designate specific staff to coordinate, manage and carryout the activities necessary for recharge.
- The Watermaster is responsible for and manages supplemental water recharge in the Chino Basin. In this role, the Watermaster will develop a supplemental water replenishment plan (SWRP) each year that is based on its replenishment needs and other recharge obligations (e.g. the Dry-Year Yield Program). The SWRP will also include the type of supplemental water (recycled or imported), location, and source of that water (Metropolitan, IEUA, others).
- The IEUA Groundwater Recharge Coordinator and Operators shall not, on his/her own initiative, change the mix of imported and recycled water specified in the SWRP unless instructed to or approved to do so in writing by the Watermaster.
- The IEUA Groundwater Recharge Coordinator will use his/her best efforts to obtain supplemental water per the SWRP and have that water delivered through flood control channels and pipelines to the recharge basins
- Operating rules, expressed as rule curves or set points, are used for each recharge basin. For conservation basins, rule curves define the target water surface elevation and storage for each basin throughout the year. For multipurpose basins the rule curves are simpler and are based on storm forecasting and limiting losses of supplemental water. The operating rules are tentative and meant to be reevaluated and updated for each basin as unique operational characteristics are identified through recharge experience at each basin.

- There are three distinct operating modes: conservation mode, pre-storm mode and storm mode.
- During conservation mode, conservation and multi-purpose basins are operated to maximize the recharge of storm and supplemental water.
- For dedicated conservation basins, the IEUA Operator will divert supplemental water into the basins as described in the SWRP. These diversions are subject to the maximum water surface elevation limits specified in the rule curve for each basin. The storage levels in the rule curves assume a maximum long-term average 10 percent loss of supplemental water due to outflow from storm events
- The maximum volume of supplemental water that can be stored in a multipurpose basin when it is being operated in conservation mode is equal to the estimated volume of water that can be recharged in a 7-day period.
- Pre-Storm mode consists of activities that take place to prepare multipurpose basins to receive stormwater.
- Storm Mode applies to multipurpose basins. The Storm Mode starts with the initiation of significant rainfall and continues until the SBCFCD authorizes the IEUA Groundwater Recharge Coordinator to change the operation mode from Storm to Conservation Mode.

There are tables that detail the operation of all of the operable elements of the recharge facilities for each operational mode in Sections 4 through 8.

CONCLUSION

The Manual is substantially complete and has been vetted by the staff and management of the Watermaster, CBWCD, IEUA, and the County. Watermaster staff recommends that the Watermaster approve the *Chino Basin Recharge Facilities Operating Procedures Manual* with minor revisions.

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CHINO BASIN WATERMASTER

III. BUSINESS ITEM

C. ANALYSIS OF MATERIAL PHYSICAL INJURY – MONTE VISTA WATER DISTRICT APPLICATION TO RECHARGE STATE WATER PROJECT WATER

CHINO BASIN WATERMASTER

9641 San Bernardino Road, Rancho Cucamonga, Ca 91730
Tel: 909.484.3888 Fax: 909.484.3890 www.cbwm.org

KENNETH R. MANNING
Chief Executive Officer

STAFF REPORT

DATE: **January 12, 2006**
January 17, 2006
January 26, 2006

TO: **Committee Members**
Watermaster Board Members

SUBJECT: **Analysis of Material Physical Injury – Monte Vista Water District Application to Recharge dated November 1, 2005**

SUMMARY

Issue – On November 1, 2005, the Monte Vista Water District (MVWD) sent an application to the Watermaster requesting to recharge up to 3,500 acre-ft/yr of State Water Project (SWP) water by injection at its wells 1, 4, 30 and 32. The MVWD characterizes this proposal as the initial phase of a larger recharge project that it has developed and may implement in the future based on the performance of this initial phase. Upon receipt of a recharge application, the Watermaster must conduct an analysis of Material Physical Injury pursuant to the Peace Agreement and the Watermaster's Rules and Regulations. The Watermaster CEO directed staff to complete the analysis of Material Physical Injury using the requirements listed in the Peace Agreement, balance of recharge and discharge in every area and subarea, maintenance of hydraulic control, and other criteria that may become appropriate to the Watermaster. Wildermuth Environmental Inc. (WEI) completed this analysis and their results are summarized below. Based on WEI's analysis, Watermaster staff has concluded that no material physical injury will occur from the MVWD's proposed recharge project.

Recommendation – Approve the MVWD's application to recharge a maximum 3,500 acre-ft/yr of treated SWP water by injection at its wells 1, 4, 30 and 32 subject to obtaining a permit to recharge treated SWP water from the RWQCB or alternatively entering into an agreement with the Watermaster and IEUA whereby MVWD's recharge would be covered in the Watermaster/IEUA permit for the recharge of imported and recycled water.

BACKGROUND

The MVWD proposes to recharge up to 3,500 acre-ft/yr of treated State Water Project (SWP) water by injection at its wells 1, 4, 30 and 32 and to subsequently recover this water within the same year. This water will be treated to drinking water standards at the Water Facilities Authority treatment plant prior to injection. Injection will occur in the seven-month period of October through April and recovery will occur in the five-month period of May through September. The injected water will be used to offset a portion of the MVWD's annual overproduction in the Chino Basin.

The MVWD completed an investigation entitled *Groundwater Recharge Facilities Program Feasibility Study* in April 2003 (hereafter, *Feasibility Study*) and a related CEQA document entitled *Findings of Consistency, Groundwater Recharge Facility Feasibility Study* (hereafter, *Findings of Consistency*) in May 2003. The finding of consistency relates to the OBMP Program EIR completed in 2000.

DISCUSSION

Article 10 of the Watermaster Rules and Regulations (paragraph 10.10) requires that:

"[...] Watermaster prepare a written summary and analysis (which will include an analysis of the potential for material physical injury) of the Application and provide the Parties with a copy of the written summary and advanced notice of the date of Watermaster's scheduled consideration and possible action on any pending Applications."

Per the Peace Agreement, material physical injury is defined as:

"Material injury that is attributable to Recharge, Transfer, storage and recovery, management, movement or Production of water or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift and adverse impacts associated with rising groundwater" (Peace Agreement, page 8).

The Watermaster staff's analysis of material physical injury is summarized below.

Groundwater Level Impacts (Liquefaction, Land Subsidence, and Increases in Pump Lift). The proposed project will produce seasonal, short term localized increases in groundwater levels in the vicinity of the injection wells and a slight general increase in groundwater levels in the area bounded by the injection wells. The depth to groundwater ranges from 350 to 500 feet in this area. The expected increase in groundwater levels will likely average less than 5 feet. There will be no adverse impacts from the groundwater level changes.

Balance of Recharge and Discharge in Every Area and Subarea. The locations of recharge are the same wells that are used to pump groundwater and subsequently result in overproduction. In the absence of the proposed project, replenishment would occur in nearby Montclair and Upland Basins. The proposed project provides a better balance of recharge and discharge at the "subarea" level and augments the recharge capacity of the Montclair and Upland Basins.

TDS and TN Concentration in Recharge Water. The 2004 Regional Water Quality Control Plan (Basin Plan) for the Santa Ana Watershed has TDS and total nitrogen (TN) objectives in the Chino North Management Zone of 430 mg/L and 5 mg/L, respectively. The Watermaster and IEUA have agreed to manage the recharge in spreading basins in the Chino Basin so that the five-year, volume-weighted average for TDS and TN in this recharge will not exceed the Basin Plan objectives. The average TDS and TN of SWP water is about 290 mg/L and 1 mg/L, respectively. The volume-weighted average TDS and TN for the Chino Basin is about 280 mg/L and 2.4 mg/L, respectively, and is well below the compliance metrics. Therefore, the proposed recharge project will not encroach on the current assimilative capacity or interfere with the Watermaster and IEUA's recharge activities.

Water Quality Impacts on Other Pumpers. Presumably, water quality impacts on the MVWD, if any, will be small and will be managed pursuant to a permit issued by the RWQCB. Water quality impacts on other nearby pumpers could occur from minor changes in the groundwater flow system; impacts that would be the result of reprogramming replenishment from recharge basins to injection wells. These impacts were estimated by the MVWD's consultant (CDM) to be negligible in the *Feasibility Study* and related *Findings of Consistency.* Watermaster staff did not conduct an independent modeling assessment to validate this finding. However, we concur that the impact should be negligible and likely not measurable at other nearby wells.

CONCLUSION

The project, as proposed by the MVWD, will not result in a material physical injury to the Chino Basin or other party. This conclusion is conditioned on the MVWD obtaining a permit to recharge treated SWP water from the RWQCB or alternatively entering into an agreement with the Watermaster and IEUA whereby MVWD's recharge would be covered in the Watermaster/IEUA permit for the recharge of imported and recycled water.

Monte Vista Water District

Dedicated to Quality, Service and Innovation

Mark N. Kinsey
GENERAL MANAGER

November 1, 2005

Mr. Ken Manning, Chief Executive Officer
CHINO BASIN WATERMASTER
9641 San Bernardino Road
Rancho Cucamonga, California 91730

Application for Recharge

Dear Mr. Manning:

Enclosed is Monte Vista Water District's Application for Recharge of up to 3,500 AF of water, annually. Water recharged under this request will be State Water Project supplies treated to drinking water standards at the Water Facilities Authority plant in Upland, and will be utilized to offset a portion of the District's annual over-production in the Chino Groundwater Basin.

Recharge will be accomplished through injection at District wells 1, 4, 30, and 32. Additional information detailing the operation of these wells for groundwater injection purposes is provided in the attached *Findings of Consistency* for the District's Groundwater Recharge Facility Feasibility Study, dated May 2003.

In addition to detailing the operational aspects of these facilities, the *Findings of Consistency* provides a summary of the localized and regional water quality and groundwater level changes associated with project implementation through 2020. This information was developed through the use of the groundwater model utilized for Watermaster's Optimum Basin Management Program and its supporting environmental documentation.

If you have any questions regarding this application or require further information, please contact the District at your convenience. Thank you.

Sincerely,

Monte Vista Water District

Mark N. Kinsey
General Manager

Enclosures

cc: MVWD Board of Directors
Robert Tock, District Engineer

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APPLICATION FOR RECHARGE

APPLICANT

Monte Vista Water District
10575 Central Avenue
Montclair, CA 91763
(909) 624-0035 (phone)
(909) 624-4725 (fax)

11/1/05
Date Requested

_____
Date Approved

3,500 AF
Amount Requested

_____
Amount Approved

400 – 1,000 gpm per well
Projected Rate of Recharge

7 Months (Oct-Apr)
Projected Duration of Recharge

SOURCE OF SUPPLY

Water From:
☒ State Water Project
☐ Colorado River
☐ Local Supplemental
☐ Recycled Water
☐ Other (explain)

Source: **WFA Water Treatment Plant**

_____
_____
_____

METHOD OF RECHARGE

☐ Percolation

Basin Name: **Chino Basin (MZ1)**
Location: **4 locations along Benson Avenue between Arrow Highway and Holt Boulevard**
Well Number: **1S8W26BO1 (Well 1); 1S8W14AO3 (Well 4); 1SO8W23A004S (Well 30); and Well 32 (TBD)**

☒ Injection

Location (attach map): **See map**
Facility Name: **MVWD Well Nos. 30, 32, 4, and 1**

☐ Exchange

Share of Safe Yield: **4823.75 AF**
Carry Over Right: **4823.75 AF**
Water in Storage: **5995.718 AF, as of June 2005**
Pumping Capacity (cfs): **4.45 cfs**

Values are expressed as total capacities for MVWD and are not specific to these wellhead facilities

WATER QUALITY AND WATER LEVELS

What is the existing water quality and what are the existing water levels in the areas that are likely to be affected?

Static water levels range from 365' to 480' below ground level. Nitrate water quality data for these wells range from 50-75 mg/l.

MATERIAL PHYSICAL INJURY

Is the Applicant aware of any potential Material Physical Injury to a party to the Judgment or the Basin that may be caused by the action covered by the application? Yes ☐ No ☒

If yes, what are the proposed mitigation measures, if any, that might reasonably be imposed to ensure that the action does not result in Material Physical Injury to a party to the Judgment or the Basin?

None required. Water injected will be utilized to offset a portion of the District's annual over-production within the Chino Groundwater Basin.

ADDITIONAL INFORMATION ATTACHED

☒ Yes ☐ No

Monte Vista Water District Groundwater Recharge Facility Feasibility Study – Findings of Consistency, May 2003

_____

Applicant

TO BE COMPLETED BY WATERMASTER:

DATE OF APPROVAL FROM NON-AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM AGRICULTURAL POOL: _____

DATE OF APPROVAL FROM APPROPRIATIVE POOL: _____

HEARING DATE, IF ANY: _____

DATE OF ADVISORY COMMITTEE APPROVAL: _____

DATE OF BOARD APPROVAL: _____ Agreement #: _____

CDM

Monte Vista Water District

Groundwater Recharge Facility Feasibility Study

May 2003

Findings of Consistency

2920 Inland Empire Boulevard, Suite 108
Ontario, California 91764-4802
tel: 909 945-3000
fax: 909 945-1333

May 15, 2003

Mr. Mark Kinsey, General Manager
Monte Vista Water District
10575 Central Avenue
Montclair, California, 91763

Subject: **Groundwater Recharge Facility Feasibility Study**
Findings of Consistency

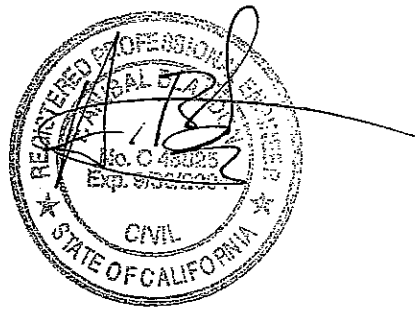
Dear Mr. Kinsey

Camp Dresser & Mc Kee Inc. (CDM) is very pleased to submit this report detailing the findings of consistency for the above referenced study with the OBMP Programatic Environmental Impact Report. We have included a description of the groundwater modeling aspects of the project under Appendix A and the water levels and water quality impacts of the different alternatives on local wells as Appendix B.

CDM appreciates the opportunity to continue assisting the District on water related projects. Should you have any questions or need further information, please contact us at 909-945-3000.

Very truly yours,

P. Anibal Blandon
Senior Project Manager
Camp Dresser & McKee Inc.



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Section 1
Findings of Consistency

1.1 Introduction

The Monte Vista Water District (MVWD or District) in association with the Chino Basin Watermaster (Watermaster) is proposing to implement a Groundwater Recharge Feasibility Project. The project consists of using a combination of up to four existing and new wells to inject high quality treated imported water into the westerly portion of the Chino groundwater basin. The purpose of this project is to store imported water in the basin during wet years and extract it during periods when imported water deliveries may be reduced. This project also intends to enhance water quality and water levels in the basin by injecting high quality water in high nitrate areas.

This project is a second-tier, or specific implementation project, of the Chino Basin Optimum Basin Management Program (OBMP). An overview of the OBMP is provided below in order to put the proposed Groundwater Recharge Feasibility Project into the context of the larger Basin program.

1.1.1 Chino Basin Optimum Basin Management Program

The purpose of the OBMP is to ensure a continuing water supply for the long-term beneficial use of all IEUA constituents. The mission statement of the OBMP is as follows:

> *The purpose of the Optimum Basin Management Program is to develop a groundwater management program that enhances the safe yield and the water quality of the basin, enabling all groundwater users to produce water from the Basin in a cost-effective manner.*

The OBMP consists of two phases. Phase I of the OBMP defined the state of the Chino Groundwater Basin, established goals concerning major issues identified by stakeholders, affirmed a management plan for the achievement of the established goals, and provided a process to facilitate periodic reviews, public comments, and necessary updates of the overall Program. Phase II of the OBMP consists of the development of the specific implementation plans that will effectively allow for the physical construction, operation, management, and monitoring of OBMP facilities.

The OBMP establishes four primary management goals and identifies a series of activities that would be necessary to accomplish the intended goals. The OBMP goals are as follows:

Goal 1 - Enhance Basin Water Supplies

Goal 2 – Protect and Enhance Water Quality

Goal 3 – Enhance Management of the Basin

Goal 4 – Equitably Finance the OBMP

The proposed Groundwater Recharge Feasibility Project meets the goals listed above through the following elements:

- Goal 1 – Enhance Basin Water Supply by
  - Storing imported water during wet years for subsequent use
  - Improving drought reliability
  - Minimizing dependence on MWD deliveries during the summer
  - Creating recharge facilities in the upper part of the basin and within Management Zone 1
- Goal 2 - Protect and Enhance Water Quality by
  - Injecting high quality water in areas of degraded water quality
  - Pumping groundwater from areas of degraded water quality
- Goal 3 - Enhance Management of the Basin by
  - Developing alternate recharge methods in Management Zone 1
  - Creating recharge facilities in the upper portion of the basin
  - Being consistent with conjunctive use policies and programs that take into account water quality and quantity
  - Injecting and pumping in areas of degraded water quality
- Goal 4 – Equitably Finance the OBMP by
  - Seeking funding from state/federal/MWDSC to fund projects that provide regional/statewide/Colorado River benefits to improve drought reliability

The proposed Groundwater Recharge Feasibility Project meets the goals listed above through the following OBMP Program Elements:

- Program Element 3 – Develop and Implement Water Supply Plan for the Impaired Areas of the Basin. The proposed project is consistent with this element by allowing injection of low nitrate water into high nitrate areas and recovering blended water for beneficial use.

- Program Element 4 – Develop and Implement Comprehensive Groundwater Management Plan for Management Zone 1. The proposed project is consistent with this element by recharging imported water into the upper portion of Management Zone 1 that would result in the enhancement of both water quality and quantity.

- Program Element 9 – Develop and Implement Groundwater Storage Management Program. The proposed project is consistent with this element by storing imported water in the basin during wet years and extracting it during summer months and/or dry years.

1.1.2 Compliance with the California Environmental Quality Act (CEQA)

In July 2000, the Inland Empire Utilities Agency (IEUA) Board of Directors approved and certified the OBMP Program Environmental Impact Report (Program EIR). A Program EIR is an EIR which is prepared on a series of actions that can be characterized as one large project and are related either: 1) geographically; 2) as logical parts in the chain of contemplated actions; 3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or 4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways as in CEQA Guidelines Section 15168(a). The Program EIR prepared for the OBMP is the primary information source and CEQA-compliant document for any subsequent discretionary actions or approvals by the IEUA, the Watermaster, and any constituent agencies, including MVWD, should they also decide to implement programs as CEQA Responsible or Lead Agencies under the OBMP.

The proposed Groundwater Recharge Feasibility Project is, therefore, considered a second-tier project under CEQA (Section 15152, State CEQA Guidelines). As a proposed program under the OBMP, the Groundwater Recharge Facilities Program has already been subject to a general environmental review. However, the physical impacts resulting from construction and operation of proposed facilities development at specific locations and under specific operating conditions must still be analyzed and described in subsequent environmental reviews. The intent of this addendum to the Program EIR and Findings of Consistency is to provide a written checklist, pursuant to CEQA Guidelines Section 15168(c)(4), to document the evaluation of the sites and the project to determine that the environmental effects of the operation are consistent with those that were previously evaluated and covered in the Program EIR.

1.2 Project Location

The Groundwater Recharge Feasibility Project would occur within Management Zone 1 of the Chino Groundwater Basin (Chino Basin or the Basin) as shown on the vicinity map in Figure 1-1. The Chino Basin consists of an alluvial valley that is relatively flat from east to west, sloping from north to south at a one to two percent grade. Basin

elevation ranges from about 500 feet near Prado Dam to about 2,000 feet in the foothills.

The principal drainage course for the Basin is the Santa Ana River, which flows 69 miles across the Santa Ana Watershed from its origin in the San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Basin at the Riverside Narrows and flows along the southern boundary to the Prado Flood Control Reservoir where it eventually discharges through the outlet at Prado Dam. Also within the Basin are a series of ephemeral and perennial streams including: Chino Creek, San Antonio Creek, Cucamonga Creek, Deer Creek, Day Creek, Etiwanda Creek, and San Sevaine Creek. These creeks, flowing primarily north to south, carry significant flows only during and for a short time after, intermittent storms occurring between October and April. Year-round flows occur along the Santa Ana River due to year-round surface inflows above Riverside Narrows, discharges from municipal water recycling plants that enter the Santa Ana River between the narrows and Prado Dam, and rising groundwater. Some rising groundwater occurs in Chino Creek, in the Santa Ana River at Prado Dam, and potentially at other locations on the Santa Ana River, depending on climate and season.

The Chino Basin is one of the largest groundwater basins in Southern California, containing a capacity of approximately 5,000,000 acre-feet for water storage, with an additional, unused storage capacity estimated at approximately 1,000,000 acre-feet (Findings of Consistency of the Chino Groundwater Basin Dry-Year Yield Program, December 2002). Cities and water supply entities produce groundwater for all or part of their municipal and industrial supplies from the Chino Basin. An additional 300 to 400 agricultural users also produce groundwater from the Basin.

While still considered to be a single basin, the Chino Groundwater Basin has been divided into five Management Zones based upon Basin geophysical characteristics, and into three different sub-basins based on the Santa Ana Regional Water Quality Control Plan (Basin Plan, 1995). Due to hydrologic characteristics of the basin, the water resource management activities that occur in each flow system have little to no impact on the other systems. These Management Zones are used to characterize the groundwater level, storage, production, and water quality conditions within the Chino Basin. These Management Zones, in addition to the hydrologic boundary of the Basin itself, are not intended to represent absolute barriers or isolated mechanisms, rather these divisions have been made based on observed flow characteristics and general patterns that can be assumed from existing groundwater flow data.

Water in Management Zone 1, the zone in which the proposed Groundwater Recharge Feasibility Project would be located, flows generally south with some localized flows to the west in response to groundwater production. Sources of water to Management Zone 1 include direct percolation of precipitation, returns from irrigation, recharge of storm flows and imported water in spreading basins, and subsurface inflow from the Pomona, Claremont Heights, and Cucamonga Basins.

Discharge is through groundwater production, and as rising groundwater in Chino Creek and the Santa Ana River.

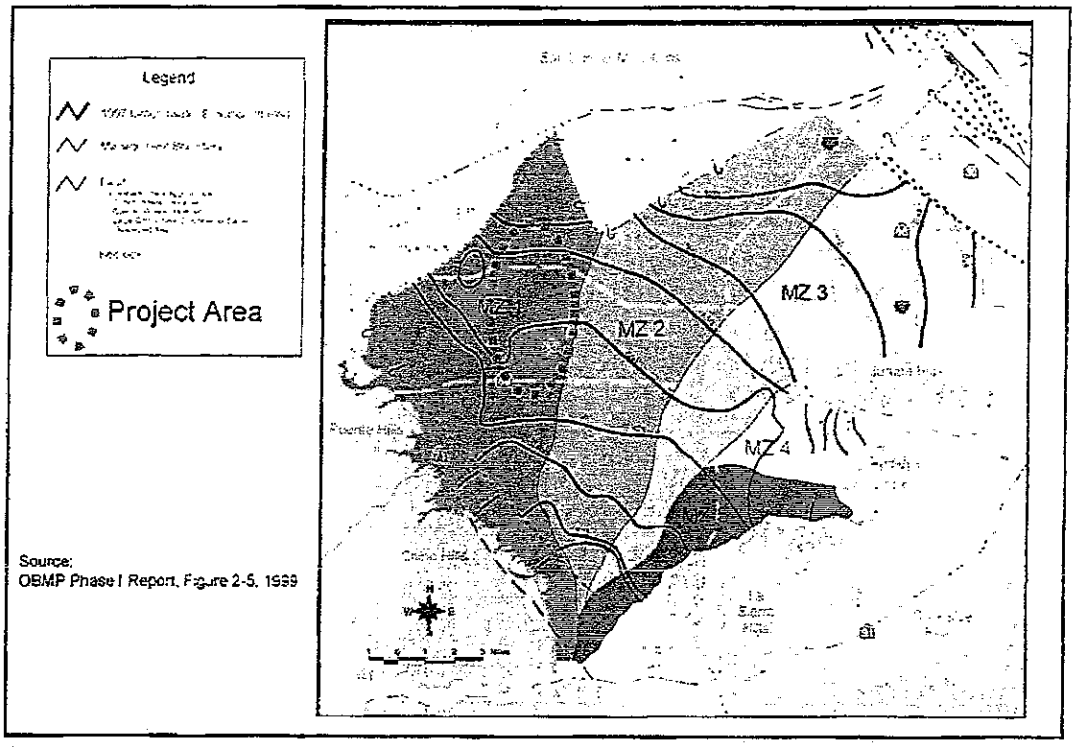

Figure 1-1
Chino Groundwater Basin

Monte Vista Water District is located within San Bernardino County and services approximately 14,000 connections primarily in the communities of Montclair and Chino and the unincorporated areas in San Bernardino County lying in between the cities of Chino, Montclair and Ontario. In addition, the District provides wholesale water service to the City of Chino Hills. The retail and wholesale service area of the District is depicted in Figure 1-2.

The facilities for MVWD's Groundwater Recharge Feasibility Project would be located in the City of Montclair and the City of Ontario, at the western end of San Bernardino County in the Chino Groundwater Basin. The City of Montclair and the City of Ontario are both located approximately 35 miles east of downtown Los Angeles. The proposed project would involve drilling new wells and/or rehabilitating existing wells at four MVWD well sites. These locations are shown in Figure 1-3.

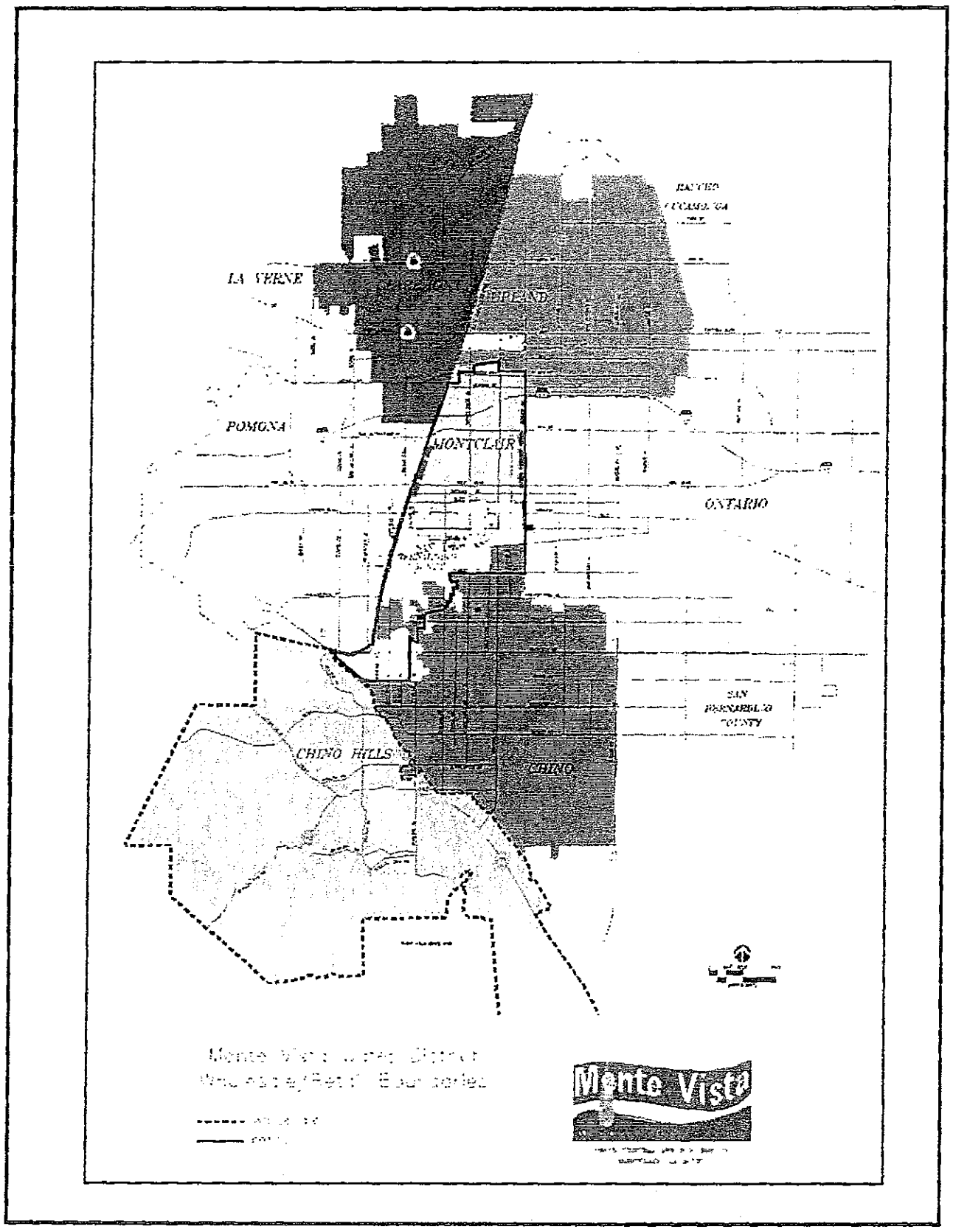

Figure 1-2
Monte Vista Water District Service Area

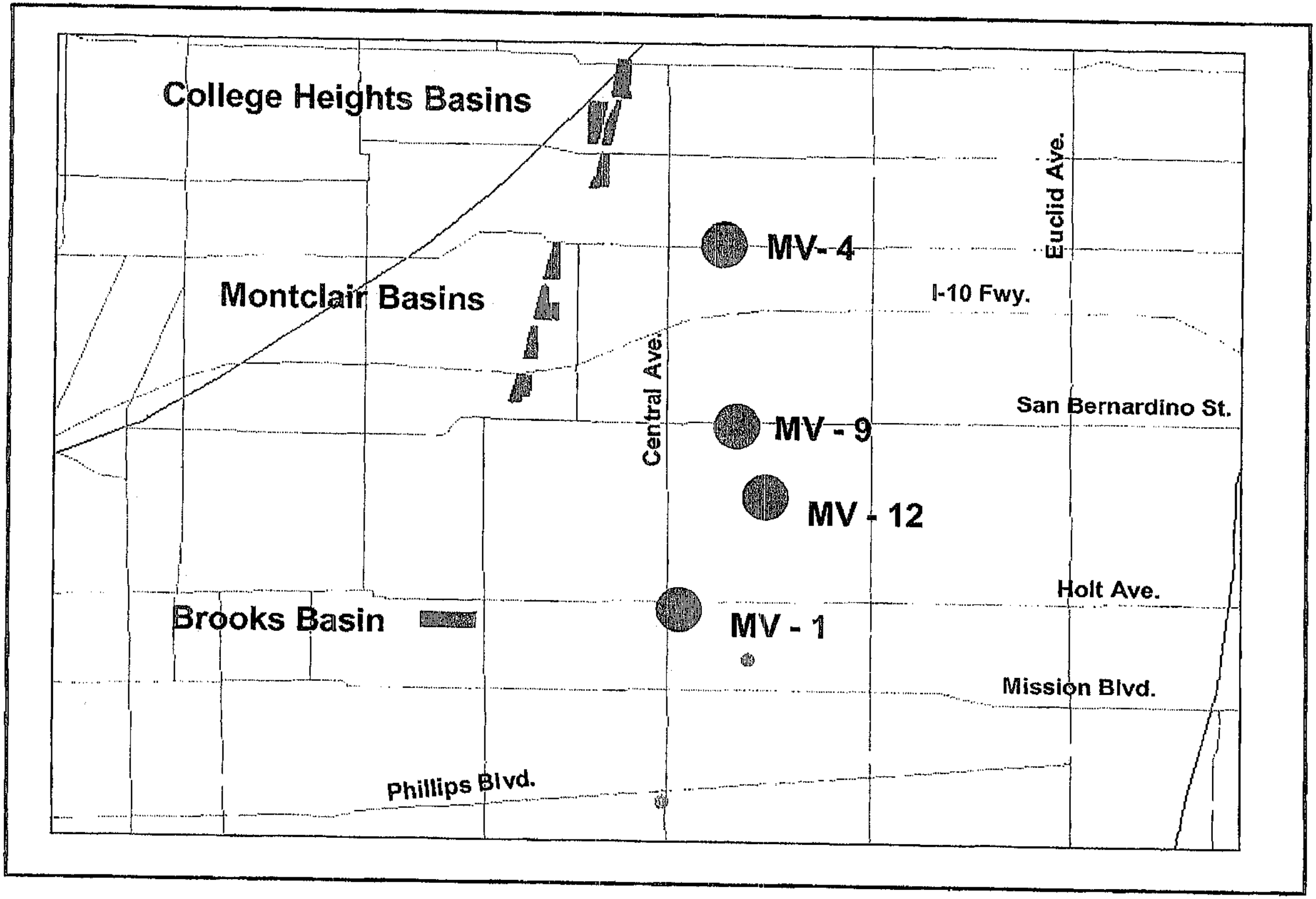

Figure 1-3
Well Location Map

1.3 Project Objectives

The three primary objectives of MVWD's Groundwater Recharge Facilities Program include;

- Increasing recharge of imported water into Management Zone 1,
- Enhancing the cleanup of nitrates from this portion of the Chino Groundwater Basin;
- Increasing water supply reliability for the MVWD; and
- Supporting the Dry-Year Yield Program of the Metropolitan Water District and its local member agency IEUA.

1.4 Project Description

The project presents an implementation plan for the phased reactivation of MVWD Wells No. 1, 9, and 12 and the modification of MVWD Well No. 4 for groundwater injection and extraction purposes. It is anticipated that actual project implementation is likely to be phased over the coming five to ten year period depending on system demand, long-term ASR well performance and available funding sources. Full project implementation includes the drilling of two new wells and/or rehabilitate and modify four existing wells to be used for direct injection of treated imported water into the groundwater basin during non-summer months and during wetter years when excess State Water Project supply is available. These wells would also be used for subsequent extraction of groundwater during the summer months or during periods when the water deliveries from the State Water Project may not be sufficient to meet local MVWD demands.

Four different alternatives for spreading and/or injection of imported water in Management Zone 1 of the Chino Groundwater Basin have been considered for this project. Spreading and/or injecting of imported water in this Management Zone is consistent with the Optimum Basin Management Plan to maintain production and adequate water levels. Individual alternatives vary depending on whether the existing wells would be rehabilitated for injection/extraction or new wells would need to be drilled. Alternatives also vary depending on the time and length of the injection and extraction cycles. The Draft Groundwater Recharge Facilities Program Feasibility Study (April 2003) evaluated four different alternatives and assessed their short-term and long-term impact on groundwater levels and water quality in Management Zone 1. These alternatives are briefly described below. Annual estimations of groundwater recharge, injection, and extraction for each alternative are summarized in Table 1-1.

1.4.1 Alternative 1 - Maximum Spreading of Imported Water

This alternative consists of recharging the groundwater basin by spreading untreated imported water at selected spreading basins. This alternative represents the conditions by which the groundwater basin would have been recharged in the absence of any injection program. Under this alternative, MVWD would pump an estimate 18,986 ac-ft per year. MVWD Wells MV-1, MV-4, MV-9, and MV-12 would remain in their current conditions with Well MV-4 in operation for groundwater extraction and Wells MV-1, MV-9 and MV-12 not in use. It should be noted that this level of groundwater production by the District is significantly higher than the 9,319 ac-ft per year used in the OBMP for the year 2000 and would exceed the District's Initial Share of the Operating Safe Yield plus anticipated Agricultural Transfers. Replenishment obligations to be incurred by the District are estimated at 11,541 ac-ft per year.

To compensate for the increase in groundwater production (9,667 ac-ft per year) over the OBMP values, spreading of imported water for basin recharge was increased by the same amount bringing total recharge in Management Zone 1 to 26,250 ac-ft per year. Spreading of imported water would take place at the Montclair and College Heights spreading basins. This alternative would not require the construction of new spreading facilities in Management Zone 1. However, additional transmission facilities would be required to convey imported water to the Upland-College Heights spreading grounds. The assessment of the transmission facilities is not a part of this study.

1.4.2 Alternative 2 - Maximum Injection of Imported Water

This alternative considers a maximum injection rate of 4,500 ac-ft per year over a three year period for a total injection of 13,500 ac-ft. The three injection years would be followed by two years of extractions. To accomplish this level of injection, the following improvements would be necessary:

- Rehabilitate existing Well No. 1 by installing a liner casing and constructing the appropriate ASR injection and extraction facilities
- Modify existing Well No. 4 to become an ASR facility
- Construct two 1,000 ft deep replacement wells for wells 9 and 12

Production capacity for the new wells is anticipated at 2,000 gpm each. Injection rate for these wells was estimated at 60 percent of their production capacity or 1,200 gpm. Production capacity for the two existing wells was estimated at 800 gpm for Well No. 1 and 900 gpm for Well No. 4. Injection rates for these wells were assumed to be 50 percent of their production capacity.

During the injection mode, the two new wells would inject treated imported water from the WFA treatment plant on a continuous basis over a 36 month period. During this period, the other two wells (MV-1 and MV-4) would operate seasonally by

injecting during the winter months and extract during the summer. Annual groundwater production by the District during this period is estimated at 19,527 ac-ft. During the 24-month extraction cycle that follows, the four ASR wells would operate as production wells by pumping directly into the distribution system on a continuous basis over a 24 month period as part of a five year cycle. Groundwater production during this period is estimated at 22, 762 ac-ft per year. Spreading of imported water to meet replenishment obligations is anticipated to average 25,362 ac-ft per year over the five year period.

1.4.3 Alternative 3 - Moderate Injection of Imported Water

Similar to the Maximum Injection alternative, this alternative considers the construction of two new ASR wells (MV-9 and MV-12), the rehabilitation of MV-1 by installing a liner casing, and the refurbishment of MV-4 to become an ASR well. Under this alternative, MV-4, MV-9 and MV-12 would operate in the injection mode during the winter months reverting to the extraction mode during the summer. Well MV-1 would operate on the injection mode during the winter but it would be shut down during the summer. This mode of injection/extraction operation was maintained constant over the 20-year evaluation. In the model, a total of 3,272 ac-ft of treated imported water was injected on an annual basis over the study period.

This alternative is considered as moderate injection because the amount of injected water would be less than the maximum alternative during the injection years; however, the amount of water injected over a five year period would be higher. Under this alternative a five-year total of 16,260 ac-ft of treated imported water would be injected in the basin compared to 13,500 ac-ft for the maximum injection alternative. Spreading of imported water to meet replenishment obligations have been estimated at 25,119 ac-ft per year.

1.4.4 Alternative 4 - Minimum Injection of Imported Water

This alternative considers an annual injection rate of 1,640 ac-ft per year. Similar to the moderate injection alternative, the ASR wells would operate on a seasonal basis. The facility improvements would be limited to modifying Well No. 4 to become an ASR facility and rehabilitating the three existing wells. Rehabilitation of these wells would consist of installing liner casings and constructing the appropriate ASR injection and extraction facilities. Production capacity for wells No. 9 and 12 after rehabilitation was assumed to be equal to the production of Well No. 4. Production from this well was increased to 900 gpm after it was rehabilitated in the late 1990's. Production capacity for Well No. 1 was maintained at 800 gpm while injection rates for all wells were considered at 50 percent of their capacity. Spreading of imported water to meet replenishment obligations in the basin have been estimated at 26,073 ac ft per year.

1.5 Groundwater Modeling Results

The impact of the four alternatives described above on the groundwater basin was assessed through the use of a groundwater model of the westerly portion of the basin.

Table 1-1

Annual Recharge, Injection and Extraction Values (acre-feet)

	Management Zone 1 Spreading	Injection	MVWD Extraction
Alt. 1 – Maximum Spreading	25,362	0	19,527
Alt. 2 – Maximum Injection			
Injection Cycle	25,362	4,449	22,797
Extraction Cycle	25,119	0	21,152
Alt. 3 – Moderate Injection		3,272	
Alt. 4 – Minimum Injection	26,073	1,640	20,472

Source: Draft Groundwater Recharge Facilities Program Feasibility Study (March 2003)

The model used was a modified version of the OBMP model. The OBMP model was used to address water quantity issues as part of the programmatic EIR. The modifications made to this model consisted of a) reduction of the modeling area to represent the area of interest, b) modification of the model from a steady-state to a transient mode to allow evaluation of non-equilibrium conditions over time, c) addition of new MVWD wells, d) implementation of seasonal flow changes for MVWD facilities, and e) addition of solute transport capabilities to allow evaluation of nitrate-nitrogen (nitrate) concentrations in the aquifer.

The modified model was run for all alternatives and the result compared to the OBMP modeled conditions. Modeling results indicate that water levels would not significantly change or could slightly increase as a result of increased groundwater spreading and direct injection of imported water in Management Zone 1. Modeling results also indicate that different alternatives would have a positive impact on groundwater quality in this management zone in general and at the District and the City of Chino wells in particular. Appendix A provides a complete description of the modeling results from a water quality and water level perspective. In addition, a full description of the groundwater model used to evaluate the alternatives is presented.

1.6 Other Considerations

Modifications to the existing well sites would be required to convey treated imported water to the injection sites and to connect the wells to the distribution system. An underground pipeline conveying treated imported water would be brought to the well site to connect to the well. This pipeline would have a 20-25 feet above-grade section at the well head facility. Once constructed, each well is anticipated to require

maintenance activities on a daily basis, including recording water production, checking oil levels in the motors, checking chlorine residual in the water, checking for water leaks and/or signs of trespassing, etc.

Liquid sodium hypochlorite would be used for disinfection of the water produced at each well during the extraction mode. Sodium hypochlorite would be injected into the water to provide a chlorine residual (injection would take place at the well head facilities during the discharge phase as water is pumped from the ground into the distribution system). Sodium hypochlorite is considered a corrosive material and would be stored and housed in a fiberglass shed with secondary containment. Approximately 200 gallons of sodium hypochlorite would be stored at each of the four well sites.

1.7 Construction Activities and Schedule

The construction of new wells and/or the rehabilitation of existing wells would require the use of a well rig and additional supporting construction equipment including a backhoe, trucks for piping, mud tanks, pump rig, and an equipment trailer to store the contractors' supplies. Drilling of new wells would use the reverse circulation drilling method where the bore hole is drilled using water as the drilling fluid. Each well pilot hole would be drilled to an approximate depth of 1,000 feet below ground surface (bgs). The final depth of each well would be determined after the pilot hole is drilled and geophysical logs are completed. Construction would last approximately three months and is anticipated to begin late in 2003 or in 2004. However, it should be recognized that MVWD has no plans to immediately implement this program at this time; further, this document represents a guidance document for the phased implementation of the proposed facilities.

When constructed, all of the well sites would contain the following aboveground structures: a sodium hypochlorite feed system housing unit (approximately 10-feet by 10-feet), a motor control center pad (approximately 5-feet by 18-feet), a pump foundation and motor (6-feet by 6-feet), a transformer pad (4-feet by 4-feet), and aboveground piping and appurtenances. At-grade wellhead equipment would consist of a well pump, motor, electrical service, piping, valves, controls, instrumentation, and appurtenances. Well design and construction would meet the criteria and requirements of the following standards: California Water Well Standards, Department of Water Resources; and the California Department of Health Services.

1.8 Procedural Considerations

As previously stated, the Inland Empire Utilities Agency certified and adopted a Program Environmental Impact Report (Program EIR) for the Optimum Basin Management Program (OBMP) in July 2000. This Program EIR addressed this proposed project as part of a larger, integrated program of water resources management for the Chino Groundwater Basin (Basin). Among other elements, the Program EIR evaluated the impact of a 150,000 to 300,000 AF conjunctive water use

program in the Basin. The Program EIR evaluated the general use of the Basin for conjunctive use and the installation of support infrastructure as permitted activities under the OBMP and addressed impacts as part of its baseline and cumulative environmental evaluation. The Monte Vista Water District must determine whether the proposed project results in a new significant impact not evaluated in the Program EIR and must decide what CEQA environmental determination to make if it chooses to approve the proposed project.

A Program EIR is used when a project consists of a program that will entail a series of future actions or specific construction projects which can be characterized as a large project, such as a groundwater management plan over a large geographical area. A Program EIR describes the broad program objectives and facilities and evaluates the cumulative impact of implementing the total project over a period of time with all its elements. Under this programmatic concept, future individual actions are reviewed in the context of the Program EIR findings. These future individual actions may include specific well, pipeline, treatment and other infrastructure projects analyzed as part of a whole multifaceted program in the Program EIR. Where activities or facilities being implemented in the future fall within the scope of impacts identified for the Program EIR, (in this case, the OBMP Program EIR) later environmental studies can be minimized through elimination of specific environmental issues deemed to be insignificant during the earlier stage of environmental review or through finding that the environmental impact analysis in the Program EIR was sufficient to fully address program environmental impacts, including significant impacts.

The Program EIR provides a baseline and cumulative environmental evaluation and determination for the activities permitted under the OBMP, which includes desalters, wells, recharge basins, conjunctive use, pipelines, treatment and other infrastructure systems and groundwater monitoring. Later activities are then reviewed for consistency with the plan evaluated in the Program EIR which allows "tiering" of any future environmental review as provided in Sections 15152 and 15385 of the State CEQA Guidelines, if subsequent environmental review is required (Section 15162, CEQA Guidelines). Existing conditions used to make impact forecasts in this Written Checklist are assumed to be the same as those in the Program EIR, as the analysis presented in this Written Checklist will be completed within a little over three years of the certification of the Program EIR.

Based on the above, the Program EIR, as amended with the information and analysis presented herein as an Addendum, adequately addresses the potential impacts of the Groundwater Recharge Facilities Program.

Section 15162 of the CEQA Guidelines indicates that when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines one or more of the following:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes occur with respect to circumstances under which the project is undertaken which will require major revisions of the previous EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

  - The project will have one or more significant effects not discussed in the previous EIR;

  - Significant effects previously examined will be substantially more severe than shown in the previous EIR;

  - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

  - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Based on the information and analysis presented herein, the Monte Vista Water District finds as follows:

- The proposed project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects requiring revisions to the previous EIR (see checklist answers and associated explanations above);

- The proposed project would not have circumstances that would result in new significant environmental effects and require revisions to the previous EIR; and

- Since the previous EIR, no new information has been identified that would result in:

  - One or more new significant effects (see items 1 and 2 directly above);

  - Increase the severity of a previous significant effect (see item 2 directly above and item II.(a) in Checklist); or

- Find new feasible mitigation measures or alternatives that the project proponents decline to adopt; or

- Find new mitigation measures or alternatives different than those in the previous EIR that would reduce significant effects that the project proponents decline to adopt (see above).

Section 2
Written Checklist

Purpose of the written checklist:

This written checklist evaluates Monte Vista Water District's (MVWD) proposed Groundwater Recharge Facilities Program as part of the Chino Basin Optimum Basin Management Program (OBMP), which was previously evaluated in the Inland Empire Utilities Agency's OBMP Program Environmental Impact Report (SCHMV-2000041047). The proposed project would involve implementation of one of the five alternatives, as described in Section 1, Project/Program Description. The general premise and scope of the Groundwater Recharge Facilities Program for MVWD is accounted for and addressed within the OBMP Final Program Environmental Impact Report (Program EIR). The following written checklist provides a review of the proposed Groundwater Recharge Facilities Program to determine whether there are any environmental impacts that have not been previously contemplated and addressed in the OBMP Final Program EIR, pursuant to CEQA Guidelines Section 15168(c)(4).

Project title:

Addendum to the Optimum Basin Management Program EIR for the Monte Vista Water District Groundwater Recharge Facilities Program

Lead agency name and address:

Monte Vista Water District
10575 Central Avenue
Montclair, CA 91763

Contact person and phone number:

Mr. Mark N. Kinsey, General Manager
Monte Vista Water District
10575 Central Avenue,
P.O. Box 71
Montclair, CA 91763
(909) 624-3812

Project location:

The proposed project, would be within Monte Vista Water District's (MVWD) boundaries, lies within the greater Chino Groundwater Basin, as depicted in Figure 1, Chino Groundwater Basin, and Figure 2, Monte Vista Water District Service Area. Implementation of Alternatives 2, 3 or 4, as previously described, would involve improvements at three existing well sites in the City of Montclair and one well site within the City of Ontario. Alternatives 1 and 2 would maintain status quo conditions at each of the well locations described below, and depicted in Figure 1-3, Well Locations Map.

- Well MV-1 is located at 10575 Central Avenue in the City of Montclair. Most of the property at this address is used by Monte Vista Water District for its headquarters offices, and the well is located in an enclosed building in the southeastern portion of the property.

- Well MV-4 is located at 5501 Arrow Highway in the City of Montclair. This property is located on the south side of Arrow Highway in the middle of the block bound by Benson Avenue on the east and Vernon Avenue on the west. Also located on this property is MVWD Well MV-27.

- Well MV-9 is located at 5617 San Bernardino Street in the City of Montclair. This property is located on the south side of San Bernardino Street in the middle of the block bound by Benson Avenue on the east and Vernon Avenue on the west. Adjacent to the well on the west is Vernon Middle School, and to the east is Buena Vista Elementary School.

- Well MV-12 is located at the northeast corner of Benson Avenue and G Street in the City of Ontario. The well is situated in the northeastern portion of this MVWD property.

Project sponsor's name and address:

Monte Vista Water District
10575 Central Avenue
Montclair, CA 91763

General plan designation:

- General plan designations for each of the well locations is provided below:

  - Well MV-1: Limited Manufacturing

  - Well MV-4: MIP – Manufacturing Industrial Park

  - Well MV-9: Residential

  - Well MV-12: Non-Recreational Open Space

Zoning:

- Zoning designations for each of the well locations is provided below:

  - Well MV-1: M-1, Manufacturing

  - Well MV-4: MIP – Manufacturing Industrial Park

  - Well MV-9: Single-Family Residential

  - Well MV-12: Open Space

Description of the project:

Monte Vista Water District (MVWD) proposes to drill two new and/or rehabilitate existing wells at four existing well sites for groundwater injection and extraction purposes. Four alternatives are under consideration by MVWD and are described in detail under Program Description. For three of these alternatives, Alternatives 2, 3, and 4, new drilling and construction activities would be required and/or MVWD facilities would require rehabilitation. For Alternative 1, no new construction and/or rehabilitation would be required.

Surrounding land uses and environmental setting:

Three of four well locations for the proposed project are located within the city limits of the City of Montclair and the fourth well is located within the City of Ontario. The well sites are surrounded by land uses associated with urbanized areas. These are described below:

- Well MV-1 is on property owned and operated by Monte Vista Water District. The well itself is located in the southeastern portion of the site, is approximately 16-20 inches in diameter and currently extends approximately 500 feet below ground. The existing condition of this well is such that using the well for groundwater extraction or injection of imported water is not possible. The well has not been in use for several years, and the casing prohibits successful extraction of water. Above ground, surrounding the well is a building currently used for furniture and supply storage. The rest of the MVWD property is used for offices and water storage tanks associated with MVWD operations. Land uses surrounding the MVWD property at 10575 Central Avenue include the following:

  - North of the property are manufacturing, warehouse and industrial land uses;
  - South of the property are storage facilities and a Union Pacific/Metrolink railroad line;
  - East of the property are manufacturing, warehouse and industrial land uses; and
  - West of the property is Central Avenue, a divided four-lane main arterial street.

Well MV-4 is located on property owned and operated by Monte Vista Water District. The well itself is located in the eastern portion of the property, is currently operational for extracting groundwater, and would need to be re-equipped as part of the proposed project. The well would be adapted to not only extract groundwater, but would also be able to be used for groundwater injection. Also located on this property is Monte Vista Water District's Well MV-27 and a water storage tank. Adjacent to Well MV-4 is vacant land approved for the construction of an Industrial Park. The applicant has received approval for the project and is in the final plan check phase with the City of Montclair Planning Department. Land uses surrounding the MVWD property at 5501 Arrow Highway include the following:

- North of the property is Arrow Highway, a four-lane main arterial street, and commercial land uses;

- South of the property is vacant land and a mobile home park;

- East of the property is vacant land and industrial uses; and

- West of the property are industrial and commercial land uses.

Well MV-9 is located on property owned and operated by MVWD. The well itself is located in the western portion of the site, closest to Vernon Middle School, is approximately 16-20 inches in diameter and currently extends 500 feet below ground. The existing condition of this well is such that using the well for groundwater extraction or injection of imported water is not possible. The well has not been in use for several years, and the casing prohibits successful extraction of water. Above ground, surrounding the well is a small building currently used for storage, piles of debris, and old casing extracted from Well MV-1, Well MV-9 and Well MV-12. Land uses surrounding the MVWD property at 5617 San Bernardino Street include the following:

- North of the property is San Bernardino Street, a secondary street, and single family residential units;

- South of the property are playfields for Buena Vista Elementary School and Vernon Middle School, as well as residences;

- East of the property is Buena Vista Elementary School, Benson Avenue, a main arterial street, and single-family residences; and

- West of the property is Vernon Middle School, Vernon Avenue, and single-family residences.

Well MV-12 is located on property owned and operated by MVWD. The well itself is located in the eastern portion of the site, is approximately 16-20 inches in diameter, and currently extends 500 feet below ground. The existing condition of this well is such that using the well for groundwater extraction of injecting imported water is not possible. The well has not been in use for several years, and the casing prohibits successful extraction of water. Above ground, surrounding the well is vacant, unimproved land, electrical power lines, and one mature tree. Land uses surrounding the MVWD property at the northeast corner of Benson Avenue and G Street include the following:

- North of the property is vacant land and single-family residences;

- South of the property is G Street, a collector street, and single-family residences;

- East of the property is vacant land and Bellevue Memorial Park, a cemetery; and

- West of the property is Benson Avenue, a collector street, and single-family residences.

The general impacts to aesthetics and visual resources of the overall Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.15 on pages 4-437 through 4-444 of the OBMP Program EIR, and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. **AESTHETICS** -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

a-b) **No Impact:** For Alternatives 2, 3 and 4, proposed well improvements associated with the Groundwater Recharge Facilities Program would occur below ground level. Existing above-ground facilities at each of the MVWD properties includes electrical connections, well heads, and perimeter walls/fencing. Where required, facilities would be improved. Therefore, visual conditions at each of the four well locations would not change, and no impacts to scenic vistas or scenic resources would occur.

c) **Less Than Significant Impact**: For Alternatives 2, 3 and 4, proposed well improvements would occur below ground level. Existing above-ground facilities on the MVWD properties currently include electrical connections, well heads, and perimeter walls/fencing. Where required, facilities would be improved and updated. Currently, landscaping and perimeter fencing is included at the operational Well MV-4 site. Such landscaping and fencing

around the perimeter of each of the other well sites may be included in the project. Therefore, the visual character of the well locations may change but would not be compromised.

d) **No Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), no lighting would be associated with the proposed injection and extraction wells. Therefore, no new light or glare impacts would occur from the proposed project.

The general impacts to agricultural resources of the overall Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.2, on pages 4-3 through 4-26 of the OBMP Program EIR, and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURAL RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑

a-c) **No Impact:** For each of the three build alternatives, the four proposed injection and extraction well sites are located on land currently owned and developed by MVWD uses. No farming activities occur at, or immediately adjacent to, the properties; therefore, no prime or unique farmland or farmland

of statewide importance would be directly or indirectly converted as a result of the proposed program.

The general impacts to air quality resources of the overall Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.6, on pages 4-270 through 4-295 of the OBMP Program EIR, which are included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐

a) **No Impact:** According to planners with both the City of Montclair and the City of Ontario, the project would not conflict with any adopted air quality plans. The proposed project would not conflict with adopted air quality plan. Construction impacts from the project would be limited and short-term. Drilling and re-equipping wells would generate limited amounts of emissions. Primary emissions sources during construction would result from construction equipment used during drilling and re-equipping activities. Operations activities for the injection and extraction wells would not generate air emissions or affect air movement, moisture, temperature or climate.

b-c) **Less Than Significant Impact:** The proposed Groundwater Recharge Facilities Program would be located within the South Coast Air Quality Management District, a non-attainment area for ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), and particulates (PM10). Construction activities for the proposed well drilling and rehabilitation for Alternatives 2, 3 and 4 may generate emissions related to fugitive dust and construction equipment. These emissions would be short-term, limited, and would not directly result in any air quality standard violations or contribute substantially to existing or projected violations in the program area.

d) **Less Than Significant Impact:** Construction activities, including well drilling and rehabilitation would occur within close proximity to sensitive receptors. Well MV-9 is located between Buena Vista Elementary School and Vernon Middle School, and across the street from single-family residences. Well MV-12 is also located across the street from single-family residences. However, due to the limited nature of anticipated air emissions during construction activities at Well MV-9 and Well MV-12, sensitive receptors would not be exposed to substantial pollutant concentrations. Well MV-1 and Well MV-4 are not located near sensitive receptors.

e) **Less Than Significant Impact:** Construction equipment used during well drilling and re-equipping activities would generate diesel odors within the immediate project area. However, these odors would be short-term, occur within the immediate construction area only, and would only be associated with diesel equipment use. Odors would be expected to dissipate before reaching surrounding sensitive receptors and surrounding land uses and would cease upon completion of project construction.

The general impacts to biological resources of the overall Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.8, on pages 4-308 through 4-336 of the OBMP Program EIR which are included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

a) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not result in habitat modifications that would affect sensitive, candidate, or special status species. All four well sites are located on land owned and currently utilized by MVWD. No habitat currently exists that would support sensitive, candidate, or special status species, and no new land would be acquired for the proposed project; therefore, no impacts would occur.

b) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not result in modifications to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service. All four well sites are located on land owned and currently utilized by MVWD. No riparian habitat or other sensitive natural communities exist on the four MVWD well locations, and no new land would be acquired for the proposed project that consists of riparian habitat or habitat for sensitive communities; therefore, no impacts would occur.

c) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not result in affects to wetlands. No wetland conditions exist at, or immediately adjacent to, the four MVWD well locations, and no new land would be acquired for the proposed project; therefore, no impacts would occur.

d) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. All well locations are currently utilized by MVWD, are fenced off, and no new land would be acquired for the proposed project; therefore, no impacts would occur.

e) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not interfere with any local policies or ordinances protecting biological resources. At the Well MV-12 location, one mature does exist, and at the Well MV-4 location, landscaping around the perimeter is in place. However, well improvements at these two sites are not anticipated to affect the tree or landscaping in any way. Therefore, no impacts would occur.

f) **No Impact:** According to planners with the City of Montclair and the City of Ontario, implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not interfere with any adopted Habitat Conservation Plans, Natural Community Plans, or other approved local, regional, or state habitat conservation plans. All well locations are currently utilized by MVWD, not subject to any habitat conservation plans, and no new land would be acquired for the proposed project; therefore, no impacts would occur.

The general impacts to cultural resources of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.14, on pages 4-425 through 4-435, of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

a-d) **Less Than Significant Impact with Mitigation:** Construction activities associated with the groundwater recharge facilities improvements for Alternatives 3 and 4 do have the potential to result in significant impacts to historical, archaeological, or paleontological resources and human remains. For Alternatives 1 and 2, no improvements to the four existing wells would occur; therefore, no impacts would result. Implementation of Alternative 4 would require rehabilitating the existing Well MV-1, Well MV-9 and Well MV-12; therefore no impacts would occur. However, with Alternatives 3 and 4, new wells would be drilled immediately adjacent to the existing Well MV-9 and Well MV-12. Implementing either one of these alternatives would have the potential to disturb cultural resources during drilling activities. However, implementation of Mitigation Measures 4.14-1 through 4.14-5, as detailed in the OBMP Program EIR would reduce any significant cultural resources impacts to less than significant levels in the event that Alternatives 3 or 4 are chose as the preferred alternative. These mitigation measures include:

4.14-1 Inventory: A required basic archaeological inventory should encompass the following guidelines:

a. **Literature and Records Search:** Existing maps, site reports, site records, and previous EIRs in the region of the subject area should be researched to identify known archaeological sites and works completed in the region. All maps, EIRs, historical maps and documents, and site records should be cited in text and

references. Local historical societies should also be contacted and referenced. State Information Centers will provide the bulk of this information. The San Bernardino County Archives or the Eastern Information Center at UC Riverside should be contacted.

b. **Field Reconnaissance:** Conduct a surface survey to obtain comprehensive examination of current status of the area and gather general understanding of the kinds of cultural and related phenomena present. At a minimum, all ground surface chosen for survey should be walked over in such a way that every foot of ground can be visually scanned. All previously recorded cultural resources should be revisited to determine their current status, and all newly discovered sites should be recorded on either State Form 422 or 523 and supplements, as appropriate. Trinomial designations will be obtained from the Information Center. For the inventory process, a compilation of all historical resources, including archaeological and historic resources older than 50 years, using appropriate State record forms, following guidelines in the California Office of Historic Preservation's handbook should be completed for all new discoveries. Two copies should be submitted to the San Bernardino County Archaeological Information Center for the assignment of trinomials if discovered within San Bernardino County. Otherwise, the appropriate comparable agency in Riverside County shall be the recipient of these reports.

c. **Report:** A technical report should be prepared which fully describes both the methods and results of all efforts. Research sources should be listed, and the information summarized. The field work should be presented in detail, with all appropriate maps and graphics. Any areas not inspected with full intensity should be specified, preferably using clear, easily understood maps, and the reasons for the deficiency presented. Site records should be prepared for all new discoveries, and amendments prepared to update old forms should be provided in the separable appendix, but the sites should be described in the main text. Each resource description should include a professional opinion of significance, with reference to the qualities or research potential which make it worthy of further consideration. Archaeological sites which need test excavation to confirm significance, integrity, and boundaries should be identified and a sampling program recommended.

4.14-2 Assessment

Properties shall be evaluated using a well-understood cultural context that describes the cultural development of an area and identifies the significant patterns that properties represent. This same historic context is used to organize all identification, registration, and preservation decisions within the planning framework. To be useful in subsequent stages of the planning process, evaluation decisions must make clear the significance of the property with the historic context. Potential preservation treatments should not influence the evaluation of significance (National Park Service n.d.:35)

The nature and type of assessment will depend on the particular resource(s) and level of information for a particular region. Consequently, it is not possible to prescribe specific methods to be utilized. However, there are certain basic elements that should be included an are as follows:

a. Preparation of a Research Design – Archaeological documentation can be carried out only after defining explicit goals and a methodology for reaching them. The goals of the documentation effort directly reflect the goals of the preservation plan and the specific needs identified for the relevant historic contexts.

b. Field Studies – The implementation of the research design in the field must be flexible enough to accommodate the discovery of new or unexpected data classes or properties, or changing field conditions. An important consideration in choosing methods to be used in the field studies should be assuring full, clear, and accurate description of all field operations and observations, including excavation and recording techniques and stratigraphic or inter-site relationships.

c. Report – The assessment report should evaluate the significance and integrity of all historical resources within the project area, using criteria established in Appendix G of the CEQA Guidelines for important archaeological resources and/or CFR 60.4 for eligibility for listing on the National Register of Historic Places. The report should contain the following information and should be submitted to the San Bernardino County Archaeological Information Center or to the Eastern Information Center at UC Riverside for permanent archiving:

(1) Description of the study area;

(2) Relevant historical documentation/background research;

(3) The research design;

(4) The field studies as actually implemented, including any deviation from the research design and the reason for the change;

(5) All field observations;

(6) Analysis and results, illustrated as appropriate with tables, maps and graphs;

(7) Evaluation of the study in terms of the goals and objectives of the investigation, including discussion of how well the needs dictated by the planning process were served;

(8) Information on where recovered materials are curated and the satisfactory condition of those facilities to protect and to preserve the

artifacts and supporting data. The County of San Bernardino requests that historical resource data and artifacts collected within this project area be permanently curated at a repository within the County.

d. In the event that a prehistoric or historic artifact over 50 years in age is encountered within the project area, especially during construction activities, all land modification activities in the immediate area of the finds should be halted, and an onsite inspection should be performed immediately by a qualified archaeologist. This professional will be able to assess the find, determine its significance, and make recommendations for appropriate mitigation measures. Further, if human remains of any kind are encountered on the property, the San Bernardino or Riverside County Coroner's Office must be contacted within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies.

4.14-3 Monitoring

In situations where resources are potentially subject to direct or indirect impact and testing or data recovery is not proposed, an archaeological monitor and Native American observer/consultant should be present during subsurface work. One circumstance under which this might occur would be if a known resource was close to an area of impact and the site boundaries were ambiguous. Monitors help insure that exposed data or materials are collected and that if potentially significance cultural materials or features are encountered, they will be preserved either by realignment of the proposed facilities or by prompt evaluation and recommendations for any necessary mitigation measure.

4.14-4 Data Recovery

If an archaeological resource is found to be significant and no other preservation option is possible, mitigation of adverse effects by scientific data recovery, including analysis and reporting is the method of last resort. Such a mitigation program is usually only developed after an assessment test has been completed to identify physical parameters and cultural complexity, and formulate a research design. Each specific program would have to be developed in response to the site and potential impact, with the concurrence of the appropriate agencies and in consultation with Native American representatives.

4.14-5 Future Project Siting

Future project siting shall be located, whenever possible or feasible, outside of the highly sensitive cultural resource areas depicted in Figures 4.14-1 in the OBMP Program EIR. Before any projects are located, and before any construction activities begin, any proposed project that will result in ground disturbance to any area that does not have a complete cultural resource survey on record with either the AIC or the EIC offices will conduct a site specific cultural resource evaluation and report prior to any ground breaking activity. Further, if cultural resources have been

identified on the site, a qualified archaeologist or paleontologist will be retained to devise an excavation and/or curation plan for the resources, and a qualified cultural resource monitor will be present onsite during all construction-related activities that could potentially uncover previously undiscovered resources. This monitor will examine excavated soils and have the authority to cease construction activities if resources are unearthed.

The general impacts to geology and soils from the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.4, on pages 4-42 through 4-70, of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☐	☑
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑

a) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Drilling new and/or rehabilitating existing wells and operating four injection and extraction wells would not result in any adverse geology and soils impacts.

b) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not result in soil erosion or loss of topsoil. All well improvements would occur below ground, and improvements above ground to well heads and perimeter walls, fencing and landscaping would not create conditions that would cause soil erosion or loss of topsoil. Therefore, no impacts would occur.

c-d) **No Impact:** According to planners with the City of Montclair and the City of Ontario, there are no known unstable geologic units, unstable soils, or expansive soils in the vicinity of the four well sites. Drilling and/or rehabilitation of the well sites would not occur on unstable soils; therefore, no impacts would occur.

e) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not affect soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems. Therefore, no impacts would occur.

The general impacts to hazards and hazardous materials from the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Sections 4.5.3, 4.7.3, 4.7.4, and 4.4.10, on pages 4-128 through 4-139, 4-304 through 4-306, and 4-347 through 4-365 of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VII.HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

a-c) **Less Than Significant Impact:** Drilling new wells and rehabilitating existing wells under Alternatives 2, 3, and 4 of the Groundwater Recharge Feasibility Project would not create any hazards for the public, neighboring schools, or the environment through the routine transport, use, or disposal of hazardous materials. Operations activities at the four well sites would involve the daily use of liquid sodium hypochlorite for disinfection purposes. The chemical would be injected into the water to provide a chlorine residual to prevent bacterial growth in the water distribution system. The sodium hypochlorite would be transported by truck and stored in vented, closed fiberglass sheds with secondary containment at each of the proposed well sites. Approximately 200 gallons of liquid sodium hypochlorite would be stored at each of the four sites. Transportation of sodium hypochlorite would follow transportation routes established in the City of Montclair and the City of Ontario General Plans for the transportation of hazardous materials. The amount of sodium hypochlorite used for disinfection at each well site would be regulated to prevent accidental spills. With these safety precautions in place, no health hazards would result.

d) **Less Than Significant Impact:** Two of the four well sites that would be utilized in Alternatives 2, 3 and 4 are listed within hazardous materials databases. According to the January 27, 2003 EDR site reports prepared for each of the four well sites, Wells MV-9 and MV-12 are not listed on any hazardous materials lists. Well MV-1 is listed on the "CA HAZNET" list and "CA San Bern. Co. Permit" list. "CA HAZNET" means that the site is listed within the Hazardous Waste Information System, and "CA San Bern. Co. Permit" means that MVWD has obtained a permit to operate as a hazardous material handler at the site. Well MV-4 is also listed on the "CA San Bern. Co. Permit" list.

e) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would occur outside of an airport land use plan and would be outside the two mile radius of the closest airport, the Ontario International Airport. Therefore, no impacts would occur.

f) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not occur in the vicinity of a private use airport. Therefore, no impacts would occur.

g) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not impair implementation of or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The proposed well rehabilitations and improvements would all occur on property currently owned, utilized, and enclosed by MVWD. The sites are not currently part of an emergency response plan; therefore, no impacts would occur.

h) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) would not result in an increase in wildland fires. All well improvements would occur below ground, and improvements above ground to well heads and perimeter walls, fencing and landscaping would not create conditions that would increase wildland fire potential in the urbanized areas of Montclair and Ontario. Therefore, no impacts would occur.

The general impacts to hydrology and water quality of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.5, on pages 4-87 through 4-166 of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII.HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☑
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☑	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

a) **No Impact:** Implementation of Alternatives 2, 3 or 4, would not violate any water quality standards. Treated water provided to MVWD by Metropolitan Water District (MWD) would be injected into the groundwater basin for extraction at a future time. Before being processed through the water system, all extracted groundwater would be disinfected with sodium hypochlorite. In addition, nitrate concentrations in the extracted water quality would be monitored to determine if blending would be needed to maintain nitrate levels below the maximum levels allowed by the State of California. Therefore, no water quality violations would occur.

b) **Less Than Significant Impact:** Implementation of the MVWD Groundwater Recharge Facilities Program would not substantially deplete groundwater supplies or interfere with groundwater recharge. Instead, the intent of the Program is to more closely balance recharge and injection in Management Zone 1 with extraction activities by MVWD. Table 1-1 shows the modeled extraction, injection and recharge values annually for each of the four alternatives.

c-d) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would not alter the existing drainage patterns in the vicinity of any of the four well locations. For each alternative, groundwater levels would temporarily rise during injection, and then upon extraction of the groundwater, water levels would drop slightly. Therefore, no impacts would occur.

e) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would not create or contribute runoff water to the existing stormwater drainage systems. Therefore, no impacts would occur.

f) **Less Than Significant Impact:** The Groundwater Recharge Facilities Program is designed to improve groundwater quality over time. Short-term water quality would not be compromised for the long-term improvement, and less than significant impacts would occur. Water quality impacts as a result of Alternatives 1, 2, 3, and 4 are presented in detail under Appendix B.

g-h) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not place any housing or structures in 100-year flood hazard areas. Therefore, no impacts would occur.

i) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, no impacts would occur.

j) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not increase the potential for, or be subject to, inundation by seiche, tsunami, or mudflow. Therefore, no impacts would occur.

The general impacts to land use and planning of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.2, on pages 4-3 through 4-26 of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
IX.LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

a) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well properties that are fenced/walled off to the general public and would not physically divide an established community. Therefore, no impacts would occur.

b) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not conflict with an adopted land use plan, policy or regulation. The proposed project is consistent with, and a component of, the Inland Empire Utilities Agency's previously approved Chino Basin OBMP. Therefore, no land uses inconsistencies would occur.

c) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not conflict with any with adopted conservation plans. The proposed project would not be located within the boundaries of any habitat conservation plans or natural community plans. Therefore, no impacts would occur.

The general impacts to mineral resources of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.4.2.2, on pages 4-49 through 4-51 of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

a-b) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not affect any mineral resources that might exist in the project area. The only mineral resources identified within the vicinity of the project are aggregate reserves (sand and gravel). Well drilling and rehabilitation activities would not disturb these resources. Therefore, no impacts would occur.

The general impacts to noise of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.11, on pages 4-378 through 4-392 of the OBMP Program EIR and has been included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

a) **Less Than Significant Impact with Mitigation:** According the noise discussions in the municipal codes for the City of Montclair and the City of Ontario, the maximum allowable base ambient exterior noise levels, as shown in Tables 2-1 and 2-2, apply for each of the cities.

Table 2-1

City of Montclair Base Ambient Exterior Noise Levels

	7:00 am – 10:00 pm	10:00 pm – 7:00 am
Residential	55 dB	45 dB
Commercial	65 dB	55 dB
Industrial	70 dB	60 dB

Table 2-2

City of Ontario Base Ambient Exterior Noise Levels

	7:00 am – 10:00 pm	10:00 pm – 7:00 am
Residential (except M-F)	65	45
M-F Residential & Mobile Home Parks	65	50
Commercial	65	60
Light Industrial	70	70
Heavy Industrial	70	70

Within the City of Montclair, construction work is allowed in any land use area, and is not subject to exterior noise level maximums, as long as construction is limited to the hours of 7:00 am through 8:00 pm.

Construction activities associated with Alternatives 2, 3 and 4 would cause a short-term increase in noise due to heavy equipment operations and paving activities. Noise levels at well drilling sites are typically 60 to 65 dB at 200 feet from soundproofing. Noise generated from well drilling and construction would be short-term, and, with the exception of well drilling, project construction would not occur between the hours of 8:00 pm and 7:00 am.

For Alternatives 2, 3 and 4 of the Groundwater Recharge Facilities Program, sensitive receptors would be exposed to noise associated with well drilling and rehabilitation. Well MV-9 is located adjacent to Buena Vista Elementary School and Vernon Middle School, and across the street from single-family residences. Well MV-12 is located across single-family residences at both Benson Avenue and G Street in the City of Ontario.

Base ambient exterior noise level guidelines for the City of Montclair and the City of Ontario are expected to be exceeded at all well sites during well drilling. Though well-drilling would occur 24 hours per day, ground drilling activities would occur primarily during the hours of 7:00 am and 8:00 pm.

Impacts from construction and drilling activities associated with Alternatives 2, 3 and 4 of the proposed Groundwater Recharge Facilities Program were anticipated and accounted for in the OBMP Program EIR. Mitigation measures 4.11-1 through 4.11-8 in the OBMP Program EIR were identified to reduce significant impacts associated with construction noise. For the proposed project, implementation of these measures, in combination with an additional mitigation measure, 4.11-9, would reduce impacts to less than significant levels.

4.11-1 Construction shall be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday, and shall be prohibited on Sundays and federal holidays.

4.11-2 All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers.

4.11-3 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.

4.11-4 If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds.

4.11-5 All production wells or booster pumps shall have their noise levels attenuated to 50 dBA CNEL at 50 feet from the well head.

4.11-6 Project design will include measures which assure adequate interior noise levels as required by Title 25 (California Noise Insulation Standards).

4.11-7 Require that all parking for desalter uses adjacent to residential areas be enclosed within a structure or separated by a solid wall with quality landscaping as a visual buffer.

4.11-8 Desalters shall be constructed and operated so that noise levels from operations do not exceed 50 dB during night hours and 65 dB averaged over the 12 hours of day time when located adjacent to existing or future sensitive land uses. This can be achieved by siting desalters a sufficient distance from sensitive noise receptors; by incorporating attenuation features in the facility or designing attenuation features at the boundary of the property.

4.11-9 Sound blankets shall be used at all of the well sites during well drilling to decrease noise levels.

b) **Less Than Significant Impact:** Construction and operations associated with drilling new and/or rehabilitating existing wells under Alternatives 2, 3 and 4 are not anticipated to generate excessive groundborne vibration or groundborne noise.

c) **Less Than Significant Impact:** During well drilling/rehabilitation activities, a short-term noise increase is anticipated. However, normal use/operation of Wells MV-1, MV-9 and MV-12 under Alternatives 2, 3 and 4 are not anticipated to result in a substantial permanent increase in ambient noise levels. Well MV-4 is already in use and no new noise impacts will result if this well is reequipped for groundwater injection and extraction purposes.

d) **Less Than Significant Impact with Mitigation:** Construction and drilling activities for the proposed Groundwater Recharge Facilities Program are anticipated to generate substantial temporary increases in ambient noise levels. Well drilling under Alternatives 2, 3 and 4 would occur 24 hours per day over a 30-day period at each site. These impacts were considered in the OBMP Program EIR, and implementation of mitigation measures 4.11-1 through 4.11-9 above would reduce impacts to less than significant levels.

e-f) **No Impact:** The well improvements proposed for Alternatives 2, 3 and 4 would not be located within a two-mile radius of a public use or private airport or within an airport land use plan area.

The general impacts to population and housing of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.3, on pages 4-33 through 4-41 of the OBMP Program EIR and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XII.POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☑	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

a) **Less Than Significant Impact:** Implementation of the Groundwater Recharge Facilities Program is not anticipated to directly or indirectly induce growth in the City of Chino Hills and the City of Montclair. Instead, this groundwater injection and extraction program is intended to account for the forecast population growth as discussed in the OBMP Program EIR and more closely balance groundwater recharge and injection with extraction activities in the long-term. Therefore, less than significant impacts would occur.

b) **No Impact:** Installation and operation of the proposed groundwater injection and extraction wells for any of the five alternatives would not displace any housing and would not require the construction of replacement housing. Therefore, no impacts would occur.

c) **No Impact:** Installation and operation of the proposed injection and extraction wells for any of the five alternatives would not displace any people and would not require the construction of replacement housing. Therefore, no impacts would occur.

The general impacts to public services of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.12, on pages 4-406 through 4-409 and in Section 4.2, on page 4-18 of the OBMP Program EIR, and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

a) **No Impact:** Implementation of the Groundwater Recharge Facilities Program would occur at existing MVWD well locations and would not require any additional fire protection, police protection, increased school demand, or increased park demand than what is currently generated by the well locations; therefore, no impacts would occur.

The general impacts to recreation of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.2, on page 4-18 of the OBMP Program EIR, and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑

a) **No Impact:** Implementation of any of the three build alternatives (Alternatives 2, 3 and 4) for the injection and extraction well improvements would occur at existing MVWD well locations and would not increase the need for, or use of, neighborhood or regional park lands. Therefore, no impacts would occur.

b) **No Impact:** Implementation of the Groundwater Recharge Facilities Program would occur at existing MVWD well locations and would not include any recreational components; therefore, no impacts would occur.

The general impacts to transportation and traffic of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.7, on pages 4-296 through 4-307 of the OBMP Program EIR, and included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XV.TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☐	☑
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

a) **Less Than Significant Impact:** Construction of the proposed injection and extraction wells would result in increased traffic and employee vehicle trips during the short construction period. Operation of the injection and extraction wells would not result in significant increases in traffic. One vehicle trip per day would be required for maintenance activities at each operational well site. Therefore, less than significant impacts would occur.

b) **Less Than Significant Impact:** Construction of the proposed injection and extraction well improvements under Alternatives 2, 3 and 4 would result in a temporary increase in construction truck traffic and employee vehicle trips on roadways during well drilling and rehabilitation activities. However, well sites are not located in areas, or at intersections, that are subject to roadway

congestion within the City of Montclair and the City of Ontario. During operation of the injection and extraction wells, the only vehicle traffic that would result from the project would be one maintenance vehicle on the roadway to provide daily service/maintenance at each well site.

c) **No Impact:** The proposed injection and extraction wells would be at or below the ground surface and would not result in an increase of air traffic; therefore, no impacts would occur.

d) **No Impact:** The proposed injection and extraction wells would not affect roads or design features for roadways. Therefore, no increases in hazards would occur as a result of the project.

e) **No Impact:** The proposed injection and extraction wells would be located on sites already owned by MVWD and in urbanized areas. Rehabilitating existing wells and/or drilling new wells would not affect emergency access in any way since improvements would occur off of roadways and emergency access pathways. Therefore, no impacts would occur.

f) **No Impact:** The proposed injection and extraction wells would not displace any parking and would not generate an increased demand in parking; therefore, no parking capacity issues would occur as a result of the proposed project.

g) **No Impact:** The proposed injection and extraction wells would not conflict with, or affect, any adopted policies, plans, or programs supporting alternative transportation. Therefore, no impacts would occur.

The general impacts to utilities and service systems of the Chino Basin groundwater management program, of which the proposed project is a part, are discussed in Section 4.5, on pages 4-87 through 4-166 of the OBMP Program EIR, and is included here.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI.UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?	☐	☐	☑	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐

a) **No Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), the four new and/or rehabilitated wells would be utilized for groundwater injection and extraction and would not generate any wastewater through construction and/or operation; therefore, no wastewater treatment requirements would be exceeded.

b) **No Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), the four new and/or rehabilitated wells would be utilized for groundwater injection and extraction and would not generate the need for additional water or wastewater treatment facilities. Therefore, no impacts would occur.

c) **No Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), the four new and/or rehabilitated wells would not generate additional storm water runoff; therefore no additional storm water facilities would be required and no impacts would occur.

d) **Less Than Significant Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), the water injection phase of each injection/extraction cycle is dependent upon water provided to MVWD by the MWD. Based upon the amount of water provided by MWD for each injection phase, the accompanying amount of water extracted from the ground during the extraction phase would be adjusted and remain balanced, within reason. Consistent with the goal of the project, to avoid over drafting the available supply of groundwater, each injection/extraction cycle would remain relatively balanced. Therefore, less than significant impacts would occur.

e) **No Impact:** For each of the build alternatives (Alternatives 2, 3 and 4), the four new and/or rehabilitated wells would not generate any wastewater through construction and/or operation; therefore, no impacts to wastewater capacity would occur.

f-g) **Less Than Significant Impact**: Drilling and rehabilitating the proposed injection and extraction wells would generate small amounts of solid wastes. This solid waste would be disposed of in accordance with Federal, State and local solid waste regulations. Therefore, less than significant impacts would occur.

Impacts Associated with the Groundwater Recharge Feasibility Project

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII.MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulativelyconsiderable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☑
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

a) **No Impact:** For any of the three build alternatives (Alternatives 2, 3 and 4), injection and extraction well improvements would occur at existing MVWD well locations and would not have the potential to degrade the quality of the environment, reduce the habitat or population of fish or wildlife species, eliminate or threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of California history or pre-history.

b) **No Impact:** For any of the three build alternatives (Alternatives 2, 3 and 4), injection and extraction well improvements would occur at existing MVWD well locations and would not result in impacts that are considered cumulatively considerable. All impacts associated with the project alternatives are localized and short term.

c) **Less Than Significant Impact with Mitigation Incorporation:** For any of the three build alternatives (Alternatives 2, 3 and 4), injection and extraction well improvements would occur at existing MVWD well locations and would not result in significant adverse effects on human beings, either directly or indirectly. Any impacts to humans, specifically related to construction noise, are short-term and localized, and can be reduce to less than significant levels through mitigation.

Section 3
List of Acronyms

CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
IEUA	Inland Empire Utilities Agency
MVWD	Monte Vista Water District
MWD	Metropolitan Water District
MWDSC	Metropolitan Water District of Southern California
OBMP	Optimum Basin Management Program
RWQCB	Regional Water Quality Control Board

Section 4
List of Documents and Individuals Consulted

Carol Fraizer-Burton, Planner, City of Montclair; 4 March 2003.

City of Montclair, General Plan, Chapter 4.

EDR Site Report, Monte Vista Water District, 10575 Central Avenue; 27 January 2003

EDR Site Report, Monte Vista Water District, Benson Avenue/G Street; 27 January 2003

EDR Site Report, Well MV-9, 5617 San Bernardino Street; 27 January 2003

EDR Site Report, Monte Vista Water District MV-4, 5501 Arrow Highway; 27 January 2003

Inland Empire Utilities Agency; Findings of Consistency of the Chino Groundwater Basin Dry-Year Yield Program, December 2002.

Inland Empire Utilities Agency; Final Program Environmental Impact Report for the Optimum Basin Management Program, July 2000.

Luis Batres, Planner, City of Ontario; 30 January 2003

Monte Vista Water District; Groundwater Recharge Facilities Program Feasibility Study, April 2003.

Ontario Engineering Department, 6 February 2003

Tiffany Williams, Planner, City of Ontario, 30 January 2003

Appendix A
Groundwater Modeling

A.1 Introduction and Model Objectives

An analysis was conducted that included groundwater modeling to assess the relative impacts of the recharge management alternatives on existing groundwater flow and water quality conditions in the westerly portion of the Chino Basin. These management alternatives include recharge operations using combinations of existing wells, new replacement wells, and use of existing spreading basins to increase recharge in Management Zone 1. Specific modeling objectives include the following:

- Assessment of water level, gradient and flow direction changes resulting from implementation of alternatives, relative to the groundwater conditions and assumptions made as part of the OBMP evaluation.
- Assessment of the impact on nitrate-nitrogen (nitrate) concentrations in groundwater and in the extracted water resulting from the alternatives, relative to the OBMP modeling.

To accomplish these objectives, CDM obtained and modified a previously developed model from the Chino Basin Watermaster that was used to support the development of the OBMP. The model used was a modified version of the OBMP model. The OBMP model was used to address water quantity issues as part of the programmatic EIR. The modifications made to the OBMP original model to fulfill the objectives of this study included:

- Reduction of the modeling area to represent the specific area of interest a segment of the westerly portion of the Chino Basin that includes the area in and around the MVWD service area and the Montclair and College Heights spreading grounds to the north (See Figure A-1).
- Modification of the model from a steady-state to a transient mode to allow evaluation of non-equilibrium conditions over time.
- Addition of new MVWD wells.
- Implementation of seasonal flow changes for MVWD facilities.
- Addition of solute transport capabilities to allow evaluation of nitrate-nitrogen (nitrate) concentrations in the aquifer.

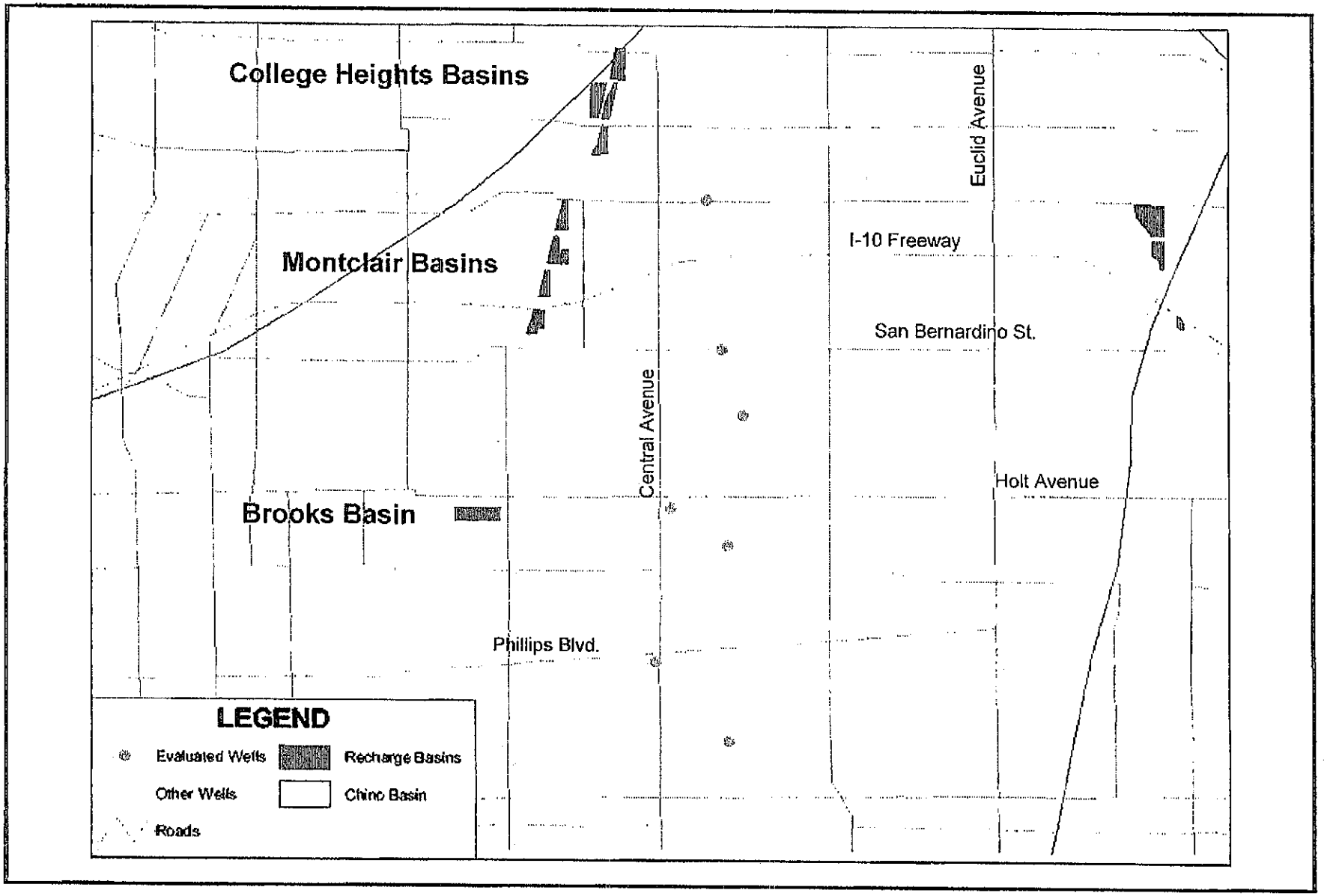

Figure A-1
Modeled Area

A.2 Development of Conceptual Model

The conceptual model for the OBMP Chino Basin groundwater flow model developed by Wildermuth Environmental Inc. (WEI) is summarized in the Draft Initial State of the Basin Report (WEI 2002). A full description of the conceptual model for the basin is provided in that report and is not included here. Geologically, the Chino Basin consists of a faulted valley filled with unconsolidated alluvial sediments. In the area of interest, the aquifer thickens from approximately 300 feet in the north to approximately 700 feet in the south. In the area of interest, groundwater flows in a generally south-southwesterly direction. Natural groundwater recharge in Management Zone 1 occurs along the mountain fronts and stream channels where water flows into this portion of the basin. A significant amount of recharge also occurs throughout this management zone due to precipitation and at spreading basins such as the Montclair and College Heights basins. Water discharges from the Chino Basin flow to streams, wells, and evapo-transpiration by vegetation along the Santa Ana River and other streams in the basin.

The Chino Basin's water supply systems are subject to significant seasonal variations in supply and demand. This seasonal variation has been conceptualized in the OBMP as a yearly cycle of supply and demand based on a seven-month winter season of October through April and a five-month summer season of May through September. The winter season is characterized by a lower demand and higher supply; the time of year when groundwater extraction will typically be lower and more abundant water supplies will make artificial recharge more practical. The summer season is characterized by higher demand and less abundant supplies resulting in limited availability of water for recharge and higher groundwater extraction rates.

Project alternatives evaluated the use of existing or new wells at the locations of MVWD wells No. 1, 4, 9, and 12 and increased spreading at the Montclair and College Heights basins. The impacts of the alternatives on MVWD ASR wells and the City of Chino wells CC-5, CC-10, and CC-14 were estimated for each of the alternatives. The City of Chino wells are located immediately downstream of the MVWD wells. Figure A-2 presents a summary of extractions by MVWD and surface water spreading in Management Zone 1 based on the different alternatives as well as the OBMP assumed conditions. In this section of the report, MVWD wells currently identified by the prefix "W" will be referred to as "MV" to distinguish among wells operated by other entities such as the City of Chino (CC). For example, MVWD well W-4 is referred as well MV-4.

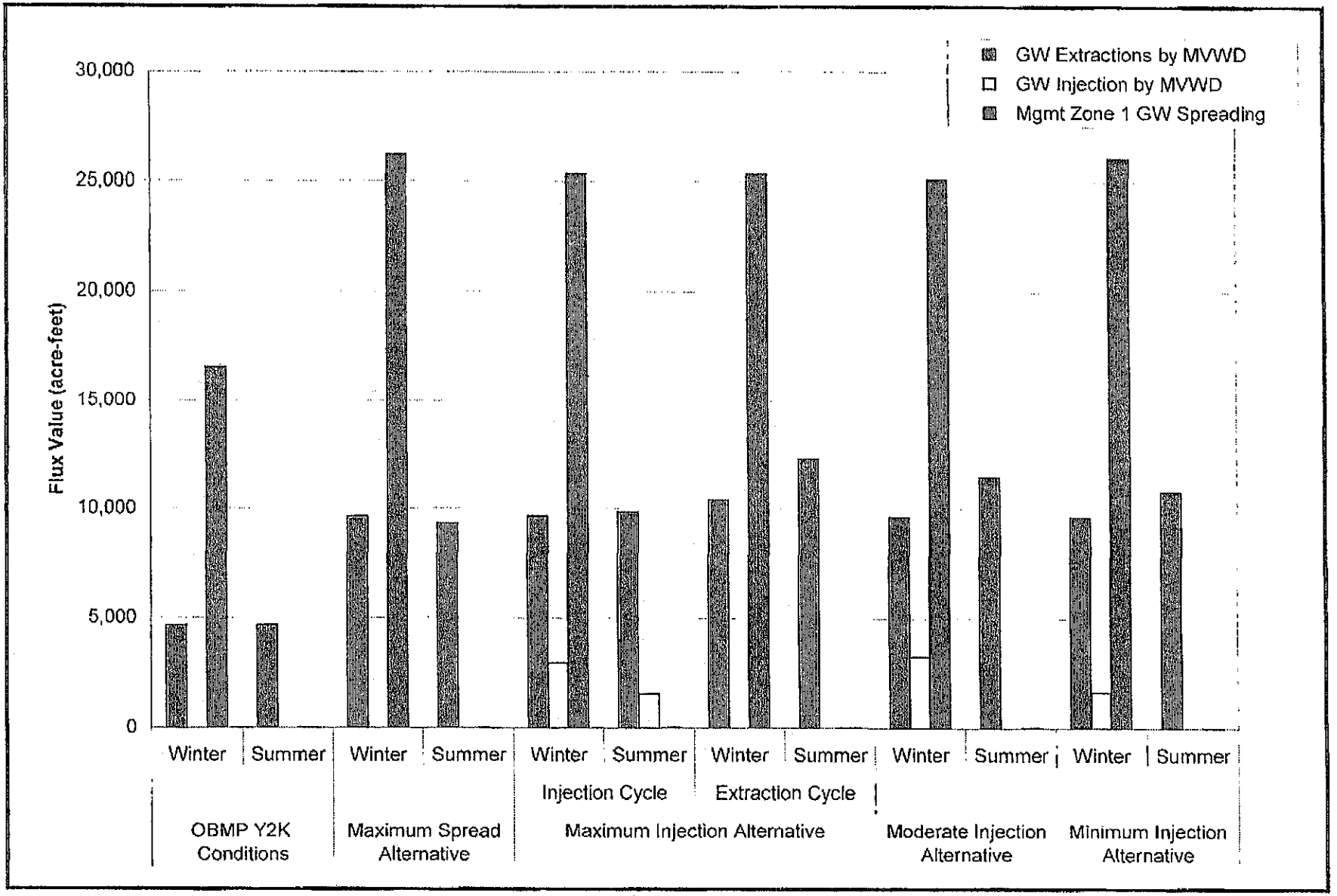

Figure A-2
Total Seasonal Extraction, Injection and Recharge Summary

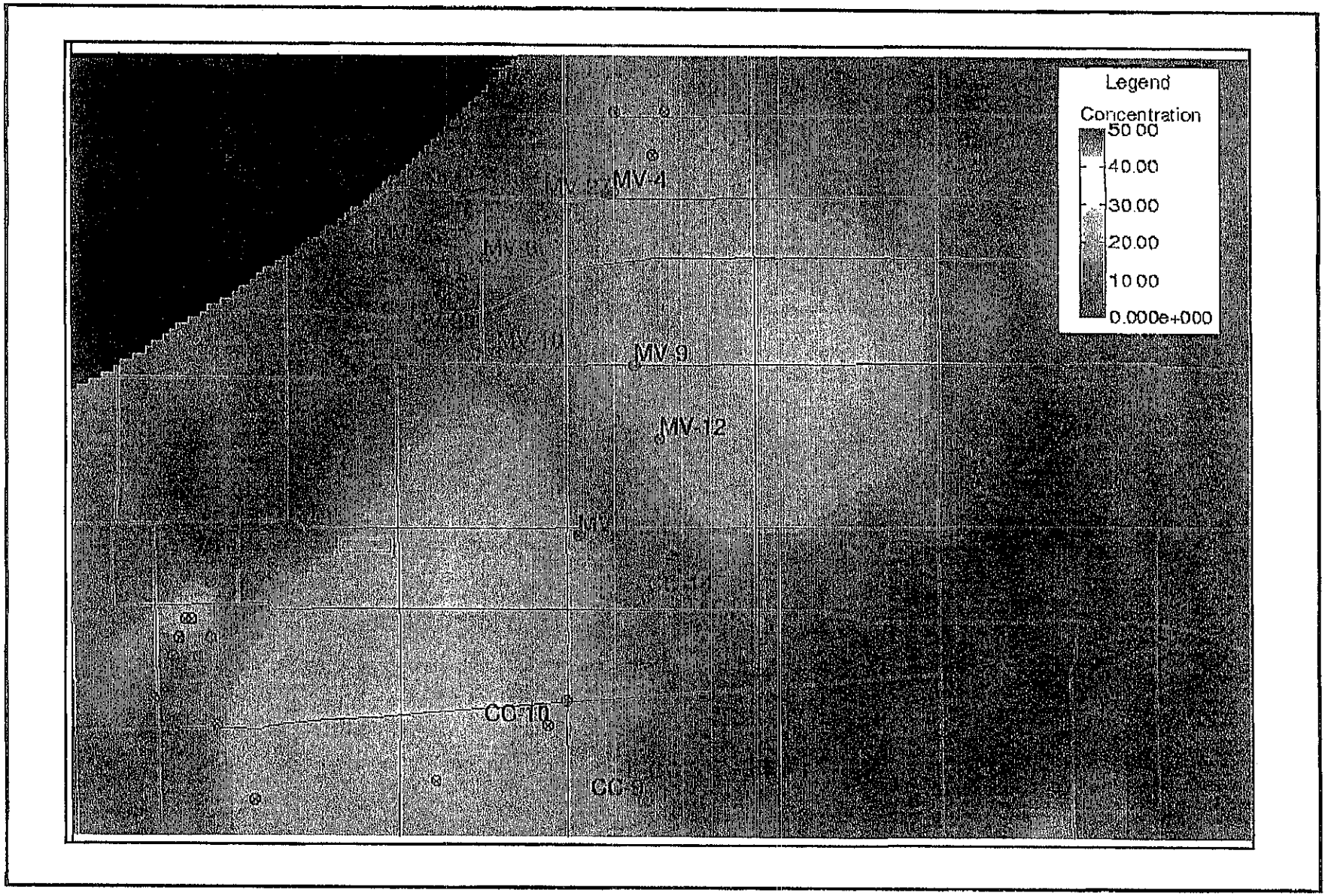

Figure A-3
Nitrate (as N) Initial Concentration Distribution Map

The groundwater nitrate concentrations in the Chino Basin present challenges to drinking water suppliers. According to the Draft Initial State of the Basin Report, in the post-1998 period, of 610 groundwater samples collected in the Chino Basin 509 contained concentrations of nitrate in excess of the US EPA drinking water standard of 45 mg/l as NO_3 or 10 mg/l as nitrate-N (WEI 2002). Figure A-3 presents the initial concentrations of nitrate-N distribution used for development of the solute transport model. Nitrate-N concentrations in groundwater in the vicinity of the MVWD artificial recharge program ranges from approximately 3 mg/l in the northern part of the study area, near Base Line Road to greater than 25 mg/l in the vicinity of Mission Boulevard and Central Avenue and in areas to the southeast. The data presented were received from the Chino Basin Watermaster and interpolated onto a grid for use in the modeling analysis. For modeling purposes, the nitrate distribution was static, with no additional nitrate loading added to the system such as potential loading from the overlying vadose zone, except for that contained in imported water used for spreading and injection. Based on analyses of MVWD deliveries from the WFA treatment plant, a 0.75 mg/L nitrate as N (3.3 mg/L as NO_3) concentration was used for all recharge water. This was considered an acceptable approach since it is constant for all alternatives and the modeling results are not absolute but relative to OBMP conditions.

A.3 Model Selection

A finite difference groundwater flow model of the Chino Basin was developed and calibrated by WEI for the Chino Basin Watermaster. The OBMP model was configured using the USGS MODFLOW software package (McDonald & Harbaugh, 1988) as implemented in the Groundwater Vistas (version 3) graphical user interface (ESI,2001). The OBMP model provides a steady-state solution from the calibrated groundwater flow model and uses the most current pumping and recharge fluxes available. The well pumping and recharge fluxes provided by Watermaster were specified as the "Year 2000 pumping Chino Desalter 1, 50 percent recharge" scenario; in this report, this scenario is known as the Y2K scenario.

The OBMP model was calibrated by WEI to the Y2K conditions using yearly average recharge and pumping rates. Recharge in the model is simulated using both the Recharge and Stream packages. No constant head boundaries are used in the model. All discharges from the OBMP model are simulated via wells or as stream discharges.

No reports describing the OBMP model or the Y2K scenario were available from the Watermaster. The model has been used for groundwater management in the Chino Basin and has been adopted for the evaluation of alternatives presented in this study. The two-dimensional OBMP model simulates the basin as a single unconfined aquifer using a single layer. The OBMP model addresses steady-state groundwater flow only and does not simulate chemical transport. This model is described in greater detail under Section A.4 of this report.

The OBMP model was supplemented to allow simulation of nitrate transport for evaluating relative impacts of alternatives on the distribution of nitrate in the aquifer.

The solute transport code MT3DMS (Zheng, 1999), as issued by the US Army Corps of Engineers, was used for chemical transport analysis. The basic flow model configuration was incorporated into MT3DMS, with retention of the same grid design and boundary conditions.

A.4 Numerical Implementation of Conceptual Model

The OBMP numerical groundwater flow model developed by WEI simulates the Chino Basin as a single-layer system with no-flow boundaries surrounding the model domain and at the bottom of the system. The model consists of a uniform finite difference grid with 537 rows and 663 columns. These square cells have a uniform dimension of about 197 feet (60 meters) on each side. In the model 157,834 of the cells are active, giving the model a relatively large number of grid elements. Hydraulic conductivity in the study area ranges from about 10^{-4} to 10^{-3} feet per second, as depicted in Figure A-4, and is considered constant through the aquifer thickness.

Inflow of water to the model is simulated with the Stream and Recharge packages. The Stream package is a module that simulates streams flowing through the Chino Basin with water either discharging from the aquifer to the stream or vice-versa, depending on the difference in water level between the stream and the aquifer. The Recharge package is a module that simulates the addition of areal recharge to the water table, either from precipitation, return flows from irrigation or from recharge basins. Outflows from the model were simulated by WEI using the Stream and Well packages. The model units for length and time are feet and seconds respectively.

No modifications were made to the aquifer properties, grid dimensions, or to the Stream package in the basin model.

Prior to assessment of alternatives, the following modifications to the OBMP groundwater flow model were implemented:

- Inclusion of aerial recharge at the simulated recharge basins
- Addition of simulated recharge wells operated by the MVWD
- Addition of MVWD wells constructed since the Y2K scenario fluxes were compiled
- Addition of the College Heights No. 1 recharge basin
- Implementation of transient flow conditions
- Assignment of a specific yield estimate for the aquifer materials
- Implementation of the solute transport model MT3DMS and simulated nitrate concentration field

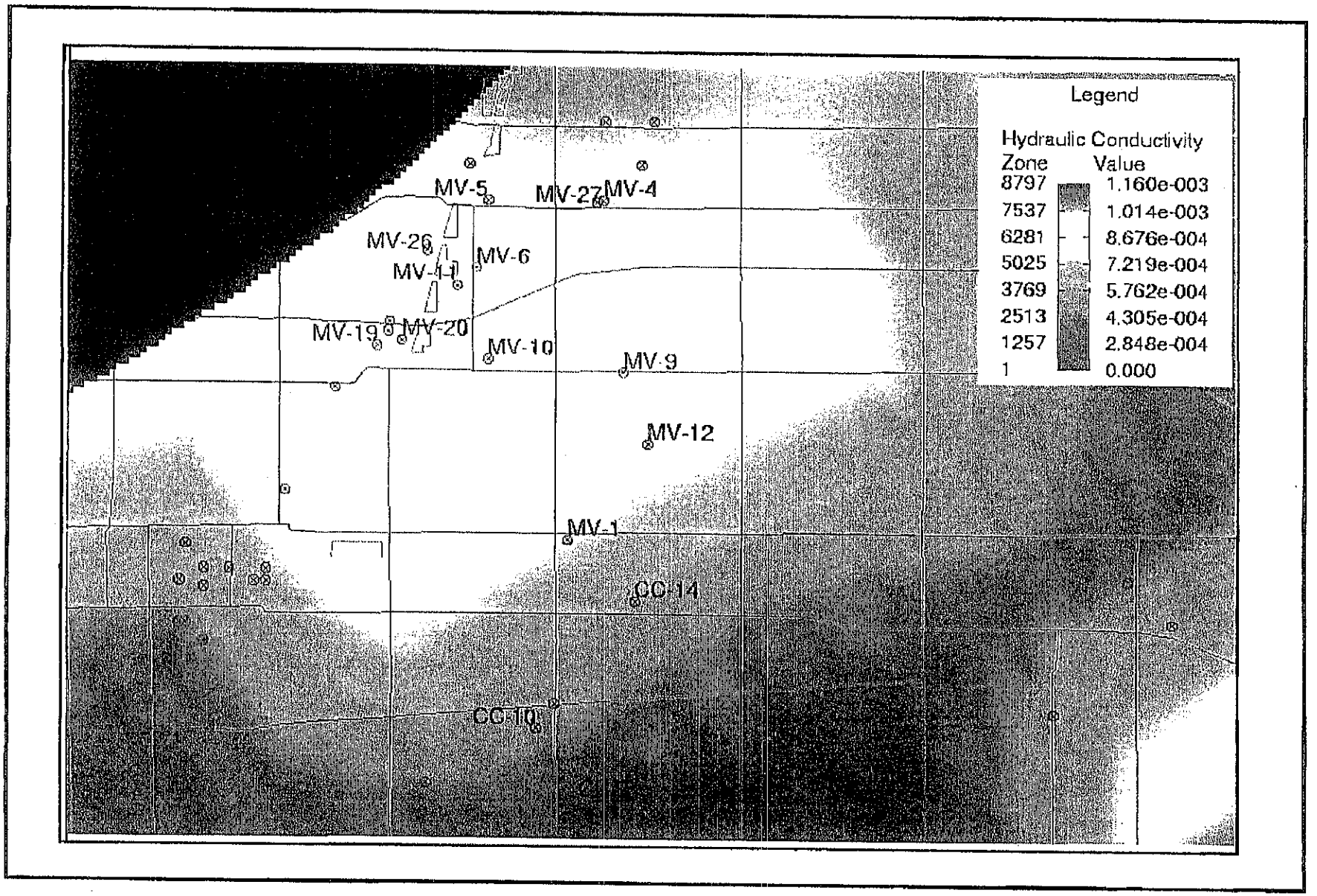

Figure A-4
Hydraulic Conductivity Distribution in Modeled Area

The transient simulation consists of a 20-year period with each year divided into winter and summer seasons based on a seven-month winter season of October through April and a five-month summer season of May through September. The winter and summer stress periods were further discretized into 10 and 7 time steps (approximately three weeks), respectively.

Implementation of the transient simulation scheme required the assignment of a value for specific yield, which is the amount of water produced from a unit volume of aquifer resulting from a unit change in head. A value of 0.13 was applied across the entire model. This value represents an average of the values present in the area of interest that were provided by WEI. It should be noted that the specific yield values were derived from the upper part of the aquifer's zone of saturation and may be

significantly different throughout the aquifer's thickness. Limitations resulting from this assumption are discussed below.

After implementation of a transient simulation scheme, the model was run for a simulated period of twenty years using the same aquifer stresses as the OBMP Y2K model, after which the results were compared with the original steady-state OBMP Y2K model's solution. The results of the transient run and the original OBMP Y2K model were in agreement indicating that the transient version of the OBMP Y2K model represents the same set of aquifer stresses as the original OBMP Y2K model.

Following the comparison of the transient and original steady-state simulations, a seasonal component was applied to the simulated recharge basins in Management Zone 1 and extraction wells operated by the District to simulate seasonal variations in these aquifer stresses. High groundwater extraction rates and low recharge rates were simulated in the summer when stormwater runoff and imported water are scarce and demand is high. All other fluxes representing pumping by other agencies in the area were simulated as constant rates.

A monthly schedule of anticipated extraction and injection rates at all MVWD wells for the alternative was provided by the District. These values were divided into winter and summer seasonal totals. The pumping or injection rates were summed seasonally. For each alternative evaluated, a flux term was assigned for each of the 40 stress periods for each of the MVWD wells. Table A-1 presents a summary of groundwater extraction and injection rates.

Table A-1

Groundwater Injection and Extraction Summary (ac-ft per year)

Location	OBMP Conditions	Maximum Spreading Alternative		Maximum Injection Alternative				Moderate Injection Alternative		Minimum Injection Alternative	
				Injection		Extraction					
	Total	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer
Seasonal Extraction	9,319	9,649	9,337	9,649	9,878	10,430	12,332	9,649	11,502	9,649	10,823
Annual Extraction	9,319	18,986		19,527		22,762		21,152		20,472	
Seasonal Injection	0	0	0	2,946	1,552	0	0	3,272	0	1,640	0
Annual Injection	0	0		4,498		0		3,272		1,640	

Recharge at spreading basins was simulated by increasing the recharge rate specified in the model for those cells overlying the location of the simulated basin. Recharge of imported water was simulated during the winter months (October through April). Table A-2 presents a summary of groundwater recharge rates at the various recharge basins.

Table A-2

Groundwater Recharge Summary (ac-ft per year)

Spreading Basin	OBMP Conditions	Maximum Spreading Alternative	Maximum Injection Alternative		Moderate Injection Alternative	Minimum Injection Alternative
			Injection Cycle	Extraction Cycle		
Montclair 1	3,121	4,076	3,991	3,991	3,967	4,061
Montclair 2	5,134	6,706	6,565	6,565	6,526	6,681
Montclair 3	2,745	3,585	3,510	3,510	3,489	3,571
Montclair 4	4,793	6,260	6,129	6,129	6,092	6,237
College Heights 1	6	2,422	2,202	2,202	2,146	2,384
College Heights 2	777	3,194	2,974	2,974	2,917	3,155
Annual Recharge	16,575	26,243	25,370	25,370	25,136	26,089

In the assignment of recharge fluxes, the geometry of the College Heights spreading basins in the Y2K OBMP model was observed to differ significantly from the mapped spreading basins. Corrections to the simulated location of the College Heights spreading basins were made in the OBMP model to more closely correspond to their actual location and size. The simulated area for the College Heights spreading basins (1 and 2) appeared to be a single elongate zone larger than any of the spreading basins. A second simulated spreading basin was configured in the revised model to represent the more northerly College Heights No. 1 basin. The flux of the larger recharge zone representing the College Heights spreading basins was originally 773 ac-ft per year in the OBMP Y2K model. For all alternatives, the increased quantities of water added to the College Heights spreading basins was divided evenly between and the No. 1 and 2 basins. No changes were made to the configuration of the Montclair spreading basins. MVWD wells that have been constructed in recent years

(MV-26, 27 and 28) were not present in the OBMP Y2K model were added to the revised model.

The solute transport model MT3DMS was used to simulate the effects of the various alternatives on relative nitrate concentrations and movement within the aquifer. This solute transport model uses the groundwater flow results from MODFLOW and simulates the transport of dissolved species in the aquifer. The initial conditions used to simulate nitrate were provided by Watermaster and an interpolated grid was developed. The grid of nitrate data values was then loaded to MT3DMS. This interpolation assumed that data were representative of average concentrations in the entire thickness of the aquifer. No continuing sources of nitrate were incorporated in the model. All nitrate impact analyses used this nitrate distribution as the initial condition. Limitations resulting from these assumptions are discussed below. Figure A-3 presents a contour map showing the initial distribution of nitrate used for evaluation of the alternatives.

Based on water quality data provided by the District for imported water, the nitrate (NO3) concentration of recharged water in the model was set to 3.3 mg/L or 0.75 mg/L as Nitrogen. This value was assigned to all simulated water recharged at the recharge basins and at the four injection wells. This value remained constant throughout the entire 20-year simulated period.

A.5 Groundwater Simulation of Alternatives

Four alternatives were evaluated using the revised basin model. Figure A-2 summarized the overall recharge and extraction flows used in each alternative. In addition to the four alternatives evaluated, the revised model was run to simulate OBMP conditions which were used as a basis for comparison. Comparison of results between the different alternatives with the OBMP conditions are presented in Appendix B. The OBMP conditions and the four alternatives evaluated are discussed below.

A.5.1 OBMP Conditions

The OBMP conditions simulation provides the baseline against which all four alternatives were evaluated. To be consistent with the OBMP Y2K model, this simulation uses the same well pumping rates for the MVWD wells and the same recharge basin fluxes (See tables 4-1 and 4-2) at the Montclair and College Heights spreading basins. In this simulation, groundwater pumping by the District wells represented an annual aggregate of 9,319 ac-ft per year. The alternative was implemented by leaving all simulated MVWD wells pumping at a yearly aggregate of 9,319 ac-ft per year and setting the Montclair and College Heights spreading basin fluxes to simulate recharge of 16,575 ac-ft during the winter season. This recharge is simulated as having 15,793 ac-ft recharged between the four Montclair spreading basins and 782 ac-ft recharged at the two College Heights spreading basins. In this simulation, there is no groundwater injection at any of the District wells. Of the four

wells considered for ASR purposes, only MV-4 was modeled as an active well; this well has been used by the District since it was rehabilitated in the late 1990's.

A.5.2 The "Maximum Spreading" Alternative

This alternative represents the current plan under which imported water would be recharged in Management Zone 1 in the absence of a well injection and extraction program. Under this alternative, modeled groundwater extractions were increased, relative to OBMP conditions, by 9,667 ac-ft to a total of 18,986 ac-ft per year. The increased in production resulted in the same increase in surface water recharge, relative to OBMP conditions, to a total to 26,242 ac-ft per year. In this alternative, groundwater extractions and imported water recharge follow a seasonal schedule with recharge occurring in winter and the majority of extractions in summer. There is not deep well injection recharge considered in this alternative.

A.5.3 The "Maximum Injection" Alternative

This alternative considers the construction of two new ASR wells (MV-9 and MV-12), the rehabilitation of MV-1 by installing a liner casing, and the refurbishment of MV-4 to become an ASR well. This alternative simulates a five-year cycle composed of three consecutive years of injection followed by two years of extractions. During the injection cycle, it was assumed that treated imported water would be available for injection over the entire year. The two new ASR wells would operate continuously over the three initial years while the refurbished wells would inject during the winter only reverting to the extraction mode during the summer. During the two drought years, groundwater production would be increased to make up for reduced imported water deliveries by operating all four ASR wells in the extraction mode only. This second period is known as the extraction cycle.

In the three-year modeled injection cycle, 4,499 ac-ft per year would be injected into the aquifer through the four ASR wells representing a total of 13,497 ac-ft of imported water injected. Groundwater extractions during this period would be increased relative to the OBMP conditions by 10,208 ac-ft per year to a total of 19,527 ac-ft per year.

During the two-year extraction cycle the four ASR wells would operate as extraction wells only. Modeled groundwater extractions were increased to reflect the reduced availability of treated imported water to meet summer demands. Relative to the OBMP conditions, modeled groundwater extractions were increased by 13,443 ac-ft per year to a total of 22,762 ac-ft per year.

During the five-year cycle, spreading of imported water would be reduced from maximum spreading over the five-year period at 25,370 ac-ft per year to reflect the basin recharge that took place through direct injection. This level of modeled recharge represents an increase of 8,794 ac-ft per year over the OBMP conditions.

A.5.4 The "Moderate Injection" Alternative

Similar to the Maximum Injection alternative, this alternative considers the construction of two new ASR wells (MV-9 and MV-12), the rehabilitation of MV-1 by installing a liner casing, and the refurbishment of MV-4 to become an ASR well. Under this alternative, MV-4, MV-9 and MV-12 would operate in the injection mode during the winter months reverting to the extraction mode during the summer. Well MV-1 would operate on the injection mode during the winter but it would be shut down during the summer. This mode of injection/extraction operation was maintained constant over the 20-year evaluation. In the model, a total of 3,272 ac-ft of treated imported water were injected on an annual basis over the study period.

Groundwater extractions in the model were increased, relative to the OBMP conditions, by 11,833 ac-ft per year to a total of 21,152 ac-ft per year. Annual groundwater spreading was increased by 8,561 ac-ft per year to a total of 25,136 ac-ft. The relative increase in groundwater spreading represents the difference between increased extractions (11,833 ac-ft per year) and groundwater recharge via injection (3,272 ac-ft per year).

A.5.5 The "Minimum Injection" Alternative

This alternative considers the rehabilitation of three MVWD wells (MV-1, MV-9, and MV-12) by installing a liner casing, and the refurbishment of MV-4 to become an ASR well. Injection/extraction operations under this alternative were consistent with the moderate injection alternative. All four ASR wells operated in the injection mode during the winter months reverting to the extraction mode during the summer. This mode of injection/extraction operation was maintained constant in the model over the 20-year evaluation. Under this alternatives, a total of 1,640 ac-ft of treated imported water were modeled as injection on an annual basis over the study period.

Groundwater extractions in the model were increased, relative to the OBMP conditions, by 11,153 ac-ft per year to a total of 20,472 ac-ft per year. An increase in annual groundwater spreading of 9,514 ac-ft per year, over OBMP conditions, to a total of 26,089 ac-ft was simulated. The relative increase in groundwater spreading represents the difference between increased extractions (11,153 ac-ft per year) and groundwater recharge via injection (1,640 ac-ft per year).

A.6 Modeling Assumptions and Limitations

As with any mathematical simulation of a real-world system, certain assumptions and limitations exist due to the inability to practically account for all variables. This is true of the model application used to simulate the MVWD's artificial recharge alternatives.

All modeling was performed using the existing basin model, which represents the basin aquifers as a single hydro stratigraphic layer. This simplification results in the following limitations of the groundwater flow model:

- Confined or semi-confined conditions are not be simulated.
- The model does not allow evaluation of vertical flow within the aquifer.
- The use of surface spreading basins and wells for recharge or extraction assumes that recharge or withdrawl of water is evenly distributed throughout the entire thickness of the aquifer.
- The specific yield value assigned to the model is constant throughout the entire thickness of the aquifer.

The representation of the basin aquifers as a single hydro stratigraphic layer results in the following limitations of the solute fate and transport (MT3DMS) model:

- Within a given model cell the simulation of dissolved species is assumed to be homogenous throughout the entire thickness of the aquifer.
- Stratification of dissolved nitrate cannot be simulated; any nitrate mass loading or removal is distributed evenly throughout the entire aquifer thickness.
- Areal recharge does not provide for simulation of nitrate mass loading in areas other than the spreading basins.

The above model limitations affect both the evaluation of groundwater flow and solute transport for the alternatives evaluated. The exclusion of simulated nitrate loading from basin-wide areal recharge in the model may result in the underestimate of nitrate concentrations in the aquifer. Conceptually, the simulated existing nitrate mass in the aquifer is diluted by the effect of clean water being added to the aquifer. In reality, it is anticipated that nitrate concentrations in unsaturated zone will continue loading nitrate mass to the aquifer well into the future. However, this approach is considered acceptable since it is the same for all alternatives and the results are used for relative comparison between alternatives and the OBMP conditions.

Conversely, there is a significant likelihood that in reality, nitrate concentrations are highest in the uppermost portion of the aquifer and that due to the construction of wells used to collect samples, a bias exists in the representation of the nitrate concentration field. This bias could result in the overestimation of nitrate concentrations throughout the entire saturated thickness of the aquifer. In a practical sense the impact of such a bias may not be significant if vertical flow from the lower aquifer to supply wells is minimal, thus diminishing the relevance of the lower aquifer to the analyses.

The lack of the model's ability to represent aquifer stratification also impacts the evaluation of the movement of water recharged via both injection wells and spreading basins. As the simulated "bubble" of recharged water containing low concentrations of nitrate is distributed throughout the aquifer's entire thickness, the areal extent of

the recharged water is understated by the model. In reality, the "clean" recharged water would be more likely to spread laterally in a distinct vertical interval. This is especially true if distinct layers of less permeable materials exist throughout the aquifer's thickness, as shown in aquifer cross section diagrams presented in the Draft Initial State of the Basin Report (WEI 2002).

Like most numerical groundwater flow models, the MODFLOW software does not provide for simulation of flow through the unsaturated zone. As a result, areal recharge is applied instantaneously to the aquifer. This limitation prevents simulation of lag time between the time water is applied to the recharge basins and the time it reaches the aquifer.

The uniform grid spacing of 197 feet does not allow for detailed assessment of drawdown at or very near the simulated wells. The result of this limitation is that simulated heads at wells are the average head over the model cell (an area of 197 ft by 197 ft square). This is not anticipated to affect evaluation of heads at pumping wells. If a well in a thick aquifer pumping at a given rate results in a given drawdown, a regional lowering of the head in the aquifer by a few feet would not result in the well's drawdown being significantly increased.

The OBMP model was developed as a basin-wide model and does not provide a detailed representation of the hydrogeology in the vicinity of the MVWD wells. The result of this limitation is that the model's representation of the localized stratigraphy, aquifer stresses, and boundary conditions are not defined in great detail.

Due to the uncertainties introduced by the model's limitations, the model should not be considered a predictive tool to quantify the actual concentration of nitrate at a well in the future or to determine exactly how many feet of drawdown will occur under a given pumping or recharge scenario. For this reason, all analysis and interpretation of results is conducted to provide a relative comparison between the alternatives and OBMP conditions.

Appendix B
Evaluation of Alternatives

This section presents the evaluation of the alternatives based on groundwater impacts, project economics, and other factors. In addition, it presents the selection of the preferred alternative.

B.1 Groundwater Impacts

The evaluation of groundwater impacts is based on comparison of water levels and nitrate concentrations differences between the alternatives relative to OBMP conditions. As discussed in Appendix A, the modeling results present relative changes over the 20-year study period and not absolute values at a given well, location, or time. To illustrate the groundwater impacts of the different alternatives, modeling results are presented for key individual wells within the study area being modeled. Modeling results are presented for the four ASR well locations and for four additional wells located downstream of the District wells. These additional wells include the City of Chino wells 10 and 14, the City of Ontario Well 15 (ONT-15) and the Sunkist No. 2 well (SKS-2). The location of these wells is depicted in Figure B-1.

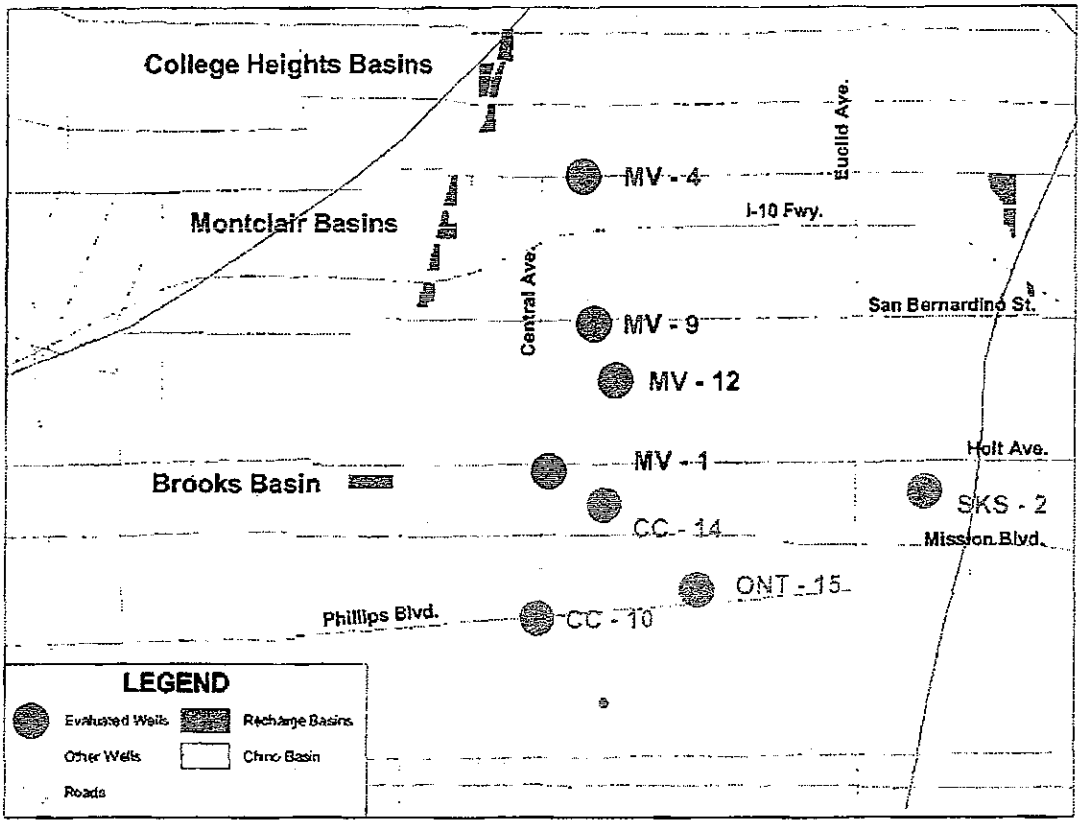

Figure B-1
Location of Wells used to Evaluate Modeling Results

B.1.1 Groundwater Level Impacts

In general, modeling results for all alternatives indicate that water levels in the study area would not significantly change or would slightly increase as a result of injecting treated imported water and bringing additional imported water for basin recharge. Figure B-2 shows the annual water level changes under each alternative, relative to OBMP conditions, for the four ASR wells over the 20-year study period. Annual water levels were used to reflect the weighted average between winters and summer cycles. Four individual graphs, representing the District wells MV-1, MV-4, MV-9, and MV-12, are presented in this figure. The zero line in the individual graphs represents OBMP conditions. Values above the zero line indicate water levels under a given alternative would be higher than those estimated under the OBMP conditions; conversely, values below the line indicate water levels would be lower. The following observations are made from this figure.

- The rapid modeled rise in water levels during the first year is in part related to the significant amount of additional recharge that was added to all alternatives relative to OBMP conditions. This can be observed by the modeled increase in water levels under the Maximum Spreading alternative during that year. In the OBMP model groundwater pumping by MVWD was 9,667 ac-ft lower than actual for the year 2000 (See Figure A-2). To maintain the basin whole, the increase in pumping was matched by an increased in surface water recharge.

- The additional modeled increase in water levels during the first year is related to the mounding created around injection sites as a result of modeled cells being filled with imported water.

- Long-term simulated trends in water level shows that after the initial rise, water levels at the four wells would fall back asymptotically towards equilibrium conditions over the 20-year simulation.

- Long-term water levels under the three injection alternatives are projected to be slightly higher than those projected under OBMP conditions over the 20-year study period.

- Simulated water levels under the Maximum Injection alternative show the projected response to the annual three-year injection cycle followed by the two-year extraction cycle. Simulated changes in annual water levels are much more accentuated at wells MV-9 and MV-12 because of their higher injection and extraction rates.

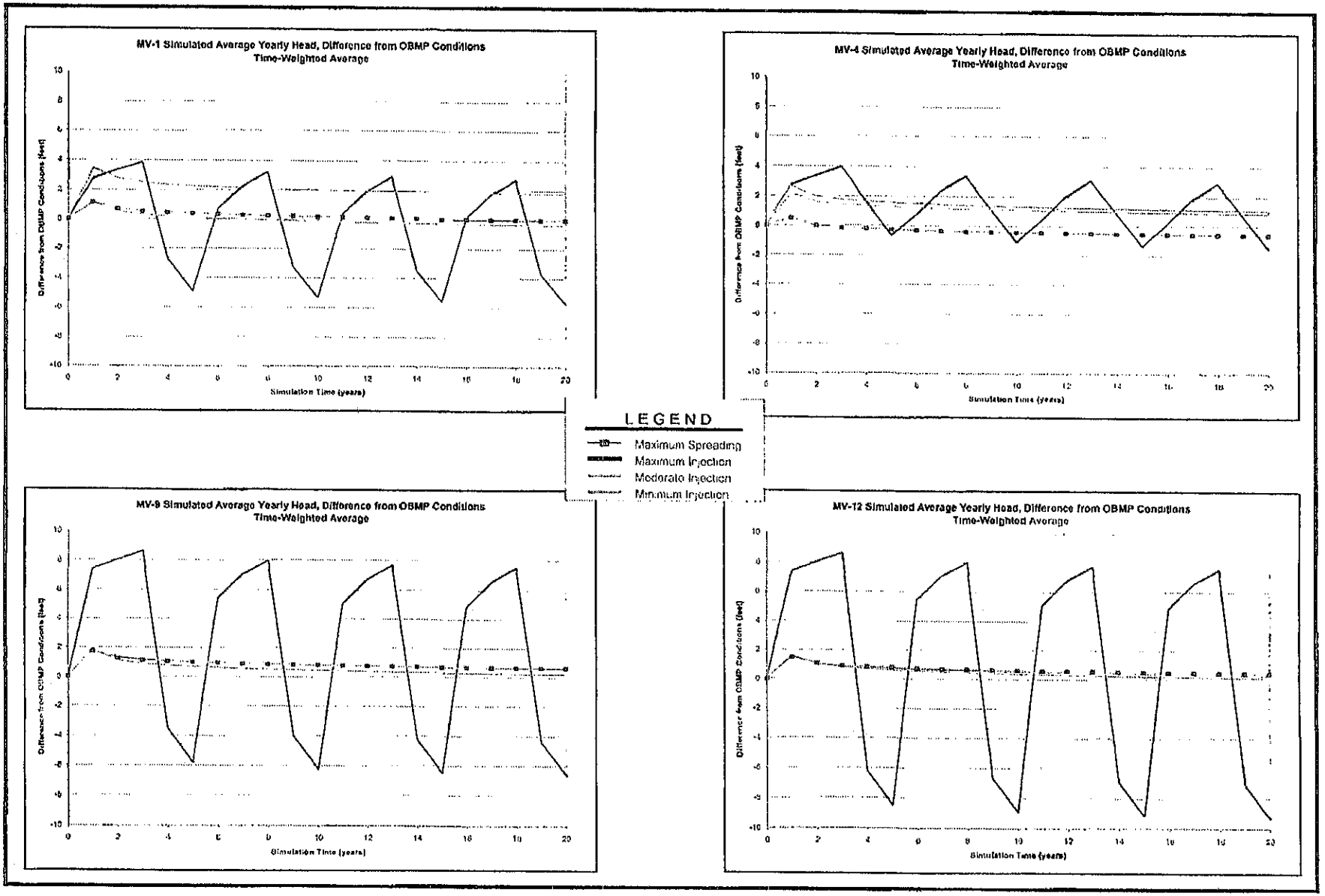

Figure B-2
Water Level Changes at ASR Wells Relative to OBMP Conditions for all Alternatives

Simulation results indicate that bringing additional imported water into Management Zone 1, either by surface spreading or direct injection, would not result in any significant change in water levels at the wells owned by the cities of Chino and Ontario and by Sunkist. Figure B-3 illustrates simulated water levels for all alternatives over the 20-year study period at CC-10, CC-14, ONT-15 and SKS-2. These wells are located downstream of the District wells with CC-14 being the closest to the south and SKS-2 the furthest to the east from the injection wells. Projected annual average water levels at these wells under the Maximum Spreading, Moderate Injection, and Minimum injection alternatives would vary less than a foot compared to those projected under the OBMP conditions. Simulated annual average water levels under the Maximum Injection alternative would have a higher variation in response to longer injection and extraction cycles. The change would be less than four feet higher during the injection cycle and less than four feet lower during the extraction mode with minimal long-term change. It should also be noted that the variations in water levels at the city wells would be higher at the closest well (CC-14) and would dampened at the furthest locations.

B.1.2 Groundwater Quality Impacts

Modeling results for all alternatives indicate that injecting treated imported water and bringing additional imported water for basin recharge would have a positive impact on groundwater quality in Management Zone 1 in general and at the District and City of Chino wells in particular. To illustrate the impacts, the modeling results are depicted as regional water quality nitrate contour maps at discrete times over the 20-year modeling period for each of the alternatives and as water quality histographs at individual wells.

Groundwater Quality Impacts in the Study Area

Modeling results indicate that the study area would be positively impacted by spreading imported water at the Montclair and College Heights basins and by the injection at the four ASR wells. Imported water would generally dilute and displace the high nitrate plumes towards the south and injection would additionally create localized zones of good quality water downstream of the ASR wells. Figures B-4 through B-7 depict the modeling results for each of the alternatives showing nitrate contour zones for initial conditions and after 5, 10 and 20 years. A contour showing the 45 mg/l nitrate (as NO_3) concentration during initial conditions has been added to these figures to illustrate the pattern of change in the area of poor quality water over time. The following observations can be made from these figures:

- Initial conditions show the existence of two main areas within the model area where nitrate concentrations exceed the 45 mg/l MCL. The upper area is generally bounded by Arrow Highway and Holt Avenue in a north-south direction and by Euclid Avenue and Central Avenue in an east-west direction. The lower high nitrate area is located south of Holt Avenue between Central Avenue and Ramona Avenue.

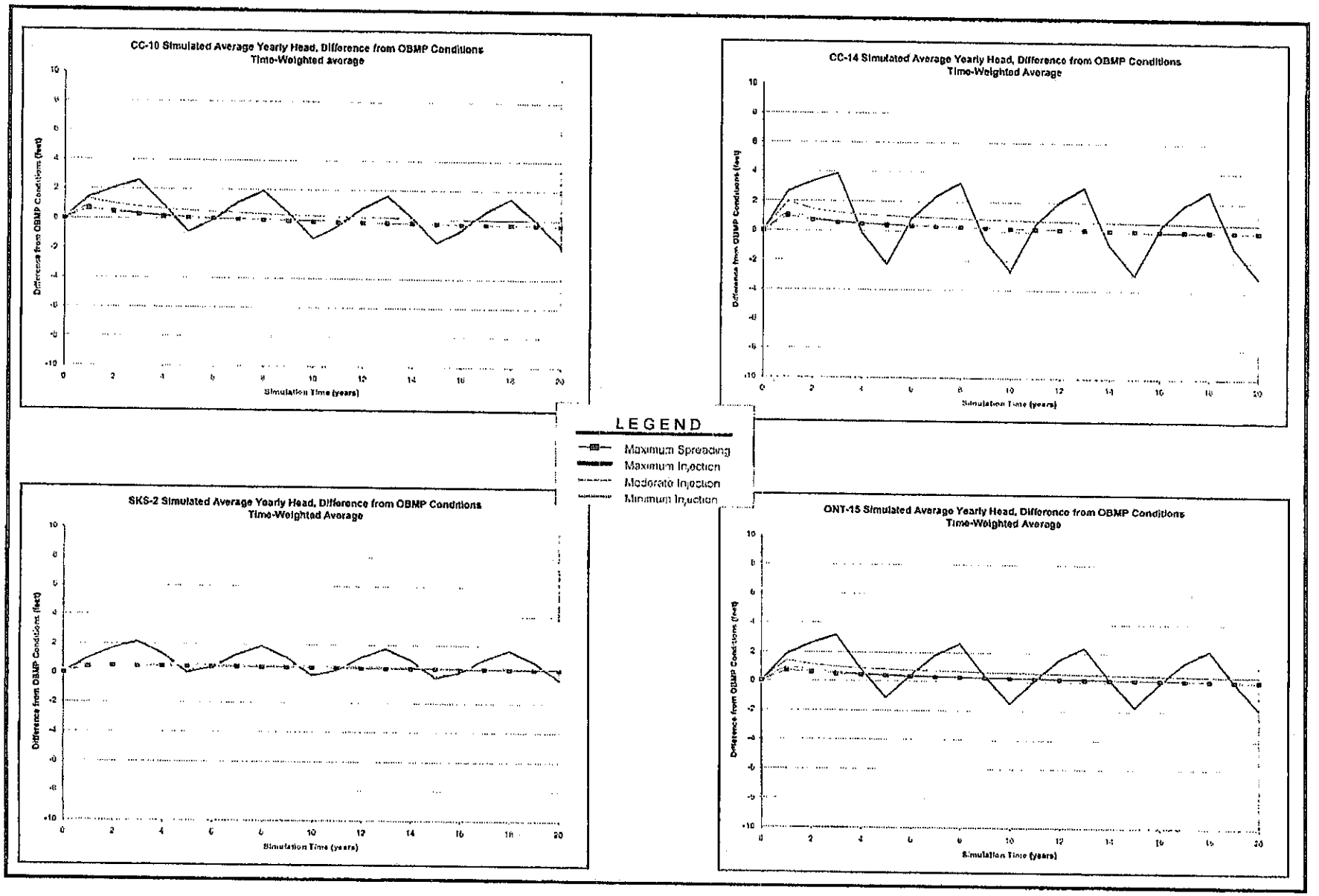

Figure B-3
Water Level Changes at Other Local Wells Relative to OBMP Conditions for all Alternatives

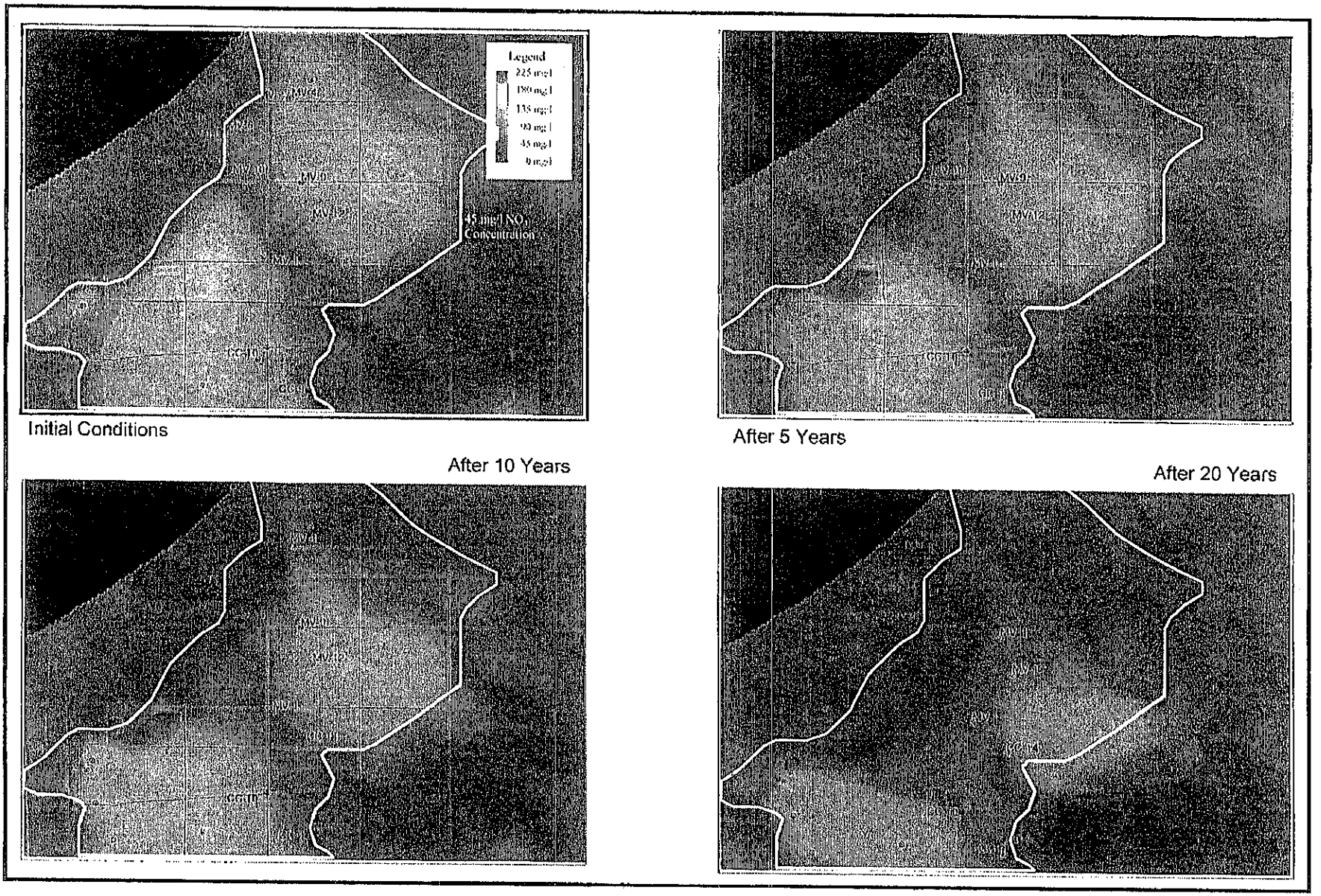

Figure B-4
Maximum Spreading Alternative - Time Series of Nitrate (as N) Concentrations

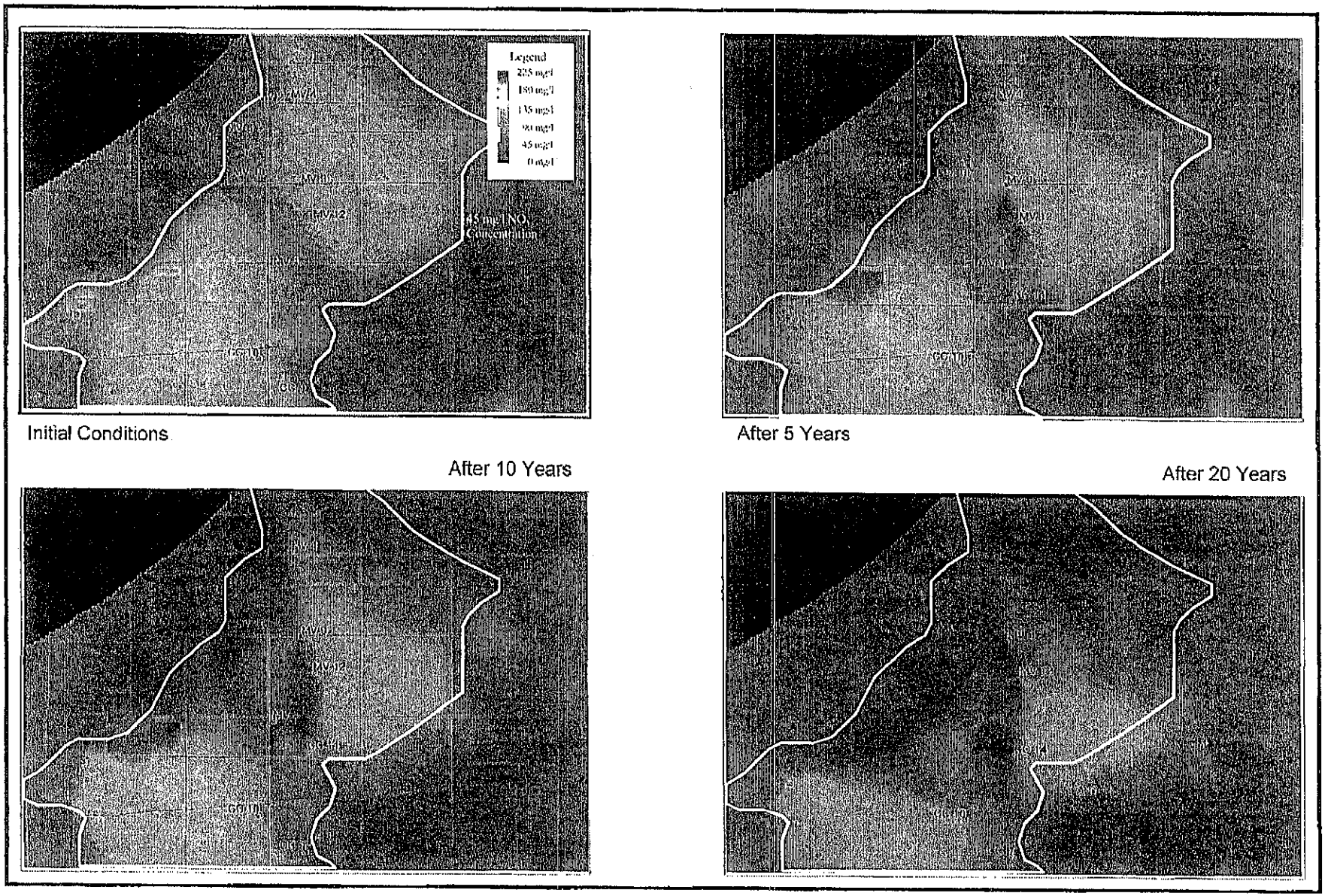

Figure B-5
Maximum Injection Alternative - Time Series of Nitrate (as N) Concentrations

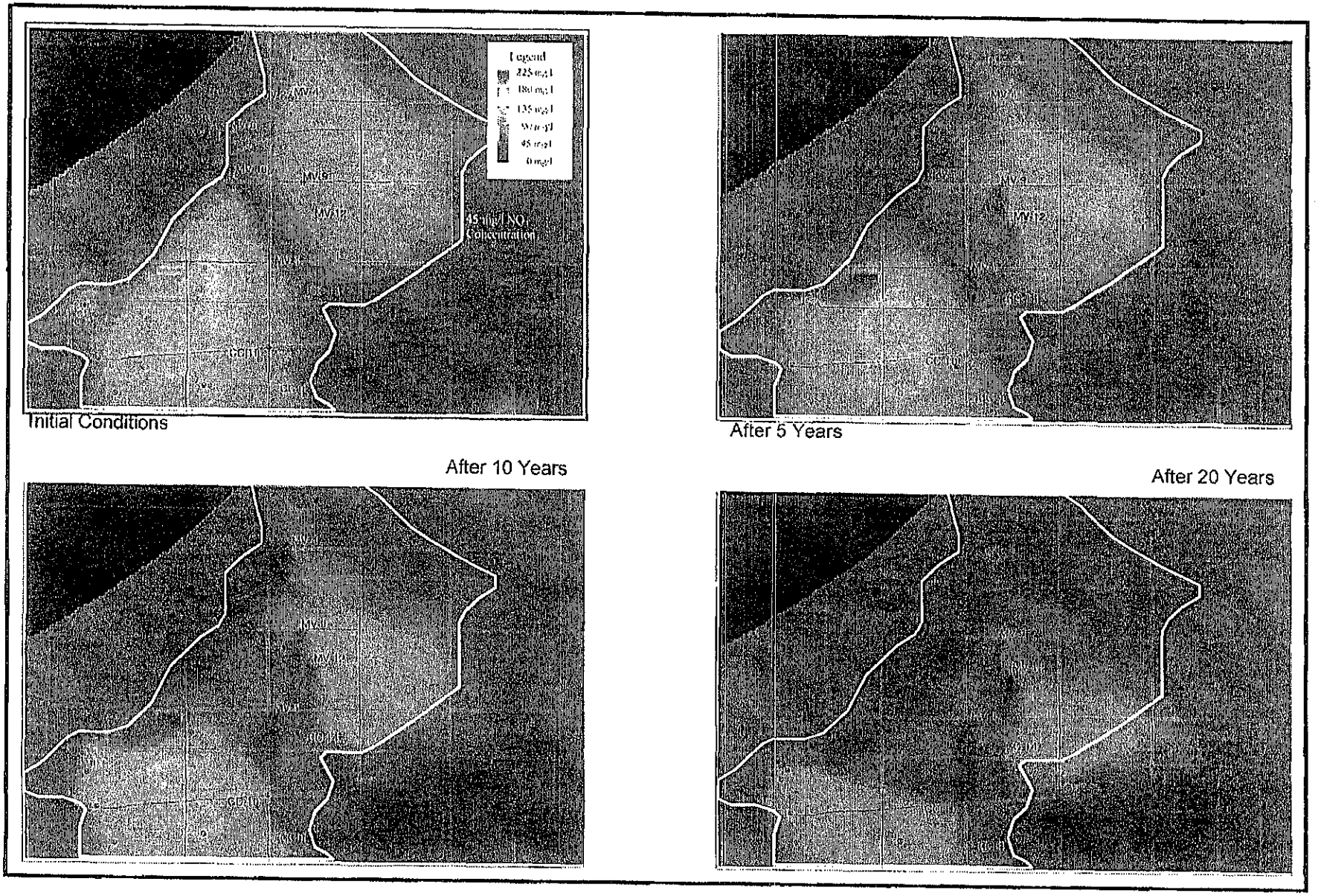

Figure B-6
Moderate Injection Alternative - Time Series of Nitrate (as N) Concentrations

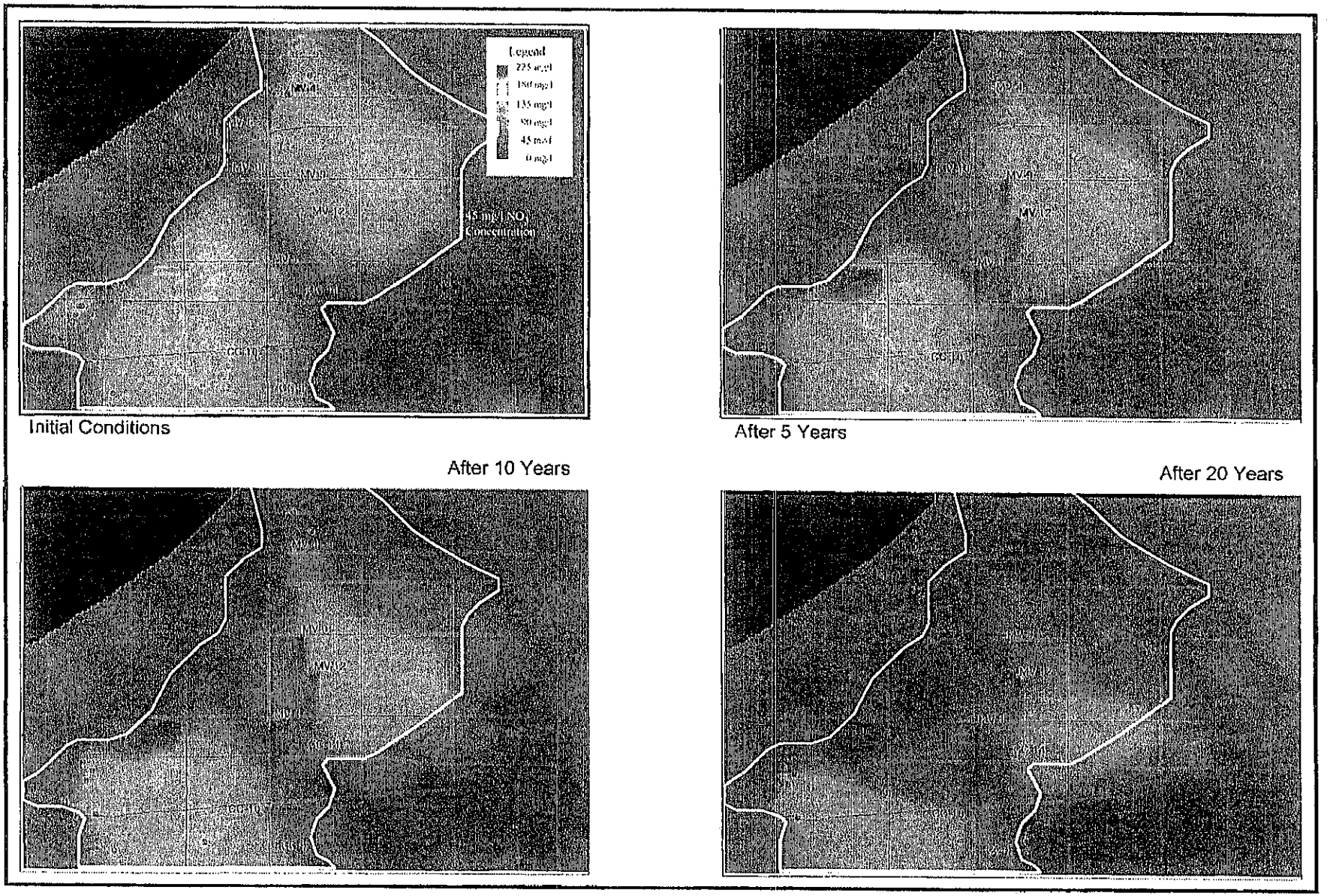

Figure B-7
Minimum Injection Alternative - Time Series of Nitrate (as N) Concentrations

- The District's MV-4, MV-9 and MV-12 wells are located along the westerly edge of the upper high nitrate area while the MV-1 well is located along the northeasterly edge of the lower area. Other District wells are mainly located around and south of the Montclair spreading basins where groundwater quality meets drinking water standards.

- The City of Chino wells CC-10, and CC-14 are all located along the easterly edge of the lower high nitrate area.

- The City of Ontario Well ONT-15 and the Sunkist well SKS-2 are located outside the 45 mg/l Nitrate concentration contour line in areas where groundwater quality under initial conditions is acceptable.

- Groundwater recharge through surface water spreading constitutes all of the imported water recharge for the Maximum Spreading alternative and most of the recharge in Management Zone 1 for all injection alternatives.

- Modeling results indicate that water spread at the Montclair and College-Heights basins would move south with the gradient into areas where poor quality groundwater exists today. The effect of surface water spreading at these spreading basins is relatively similar between all the alternatives because surface water recharge would continue to represent all or most of imported water recharge in Management Zone 1.

- Under the Maximum Recharge alternative, surface water recharge would displace the upper high-nitrate area towards the south and east resulting in water quality improvement at MV-4, MV-9 and MV-12. The water quality impacts at CC-10 and CC-5 would be generally positive as a result of direct spreading; however, CC-14 may observe higher nitrate concentrations as the upper high-nitrate area moves south. It should be noted that the deterioration of groundwater at CC-14 is also observed under the OBMP conditions; a relative water quality comparison at the City of Chino wells between all alternatives and the simulated OBMP conditions is provided later in this section.

- Improvements in water quality represent relative changes between all alternatives compared to OBMP conditions since the model does not consider any continued loading of nitrates in the unsaturated portion of the aquifer.

- Injection of imported water at the four ASR wells would create areas of high quality water in between the upper and lower high nitrate areas and would greatly improve the quality at the District Wells and at the CC-14 well over time.

- A portion of the injected water may not be recovered by the ASR wells because stored water move would south with the gradient and away from these facilities. At the same time, high-nitrate water upstream of the injection points would move towards the ASR wells during the extraction cycle. This could potentially greatly

benefit downstream wells as areas of good quality water move in a southerly direction.

Groundwater Quality Impacts at Individual Wells

Similar to the water level impact results, separate graphs have been created to illustrate the relative impacts on the District wells and on the City of Chino wells downstream. Figure B-8 shows the annual nitrate (as NO_3) concentrations changes under each alternative, relative to OBMP conditions, for the four ASR wells over the 20-year study period. Annual values were used to reflect the weighted average between winter and summer cycles. Four individual graphs, representing the District wells MV-1, MV-4, MV-9, and MV-12, are presented in this figure. The zero line in the individual graphs represents OBMP conditions. Values below the zero line indicate a decrease in the nitrate concentration in the aquifer under a given alternative compared to OBMP conditions. The following observations are made:

- The rapid decline in nitrate concentration simulated during the first year at ASR wells is associated with the injection of imported water with a very low nitrate concentration into the aquifer. The model cell (60 mts x 60 mts square) around each well in this single layer model is quickly filled with imported water resulting in a rapid decrease in nitrate concentration relative to the OBMP conditions.

- The difference in simulated nitrate concentrations between the alternatives and the OBMP conditions tend to diminish over the 20-year study period. This is due to the relative improvements in water quality under the OBMP conditions associated with the spreading of imported water. Water quality at the District wells would improve over time as imported water spread moves in a southerly direction.

- Simulated nitrate concentrations under the Maximum Injection alternative show the response to the three-year injection cycled followed by the two-year extraction cycle. Simulated changes in water quality are more accentuated at wells MV-9 and MV-12 because of their higher injection and extraction rates. Under this alternative, nitrate concentrations at the ASR wells rise during the first year of extraction. This rise is associated with the depletion of good quality water in the cell where individual wells are located. As the water in these cells is depleted, groundwater from the surrounding areas moves towards the wells.

- The reduction in water quality at MV-1 and MV-4 under the Maximum Injection alternative during the first year of extraction in the five-year cycle is not as accentuated as in the other two ASR wells. This is due to the relatively lower amounts of imported water injected at these two wells

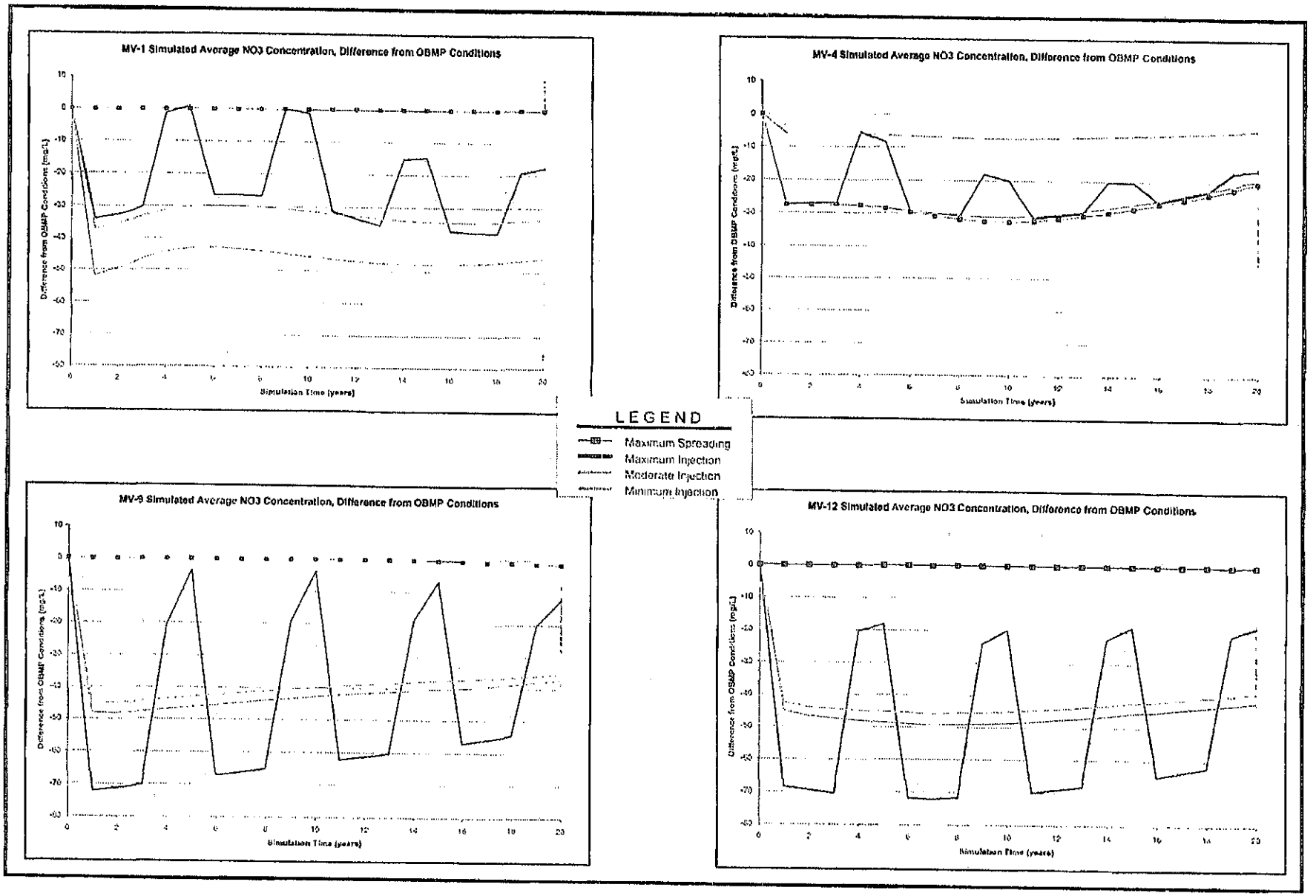

Figure B-8
Nitrate (as NO_3) Changes at ASR Wells Relative to OBMP Conditions for all Alternatives

- Modeling results under the Maximum Injection alternative for the study area, depicted in Figure B-5, indicate that extractions at MV-4 would be directly impacted by surface water recharge at the College-Heights spreading grounds. This can also be observed in Figure B-8 where nitrate concentrations at this well are closer between the alternatives. This later figure also indicates that surface spreading of imported water under the Maximum Spreading alternative would result in much lower nitrate concentrations when compared to OBMP conditions.

- Modeling results under the Maximum Injection alternative for the study area (Figure B-5) indicate that injection of imported water at MV-9 would result in water quality improvements at MV-12 downstream.

Simulation results indicate that the injection of imported water under all injection alternatives would have an impact in water quality at the City of Chino Wells. Figure B-9 illustrates water quality impacts at CC-10, CC-14, ONT-15, and SKS-2 wells under all simulated alternatives. Water quality impacts would be more noticeable at CC-14 because it is the closest one to the District wells. Water quality at this well would significantly benefit with increasing levels of injection. Impacts at CC-10 would be minimal for most alternatives, but positive under the Moderate Injection alternative. Negligible but positive impacts are anticipated at ONT-15 and SKS-2 because of their relative location.

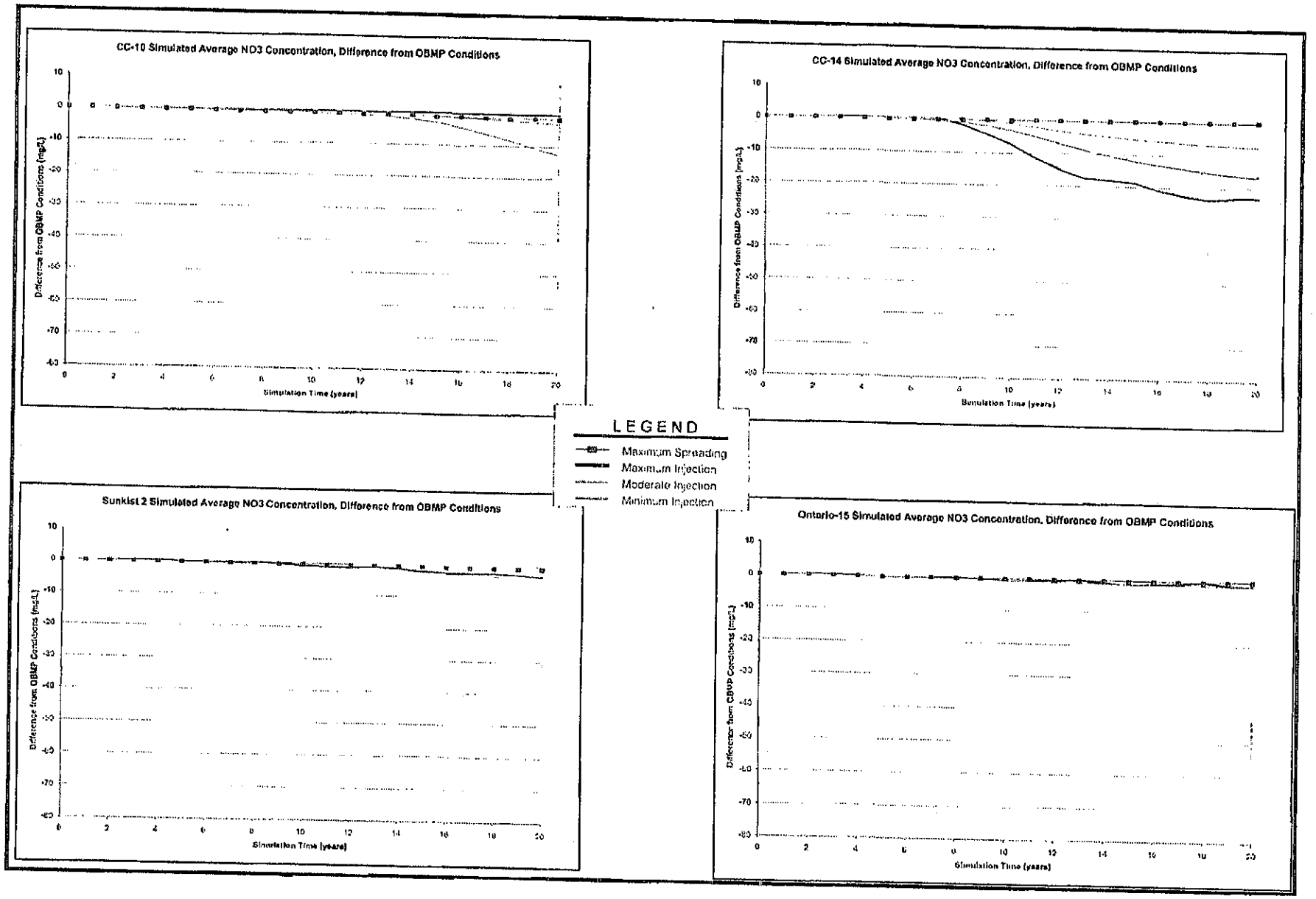

Figure B-9
Nitrate (as NO_3) Changes at Other Local Wells Relative to OBMP Conditions for all Alternatives

CHINO BASIN WATERMASTER

V. INFORMATION

1. Newspaper Articles

Article Last Updated: 1/01/2006 10:11 PM

Dam drains water quality

Solving tainted supply problem to cost millions

Andrew Silva, Staff Writer
San Bernardino County Sun

The water flowing from the rugged canyons northeast of San Bernardino was renowned for its purity, clarity and abundance.

Born of the snow and rain that fall on the San Bernardino Mountains, the water trickles, tumbles, and sometimes roars out of the mountains and into the headwaters of the Santa Ana River where it begins its 96-mile journey to the Pacific Ocean.

But now, that once-pure water resembles chocolate milk, meaning higher costs for water suppliers and possibly higher water rates for the region's consumers.

With problems caused by one great engineering project, the Seven Oaks Dam, it will take tens of millions of dollars in new engineering work to undo the damage.

Area water agencies treasured the water's pristine quality, quality far higher than the water imported from Northern California.

In the name of safety, the purity of the water was sacrificed.

"They were focused on building a flood-control dam. And they built a very good flood-control dam. This (water-quality problem) is an issue that wasn't a priority," said Bob Martin, general manager of East Valley Water District.

The district has budgeted $227,000 in 2006 to buy replacement water. The value of the lost water has been put at several million, and local agencies will likely spend millions for replacement water in the coming years.

A modest trickle during the summer months, the Santa Ana River could build into a murderous torrent during the storms that occasionally pummel Southern California.

Indeed, the Army Corps of Engineers for decades called the Santa Ana River the greatest flood threat west of the Mississippi River.

In 1999, with the completion of the Seven Oaks Dam just east of Highland and north of Mentone, that threat was largely gone.

Also gone was the ample supply of pure water.

The dam itself has trashed the purity of the Santa Ana's flows.

A report completed in December details the problems created by the dam and offers possible solutions - all of them expensive.

The study was commissioned by the local water agencies because the Army Corps of Engineers, which built the 550-foot-tall earthen structure, was only recently allocated $1 million by Congress to start its own study of the problem.

Any solution, even if everything moves ahead smoothly, is years away.

The report prepared by CDM in Carlsbad lists several possible solutions and recommends a two-part fix.

The centerpiece would be a treatment plant near the front of the dam that would scrub the water of the silt, algae and organic material that make it all but unusable.

That means water that is absolutely clean less than a mile upstream will have to run through a plant to restore it to the condition it was in before it hit the backside of the dam.

"It's very frustrating," Martin said.

The problem is the pool that's allowed to form behind the dam at the beginning of the rainy season. While perhaps not an engineering disaster, it's a design feature the water agencies were worried about from the beginning, Martin said.

About 100 feet deep, the so-called debris pool acts as a cushion to protect the inlet works and the back of the dam from the

boulders, trees and debris that can come hurtling down the canyon during a big storm.

It also serves as a catch basin for all the fine sediment that flushes down with the early storms.

Sediment isn't the only problem. Once the pool is established, if it doesn't rain again for a while, imagine a swimming pool untended for a year.

It turns a putrid green.

Water that hits the pool later stirs up the sediment and becomes contaminated itself.

It literally mucks up the works for every supplier downstream.

When water like that is diverted to percolate into the ground, the silt plugs up the settlement basins, and the water has a much harder time seeping into soil. That means more expenses for the San Bernardino Valley Water Conservation District, which has to scrape out the basins to make them work properly.

The dirtiness or color of the water, called turbidity, has declined from a crystal clear rating of 1 or 2 up to a nearly opaque rating of 200 when at its worst.

And the organic materials means agencies have to add more disinfectant when they treat the water for distribution to homes and businesses. The problem is the disinfectants can react with the organic material to create other chemicals thought to be health threats.

The U.S. Environmental Protection Agency recently tightened rules for such byproducts, presenting another challenge to water agencies charged with delivering pure water to the area's taps.

The second part of the proposed fix is to move more water through the 100-year-old tunnels, flumes and pipes that Southern California Edison uses to run two of its small hydropower plants. That conduit system carries water around the dam without touching the polluted pool.

A few miles up the canyon on a rugged, dusty dirt road accessible only by four-wheel drive, Southern California Edison's Santa Ana River No. 1 hydroelectric plant, built in 1898, still cranks out power. Back then it sent electricity to Los Angeles on the highest-voltage, longest power lines in the country at the time.

Mule teams used to haul supplies, including the still-running original turbines, up the rocky, sandy track, said Marty Weinberg, operations supervisor for Edison's hydropower department.

Tim Rippy, who works on the remote station, cranked a wheel 3 feet in diameter to open a valve that allows the water into the turbine. With a loud whoosh as the water rushes in, the old generators quickly settle into a smooth, steady hum, as they turn at 300 revolutions per minute, putting out 1.25 megawatts of power.

"I get a four-wheel drive loaded with my tools and I drive back in the canyons," he said. "They so much knew what they were doing back then. When you try to modernize, it makes it harder to work on. This is just basic, simple. They run just like sewing machines. I love this job."

But when water backs up behind the dam, that access road is submerged. The station is maybe a quarter-mile up the canyon from the high point of the reservoir if the dam ever filled to its capacity of 145,600 acre-feet. If full, the reservoir would cover 780 acres and reach nearly 3 miles up the canyon.

Hardening the Edison plants to reduce damage during the storms and creating a way to run water through the pipes around the dam even if the stations aren't operating would provide additional uncontaminated water, the report says.

But Edison recently had the plants relicensed, a process that takes years, and any changes to operation could create a bureaucratic nightmare, the report says.

Officials at the Army Corps familiar with the dam were not available last week. So, it's not clear how long its study of the problem might take, or how long it will take to adopt a solution.

Until then, agencies are left watching millions of gallons of water go to waste, while being forced to spend hundreds of thousands of dollars to replace it.

"The Santa Ana River has been one of our highest-quality sources. We went from one of the best sources of water to one of the

worst," Martin said. "If things go well, we're looking at years for a solution."

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Article Last Updated: 1/03/2006 10:42 PM

Board: Groundwater near ONT contaminated

By Mason Stockstill, Staff Writer
Inland Valley Daily Bulletin

ONTARIO -- A recently discovered plume of contaminants in the groundwater south of Ontario International Airport will be cleaned up by the industrial firms and military agencies responsible for the pollution, water quality officials say.

The Regional Water Quality Control Board has not yet issued a formal cleanup order for the contaminated groundwater, but the responsible parties are already working on a plan to remove the chemicals before they enter the drinking water supply.

"We are giving the companies the opportunity to voluntarily come together, hire a consultant, perform an investigation and reach an agreement to fully fund the cleanup," said Gerard Thibeault, executive director of the state Regional Water Quality Control Board, Santa Ana division.

People believe the contaminants seeped into the groundwater between the 1940s and 1980s, when the airport hosted numerous industrial operations, such as aircraft maintenance plants.

The pollution was not detected until recently because the area south of the airport is largely dedicated to agricultural uses, such as dairy farms. Agricultural wells are not tested for the same number of contaminants as is water used for human consumption, Thibeault said.

However, the contamination is a larger concern now, because local agencies are relying more on groundwater pulled from wells in that area for drinking water.

"The Chino Desalter Authority has a series of extraction wells and a desalting facility that is pumping up salt-contaminated groundwater, pumping salt out and supplying it to local water agencies," Thibeault said. "This plume from Ontario is migrating toward those wells."

The main component of the plume is trichloroethylene, a solvent used for cleaning metal. It can cause health problems if ingested by humans over a long period of time; the International Agency for Research on Cancer lists TCE as a probable carcinogen.

In the groundwater south of the airport, TCE has been detected at concentrations more than 16 times the maximum level in drinking water set by the Environmental Protection Agency.

Since cleanup plans are still in the works, additional data is being collected by the responsible parties that will be involved in the cleanup -- aerospace firms Boeing, Lockheed Martin and Northrop Grumman; industrial giant General Electric; the Department of Defense and the California Air National Guard.

As part of that effort, some dairy farmers in Ontario will be asked to share water-quality information with local officials so that the extent of the contamination can be better understood, said Ken Manning, executive director of the Chino Basin Watermaster, which oversees the groundwater basin.

The watermaster has collected data on water usage and purity on behalf of dairy farmers in the area for years, Manning said. Using that information to compare levels of TCE or other pollutants through the years could help track the plume's growth and movement.

"It's not complete data, but it's a lot," Manning said. "It goes back several years, depending on the well -- at least a decade on many of them."

Groundwater contaminated by aerospace and defense industries is nothing new for the Inland Valley. Cleanup efforts are at various stages in several other cities, including Rialto, Chino Hills and Norco.

There are also three other known groundwater plumes in the area south of the airport: two related to former General Electric facilities, and one from the now-closed Milliken landfill.

The parties held responsible for the pollution will likely seek to correct it either by cleaning up the groundwater before it reaches the desalter plants, or by paying the local agencies to remove the contaminants during the water treatment process.

"We've had very good cooperation from them," Thibeault said. "This is something that has come out of the blue, sometimes from operations that are 40 to 50 years in the past for them."

Mason Stockstill can be reached by e-mail at mason.stockstillor by phone at (909) 483-9354.

CHINO BASIN WATERMASTER

V. INFORMATION

2. NWRA Election Results

Association of California Water Agencies
Leadership Advocacy Information *Since 1910*

MEMORANDUM

December 20, 2005

TO: **ACWA MEMBER AGENCY BOARD PRESIDENTS and GENERAL MANAGERS**

FROM: **JAN JENNINGS, DIRECTOR OF ADMINISTRATION**

SUBJECT: **NWRA ELECTION RESULTS**

It gives me great pleasure to officially inform you that the following candidates have secured the position of NWRA Board Director for the California Caucus during the recent election.

David A Breninger, Placer County Water Agency, NWRA Board of Directors
Lawrence M. Libeu, San Bernardino Valley WCD, NWRA Board of Directors
John Fraser, El Dorado Irrigation District, NWRA Board of Directors
Wayne Clark, Municipal Water District of Orange County, Alternate NWRA Board of Directors
Adrienne (Ann) Mathews, Kern County WA, Alternate NWRA Board of Directors

Additionally, ACWA's newly appointed Federal Affairs Chair, Greg Zlotnick, serves on the NWRA Board by virture of the office. Elected representatives shall assume their respective positions at the next scheduled NWRA meeting.

In this time of increasing legislative and regulatory mandates, it is essential for California to take a proactive posture in NWRA and on its Board.

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CHINO BASIN WATERMASTER

V. INFORMATION

3. AGWA Conference

American Ground Water Trust

Independent Authority on Ground Water

16 Centre Street ★ Concord, New Hampshire 03301 ★ (603) 228-5444
Fax (603) 228-6557 ★ Email: TrustInfo@agwt.org ★ Web: www.agwt.org

"Hydrologic, Environmental and Legislative Challenges to Southern California's Present and Future Managed Aquifer Recharge Programs"

Association of Ground Water Agencies / American Ground Water Trust

A one-day program – Monday February 6th, 2006
Ontario, California

(Field trip: February 7th)

To all program presenters and panelists:

I have enclosed copies of the February 6th program flyer. PLEASE will you mail (or give) them to colleagues and contacts who are likely to be interested in this AGWA/ AGWT event. We appreciate your willingness to be involved in the program. In a few days I will send via e-mail, details about the conference presentation logistics.

Please ensure that this conference is listed on your organization's events calendar. If you have contact information on an organizational e-mail list serve, I hope that you will forward information about the event throughout California.

Full program details are listed at www.agwt.org.

Many thanks

Andrew Stone
American Ground Water Trust

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