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CY 1986

BUDGET

WATER CONSERVATION PROGRAM
IMPERIAL IRRIGATION DISTRICT

JOB NO. 6589

PARSONS WATER RESOURCES, INC.

PARSONS WATER RESOURCES, INC. *Worldwide Engineers/Constructors*

100 WEST WALNUT STREET
PASADENA, CALIFORNIA 91124
(818) 440-2000
Telex WH: 675-336

November 15, 1985

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
333 East Barioni Boulevard
P.O. Box 937
Imperial, California 92251

Subject: Our File No. 6589-35, Imperial Irrigation District Water Conservation Program, Request for CY1986 Budget Approval and Authority to Proceed with Work

References:
a. Water Conservation Planning and Development Agreement, dated November 8, 1985
b. Letter, J.K. Bratton to Mr. W.R. Condit, subject: Agreement for Engineering and Consultating Services, dated October 25, 1985

Dear Mr. Shreves:

The purpose of this letter is to request the District's approval to proceed with the Scope of Work set forth in the attached CY1986 recommended budget.

The CY1986 budget was developed from budget guidance formulated during our discussions and based on the following assumptions:

1. Parsons planning and study work during 1986 should be limited to the minimum level necessary to enable the District to further implement the Water Conservation Program when additional funds become available as the result of successful water transfer agreement(s).

2. Parsons should continue to provide technical, legal, financial, negotiating, public relations, and marketing assistance to the District on an as-required basis to enable the program to proceed efficiently and expeditiously.

3. Parsons should provide technical support and coordination of program environmental activities.

4. CY1986 work will require prefinancing by Parsons.

Based on the above budgetary assumptions, the scope of services provided for in the Water Conservation Planning and Development Agreement, and Parsons assessment of the water conservation planning and study needs of the District during 1986, the following scope of work is recommended. A detailed description of the scope of work for each task, together with the task justification, deliverables, and schedule, is attached as Enclosure 4. The general scope of work of major tasks consists of:

1. Providing Program Management, Control, and Administration (Tasks 1010, 1030, and 1040).

2. Developing and updating program procedures, as required, to enable the program to proceed efficiently as soon as additional funds become available (Task 1020).

3. Finalizing the Program Water Conservation Implementation Plan, Design Criteria, and Five-Year Implementation Plan (Task 5000).

4. Providing technical support and coordination of the program's environmental activities (Task 6003).

5. Developing a mathematical model of the irrigation system that will be used in design analysis and optimization of system automation. Continuing to input design data into the computer-aided engineering /computer-aided drafting system to facilitate later design and drafting on a more cost-effective and expeditious basis (Tasks 6004 and 6005).

6. Providing technical, legal, financial, negotiating, public relations, and marketing assistance on an as-required basis (Task 7000).

Included in our budget submittal are:

- Work breakdown listing (Enclosure 1).
- Parsons organization chart keyed to tasks (Enclosure 2).
- CY1986 Schedule (Enclosure 3).
- Scope of work, justification, deliverables, and schedule for each task (Enclosure 4).
- Budget by task for CY1986 (Enclosure 5).

Our current working estimate to accomplish the identified tasks through CY1986 is approximately $1,600,000. It should be noted that this level of effort represents an approximately 33% reduction from the 1985 level of effort, when compared to the 1985 budget on an equivalent monthly basis.

By reference b, Parsons stated its willingness to prefinance our work in 1986, essentially on the same basis as in 1985 (see Enclosure 6). Therefore, if the District concurs, I request approval to proceed with the work on the basis as we have defined in our budget request. A draft approval to proceed letter has been attached for your convenience and use if you believe it to be appropriate (see Enclosure 7).

It is recommended that Parsons be included on the November 19, 1985, board agenda for a presentation of the CY1986 Budget to the Board of Directors. I have enclosed 10 copies of the recommended CY1986 budget request for distribution to the Board of Directors and others, as you deem appropriate.

Very truly yours,

PARSONS WATER RESOURCES, INC.

Melvyn R. Brown
Program Director

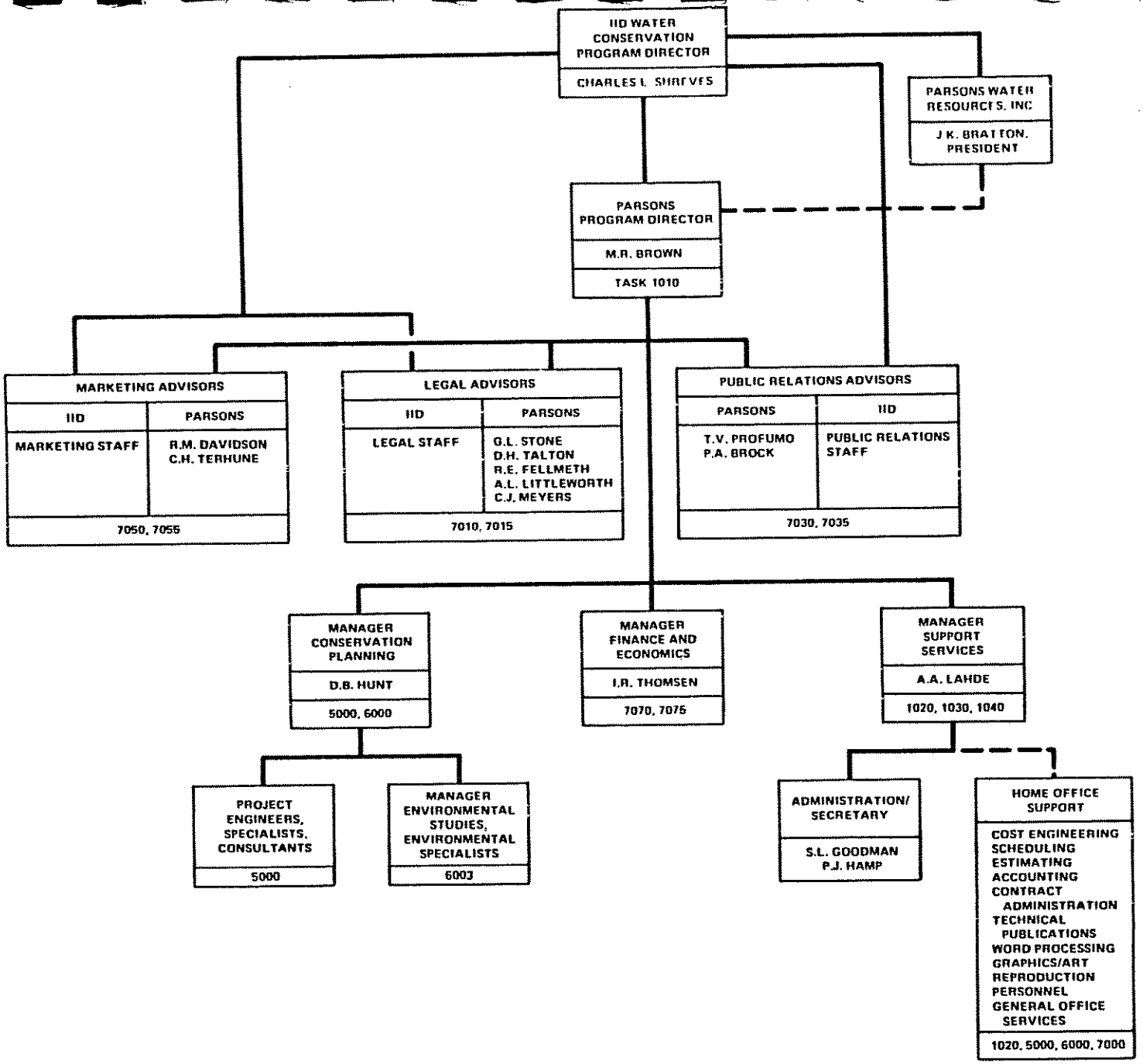
Enclosures as noted

CC: J.K. Bratton

WATER CONSERVATION PROGRAM, IID
CY1986
WORK BREAKDOWN

TASK	DESCRIPTION
1000	Program Management, Control, and Administration
1010	Program Management
1020	Program Procedures
1030	Program Controls (cost, schedules, estimates, and progress reporting)
1040	Program Administration (contract administration, accounting, reporting, technical publications, document control, word processing, personnel, graphics/drafting/art, and general office and program administration)
2000	Water Requirements and Availability Study (complete - CY1985)
3000	Water Availability Study (combined in 2000 - CY1985)
4000	Water Transfer Study (complete - CY1985)
5000	Water Conservation Implementation Plan
5020	Financial/Economic
5030	Legal
5040	Water Transfer
5050	Public Relations
6000	Program Studies and Reports
6001	IID Water Conservation Plan Technical Assistance (complete - CY1985)
6002	Environmental Technical Assistance (complete - CY1985)
6003	Program Environmental Impact Report, Coordination and Technical Support
6004	System Automation and Mathematical Model
6005	Data Base CAE/CAD
7000	Program Support Services
7010	Legal (in-house)
7015	Legal (consultants)
7030	Public Affairs (in-house)
7035	Public Affairs (consultants)
7050	Water Transfer (in-house)
7055	Water Transfer (consultants)
7070	Financial/Economic (in-house)
7075	Financial/Economic (consultants)
8000	Reserved for Conservation Projects

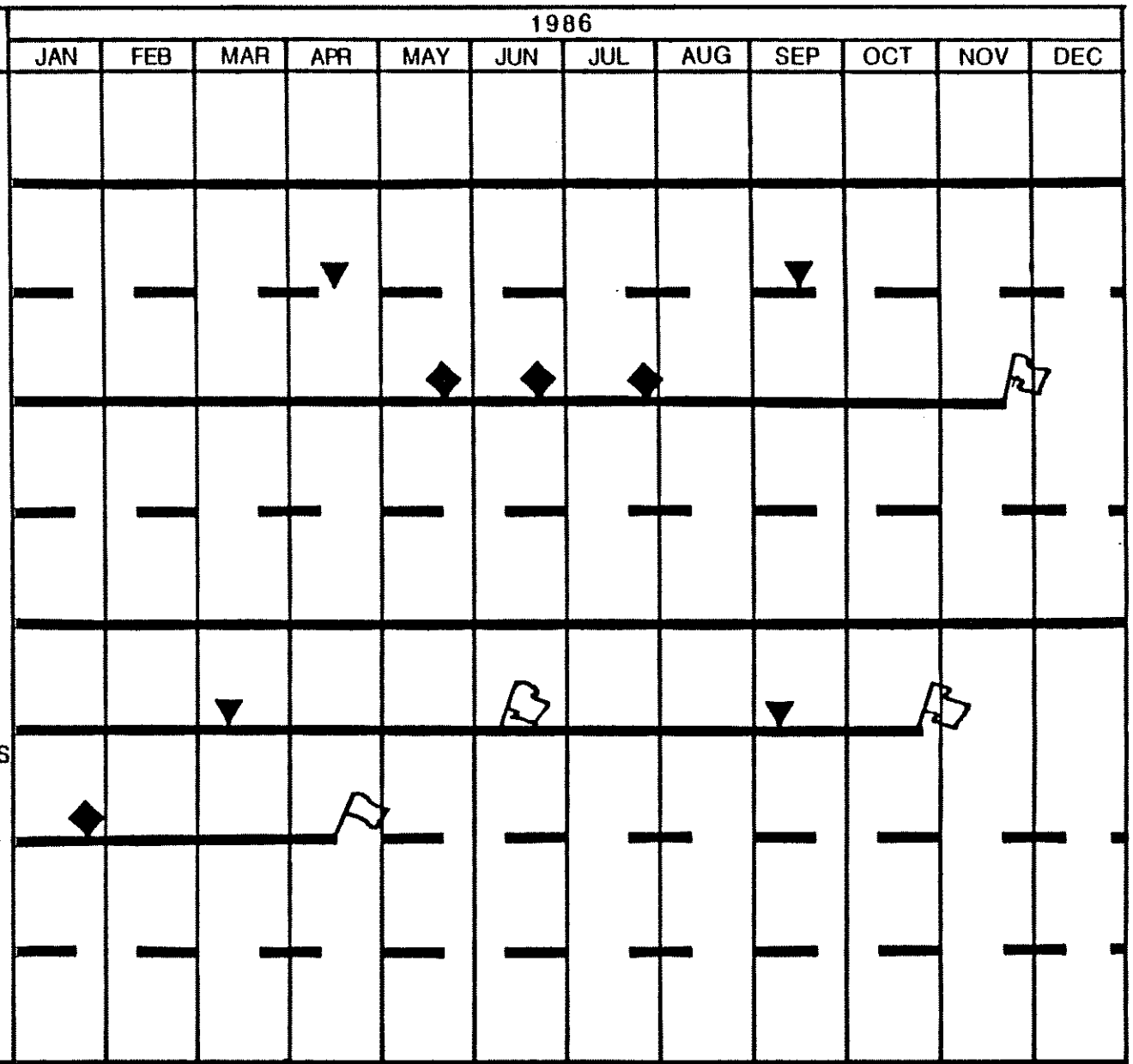
Enclosure 1



IID Water Conservation Program Organization - CY 1986
Parsons Water Resources, Inc.

Enclosure 2

TASK	DESCRIPTION
1000	PROGRAM MANAGEMENT, CONTROL AND ADMINISTRATION
1020	PROGRAM PROCEDURES
5000	WATER CONSERVATION IMPLEMENTATION PLAN
6000	PROGRAM STUDIES AND REPORTS
6003	PROGRAM ENVIRONMENTAL SUPPORT
6004	MATHEMATICAL MODEL / SYSTEM AUTOMATION REPORTS
6005	DATA BASE, COMPUTER-AIDED ENGINEERING/DRAFTING (CAE/CAD)
7000	PROGRAM SUPPORT SERVICES (AS-REQUIRED)



LEGEND

- CLIENT REVIEWS
- CLIENT REVIEWS AS REQUIRED
- DELIVERABLES
- ONGOING ACTIVITIES
- AS - REQUIRED ACTIVITIES

IID WATER CONSERVATION PROGRAM
CY 1986 SCHEDULE

Enclosure 3

TASK 1010 - PROGRAM MANAGEMENT

SCOPE OF WORK

Provide overall direction, management, and control of all phases of the work and initiate corrective action through the task managers to various levels of the program.

JUSTIFICATION

Ensures that program objectives are achieved to IID's satisfaction, on time and within budget.

DELIVERABLES

The Program Director has responsibility for total program execution.

SCHEDULE

Level of effort.

TASK 1020 - PROGRAM PROCEDURES

SCOPE OF WORK

Periodically update procedures (issued for initial scope of work) to reflect changes in Parsons work, organization, and suggested changes by the District. Procedures for the final three sections of the Procedures Manual need to be completed in CY1986 - Engineering, Procurement, and Construction.

JUSTIFICATION

Refinement of existing procedures and issuance of procedures for engineering, procurement, and construction will be needed in 1986 to provide definition, methods, functions, responsibilities, and interfaces for providing water conservation planning and development services.

DELIVERABLES

Updated procedures defining the current organization, functions, responsibilities, and interfaces will be prepared including procedures for engineering, procurement, and construction.

SCHEDULE

Level of effort.

TASK 1030 - PROGRAM CONTROLS

SCOPE OF WORK

Provide program cost, schedule, estimates, and status/progress reporting support.

JUSTIFICATION

Program control support services are necessary to provide a disciplined and systematic approach to progress measurements, reporting, and control on the program. These services include: defining program objectives and subsequent related work tasks; estimating, allocating, and scheduling resources; establishing program baseline schedules and cost plans (budgets); reporting progress against established schedules and budgets; controlling program activities, interfacing with the IID, and the controlling and integrating subcontractor information.

DELIVERABLES

(1) Progress Reports
(2) Updated WBS/OBS
(3) Budgets
(4) Cost Data
(5) Coding Information
(6) Current Working Estimate
(7) Conceptual Estimates
(8) Management Cost Reporting
(9) Schedules
(10) Trend Analysis and Forecasting
(11) Information Center

SCHEDULE

Level of effort.

TASK 5000 - WATER CONSERVATION IMPLEMENTATION PLAN

SCOPE OF WORK

The Implementation Plan will define the IID's program of water conservation projects and related program activities and will consist of three major elements.

1. PROGRAM IMPLEMENTATION PLAN

The Program Implementation Plan will consist of program implementation strategy, project descriptions, and a summary schedule of the entire Water Conservation Program, now defined through 1998.

1.1 Program Implementation Strategy

The District's Water Conservation Program is influenced by an extremely complex array of factors. The financial, legal, public relations, and marketing considerations will be integrated into a coherent implementation strategy.

1.2 Project Descriptions

Each major activity will be described conceptually to include (as appropriate) the following data:

(1) Purpose and expected result of project.

(2) General narrative description in sufficient detail to allow design activities to begin and to allow initial steps toward arranging financing to occur.

(3) Major milestones for completion of the activity.

1.3 Summary Schedule

The summary schedule will integrate the various program elements showing all major milestones and significant interfaces.

2. DETAILED DESIGN CRITERIA

The design criteria will include the following topics, which are appropriate to the specific project, plus any special topics requiring unique treatment.

2.1 Standards and References

2.2 Architectural Systems

2.3 Structural Systems

2.4 Electrical Systems

2.5 Plumbing Systems

2.6 Heating, Ventilating, and Air Conditioning

2.7 Fire Protection

2.8 Fuel Distribution and Storage

2.9 Sewers and Sewage Treatment

2.10 Water Supply Facilities, Including Canals

2.11 Paved Area

2.12 Grading and Drainage

2.13 Dust and Erosion Control

2.14 Fencing

2.15 Electronic Systems

2.16 Cathodic Protection

2.17 Weight-Handling Equipment

3. DETAILED FIVE-YEAR PLAN

The Implementation Plan will provide for implementation of selected work packages over the first 5 years of the program, defined in annual CY increments (to be updated annually).

3.1 Program Review

In the process of preparing the implementation plan, the following will be reviewed: all ongoing and proposed District in-house plans; ongoing and proposed Bureau of Reclamation (USBR) work; SCS, USDA, universities, and any other work by others that is related to the implementation of the Water Conservation Program. The plan will provide recommendations concerning ongoing work by others.

3.2 Project Details

Each proposed project/study/other work element will be described with information on the recommended responsibility for accomplishment (i.e., IID, Parsons, USBR, SCS, USDA,

universities, etc.), location, and method of accomplishment. The schedule for each project in the Five-Year Plan will be detailed to show design, procurement, construction, and startup phasing, including soils and other geotechnical requirements in advance of design, power considerations, and site-specific criteria, as available.

3.3 Cost Estimating Criteria

The assumptions and background data for cost estimating will be presented.

3.4 Project Costs

The estimated development costs for each project (budget cost estimate) will be presented to include engineering, construction management, construction, and startup, if appropriate.

3.5 Public Relations Plan

The general plan for presenting IID's Water Conservation Program and projects to the public will be presented (see Tasks 5050 and 7030).

3.6 Legal Support Plan

Any foreseeable activity on the part of the various legal entities supporting the program will be identified and integrated into the comprehensive plan (see Task 5030).

3.7 Water Transfer Plan

The program of water transfer will be defined (see Task 5040).

3.8 Financial Plan

Sources of financing will be presented, and cash flow analyses will be conducted to arrive at a comprehensive financial plan (see Task 5020).

JUSTIFICATION

An Implementation Plan is essential for the efficient execution of a complex program of capital improvements. The plan allows early identification of critical interfaces and potential obstacles, allowing effective resolution. In addition, an Implementation Plan will allow a 5-year financial plan and preliminary annual budgets to be developed. Finally, the plan will allow development of

personnel plans to provide adequate staffing for the program execution.

DELIVERABLES

The following deliverables will be provided:

(1) Program Implementation Plan
(2) Design Criteria
(3) Detailed Five-Year Implementation Plan

SCHEDULE

The proposed schedule for preparation of the Implementation Plan is summarized as follows:

Submittal	Due Date
Draft Program Implementation Plan	May 26, 1986
Draft Design Criteria	June 23, 1986
Draft Five-Year Implementation Plan	July 28, 1986
Final Program Implementation	November 24, 1986
Final Design Criteria	November 24, 1986
Final Five-Year Implementation Plan	November 24, 1986

TASK 5020 - FINANCIAL/ECONOMIC

SCOPE OF WORK

Prepare a comprehensive financial plan to assist the IID in identifying the steps necessary to finance the program.

JUSTIFICATION

Sources of financing and cash flow analyses need to be conducted and presented as part of the overall Implementation Plan.

DELIVERABLE

Financial Plan.

SCHEDULE

Submittal	Due Date
Draft Plan	July 28, 1986
Final Plan	November 24, 1986

TASK 5030 - LEGAL

SCOPE OF WORK

Provide a plan for legal assistance.

JUSTIFICATION

All legal activities and entities supporting the program must be identified and planned for to satisfy program requirements.

DELIVERABLE

Comprehensive Legal Support Plan.

SCHEDULE

Submittal	Due Date
Draft Plan	July 28, 1986
Final Plan	November 24, 1986

TASK 5040 - WATER TRANSFER

SCOPE OF WORK

Set forth findings and recommendations concerning the potential transferees of conserved water.

JUSTIFICATION

The Water Transfer Plan must be delineated, including all present and proposed contracts.

DELIVERABLES

(1) Water Transfer Plan
(2) Model Contractual Agreement

SCHEDULE

Submittal	Due Date
Draft Plan and Agreement	July 28, 1986
Final Plan and Agreement	November 24, 1986

TASK 5050 - PUBLIC RELATIONS

SCOPE OF WORK

Prepare an overall strategy for presenting IID's construction projects to the public.

JUSTIFICATION

A general plan for public relations activities in support of construction activities must be prepared.

DELIVERABLE

Public Relations Plan for construction projects, including a schedule for public relations activities.

SCHEDULE

Submittal	Due Date
Draft Plan	July 28, 1986
Final Plan	November 24, 1986

TASK 6003 - PROGRAM ENVIRONMENTAL IMPACT REPORT, COORDINATION AND TECHNICAL SUPPORT

SCOPE OF WORK

The Program Environmental Impact Report (EIR) will present the assessment of the impact of the overall Water Conservation Program. The report's coordination effort will be divided into the following subelements:

(1) Permitting Plan
(2) Biological Assessment Studies
(3) Water Quality Analysis
(4) CEQA/NEPA Compliance Activities

These activities will be performed by the EIR contractor and supervised by Parsons. Parsons will also conduct engineering studies, as needed, in support of the EIR effort.

JUSTIFICATION

Implementatin of the District's Water Conservation Program requires compliance with federal and state environmental laws. This report must be coordinated with the other activities of the program implementation to avoid costly delays.

DELIVERABLES

The deliverables will be coordinated when defined by the EIR contractor.

SCHEDULE

The proposed schedule will be determined after an EIR contractor is selected.

TASK 6004 - SYSTEM AUTOMATION AND MATHEMATICAL MODEL

SCOPE OF WORK

The creation of an automated water delivery system will require the following integrated/iterative activities:

1. Define automation methodology

    1.1 Diagram automation command and response scheme.

    1.2 Define method of communication for command and monitoring.

2. Develop mathematical model of delivery system

    2.1 Define system physical parameters to remain constant during analysis.

    2.2 Define variable input data.

    2.3 Define output data.

    2.4 Develop algorithm for data manipulation.

3. Prepare generalized process flow diagram indicating broadly type and size of system hardware

JUSTIFICATION

The ability of the IID to react quickly and accurately to client requests will increase system water conservation as well as improve client satisfaction. Moreover, the increasing complexity of the system as reservoirs, lateral interconnections, and other dynamic hydraulic operations elements are added demand a faster, better integrated control system.

The mathematical model will also be extremely valuable as an analytical tool during system layout studies. For example, the comparison of a spill intercept system with a transverse lateral system will be greatly facilitated with the computer model. Moreover, location and sizing of lateral reservoirs could be optimized rapidly with the system model. In summary, any feature of the new program causing a change in hydraulic operations could be analyzed more effectively with the system mathematical model.

DELIVERABLES

The following deliverables will be provided:

(1) Mathematical Model Report
(2) System Automation Report

SCHEDULE

The proposed schedule for system automation submittals is summarized as follows:

Submittal	Due Date
Mathematical Model Report	June 9, 1986
Final System Automation Report	October 27, 1986

TASK 6005 - DATA BASE, CAE/CAD

SCOPE OF WORK

The first phase in the creation of an IID computer-aided design (CAD) system will be conducted as follows:

(1) Define baseline data for inclusion in Phase 1.
(2) Collect raw data.
(3) Input data to Parsons CAD system.
(4) Prepare demonstration drawing set.

JUSTIFICATION

During the next decade, the physical makeup of the IID's system is expected to undergo dramatic change. To effectively record and control these changes, it is essential that the District upgrade its internal capacity to produce record drawings and simultaneously provide greater design flexibility. A system allowing rapid, random access to data on file will prove to be increasingly valuable, and a CAD system offers a cost-effective solution.

DELIVERABLES

The following deliverables will be provided:

(1) Listing of recommended baseline data.
(2) Demonstration drawing set.

SCHEDULE

The proposed schedule is summarized as follows:

Submittal	Due Date
Baseline Data List	January 27, 1986
Demonstration Drawing Set	April 14, 1986

NOTE: As funding permits, the data base will continue to be expanded throughout 1986.

TASK 7010/15 - LEGAL

SCOPE OF WORK

Provide legal advice and support to the IID as required.

JUSTIFICATION

Necessary to ensure that all legal considerations associated with program execution and water transfer agreements are properly researched and addressed. Legal considerations include such matters as water rights issues, water transfer contracts, and environmental.

DELIVERABLES

As required.

SCHEDULE

Level of effort.

TASK 7030 - PUBLIC AFFAIRS

SCOPE OF WORK

Provide public affairs support to the IID, as required. Create and maintain community, state, and national understanding of the program by working with the community, media, and government officials. Providing up-to-date information and advice from a public relations standpoint. Support the coordination of interviews, guest speakers, or any other information materials. Track issues and press coverages. Attend community and public meetings.

JUSTIFICATION

Coordination of information and news to promote understanding of the program is needed to ensure the successful completion of program goals. Parsons can provide the support necessary in public relations time and expertise, including writing, graphic design and production, scheduling interviews and speaking engagements, helping the District to prepare for interviews and speeches, coordinating mailing, and general development of a Public Information Plan.

DELIVERABLES

(1) Interviews
(2) Briefing sessions
(3) Newspaper/magazine articles
(4) Brochures
(5) Public Information Plan
(6) Press kits
(7) Mailings
(8) Press releases
(9) Speaking engagements
(10) Speechwriting
(11) News coverage monitoring

SCHEDULE

Level of effort.

TASK 7050 - WATER TRANSFER

SCOPE OF WORK

Provide negotiating and marketing assistance to the District, as required. Perform any special studies associated with water transfer and assist in developing water transfer negotiation strategies.

JUSTIFICATION

To assist the District in marketing conserved water, which is made available for transfer.

DELIVERABLES

As required.

SCHEDULE

Level of effort.

TASK 7070 - FINANCIAL/ECONOMIC

SCOPE OF WORK

Provide financial/economic support to the District, as required. Develop information and prepare reports as may be necessary and useful in connection with the program's economics and managing the financial aspects of the plan.

JUSTIFICATION

To respond to request for assistance as may be required during the development of financial plans and alternatives concerning program execution.

DELIVERABLES

As required.

SCHEDULE

Level of effort.

WATER CONSERVATION PROGRAM, IID
JOB NUMBER 6589
PERIOD OF PERFORMANCE: JAN 1 THRU DEC 31, 1986

TASK	DESCRIPTION	LABOR CLASS	HOURS	LABOR AMOUNT	PAYROLL BURDEN*	MISC. ODC'S	SUB-CONTRS	AIR TRIPS	TRAVEL AMT	PERDIEM/CAR DAYS	AMT	TOTAL AMT
1010	PROGRAM MANAGEMENT	PM-1	1920	66950	72306	3840		50	8500	100	12000	163597
1020	PROGRAM PROCEDURES	PM-2	440	12742	13762	880		5	850	10	1200	29434
		PROCR	230	4593	4961	460						10014
		P-ENGR	110	2669	2882	220						5771
		STENO	320	2794	3017	640						6451
1030	PROGRAM CONTROLS	PM-2	520	15059	16264	1040						32363
		COST	950	16910	18263	1900		4	680	8	960	38713
		P/S	110	2289	2472	220						4981
		EST	1360	30002	32402	2720		4	680	8	960	66763
1040	PROGRAM ADMIN	PM-2	960	27802	30026	1920		20	3400	40	4800	67947
		STENO	3280	28634	30925	6560						66120
		CA	150	3690	3985	300						7975
		PROCR	150	2996	3235	300						6531
		ACCT	600	8148	8800	1200						18148
		TC/PUB	950	12350	13338	1900						27588
5000	WATER CONSERVATION IMPLEMENTATION PLAN	PM-2	1920	55603	60051	3840	30000	30	5100	48	5760	160355
		EDIT	450	7155	7727	900						15782
		PE/ES1	1780	53329	57595	3560						114484
		PE/ES2	3460	85116	91925	6920						183961
5020	FINANCIAL/ECONOMIC	PM-2	490	14190	15326	980		4	680	8	960	32136
5030	LEGAL	PM-2	60	1738	1877	120	10000	2	340	4	480	14554
5040	WATER TRANSFER	PM-2	150	4344	4692	300		4	680	8	960	10976
5050	PUBLIC RELATIONS	PM-2	40	1158	1251	80		2	340	4	480	3309
		PR/ED	670	10653	11505	1340		6	1020	12	1440	25958
6003	PROGRAM ENVIRON SUPPORT	ES-1	300	8988	13033	600		6	1020	12	1440	25081
		ES-2	300	7380	10701	600		6	1020	12	1440	21141
		EDIT	890	14151	15283	1780						31214
6004	MATHEMATICAL MODEL/ SYSTEM AUTOMATION	PE	160	4122	4451	320		2	340	4	480	9713
		ES-1	550	15928	23096	1100	10000	6	1020	12	1440	52584
		ES-2	550	13530	19619	1100		6	1020	12	1440	36709
6005	DATA BASE-CAE/CAD	PE	160	4122	4451	320		1	170	2	240	9303
		S-ENGR	1920	38880	41990	3840		2	340	4	480	85530
7010/15	LEGAL	PM-2	260	7530	8132	520	40000	6	1020	12	1440	58642
7030	PUBLIC AFFAIRS	PM-2	40	1158	1251	80		2	340	4	480	3309
		PR/ED	670	10653	11505	1340		6	1020	24	2880	27398
7050	WATER TRANSFER	PM-2	40	1158	1251	80		2	340	4	480	3309
7070	FINANCIAL/ECONOMIC	PM-2	120	3475	3753	240		2	340	4	480	8288
	EST. SERVICE FEE											148613
	TOTAL		27030	601989	667103	54060	90000	178	30260	356	42720	1634745

* PAYROLL BURDEN(TAXES, INS., WELFARE BENEFITS, OVHD INCLDG G&A) FOR PARSONS WATER RESOURCES, INC. AND RMPCo. EMPLOYEES ARE ESTIMATED AT A PROVISIONAL RATE OF 108% OF DIRECT LABOR COST. FOR ENGINEERING SCIENCE AND C. T. MAIN EMPLOYEES, THE ESTIMATED PROVISIONAL RATE IS 145%.

Enclosure 5

PARSONS WATER RESOURCES, INC. Worldwide Engineers/Constructors

100 WEST WALNUT STREET
PASADENA CALIFORNIA 91124
(818) 440-2000
Telex WH 675-336

October 25, 1985

Mr. William R. Condit
President, Board of Directors
Imperial Irrigation District
1284 Main Street
El Centro, California 92244

SUBJECT: Agreement for Engineering and Consulting Services

Dear Mr. Condit:

In the near future we plan to submit for District approval our proposed scope of work and budget for 1986, in accordance with an IID-Parsons Water Conservation Planning and Development Agreement. We have already begun discussions on these matters with your staff.

Confirming your discussions with Mr. Leonhard and Mr. Davidson on October 23, we are prepared to prefinance our work in 1986 essentially on the same basis as in 1985, as established in our exchange of correspondence on May 21-22, 1985 (copies attached), but with a fee for profit determined by mutual agreement. Under this arrangement Parsons would be paid for its 1986 work in January 1987. The amount paid to Parsons at that time would include appropriate financing costs equal to the cost to Parsons of borrowing as work proceeds through 1986.

We are prepared, of course, to modify the payment method and schedule if the District determines that its resources so allow, as would be the case if the District were to receive revenue from any water transfer agreement(s).

We would appreciate your reply agreeing to the concept outlined above.

Very truly yours,

PARSONS WATER RESOURCES, INC.

J. K. Bratton
President

JKB/jc

cc: C. L. Shreves

bc w/attachments:
M. R. Brown
R. M. Davidson
T. L. Langford

Enclosure 6

TELEPHONE 619 339 9200

IMPERIAL IRRIGATION DISTRICT

OPERATING HEADQUARTERS • P O BOX 937 • IMPERIAL, CALIFORNIA 92251

May 21, 1985

MR. JOSEPH K. BRATTON
President
Parsons Water Resources Inc.
100 West Walnut Street
Pasadena, California 91124

Re: Agreement for Engineering and Consulting Services
Letter of Intent, dated April 17, 1985
Your File No. 6589-85-1

Dear Mr. Bratton:

The Imperial Irrigation District hereby authorizes you to proceed with the initial scope of work set forth in our Letter of Intent dated April 17, 1985 and your request for approval to proceed with the work dated May 10, 1985.

You will be compensated for your services at U.S. Government audited cost rates without a fee for profit. The initial scope of work shall not exceed One Million Five Hundred Thousand Dollars ($1,500,000.00). The District will pay Parsons for this work on January 2, 1986. The amount paid shall include appropriate financing costs in an amount equal to Parsons' cost of borrowing during the initial scope of work.

Please indicate your acceptance by signing and returning a duplicate copy of this letter.

Yours truly,

IMPERIAL IRRIGATION DISTRICT

W. R. Condit

By
William R. Condit, President

:tal
Enclosure
xc: MR. MELVYN R. BROWN
Program Director
Parsons Water Resources Inc.

ACCEPTED:

Dated: MAY 22, 1985

PARSONS WATER RESOURCES INC.

By J K Bratton
Joseph K. Bratton, President

PARSONS WATER RESOURCES, INC. Worldwide Engineers/Constructors

100 WEST WALNUT STREET
PASADENA CALIFORNIA 91124
(818) 440-2000
Telex WH 675-336

May 22, 1985

Mr. William R. Condit
President
Imperial Irrigation District
Operating Headquarters
Post Office Box 937
Imperial, CA 92251

Re: Agreement for Engineering and Consulting Services
Letter of Intent, dated April 17, 1985
File No. 6589-85-1

Dear Mr. Condit:

This is in response to your letter dated May 21, 1985, authorizing Parsons to proceed with the initial scope of work set forth in the Letter of Intent dated April 17, 1985 and our request for approval to proceed with the work dated May 10, 1985.

I have indicated our acceptance by signing and returning the duplicate copy of your letter.

Sincerely,

J. K. Bratton
President

JKB:bm
Enclosure

CC: M. R. Brown

DRAFT

MR. JOSEPH K. BRATTON
President
Parsons Water Resources, Inc.
100 West Walnut Street
Pasadena, California 91124

Re: Water Conservation Planning and Development Agreement,
dated November 8, 1985
Your File No. 6589-35

Dear Mr. Bratton:

The Imperial Irrigation District hereby authorizes you to proceed with the scope of work set forth in your CY1986 budget request, and your request for approval to proceed with the work dated November 15, 1985.

You will be compensated for your services during CY1986 in accordance with the payment provisions of the Water Conservation Planning and Development Agreement, dated November 8, 1985. The CY1986 work shall not exceed One Million Six Hundred Thousand Dollars ($1,600,000.00) without prior authorization by the District. The District will pay Parsons for this work on January 5, 1987. The amount paid shall include appropriate financing costs equal to Parsons cost of borrowing as work proceeds during 1986.

Please indicate your acceptance by signing and returning a duplicate copy of this letter.

Yours truly,

IMPERIAL IRRIGATION DISTRICT

By
William R. Condit, President

Enclosure
xc: MR. MELVYN R. BROWN
Program Director
Parsons Water Resources, Inc.

ACCEPTED:

Dated: _____, 1985

PARSONS WATER RESOURCES, INC.

By_____
Joseph K. Bratton, President

19-20

16.01001.V02

WATER REQUIREMENTS AND AVAILABILITY STUDY

Parsons Water Resources, Inc.
The Parsons Corporation

OUTLINE

- Introduction/purpose of meeting
- Background/purpose of the study
- Study methodology
- Findings
  - — Water rights and supply
  - — Water needs to year 2010
  - — Conservation methods/program
  - — Water availability
- IID review comments
- Summary

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PURPOSE OF FINAL REVIEW MEETING

- Present final review of major findings and study components
- Summarize disposition of IID 50% and 90% review comments
- Obtain any additional comments/ suggestions from IID
- Obtain concurrence to publish report, subject to revisions as may be required

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BACKGROUND

- May 21, 1985 - IID board authorized Parsons to proceed
- Bookman-Edmonston Engineering, legal consultants
- IID/Parsons review meetings (50%, 90%, and 100%)
- Presentations, attended public meetings/ hearing, interfaced with farmers, agricultural agencies, and associations

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PURPOSE OF STUDY

- Quantify the District's present and future water needs
- Determine the additional water that might be available for use by others

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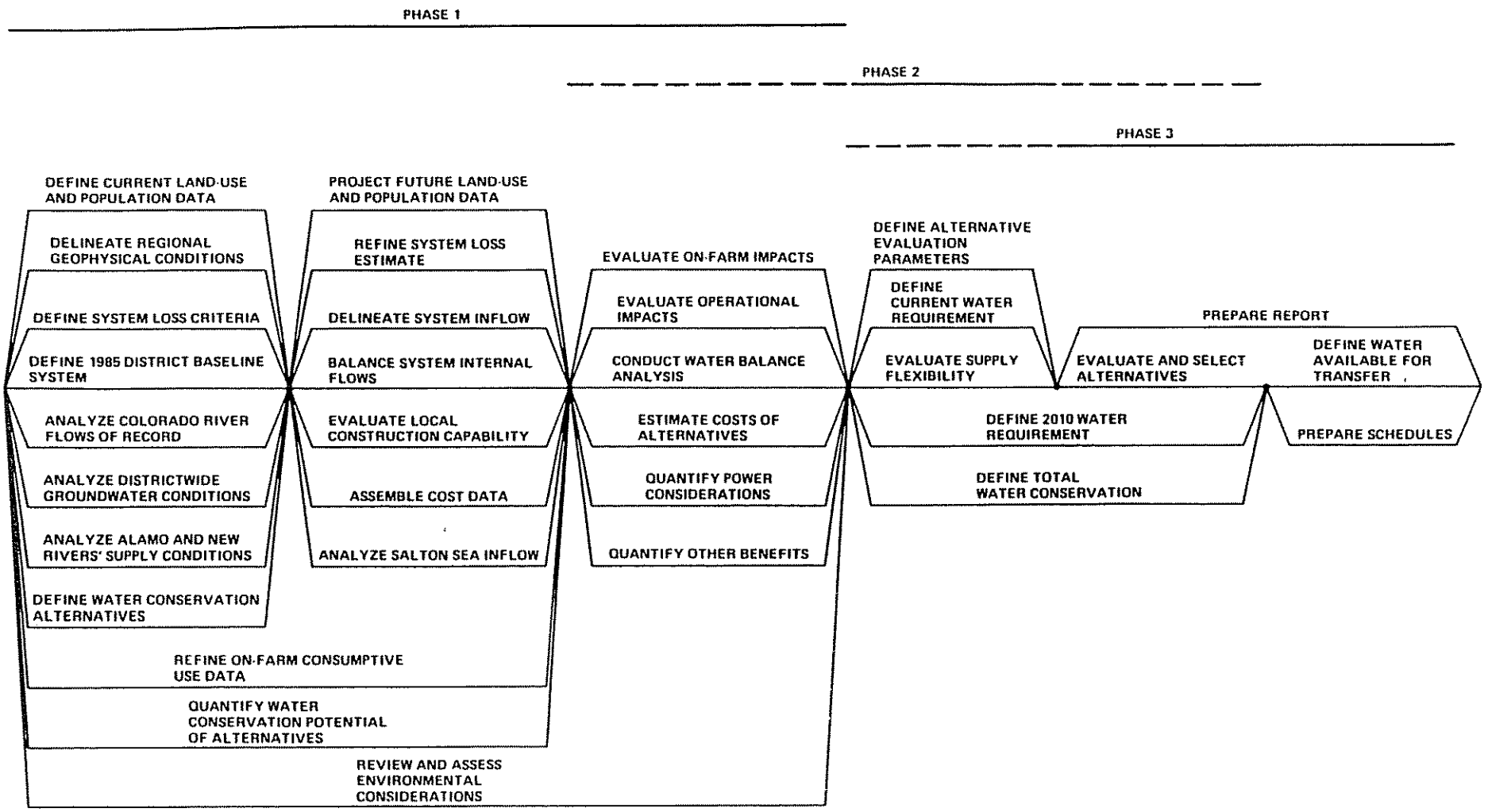
ACTIVITY DIAGRAM



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METHODOLOGY

- Phase 1: Data collection/analysis/ establishment of baseline conditions and water requirements
- Phase 2: Technical and economic analysis of water conservation methods

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METHODOLOGY (Contd)

- Phase 3: Determination of quantity of additional water that might be available for use by others — considers IID's water availability, water needs through year 2010, and feasible conservation program

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FINDINGS
IID WATER RIGHTS/SUPPLY

- Rights
  - — Present Perfected — 2.6 million AF/year
  - — Seven-Party Agreement — over 3 million AF/year
- Dependable supply

3.85 million AF	Basic allotment
- 0.51 million AF	Higher-priority users
3.34 million AF	Available for IID

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SUPPLY/DEMAND CONDITIONS
YEAR 2010

	Supply		Demand	
Event Recurrence Interval (years)	Natural Colorado River Flow (1,000 AF/year)	Release from Storage (1,000 AF/year)	Expected Total Demand (1,000 AF/year)	Flow to California (1,000 AF/year)
2	14,300	1,100	15,400	4,400
5	10,900	4,500	15,400	4,400
10	9,200	6,200	15,400	4,400
100	5,600	9,800	15,400	4,400

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ESTIMATED WATER USE BY HIGHER PRIORITY USERS (under Seven-Party Agreement)

Area	Estimated Use (AF/year)
Palo Verde Irrigation District	450,000
Reservation Division - Yuma Project	60,000
Total	510,000

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FINDINGS
IID WATER REQUIREMENTS TO YEAR 2010
(1,000 AF/year)

Demand Condition	Current Requirement		Year 2010 Requirement		
	If No Conser-vation	With Conser-vation	If No Conser-vation	If Only Pre-1986 Conser-vation	With Full Conser-vation
Baseline	2,908	2,770	3,138	3,000	2,642
Planning maximum	3,158	3,020	3,638	3,500	3,142
Planning minimum	2,678	2,540	2,838	2,700	2,342

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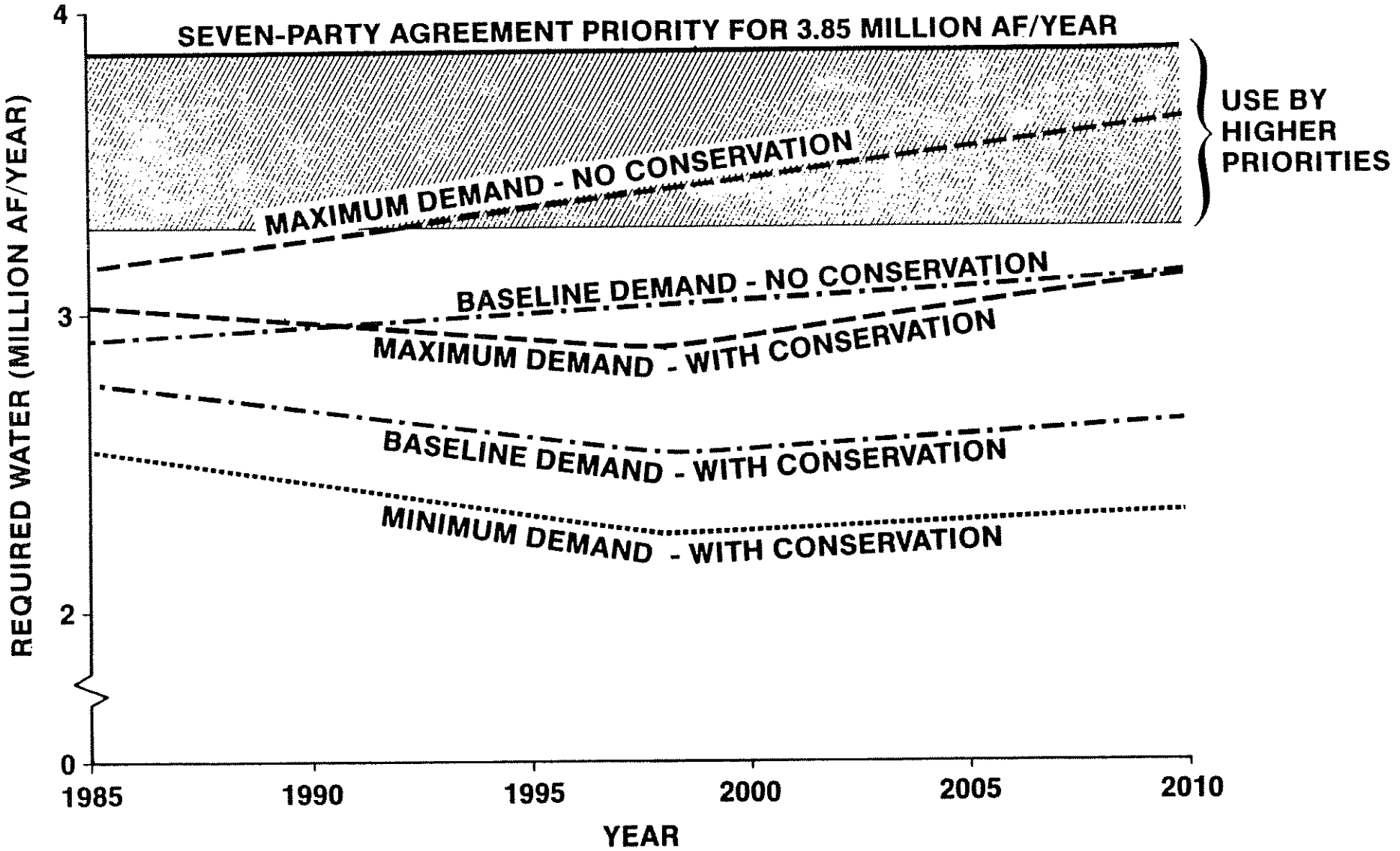
WATER REQUIREMENTS



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FINDINGS
CONSERVATION METHODS

- Structural
- Nonstructural
- On-farm

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STRUCTURAL CONSERVATION METHODS

- 270-mgd desalination plant for salinity control
- Canal lining

  Canal covering

  Piped delivery system
- Reservoirs

  Improved farm deliveries
- Improved flow-monitoring structures

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STRUCTURAL CONSERVATION METHODS (Contd)

- Nonleak gates
- Recovery of operational discharge

  Districtwide tailwater recovery system

  Districtwide leach water recovery system

  Districtwide drain water recovery system

  Retention basins
- System automation and control

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NONSTRUCTURAL CONSERVATION METHODS

Modified demand delivery

Sequential water delivery

Standard delivery head increments

Tailwater ~~penalties~~ Contracts

Inverted rate structure

Incentive program

Training programs

Larry Gilbert
Affected - says farmer
penalized so some one
else can have the water

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ON-FARM WATER CONSERVATION METHODS

IID to pay total

- Land leveling
- Tailwater pumpback systems

Low-water-use crop selection

Head ditch lining

Irrigation scheduling

Low-water-demand irrigation methods

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PROGRAM ELEMENTS

- Canal lining
  - — All-American Canal: Pilot Knob to Drop No. 1
  - — East Highline Canal
  - — Vail Canal
  - — Rositas Canal
  - — Laterals Highest benefit cost

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PROGRAM ELEMENTS (Contd)

- Reservoirs
- Improved flow-monitoring structures
- Nonleak gates
- Recovery of operational discharge
- System automation
- Land leveling
- On-farm tailwater pumpback system
- Desalination plant
- Miscellaneous projects

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PROGRAM DATA

Method	Estimated Amount Conserved (AF/year)	Benefit/ Cost Ratio	Capital Cost ($1,000)
Canal lining			
All-American Canal: Pilot Knob to Drop No. 1	51,000	1.48	$ 32,000
East Highline Canal	46,000	1.11	39,500
Vail Canal	2,000	1.86	1,000
Rositas Canal	2,000	1.98	940
Laterals	35,000	4.39	13,600
Subtotal	136,000		87,040
Reservoirs	35,000	1.20	18,075
Improved flow-monitoring structures	36,000	1.12	6,000
Nonleak gates	14,000	4.95	1,426
Recovery of operational discharge	30,000	1.10	10,400
System automation	27,000	1.04	15,000
Land leveling	20,000	1.23	13,500
On-farm tailwater recovery system	20,000	1.59	7,594
Desalination plant	30,000	N/A	335,000
Miscellaneous projects	10,000	N/A	—
Total	358,000		$494,035

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CONCEPTUAL SCHEDULE

PROJECTS	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Implementation plan														
Canal lining														
All-American Canal:														
Pilot Knob to Drop No. 1					17	34	51							
East Highline Canal							10	20	30	40	46			
Vail Canal				1	2									
Rositas Canal			1	2										
Laterals			3	7	10	14	17	21	24	28	31	35		
Reservoirs			4	8	12	16	20	24	28	32	35			
Improved flow-monitoring structures			4	9	13	18	22	27	31	36				
Nonleak gates			3	6	9	14								
Recovery of operational discharge					3	6	9	12	15	18	21	24	27	30
System automation			3	6	9	12	15	18	21	24	27			
Land leveling			2	4	6	8	10	12	14	16	18	20		
On-farm tailwater recovery system			2	4	6	8	10	12	14	16	18	20		
Desalination plant														30
Miscellaneous projects				1	2	3	4	5	6	7	8	9	10	

Note: Numbers indicate estimated water conservation in 1,000 AF by each project.
Amounts accumulate annually as projects develop and more facilities go on-line.

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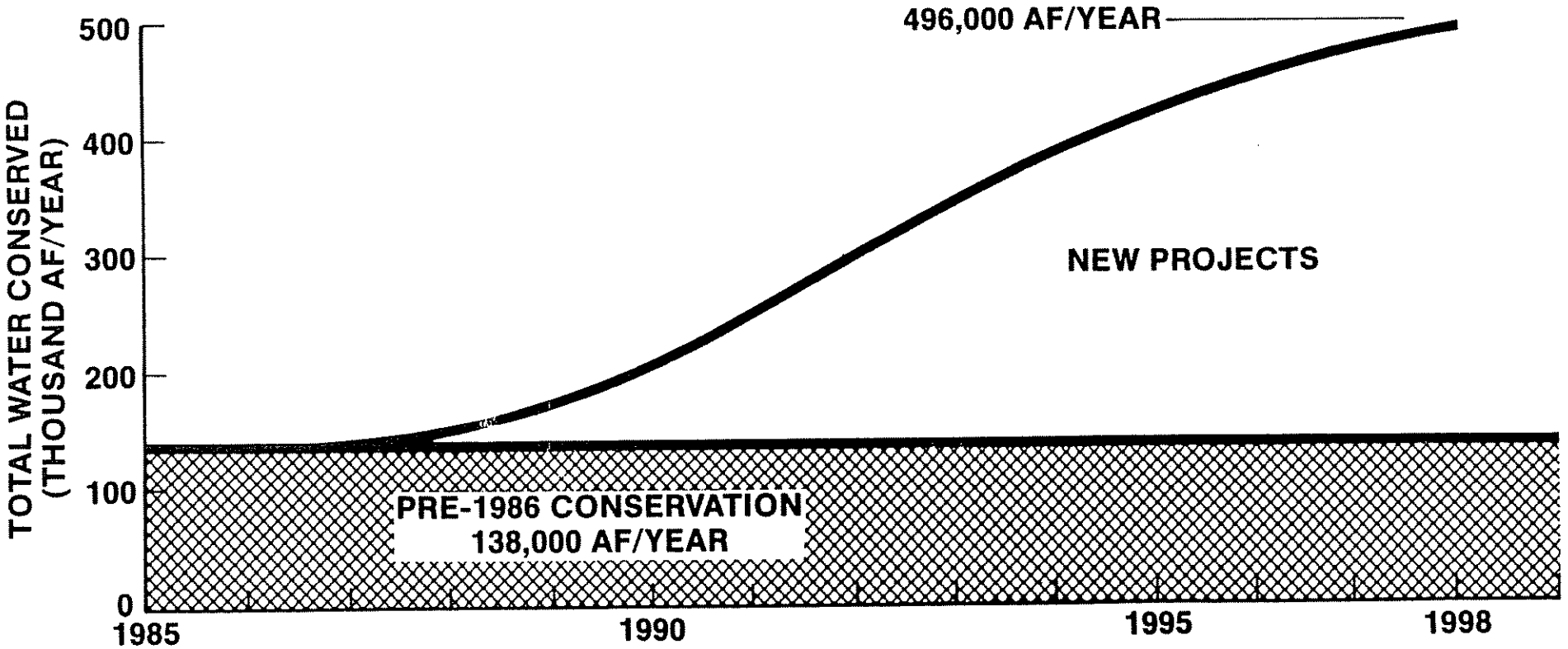
CONSERVATION DEVELOPMENT



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additional

J. Penn

FINDINGS
WATER AVAILABLE ~~FOR USE BY OTHERS~~

496,000 AF/YEAR

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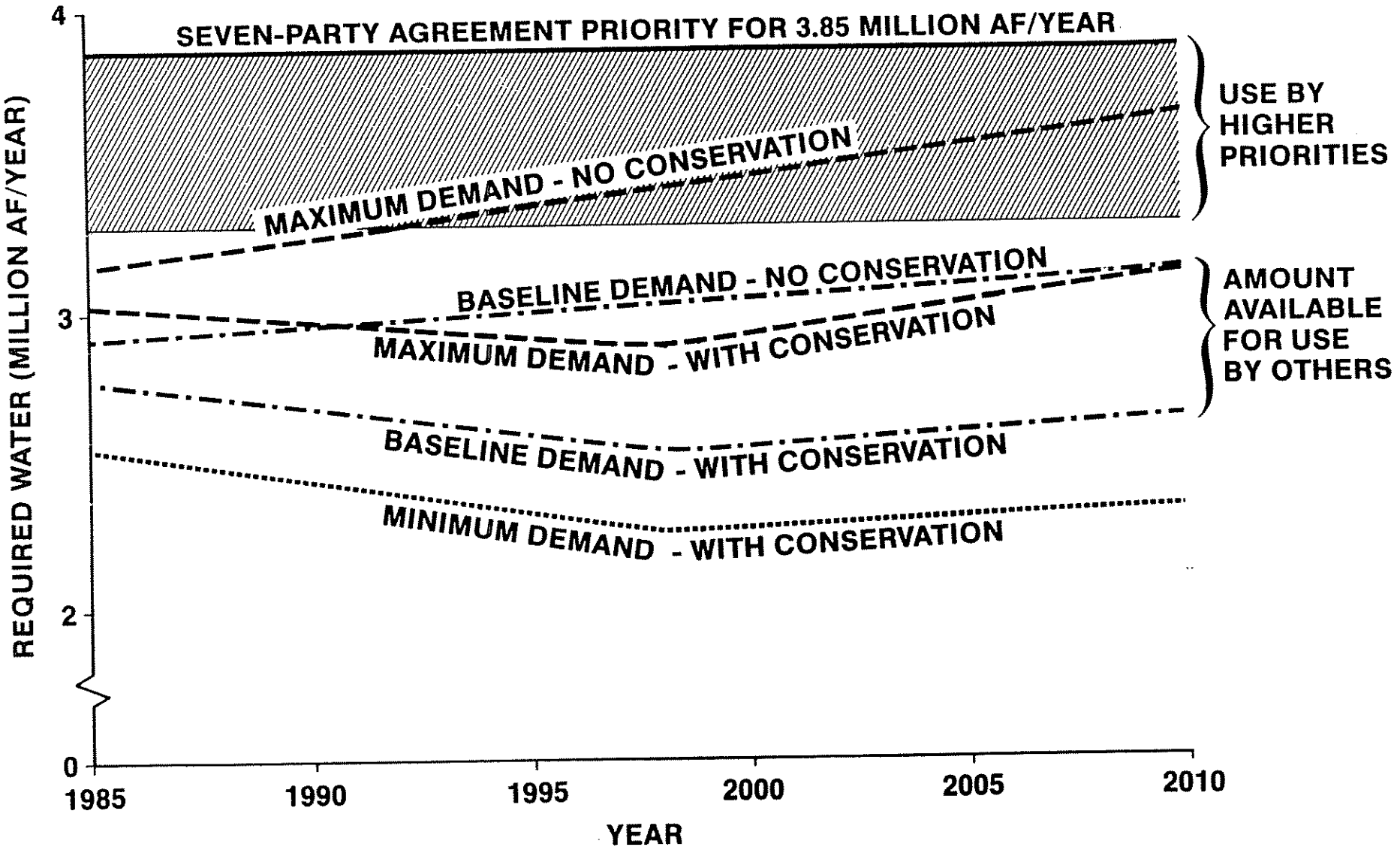
WATER AVAILABLE FOR USE BY OTHERS



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SPECIAL CONSIDERATIONS

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SALINITY

$130,000
$1,800,000 loss from AF

1. **Effect of water transfer:**

   100,000 AF — 2.4 ppm increase in TDS

   500,000 AF — 13 ppm increase in TDS

2. **Effect of other users:**

   824 to 904 = 80 ppm increase in TDS

   (1982) (2010)

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INCENTIVE PROGRAMS

Gilbert
efficiency Rebate

- Crop-based allotments
- Performance history allotments
- Acreage-based rebates

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CONTINGENCY RESERVES

- Well field
  - — 300,000 AF/year
  - — $32,000,000
- Dam
  - — 175,000-AF capacity
  - — $33,500,000

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SUMMARY

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ENVIRONMENTAL COMPLIANCE PROGRAM

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OBJECTIVES

- Assist planning, design, construction, and operation efforts
- Ensure compliance with state and federal environmental laws

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ACTIVITIES

- Agency liaison
- Special studies
- Permitting

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SPECIAL STUDIES

- Water balances
- Salt balances
- Salinity forecasts
- Water quality analyses
- Biological assessments
- CEQA/NEPA compliance
- Brine disposal
- Alternatives evaluation

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CEQA/NEPA COMPLIANCE

- Procedural
- Alternatives
- Cumulative impacts
- Major issues
  - — Salton Sea
  - — New and Alamo Rivers
  - — Colorado River
  - — Wildlife
  - — Agriculture
  - — Economic development

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ENVIRONMENTAL COMPLIANCE

State

CEQA

- Initial studies
- Negative declaration
- Program EIR
- Focused EIR

Federal

NEPA

- Environmental assessments (EA)
- Findings of no significant impact
- EIS

Administrative Compliance Process and Procedures

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SCOPE OF INITIAL ENVIRONMENTAL IMPACT REPORTS

Program EIR
(CEQA)
EA/EIS
(NEPA, if required)

- Implementation of up to 500,000 AF/year of water conservation projects and measures
- Potential transfer of up to 250,000 AF/year of conserved water to others for a period of up to 35 years

Focused EIR
(CEQA)
EA/EIS
(NEPA, if required)

- Transfer of 100,000 AF/year of conserved water to others for a period of up to 35 years

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FUTURE ENVIRONMENTAL COMPLIANCE REQUIREMENTS

Typical Project/Action	Requirement(s)
• Replacement/reconstruction of existing facilities (e.g., lining of canals and laterals)	• Normally categorically exempt under CEQA and District guidelines implementing CEQA (initial studies, negative declaration)
• Major projects (e.g., major canal lining and reservoir projects)	• Focused EIR/EIS, if required
• Action to transfer additional increments of conserved water	• Initial studies/negative declaration/Focused EIR, if required

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