BORDER ENVIRONMENT COOPERATION COMMISSION

CITY OF HEBER, CALIFORNIA

STEP II DOCUMENTATION

PDF Format

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BORDER ENVIRONMENT COOPERATION COMMISSION

STEP II DOCUMENTATION

DETAILED PRESENTATION OF PROJECT FOR CERTIFICATION

SECTION 1 - EXECUTIVE SUMMARY

Heber, California is a small, rural, unincorporated township located near the U.S./Mexico border in southern California. Its population is listed at 2,566, according to the 1990 Census. Estimates place the current population at approximately 3,426 persons. The township of Heber covers an area of approximately 800 acres, with a sphere of influence encompassing approximately 7,200 acres. The surrounding area consists primarily of large tracts of farmland and the systems needed to maintain them.

The makeup of the township is approximately 70 percent residential homes and 30 percent commercial entities. At this time, there are no heavy industrial wastewater contributors in the system. In general, the wastewater generated by the township would be classified as residential.

Heber is located approximately 117 miles east of San Diego, and 5 miles north of Mexicali, Baja California, Mexico. The location maps are shown in Figure 2-1. Heber obtains its drinking water from the Colorado River via the Imperial Valley Irrigation System.

Heber is regulated by the water quality standards established by the United States Environmental Protection Agency (EPA) and by the State of California Department of Health Services Office of Drinking Water. The wastewater treatment plant discharge is regulated by the Imperial County Department of Public Health Services and the California Region 7 Water Quality Control Board.

As noted in the Facilities Planning Document submitted April 15, 1998 by Dudek & Associates (found in Appendix A), the Heber wastewater treatment plant was constructed in 1981 and treats all of the wastewater produced within the township.

The HPUD owns and operates the wastewater treatment facility. The current facility consists of the screening headworks, an oxidation ditch equipped with surface brush aerators and final clarifiers. This secondary treatment plant is permitted to discharge 402,000 gallons per day (Average Dry Weather Flow (ADWF)) of treated effluent to the Central Drain tributary of the Salton Sea. Table 1-1 shows the discharge limits.

TABLE 1-1

EFFLUENT DISCHARGE LIMITATIONS

CONSTITUENT	UNITS	30-DAY MEAN	7-DAY MEAN
20ºC BOD_5	*mg/l*	*30*	*45*
Total Suspended Solids	*mg/l*	*30*	*45*
Settleable Matter	*mg/l*	*0.3*	*0.5*
Total Dissolved Solids	*mg/l*	*4,000*	*4,500*

The treatment plant was originally designed to treat 405,000 gallons per day influent flow. Generally, the process of upgrading a treatment plant should begin once the incoming flow reaches 80% of the design flow. In 1997, the average influent wastewater flow to the plant was 431,000 gallons per day, with peak flows as high as 630,000 gallons per day. The average flow exceeded the design capacity by 6.4%. Furthermore, flow at these levels exceeds the 80% design flow criteria for the planning of expansion or new facilities. Obviously, the existing plant is past due for capacity expansion.

The Heber Public Utility District (HPUD) was notified by the State Regional Water Quality Control Board (SRWQCB) - Colorado River Basin Region, of the excess flow conditions in a letter dated March 18, 1997 (Appendix B). The County Public Health Department subsequently noted the possibility of pollution associated with the system and issued a notice of violation. The HPUD was ordered to bring their wastewater treatment system into compliance and to submit a compliance schedule for review. A copy of the schedule, dated December 29, 1997, is also enclosed in Appendix B. The HPUD Board of Directors passed Resolution No. 98-027, to establish a wastewater capital reserve fund for the expansion, repair and replacement of the wastewater treatment facilities (Appendix B).

As noted in the Facility Plan (Appendix A), the SRWQCB passed Resolution No. 98-011 on January 8, 1998, accepting the County of Imperial Health Department's Declaration of Pollution Problem and the compliance schedule associated with that declaration.

HPUD is seeking North American Development Bank (NADB) Border Environment Infrastructure Funds (BEIF) to implement improvements to the wastewater treatment plant. These improvements include the construction of a new, parallel oxidation ditch, two new clarifiers, improvements to the sludge drying bed decant system and a disinfection system for the treated effluent. The treatment plant is 17 years old and has reached its maximum hydraulic and biological treatment capacity, necessitating this proposed expansion.

Deficiencies of the existing plant noted by the Imperial County Health Office included the following:

- *Plant design capacity often exceeded by influent flow rates*
- *Inoperable skimmers on the final clarifiers*
- *Scum build-up problems on the clarifiers*
- *Ineffective sludge drying beds*

In order to bring the wastewater treatment plant into compliance with the current regulations, and to address the concerns of the regulatory agencies, the HPUD offers the following:

> *The proposed project consists of "mirroring" the existing oxidation ditch treatment system. This new plant will consist of improved headworks equipment, a new oxidation ditch and two additional clarification units, and improved sludge drying beds. A chemical feed disinfection system will also be installed.*

There are several advantages to this type of system upgrade approach.

- *Mirroring of the plant systems effectively doubles the capacity of the operation while maintaining the type of treatment plant operation personnel with the HPUD are already accustomed to operating.*
- *Construction can be sequenced to allow the existing facility to continue to operate while the new plant is being built.*

In conclusion, this design will eliminate the treatment capacity deficiencies noted by the regulatory agencies. The engineer's estimate of probable construction cost follows below in Table 1-2. The full breakdown of this cost estimate can be found in Appendix C.

It is important to indicate that HPUD has to date secured funds, both in the form of grants and loans, from the U.S. Department of Agriculture/Rural Development (USDA/RD) and from the State Revolving funds. These funds could cover 100% of the cost of the plant, but would result in a significant increase on user rates due to repayment of the loan portion. With this in mind, the NADB has performed a financial analysis to determine the amount of BEIF and transition funds that may be granted to the community to reduce the increase on fees. Table 1-3 summarizes the financial scheme recommended by the NADB.

TABLE 1-2

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS

HEBER PUBLIC UTILITY DEPARTMENT

WASTEWATER TREATMENT PLANT EXPANSION

Dudek & Associates, Inc. - January 14, 1999

ITEM	**TOTAL**
GENERAL MISCELLANEOUS ITEMS	*$672,600*
HEADWORKS	*$197,800*
NEW INFLUENT PUMP STATION	*$432,600*
RAS/WAS PUMP STATION	*$165,100*
OXIDATION DITCH	*$592,400*
CLARIFIERS	*$277,600*
CHLORINE DISINFECTION & EFFLUENT OUTFALL	*$279,800*
SLUDGE DRYING BEDS	*$197,500*
CONSTRUCTION COST SUBTOTAL (BID ESTIMATE)	*$2,815,400*
SWRCB SCG ALLOWANCES PER 5/5/98 **100% SUBMITTAL** **CONSTRUCTION ESTIMATE OF:**	*$2,783,800*
Planning (3.3%)	*$91,000*
Engineering Design (5.8%)	*$161,400*
SWRCB SCG ALLOWANCES PER 1/14/99 UPDATE **CONSTRUCTION ESTIMATE OF:**	*$2,815,400*
Construction Management (9.2%)	*$259,100*
Administration, Legal (0.9%)	*$25,300*
Start-Up Services (0.4%)	*$11,600*
GRANT ALLOWANCES SUBTOTAL	*$548,400*
BOND FEES	*$20,000*
TOTAL CONSTRUCTION AND ALLOWANCES	*$3,383,800*
1. NOTE: ALL SWRCB SCG ALLOWANCES WILL BE ADJUSTED BASED ON ACTUAL BID AWARD	

TABLE 1-3

FUNDING SCHEME PROPOSED BY THE NORT AMERICAN DEVELOPMENT BANK

Available Funding	Amount ($)	% of Total
USDA Loan	**$772,500**	**22.8**
USDA Grant (Total)	**$1,599,512**	**47.3**
State Grant (Regional Board)	**$211,788**	**6.3**
Proposed BEIF	**$800,000**	**23.6**
TOTAL	**$3,383,000**	**100%**

In order to comply with the BECC certification requirement for public participation, a Public Participation Plan was prepared on December 17, 1998. As part of this plan, a Steering Committee was formed to implement the plan, which included, among other things, two steering committee meetings and the dissemination of project information on a door-to-door basis. Several local organizations were consulted by the Steering Committee to distribute information and muster support for the project.

Two public meetings were conducted, as required by BECC. The first public meeting was held on January 12th at 6:00 PM at the Heber Elementary School. The second public meeting took place on January 28th to present the NADB financial analysis. Approximately 35 residents attended the first meeting. Citizen concerns centered on the financial aspects of the project. During the second meeting, the project cost and the financial scheme were presented to the public. The public presented ample support for the project, as described in the Public Participation section.

The project is consistent with BECC's definition of sustainable development: "conservation oriented social and economic development that emphasizes the protection and sustainable use of resources, while addressing both current and future needs, and present and future impacts of human actions." All environmental parameters have been met and the increase in water use and discharge is consistent with local planning documents. The expansion and upgrade of the existing wastewater treatment plant requires little in the way of increased institutional capacity, as the proposed technology is the same as that being used today. As a complement to this project, both NADB and BECC are providing technical assistance funds to enhance the institutional capacity of HPUD.

The project complies with all environmental regulations and is consistent with general plan designations or zoning.

SECTION 2 - GENERAL PROJECT DESCRIPTION

PROJECT TYPE

Public Sector - Wastewater Treatment Plant Expansion: This project consists of the expansion of an existing activated sludge wastewater treatment plant, which is one of the BECC priority areas.

PROJECT TITLE

Heber Wastewater Treatment Plant Expansion Project

PRIMARY APPLICANT INFORMATION

- **Name of Organization: Heber Public Utility District**
- **Name of Contact Person: Steve Hogan - General Manager**
- **Address: 1085 Ingram Avenue (P.O. Box H)**

Heber, CA 92249

- **Phone Number: (760) 353-0323**
- **FAX: (760) 353-9951**
- **e-mail Address:** *shogan@icoe.k12.ca.us*

PROJECT LOCATION

Project Location: California, U.S.A

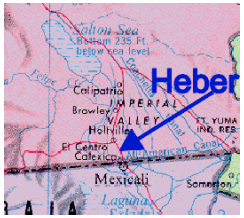
Site Location: Rural Area

Description of Project Location

The project is located in the township of Heber, California, which is located on Highway 86, approximately 5 miles north of the United States/Mexico border, in southern California. The treatment plant is located on an 8.7 acre site on Rockwood Avenue, in the NW ¼ of the NE ¼ of Section 28, T16S, R14E. Location maps are shown by Figure 2-1.

FIGURE 2-1

PROJECT LOCATION MAP



The topography of the land is extremely flat, sloping approximately five feet per mile to the northwest. The elevation of the surrounding area is at or below sea level. Rainfall totals approximately 3 inches per year. Temperatures vary from the nineties to low one hundreds in the summer (with some days exceeding 120 degrees) to the low 40s in the winter.

The area of impact of this treatment plant expansion is the township of Heber. The surrounding sphere of influence will not be significantly impacted due to the few collection and distribution lines in the area. Although a likely future occurrence, as Heber expands into the sphere of influence, the surrounding area could contribute flows to the treatment plant, which are included in the overall design by virtue of the population projections used in the plant's design.

Suitability of Proposed Site

The site of the proposed plant expansion is ideally suited for this purpose. Sufficient space for this plant expansion exists within the boundaries of the existing facility, as noted on the final construction plans (Appendix C), to accommodate all of the additional treatment units required. This plant site has been in use for over 20 years and continued utilization of this type will not adversely affect the surrounding area.

PROJECT DESCRIPTION AND WORK TASKS

The Heber Public Utility District is proposing improvements to the District's Wastewater Treatment Plant. These improvements, in the form of expansion of the existing facility, are aimed at addressing deficiencies noted by the regulatory agencies that permit this Utility District. The proposed expansion project is designed to accommodate the anticipated growth of the HPUD through the year 2010. The capacity of the treatment facility will be expanded from 405,000 to 810,000 gallons per day.

The project is to be completed in a single phase, with construction activities taking place within the confines of the existing plant site. As noted earlier, the expansion consists of the addition of a second concrete oxidation ditch, two final clarifiers, improvements to the sludge drying bed decant system and a chemical disinfection system for the treated effluent. A half-sized set of 100% complete construction plans is included in Appendix C. A complete set of specifications is available upon request, but is not included herein.

Project Description

The primary human health and environmental issue to be resolved is the potential discharge of less than optimal effluent as a result of an overload of the treatment facility. The proposed expansion will double the extended aeration treatment facility currently in place. The proposed technology (i.e. oxidation ditch) is well developed and suited for Heber. The scope of the project involves the construction of an oxidation ditch identical to that currently in operation at the plant. Additional work items include improvements to the headworks, additional pumping capacity, two new clarifiers, improved sludge drying, larger discharge lines and a disinfection system. Table 2-1 presents a reasonable time schedule for the construction of the proposed project. It is important to point out that this schedule does not comply with the timeline mandated by Imperial County, whose dates are past due.

TABLE 2-1

PROPOSED TIME SCHEDULE

TASK	BEGIN	COMPLETION
Start Engineering work for expansion of treatment plant	*February 1, 1998*	*December 30, 1998*
Bidding	*July 1, 1999*	*August 15, 1999*
Construction	*September 1, 1999*	*September 1, 2000*
NPDES Permit Completion	*September 1, 2000*	*January 1, 2001*

DESCRIPTION OF THE COMMUNITY

Demographic Information

As noted by the Facility Plan, Heber is located within Census Tract 113, which is rural and primarily agricultural. The township of Heber itself covers approximately 800 acres, which is the service area of the existing system. According to the Census, Tract 113 had a population of 5,359 persons in 1990, while the Heber townsite had a population of 2,566. The population of Heber represented 47.9% of the total population of Tract 113. The population of Heber is currently estimated at 3,426 persons. The Community Economic Profile and the 1990 Census data are included in Appendix D.

Given that the 1990 Census is the most recent available, population projections were based on the Southern California Association of Governments (SCAG) figures, which have been projected for Tract 113 through the year 2020. These population projections were utilized in the Facility Plan by assuming that the percentage of people of the tract living in Heber remains constant.

The population projections presented by SCAG for Tract 113 result in an estimate of 3,426 people for Heber in 1998, assuming the population of Heber corrsponds to 47.9% of the census tract population. Similarly, the population projections from SCAG were used to estimate Heber's future population, as presented in Table 2-2.

A demographic analysis was also included in the HPUD Master Plan (1997). This Master Plan examined the 800-acre service area for single and multi-family residential development and for commercial, institutional and industrial development, with estimated infiltration/inflow (I/I) flows included. This information is presented below in Table 2-3.

As noted by the Facility Plan, the additional equivalent population for the remaining 240 acres of institutional, industrial and commercial developments is assumed to already be included in the base population estimates.

LOCAL ENVIRONMENTAL SERVICES

Water and wastewater service availability and supply are provided for nearly 100% of the community of Heber. These services are provided 24 hours per day.

TABLE 2-2

SUMMARY OF ULTIMATE POPULATION PROJECTIONS

TOWNSITE OF HEBER

BASED ON SOUTHERN CALIFORNIA AREA GOVERNMENTS (SCAG) DATA

FOR CENSUS TRACT 113

YEAR	CT 113 SCAG PROJECTIONS			HEBER		HEBER POPULATION PROJECTION	
	POPULATION	HOUSEHOLDS	PERSONS PER HOUSE	1990 CENSUS POPULATION	# SEWER CONNECTS	HEBER % OF CT 113	PRORATED/ PROJECTED @ 47.88% OF CT 113 (1)
1990	*5359*	*NA*	*NA*	*2566*	*NA*	*47.88%*	*2,566*
1994	*NA*	*1330*	*NA*	*NA*	*650*	*47.88%*	*2,996*
1997	*NA*	*NA*	*NA*	*NA*	*NA*	*47.88%*	*3,318*
1998	*NA*	*NA*	*NA*	*NA*	*680*	*47.88%*	*3,426*
2000	*7604*	*1769*	*4.3*	*NA*	*NA*	*47.88%*	*3,641*
2010	*13395*	*3016*	*4.4*	*NA*	*NA*	*47.88%*	*6,414*
2020	*20647*	*4729*	*4.4*	*NA*	*NA*	*47.88%*	*9,886*

*** Data taken from Dudek & Associates' WWTP Facility Plan - April 15, 1998*

TABLE 2-3

SUMMARY OF ULTIMATE LAND USE, EQUIVALENT POPULATION, AND

PROJECTED FLOW

TOWNSHIP OF HEBER. CALIFORNIA

BASED ON ACREAGE AND DENSITY ESTIMATES FROM

HEBER PUBLIC UTILITY DISTRICT WATER/SEWAGE MASTER PLAN

(December 8, 1997)

Land Use	% of Urban Area	Acres	Projected Density Pers./Ac	Assumed Ultimate Percent Developed	Ultimate Number Persons (1)	Average Flow (gpcd) (2)	Avg. Flow gpd	Peak Factor	Pk. Hour Dry Weather Flow
Single Family Residential	*65.00%*	*520*	*16*	*67.00%*	*5,574*	*120*	*668,928*	*See Total Below*	

Multi Family Residential	*5.00%*	*40*	*64*	*67.00%*	*1,715*	*120*	*205,824*	*See Total Below*	
Subtotals:		*560*			*7,290 (1)*		*874,752*		
Commercial, Institutional, Industrial	*30.00%*	*240*	*40*	*67.00%*	*6,432*	*40*	*257,280*	*See Total Below*	
Est. 1 & 1 *(25% of above contribution)*	*NA*	*NA*	*NA*	*NA*	*NA*	*25%*	*283,008*	*See Total Below*	
Subtotals:		*240*			*6,432*		*540,288*	*See Total Below*	
TOTALS:		*800*					*1,415,040*	*1.79*	*1,760 gpm*

*** Data taken from the Master Plan Document (Waddell Engineers) and the Facility Plan (Dudek & Associates).*

Of the 800 acres within the service area, 520 acres was assumed to be developed as single-family homes with a population density of 16 persons per acre. Multi-family housing was set at 40 acres with a density of 64 persons per acre. This yields a projected ultimate population 10,880 at full development, as compared to the SCAG 2020 projected ultimate population of 9,886 persons for Heber.

PROJECT ALTERNATIVES

Evaluation of treatment alternatives is detailed in the Facility Planning Document prepared by Dudek & Associates (Section 6.5 of Appendix A). The alternatives examined included:

- *Overloading the Existing Wastewater Treatment Plant*
- *Expanding the Existing Wastewater Treatment Plant*
- *Disinfection Alternatives*
- *"No Project" Alternative*

Option 1 - Overloading the Existing Treatment Plant

WWTPs can usually receive up to a 125% of their design capacity. This alternative evaluates the potential for re-grading the plant to obtain a new discharge permit. This option is not considered viable, as the hydraulically overloaded condition of the current plant is the driving force behind this entire improvement process. This alternative would allow the continued, and increasing, overload of each of the unit processes within the treatment train and would increase the rate at which the treatment plant would reach failure. As Heber continues to grow, the overload condition will simply worsen to the point of creating a greater health and environmental hazard in the area.

Option 2 - Expanding the Existing Wastewater Treatment Plant

The HPUD Master Plan (Appendix E) compiled by Waddell Engineering, recommends that the expansion of the existing wastewater plant be accomplished by the addition of a second oxidation ditch. The existing oxidation ditch system is in relatively good condition and, considering the biological loadings it receives, produces a high quality effluent. This plant has operated well for nearly 20 years and the HPUD personnel assigned to it are familiar with its requirements.

It is standard engineering practice to increase the capacity of a treatment plant by doubling the treatment units being used in the process. This practice of "mirroring" the type of plant currently in use is especially efficient if adequate space is available for the units and the infrastructure piping to connect the two treatment trains is already in place.

Other extended aeration options, such as rectangular basins equipped with diffused air systems, would be very difficult to operate properly in conjunction with the existing oxidation ditch. Overall effluent quality would likely suffer if two different treatment methods were employed within the same plant.

This oxidation ditch expansion option will allow increases in the wastewater influent flow rates until approximately the year 2010 as population grows. This upgrade will simultaneously double the hydraulic and biological capacity of the treatment system and will increase the capacity of the headworks.

Furthermore, the addition of a chlorination/dechlorination disinfection system will help reduce the health and environmental impact of the effluent produced by the plant. Other improvements anticipated include increasing the size of the discharge line to the receiving watercourse. These changes will help Heber to continue to operate this system as efficiently as possible for the next 10 to 12 years.

Option 3 - Disinfection Alternatives

The facility plan evaluates the feasibility of including a disinfection unit process as part of the proposed modification. The evaluation considered disinfection by means of ultraviolet light (UV), liquid sodium hypochloride, and gaseous chlorine, the latter followed by dechlorination to reduce the toxicity of the effluent. Gaseous chlorine was selected as the most appropriate dissinfection alternative for the conditions of the site and the expected quality of the clarifiers effluent.

Option 4 - "No Project" Alternative

One option would be to take no action whatsoever and allow the treatment plant to be continually overloaded, both hydraulically and organically. This will not address any of the issues associated with this project, so selection of the "No Project" alternative is simply not feasible.

As noted by both the Facility Plan for the Wastewater Plant and the HPUD Master Plan, the existing plant is at its maximum capacity and cannot accommodate additional flows. The plant does not meet its discharge permit requirements and the current condition of several units within the treatment plant indicates major repairs are needed. Therefore, the "No Project" alternative is rejected.

Moreover, on May 27, 1998, the Regional Board passed Resolution No. 98-027 mandating the expansion, repair and replacement of the wastewater treatment facility. This resolution can be found in Appendix B.

PROJECT JUSTIFICATION

As noted above, the existing wastewater treatment plant is currently hydraulically overloaded. At the direction of the SRWQCB and the Imperial County Health Board, the HPUD has been ordered to bring their treatment plant into compliance. As noted by the Health Board, a pollution problem exists at the current facility and, as such, poses a health risk to the human health and well being of the inhabitants. Additional impetus to the expansion is the anticipated growth of Heber and the surrounding area encompassed by its sphere of influence. Finally, it is expected that the new discharge permit will include disinfection requirements, which would be met by the proposed chlorination/dechlorination facilities.

The expansion of the existing wastewater treatment plant, as described above, is the best solution to this problem, as it is the most cost-effective option and eliminates the problems that must be addressed, as indicated by the regulatory agencies.

CONFORMANCE WITH INTERNATIONAL TREATIES AND AGREEMENTS

It is not anticipated that this treatment plant expansion project will affect any international treaties or agreements with Mexico. All discharges will be maintained exclusively within U.S. territory and hence will not impact Mexico.

SECTION 3 - HUMAN HEALTH AND ENVIRONMENT

Human Health and Environmental Need

This project will double the capacity of an overloaded wastewater treatment plant located in the township of Heber. According to the Facility Plan (Appendix A) there are several problems associated with the plant's inability to handle the organic and hydraulic loadings it currently receives.

These problems include:

- *Continued violation of the plant's NPDES permit.*
- *Stated health concerns of the Imperial County Health Department*
- *The influent pipe into the plant is undersized.*
- *Solids collected at the headworks must be manually removed if the single comminutor is out of service.*
- *The oxidation ditch is overloaded, from both a hydraulic and organic point of view.*
- *The clarifiers are hydraulically overloaded.*
- *The skimmers on the clarifiers are in disrepair, which exacerbates the scum buildup problem on the units.*
- *Ineffective sludge drying bed operation.*
- *No disinfection process is in place.*
- *The effluent pipe is undersized for the existing hydraulic loadings.*
- *During periods of heavy rains, the effluent pipe is occasionally submerged. Discharge from the treatment plant is not possible during these periods.*

During periods of high wastewater flows, the undersized influent line is surcharged, backing sewage up into the collection system and possibly into nearby homes, creating a health hazard. Manual collection of the solids from the screening at the headworks, during those times when the comminutor (which has no backup) is out of service, means that the plant operator must descend into the screen chamber with a rake, shovel and bucket to collect the screenings.

Overloaded treatment units increase the risks to the public health and contamination of the water supply of any downstream users due to incomplete treatment of the wastewater. Hydraulic and/or organic loadings that exceed the design parameters for a system reduce the mean cell residence time within the treatment unit. Therefore, the wastewater is not thoroughly treated prior to its discharge. The collected sludge is also not as well treated and tends to be more odiferous when spread on the drying beds. Improperly aged sludge tends to create additional treatment problems within the clarification units and can harbor greater concentrations of dangerous bacteria.

Incompletely treated wastewater coupled with improperly aged sludge can pose both health and environmental hazards. The discharged waters do not meet permit requirements and will eventually lead to further degradation of the water quality of the receiving. Continued exposure of plant personnel to raw and/or incompletely treated sewage increases the risk of health problems. Raw sewage backing up into residential and/or commercial units near the treatment plant creates an obvious health concern for the residents of the units. Putrescible sludge increases noxious odors in the vicinity of the plant and the likelihood of vectors in and around the sludge drying beds.

Improvements to the treatment plant will increase the level of protection around the plant from both an environmental and a health standpoint. Upgrading the influent pipe to the headworks will eliminate the surcharge condition of the line during periods of high flows. This will subsequently eliminate the risks associated with raw sewage entering residential or commercial units near the plant or overflowing from manholes near the plant.

Improvements to the screening equipment should virtually eliminate the manual cleaning of the bar rack by the operator. With two comminutors in operation, one as a backup, the odds of both units being down for service simultaneously are significantly reduced. Improvements to the treatment equipment, such as adding a second oxidation ditch and additional clarifiers, will eliminate the hydraulic overload condition of the treatment plant, thus allowing the system to adequately treat the waste prior to its discharge.

The addition of a disinfection unit process will increase the quality of the finished water and reduce the risk of water borne pathogens entering the receiving stream. The plant upgrades include the addition of a dechlorination process by means of sulfur dioxide to reduce the formation of trihalomethanes (THM) in the effluent. THMs are suspected carcinogens and would contribute to the health and environmental hazards within the receiving stream if their formation is not precluded.

Retaining the solids within the oxidation ditch long enough to allow a complete breakdown will yield a more stable sludge that will settle better and be less noxious. Improvements to the sludge drying beds will increase their efficiency and reduce the holding times of the sludge collected from the clarifiers.

Improvements to the discharge piping will allow the discharge of the treated effluent during wet weather flows, thus eliminating the need to hold treated wastewater within the system and surcharging the collection system with raw influent upstream of the plant.

As noted in the Facility Plan, other benefits from this project include:

- *Compliance with current NPDES requirements.*
- *Provides the Heber PUD with a projected twelve-year treatment and disposal capacity.*
- *Provides a plant that is similar to the existing facility, thus easing the operations personnel's learning curve for the new facility.*
- *Future expandability for capacity and reclamation facilities.*
- *The ability to sequence the project so that the existing plant can remain in operation during construction of the new plant.*
- *Increased reliability of the system.*
- *Long service life expected for the facility.*
- *The ability to expand the plant on the existing site.*

ENVIRONMENTAL ASSESSMENT

Plant improvements such as those proposed for Heber generally require the completion of the environmental documentation necessary to comply with the California Environmental Quality Act (CEQA) at the state level, and the National Environmental Policy Act (NEPA) at the federal level. Two environmental documents have been completed to satisfy the above requirements. The document entitled "Mitigated Negative Declaration for Wastewater Treatment Plant Expansion and Upgrade – Heber, California," was submitted on April 20, 1998 and complies with the CEQA requirements. An Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) were issued by EPA on January 29, 1999 to satisfy NEPA requirements. These three documents are included in Appendix F. The FONSI is currently undergoing a 30-day public comment period (from February 1st to March 2nd), after which EPA must address all comments before publication of the final FONSI.

Both the CEQA and the NEPA process identify three environmental impacts associated with this project. Although none of them is considered to be significant. Furthermore, mitigation measures have identified and will be provided.

Seismicity

The identified concern is that strong earth shaking could damage the treatment plant facilities. The mitigation efforts involve:

- *Incorporating the Uniform Building Code requirements for the zone into the treatment plant plans and specifications.*
- *Submitting the geotechnical studies for the treatment plant to the Imperial County Planning and Public Works Department for review and approval.*

Sensitive Species

According to the report, "The borrowing owl is a state and federal species of concern and is considered protected under the Migratory Bird Treaty Act of 1918 and by Fish and Game Codes protecting native species." At the time of the environmental evaluation, it was noted that one pair of burrowing owls nests within the plant's boundary.

According to the Mitigation Monitoring and Reporting Plan, which is also included in Appendix F, the following mitigation measures will be taken:

- *The project plans and specifications shall state that ground disturbance activities at the site of the plant will take place outside of the burrowing owl's nesting season in the Imperial Valley. Construction activities will begin after August 1 and be completed by February 20, unless the owls have been relocated. Relocation will have to occur between August and February.*
- *The one pair of owls will be excluded from their active burrow after the young have fledged in August. This will be accomplished by installing one-way door traps on the burrow and then filling in the site once all owls are excluded, or by trapping the owls.*
- *One artificial burrow will be provided for the owls.*

Hazardous Materials

The expanded facility will utilize chlorine gas for disinfection and sulfur dioxide for dechlorination. Both gases are toxic, although the quantities of sulfur dioxide required to reach a toxic level are higher. With either gas, however, there is a possibility of release.

The following mitigation measures will be taken:

- *The design will incorporate the procedures of the County Fire Department, the Chlorine Institute, and OSHA with regard to the safe handling, transport, storage and use of gaseous chlorine and sulfur dioxide.*
- *Plant operations personnel will be trained in the storage and use of chlorine and sulfur dioxide.*
- *The Fire Marshall may require the development of a Risk Management Prevention Plan.*

TRANSBOUNDARY ASPECTS

The project is not believed to involve any negative transboundary environmental impacts and will contribute to a reduction of the potential health risks associated with an overloaded wastewater treatment plant. The discharge from this facility flows to the Salton Sea via the Alamo River, all of which lies within the U.S. boundary.

COMPLIANCE WITH APPLICABLE ENVIRONMENTAL AND CULTURAL RESOURCE LAWS AND REGULATIONS

Environmental Laws and Regulations

Regulatory Agencies with jurisdiction over the HPUD Wastewater Treatment Facility:

- *State Regional Water Quality Control Board*

This agency has reviewed and commented on the proposed wastewater treatment plant design (at 100% completion) and its impact on the community, the local environment and the human health of the surrounding area. The design engineers' response to these comments is included in Appendix B.

The Heber Public Utility Department currently holds the following permit:

- *National Pollution Discharge Elimination System –*

  Wastewater Treatment Plant Discharge Permit No. 95-045

A copy of the current discharge permit is in Appendix G. This permit is due for renewal at the end of 1999. At that time, the SRWQB will review the discharge parameters currently in place prior to the issuance of a new permit. In addition to the existing discharge parameters, this new permit will contain provisions for disinfection of the treated effluent prior to its discharge.

The existing environmental permit currently in force for this facility will apply, with modifications for flow and disinfection requirements, for the new, upgraded plant. The current permit expires at the end of 1999. It is anticipated that an interim permit will be issued to the HPUD until such time as the new plant can be constructed and brought on line. At that time, the final permit will be issued. Table 3-1 compares the existing permit parameters with the expected interim limits.

TABLE 3-1

EFFLUENT LIMITATIONS

		EXISTING LIMITS			INTERIM LIMITS		
Constituent Maximum	Unit	30-Day Arithmetic Mean Discharge Rate[1]	7-Day Arithmetic Mean Discharge Rate[2]	Daily	30-Day Arithmetic Mean Discharge Rate[1]	7-Day Arithmetic Mean Discharge Rate[2]	Daily
20°C BOD_5	mg/L[3]	30	45	-----	30	45	-----
Total Suspended Solids	mg/L	30	45	-----	30	45	-----
Settleable Matter	mL/L	0.3	0.5	-----	0.3	0.5	-----
Total Dissolved Solids	mg/L	4,000	4,500	-----	4,000	4,500	-----
Fecal Coliform	MPN/100mL	N/A	N/A	N/A	200	N/A	400
Residual Chlorine	mg/L	N/A	N/A	-----	0.01		0.02
Flow	Mgd	N/A	N/A	-----			0.810

[1]30-Day Mean - The arithmetic mean of pollutant parameter values of samples collected in a period of 30 consecutive days.

[2]7-Day Mean - The arithmetic mean of pollutant values of samples collected in a period of 7 consecutive days.

[3]mg/L - milligrams-per-Liter

mL/L - milliliters-per-Liter

The contact for this agency is:

Mr. Darrin Polhemus

State Water Resources Control Board

Division of Clean Water Programs

2014 T Street, Suite 130

Sacramento, CA 95814

Phone: (916) 227-4573

Facsimile: (916) 227-4349

Archaeological and Cultural Resources Laws and Regulations

An archaeological record search was performed in March 1998 for the treatment plant site and lands within a half-mile radius by the Southeast Information Center, Imperial Valley College Museum, Ocotillo, CA, the regional clearinghouse under the State Historic Preservation Office (SHPO) for Imperial County cultural resources records. The search identified no archeological or historic resources on the site, but identified the railroad tracks to the west of the site, which are considered historic (over 45 years old), but will not be affected by the proposed project. These findings were documented in a letter dated March 9, 1998 issued by SHPO.

Additionally, the applicant contacted the Native American Heritage Commission for a list of tribes whose lands might be affected by the project. There are tribes in the County with land holdings along the Colorado River, but these are too distant to be affected by the project.

SECTION 4 - TECHNICAL FEASIBILITY

APPROPRIATE TECHNOLOGY

The alternative analysis indicates that the expansion of this wastewater treatment facility is best accomplished by the installation of a second oxidation ditch, new clarifiers, improved headworks and influent and effluent piping. The final engineering design has been completed and is essentially ready to be advertised for construction bids. Figure 4-1 presents the layout of the proposed plant expansion.

The existing 405,000 gallons per day system was installed originally with the intent of doubling the flow by adding a second treatment train similar to the original. The existing plant site has sufficient room to expand with a second oxidation ditch. Other improvements include new RAS/WAS pumps, a disinfection system, headworks upgrades as well as influent and effluent piping work, clarifier and sludge drying bed improvements.

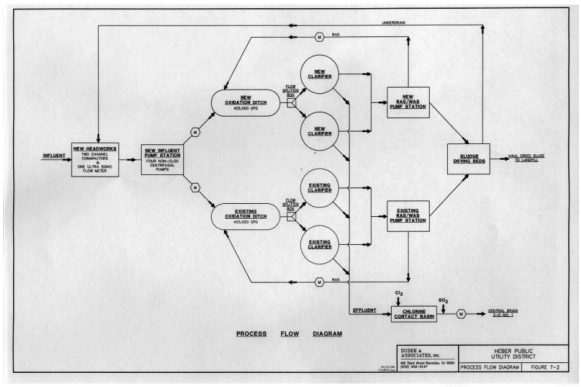
The purpose of this project is to correct the deficiencies identified by the SWRCB and the Imperial County Health Board related to the current system overload condition. This will improve the quality of the discharged effluent from the plant, which will subsequently improve the quality of the water in the receiving stream.

The technology proposed for use in this project is identical to the treatment system that has been used by the HPUD for the past 18 years. The current operating staff is extremely familiar with the operation and control of this type of plant. The addition of a chlorination/dechlorination system for disinfection of the treated effluent is the only new technology anticipated for this plant upgrade. However, this is a relatively simple treatment unit to operate and it is anticipated that the current plant personnel will acquire the necessary skills to do so with a minimum of training. Additionally, this disinfection alternative requires less maintenance that the UV disifection alternative and is more effective for the expected clarifier effluent quality. Disinfection by means of liquid sodium hypochloride presents less risks that chlorine disinfection, but at a much higher cost.

Final engineering design plans are included in Appendix C. A complete discussion of the technical aspects of the project is included in the Facility Plan (Appendix A). The quantity and quality of the influent and effluent wastewater is presented in Tables 6-2 and 6-3 of the Facility Plan. The projection of wastewater volume for the life of the project is detailed in Table 5-2 of the Facility Plan. The proposed treatment system will be capable of handling 810,000 gallons per day ADWF.

FIGURE 4-1

PROPOSED TREATMENT PLANT LAYOUT



The wastewater composition is primarily residential in nature and thus industrial wastewater flows are not considered significant for this project. Hence, industrial pretreatment should be addressed as part of a separate project. The sludge is dried on beds and periodically removed by a contractor for proper disposal outside the service area. Infiltration/inflow of extraneous water into the wastewater collection system is not considered a problem within the Heber system and is therefore not addressed or mitigated to any degree by this project.

As stated above, the technology currently in use at Heber, which is identical to that proposed for the plant upgrade, is extremely well recognized as a conventional treatment method and well suited for this application. It is effective in treating the types of wastewaters generated within the Heber service area and is appropriate for use by the HPUD. The plant personnel are very familiar with the operation of an extended aeration oxidation ditch and its equipment's operation and maintenance requirements.

The improvements to the sludge drying beds includes the addition of a supernatant decant box and piping to a line draining to the headworks, as well as replacement of the concrete lining with sand lining, which would improve the drying capabilities. The addition of the chlorination/ dechlorination system will enable the plant operator to disinfect the treated effluent prior to its discharge to the receiving stream. This will lower the coliform levels in the effluent as well as remove the chlorine from the wastewater prior to its discharge.

OPERATION AND MAINTENANCE PLAN

The operation and maintenance (O&M) manual will be prepared by the design engineer upon the completion of the construction of the plant. Development of the manual is not possible at this time since the as-built equipment needs to be known. Nonetheless, this section discusses in some detail the elements that must be included in the manual. This manual will include data on each of the treatment process units and their operation and maintenance. Also included in this effort will be plant personnel training as required to ensure the system is operated properly and as designed.

The operation and maintenance plan for the wastewater treatment plant at Heber will be similar to that already operated by the Utility's personnel. This plant expansion effectively doubles the existing facility and uses equipment that, while not necessarily identical, is very similar in nature and operation to the existing one.

Over the past several years, the wastewater plant was not well maintained. This lack of constant attention gave rise to several issues that required attention. An intensified maintenance program was put into place in late 1997 with the hiring of the current general manager. This program originally focused on correcting the most critical items within the plant itself. However, as those items have been addressed, the focus has shifted toward the operation of the facility and the on-going, long-term maintenance of the system components.

Operation and maintenance manuals for each piece of equipment are maintained at the plant site. These manuals contain the specifications and cut sheet drawings for each system component. Additional information includes maintenance schedules for each item and a replacement parts list. The manuals contain a schedule for equipment checkups and routing maintenance that is followed by each operator.

Start-up Operation Plan

Traditionally, both the contractor and the equipment supplier conduct the initial start-up of plant equipment. This helps to ensure that the equipment is installed correctly and that starting the equipment improperly does not void the product warranty. This procedure helps protect the Owner (HPUD) from claims by the manufacturer that the equipment was not installed or started up properly.

The design engineer will submit detailed information on each piece of equipment chosen for this project for review. This will be done in the form of shop drawings and will determine if the equipment meets the requirements of the specifications. Equipment that does not meet the specifications is rejected and the contractor is required to submit a suitable unit.

Although some defects in the equipment may not be detected during the shop drawing review phase of the construction project, the start-up phase will be used to identify such deficiencies. If the equipment fails to operate properly either at start-up or during the warranty period, the manufacturer and the contractor will be responsible for removing and replacing the equipment with a satisfactory unit. This work is normally undertaken at no additional cost to the Owner.

If the warranty period has expired for a particular piece of equipment, it is normally the responsibility of the Owner to arrange for its repair and/or replacement, including the costs associated with removing the unit from service.

The construction of the new plant and the equipment installation is to be accomplished while the existing plant remains in operation. Prior to the initiation of the construction activities, the contractor will submit a sequencing plan to the District for its approval. This plan will account for the continued operation of the current treatment facility and will address the environmental concerns of the construction, such as the protection and/or relocation of the burrowing owls that nest at the plant site.

Contingency Plan

The contractor will be required to submit an emergency response and contingency plan upon the issuance of contract award notice. This plan will detail actions to be taken should an emergency arise during the construction or start-up of the plant. This plan will include emergency numbers, contact personnel, and evacuation procedures.

This information will be updated and maintained by HPUD after construction and start-up is completed so that should an emergency occur during normal operation, a response plan is in place and can be implemented quickly. The plant operations personnel will be trained in emergency response procedures.

Safety Plan

An operational safety program will be developed and implemented for use by all District personnel involved with plant operation or maintenance. This plan will be reviewed periodically for relevance and updated as required for currency. Necessary safety equipment will be obtained and maintained at the plant site for use by the operators.

Quality Assurance Plan

The primary course to ensure that the quality of the project's output meets the predetermined standards is to review the engineering design. This review would focus on the type of treatment system proposed and the determination that the design is based on generally accepted engineering criteria. The responsibility for this determination lies with the design engineer on the project. As the proposed plant is a "mirror-image" of an existing facility that has operated well for over 18 years, it is reasonable to assume that the new facility, which is based on widely applied technology that has been proven over the years, will operate as well.

Pollution Prevention Plan

The only materials normally stored at the plant that could be considered a pollutant would be the chlorine and sulfur dioxide gases used in the disinfection process. These gases are stored in 150-lb cylinders in the chlorine room as shown on the Plans in Appendix C. Any concentration of gases that could cause a hazard to the plant operator will trigger an alarm condition within the storage room.

Should a leak occur the ventilation fans located within the storage rooms would operate as designed to dispel the concentrated gases. Given the quantity of gas contained by the cylinders, once the gases are vented to the outside atmosphere, they should disperse with little risk to the surrounding population. In the event of any type of release, the safety plan outlined above will be implemented and the applicable contingency plan will be activated.

COMPLIANCE WITH APPLICABLE DESIGN REGULATIONS AND STANDARDS

The following requirements are being met.

- *CEQA Environmental Assessment – Included in Appendix F.*
- *NPDES Discharge Permit – Will be submitted for approval by December 1999. Copies of the existing and proposed interim permits are included in Appendix G.*
- *The Regional Water Board has reviewed both the Facility Plan and the final Plans and Specifications for this project. These comments have been addressed as part of the final design by the engineer.*

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SECTION 5 - FINANCIAL FEASIBILITY AND PROJECT MANAGEMENT

FINANCIAL FEASIBILITY

This section presents the financial considerations of the proposed project, such as estimated construction and operation and maintenance (O&M) costs, available funds, and the financial scheme proposed by the NADB based on the financial evaluation performed by this institution.

The estimated construction cost of the proposed project, as revised by the design engineer on January 14, 1999, is US$3,383,800 (see Table 5-1). In addition to the construction cost, the proposed project will result in an increase in the annual operation and maintenance (O&M) cost of the plant. The current O&M cost, for and average daily flow of 0.405 mgd, is $76,900. The estimated annual O&M cost of the expanded 0.805 mgd plant has been estimated at $138,200 one year after expansion, with further flow-dependent increments to reach $159,200 at build-out (see Table 5-2).

Financial Statements - Historical

Audited financial statements for the past nine years (1990-1998) are submitted in Appendix H. As required, each statement contains a balance sheet, income statement, statements of the sources and uses of the funds collected as well as the auditor's report.

Financial Statements - Pro Forma

Pro forma financial statements with income projections are submitted in Appendix I - Section 1. The statements reflect constant values and includes a source and use statement.

Financial Structure of the Project

The NADB has performed a financial evaluation to determine the financial feasibility of the project. This analysis will determine what level of grants and loans the district can receive from this institution and what the impact of the proposed project on user fees would be under different grant/loan arrangements, as described below. The findings of the analysis were presented to the community during the second public participation meeting on January 28th, 1999.

The U.S. Department of Agriculture/Rural Development (USDA/RD) has committed funds in the form of grants and loans for the construction of the project. These funds amount to up to $1,572,500 in loans and $1,869,500 in grants ($384,000 of which are under the colonias program). Of the total loan amount, $236,000 must be utilized to refinance existing debt, and thus are not applicable towards this project, leaving a total of $1,336,500 available as loans. Additionally, a grant has been committed by the Regional Board in the amount of $211,788 for planning and engineering expenses.

TABLE 5-1

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS

HEBER PUBLIC UTILITY DEPARTMENT

WASTEWATER TREATMENT PLANT EXPANSION

Dudek & Associates, Inc. - January 14, 1999

ITEM	**TOTAL**
GENERAL MISCELLANEOUS ITEMS	*$672,600*
HEADWORKS	*$197,800*
NEW INFLUENT PUMP STATION	*$432,600*
RAS/WAS PUMP STATION	*$165,100*
OXIDATION DITCH	*$592,400*
CLARIFIERS	*$277,600*
CHLORINE DISINFECTION & EFFLUENT OUTFALL	*$279,800*
SLUDGE DRYING BEDS	*$197,500*
CONSTRUCTION COST SUBTOTAL (BID ESTIMATE)	*$2,815,400*
SWRCB SCG ALLOWANCES PER 5/5/98 **100% SUBMITTAL** **CONSTRUCTION ESTIMATE OF:**	*$2,783,800*
Planning (3.3%)	*$91,000*
Engineering Design (5.8%)	*$161,400*
SWRCB SCG ALLOWANCES PER 1/14/99 UPDATE	*$2,815,400*

CONSTRUCTION ESTIMATE OF:	
Construction Management (9.2%)	*$259,100*
Administration, Legal (0.9%)	*$25,300*
Start-Up Services (0.4%)	*$11,600*
GRANT ALLOWANCES SUBTOTAL	*$548,400*
BOND FEES	*$20,000*
TOTAL CONSTRUCTION AND ALLOWANCES	*$3,383,800*

1. NOTE: ALL SWRCB SCG ALLOWANCES WILL BE ADJUSTED BASED ON ACTUAL BID AWARD

TABLE 5-2

PROBABLE OPERATION AND MAINTENANCE COSTS

MATERIALS, PARTS, CHEMICALS, POWER AND LABOR

Unit Process or Item	**Annual Cost**
ESTIMATED COST OF EXISTING 0.405 MGD PLANT	
Headworks	*$1,200*
Influent Pump Station	*$2,300*
Oxidation Ditch	*$1,600*
Clarifier	*$2,400*
RAS/WAS Pump Station	*$2,300*
Sludge Drying Beds	*$1,000*
Sludge Removal & Disposal	*$1,000*
Operator	*$33,600*
General and Administrative	*$6,500*
Chemicals	*$0*
Power @ 312,500 KW-HR/YR & $0.08/KW-HR	*$25,000*
TOTAL FOR EXISTING 0.405 MGD PLANT:	*$76,900*
ESTIMATED O&M COST FOR TOTAL PLANT AT 0.805MGD	
Headworks	*$2,400*
Influent Pump Station	*$4,600*
Oxidation Ditch	*$3,200*
Clarifier	*$4,800*

RAS/WAS Pump Station	*$4,600*
Disinfection System NIC Chemicals	*$3,000*
Sludge Drying Beds	*$2,000*
Sludge Removal & Disposal	*$1,000*
Operator	*$33,600*
General and Administrative	*$13,000*
Chemicals in Year 2008 for 0.810 mgd (1)	*$37,000*
Power @ 625,000 KW-HR/YR & $ 0.08/KW-HR)	*$50,000*
TOTAL FOR EXPANDED 0.810 MGD PLANT:	*Year 2008: $159,200*
	1st Yr. After Expan: $138,200

(1) Chemical cost for 1st year after expansion about $16,000 @ 0.405 mgd

As can be seen from the above discussion, $3,417,788 is available for the construction of the proposed project prior to any BEIF contributions, enough to cover the total cost of the project. However, NADB has analyzed the feasibility of reducing some of the USDA loan by providing BEIF grants, in order to make the project more feasible. It is important to point out that EPA must issue a letter of approval for the proposed BEIF prior to certification and once the final FONSI has been issued, which is expected to happen in early March, 1999. Table 5-3 below details the amounts of loan and/or grants as well as their terms and source.

TABLE 5-3

PROJECT FINANCIAL STRUCTURE

Source	Amount (US$)	% of Project Cost
Grants		
USDA	*1,599,512*	*47.3*
State (Regional Board)	*211,788*	*6.3*
BEIF (preliminary)	*800,000*	*23.6*
Subtotal	**2,611,300**	**77.2**
Loans		
USDA	*772,500*	*22.8*
Subtotal	**772,500**	**22.8**
TOTAL	**3,383,800**	**100.0**

In addition to BEIF construction assistance, NADB analyzed the possibility of providing HPUD with additional transition grant funds to allow for a gradual increase in rates over the next 7 years. The estimated increase in user rates once BEIF grants (construction and transition) are taken into consideration will be from the current $22.00 per month to approximately $27.40 over a seven year period. The corresponding average annual increase will be $0.90. Table 5-4 presents the total proposed BEIF contribution.

TABLE 5-4

PROPOSED BEIF CONTRIBUTIONS

BEIF GRANT FUNDS	AMOUNT (US$)
Construction Grants	*800,000*
Transition Grants	*200,000*
TOTAL	**1,000,000**

Capital Improvement Plan

The capital improvement plan consists exclusively of the wastewater treatment plant expansion. The total cost of the improvement plan is $3,383,300. An itemization of this cost is presented in Table 5-1.

Operations and Maintenance Budget – Historical

Copies of the most recent nine-year period (1990-1998) operation and maintenance budgets are presented in Appendix H.

Operations and Maintenance Budget – Pro Forma

The pro forma O&M budgets extending through the term of the loan are found in Appendix I – Section 2.

Sensitivity Analysis

Various scenarios related to the financing of this project were run to illustrate the impact that interest rates, population projections, and other variables have on the viability of the project. The most critical variables appear to be the amount of funding from grant sources and secondarily, the prevailing interest rate assumed for the life of the loan. These scenarios are included in Appendix I – Section 3.

Financial Break-Even Analysis

Assuming a particular grant and loan amount from the different funding agencies, the revenue level at which this project will just recover total costs can be calculated. Various scenarios detailing this are included in Appendix I – Section 4.

Demographic And Economic Information Of The Proposed Service Area

The Community Economic Profile and the 1990 Census data are included in Appendix D. This information is based on the 1990 Heber Census and shows a median household income of $20,306. The township of Heber is included in the Imperial County labor market area, of which the largest industry is agriculture. Based on the October 1998 estimate, the unemployment rate in the county is 30%. Nearby cities of El Centro and Calexico have unemployment figures of 29.1% and 38.7% respectively (data is not seasonally adjusted). As an unincorporated township with a population less than 6,000 at the time of the Census, Heber is not polled individually.

As noted by the Dudek Facility Plan, Heber is located within Census Tract 113, which is rural and primarily agricultural. The township of Heber itself covers approximately 800 acres, which is the service area of the existing system. Based on the 1990 Census, Tract 113 had a population of 5,359 persons and the Heber townsite had a population of 2,566. This represents 47.9% of the total population of Tract 113.

The population projections presented by SCAG for Tract 113 result in an estimate of 3,426 people for Heber in 1998, assuming the population of Heber corrsponds to 47.9% of the census tract population. Similarly, the population projections from SCAG were used to estimate Heber's future population, as presented in Table 2-2.

FEE/RATE MODEL

Historical Fee/Rate Schedules

Table 5-5 shows the sewer fee schedule for the historical period between 1994 and 1998. The new rate has been in place since April, 1998, when the latest rate increase took effect. Comparisons between billing and collection indicate the efficiency of fee collection averages 94 percent of the bills.

TABLE 5-5

EXISTING SEWER CHARGES

Rate Code	Old Rate	New Rate (4/98)	Description
2	*13.00*	*22.00*	*SWR/Residential*
5	*21.00*	*33.00*	*SWR/Commercial*
12	*504.00*	*792.00*	*SWR/Commercial*

Pro-Forma User Fee Structure

A fee rate model has been prepared by the NADB as part of the financial analysis. This model was utilized to determine the impact on user fees of the proposed project under several combinations of grants and loans.

The results of the financial runs indicate that wastewater rates for single-unit residences will increase from $22.00 to approximately $27.40 over a period of 7 years. By providing transition funds in the amount of $200,000, the rate increase will be distributed over 7 years, resulting in an annual increase of approximately $0.90 dollars.

It is important to point out that NADB is in the process of procuring the service of a consulting firm to develop a detailed rate study. This study will recommend improvements to the rate structure of the district. Table 5-6 shows the monthly wastewater rate for single-unit residences ($/month) and the increased proposed for the next 7 years to support the project.

TABLE 5-6

PROPOSED SEWER RATE INCREASE

Year	Wastewater Single-unit Residences ($/month)	% Increasde	Increase Required to Support Project (%/month)
1	22.00		
2	22.90	4.09	0.90
3	23.80	3.9	0.90
4	24.70	3.8	0.90
5	25.60	3.6	0.90
6	26.50	3.5	0.90
7	27.40	3.4	0.90

PROJECT MANAGEMENT

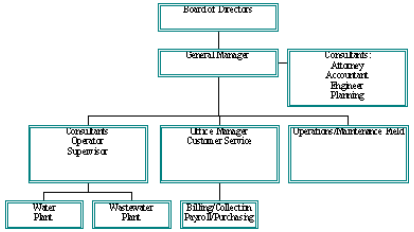
The project will be managed by the HPUD. The organization consists of a Board of Directors overseeing a General Manager, which in turn oversees an Operator Supervisor, an Office Manager, and the staff in the Operations and Maintenance Field.

The organization chart below (Figure 5-1) for the Heber Public Utility District illustrates the positions of key management and functional department heads, as well as the lines of authority among the positions.

FIGURE 5-1

HEBER PUBLIC UTILITY DISTRICT

ORGANIZATION CHART



The job functions, responsibilities and lines of communication for each is provided herein. Below is a brief description of the management personnel for the District.

Heber Public Utility District General Manager- Mr. Steve Hogan

Line of Communication:

- *Reports to the Board of Directors.*

Responsibilities:

- *Responsible for general management and administration of all aspects of the water and sewer utilities.*
- *Responsible for parks maintenance, street lighting and solid waste services.*
- *Recommends policy additions and modifications for board consideration.*
- *Ensures Board compliance with applicable laws governing utilities.*
- *Interacts with other governing boards and agencies, private developers, bi-national federal and state agencies, and utility customers.*

Experience and Qualifications:

Over 25 years of comprehensive administrative, supervisory and management experience with large water and sewer utility and municipal government in the areas of:

- *accounting*
- *budgeting*
- *financial management*
- *capital improvements*
- *negotiations*
- *contract compliance*
- *management/geographic information systems*
- *water conservation*
- *field services (meter reading, shut off restoration, code compliance)*
- *customer billing*
- *collection and service*
- *water conservation*
- *public information*
- *employee safety and training*

Developed excellent relationships with a variety of municipal and local boards, commissions and industry representatives

City of San Diego, San Diego, California

  - *Water Department, Administrative and Services Division – Deputy Director*
  - *Office of the City Manager Financial Analysis Program – Asst. to the City Manager*
  - *Water Utilities Department, Services Division - Deputy Director*
  - *Office of the Auditor and Comptroller - Assistant to the Auditor and Comptroller*
  - *Accounting Operations Supervisor*

Southwestern Community College - Accounting Instructor

Sweetwater Union High School District - Board of Trustees

Professional Affiliations

- *California Municipal Finance Officers Association- Past President*
- *National Management Association- Past Treasurer*
- *American Waterworks Association*
- *California Association of School Business Officials*

HPUD Office Manager – Ms. Rafaela M. Sanchez

Line of Communication:

- *Reports to the General Manager*

Responsibilities:

- *Assists General Manager with preparation of the budget.*
- *Works closely with independent auditor in preparation of annual audit.*
- *Supervises office personnel and office operations.*
- *Performs a variety of administrative and clerical duties.*
- *Attends Board meetings.*
- *Processes daily mail.*

Qualifications:

- *A.S. Degree in Bookkeeping – Imperial Valley College*
- *Excellent public relation skills.*
- *Excellent record keeping ability.*
- *Good typing skills.*
- *Bilingual – Fluent in English and Spanish.*

HPUD Secretary/Bookkeeper – Ms. Raquel R. Carrillo

Line of Communication:

- *Reports to the General Manager and the Office Manager*

Responsibilities:

- *Customer Service*
- *Monthly Utility Billing*
- *Accounts Receivable*
- *Accounts Payable*
- *Payroll*
- *Daily Accounts & Bank Deposit Preparation*
- *Working with old, new and delinquent accounts*
- *Writing work orders*
- *General Secretarial Duties*
- *Attends Board meetings when required.*

Qualifications:

- *Business courses – Accounting, Typing, Computer, Bookkeeping, Records Management Imperial Valley College*
- *Clerical Office Training - Campesions Unidos Clerical Program*

- *Bilingual – Fluent in English and Spanish*

HPUD Wastewater Treatment Plant Operator – Mr. Carlos H. Alfaro

Line of Communication:

- *Reports to the General Manager*

Responsibilities:

- *Operation and maintenance of all components of the wastewater treatment plant*
- *Performs daily laboratory testing to determine condition of the treatment plant.*
- *Perform daily inspection of all units within treatment plant.*
- *Maintain testing laboratory.*

Qualifications:

- *Grade I Wastewater Treatment Plant Operator License*
- *Grade II Water Treatment Plant Operator License*

Institutional Capacity And Legal Framework

The Heber Public Utility District has the authority to provide services to the community, which include, but are not limited to water and wastewater utilities. Heber's traditional service area includes approximately 800 acres. The HPUD sphere of influence for long-term utility services is defined by the Local Area Formation Commission (LAFCO) sphere of influence for the District.

This area was specified in the resolution submitted to LAFCO, dated April 27, 1998. The District has the authority to provide utility service needs for the projected sphere of influence. As illustrated by the Opinion Letter in Appendix L, the HPUD has the legal authority to enter into agreements of public easements and rights of way, and will obtain the permits to construct, operate and maintain the proposed wastewater plant improvements.

The wastewater treatment plant's capacity requirements are based on existing and projected population contributions within the service area of the HPUD. These projections are based on the Southern California Area Government (SCAG) population projections detailed in Appendix D and include the sphere of influence contribution.

The District is authorized to adopt utility rate adjustments by resolution, thus giving itself the authority to impose rates, fees and charges on persons using the wastewater collection and treatment system. A copy of the Opinion Letter from the Attorney representing the HPUD is included in Appendix B.

The HPUD revenue stream is based on fees and charges to their users, rather than a tax-based origin. There are California State constitutional and statutory limitations on expenditures and taxes that could exert an effect on the availability of certain utility revenue sources. On June 6, 1978, an amendment to the California Constitution added Article XIII A. This article affects the valuation of real property for the purpose of taxation.

On November 4, 1986 Proposition 62 was adopted by California voters. This proposition requires that any special tax imposed by a local governmental entity be approved by two-thirds of the voters. Proposition 218 was subsequently adopted by voters in November 5, 1996 and added Article XIII C and D to the California Constitution. These articles impose certain limitations and voter requirements on new or increased taxes, assessments, as well as property related fees and charges.

The District's funding is to be self-supporting from the fees and charges levied against their users. Some of these charges may be ultimately determined to be "property related". If so, the provisions of the articles listed above could adversely affect the financial condition of the District, as their sources of revenues could be reduced and/or eliminated. The final disposition of the articles established by Proposition 218 will be determined in the courts at a later date. Their final disposition and the effect of this determination on the District's finances are not possible to predict at this time.

Wastewater System Expense Information

A detailed description of the forecast O&M and capital improvement costs for the existing plant are detailed in Appendix I – Section 2 . Tables 5-1 and 5-2 (shown previously) illustrate the anticipated capital improvement and O&M costs for the additional facilities proposed for this project.

The forecast associated with the additional debt to be incurred by the new wastewater project is included in Appendix I – Section 2.

Current Debt And General Information

The following information is detailed in the Audited Financial Statements contained within Appendix H.

  - *Audited financial statements for 1990-1998.*
  - *Current and next 7-year forecast of outstanding debt for the water and wastewater facilities.*
  - *Debt repayment obligations held by the HPUD that are not included in the debt repayment obligations associated with the water and wastewater system.*
  - *The interest rates, loan periods, payment schedule and reserve requirements for all existing debt.*

This information is contained in Appendix K.

  - *Average water and wastewater rates for each user category.*
  - *Number of water and wastewater accounts.*

The HPUD's policy regarding O&M, capital improvements and debt service is not formally established due to a lack of reserve funds in past fiscal years. The availability of O&M, capital improvement and debt service reserves is estimated by the HPUD General Manager to be approximately $150,000 during the current year. As this reserve fund becomes a viable entity, a formal policy will be established.

SECTION 6 - PUBLIC PARTICIPATION

Comprehensive Public Participation Plan. *The objectives of the Comprehensive Public Participation Plan (Plan) are to ensure that the community understands and supports the environmental, health, social, and financial benefits and costs of the project, as well as any changes in user fees. The Heber Plan was presented to the BECC on December 17, 1998, and amended on January 15, 1999 to include additional activities deemed necessary for a successful community information and education campaign. The elements listed in the Plan include: forming a local steering committee, contacting local organizations to inform them of the project, allowing public access to project information, holding at last two public meetings, and preparing a final report documenting public outreach and support. Activities in each area are presented below.*

- **Steering Committee***: Initial attempts at creating the steering committee began in December. By January 7th and 12th the first steering committee meetings were held. Subsequent meetings took place on January 19th and 26th. The members of the committee were informed of the project finances and design, and of the need to continue as a committee over the next six months since additional water and wastewater projects are being considered for certification. Steering committee members informed individuals in the community about the project and encouraged them to attend the meetings.*

- **Local Organizations***: Information was provided at the local Catholic Church, and presented to organizations such as Campesinos Unidos and local Sporting League Associations. They were informed of the project, the meetings of the steering committee and the Heber Public Utility District Board (HPUD) as well as the public meetings. In addition, local business leaders attended the public meetings and were informed of the proposed project.*

- **Public Information**: *Information about the project was provided to the public at the offices of the HPUD, California Association of Governments, U.S. Fish and Wildlife, and State Water Resources Control Board. In early January a letter in Spanish and English, was mailed with the utilities bill informing the public about the project and upcoming meetings. Subsequent information delivered to the community in both languages included: a cover letter; a calendar of meetings of the local of steering committee, HPUD Board meetings, and the final public meeting; a survey; four pages of project information, and a wastewater rate sheet comparing rates of neighboring utilities. This information was mailed to each house, delivered door to door, posted in the Post Office and handed out in the local market. Information was provided in the HPUD office on a walk-in basis and through the telephone. In addition, the Imperial Valley Press issued an article on the project.*

- **Public Meetings**: *Both public meetings took place in the Heber Elementary School. The first meeting was held on January 12, and the second meeting on January 28.*

First Public Meeting, January 12, 1999.

Approximately 35 residents attended this meeting which was announced on December 11, 1998 in the Imperial Valley Press to meet the 30-day notice requirement. In addition, HPUD Board members and the General Manager, the design engineer, and BECC representatives were in attendance. The objectives of the meeting were to present technical project information and formalize the steering committee.

Community members were skeptical and their concerns centered on the financial aspects of the project. Residents asked about the possible rate increase and the sources of funding for the proposed projects (i.e. USDA, NADB, and BECC). They also wanted to know about the use of the monthly $20.25 increase in user fees approved in May 1998, and if HPUD personnel received a salary raise. New development was also an issue, with several members questioning whether this was the cause of the rate increase.

HPUD staff answered that the possible user fee increase would be determined before the second public meeting, and gave an explanation about the use of funds and the reasons for the rate increase. On this last point HPUD staff mentioned the utility would have gone bankrupt had it not been for the increase. Two employees were laid off to save money, and the remaining employees deserved the raise (approximately 4%). As a result of a land sale and better management the HPUD had a small budget surplus, and the money provided by new development in the area is used to provide for street lighting and other community benefits.

PHOTO 5-1

FIRST PUBLIC MEETING

Steering committee issues were also discussed. The staff of HPUD called on community members to participate in the project steering committee and collaborate in the project with the HPUD. Several residents, however, mentioned that the reason they do not attend meetings of the HPUD is because these meetings are conducted in English and a Spanish translation is not provided. They requested that technical and financial information and the HPUD meetings be provided in Spanish. During the meeting, the President of the HPUD Board provided the translation, and BECC staff spoke to the audience in Spanish about the project. In the end, six residents showed interest in participating in the committee. The meeting lasted about 3 hours, and the technical presentation was postponed as a result of the lengthy discussion on the financial issues facing the community.

Second Public Meeting, January 28, 1999.

The objectives of this meeting were to present the technical and financial information of the project, in particular its impact on user-fee rates. Approximately 47 residents were present. The steering committee president and vice-president, the HPUD Board and the General Manager, the design engineer, and BECC and NADB staff participated. Translation was provided in both to and from Spanish and English.

The design engineer mentioned that HPUD provides service for about 800 acres and approximately 700 connections, and the plant provides service for about 2,500 residents with an estimated capacity flow of 320,000 gallons per day, while the current permit allows for a plant capacity of 405,000 gallons per day. The proposed expansion will double this capacity and provide service for 12 years. The NADB representative presented the construction, administrative and financial costs of the project, and how much money the district would receive and its distribution.

Several residents asked about the proposed rate increase; why some households with less consumption had to pay an equal amount as other units with more water use; and the administration of funds and accountability. The NADB representative replied that an increase of about $1 per month for the next 4 years followed by a $.75 increase per month for 3 more years was adequate to cover the cost of the project. It was stressed that a gradual increase was preferred to sudden larger lump-sum increases such as the one suffered by the community last year. In addition, a rate study was planned to determine household consumption to readjust costs per household, and regular financial audits conducted by the NADB would take place to ensure accountability.

The Chair of the steering committee stressed the point that the community needs to get involved to assure accountability and keep informed, and that the steering committee offered the community a channel to HPUD meetings and information on this project. Overall, residents at the meeting understood the technical and financial explanations provided. Surveys delivered to each house in the community and returned at this meeting showed community support for the project, but opposition to and uncertainty of supporting a rate increase. At the end of the meeting a vote was taken and an overwhelming majority supported the project and rate increase.

PHOTO 5-2

SECOND PUBLIC MEETING

- **Final Report:** *Please consult the Public Participation section for the supporting documentation.*

SECTION 7 - SUSTAINABLE DEVELOPMENT

DEFINITION AND PRINCIPLES

The long-term needs of the Heber community have been identified and established by the Master Plan development undertaken by the HPUD. This plan is based on the long-term population growth expectations for the area and the demands placed on the wastewater system within the service area and, to a lesser extent, the overall sphere of influence. The population projections for the community developed by the planning authorities anticipate increased growth on the California side of the border and the rapidly expanding population of Mexicali, in Baja California.

The project will improve the quality of life in the community by ensuring the effluent from the wastewater treatment plant is properly treated prior to its discharge, thus avoiding the human health and environmental problems associated with a degradation of the water quality of the receiving stream. Another consideration involving the quality of community life affected by this plant is the reduction of sewer overflows in the collection system near the facility. These overflows create a health hazard, especially if they occur inside the nearby residences.

Underlying these considerations is the requirement by the regulatory agencies overseeing this utility that HPUD comply with the water quality parameters detailed in their discharge permit. Continued violations of this permit will likely result in the levying of fines, the issuance of additional consent administrative orders and a mandated schedule for compliance that may not coincide with either the availability of funding to HPUD or a realistic construction schedule of mandated plant improvements.

Given the opportunity, it is much more advantageous for the community to develop this project on the current schedule than to ignore the plant overload condition and allow it to continue. This would then force the regulatory agencies into the position of beginning an enforcement action against Heber.

The township of Heber has conducted a series of town meetings aimed at explaining the requirements of the wastewater treatment plant expansion project and its effect on the community. The community's needs, its projected growth, and the impact and benefits of the project were detailed. The majority of public comment focused on the financial impacts of the project and the community's ability to afford the costs associated with it.

The Local Agency Formation Commission (LAFCO) has defined the Township's sphere of influence. The Southern California Area Government's (SCAG) population projections, along with information from the Master Plan and the WWTP Facility Plan, were used for projecting wastewater flows for the service area. Therefore, the requirement that the District coordinate their efforts with the appropriate institutions in order to achieve a balanced planning effort and to utilize the available resources wisely has been addressed.

The project is consistent with BECC's definition of sustainable development: "conservation oriented social and economic development that emphasizes the protection and sustainable use of resources, while addressing both current and future needs, and present and future impacts of human actions." All environmental parameters have been met and the increase in water use and discharge is consistent with local planning documents. The expansion and upgrade of facilities will accommodate growth projected by the Southern California Association of Governments (SCAG) in the Heber PUD through the year 2010.

The principles of sustainable development are met including: 1) "human beings are at the center…they are entitled to a healthy and productive life in harmony with nature". This principle is addressed by the purpose of the project, which is to address pollution and health risks associated with the present inadequate capacity of the system, and 2) stakeholders are a part of the process. The second principle is met by the public participation and outreach programs implemented (see section on Public Participation).

Institutional and Human Capacity Building

The improved wastewater treatment plant will be operated, maintained and expanded as required to serve the community of Heber. Heber Public Utility District personnel have operated and maintained the water and sewer systems in this community for several years. The staff of the Utility is both qualified and experienced in the operation and management of this system and is well equipped to implement the improvement project being considered by the HPUD.

Current operations and maintenance staff are deemed sufficient to adequately handle the requirements of the expanded treatment system. However, as the second oxidation ditch is brought on line, the wastewater treatment plant operator will likely be required to devote his entire attention to the plant's operation. This is in contrast to the current work assignments for the treatment plant operators, as they often are called upon to assist collection system personnel with point repairs and installations.

Therefore, the long term staffing needs may be filled by the advancement of qualified existing personnel within the Utility or by the hiring of personnel experienced in treatment plant operation from outside sources.

The advancement of administration and operations personnel is supported by local training programs, such as those offered by the Imperial Valley Community College in Imperial, California. The institutional and human capacity building within this parameter is centered around the staff training programs conducted by the Heber Public Utility District, workshops conducted by the State Department of Health Services and the California/Arizona/Nevada American Water Works Association's annual short school training sessions. These training options are offered to each of the operation and maintenance staff and their utilization is encouraged by the Heber administration.

Additional capacity of the infrastructure will allow Heber the flexibility of continued system expansion without the constraint of an overloaded treatment facility. This translates into the ability to serve an increased client base, which in turn generates greater revenues for the Utility and the community through user charges and an increased tax base. The funding requirements associated with the construction of the proposed wastewater treatment plant improvements project affords HPUD the opportunity to investigate and possibly reconfigure their rate structure to allow for a more equitable distribution of charges to their users. It is possible that rather than the flat user charge now levied, a tiered rate structure that allocates the charges based on usage can be implemented.

The expansion and upgrade of the existing wastewater treatment plant requires little in the way of increased institutional capacity, as the proposed technology is the same as that being used today. The increased capacity will prevent HPUD from getting a moratorium from the authorities as the necessary treatment capacity will be met.

As a complement to this project, both NADB and BECC are providing technical assistance funds to enhance the institutional capacity of HPUD. As part of BECC's PDAP program, a water and a wastewater master plan are being developed. These plans will identify ways in which the operation of the system may be improved, costs reduced, and efficiency increased by analyzing the feasibility of regionalizing the water treatment system by reaching agreements with nearby communities to share a water treatment plant. Additionally, as part of the NADB IDP program, a rate study is being developed, which will also improve the institutional and financial capacity of the district.

Conformance with Applicable Local and Regional Conservation and Development Plans

The Heber Public Utility District has attempted to conform to all local and regional guidelines as well as state and federal regulations associated with the treatment of the raw wastewater delivered to the plant.

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The expansion of this plant will take place on a site already owned by the District and will not require the acquisition of additional property. The land is currently used as a treatment site and thus will not require any changes in the zoning laws to accommodate the expansion.

Local and Regional Conservation and Development Plans. The project is consistent with general plan designations or zoning. General Plan Designation for the plant site is Government/Special Public on the Heber Urban Area Map of the Imperial County General Plan. The plant is compatible with this zoning, A-2, agriculture. The plant is compatible with the adjacent designations and land uses.

Border XXI, an overarching regional environmental plan agreed to by the U.S. and Mexican governments, uses as an indicators to measure sustainability of wastewater projects the percentage of wastewater collected and treated and the percentage of the population with sewage system services. These two indicators were at 100% in 1998, and are expected to remain at that level throughout the life-span of this project.

Natural Resource Conservation

The addition of a second oxidation ditch to this treatment plant, doubling the capacity of the plant, will allow the HPUD to effectively treat the influent sewage flows to their facility. Currently the plant is overloaded and in violation of its permit. With regard to conservation, expansion of the wastewater treatment plant will exert its greatest impact on the water quality of the receiving stream. This impact is associated primarily with reducing the risks associated with improperly treated effluent from the plant being discharged to the surface water course. Furthermore, the addition of the disinfection unit process will reduce public health risks associated with human exposure to pathogens.

Water conservation is not a high priority in the Imperial Valley region for various reasons. Water is served to Imperial County by the Imperial Irrigation District (IID), which is responsible, to a great extent, in initiating the construction of Boulder Dam and the All-American Canal. As a result of its early entry into the water allocation picture, the District has an allocation of 67 percent of the Colorado River water which is diverted to California and as a result is able to charge very low water rates relative to other parts of California. As a result of the low cost of water from IID ($11.50 per acre foot), the incentive for reuse of wastewater has not been strong in this area. Under present financial conditions a reclamation and reuse facility would not be cost effective. Nonetheless, the Water Master Plan currently being developed with BECC's PDAP funds will address water conservation and propose conservation measures.

The selected alternative provides for disinfection of wastewater to meet some water reuse applications that require no public contact, if desired. Additional tertiary flocculation and filtration facilities would be required to allow the re-use of effluent for water features, ponds and irrigation (Master Plan 6-20).

Energy Conservation. The expanded plant would not require new power systems, but would consume additional energy. Current power use is 251,000 kWh/yr; the expanded plant would use approximately twice this amount or about 525,000 kWh/yr. Although the amount of energy is not mitigable, it is not considered significant in the CEQA analysis and will require no significant system alternations for the power provider. Energy conservation will be incorporated wherever feasible in the design of the new facilities, and there will be no conflict with energy conservation plans.

Community Development

Imperial County, in which the township of Heber is located, has historically experienced high levels of unemployment, with the October 1998 report showing an unemployment rate of 30 percent. This is due in part to the seasonal nature of the agricultural economy that dominates the Imperial Valley.

As a community grows, the tax base and revenues generated by this growth increases the services made available to the citizens. This increase in services tends to attract new businesses, which further increases the revenue stream within the community through payrolls, taxes and additional housing requirements. The long-range socioeconomic development of a community is extremely dependent on the infrastructure available within the community and its condition. Therefore, expansion of the wastewater treatment plant is the first step towards this infrastructure development.

Yet another positive impact of the plant construction is the protection of the receiving stream from degradation due an incompletely treated plant effluent. This helps maintain the quality of the environment adjacent to and downstream of the discharge point of the plant. Negative social impacts of the plant expansion are limited primarily to the possible changes in the charges for sewer that are levied on the system users.

Upgrading the facilities to comply with state water quality and health regulations is beneficial to the community. Other aspects of the project will specifically enhance the quality of life. Presently there is a minor odor emitted from the existing headworks and sludge drying beds. The proposed improvements to the headworks, treatment and solids handling at the plant will reduce odor potential at the plant, even with plant expansion. Furthermore, the new disinfection facilities will further reduce the risk of public exposure to biological pathogens.