

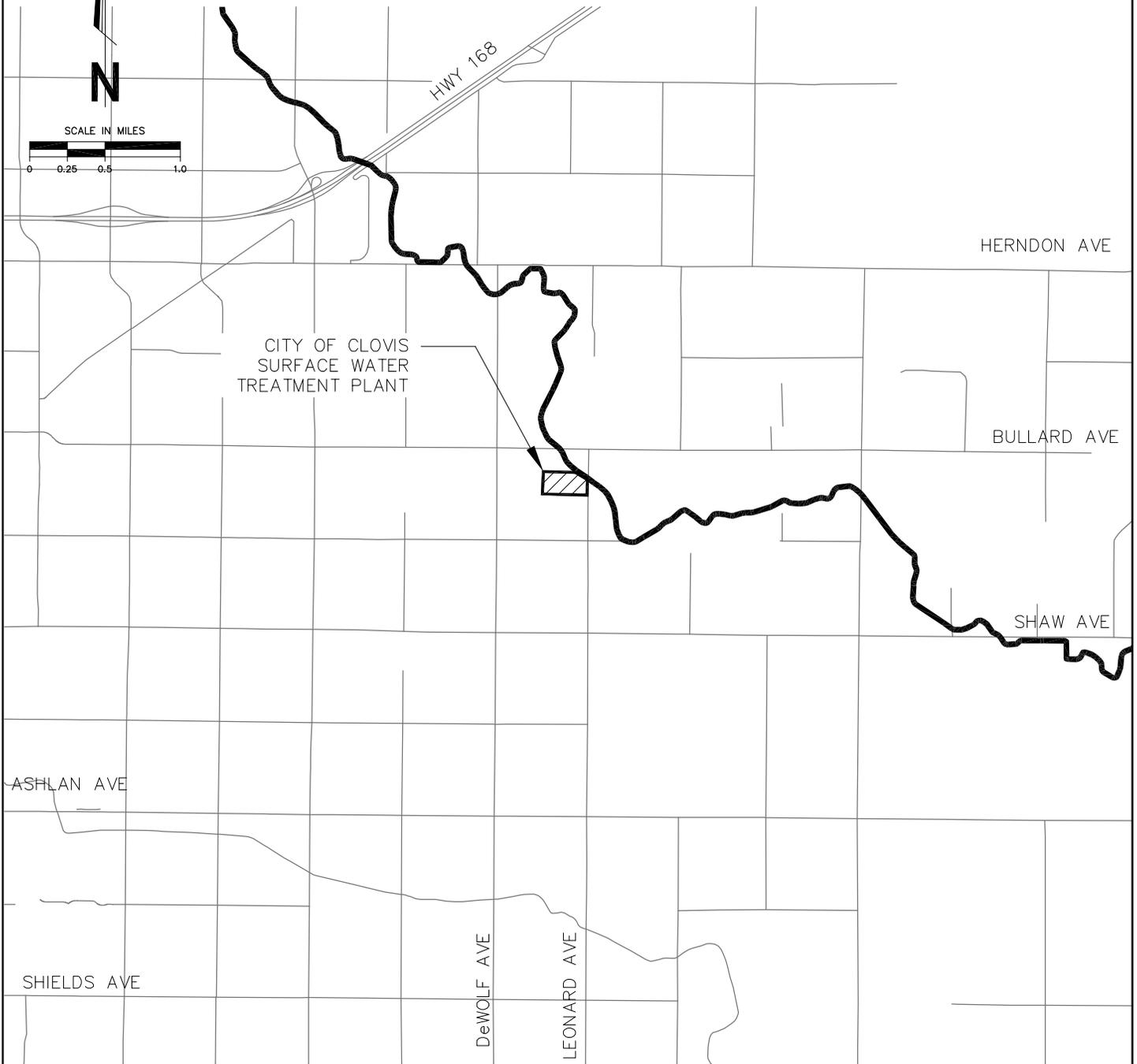
Attachments:

- 3f Clovis Vicinity Map
- 3g Clovis Design Drawings
- 3h Clovis Basis of Design Executive Summary
- 3i Clovis Mitigated Neg Dec
- 3j Fresno/Clovis Metropolitan WRMP
- 3k Fresno Nitrate Management Plan
- 3l Drummond Neighborhood Survey Questionnaires
- 3m Drummond Neighborhood Parcel Map

VICINITY MAP

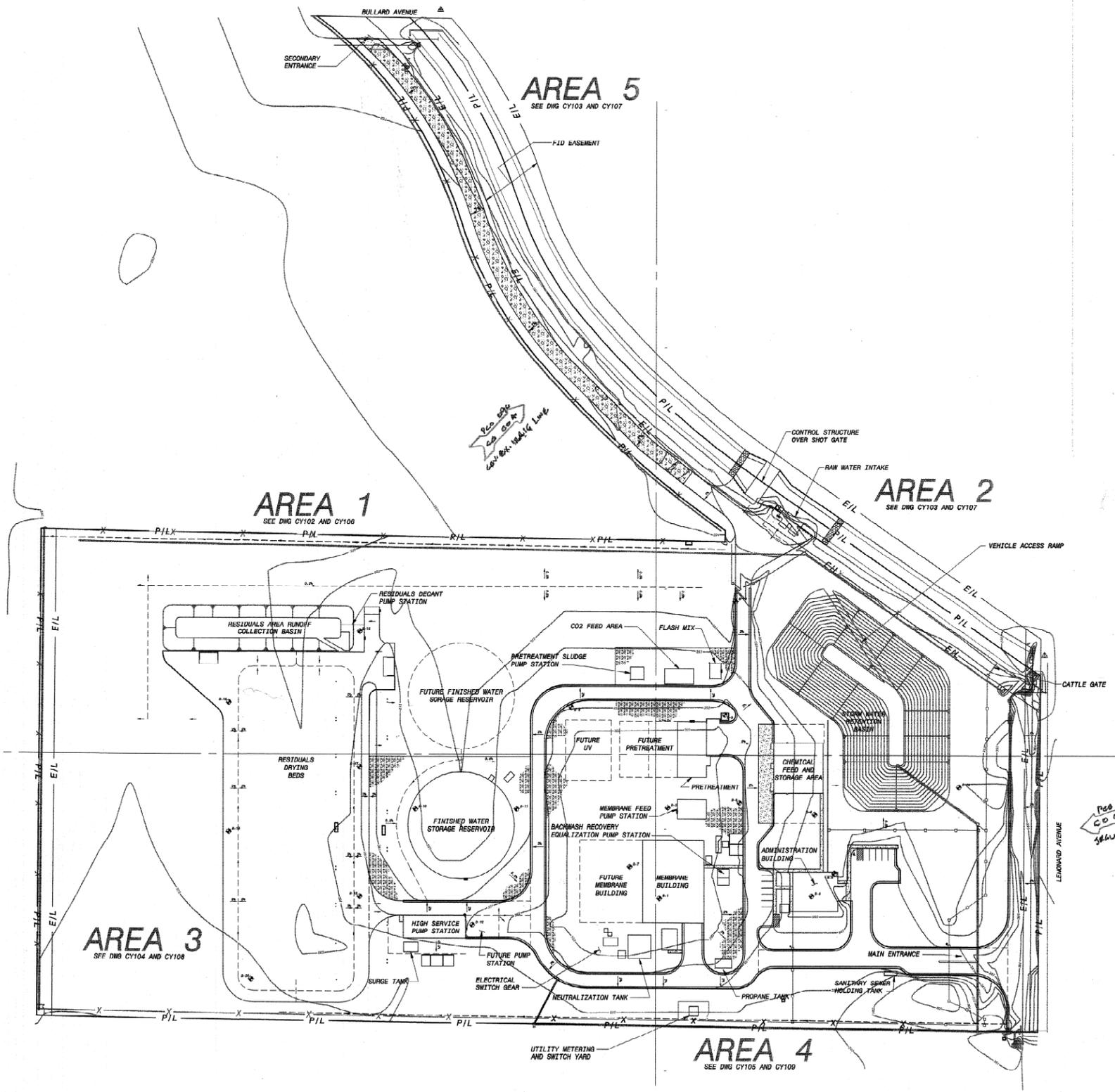
CITY OF CLOVIS

SURFACE WATER TREATMENT PLANT EXPANSION



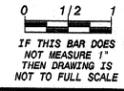
LEGEND:

-  PROJECT SITE
-  ENTERPRISE CANAL



HORIZONTAL DATUM
 COORDINATES ON DRAWINGS ARE BASED ON NAD29

VERTICAL DATUM
 FRESNO COUNTY BENCH MARK JL-45 REPORTED AS NAVD 29



05/05/03	ISSUED FOR BID	REVISED AND RECORD OF ISSUE	NO. BY CK APP
DATE	DATE	DATE	NO. BY CK APP
CY1001 ID: 131931.P1.C-00002260	REF ID: 60002260	REF ID: 60002260	REF ID: 60002260
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DWG YEAR #: 3.14	DWG YEAR #: 3.14	DWG YEAR #: 3.14	DWG YEAR #: 3.14
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BLACK & VEATCH Corporation
 Concord, California

CITY OF CLOVIS
SURFACE WATER TREATMENT PLANT PROJECT
PHASE II - SITE GRADING

CIVIL
SITEWORK
SITE PLAN

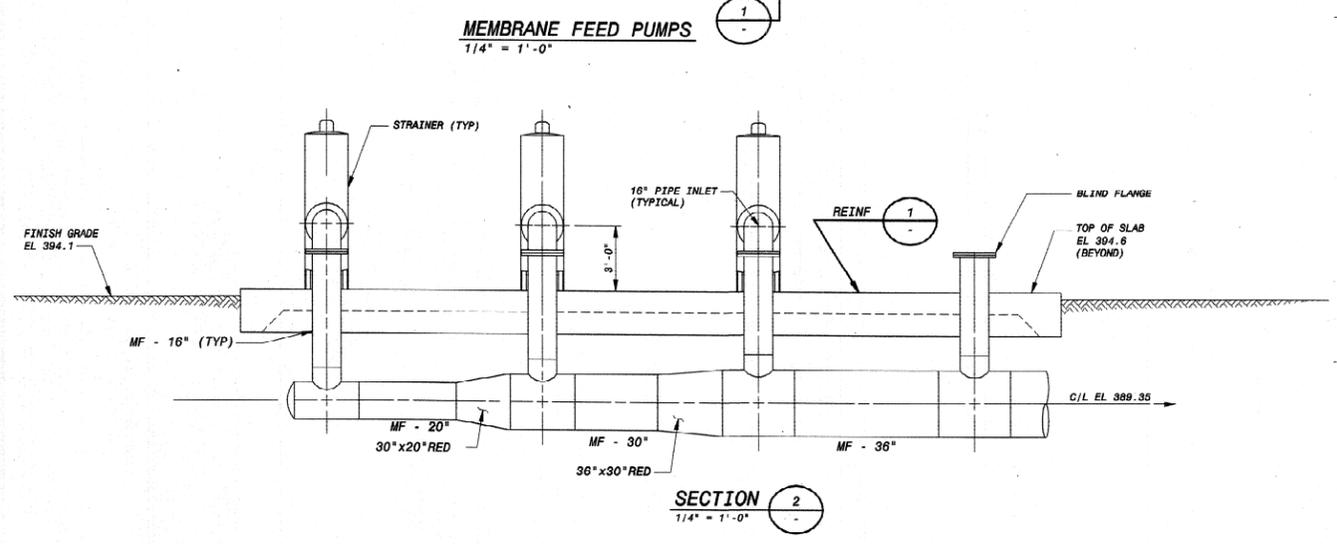
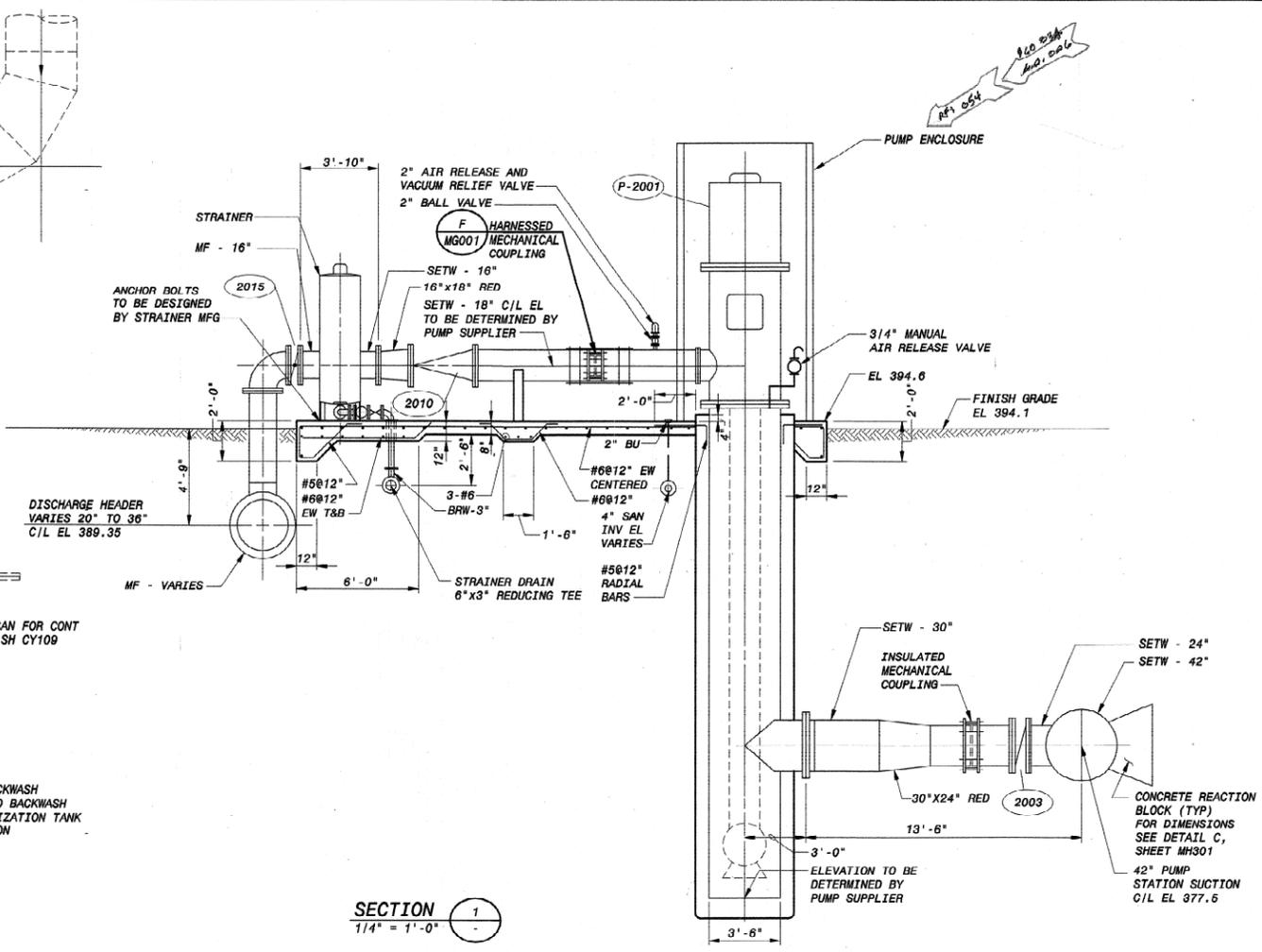
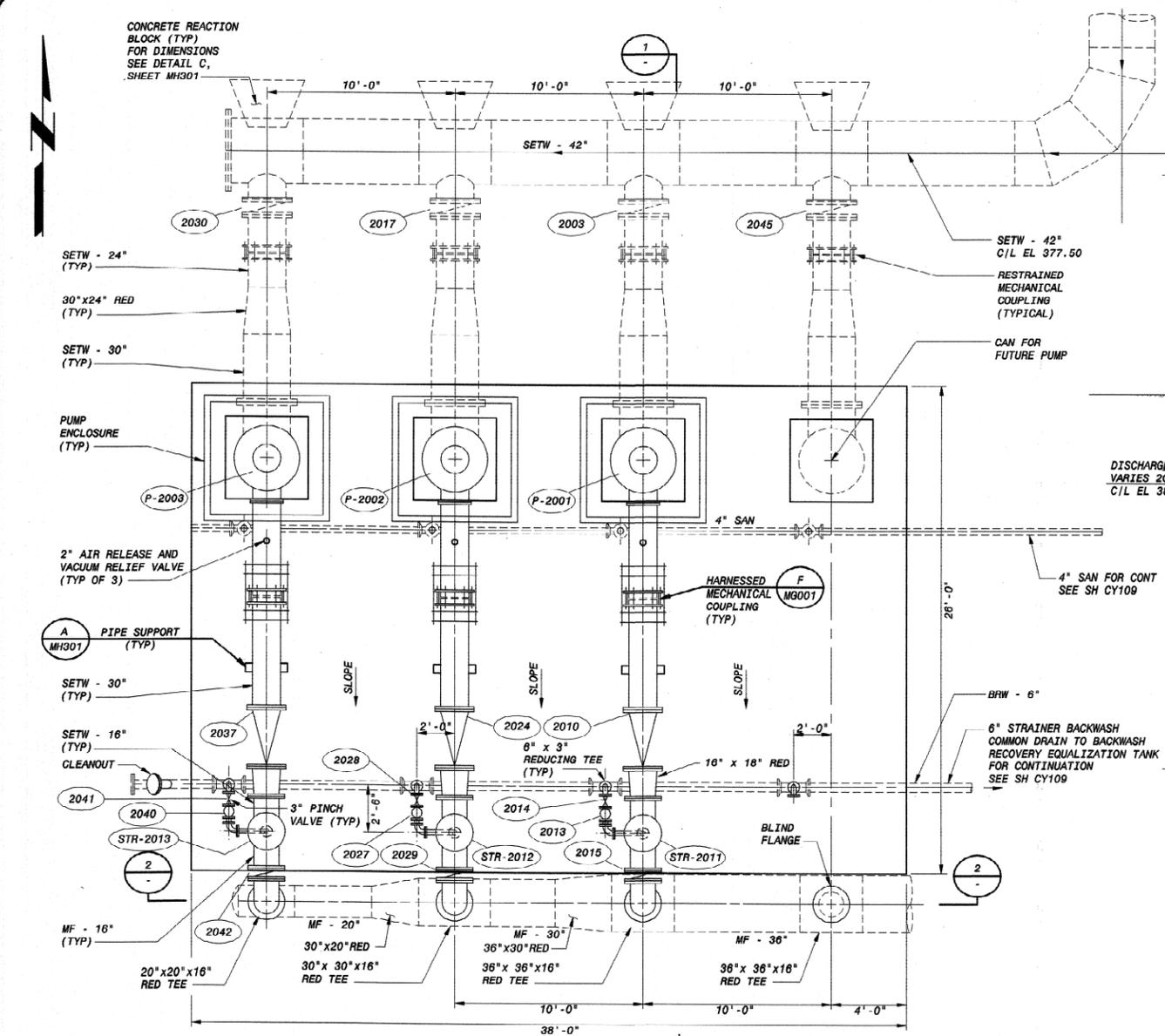
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 DETAIL: AAH, JEA
 CHECKED: JAR
 APPROVED: REH
 DATE: 05/05/03
 SCALE: 1"=60'

PROJECT NO.
131931

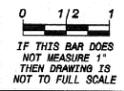
CY100

SHEET
 8 OF 254

FD131931
 D181931



- NOTES:
- TAG NUMBERS FOR VALVES AND EQUIPMENT ON THIS SHEET HAVE PREFIX SETW UNLESS OTHERWISE NOTED.
 - DIAMETERS OF DISCHARGE MANIFOLD PIPE ARE MINIMUM. CONTRACTOR MAY SUBSTITUTE LARGER DIAMETERS TO ELIMINATE REDUCERS.



DESIGNED: GEM	ISSUED FOR BID
DATE: 05/05/03	DATE: 05/05/03
CHECKED: JAR	DATE: 05/05/03
APPROVED: REH	DATE: 05/05/03
SCALE: AS SHOWN	SCALE: AS SHOWN
PROJECT NO. 131931	PROJECT NO. 131931
MM100	MM100
SHEET 127 OF 254	SHEET 127 OF 254

CITY OF CLOVIS
SURFACE WATER TREATMENT PLANT PROJECT
PHASE II - WATER TREATMENT PLANT
MECHANICAL MEMBRANE FEED PUMP STATION
PIPING PLAN AND SECTIONS

BLACK & VEATCH Corporation
Concord, California

REGISTERED PROFESSIONAL ENGINEER
No. C49833
Exp. 9-30-05
STATE OF CALIFORNIA

REVISIONS AND RECORD OF ISSUE

NO.	BY	DATE
0	CK	APP
1	REH	05/05/03
2	REH	05/05/03
3	REH	05/05/03
4	REH	05/05/03
5	REH	05/05/03

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FD131931
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**City of Clovis, California
Surface Water Treatment Plant Project
BASIS OF DESIGN REPORT
Final**

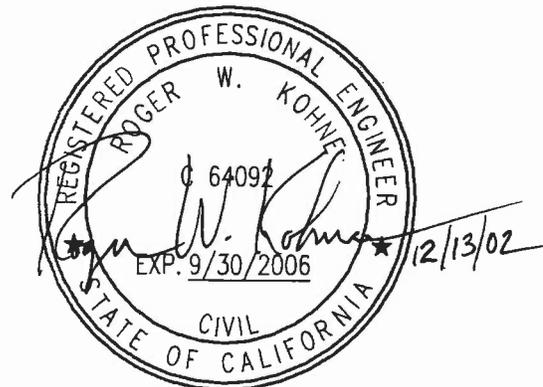
December 13, 2002

In accordance with the provisions of the Business and Professions Code of the State of California, these contract documents have been prepared under the general supervision and direction of the following professional engineers, licensed in the State of California.

Ronald E. Henderson
Name
Project Manager
Title
BLACK & VEATCH
Company/Firm Name



Roger W. Kohne
Name
Project Engineer
Title
BLACK & VEATCH
Company/Firm Name





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EXECUTIVE SUMMARY

The City of Clovis (City) is implementing the Surface Water Treatment Plant project to secure its drinking water supply for years to come. The new water treatment plant (WTP) will augment the existing groundwater-based supply and will incorporate membrane treatment technology to ensure the highest quality of drinking water for the City's customers. Black & Veatch is providing Integrated Design/Construction Management Services for the project. Throughout the project, City staff will stay involved through meetings, workshops, and informal communications to ensure that the ultimate project will represent the best value to the City.

This Draft Basis of Design Report (BDR) establishes basic project requirements for the treatment process, site planning, and various engineering disciplines in completing the design of the new facilities. Engineering drawings included in this report represent a 25 percent completion stage and are intended to present an overall layout of the facilities and major discipline requirements.

PROJECT BACKGROUND AND SCOPE

The City's population, which for many years grew at a steady rate, has in the last few years accelerated significantly. The new water treatment plant (WTP) will ensure a reliable supply in response to continued population growth and declining aquifer yields. The City is confident it can meet the demands of the 2003 summer season, but wants the plant to come on-line in April 2004.

The new WTP will treat water from the Enterprise Canal and will serve to meet baseload demand 11 months of the year. One month each year, when the canal is inoperable, the City will rely on groundwater to meet demands. The WTP will be located on a 21-acre parcel of land owned by the City within Fresno County. The plant's initial capacity will be 15 million gallons per day (mgd) with ultimate buildout anticipated for 45 mgd.

The Scope of Services for design includes an administration/maintenance building, raw water intake structure, pretreatment facilities for turbidity and organics reduction, a membrane filtration system, finished water reservoir, high service pump station, solids handling and wash water recovery system, on-site finished water transmission piping, a chemical building and associated chemical feed systems, architecture, and multi-discipline engineering.

RAW WATER FACILITIES

The project will include a new raw water intake facility along the Enterprise Canal to provide influent from the canal to the WTP. Manual slide gates and a mechanical screen will be installed to provide isolation control and initial screening of raw water influent. A raw water storage reservoir will be master planned for future use within the property boundaries of the plant, but will not be included in this phase of construction.

Raw water quality issues addressed by the project include turbidity and microbial contaminants, disinfection byproducts, general physical/trace metals/mineral content, and trace organics. Because the Enterprise Canal, similar to other surface water resources in the region, is subject to seasonal blooms, the Actiflo[®] pretreatment process will be included at the head of the plant.

WATER TREATMENT PLANT PROCESS

Treatment of Enterprise Canal water will rely on the multiple barrier approach, including chemical pretreatment, filtration, and disinfection to produce a finished water quality that meets or exceeds current state and national standards. An encased pressurized membrane system will be used for primary filtration. Provisions will also be made for future modifications (i.e. addition of Ultraviolet, or UV, for additional disinfection) in anticipation of pending water quality regulations. Chemical feed systems will be provided for ferric chloride, sodium hypochlorite, and sodium hydroxide. Design will also address the City's objectives to achieve nearly 100 percent recycling of waste flows (with the exception of sanitary waste) to minimize off-site disposal.

The microfiltration (MF) system will be required to treat an initial flow rate of 15 mgd with capabilities of expanding the system to 22.5 mgd. The Pall *Microza* microfiltration system will be used. The Pall system is one of six systems currently accepted by the California Department of Health Services (DHS) as alternative technologies to meet the Surface Water Treatment Rule. The design criteria for the system are based on current DHS requirements, site specific requirements, and the results of detailed review and discussions with City staff.

NON-PROCESS FACILITIES

A conceptual layout of major structure, equipment, and facilities is shown in the 30 percent design submittal. The layout was developed by the project team and reviewed

with the City of Clovis to provide for an initial capacity of 15-mgd, with ultimate buildout to 45-mgd.

The layout includes necessary facilities for a complete operational facility, including a 2.5 million gallon reservoir, which provides for disinfection contact time as well as operational storage for the high service pump station. The high service pump station will be designed to serve initial demands from the distribution system and is master planned to allow for expansion to meet future needs.

Major yard piping and landscaping will be designed to meet near term needs, again with planning for addition of necessary components as project expansion dictates.

ARCHITECTURE

Architecture and landscaping are important components and will be developed to complement the rural character of the plant site and to fit in with future development in the area. The site layout recommended in this BDR reflects concepts created during meetings with City staff. The architectural design approach will conform to the regulatory building codes; blend the building exterior appearance with the surrounding landscape, use high-quality/low-maintenance materials, control sound produced by the equipment to agreed levels, and use low maintenance landscaping.

TECHNICAL DESIGN CRITERIA.

Other design criteria developed for the new WTP include Structural, Mechanical, Electrical, and Instrumentation and Control (I&C). The narrative sections of this BDR present the Standards and Codes and basic design assumptions. Detailed drawings and specifications in the 30 percent design submittal supplement this report.

COST ESTIMATE

To enable the WTP to represent the best value to the City and its ratepayers, both initial capital costs and long-term operating maintenance costs were considered during design. An updated cost estimate will be prepared following the 30 percent design submittal.

1.0 GENERAL REQUIREMENTS

1.1 PURPOSE OF REPORT

This report serves as the Basis of Design Report (BDR) for the City of Clovis Surface Water Treatment Plant Project. The BDR establishes basic project design requirements for the treatment process, site planning, and various engineering disciplines. This report provides an opportunity for all concerned parties, client, regulatory agencies, Black & Veatch and subconsultants to understand the project and provide critical input at an early stage.

This report is supplemented by engineering drawings in the 30 percent design submittal. These drawings represent a preliminary 30 percent completion stage and are intended to present an overall layout of facilities and major discipline requirements. These drawings include site grading and piping, architectural floor plans and elevations of significant facilities, mechanical process plans, electrical one-line diagrams, and process and instrumentation diagrams (P&IDs) for the entire treatment process including secondary systems such as wash water recovery and solids handling.

1.2 BACKGROUND AND PROJECT OBJECTIVES

The City of Clovis (City) is embarking upon a milestone project to secure its drinking water supply for years to come. In response to a significant acceleration in growth and in accordance with the City's Water Master Plan, the City plans to augment the existing groundwater-based supply with a new surface water supply. Specific objectives are:

- A water treatment plant utilizing membrane technology with an initial capacity of 15 mgd and provisions to expand to 45 mgd.
- A facility to be on line in April 2004 to ensure that the City can continue to meet summer season demands.
- A Good Neighbor facility that incorporates architecture and landscaping to complement the rural character and fit in with future development of the area.
- A facility that represents the best value to the City and its ratepayers both in terms of initial capital costs and long-term operating and maintenance costs.
- A seamless transition during plant start-up and transition from groundwater to surface water.

The City has contracted with Black & Veatch to provide Integrated Design/Construction Management services for the implementation of the City of Clovis Surface Water Treatment Plant Project. The initial capacity of the plant will be 15 mgd, with ultimate buildout to 45 mgd.

The WTP will serve to meet baseload demands eleven months out of the year. Enterprise Canal, the raw water source for the Plant, will be inoperable one month out of the year. During that time, the City will rely on groundwater to meet its water demands.

As presented and expanded upon in Workshop No. 3, held on August 27, 2002, the primary objectives and considerations for the Black & Veatch design team during the conceptual layout of the City of Clovis Surface Water Treatment Plant were the following:

- Staff access / functional efficiency
- Chemical delivery access / public separation
- Hydraulics / site compatibility
- Future expansion
- Aesthetics / public acceptance
- Construction / schedule

In addition to the above criteria, the site layout reflects the desire to minimize construction conflicts between opposing on-site trades, thereby reducing schedule delays and change orders.

1.3 PROJECT OVERVIEW

The scope of this project includes the following facilities:

- Administration building.
- Raw water diversion structure.
- Pretreatment facilities for turbidity and organics reduction.
- Pump wetwell.
- Membrane filtration system and associated auxiliary equipment, including feed water pump station, chemical clean-in-place (CIP) system, pressurized air system, and instrumentation and controls.
- Finished water storage reservoir.
- High service pump station.



City of Clovis
 Department of Planning and
 Development Services
 CITY HALL · 1033 FIFTH STREET
 CLOVIS, CA 93612

FILED

FEB 07 2003 EA.

FRESNO COUNTY CLERK
Victoria Mendez
 DEPUTY

For County Clerk Stamp

NOTICE OF DETERMINATION

County Clerk
 County of Fresno
 P.O. Box 1628
 Fresno, CA 93717

Office of Planning and Research
 1400 Tenth Street, Room 121
 Sacramento, CA 95814

Project Title or File No.: SPR2002-29

Environmental Assessment No.:

SCH No.: 2002121141

Lead Agency: City of Clovis is the Lead Agency for this project.

Project Location: West side of Leonard Avenue, south of Bullard Avenue, Fresno County

Project Description: The SWTP will treat water from the Kings River delivered to the site via The Enterprise Canal for distribution in the City's potable water distribution system. The proposed project will include the construction of an administration/ maintenance building, a raw water intake structure, pretreatment facilities for turbidity and organics reduction, a membrane filtration system, a finished 2.5 million gallon water reservoir, a high service pump station, a solids handling and wash water recovery system, on-site finished water transmission piping, a chemical building, and associated chemical feed systems, architecture, and multi-discipline engineering. The facility is designed to initially provide 15 million gallons a day (mgd), with the potential to expand to a minimum 45-mgd capacity.

Notice: The City of Clovis approved the above described project on the 13th day of January 2003, and made the following determinations:

- The Project will not significantly affect the environment.
- An EIR was prepared and certified pursuant to CEQA.
- A Negative Declaration was adopted pursuant to CEQA.
- Mitigation Measures were not made a condition of approval.
- Mitigation Measures were made a condition of approval.
- A Statement of Overriding Considerations was not adopted.

The Negative Declaration and Project Approval Record are available for review in the Clovis Planning Department at the address listed above.

Contact Person: Neal Kennington,
 Assistant Planner

Phone: (559) 324-2347

Signature: *Neal Kennington*

Date: January 22, 2003



City of Clovis
**Department of Planning and
Development Services**
CITY HALL · 1033 FIFTH STREET
CLOVIS, CA 93612

FILED

FEB 07 2003

FRESNO COUNTY CLERK
BY *Victoria Mendez*
DEPUTY

For County Clerk Stamp

FINAL MITIGATED NEGATIVE DECLARATION

Proposed: December 27, 2002

Filed with: County Clerk

Final: February 3, 2003

Agency File No: SPR2002-29

Finding: The City of Clovis has determined that, with incorporation of mitigation measures, the project described below will not have a significant effect on the environment and therefore the preparation of an Environmental Impact Report is not required.

Lead Agency: City of Clovis is the Lead Agency for this project.

Project Title, File No.: Clovis Surface Water Treatment Plant (SPR2002-29)

Project Location: West side of Leonard Avenue, south of Bullard Avenue, Fresno County

Project Description: The SWTP will treat water from the Kings River delivered to the site via The Enterprise Canal for distribution in the City's potable water distribution system. The proposed project will include the construction of an administration/ maintenance building, a raw water intake structure, pretreatment facilities for turbidity and organics reduction, a membrane filtration system, a finished 2.5 million gallon water reservoir, a high service pump station, a solids handling and wash water recovery system, on-site finished water transmission piping, a chemical building, and associated chemical feed systems, architecture, and multi-discipline engineering. The facility is designed to initially provide 15 million gallons a day (mgd), with the potential to expand to a minimum 45-mgd capacity.

Environmental Assessment: The Initial Study for this project is available for review at the City of Clovis, Planning and Development Services Department, 1033 Fifth Street, Clovis, CA.

Justification for Negative Declaration: The City of Clovis has completed the preparation of an Initial Study for the project described above. The Initial Study did not identify any potentially significant environmental effects that would result from the proposed activity when mitigation measures are applied. Accordingly, approval of a Mitigated Negative Declaration for the project is recommended. The City finds that the proposed activity can be adequately served by City public services. It will not have a negative aesthetic effect, will not affect any rare or endangered species of plant or animal or the habitat of such species, nor interfere with the movement of any resident or migratory fish or wildlife species. It will not adversely affect water quality, contaminate public water supplies, or cause substantial flooding, erosion, or siltation. It will not have a significant effect on air quality, transportation or circulation systems, noise, light and glare, and land use. No significant cumulative impacts will occur from this project.

Contact Person: Alan Weaver,
Public Utilities Director

Phone: (559) 324-2600

Signature:

Date: February 7, 2003

**CALIFORNIA DEPARTMENT OF FISH AND GAME
CERTIFICATE OF FEE EXEMPTION**

De Minimis Impact Finding

Project Title or File No.: SPR2002-29

Project Location: West side of Leonard Avenue, south of Bullard Avenue, Fresno County

Project Description:

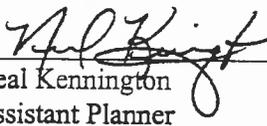
The SWTP will treat water from the Kings River delivered to the site via The Enterprise Canal for distribution in the City's potable water distribution system. The proposed project will include the construction of an administration/ maintenance building, a raw water intake structure, pretreatment facilities for turbidity and organics reduction, a membrane filtration system, a finished 2.5 million gallon water reservoir, a high service pump station, a solids handling and wash water recovery system, on-site finished water transmission piping, a chemical building, and associated chemical feed systems, architecture, and multi-discipline engineering. The facility is designed to initially provide 15 million gallons a day (mgd), with the potential to expand to a minimum 45-mgd capacity.

Certification:

I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse effect on wildlife resources, as defined in Section 711.4 of the Fish and Game Code.

Findings of Exemption:

The project described above has been determined to have a De Minimis Impact on Fish and Wildlife trust resources.



Neal Kennington
Assistant Planner
Lead Agency: City of Clovis
February 7, 2003

FRESNO / CLOVIS METROPOLITAN

Water Resources

MANAGEMENT PLAN

Phase I Report

Existing Water Supply System Assessment

Volume II of II
Appendixes A-D

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CH2M HILL

January 1992



ACKNOWLEDGEMENTS

We wish to express our appreciation to the Technical Advisory Committee for their assistance during the conduct of this project:

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This Document Has Been Prepared Under the Direction of a
Registered Professional Engineer

FRESNO / CLOVIS METROPOLITAN

Water Resources

MANAGEMENT PLAN

Phase I Report

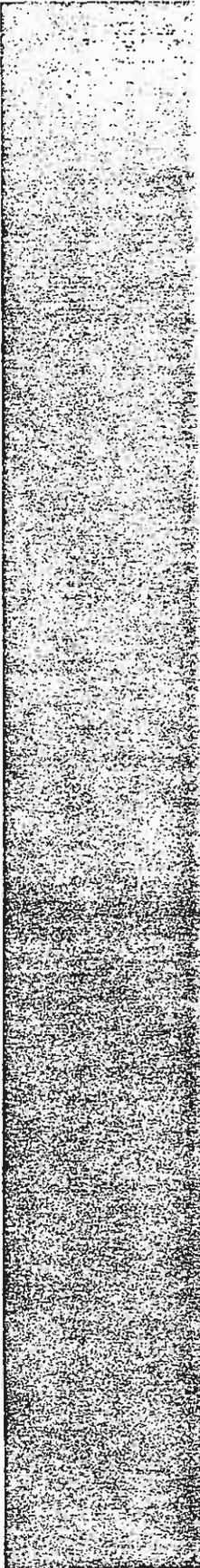
Existing Water Supply System Assessment

Volume II of II
Appendixes A-D

CH2M HILL

January 1992





Appendix B
**Hydrogeologic
Conditions in the FCMA**



**HYDROGEOLOGIC CONDITIONS IN THE
FRESNO-CLOVIS METROPOLITAN AREA**

Prepared for:

**CH₂M-HILL
Fresno, California**

Prepared by:

**KENNETH D. SCHMIDT AND ASSOCIATES
Groundwater Quality Consultants
Fresno, California**

January 10, 1992

KENNETH D. SCHMIDT AND ASSOCIATES

GROUNDWATER QUALITY CONSULTANTS

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January 10, 1992

Mr. Dave Peterson
CH₂M-Hill
770 E. Shaw Avenue, Suite 310
Fresno, California 93710

Re: Hydrogeologic Conditions

Dear

Submitted herewith is our report on the hydrogeologic conditions in the Fresno-Clovis Metropolitan Area.

Sincerely yours,


Kenneth D. Schmidt

KDS/d

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HYDROGEOLOGIC CONDITIONS IN THE FRESNO-CLOVIS METROPOLITAN AREA

INTRODUCTION

This report was prepared under sub-contract to CM₂M-Hill, a contractor to the City of Fresno, to provide information on groundwater for development of the Fresno-Clovis Metropolitan Water Resources Management Plan (WRMP). The main focus of this report is on the existing and planned urban areas for the Cities of Fresno and Clovis (termed herein the "urban area"). The urban area is located within a larger area, termed the Fresno County Water Management Plan Area, which was evaluated previously as part of EPA-funded 208 and 205J Water Quality Management programs. The original County of Fresno Water Management Plan Area was bounded approximately by the San Joaquin River on the north, the Friant-Kern Canal on the east, the Fowler Switch Canal on the southeast, American Avenue on the south, and Chateau Fresno Avenue on the west. For purposes of the present study, the western boundary of this larger area was extended westerly to Dickerson Avenue. The larger area is important because 1) groundwater flows into the urban area from beneath upgradient lands, 2) lands adjacent to the existing urban area may be urbanized in the future, and 3) it also includes the City of Fresno Wastewater Treatment Facility, located southwest of the urban area.

Previous studies of regional groundwater conditions in the Fresno area that provide information useful for this report include Page and LeBlanc (1969), John Carollo Engineers and Harshbarger & Associates (1969), and County of Fresno, et al (1979 and 1986). More site-specific studies have also been done at a number of groundwater contamination sites and in other parts of the urban area. A number of these are discussed in subsequent parts of this report.

A hydrologic base period extending from 1965-77 was used to represent long-term conditions in the studies for the 208 program. For the present evaluation, the period from 1980-89 has been selected, to provide more up to date information. Data through 1978 were previously compiled for the 208 program. Data on subsurface geology, municipal pumpage, water levels, aquifer characteristics, intentional recharge, and chemical quality were compiled and updated through Summer 1991 for this report.

This report is organized in the following manner. First, public-supply wells, subsurface geologic conditions, water levels, pumpage, aquifer characteristics, and intentional recharge are addressed. Next, groundwater quality and the most significant known groundwater contamination sites are addressed. The adequacy of the existing data base for the purpose of developing the WRMP is then addressed. This is followed by a more detailed discussion of

groundwater conditions in three sub-areas in the urban area. The first of these is Northwest Fresno, which is a rapidly urbanizing area with very favorable groundwater conditions. The sub-area is bounded by the San Joaquin River on the north, West Avenue on the east, Garfield Avenue on the west, and Dakota Avenue on the south. The next sub-area considered comprises the combined North Fresno Growth Area, Herndon-Shepherd Plan Area, and East Clovis area. The North Fresno Growth Area is bounded on the north by Copper Avenue, on the northwest by the San Joaquin River, on the west by Blackstone Avenue, on the south by Herndon Avenue, and on the east by Willow Avenue. The Herndon-Shepherd Plan Area is bounded on the north by Shepherd Avenue, on the west by Willow Avenue, on the south by Herndon Avenue, and on the east by Temperance Avenue. The East Clovis area is bounded by Herndon Avenue on the north, Clovis Avenue on the west, Dakota Avenue on the south, and Leonard Avenue on the east. The last sub-area comprises southeast Fresno (including Sunnyside and Calwa), where there is significant pesticide contamination of the shallow groundwater.

Acknowledgments

The substantial cooperation during this evaluation that was provided by the following agencies and entities is gratefully acknowledged:

City of Fresno Water Division
 City of Clovis Public Works Department
 Fresno Irrigation District
 Fresno Metropolitan Flood Control District
 County of Fresno Environmental Health Division
 California Department of Health Services
 Pinedale County Water District
 Malaga County Water District
 Bakman Water Company
 California State University, Fresno.

WELLS AND WATER PURVEYORS

Figure 1 shows the locations of public-supply wells in the Fresno Urban Area. Included are wells operated by the City of Fresno, City of Clovis, Bakman Water Company, Pinedale County Water District, and Malaga County Water District. Pinedale County Water District wells are abbreviated herein as P-series wells. City of Fresno wells are abbreviated by their pump station (PS) number, and City of Clovis wells as the Cl-Series in this report. Prior to 1989, a number of wells in the Figarden, Mayfair, and Sunnyside areas were operated by a number of Fresno County Water Works Districts (FCWD). These wells are now operated by the City of Fresno, but are still numbered by the District number followed by the pump number (i.e., D4-2). Wells formerly in the Calwa County Water District are also now operated by the City of Fresno, and are abbreviated herein as the C-series. In addition, a number of other wells formerly operated by small private water companies

GROUNDWATER QUALITY

There have been numerous investigations of groundwater quality in the urban area, including Page and LeBlanc (1969), JCE and HA (1969), and Engineering-Science, Inc. (1970). The first of these reports was regional and covered most of the valley portion of Fresno County, whereas the second dealt specifically with the urban area. The third of these reports dealt with central Fresno County, including most of the Water Management Plan Area. Nightingale (1970) made one of the first evaluations of changes in the quality of well water over time in the Fresno area.

A number of groundwater quality studies have been conducted in the area northeast of the urban area (termed the "Northeast Area"). These include evaluations of the effect of irrigation on groundwater quality (Nightingale, 1972 and 1974, and Nightingale and Bianchi, 1974), regional groundwater quality in the Northeast Area (County of Fresno, 1976), and an evaluation of high nitrate areas in groundwater of the Northeast Area (Day and others, 1977).

Investigations of the quality of groundwater in the urban area have included those by the California Division of Water Resources (1952 and 1953), the California Department of Water Resources (1957 and 1965), Behnke and Haskell (1968), and Schmidt (1971). These studies focused on the effect of man's activities on groundwater quality, including disposal of industrial wastes, sewage effluent, septic tanks, cooling water, and urban storm runoff. The latter Department of Water Resources (DWR) study and the Schmidt dissertation of 1971 focused on nitrate contents. Nightingale and Bianchi (1977) reported on the groundwater quality aspects of recharge of canal water at the Leaky Acres Project.

Extensive groundwater quality investigations of the urban area and adjacent lands were completed as part of the 208 Water Quality Management Program (County of Fresno, et al. 1979) and 205J Water Quality Management Program (County of Fresno, et al, 1986). Whereas the 208 program studies focused on inorganic chemical constituents in groundwater, by the time that the 205J program studies were undertaken, the pesticide dibromodichloropropane (DBCP) had been found in groundwater in part of the urban area. The report on the results of the 205J program thus included a discussion of DBCP in groundwater beneath the Water Management Plan Area, including the urban area.

Water from numerous large-capacity wells in the urban area has been sampled for analysis of inorganic chemical constituents for several decades. Although relatively few water samples were collected and analyzed prior to the early 1960's (when the DWR nitrate study was done), numerous samples have been collected and analyzed since that time. Historical chemical analyses for water from public-supply wells in the urban area were originally tabulated as part of the "701 Study" (Engineering-Science, Inc., 1970). This tabulation was updated and expanded during Schmidt's (1971) nitrate study in the Fresno-Clovis Metropolitan Area. This tabulation was

again updated and expanded through 1978 as part of the 208 program. The results of chemical analyses of water from City of Fresno wells since 1977 have been computerized, a printout of the results is available, and this was used in this evaluation. The results of chemical analyses, including trace organics, and alpha activity, for samples collected in recent years were also obtained from the California Department of Health Services (DOHS) and other water purveyors in the urban area.

Inorganic Chemical Constituents

Areal Distribution

Four inorganic chemical constituents were selected for detailed discussion, based on their occurrence in groundwater and their importance to water use in the urban area. Total dissolved solids (TDS) was chosen primarily due to its importance for public supply, and also because it can be used to provide information on the major sources of recharge in the area. Nitrate has been one of the most important inorganic chemical constituents in groundwater of the urban area for decades. It is the only inorganic chemical constituent in the Primary Drinking Water Standards that is known to have been found in water from some large-capacity wells, in amounts exceeding the maximum contaminant level (MCL). Hardness was selected because hard groundwater is common in shallow groundwater in parts of the urban area, particularly near Sunnyside. Manganese was selected because manganese contents exceeding the recommended MCL are common in east Clovis, near Dry Creek, and near the City of Clovis recharge facility.

The discussion in this part of the report largely concerns public-supply wells in the urban area. The quality of groundwater in a local area (i.e., near a source of contamination) may be different than shown by the results of public-supply well sampling. The quality of water pumped from a well also depends on well construction, because there are usually significant vertical variations in groundwater quality. Thus the quality of water from shallow wells often is not the same as that of water from deep wells.

Total Dissolved Solids. Figure 15 shows TDS contents in water from wells in the urban area in 1989-91. TDS contents of less than 100 mg/l were present only beneath and downgradient of Leaky Acres and the City of Clovis recharge facility. The relatively low salinity of groundwater in these parts of the urban area is due to the intentional recharge of low salinity canal water for two decades. Although the low salinity groundwater is generally considered beneficial, it has a higher corrosiveness than other groundwater in the urban area. TDS contents in groundwater beneath the northern half of the urban area normally ranged from about 100 to 250 mg/l, except in two formerly unsewered areas (Figarden and former FCWD 11 and 14, near Hoover High School). In these two areas, TDS contents ranged from about 250 to 400 mg/l. South of McKinley Avenue, TDS contents in water from most wells exceeded 250 mg/l. South of McKinley Avenue, TDS contents exceeded 250 mg/l in water from most

wells, except in part of downtown Fresno and west and northeast of Sunnyside. The relatively low TDS contents in groundwater west and northeast of Sunnyside appears to be due to seepage from the Fancher Creek, Briggs, and Washington Canals.

There are several known plumes of high salinity groundwater in or near the urban area which are not shown on this figure, because no public-supply wells are located near them. One of these extends southwest from the Southern Pacific Railroad Yard (near Shields Avenue and Highway 99). This plume has been extensively evaluated, including during the 208 and 205J programs, based on sampling of small-capacity domestic wells. TDS contents in shallow groundwater within this plume have exceeded 650 mg/l. Another plume of high salinity groundwater extends northwest from the Fresno Meat Company, near North and Fig Avenues. A TDS content exceeding 2,000 mg/l was found in water from a well in that area in 1972. Both of these plumes are discussed in more detail in a subsequent section in this report. There is another area of relatively high TDS content near Church and West Avenues (PS 88), where TDS contents exceeded 500 mg/l.

Nitrate. Figure 16 shows nitrate content in water from wells in the urban area in 1989-91. Nitrate contents were less than 25 mg/l in most of the urban area, and less than 15 mg/l in the north and northwest parts. The areas of lowest nitrate contents correspond to those with low salinity, and this is due to recharge of stream-flow and canal water with low nitrate content and salinity.

Nitrate contents have exceeded the MCL of 45 mg/l in water from only a few public-supply wells in the urban area. One of the largest areas of high nitrate contents in 1989-91 was west of Clovis Avenue, between Olive and Belmont Avenues. Nitrate contents in water from three Bakman Water Company wells in this area ranged from 47 to 55 mg/l in 1990. Nitrate contents in water from two other wells (D17-2 and D22-1) have been near the MCL in recent years. This area is located immediately downgradient of former waste disposal fields at the Gallo Winery. The area is also down-gradient of a large area of nitrate contents exceeding 45 mg/l, that extends to the northeast east of Clovis Avenue, along the floodplain of Fancher Creek. The nitrate content was 65 mg/l in 1989 in water from a City of Fresno well near West and Church Avenues (PS 88) and this well was closed. This well is located in a northeast trending area of high nitrate that extends southwest from downtown Fresno. Both of these high nitrate areas adjacent to the urban area were discussed in detail in the 208 program report (County of Fresno, et al, 1979).

Another area where nitrate contents exceeded the MCL in 1989-91 was in the southernmost part of the former unsewered Figarden area. Three wells in former FCWD 1 and 2 had nitrate contents ranging from 50 to 57 mg/l in 1989-90, and these wells are closed. A nitrate content of 68 mg/l was present in water from an unused public supply well at Greenfield Village (Jensen and Clovis Avenues) in 1989. Several wells in the unsewered part of the Sunny-

side area had nitrate contents approaching the MCL. Another area of high nitrate, that was not delineated based on public-supply well sampling, was one of the brine plumes previously discussed. Nitrate contents commonly exceeded 45 mg/l in the northwest trending plume from the Fresno Meat Company (near North and Fig Avenues) in 1979.

Figure 16 also clearly indicates the impact of septic tanks that were formerly used in parts of the urban area. One of the best examples is in Figarden, where the former unsewered area is essentially defined by the area where nitrate contents exceeded 15 mg/l in the well water. Nitrate contents exceeded 25 mg/l beneath much of the former unsewered area, and exceeded 45 mg/l beneath the oldest developed part of this area (to the south) in 1989-91. Nitrate contents exceeding 25 mg/l were also common in the Mayfair Area (southwest of the Fresno Air Terminal), which was also formerly unsewered, in 1989-91. This area had some of the smallest lots where septic tanks were formerly used in the urban area. Nitrate contents in water from some wells in this area historically exceeded the MCL. However the combination of sewerage and recharge at Leaky Acres and the City of Clovis facility to the northeast since 1970 has reduced nitrate contents in the north part of this area and stabilized them in the south part. The Sunnyside area has also been on septic tanks, and nitrate contents also exceeded 25 mg/l in groundwater beneath most of this area in 1989-91.

Nitrate contents in water from most of the wells downgradient of Leaky Acres and the City of Clovis recharge facility were less than 5 mg/l in 1989-91, except for the Mayfair Area. The lowest nitrate contents in water from wells in the urban area were in shallow groundwater near the San Joaquin River and downgradient of facilities for intentional recharge.

Although high nitrate contents have caused five City of Fresno wells to be closed, and the use of three Bakman Water Co. wells to be affected, construction of deeper wells with adequate annular seals has been demonstrated to be very effective in mitigating the problem. Such mitigation has been successfully practiced for more than two decades. Vertical trends in groundwater quality are discussed in a subsequent part of this report.

Hardness. Figure 17 shows total hardness, expressed as calcium carbonate, for water from wells in the urban area in 1989-91. Hardness was less than 100 mg/l (which is considered low in this area) in two large areas. The first was in North Fresno, within several miles of the San Joaquin River. The second generally extended from near Leaky Acres and the City of Clovis recharge facility westerly to near Highway 99. The lowest hardness contents (less than 50 mg/l) were present at and immediately downgradient of these major recharge facilities.

Total hardness exceeded 300 mg/l only in several areas, the largest of which was beneath the southeastern part of the Sunnyside area. Two smaller areas were near PS 55, east of Clovis Avenue

The complete report is available upon request.

City of Fresno Nitrate Management Plan Report

City of Fresno

City Project Manager Brock D. Buche, PE

Boyle Engineering Corporation

Project Manager Mark A. Ysusi, PE



October 2006

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Section 1

Introduction

This section presents a brief background of the City of Fresno issues associated with nitrates in the groundwater, discusses the need for this Nitrate Management Plan, describes the objectives of the study, provides a brief description of the scope of work, and outlines the report organization.

1.1 Background

Over the past several decades there has been a significant increase in nitrate concentrations in the groundwater at various locations in the Fresno Metropolitan Area (FMA). This fact has been demonstrated in several studies and reports over the past several years. Nitrate discharges (or other forms of nitrogen that subsequently convert to nitrate in the soil) from a variety of sources have cumulatively resulted in substantial damage to the City of Fresno's (City) groundwater resource. Over time, nitrate (NO₃) concentrations in the aquifers under Fresno have varied, increasing in some locations while decreasing in other areas as influences such as increased or decreased nitrogen loading or increased groundwater recharge. Some wells within the FMA exceed the EPA maximum permissible contaminant level (MCL) of 45 milligrams per liter (mg/L). To deal with this, the City has removed from service a number wells (13 as of early 2004) with elevated nitrate concentrations, treated some by blending with other sources of groundwater, and treated two with ion-exchange wellhead treatment systems. All of these actions have been necessary to meet peak water demand within the City.

With the intent of adopting policies, programs, and projects to protect and preserve the groundwater for its highest and best use, the City retained Boyle Engineering Corporation (Boyle) to prepare a Nitrate Management Plan. In general, the scope of the Nitrate Management Plan was to investigate and tentatively identify past and present dischargers generating nitrate or total nitrogen loading high enough to pose significant adverse cumulative impact to the aquifers under the FMA. Boyle subcontracted a portion of the work to Kenneth D. Schmidt and Associates (Schmidt) and to Geomatrix Consultants, Inc (Geomatrix). The Boyle/Schmidt/Geomatrix Team (Team) worked together to conduct the various phases of the work required to develop the Nitrate Management Plan.

The City's primary objectives in the Nitrate Management Plan are:

1. Generally determine sources of nitrates in the FMA.
2. Identify significant ongoing releases of total nitrogen that could convert to nitrate concentrations exceeding 40 mg/L.
3. Determine, as apparent from available data, current and long-term septic tank nitrogen contribution trends and other selected constituents.
4. Project short- and long-term implications of continued nitrogen releases.
5. Identify and assess alternative nitrate management approaches.

6. Identify the preferred alternative(s) for nitrate management.
7. Implement recommended policies, programs, and projects, as appropriate.

The Boyle/Schmidt/Geomatrix work in developing the Nitrate Management Plan was divided in two major phases, each consisting of several tasks. Phase I primarily consisted of collection and review of groundwater data, identification of past and present major sources of nitrate in the groundwater, development of GIS mapping with an integrated data management system, and a hydrogeologic report summarizing the Phase I work.

The focus of the Phase II work was to identify and compare viable alternatives for management of nitrates in the groundwater and, with City staff concurrence, develop a preferred Nitrate Management Plan that provided a prioritized list of projects that could be implemented to either increase the amount of groundwater resources available or to decrease the amount of nitrate in the groundwater.

The general division of the Nitrate Management Plan work among the Team was as follows:

- Boyle provided overall project management, developed the nitrate management alternatives, and prepared the project technical memoranda and final report.
- Schmidt assisted with the collection of groundwater data, prepared the hydrogeologic report, and provided quality control review of the technical memoranda.
- Geomatrix developed the GIS mapping and integrated data management system. The various figures throughout the hydrogeologic report, technical memoranda, and this final report are a result of the Geomatrix work.

1.2 Authorization

The City of Fresno, recognizing the impacts that nitrates have had on the groundwater and the need to develop projects that can be implemented and policies for dealing with present and future nitrates, authorized Boyle, with the assistance of Kenneth D. Schmidt & Associates, and Geomatrix, to prepare this Nitrate Management Plan.

1.3 Study Scope

As indicated above, the work was divided into two major phases, each with individual tasks needed to complete the study. A brief summary of the scope by phases and tasks is listed below. Later sections of this report provide a more thorough discussion of the work accomplished along with the resulting findings and recommendations.

1.3.1 Phase I – Data Gathering and Evaluation of Existing Nitrates in the Groundwater

The Phase I work consisted primarily of gathering data and its analysis. The results of Phase I were then used to develop solutions to manage and/or mitigate the contaminated groundwater under Phase II. Phase I consisted of three major tasks described below.

1.3.1.1 Task 100 - Compile and Review Existing Data and Prepare GIS Mapping and Data Base

Boyle, with the assistance of Schmidt and Geomatrix, compiled and reviewed available previous studies conducted on the nitrate in groundwater in the Fresno urban area, compiling groundwater elevation and chemistry data, reviewing available information on past and existing high-nitrate dischargers.

A number of previous studies have been conducted on nitrate in groundwater of the Fresno urban area. These previous studies and their findings are detailed in Section 2.1 of this report.

Boyle also worked with the City and other agencies to compile groundwater elevations and groundwater chemistry data. The sources of this data and its use in this study are also detailed in Section 2.1.

This task also included sampling of 20 to 30 of the City's shallow groundwater monitor wells for nitrogen isotope differentiation testing. The isotope test data was evaluated to determine if the predominate source(s) of the prevalent nitrates are animal or non-animal.

Geographic Information System (GIS) mapping was developed for the project. GIS mapping is a system of computer mapping software that integrates the collection, management, and analysis of geographic data. The GIS mapping can be used to display the results of data queries as graphic maps and to analyze spatial distribution of whatever type of data is being considered. In the case of this Nitrate Management Plan, the GIS mapping was used to display historic and current chemical data, groundwater information (such as groundwater contours and flow directions), the sources of nitrate to groundwater, and potential components of engineering solutions to manage or mitigate the groundwater contamination. The GIS maps also showed the location of the City's monitoring wells, production wells, and water distribution system as a series of layers (known as shape files).

The groundwater elevation and chemistry data received from the City and others was then incorporated into a data management system compatible with the City's existing system(s). The data management system is a relational database, Microsoft Access. The data was then geo-referenced to the GIS mapping described above and included monitoring and supply well construction, groundwater water level, and groundwater quality data (for nitrate and other constituents) for the FMA. The data management system contained data querying tools and customized tools to create hydrographs and time-concentration plots for selected constituents.

This work task culminated with a workshop with City staff. The workshop included a presentation of the data gathering activities, the GIS mapping, and the data management system.

1.3.1.2 Task 200 – Data Evaluation

The GIS mapping and database prepared under Task 100 for the FMA was then used to evaluate the current nature and extent of nitrate (and other constituents as necessary) in groundwater, identify data gaps, and identify potential future area of impact from nitrates in groundwater. Using trend analysis and GIS spatial distribution maps, the lateral and vertical extent of nitrate

in groundwater was estimated. Sources and potential sources of nitrate in groundwater were also reviewed for correlation with known high-nitrate areas. In addition, estimates of groundwater gradient and aquifer properties and the present distribution of nitrate in groundwater were utilized to identify potential future areas of impact due to the migration of nitrate in groundwater.

Areas with insufficient water quality data (data gaps) were identified during the evaluation of the preliminary data. Identified data gaps were reviewed with the City and additional data was collected as needed and incorporated into the data management system and GIS mapping

The groundwater data were evaluated generally with respect to the issues described below.

- **Lateral Nitrate Distribution in Groundwater.** Multiple maps were prepared showing the distribution of nitrate and nitrate concentrations in the FMA, each representing groundwater conditions at a different depth. Past studies have shown a relation between permeable topsoils and high nitrate, and, thus, soil maps were also reviewed and compared to the nitrate distribution in the shallow groundwater.
- **Vertical Nitrate Distribution in Groundwater.** Subsurface geologic conditions highly control the vertical distribution of nitrate in groundwater in the FMA. A number of subsurface geologic cross sections were developed and the nitrate results from shallow and deep wells, nested monitoring wells, and test holes and test wells were plotted on these sections to show the vertical distribution of nitrate in groundwater.
- **Changes in Nitrate Concentrations with Time.** Time-concentration plots of nitrate in groundwater were prepared for pertinent wells in the FMA. These plots were used to assess the lateral and vertical transport (and attenuation) of nitrate in groundwater with time. Two important factors that influence time trends for nitrate are: 1) water-level changes, and 2) changes in well construction. Both of these factors were evaluated in the study area.
- **Sources of Nitrate in Groundwater.** Sources of high-nitrate concentrations in shallow groundwater of the Fresno area have been examined in a number of reports dating back to the mid 1960s. Information on former wastewater treatment facilities, unsewered areas relying on septic tanks, and industrial waste disposal sites are discussed in these reports. The most significant nitrate sources were identified and their estimated impact on the nitrate concentrations in groundwater beneath these areas was addressed.
- **Well Construction.** Factors, such as depth to the shallowest perforation, extent of the annular seal, and total depth of the well, have been shown by previous studies to be important in terms of nitrate concentrations, nitrate distribution vertically, and possible future mitigation of nitrate in groundwater. A preliminary evaluation was done to determine the potential for well deepening and for well replacement (by deeper wells) as a potential mitigation measure in specific areas and for specific wells.

1.3.1.3 Task 300 - Hydrogeologic Report

Kenneth D. Schmidt & Associates (Schmidt) then prepared a hydrogeologic report, summarizing the results of the Phase I evaluation performed in Tasks 100 and 200. The report summarized the data collected, the estimated vertical and lateral extent of nitrate in groundwater, identification of sources and potential sources of nitrate to groundwater, and estimation of potential future areas of impact. A copy of the Schmidt hydrogeologic report is included in Appendix A.

1.3.2 Phase II – Nitrate Management Plan Development

Phase II of the study primarily involved the development of projects and policies that, taken together, will comprise the City of Fresno Nitrate Management Plan. Phase II tasks are described below.

1.3.2.1 Task 400 - Develop and Evaluate Nitrate Management Alternatives

Using the information obtained in Phase I, a number of alternatives for management of nitrates were developed to a point where they could be equitably compared on a cost/benefit basis. Alternatives evaluated included those described below.

- Minimizing or eliminating sources of nitrate to reduce further degradation of the aquifer. This alternative included options such as changing operational practices, elimination of septic systems, cleanup of known discharges, etc.
- Extraction of nitrate-laden groundwater, treating or blending (with lower nitrate sources) the nitrate, and using the water for municipal supply. This method provides for the highest use of the water (drinking water) but could require the highest cost both for capital installations and for operations if only treatment is considered.
- Extraction of nitrate-laden groundwater and using it for irrigation. This alternative evaluated the possibility of delivering some high-nitrate water for irrigation (agricultural and/or large turf applications) with the potential for receiving low-nitrate surface water in exchange that would in turn be percolated or treated to drinking water standards.
- Aquifer Storage and Recovery Systems (ASR) was examined on a cursory basis as it may have utility in managing high nitrates.
- Managing existing nitrate plumes by deliberate upgradient recharge and/or extraction to limit migration of high-nitrate groundwater within the FMA.
- Constructing additional wells may be feasible to offset those wells that have already been lost to high-nitrate concentrations. This management alternative also includes well fields outside of the high-nitrate areas so that lower-nitrate water could be delivered to existing high-nitrate areas. Such supplies could be used for blending with high-nitrate supplies or to replace local supplies exceeding the nitrate MCL.

Boyle prepared a Task 400 Technical Memorandum (TM) that developed several alternatives and combinations of alternatives as projects. The projects were assessed to compare costs, benefits and ability to be implemented.

1.3.2.2 Task 500 – Comparison of Nitrate Management Alternative Projects

After evaluating the alternative projects developed in Task 400, a matrix was prepared as a comparison tool. The matrix included the comparison criteria listed below.

- Capital cost
- Positive groundwater impact
- Ease of implementation
- Cost effectiveness
- Implementation time
- Nitrate management effectiveness

The effect of the matrix and associated comparison criteria was to rate each alternative project for the amount of nitrate eliminated, the amount of water produced, the amount of groundwater recovered, the anticipated residual disposal impacts, and the expected overall cost. The purpose of the matrix is to constitute the basis for preparation and furthering of recommendations to the City concerning the apparent best methods of dealing with the nitrate contamination.

Boyle prepared a Task 500 Technical Memorandum describing the comparison criteria, the matrix, and the resulting project ranking.

Dr. Kenneth D. Schmidt reviewed both Task 400 and Task 500 Technical Memoranda and his comments were incorporated into this final report. Dr. Schmidt also offered suggested alternative nitrate plume management/remediation projects that were reviewed with City staff and are described in a conceptual manner in Section 5 of this report.

1.4 Organization of the Nitrate Management Plan Report

This Nitrate Management Plan report is organized in six sections, followed by appendices that provide more detailed information when needed and supporting documentation for the results and recommendations of this study. The six sections are briefly described below.

Section 1 – Introduction presents a brief background of the City’s problem with high-nitrate concentrations in the groundwater, discusses the need for this Nitrate Management Plan, and provides a summary of the study scope. A list of abbreviations is also provided to assist the reader in understanding the information presented in this report.

Section 2 – Compilation of Data and Hydrogeologic Study provides an overview of the data gathering activities, the GIS mapping and data management system, and a synopsis of the report entitled, “Distribution and Sources of Nitrate in Groundwater in and Near the City of Fresno” prepared by Kenneth D. Schmidt & Associates. As noted above, the Schmidt hydrogeologic report is included in Appendix A.

Section 3 – Nitrate Management Alternatives describes a number of alternative projects that could be implemented for management of nitrates. This section summarizes the Task 400 TM work.

Section 4 – Comparison of Nitrate Management Projects describes the methods and logic used to compare the nitrate management projects developed in Task 400. This section summarizes the Task 500 TM work.

Section 5 – Plume Management Alternative Projects provides general descriptions of projects that could be instituted to manage two of the most critical known nitrate plumes within the FMA: 1) the Sunnyside area and 2) the area generally along Clovis Avenue between Belmont and McKinley Avenues. These projects are presented as conceptual projects that could provide the City with the ability to manage these nitrate plumes if other projects prove to be not politically or financially feasible.

Section 6 – Nitrate Management Plan Recommendations and Policies outlines the recommendations that are a result of this study and provide potential policies that may be adopted by the City, if desired.

1.5 Acknowledgements

Boyle wishes to acknowledge and thank Martin McIntyre, Former Director of Public Utilities; Patrick Weimiller, Former Interim Director of Public Utilities; Rene Ramirez, Assistant Director of Public Utilities; Lon Martin, Water Division Manager; and Brock Buche, Water Division Professional Engineer for their assistance in this study. Boyle also wishes to acknowledge the cooperation of the City of Clovis, the Bakman Water Company, the Fresno County Environmental Health Department, Malaga Community Water District, the Regional Water Quality Control Board (RWQCB), and others. Their cooperation and courtesy in obtaining the variety of necessary data and providing input to the study were invaluable components in completing this Nitrate Management Plan.

1.6 Boyle Project Staff

The following Boyle staff members were involved in the preparation of this Nitrate Management Plan:

Project Manager: Mark A. Ysusi, PE

Project Engineers: Henry Liang, PE
Doug Lade, EIT

1.7 Abbreviations and Definitions

To conserve space and to improve readability, the following abbreviations are used in this report.

AFY	acre-feet per year
Bakman	Bakman Water Company
CEQA	California Environmental Quality Act
City	City of Fresno
Clovis	City of Clovis
County	County of Fresno
CVP	Central Valley Project
DHS	California Department of Health Services, Office of Drinking Water
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
FID	Fresno Irrigation District
FMA	Fresno Metropolitan Area
FMFCD	Fresno Metropolitan Flood Control District
GIS	Geographical Information System
gpm	gallons per minute
MCL	maximum contaminant level
MG	million gallons
mgd	million gallons per day
mg/L	milligrams per liter
TM	Technical memorandum
WRMP	Fresno/Clovis Metropolitan Water Resources Management Plan
WTP	water treatment plant

Section 2

Compilation of Data and Hydrogeologic Study

This section provides a summary of the data gathering activities and the hydrogeologic report prepared by Kenneth D. Schmidt & Associates.

2.1 Compilation of Existing Data and Data Management System

Boyle, with the assistance of Schmidt and Geomatrix, compiled and reviewed available previous studies conducted on the nitrate in groundwater in the Fresno urban area, compiled groundwater elevation and chemistry data, and reviewed available information on past and existing high-nitrate dischargers.

A number of previous studies have been conducted on nitrate in groundwater of the Fresno urban area. These studies include but are not limited to the following:

- California Department of Water Resources, “Fresno-Clovis Metropolitan Area Water Quality Investigation” (1965).
- K. D. Schmidt Dissertation, “Distribution of Nitrate in Groundwater in Fresno-Clovis Metropolitan Area” (1971).
- 208 Non-point Source Water Quality Report for County of Fresno and Other Entities (1978).
- 205J Non-point Source Water Quality Report for County of Fresno and Other Entities (1986).
- City of Fresno/Clovis Water Resources Master Plan, Appendix B, Hydrogeology (1992).
- Numerous publications of the USDA Agricultural Research Service, particularly on the rural area east of Fresno (1960s, 1970s, and 1980s).

The above studies were reviewed to provide a baseline understanding of the sources and extent of nitrate in groundwater in the Fresno urban area. Boyle also worked with the City and other agencies to compile groundwater elevations and groundwater chemistry data. The sources of this data were:

- Fresno City supply wells, test holes and test wells, and nested monitor wells
- Bakman Water Co. supply wells, test holes, and test wells
- City of Clovis test wells and supply wells
- Selected private/public domestic wells (Fresno County Environmental Health)
- Malaga CWD supply wells, test holes, and test wells

- Selected private domestic wells (Fresno County Environmental Health);
- Monitoring wells for environmental and groundwater contamination sites (RWQCB).

RWQCB and Fresno County records were researched to identify past and existing potential dischargers of significant total nitrogen quantities. Potential dischargers, both past and present, of significant amounts of total nitrogen include:

- Septic tanks in the FMA
- Wineries, tanneries, and food processors
- Certain major farming and/or other agricultural operations including confined animal operations
- Agricultural chemical formulating plants

Estimates of septic tank flow and nitrogen application in large turf areas such as golf courses were made.

Twenty to thirty of the City's shallow groundwater monitor wells were sampled for nitrogen isotope differentiation testing. The isotope test data was evaluated to determine if the predominant source(s) of the prevalent nitrates are animal or non-animal; however, the isotope tests were inconclusive and not used as part of this study.

As explained in the previous section, GIS mapping was developed for the project. GIS mapping is a system of computer mapping software that integrates the collection, management and analysis of geographic data. The GIS mapping can be used to display the results of data queries as graphic maps and to analyze spatial distribution of whatever type of data is being considered. In the case of this Nitrate Management Plan, the GIS mapping was used to display historic and current chemical data, groundwater information (such as groundwater contours and flow directions), the sources of nitrate to groundwater, and potential components of engineering solutions to manage or mitigate the groundwater contamination. The GIS maps also showed the location of the City's monitoring wells, production wells, and water distribution system as a series of layers (known as shape files). The nitrate and groundwater data incorporated into the GIS mapping and data management system covered a time period of approximately the last four decades.

The groundwater elevation and chemistry data received from the City and others was then incorporated into a data management system compatible with the City's existing system(s). The data management system is a relational database, Microsoft Access. The data was then geo-referenced to the GIS mapping described above and included monitoring and supply well construction, groundwater water level, and groundwater quality data (for nitrate and other constituents) for the FMA. The data management system contained data querying tools and customized tools to create hydrographs and time-concentration plots for selected constituents.

The project study GIS mapping and data management system were delivered to the City for their use and maintenance. If kept current, the GIS mapping and data management system will be a very

helpful tool in determining both short and long-term effectiveness of various nitrate management alternatives.

2.2 Hydrogeologic Study

2.2.1 Overview

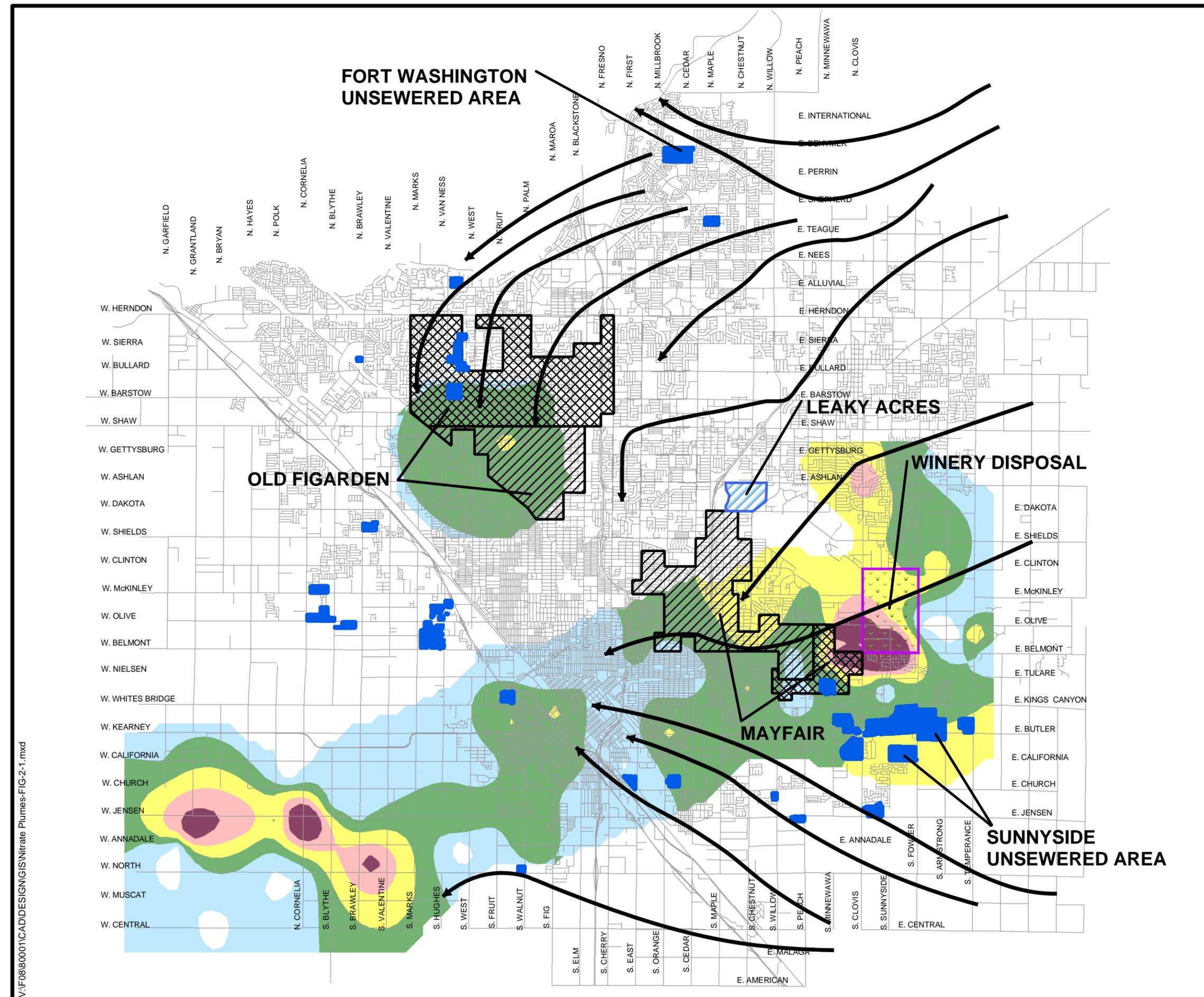
Using the data previously collected, Kenneth D. Schmidt and Associates (Schmidt) prepared a hydrogeologic report detailing the past and present status of nitrates in the groundwater under the Fresno Metropolitan Area. The graphics contained in the Schmidt report were developed using the project GIS mapping and data management system. The Schmidt report addresses available nitrate data over the last four decades and presents the hydrogeologic data as follows:

- To promote a clear understanding of groundwater movement and quality in the Fresno area, the hydrogeologic framework is first discussed including subsurface geologic conditions, water levels, aquifer characteristics, and sources of recharge and discharge.
- Potential sources of nitrate in groundwater beneath the City are presented. Information on nitrate sources over the past three decades is also detailed.
- The historic geographic and vertical distribution of nitrate in the groundwater is then documented.
- Known time trends for nitrate in well water in the FMA are presented and interpreted.
- The report then divides the FMA into six subareas with significant nitrate concentrations that are discussed in more detail. The six subareas are:
 - Old Figarden
 - Fresno North Growth Area
 - South and east of Fresno Air Terminal (including Mayfair)
 - Sunnyside
 - Calwa-Malaga
 - Southwest Area
- Finally, recommended enhanced well construction practices are described in detail.

2.2.2 Key Report Findings and Conclusions

The Schmidt hydrogeologic report notes a number of key findings that offer significant insight into the development of both short- and long-term elements of a nitrate management plan. The historical groundwater nitrate concentration mapping data, coupled with the identification of significant sources of nitrate provide examples of observed increases of nitrate concentrations over a period of years in an area and then, in some cases, reduction of the nitrate concentrations following remedial actions.

Figures 2-1, 2-2, and 2-3 on the following pages are modifications of Figures 10, 11, and 12 of the Schmidt report that illustrate the variation of groundwater nitrate concentration between the years of 1968 to 2004. Major sources of nitrate identified in the Schmidt report, such as unsewered areas,



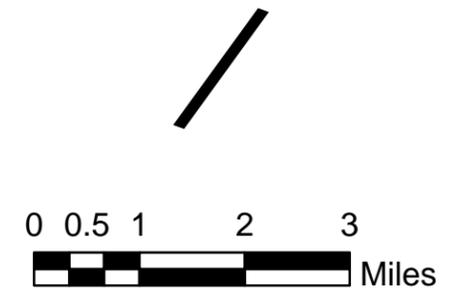
Legend

Year Sewered

- Old Figarden 70-75
- Old Figarden 75-80
- Mayfair 70-75
- Mayfair 75-80
- Winery Disposal
- Leaky Acres

1968-77 Nitrate Concentrations

- No data
- 10-20 mg/L
- 20-30 mg/L
- 30-40 mg/L
- 40-50 mg/L
- >50 mg/L
- Unsewered Residential Area
- General Direction of Groundwater Flow

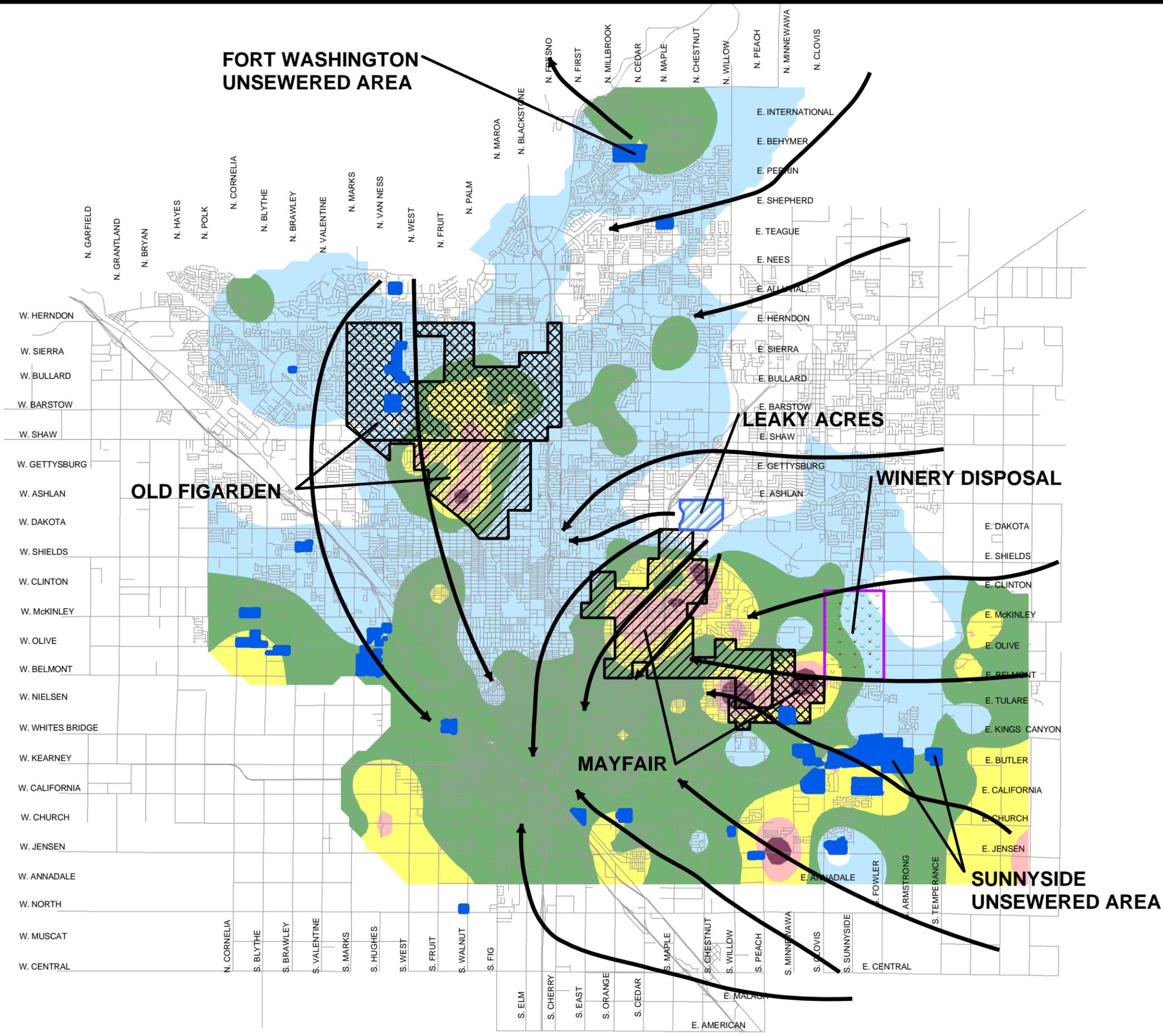


City of Fresno 1968-1977 Nitrate Concentrations

DATE	FIGURE	PROJECT NO.
2/06	2-1	F0880001

Boyle Engineering Corporation

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Legend

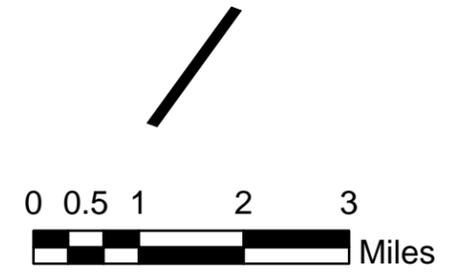
Year Sewered

- Old Figarden 70-75
- Old Figarden 75-80
- Mayfair 70-75
- Mayfair 75-80

Mid 80s Nitrate Concentrations

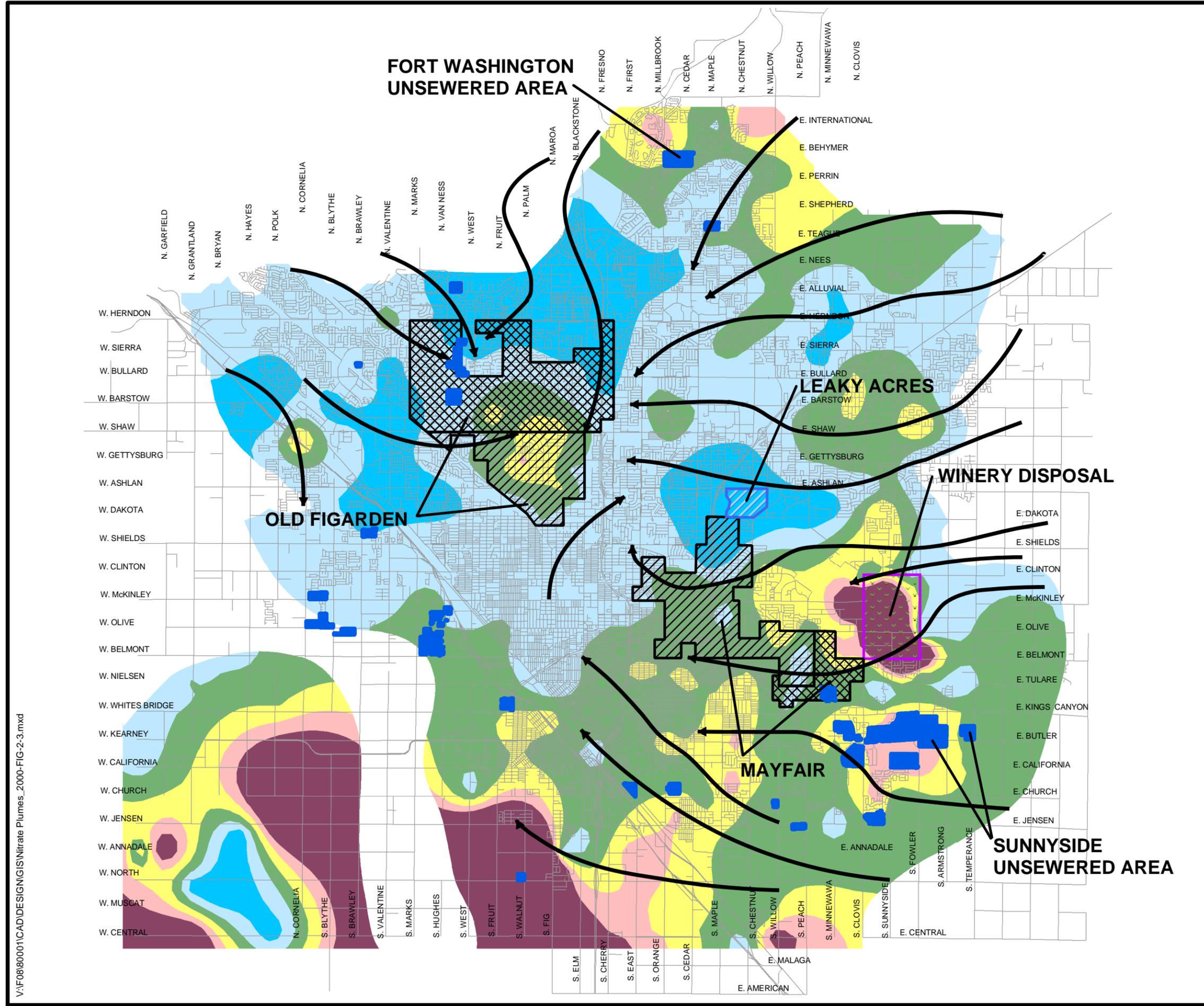
- No data
- 10-20 mg/L
- 20-30 mg/L
- 30-40 mg/L
- 40-50 mg/L
- >50 mg/L
- Winery Disposal
- Leaky Acres
- Unsewered Residential Area

General Direction of Groundwater Flow



City of Fresno Mid 80s Nitrate Concentrations		
DATE 2/06	FIGURE 2-2	PROJECT NO. F0880001
Boyle Engineering Corporation		

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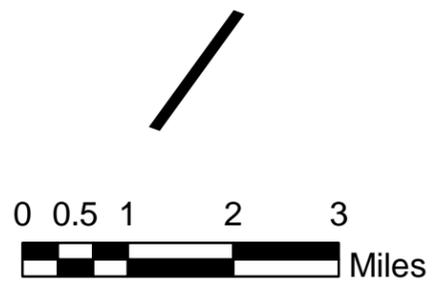
Legend

Year Sewered

- Old Figarden 70-75
- Old Figarden 75-80
- Mayfair 70-75
- Mayfair 75-80

2000-2004 Nitrate Concentrations

- No data
- <10 mg/L
- 10-20 mg/L
- 20-30 mg/L
- 30-40 mg/L
- 40-50 mg/L
- >50mg/L
- Winery Disposal
- Leaky Acres
- Unsewered Residential
- General Direction of Groundwater Flow



City of Fresno
2000-2004 Nitrate Concentrations

DATE 2/06	FIGURE 2-3	PROJECT NO. F088001
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Boyle Engineering Corporation

V:\F08180001\CAD\DESIGN\GIS\Nitrate Plumes_2000-FIG-2-3.mxd

have been added to these figures to show the effects that the contributing areas have on the downgradient groundwater. Of particular note are the Old Figarden (formerly unsewered), Mayfair (formerly unsewered), Sunnyside (much of which remains unsewered), and Fort Washington (remains unsewered) areas and the area along Clovis Avenue between Belmont and McKinley. The areas of highest groundwater nitrate concentration in the vicinity of the unsewered areas from 1968 to 1977 are clearly illustrated in Figure 2-1. Figure 2-2 shows the lingering results of the formerly unsewered areas even though both the Old Figarden and Mayfair areas had been sewered during the 1970s. Figure 2-2 also illustrates the sharply increasing nitrate concentrations beneath and downgradient of the Sunnyside area and the area along Clovis Avenue between Belmont and McKinley and increasing concentrations downgradient from the Fort Washington area. The effects of sewerage the Old Figarden and Mayfair areas, however, are shown clearly in Figure 2-3. Though still elevated, the nitrate concentrations downgradient of the Old Figarden area are reduced, and the nitrate concentrations downgradient of the Mayfair area are significantly reduced. As indicated in the Schmidt hydrogeologic report, the more marked reduction downgradient from Mayfair than Old Figarden is largely attributable to the commencement of direct recharge activities at Leaky Acres in 1970. The groundwater concentrations beneath portions of the Mayfair area reached their highest nitrate levels in the mid-1980s of between 40 and 50 mg/L and by the early 2000s were reduced to 20 to 30 mg/L.

Figures 2-1, 2-2, and 2-3 also clearly indicate the continued elevated nitrate concentrations beneath and downgradient of the Sunnyside and Fort Washington areas that remain unsewered. Figure 2-3 particularly illustrates that both these areas and the area along Clovis Avenue between Belmont and McKinley are continuing sources of nitrates into the FMA groundwater.

The Schmidt hydrogeologic report and review of Figures 2-1, 2-2, and 2-3 lead to conclusions that were used to guide the development of alternative nitrate management projects. Significant conclusions include the following:

- Removing the source of the nitrate has been shown to reduce the concentrations of nitrate in the groundwater beneath and downgradient of the source. While this may seem to be an obvious conclusion, it is presented as an alternative to continuing to allow the source of nitrate to contribute to the elevated nitrate concentrations in the groundwater and either treating the nitrate or removing it by some other method. It is also presented as an alternative since it has consistently been shown (as described above) to be a very effective method of reducing groundwater nitrate contamination. The most obvious remaining sources of nitrate groundwater beneath the FMA are the unsewered areas of Sunnyside and Fort Washington and the area along Clovis Avenue between Belmont and McKinley. Removing these three sources will require sewerage the Sunnyside and Fort Washington areas and affecting a cessation of the nitrate contributions in the area along Clovis Avenue between Belmont and McKinley.
- As demonstrated by the rapid improvement in the groundwater downgradient from the Mayfair area, recovery of the groundwater is accelerated when there is also an upgradient source of intentional recharge of surface water. According to Schmidt, the rapid improvement in the Mayfair area has most likely been assisted by the Leaky Acres recharge activities that began in 1970.

- It may be possible to drill new City wells in high-nitrate areas that produce acceptable nitrate concentrations if they are done carefully, following the procedures outlined in the Schmidt report. This means that the construction of new production wells should be part of the alternative considered.

The complete report is available upon request.

Drummond and Jensen Community Survey Tabulation
Survey conducted 2010

<u>SURVEY NUMBER</u>	<u>Leach Line</u>		<u>Seepage Pit Dry well</u>		<u>Problems with Septic tanks</u>		<u>Prefer Public Sewer</u>		<u>INCOME</u>	
1		0	Y	1	No	0	Need more info	0	29,999 or less	\$29,999
2	Y	1			N/A		Yes	1	N/A	
3	Y	1	Y	1	Yes	1	Yes	1	N/A	
4	N/A	0	N/A		N/A		Yes	1	N/A	
5	Y	1	Y	1	Yes	1	Yes	1	74,000 or more	\$74,000
6	Don't Know	0	Don't Know		No	0	Don't Know	0	74,999 or less	\$74,999
7		0	Y	1	Yes	1	Yes	1	53,999 or less	\$53,999
8	Y	1	Y	1	Yes	1	Yes	1	53,999 or less	\$53,999
9	Y	1	Y	1	N/A		Yes	1	47,999 or less	\$47,999
10	Y	1	Y	1	N/A		N/A	0	29,999 or less	\$29,999
11	Y	1	Y	1	Yes	1	N/A	0	41,999 or less	\$41,999
12	N/A	0	N/A		N/A		Yes	1	35,999 or less	\$35,999
13		0	Y	1	N/A		Yes	1	\$35,000.00	\$35,000
14		0	Y	1	No	0	Yes	1	\$31,000.00	\$31,000
15	Y	1		0	Yes	1	Yes	1	\$25,000.00	\$25,000
16	Y	1		0	No	0	Yes	1	18,999 or less	\$18,999
17	N/A	0	N/A		N/A		Yes	1	14,999 or less	\$14,999
18	Y	1	Y	1	Yes	1	Yes	1	14,999 or less	\$14,999
19	N/A	0	N/A		No	0	Yes	1	14,999 or less	\$14,999
20	Y	1		0	N/A		N/A	0	less than 10,999	\$10,999
		11		11		7		15		
		of 20		of 11		of 12		of 20		
		55.0%	Pit	100.0%	Problems	58.3%	Want Sewer	75.0%	Median	\$31,000
21					All households that answered question, indicated that they had a seepage pit for disposal					
22					58% of those that answered question, responded that they had septic tank problems					
23					75% of households indicated they preferred public sewer					
24					Median household income is \$31,000, which is 51% of State MHI for 2009					
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
	0				19				\$31,000.00	
	#REF!				34				median	
					55.88%					
					Own					



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): SAMUEL R. SMITH
2. Street Address: 5145 E. Drummond Ave
3. Number of People in the house? 1 # of bathrooms 2
4. Do you: (circle): own rent
5. Where does the septic tank water go? (circle)
Leach Line **Seepage pit/ dry well** **Both** **Don't know**
6. Has the sewage disposal system ever given you any problems?
 If yes, please describe
No
7. How many times has the septic tank been pumped in the last three years? 2
 Average Cost _____
 Pay by (circle one): **Cash** **Check** **Money order**
 Pumping Dates _____ Receipts (circle) **Yes** **No**

8. Name (s) of pumping service (s) used: _____
9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)
Septic Tank **Yard** **Seepage pit** **Other** ?

10. Which would you prefer? (circle one)
Public sewers **Septic Tanks** **Don't know** **Don't care** **Need more info**
11. Are you connected to Fresno City water?
 Yes _____ No ✓ If not, why? Can't afford hook-up costs

12. Have you ever attended a Board of Supervisors meeting? **Yes** ✓ **No** _____
13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?
Yes ✓ **No** _____
 If yes, what was it about? Zoning north & south of Jensen Ave

14. What other community services are needed? (circle)
Police **Fire** **Streets** **Trash** **Lights** **Curb/Gutter** **Sidewalks** **Youth programs**
Elderly services **Other** _____

Number of children in household under 18 years of age? 0 Ages? _____

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:

Wages/Salary? Y N

Unemployment? Y N

Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--|-------------------------------------|--|
| <input type="radio"/> Less than \$10,999 | <input type="radio"/> 30,000-35,999 | <input type="radio"/> More than \$75,000 |
| <input type="radio"/> 11,000-14,999 | <input type="radio"/> 36,000-41,999 | |
| <input type="radio"/> 15,000-18,999 | <input type="radio"/> 42,000-47,999 | |
| <input type="radio"/> 19,000-21,999 | <input type="radio"/> 48,000-53,999 | |
| <input type="radio"/> 22,000-25,999 | <input type="radio"/> 54,000-59,999 | |
| <input checked="" type="radio"/> 26,000-29,999 | <input type="radio"/> 60,000-74,999 | |

What is the Language most spoken in the Household?

ENGLISH

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): ANGLO-SAXON, DANISH, GERMAN, SCOTS/IRISH

Carol R. Smith
Signature

599 916 0635
Telephone #

11/5/10
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): JORJA LANA

2. Street Address: 5171 E. DRUMMOND AVE. (RENTAL PROPERTY)

3. Number of People in the house? 5 # of bathrooms 2

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)
Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe

7. How many times has the septic tank been pumped in the last three years? 1
 Average Cost 250

Pay by (circle one): Cash Check Money order

Pumping Dates _____ Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: CALIF. SEWAGE

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?

Yes X No _____ If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes X No _____

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes X No _____

If yes, what was it about? Water Hook-Up

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other _____

Number of children in household under 18 years of age? 2 Ages? 12+13

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:

Wages/Salary? Y N

Unemployment? Y N

Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filing. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--------------------|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

ENGLISH

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

J. O. Lora
Signature

251-6927
Telephone #

11-4-2010
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): JON A. LARA

2. Street Address: 5176 E. JENSEN AVE (RENTAL PROPERTY)

3. Number of People in the house? 5 # of bathrooms 2

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?

If yes, please describe

PLUG DRY-WELLS

7. How many times has the septic tank been pumped in the last three years? 1

Average Cost 250⁰⁰

Pay by (circle one): Cash Check Money order

Pumping Dates _____ Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: CALIF. SEWAGE

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?

Yes X No _____ If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes X No _____

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes X No _____

If yes, what was it about? WATER HOOD-CLP

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other _____

Number of children in household under 18 years of age? 2 Ages? 7+8

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:

Wages/Salary? Y N

Unemployment? Y N

Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filing. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--------------------|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

ENGLISH

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

Janet Ravel
Signature

251-6927
Telephone #

11-4-2010
Date



**Drummond and Jensen
Survey of Septic Tank System Performance and Community**

1. Name (Optional): Diana Sanchez

2. Street Address: 5182 E. Drummond Ave

3. Number of People in the house? 4 # of bathrooms 1

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?
If yes, please describe

7. How many times has the septic tank been pumped in the last three years? 3

Average Cost _____

Pay by (circle one): Cash Check Money order

Pumping Dates _____ Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?

Yes No _____ If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes No _____

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes No _____

If yes, what was it about? _____

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other _____

Number of children in household under 18 years of age? 3

Ages? 25 yrs, 24 yrs

How many families live in this household? 1

At this Residence more than six months out of the year?

Y N

Are any of the household members farm workers?

Y N

Anyone in the household over 62 years old?

Y N

Anyone in the household handicapped?

Y N

Female head of household?

Y N

Do any members of the Household Receive:

Wages/Salary?

Y N

Unemployment?

Y N

Any other Benefits?

Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

Less than \$10,999

30,000-35,999

More than \$75,000

11,000-14,999

36,000-41,999

15,000-18,999

42,000-47,999

19,000-21,999

48,000-53,999

22,000-25,999

54,000-59,999

26,000-29,999

60,000-74,999

What is the Language most spoken in the Household?

English

Are you Latino?

Y

N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____

Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,

Other Race (write in): _____

Alicia Sanchez
Signature

373-7187
Telephone #
(available 7:30pm)

10/31/10
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): Michael C. Perez
2. Street Address: 5154 E Drummond
3. Number of People in the house? 4 # of bathrooms 2
4. Do you: (circle): own rent
5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe
Yes. In the past twenty years, I have had many problems with the bathroom "Backing up"

7. How many times has the septic tank been pumped in the last three years? 1
 Average Cost 300.

Pay by (circle one): Cash Check Money order

Pumping Dates December 2008 Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: Owens Pumping Service

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)
- Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?
 Yes _____ No ✓ If not, why? Low cost of well water, large yard (watering)

12. Have you ever attended a Board of Supervisors meeting? Yes ✓ No _____

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?
 Yes ✓ No _____

If yes, what was it about? Zoning change of the ~~back~~ large field located south of our neighborhood

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other More regional parks in our immediate area

Number of children in household under 18 years of age? 1

Ages? 3

How many families live in this household? 2

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- Less than \$10,999 30,000-35,999 More than \$75,000
- 11,000-14,999 36,000-41,999
- 15,000-18,999 42,000-47,999
- 19,000-21,999 48,000-53,999
- 22,000-25,999 54,000-59,999
- 26,000-29,999 60,000-74,999

What is the Language most spoken in the Household?
English

Are you Latino? Y N

What is your Race?
Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): Latino/Hispanic

Michael A. Perez
Signature

266-9828
~~4577~~
Telephone #

6/24/10
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): _____

2. Street Address: 5125 E DRUMMOND AVE

3. Number of People in the house? 6 # of bathrooms 2

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line **Seepage pit/ dry well** **Both** Don't know

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe

no - not yet

7. How many times has the septic tank been pumped in the last three years? unknown
 Average Cost unknown

Pay by (circle one): **Cash** **Check** **Money order**

Pumping Dates _____ Receipts (circle) **Yes** **No**

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank **Yard** **Seepage pit** **Other** _____

10. Which would you prefer? (circle one)

Public sewers **Septic Tanks** Don't know **Don't care** **Need more info**

11. Are you connected to Fresno City water?

Yes X **No** _____ If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? **Yes** _____ **No** X

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes _____ **No** X

If yes, what was it about? _____

14. What other community services are needed? (circle)

Police **Fire** **Streets** **Trash** Lights **Curb/Gutter** **Sidewalks** **Youth programs**

Elderly services **Other** _____

Number of children in household under 18 years of age? 4

Ages? 3, 5, 11, 13

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--------------------|----------------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | <u>60,000-74,999</u> | |

What is the Language most spoken in the Household?
English

Are you Latino? Y N

What is your Race?
Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

Signature Telephone # Date

Number of children in household under 18 years of age? 4

Ages? 10, 9, 4, expecting

How many families live in this household? 1

At this Residence more than six months out of the year? yes

Y N
 Y N
 Y N
 Y N
 Y N

Are any of the household members farm workers?

Anyone in the household over 62 years old?

Anyone in the household handicapped?

Female head of household?

Do any members of the Household Receive:

Wages/Salary?

Unemployment?

Any other Benefits?

Y N
 Y N
 Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ 49,000 **OR circle one below**

- | | | |
|--------------------|----------------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | <u>48,000-53,999</u> | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

english / spanish

Are you Latino? Y N "chicano cristiano"

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): Azteca

Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,

Other Race (write in): Chicano cristiano

[Signature]
Signature

559-266-8656
Telephone #

10-25-10
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): Richard Perez

2. Street Address: 5183 E Drummond

3. Number of People in the house? 3 # of bathrooms 2

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)
Leach Line Seepage pit/dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe
yes. Had extra well (seepage pit) ~~at~~ put in

7. How many times has the septic tank been pumped in the last three years? 6
 Average Cost 275⁰⁰

Pay by (circle one): Cash Check Money order
 Pumping Dates _____ Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)
Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)
Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?
 Yes X No _____ If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes X No _____

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?
 Yes X No _____
 If yes, what was it about? _____

14. What other community services are needed? (circle)
 Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs
 Elderly services Other _____

Number of children in household under 18 years of age? 0 Ages? _____

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--------------------|----------------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | <u>48,000-53,999</u> | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?
English

Are you Latino? Y N

What is your Race?
Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine,
Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

Richard Ruiz
Signature

250 0123
Telephone #

10-28-10
Date



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

1. Nombre (Opcional): Pedro Ried
2. Domicilio: 5105 E DRUMMOND AVE
3. ¿Numero de personas en el hogar? 6 numero de baños 2
4. Usted es: (Circule): es dueña/o renta
5. ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar
Los Dos Métodos No Se

6. ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
 Si sí, explique:

7. ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? 3
 Promedio de Costo Total (Cuanto Cuesta para Bombear): 300

Como pago (circule uno): Efectivo Cheque Money order

Fechas de Bombear No recuerdo Recibos (circule) Sí No

8. ¿Nombre de la(s) compañía(s) que a usado?: No recuerdo
9. ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)
Tanque Séptico Yarda Hoyo de Filtración Otro _____

10. ¿Cual prefiriera? (Circule uno)

Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

11. ¿Esta conectado al sistema de agua de la Ciudad de Fresno?
 Si No Si no, porque no? Porque NO ME DUSARON QUE IUA PENER

12. ¿Ha atendido reuniones de la Mesa de Supervisadotes? Si No

13. ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?

No Si Si si, de que se trataba? _____

14. ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía Bomberos Calles Basura Luces Bordillos/Cunetas Banquetas

Programas Juveniles Servicios para los Mayores de 65 años Otros _____

¿Numero de niños en el hogar? 1 Y sus edades: 3 AÑOS

¿Cuántas familias viven en el Hogar? 1

- ¿Viven en esta casa más que seis meses al año? SÍ NO
- ¿Hay miembros de la casa que son campesinos? SÍ NO
- ¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO
- ¿Hay alguien en el hogar que esta incapacitado? SÍ NO
- ¿Hay una mujer que encabeza el hogar sola? SÍ NO
- ¿Hay alguien en el hogar que recibe los siguientes?
 - Salario SÍ NO
 - Desempleado SÍ NO
 - Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____ O marque uno

Menos de \$10,999	30,000-35,999	Mas de \$75,000
11,000-14,999	36,000-41,999	
15,000-18,999	<u>42,000-47,999</u>	
19,000-21,999	48,000-53,999	
22,000-25,999	54,000-59,999	
26,000-29,999	60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) _____
Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamená o Chamorro, Coreana, Otro Asiático _____
Otra raza (por favor especifique): _____

Pedro Ruiz
Firma

233 7936
de teléfono

6-14-2010
Fecha



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

1. Nombre (Opcional): _____
2. Domicilio: 5194-E JENSEN
3. ¿Numero de personas en el hogar? 2 numero de baños 1
4. Usted es: (Circule): **es dueña/o** si **renta**
5. ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar

Los Dos Métodos **No Se**

6. ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
Si sí, explique:

7. ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? _____
Promedio de Costo Total (Cuanto Cuesta para Bombear): _____

Como pago (circule uno): **Efectivo** **Cheque** **Money order**

Fechas de Bombear _____ Recibos (circule) **Sí** **No**

8. ¿Nombre de la(s) compañía(s) que a usado?: _____
9. ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)

Tanque Séptico **Yarda** **Hoyo de Filtración** **Otro** _____

10. ¿Cual prefiriera? (Circule uno)

Drenaje Publico **Tanques Sépticos** **No se** **No Importa** **Necesito mas Información**

11. ¿Esta conectado al sistema de agua de la Ciudad de Fresno?

Si _____ **No** _____ Si no, porque no? _____

12. ¿Ha atendido reuniones de la Mesa de Supervisadotes? **Si** _____ **No** _____

13. ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?

No _____ **Si** _____ Si si, de que se trataba? _____

14. ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía **Bomberos** **Calles** **Basura** **Luces** **Bordillos/Cunetas** **Banquetas**

Programas Juveniles **Servicios para los Mayores de 65 años** **Otros** _____

¿Numero de niños en el hogar? _____ Y sus edades: _____

¿Cuántas familias viven en el Hogar? 1

¿Viven en esta casa más que seis meses al año? SÍ NO

¿Hay miembros de la casa que son campesinos? SÍ NO

¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO

¿Hay alguien en el hogar que esta incapacitado? SÍ NO

¿Hay una mujer que encabeza el hogar sola? SÍ NO

¿Hay alguien en el hogar que recibe los siguientes?

Salario SÍ NO

Desempleado SÍ NO

Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____ O marque uno

Menos de \$10,999	30,000-35,999	Mas de \$75,000
11,000-14,999	36,000-41,999	
15,000-18,999	42,000-47,999	
19,000-21,999	48,000-53,999	
22,000-25,999	54,000-59,999	
<input checked="" type="checkbox"/> 26,000-29,999	60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

¿Es usted Latino? SÍ NO

¿Cuál es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) _____

Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamená o Chamorro, Coreana, Otro Asiático _____

Otra raza (por favor especifique): MEXICANO

Angel Quezada
Firma

264-7056
de teléfono

6/14-2010
Fecha



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

- Nombre (Opcional): Rodolfo Rios
- Domicilio: 5106 E. Drummond Ave.
- ¿Numero de personas en el hogar? 4 numero de baños 2
- Usted es: (Circule): es dueña/o renta
- ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar
Los Dos Métodos No Se

- ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
 Si sí, explique:
Si se llena muy pronto
- ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? 3 veces
 Promedio de Costo Total (Cuanto Cuesta para Bombear): 300
 Como pago (circule uno): Efectivo Cheque Money order
 Fechas de Bombear no me acuerdo Recibos (circule) Sí No
- ¿Nombre de la(s) compañía(s) que a usado?: Martinez Co.
- ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)
Tanque Séptico Yarda Hoyo de Filtración Otro _____
- ¿Cual prefiriera? (Circule uno)

Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

- ¿Esta conectado al sistema de agua de la Ciudad de Fresno?
 Si _____ No ✓ Si no, porque no? porque no he tenido problemas con mi pozo.
- ¿Ha atendido reuniones de la Mesa de Supervisadores? Si _____ No ✓
- ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?
 No _____ Si _____ Si si, de que se trataba? _____
- ¿Que otros servicios se necesitan en la comunidad? (circule)

**Policía Bomberos Calles Basura Luces Bordillos/Cunetas Banquetas
 Programas Juveniles Servicios para los Mayores de 65 años Otros _____**

¿Numero de niños en el hogar? 2 Y sus edades: 5 y 4 años

¿Cuántas familias viven en el Hogar? 1

- ¿Viven en esta casa más que seis meses al año? SÍ NO
- ¿Hay miembros de la casa que son campesinos? SÍ NO
- ¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO
- ¿Hay alguien en el hogar que esta incapacitado? SÍ NO
- ¿Hay una mujer que encabeza el hogar sola? SÍ NO
- ¿Hay alguien en el hogar que recibe los siguientes?
 - Salario SÍ NO
 - Desempleado SÍ NO
 - Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____ O marque uno

Menos de \$10,999	30,000-35,999	Mas de \$75,000
11,000-14,999	<u>36,000-41,999</u>	
15,000-18,999	42,000-47,999	
19,000-21,999	48,000-53,999	
22,000-25,999	54,000-59,999	
26,000-29,999	60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) Spanish
Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamen o Chamorro, Coreana, Otro Asiático _____
Otra raza (por favor especifique): _____

Redolfo Rios
Firma

266-3896
de teléfono

6-14-10
Fecha



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

- Nombre (Opcional): Salvador Chavez
- Domicilio: 5192 F Jensen ave
- ¿Numero de personas en el hogar? 5 numero de baños 2
- Usted es: (Circule): es dueña/o renta
- ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar
Los Dos Métodos No Se

- ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
 Si sí, explique:

- ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? 2
 Promedio de Costo Total (Cuanto Cuesta para Bombear): 275 + 275

Como pago (circule uno): Efectivo Cheque Money order

Fechas de Bombear No recuerdo Recibos (circule) Sí No

- ¿Nombre de la(s) compañía(s) que a usado?: Martinez
- ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)

Tanque Séptico Yarda Hoyo de Filtración Otro _____

- ¿Cual prefiriera? (Circule uno)

Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

- ¿Esta conectado al sistema de agua de la Ciudad de Fresno?

Si _____ No X Si no, porque no? _____

- ¿Ha atendido reuniones de la Mesa de Supervisadotes? Si / No _____

- ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?

No X Si _____ Si si, de que se trataba? _____

- ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía Bomberos Calles Basura Luces Bordillos/Cunetas Banquetas

Programas Juveniles Servicios para los Mayores de 65 años Otros _____

¿Numero de niños en el hogar? 3 Y sus edades: 13 - 9 - 2

¿Cuántas familias viven en el Hogar? 5

¿Viven en esta casa más que seis meses al año? SÍ NO

¿Hay miembros de la casa que son campesinos? SÍ NO

¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO

¿Hay alguien en el hogar que esta incapacitado? SÍ NO

¿Hay una mujer que encabeza el hogar sola? SÍ NO

¿Hay alguien en el hogar que recibe los siguientes?
Salario SÍ NO
Desempleado SÍ NO
Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____ O marque uno

Menos de \$10,999	<input checked="" type="radio"/> 30,000-35,999	Mas de \$75,000
11,000-14,999	<input type="radio"/> 36,000-41,999	
15,000-18,999	<input type="radio"/> 42,000-47,999	
19,000-21,999	<input type="radio"/> 48,000-53,999	
22,000-25,999	<input type="radio"/> 54,000-59,999	
26,000-29,999	<input type="radio"/> 60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) _____

Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana,

Filipina, China, Japonesa, Guamená o Chamorro, Coreana, Otro Asiático _____

Otra raza (por favor especifique): _____

Salvador Chavez
Firma

(559) 250 6363
de teléfono

8-25-10
Fecha



#284-0293

Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

1. Nombre (Opcional): Flori Berto Perez

2. Domicilio: 5115 Drummond

3. ¿Numero de personas en el hogar? 5 numero de baños 2

4. Usted es: (Circule): es dueña/o renta

5. ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar
Los Dos Métodos No Se

6. ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
Si sí, explique:

7. ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? _____
Promedio de Costo Total (Cuanto Cuesta para Bombear): _____

Como pago (circule uno): **Efectivo** **Cheque** **Money order**

Fechas de Bombear _____ Recibos (circule) **Sí** **No**

8. ¿Nombre de la(s) compañía(s) que a usado?: _____

9. ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)

Tanque Séptico Yarda **Hoyo de Filtración** **Otro** ~~OTRO~~

10. ¿Cual prefiriera? (Circule uno)

Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

11. ¿Esta conectado al sistema de agua de la Ciudad de Fresno?

Si X No _____ Si no, porque no? _____

12. ¿Ha atendido reuniones de la Mesa de Supervisadotes? Si _____ No _____

13. ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?

No X Si _____ Si si, de que se trataba? _____

14. ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía **Bomberos** Calles Basura Luces Bordillos/Cunetas Banquetas

Programas Juveniles **Servicios para los Mayores de 65 años** **Otros** _____

¿Numero de niños en el hogar? 3 Y sus edades: 13, 11, 9

¿Cuántas familias viven en el Hogar? 1

- ¿Viven en esta casa más que seis meses al año? SÍ NO
- ¿Hay miembros de la casa que son campesinos? SÍ NO
- ¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO
- ¿Hay alguien en el hogar que esta incapacitado? SÍ NO
- ¿Hay una mujer que encabeza el hogar sola? SÍ NO
- ¿Hay alguien en el hogar que recibe los siguientes?
 - Salario SÍ NO
 - Desempleado SÍ NO
 - Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ 35,000 O marque uno

Menos de \$10,999	30,000-35,999	Mas de \$75,000
11,000-14,999	36,000-41,999	
15,000-18,999	42,000-47,999	
19,000-21,999	48,000-53,999	
22,000-25,999	54,000-59,999	
26,000-29,999	60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?
Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)
Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) 1
Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamená o Chamorro, Coreana, Otro Asiático _____
Otra raza (por favor especifique): Mexicano

[Firma] _____ # de teléfono _____ Fecha _____
Firma # de teléfono Fecha

Number of children in household under 18 years of age? 3

Ages? 9, 2, 11

How many families live in this household? _____

At this Residence more than six months out of the year?

Y N
 Y N
 Y N

Are any of the household members farm workers?

Anyone in the household over 62 years old?

Anyone in the household handicapped?

Y N
 Y N

Female head of household?

Do any members of the Household Receive:

Wages/Salary?

Unemployment?

Any other Benefits?

Y N
 Y N
 Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ 31,000 OR circle one below

- | | | |
|--------------------|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

English

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): black African American

[Signature]
Signature

509 724 0434
Telephone #

11/5/10
Date



**Drummond and Jensen
Survey of Septic Tank System Performance and Community**

1. Name (Optional): Maria Lopez

2. Street Address: 5114 E JENSEN

3. Number of People in the house? 6 # of bathrooms 3

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?

If yes, please describe

yes all the time backing up

7. How many times has the septic tank been pumped in the last three years? 6

Average Cost \$600.

Pay by (circle one): Cash Check Money order

Pumping Dates _____ Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: Martinez Pump

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?

Yes No If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes No

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes No

If yes, what was it about? _____

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other _____

Number of children in household under 18 years of age? 4 Ages? 2, 4, 8, 10

How many families live in this household? 6

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filing. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ 261000 **OR circle one below**

- | | | |
|--------------------|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

Spanish

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

Maria Lopez
Signature

347-4679
Telephone #

11-1-10
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): Miguel Moreno Jr

2. Street Address: 5172 E. Drummond

3. Number of People in the house? 6 # of bathrooms 3

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems? no
 If yes, please describe

7. How many times has the septic tank been pumped in the last three years? 1
 Average Cost \$ 630.⁰⁰

Pay by (circle one): Cash Check Money order

Pumping Dates 03 - 2008 Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?

Yes ___ No X If not, why? _____

12. Have you ever attended a Board of Supervisors meeting? Yes ___ No X

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes ___ No X

If yes, what was it about? _____

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs

Elderly services Other Speed bumps

Number of children in household under 18 years of age? 2 Ages? 3 1/2 & 16

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:

Wages/Salary? Y N

Unemployment? Y N

Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| 11,000-14,999 | 36,000-41,999 | |
| <input checked="" type="radio"/> 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?

Spanish & English

Are you Latino? Y N

What is your Race?

Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): _____

Maria P. Merenz
Signature

(553) 579-3407
Telephone #

10/27/2010
Date



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): Jennie + Melissa Martinez

2. Street Address: 5160 E Drummond

3. Number of People in the house? 4 # of bathrooms 2

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)

Leach Line Seepage pit/ dry well Both Don't know

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe

7. How many times has the septic tank been pumped in the last three years? 3
 Average Cost \$300-400

Pay by (circle one): Cash Check Money order

Pumping Dates 11/07 11/08 Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank Yard Seepage pit Other _____

10. Which would you prefer? (circle one)

Public sewers Septic Tanks Don't know Don't care Need more info

11. Are you connected to Fresno City water?
 Yes ___ No X If not, why? no grants available

12. Have you ever attended a Board of Supervisors meeting? Yes X No ___

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?

Yes ___ No X

If yes, what was it about? _____

14. What other community services are needed? (circle)

Police Fire Streets Trash Lights Curb/Gutter Sidewalks Youth programs
 Elderly services Other _____

Number of children in household under 18 years of age? 2 Ages? _____

How many families live in this household? 1

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filing. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ 13,000 OR circle one below

- | | | |
|---|-------------------------------------|--|
| <input checked="" type="radio"/> Less than \$10,999 | <input type="radio"/> 30,000-35,999 | <input type="radio"/> More than \$75,000 |
| <input checked="" type="radio"/> 11,000-14,999 | <input type="radio"/> 36,000-41,999 | |
| <input type="radio"/> 15,000-18,999 | <input type="radio"/> 42,000-47,999 | |
| <input type="radio"/> 19,000-21,999 | <input type="radio"/> 48,000-53,999 | |
| <input type="radio"/> 22,000-25,999 | <input type="radio"/> 54,000-59,999 | |
| <input type="radio"/> 26,000-29,999 | <input type="radio"/> 60,000-74,999 | |

What is the Language most spoken in the Household?
English/Spanish

Are you Latino? Y N

What is your Race?
Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): Hispanic/American

Mel N. Ar
Signature

986-6919
Telephone #

10/27/10
Date



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

- Nombre (Opcional): Jose Dolores Delgado
- Domicilio: 5116 E Drummond ave, Fresno Ca.
- ¿Numero de personas en el hogar? 4 numero de baños 2
- Usted es: (Circule): es dueña/o renta
- ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar

Los Dos Métodos No Se

- ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
 Si sí, explique:
se tapa, estan quebradas las pipas, overflow
- ¿Cuántas veces a bombeado su tanque séptico en los últimos tres años? 3
 Promedio de Costo Total (Cuanto Cuesta para Bombear): \$380.00
 Como pago (circule uno): Efectivo Cheque Money order
 Fechas de Bombear _____ Recibos (circule) Sí No
- ¿Nombre de la(s) compañía(s) que a usado?: _____
- ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)
Tanque Séptico Yarda Hoyo de Filtración Otro baño afuera
- ¿Cual prefiriera? (Circule uno)

Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

- ¿Esta conectado al sistema de agua de la Ciudad de Fresno?
 Si X No _____ Si no, porque no? _____
- ¿Ha atendido reuniones de la Mesa de Supervisadotes? Si / No _____
- ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?
 No X Si _____ Si si, de que se trataba? _____
- ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía Bomberos Calles Basura Luces Bordillos/Cunetas Banquetas
 Programas Juveniles Servicios para los Mayores de 65 años Otros _____

¿Numero de niños en el hogar? 2 Y sus edades: 18 y 17

¿Cuántas familias viven en el Hogar? 1

- ¿Viven en esta casa más que seis meses al año? SÍ NO
- ¿Hay miembros de la casa que son campesinos? SÍ NO
- ¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO
- ¿Hay alguien en el hogar que esta incapacitado? SÍ NO
- ¿Hay una mujer que encabeza el hogar sola? SÍ NO
- ¿Hay alguien en el hogar que recibe los siguientes?
- | | | |
|-------------------------------|-------------------------------------|--------------------------|
| Salario | <input checked="" type="radio"/> SÍ | <input type="radio"/> NO |
| Desempleado <i>Disability</i> | <input checked="" type="radio"/> SÍ | <input type="radio"/> NO |
| Otros beneficios | <input type="radio"/> SÍ | <input type="radio"/> NO |

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____ O marque uno

<input checked="" type="radio"/> Menos de \$10,999	<input type="radio"/> 30,000-35,999	<input type="radio"/> Mas de \$75,000
<input checked="" type="radio"/> 11,000-14,999	<input type="radio"/> 36,000-41,999	
<input type="radio"/> 15,000-18,999	<input type="radio"/> 42,000-47,999	
<input type="radio"/> 19,000-21,999	<input type="radio"/> 48,000-53,999	
<input type="radio"/> 22,000-25,999	<input type="radio"/> 54,000-59,999	
<input type="radio"/> 26,000-29,999	<input type="radio"/> 60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) _____

Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamená o Chamorro, Coreana, Otro Asiático _____

Otra raza (por favor especifique): _____

Jose Ojeda
Firma

559-259-3174
de teléfono

8/24/2010
Fecha



Drummond and Jensen
Survey of Septic Tank System Performance and Community

1. Name (Optional): Rachael Crocco

2. Street Address: 5180 E. Jensen Ave

3. Number of People in the house? 6 # of bathrooms 1

4. Do you: (circle): own rent

5. Where does the septic tank water go? (circle)
Leach Line **Seepage pit/ dry well** **Both** **Don't know**

6. Has the sewage disposal system ever given you any problems?
 If yes, please describe
NO

7. How many times has the septic tank been pumped in the last three years? 1
 Average Cost \$300⁰⁰

Pay by (circle one): Cash Check Money order

Pumping Dates 2008 Receipts (circle) Yes No

8. Name (s) of pumping service (s) used: _____

9. Where does your grey-water (wash, sink and/or laundry water) go to? (circle)

Septic Tank **Yard** **Seepage pit** **Other** Not sure

10. Which would you prefer? (circle one)
Public sewers **Septic Tanks** **Don't know** **Don't care** **Need more info**

11. Are you connected to Fresno City water?
 Yes ___ No X If not, why? can not afford to connect

12. Have you ever attended a Board of Supervisors meeting? Yes X No ___

13. Have you ever received a notice at your home from the County of Fresno or the City of Fresno notifying you about development, zoning, or services?
 Yes X No ___

If yes, what was it about? When and where the meetings were going to be held...

14. What other community services are needed? (circle)

Police **Fire** **Streets** **Trash** **Lights** Curb/Gutter **Sidewalks** **Youth programs**

Elderly services **Other** _____

Number of children in household under 18 years of age? 1 Ages? 14 yrs

How many families live in this household? 2

At this Residence more than six months out of the year? Y N

Are any of the household members farm workers? Y N

Anyone in the household over 62 years old? Y N

Anyone in the household handicapped? Y N

Female head of household? Y N

Do any members of the Household Receive:
Wages/Salary? Y N
Unemployment? Y N
Any other Benefits? Y N

TOTAL HOUSEHOLD INCOME LAST YEAR FOR ALL HOUSEHOLD MEMBERS

From all Sources: In order to determine your income you must use the total gross verifiable household income for the last 12 months or the gross income claimed in the most recent federal income tax filling. This includes gross wages from all sources including public assistance, social security benefits, child support, unemployment benefits, pensions, alimony, interest income, dividend and rental income, or any other source of income received regularly. If you own a business, use the net income from your tax return. \$ _____ **OR circle one below**

- | | | |
|--|---------------|--------------------|
| Less than \$10,999 | 30,000-35,999 | More than \$75,000 |
| <input checked="" type="radio"/> 11,000-14,999 | 36,000-41,999 | |
| 15,000-18,999 | 42,000-47,999 | |
| 19,000-21,999 | 48,000-53,999 | |
| 22,000-25,999 | 54,000-59,999 | |
| 26,000-29,999 | 60,000-74,999 | |

What is the Language most spoken in the Household?
English

Are you Latino? Y N

What is your Race?
Ex. American Indian or Alaskan Native (write in tribe): _____
Or Black or African American/ Asian Indian/ Chinese/ Korean/ Vietnamese/ White/ Samoan, Philippine, Asian Other, Japanese, Native Hawaiian, Guamanian or Chamorro, Other Asian,
Other Race (write in): Hispanic

Rafael Orozco
Signature

(559) 259-7123
Telephone #

10/29/10
Date



Drummond y Jensen
Encuesta del Funcionamiento de Tanques de Séptico

1. Nombre (Opcional): EVA T. Cortes
2. Domicilio: 5164 E. Drummond
3. ¿Numero de personas en el hogar? 2 numero de baños 2
4. Usted es: (Circule): es dueña/o renta
5. ¿A donde transcurre el agua de su tanque de séptico? (circule)

Línea de Lixiviación (Leach Line) Hoyo de Filtración/ Pozo de Secar
Los Dos Métodos No Se

6. ¿Le ha dado problemas en una ocasión su sistema de disponer de aguas sucias?
 Si sí, explique:
- _____

7. ¿Cuantas veces a bombeado su tanque séptico en los últimos tres años? 1
 Promedio de Costo Total (Cuanto Cuesta para Bombear): \$ 325

Como pago (circule uno): Efectivo Cheque Money order

Fechas de Bombear 2008 Recibos (circule) Sí No

8. ¿Nombre de la(s) compañía(s) que a usado?: martines
9. ¿Donde se va su agua sucia (del lavado, fregadero, regadera y/o del baño)? (Circule)

 Tanque Séptico Yarda Hoyo de Filtración Otro _____

10. ¿Cual prefiriera? (Circule uno)

 Drenaje Publico Tanques Sépticos No se No Importa Necesito mas Información

11. ¿Esta conectado al sistema de agua de la Ciudad de Fresno?

Si _____ No X Si no, porque no? _____

12. ¿Ha atendido reuniones de la Mesa de Supervisadotes? Si _____ No _____

13. ¿Ha recibido alguna vez una notificación del Condado de Fresno o de la Ciudad de Fresno?

No _____ Si _____ Si si, de que se trataba? _____

14. ¿Que otros servicios se necesitan en la comunidad? (circule)

Policía Bomberos Calles Basura Luces Bordillos/Cunetas Banquetas

Programas Juveniles Servicios para los Mayores de 65 años Otros _____

¿Numero de niños en el hogar? 0 Y sus edades: _____

¿Cuántas familias viven en el Hogar? 2

¿Viven en esta casa más que seis meses al año? SÍ NO

¿Hay miembros de la casa que son campesinos? SÍ NO

¿Hay alguien en el hogar que tiene más de 62 años? SÍ NO

¿Hay alguien en el hogar que esta incapacitado? SÍ NO

¿Hay una mujer que encabeza el hogar sola? SÍ NO

¿Hay alguien en el hogar que recibe los siguientes?
Salario SÍ NO
Desempleado SÍ NO
Otros beneficios SÍ NO

Ingreso total de todos los Miembros del Hogar del año pasado

Para poder determinar su ingreso total debe calcular todos sus ingresos brutos verificables (como por talones) por los 12 últimos meses o sus ingresos brutos reportados en su ultimo reporte federal de impuestos. Esto incluye todos los ingresos, incluyendo salarios brutos, asistencia publica, seguro social, apoyo financiero de hijos/as, pensión, pensión matrimonial, ingresos de interés, rentas, o dividiendo, o cualquier otra fuente de ingreso recibido regularmente. Si tiene un negocio use el neto ingreso de su reporte de ingresos.

\$ _____	O marque uno	
<input checked="" type="checkbox"/> Menos de \$10,999	30,000-35,999	Mas de \$75,000
11,000-14,999	36,000-41,999	
15,000-18,999	42,000-47,999	
19,000-21,999	48,000-53,999	
22,000-25,999	54,000-59,999	
26,000-29,999	60,000-74,999	

¿Cual es el Idioma hablado más frecuentemente en el hogar?

Español

¿Es usted Latino? SÍ NO

¿Cual es su Raza? (Circule o Escriba)

Indio Americano o Nativo de Alaska (escriba el nombre de la tribu) _____
Negro/Africano Americana/o, Blanca/o, India Asiática, Nativa de Hawaii, Vietnamita, Samoana, Filipina, China, Japonesa, Guamenana o Chamorro, Coreana, Otro Asiático _____
Otra raza (por favor especifique): _____

Eva Cortez
Firma

(559) 264-1195
de teléfono

10-30-10
Fecha

Fresno County

48112010

48112004

48105005

CHAPMAN

ADRIAN

PEACH

PEACH

JENSEN

JENSEN

HELM

SYLMAR

DRUMMOND

31608054

31608031T

31608047S

31608048S

31608050S

31608008S

31608009S

31608017S

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31608018S

31608019S

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31608021S

31608026S

31608045S

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31608012S

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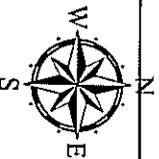
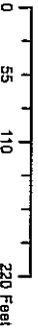
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