MISSION SPRINGS WATER DISTRICT WASTEWATER SYSTEM COMPREHENSIVE MASTER PLAN

Prepared for
Mission Springs Water District
66575 Second Street
Desert Hot Springs, CA 92240-3711

URS Corporation
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Project No. 22238915
April 4, 2007

April 4, 2007

Mr. Arden Wallum
General Manager
Mission Springs Water District
66575 Second Street
Desert Hot Springs, CA 92240-3711

Subject: MSWD Comprehensive Wastewater Master Plan

Dear Arden:

URS and David Miller & Associates (DMA) through close collaboration with your staff has completed the enclosed MSWD Comprehensive Wastewater Master Plan report. In summary, the report outlines major wastewater collection system infrastructure; sewer lines, lift stations, and treatment plant improvements over the next 20 years. The 20-year capital improvement program is based on meeting existing development connections and projected growth in the MSWD service area. As you review the Comprehensive Wastewater Master Plan report, the study goals and objectives are outlined below with our associated findings:

a. *Review and update population projections, dwelling units, and sewer connections for a 20-year planning horizon period* – URS through David Miller & Associates reviewed local and regional population projections and prepared dwelling unit and sewer connection growth scenarios for MSWD service area. The projected number of dwelling units in the MSWD current service area is 7,793 and is expected to increase to 46,382 by 2026.

b. *Review the existing wastewater collection system design criteria and develop a list of suggested inclusions/modifications* – URS' review of current design criteria identified additions/improvements including desired and maximum flow velocity, Manning's roughness coefficient for sewer line capacity design, recommended minimum and maximum sewer line slopes, additional information for manhole, lift station and bedding design, and design unit flow values.

c. *Develop existing and future flow scenarios for inclusion in hydraulic modeling and design unit flow values* – Based on our findings, the current average daily flow values and wet weather peaking factors for the HWWTP and DCWWTP are 1.32 mgd at 2.29 and 0.05 mgd at 4.07, respectively.

d. *Review and update wastewater treatment requirements based on the future growth scenario, planned WWTP expansions, abandonment, and construction* – The current Horton WWTP capacity is expected to be exceeded by mid year 2008 and with the recommended 1.5 mgd expansion will provide time to properly plan, design and construct the new Regional WWTP by 2013. By 2013, the Horton WWTP will be near capacity and with the new Regional WWTP in operation, a significant amount of flow can be redirected from Horton WWTP to the Regional WWTP. In addition, URS is recommending MSWD further consider the conveyance of biosolids from the Horton WWTP to the new Regional WWTP thereby further addressing odor concerns by adjacent residential communities.

e. *Create a hydraulic model (SewerCAD) of the wastewater collection system and calibrate to the flow records at each WWTP* - URS created a SewerCAD model while continually updating the GIS database information to provide the District the ability to remain flexible between formats. The model has been calibrated and the results are presented herein and summarized in item (f).

f. *Test the existing collection system sewer lines for failed criteria in a peak wet weather scenario for existing and future flow conditions* – At the existing Peak Wet Weather Flow (PWF) the model identified 33 existing sewer lines failing d/D criteria and 9 sewer lines failing maximum velocity criteria. At the ultimate build out, these numbers increase to 176 and 16, respectively.

g. *Develop a layout for proposed collection interceptors to handle ultimate flow (build out) scenario* – URS has proposed approximately 45 miles of future interceptors throughout the District to collect the ultimate build out flow and convey to the Regional WWTP. The interceptors are designed at the appropriate design criteria and range from 12" to 36" in diameter. It should be noted that the Horton WWTP would receive flows from the downtown and immediate surrounding areas. Once the Horton WWTP reaches its lifecycle and requires major plant improvements, consideration should be given to abandonment and conveyance of flows to the new Regional WWTP

h. *Prepare a 20-year System Improvement Plan in 5-year increments that identifies improvements and related costs for recommended wastewater collection system and facilities* – The capital improvement plan (CIP) for major wastewater infrastructure; collection system treatment plants and lift stations over the next 20 years is expected to cost approximately $220 million with the majority of cost ($120 M) by 2011. The CIP for sewer line replacement over the next 20 years is expected to cost approximately $95 million. The wastewater infrastructure required is based on the high growth scenario and to meet the existing and projected MSWD wastewater collection capacity and treatment.

Funding for this study was provided by the Section 219(c) Congressional Program with procurement of A-E services and project oversight provided by the Army Corp of Engineers. We appreciate the USACE support throughout this study.

We look forward to presenting our findings to MSWD Board of Directors on April 12, 2007. If you should have any questions prior to this meeting, please feel free to call me at (303) 740-3950.

Sincerely,
URS Corporation

Tim Volz, PE
Project Manager
Vice-President

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY R. VOLZ
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CIVIL
STATE OF CALIFORNIA

X Cc: Greg Boghossian, USACE

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1.1 BACKGROUND AND PURPOSE

Mission Springs Water District (MSWD) is a special district providing water and sewer service throughout the northern portion of the Coachella Valley. The District is located in the north central portion of Riverside County, California, and serves Desert Hot Springs, West Garnet, North Palm Springs, and various portions of unincorporated Riverside County (Figure 1.1). The District itself began in 1953 by the incorporation and uniting of the Old Mutual Water Company, the Desert Hot Springs Water Company, and the Desert Hot Springs County Water District. During that time, the District encompassed only one square mile and provided only water service. The customers within the District used individual septic systems for wastewater treatment.

The Desert Hot Springs area experienced a rapid increase in population over the next twenty years. The increase in population caused an overall increase of development density, which in turn led to the decreased effectiveness of individual septic systems. The more dense the population became, the more realistic the threat of groundwater contamination. The groundwater contamination threat not only affects the reliability of the drinking water, but it also affects the resort industry, which relies on the quality of the natural hot springs.

Due to the radical increase in population, the corresponding potential health hazard of individual wastewater treatment, as well as the desire of the customers within the MSWD, the District expanded its capabilities to include sanitary sewer service by adding the Alan J. Horton (Horton) Wastewater Treatment Plant (HWWTP) in 1973. The initial flow to the treatment plant was 0.06 mgd with an initial plant capacity of 0.20 mgd. The District continued to grow at a rapid rate over the next ten years and through the use of assessment districts, expanded the sewage system throughout the densely populated portions of Desert Hot Springs. Also in this time, MSWD acquired the Desert Crest sewage system, including the Desert Crest Wastewater Treatment Plant (DCWWTP), and expanded the Horton WWTP to a capacity of 0.60 mgd.

The rapid development of the Coachella Valley and MSWD continued over the next twenty years, and the District that was initially only one square mile today covers over 135 square miles. The District still operates the above mentioned wastewater treatment plants, Horton and Desert Crest, though the capacities are now 2.3 mgd (2.0 mgd permitted) and 0.18 mgd respectively.

Even though the extent of the sanitary sewer service today reaches over 6,000 customers, there are still over 4,500 properties treating their wastewater with individual septic. In a report entitled "Sewer Improvement Project" completed by the District in 1997, 12 additional service areas were identified for sanitary sewer construction. (Figure 1.2) Three of these service areas (B, C, & E) have been completed in the last eight years, and the next nine are scheduled for completion by 2016, which will reduce the number of septic system users. Additionally, any new development of existing parcels where the property is within 200 feet of collection piping designed to serve that property, is required to tie into sewer service, and all new developments are required to include sanitary sewer infrastructure.

The growth rate the Valley has seen over the past fifty years is not predicted to decrease in the near future. Within MSWD boundaries alone, there are over 5,000 Single Family Residential (SFR) properties under construction and approved plans for over 15,000 more. Thus, it is extremely important to understand the location of the future development, the effect on sanitary sewage flows, and to engineer system improvements accordingly.

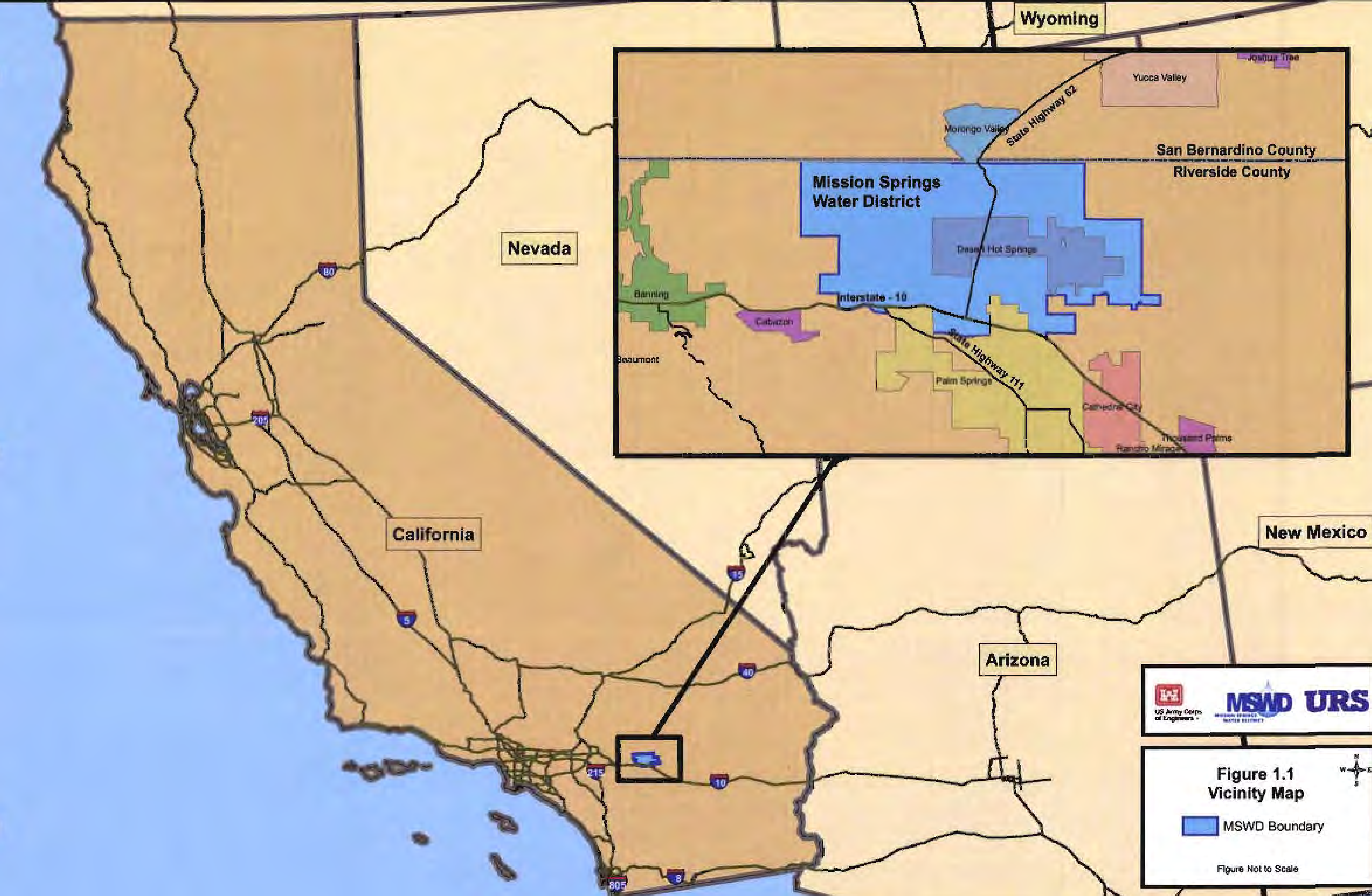
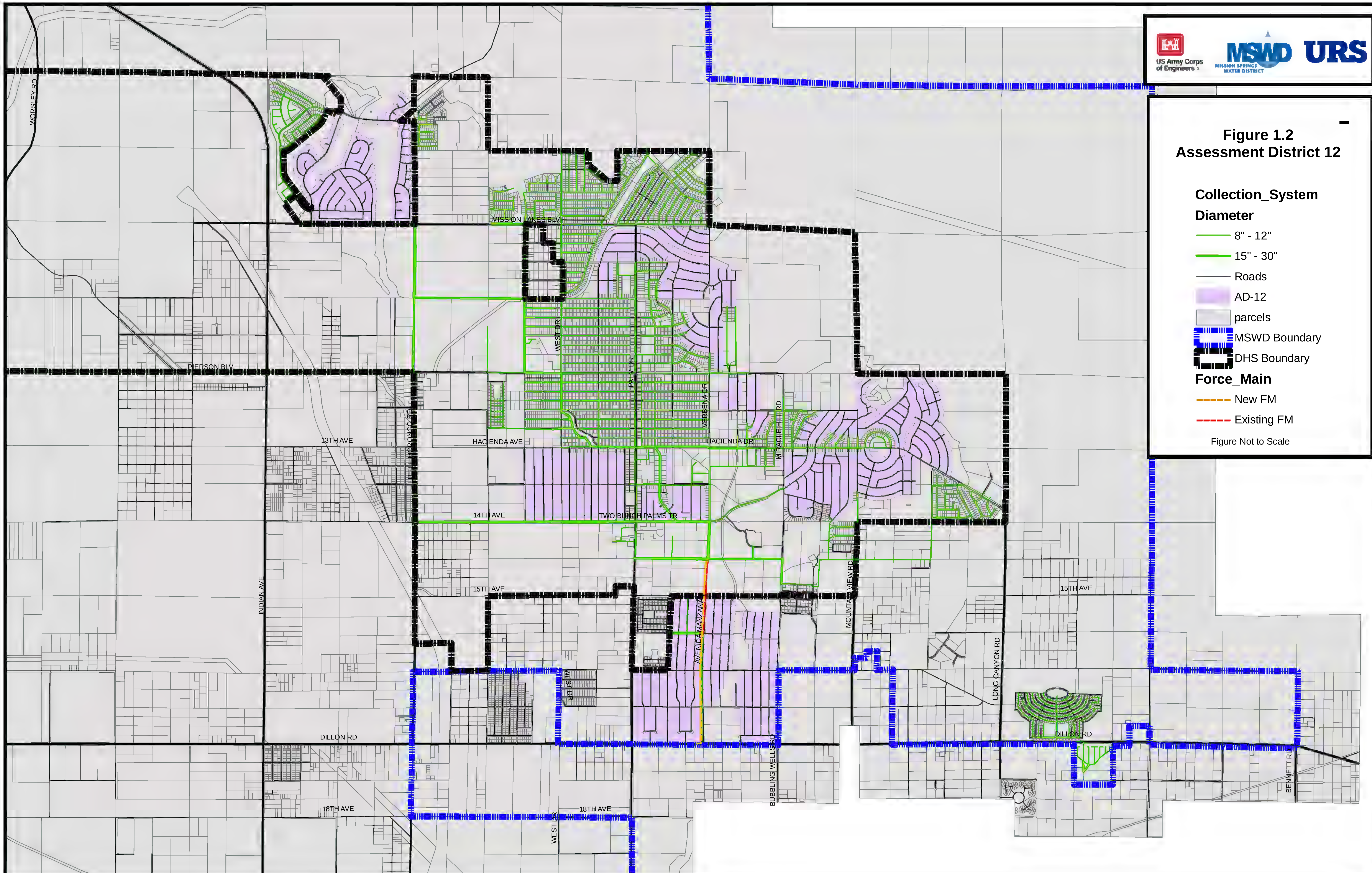


Figure 1.1
Vicinity Map



US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 1.2
Assessment District 12
Collection_System
Diameter
8" - 12"
15" - 30"
Roads
AD-12
parcels
MSWD Boundary
DHS Boundary
Force_Main
New FM
Existing FM
Figure Not to Scale
WORSLEY RD
MISSION LAKES BLV
PIERSON BLV
WEST DR
PALM DR
VERBENA DR
MIRACLE HILL RD
13TH AVE
LITTLE MORONGO RD
HACIENDA AVE
HACIENDA DR
14TH AVE
TWO BUNCH PALMS TR
15TH AVE
INDIAN AVE
MOUNTAIN VIEW RD
AVENIDA MANZANA
LONG CANYON RD
DILLON RD
BUBBLING WELLS RD
18TH AVE
BENNETT RD

The District has for many years recognized the need to properly plan and implement improvements to meet existing and future domestic wastewater needs. The purpose for this comprehensive wastewater system master plan is to build on previous wastewater planning efforts commissioned by the MSWD, and address the District's current and future wastewater collection and treatment needs over the next 20 years.

1.2 SCOPE

Mission Springs Water District has retained the services of David Miller and Associates in conjunction with URS Corporation to complete a Comprehensive Waste Water Master Plan (CWWMP). The CWWMP will report the evaluation of the MSWD wastewater infrastructure and collection system, current and future demand scenarios, and recommend collection system projects to address the long-term wastewater collection needs of the District. The CWWMP goals and objectives are to:

a. Review and update population projections incorporating local/regional land use plans and additional developable land within the District for a 20-year planning horizon period.

b. Review and update domestic wastewater flows based on historical wastewater flow records.

c. Create a wastewater system model using the Bentley software "SewerCAD" and calibrate the model using flow data from the wastewater treatment plants.

d. Evaluate the need for additional wastewater collection system and wastewater treatment plant capacity for the existing flow scenario.

e. Evaluate the timeline necessary to bring the proposed Regional Wastewater Treatment plant online.

f. Evaluate existing wastewater collection facilities to meet the projected 25-year Peak Hour flow and identify improvements (Year 2011, Year 2016, Year 2022, and Year2027) to address deficiencies.

g. Evaluate the seismic reliability of existing wastewater facilities and recommend improvements for increasing the reliability of the system to remain operational after a seismic event.

h. Prepare a 20-year System Improvement Plan in 5-year increments that identifies improvements and related costs for recommended wastewater collection piping and facilities while addressing the requirements set forth by the State Water Resources Control Board (SWRCB).

i. Prepare a SewerCAD System User's Manual and train the District staff on the use and update of the Wastewater Collection System Model.

1.3 REFERENCES

DMA and URS would like to acknowledge the tremendous support and collaboration from MSWD staff in the preparation of the Comprehensive Wastewater Master Plan report. In preparing this report, URS utilized the following reports and references:

- *City of Desert Hot Springs Comprehensive General Plan,* Terra Nova Planning & Research, Inc., September 2000.
- *City of Palm Springs General Plan Initial Study,* The Planning Center, July 2006.
- *City of San Diego Sewer Design Guide*, Metropolitan Wastewater Department, Brown and Caldwell, 2004.
- *Coachella Valley Water District Standard Specifications for the Construction of Sanitary Sewer Systems,* Coachella Valley Engineering Department, October 2005.
- *DHS County Waster District AD-1, 1913 Act Proceedings & 1911 Act Bonds,* Neste, Brudin & Stone Incorporated, August 1972.
- *DHS Preliminary Engineering Report for Sewage Collection System within proposed Assessment District 3,* Neste, Brudin & Stone Incorporated, September 1976.
- *DHS Preliminary Engineering Report for Sewage Collection System within proposed Assessment District 4,* Neste, Brudin & Stone Incorporated, July 1982.
- *DHS Preliminary Engineering Report for Sewage Collection System within proposed Assessment District 7,* Neste, Brudin & Stone Incorporated, October 1983.
- *DHS Waster Recycling Appraisal Study: Integrated Resource Plan – Phase I – Final Report*, P. Somas November 2004.
- *Elsinore Valley Municipal Water District Standard Specifications and Drawings*, Daniel Boyle Engineering, July 2004.
- *Engineering Report for Sewage Collection System within proposed Assessment District 11,* Webb & Associates, April 2000.
- *Engineering Report for Sewage Collection System within proposed Assessment District 12,* Webb & Associates, March 2004.
- *Final Engineering Report for Sewage Collection System within proposed Assessment District 13,* Webb & Associates, August 2004.
- *Inflow and Infiltration Study*, City of Santa Rosa, Undated.
- *Instructions for Preparation of Improvement Plans for Water & Sewer Systems,* MSWD, June 2006.
- *Mission Springs Water District Master Sewer Plan,* Albert A. Webb Associates, March 2001.
- *Mission Springs Water District Comprehensive Water Master Plan,* URS Corporation, May 2005.
- *Standard Specification for Construction Water & Sewer Facilities*, MSWD, June 2006.

- *Standard Requirements for the Design and Processing of Sanitary Sewer Systems*, East Valley Water District, June 1993.
- *Western Municipal Water District Developer Handbook & Standard Drawings for Water & Sewer Facilities*, Western Municipal Water District, January 2006.

1.4 ABBREVIATIONS

The following are the abbreviations used in this report:

AD-12	Assessment District 12
AE	Architect/Engineer
APN	Assessor's Parcel Number
CAD	Computer Aided Drafting
CDHS	California Department of Health Services
CIP	Capital Improvement Program
Corps	United States Army Corps of Engineers
CPS	City of Palm Springs
CSD	City of San Diego
CVWD	Coachella Valley Water District
CWWMP	Comprehensive Wastewater Master Plan
d/D	depth/Diameter
DCWWTP	Desert Crest Wastewater Treatment Plant
DHS	Desert Hot Springs
DWA	Desert Water Association
DWSCWD	Desert Hot Springs County Water District
DHSWC	Desert Hot Springs Water Company
DI	Ductile Iron
DMA	David Miller and Associates
EDU	Equivalent Dwelling Units
EMWD	Eastern Municipal Water District
EPS	Extended Period Simulation
EVMWD	Elsinore Valley Municipal Water District
EVWD	East Valley Municipal Water District
FOG	Fats, Oil and Grease
ft	feet

FY	Fiscal Year
g	gravity
gpm	gallons per minute
HWWTP	Horton Wastewater Treatment Plant
I&I	Infiltration and Inflow
ITR	Independent Technical Review
MFR	Multi-Family Residential
mgd	Millions Gallons per Day
MSWD	Mission Springs Water District
NCPI	National Clay Pipe Institute
NAD83	North American Datum 1983
PHF	Peak Hour Flow
SFR	Single-family Residential
SIP	System Improvement Plan
sqft	square-feet
SSO	Sanitary Sewer Overflows
SWRCB	State Water Resources Control Board
QCP	Quality Control Plan
URS	URS Corporation
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VCP	Vitrified Clay Pipe
WMWD	Western Municipal Water District
WWTP	Wastewater Treatment Plant

1.5 ELEVATION DATUM

All of the elevations referred to in this report are based on USGS Datum NAD83 unless otherwise noted.

2.1 INTRODUCTION

The MSWD has and is experiencing very rapid population growth, especially over the past 5 years. Initially, the increase in population caused an overall increase of development density, which in turn led to the decreased effectiveness of individual septic systems. This, with the desires of the MSWD community, has led the District into an initiative to connect as many existing customers to the wastewater collection and treatment systems. Additionally, the population growth is expected to continue at a rapid pace; therefore, MSWD recognizes the need to properly plan and implement improvements to meet existing and future wastewater collection needs. The purpose for this wastewater system comprehensive master plan is to address the District's current and future wastewater collection and treatment system needs over the next 20 years.

This section provides an executive summary of URS findings and recommendations to meet MSWD wastewater collection needs over the next 20 years. Specifically, our findings and recommendations are contained within the following categories and are further discussed below.

- Customers and Population
- Wastewater Collection Design Criteria
- Wastewater Flows
- Wastewater Treatment Facilities
- Existing Wastewater Collection System
- Existing Collection System Analysis
- Future Collection System Analysis and CIP
- CIP Funding Alternatives

2.2 CUSTOMERS AND POPULATION

The MSWD encompasses the city of Desert Hot Springs and portions of neighboring communities within Riverside County including the villages of Palm Springs Crest and West Palm Springs. The customer and population estimates presented in this analysis update MSWD customer analyses conducted for the 2001 Master Sewer Plan and 2005 Water Master Plan. The 2001 Master Sewer Plan identified the 2000 population within the District to be 26,821. The plan also projected the District's 2020 population to be 44,698. The ultimate build out population projection was identified in the 2001 Master Sewer Plan as 102,000, although no year was attributed to that population estimate.

Table 2-1 presents MSWD population estimates broken out into separate estimates for the City of Desert Hot Springs and for the areas outside of the city that are within the MSWD service area. The 2006 estimates for the overall MSWD service area population (36,224) and the service area population outside of the City (14,213) are based on the historical average proportion of service area population within the City to the proportion outside of the City, as presented in the 2005 Water Master Plan.

Table 2-1
MSWD Service Area Historical Population Estimates

	1990	2000	2006
City of Desert Hot Springs	11,668	16,582	22,011
Non-City	7,832	9,518	14,213
Total MSWD Service Area	19,500	26,100	36,224

Sources: 1990 and 2000: MSWD Water Master Plan 2005, 2006: CA Dept of Finance

Recent historical data for MSWD sewer connections is presented in Table 2-2. Data for FY 2004 is presented in the MSWD Sewer Rate and Connection Fee study as actual December 2003 data. Data for FY 2007 is actual October 2006 data taken from MSWD operational records. The MSWD fiscal year runs from 01 July through 30 June. Growth in the number of sewer connections may be greater than population growth due to programs such as AD-12 and the in-fill programs, which connect existing structures to the collection system.

Table 2-2
Historical MSWD Sewer Connections

	FY 2003	FY 2004 (1)	FY 2005	FY 2006	FY 2007 (2)
Single Family Residential	2,810	3,154	3,414	4,175	5,442
Multi Family Residential	371	374	390	406	422
Mobile Home Parks	4	4	4	4	3
Non-Residential	241	242	248	249	249
Total	3,426	3,774	4,056	4,835	6,116

Notes: Fiscal year runs from 01July through 30June. FY 2005 and FY 2006 residential data interpolated from actual data from FY 2004 and FY 2007.
(1)Data from December 2003. (2) Data from October 2006.
Sources: MSWD Sewer Rate and Connection Fee Study, Dec. 2003 and MSWD Operations Data.

In FY 2004, the 374 multi-family residential connections accounted for 1,785 equivalent dwelling units (EDUs) and the four mobile home park connections accounted for 282 EDUs. In FY 2007, the 422 multi-family residential connections accounted for 2,092 EDUs and the three mobile home park connections accounted for 259 EDUs.

Current and future land uses were identified by Assessor's Parcel Number (APN) for each parcel within the MSWD. Table 2-3 presents the MSWD acreage for each general land use category.

Table 2-3
MSWD Acreage for General Land Use Categories

Category	Acres
Commercial	3,284
Industrial	2,590
Public and Transportation	1,654
Residential	34,621
Open Space	41,467
Sub-total	83,616
Unknown	4,627
Total	88,243

Sources: City of Desert Hot Springs Planning Department and Riverside County

The future full build out scenario assumes that all residential parcels would be developed to maximum density (dwelling units per acre) according to the parcel's residential categorization. Full build out for the MSWD is 73,012 dwelling units, which is the equivalent of all existing plus future dwelling units. Table 2-4 presents the acreage, existing dwelling units, and future dwelling units within the current MSWD service area. As shown below, the MSWD current customer base is 21% of the ultimate customer dwelling units projected.

Table 2-4
Existing and Future Dwelling Units (DUs)

	Acres	Existing DUs	Future DUs	Total DUs
Low Density	30,078	5,933	35,493	41,426
Medium Density	3,600	4,370	14,264	18,634
High Density	943	2,389	10,563	12,952
Totals	34,621	12,692	60,320	73,012

Sources: City of Desert Hot Springs Planning Department and Riverside County

To highlight this growth, there are currently 57 approved residential construction projects that account for more than 20,000 new dwelling units. Information for these projects were gathered from the Residential Approval Projects of April 2006 for DHS and from information provided by the District. In addition, MSWD's AD-12 construction project and planned infill will add approximately 6,500 dwelling units by 2016. Projected sewer service connection growth is also based on completion of the AD-12 and infill projects by 2016, and on projected growth rate for the approved residential construction projects. Table 2-5 presents projected MSWD connections for 2007 – 2027.

Table 2-5
Projected Sewer Connections

Year	Existing Development Connections		Proposed Development		Total Connections
	AD-12	Infill	Growth Rate	Connections	
2000					4698
2006					7793
2007	667	147	10%	779	9386
2008	667	147	10%	939	11138
2009	667	147	10%	1114	13065
2010	571		10%	1306	14943
2011	571		10%	1494	17008
2012	571		8%	1361	18940
2013	571		8%	1515	21027
2014	571		8%	1682	23281
2015	571		8%	1862	25714
2016	571		8%	2057	28343
2017			5.6%	1587	29930
2018			5.6%	1676	31606
2019			5.6%	1770	33376
2020*			5.6%	1869	35245
2021			5.6%	1974	37219
2022			4.5%	1675	38894
2023			4.5%	1750	40644
2024			4.5%	1829	42473
2025			4.5%	1911	44384
2026			4.5%	1997	46382

Note: Growth rates are based on current Desert Hot Springs growth rate for 2007-2011, an average Desert Hot Springs growth rate for 2012-2016, an average District growth rate for 2017-2021, and an average Coachella Valley growth rate for 2022-2026.

*Total of proposed development connections reaches the number of connections in existing development projects.

2.3 WASTEWATER COLLECTION DESIGN CRITERIA

MSWD wastewater collection system sewer lines are the backbone of every system and represent the highest system asset value. The proper design and construction of sewer lines will provide long-term benefits by reducing unneeded operation and maintenance requirements and will reduce the need for sewer line replacement.

Currently, MSWD requires that all "Sewer shall be vitrified clay pipe (VCP) or ductile iron for sewer as required." The District plans to change this wording to "Sewer shall be vitrified clay pipe (VCP) or otherwise as specified by the District." VCP has been used in all MSWD gravity sewer lines and URS recommends the developers be allowed continued use of these materials. URS reviewed other potential pipe materials common to the industry, however, it is the District criteria to only allow the use of VCP at this time.

The hydraulic design of sewer lines is a combination of line slope, diameter, and material. These aspects are important in order to accurately predict sewer line capacity and the velocities achieved during peak and average wastewater flow conditions. Tables 2-6 through 2-9 identify suggested improvements to the hydraulic criteria for inclusion into MSWD standards.

Table 2-6

MSWD Sewer Line d/D Criteria

Pipe Diameter	≤ 15 inch	> 15 inch
d/D	0.5	0.75

Table 2-7
Velocity Design Criteria

Velocities	**(fps)**
Minimum	2
Desired	**3 - 5**
Maximum	10

Table 2-8
Mannings "n" Values

Material	**"n"**
PVC/HDPE/ABS	0.009
DI	0.013
VCP/RCP	0.011

Table 2-9
Slope Design Criteria Comparison (ft/ft)

Sewer Line Size	MSWD (Existing)	MSWD (Recommended)
	Min	**Min / Max**
4”*	0.020	**0.020 / NA**
6”*	0.020	**0.020 / NA**
8”	0.0040	**0.0040 / 0.083**
10”	0.0028	**0.0028 / 0.062**
12”	0.0022	**0.0022 / 0.049**
14”	ABD	**0.0016 / 0.040**
15”	ABD	**0.0015 / 0.036**
16”	ABD	**0.0014 / 0.040**
18”	ABD	**0.0012 / 0.028**
21”	ABD	**0.0010 / 0.023**
24”	ABD	**0.0008 / 0.019**

* Diameters allowed for Lateral Lines Only
ABD – Approved By District

Wastewater collection system’s include manholes, diversion structures, lift stations, and inverted siphons. These facilities should be constructed to meet specific standards in order to maximize the life and minimize the maintenance and operational costs. Suggested modifications to manhole and lift station criteria are presented below.

Manhole Standards

- 5 feet diameter manholes should be considered for sewer depths greater than 10 feet and sewer lines greater than 15 inch.
- Increase the required manhole distance to 400’ under normal condition and increase manhole spacing on primary interceptors when crossing fault zones.
- Specify that drop manholes should be used only in extreme cases and only if approved by the District.

Lift Station Standards

- Replace the word “Pumping” with “Lift” in order to avoid confusion with water distribution system booster pump stations.
- Lift stations shall be designed to pump the calculated peak wet weather flow from the upstream sewer basin area.
- A minimum of four hours of emergency storage should be required in order to provide operators with response time necessary to address unforeseen conditions.
- For lift stations handling less than 1 mgd, a duplex pumping unit lift station should be provided with 100% backup capacity.

- For lift stations handling in excess of 1 mgd, at least three pumping units should be provided to meet 100% of the flow with the largest pump out of service.
- All variable speed pumps shall be inverter duty motors.
- There should be some means of measuring flow at lift stations.
- Lift stations shall be equipped with backup power with auto-transfer capabilities.
- All unattended lift stations should have standardized instrumentation to allow remote detection of various operating and security conditions.
- Check valves shall be in a separate vault at or above grade.
- Lift Stations shall be designed as a submersible pump in a dry well, as applicable.
- Wet wells shall be designed as self cleaning.
- Intake and wet well design should be in accordance with the Hydraulic Institute standards.

Design flows are used to size collection sewer lines interceptor sewer lines, and lift stations in order to have adequate capacity to meet current and projected PWF conditions. Based on the flow analysis performed in this report, the following modifications and additions to the current unit flow criteria are recommended. The residential unit flow should be changed to *gallons per day per equivalent dwelling unit (gpd/EDU) and unit flow values should reflect those in Table 2-10.*

Table 2-10
Recommended Design Unit Flow Values

Land Use	Unit Flow	Units
Residential (EDU)	200	gpd/EDU
Commercial / Industrial	2,000	gpd/acre
Public Uses (excluding schools)	1,000	gpd/acre
Schools	500	gpd/acre

2.4 WASTEWATER FLOWS

An overview and analysis of historical and projected 20-year wastewater flows within the wastewater collection system was evaluated. This evaluation and analysis is necessary to appropriately calibrate and model the collection system hydraulics as well as evaluate existing and proposed collection system design parameters associated with future flow conditions.

Wastewater flow comes from varying land use types within the collection system including single family residential, multi-family residential, commercial, hotel/spas, public, and industrial facilities. Additional flows are the result of groundwater infiltration and wet weather inflow and infiltration. Furthermore, wastewater flow in a collection system is measured and defined in several ways; Average Day Dry Weather Flow (ADF), Peak Dry Weather Flow (PDF) and Peak Wet Weather Flow (PWF).

Average Day Dry Weather Flow (ADF) is the average wastewater flow in a collection system measured at the wastewater treatment plant occurring during a dry weather condition (i.e. no stormwater flow component). The flow includes sanitary wastewater from residential, commercial, industrial and public properties and applicable baseline groundwater infiltration. The ADF flows discharged to the Horton Wastewater Treatment Plant (HWWTP) and Desert Crest Wastewater Treatment Plant (DCWWTP) over the past five years are shown in Figures 2.1 and 2.2, respectively.

Figure 2.1
HWWTP Average Annual Dry Weather Flows

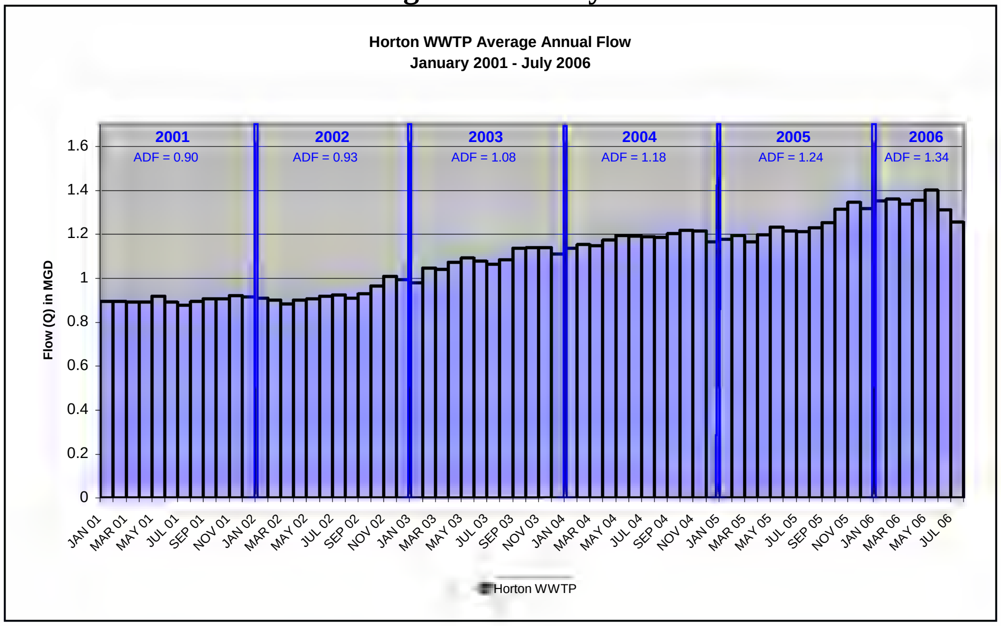
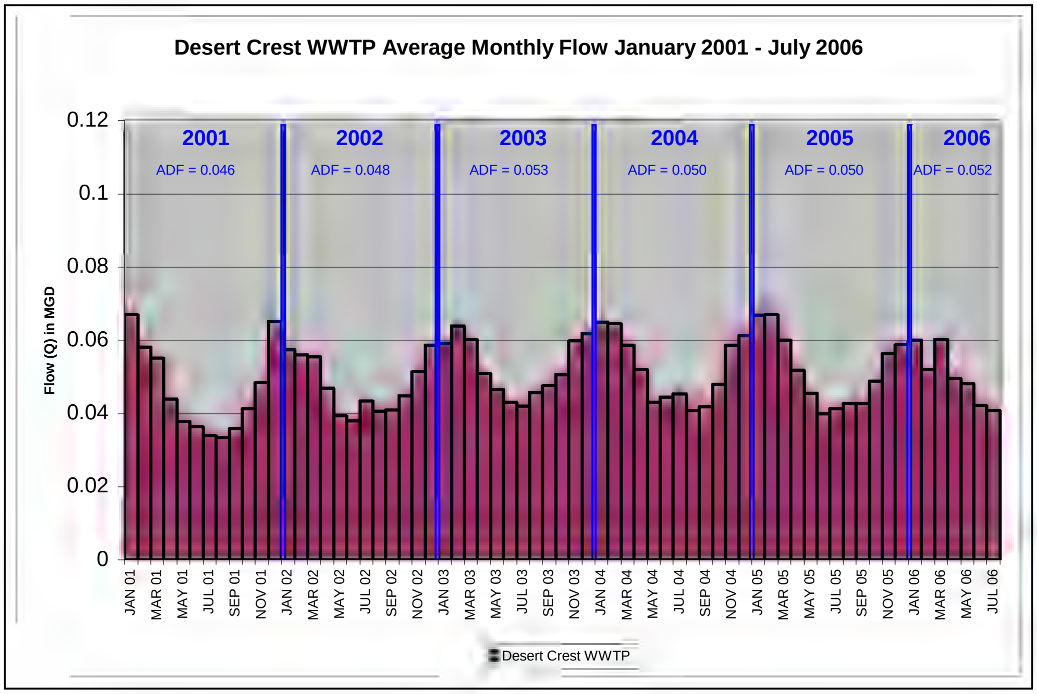


Figure 2.2
DCWWTP Average Annual Dry Weather Flows



Because the water records used for model calibration are summarized by Fiscal Year (FY), the FY 2006 average dry weather flow at each wastewater treatment plant is shown in Table 2-11.

Table 2-11
FY 2006 ADF

	ADF (mgd)
HWWTP	1.32
DCWWTP	0.05
Total	**1.37**

The largest daily peak of wastewater influent occurring at the treatment plant, if it occurs on a day where no appreciable inflow or infiltration occurs, is referred to as Peak Dry Weather Flow (PDF). Figures 2.3 and 2.4 represent a typical day wastewater influent diurnal pattern, PDF, and corresponding peaking factors for the HWWTP and DCWWTP, respectively.

Peak Wet Weather Flow (PWF) as compared to PDF reflects inflow from precipitation events and an associated increase in infiltration (i.e. extraneous flow). Collection system inflow is the amount of storm water that primarily flows into the collection system through manholes and infiltration is the amount of groundwater that enters the system through pipe defects or leaky joints.

Peaking factors were established for each collection system based on storm events occurring in the MSWD area. The existing MSWD peaking factor, the peaking factors established for existing and future collection system master planning is shown in Table 2-12 for each WWTP.

Table 2-12
Horton and Desert Crest WWTP
Peaking Factors

Peaking Factor	**Horton**	**Desert Crest**
PF	1.33	2.00
PWF	**2.29**	**4.07**
PWF (MSWD Criteria)	2.44	3.40
Percent Difference	-6%	+20%

Projected wastewater flow includes the estimation of the next 20-years as well as establishing ultimate flow values for build out conditions. The 20-year flow estimate will be used to establish facility needs whereas the ultimate flow will be used to design sewer line and facility capacity requirements.

Figure 2.3
HWWTP Diurnal Flow Pattern

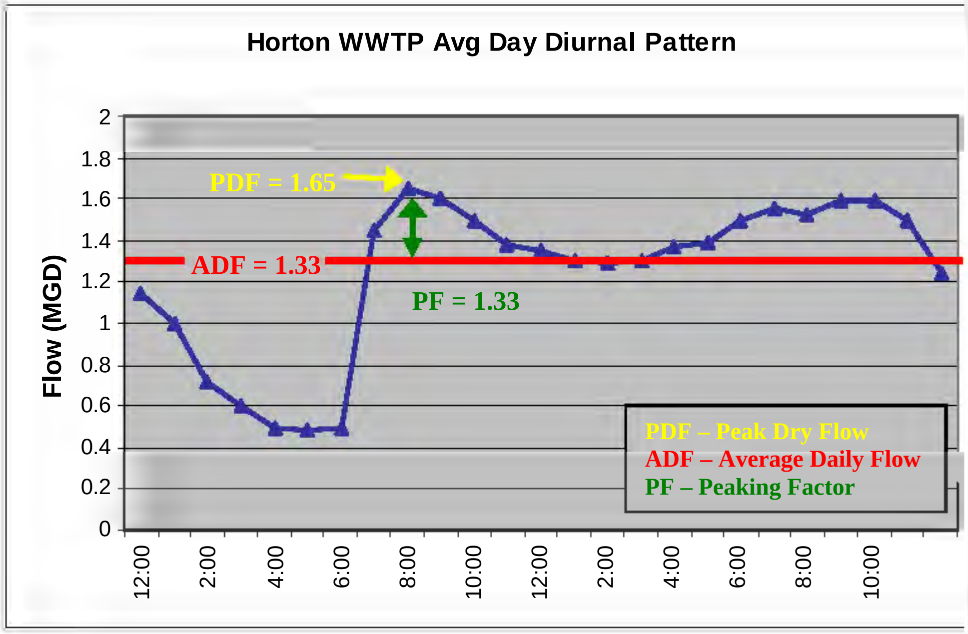
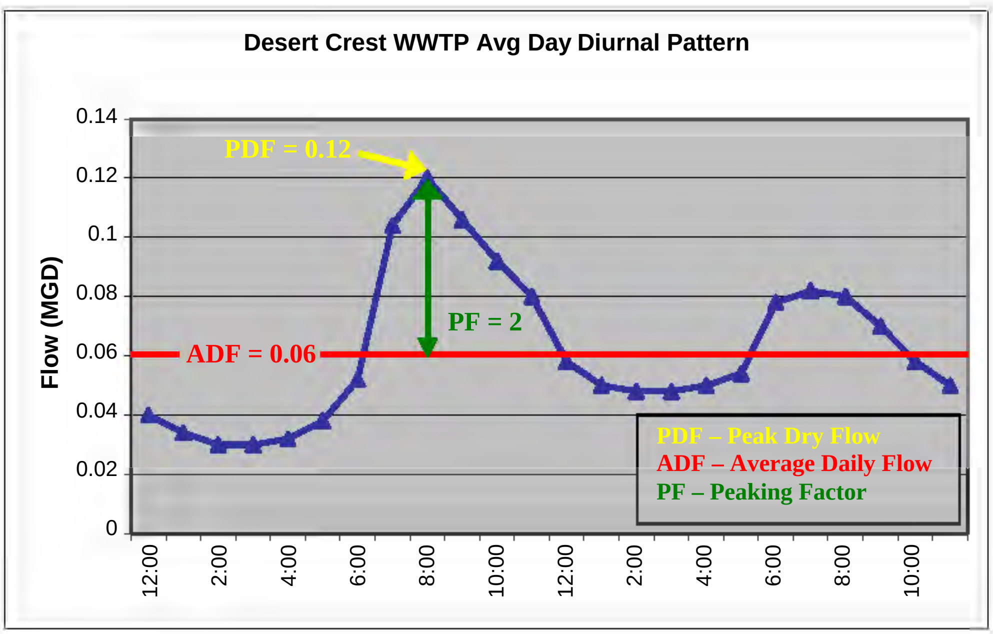


Figure 2.4
DCWWTP Diurnal Flow Pattern



The future customer and population projections developed in Section 3 along with the design unit flow values established were used to create the future flow scenario. Table 2-13 and 2-14 summarize the projected flows for the proposed Assessment District 12 and approved development projects, respectively.

Table 2-13
Flow Rates Resulting from Future and Existing Assessment Districts

	AD-12 Additional Dwelling Units	AD-12 Flow Per Year (MGD)	Cumulative AD-12 Flow (MGD)
2007	667	0.133	0.133
2008	667	0.133	0.266
2009	667	0.133	0.399
2010	571	0.114	0.514
2011	571	0.114	0.628
2012	571	0.114	0.724
2013	571	0.114	0.857
2014	571	0.114	0.971
2015	571	0.114	1.085
2016	571	0.114	1.200

Table 2-14
Future Projects Projected Flows

Year Complete	Additional Dwelling Units	Annual Flows (mgd)	Cumulative Flow (mgd)
2007	779	0.155	0.155
2008	939	0.188	0.343
2009	1114	0.223	0.566
2010	1306	0.261	0.827
2011	1494	0.300	1.127
2012	1361	0.272	1.399
2013	1515	0.303	1.702
2014	1682	0.336	2.038
2015	2057	0.411	2.449
2016	1587	0.317	2.766
2017	1676	0.335	3.101

Based on the assessment district, planned development projects, and infill construction flow projections have been established for the planning period of 2007 through 2026 (Table 2-15).

Table 2-15
Projected Wastewater Collection Flow for MSWD

Year	Cumulative Flow (mgd)	Year	Cumulative Flow (mgd)
2006	1.37	2017	5.80
2007	1.69	2018	6.13
2008	2.04	2019	6.49
2009	2.42	2020	6.86
2010	2.80	2021	7.26
2011	3.21	2022	7.59
2012	3.60	2023	7.94
2013	4.02	2024	8.31
2014	4.47	2025	8.69
2015	4.95	2026	9.09
2016	5.48		

2.5 WASTEWATER TREATMENT FACILITIES

The Horton and Desert Crest Wastewater Treatment Plants (WWTP) are located within the service boundaries of the Mission Springs Water District. The following three things were evaluated for each WWTP; design capacities, existing and anticipated future discharge limitations and capability to treat future wastewater flow to meet California Regional Water Quality Control Board (CRWQCB) discharge requirements was evaluated.

The current capacity for the HWWTP is 2.3 mgd. The highest average monthly flow rate for the period from November 2005 to October 2006 was in May 2006 at 1.40 mgd, and the highest daily flow was 1.54 mgd in October 2006. Based on the 2.3 mgd design plant capacity, the 1.4 mgd monthly average flow would constitute approximately 61% of its design capacity. Projected wastewater flow presented in Section 5 for the 20-year period from 2006 to 2027 indicates the existing 2.3 mgd Horton WWTP capacity will be exceeded between the years 2008/09. Currently MSWD is planning to expand the Horton WWTP by 1.5 mgd, which would raise the total treatment capacity to 3.8 mgd and could potentially be in service by 2008/09. Based on the wastewater flow projection in Section 5, Horton WWTP capacity of 3.8 mgd would serve the District's needs until approximately 2012 to 2013 period.

The Desert Crest WWTP rated plant capacity is 0.18 mgd. The WWTP was initially operational with a 0.09 mgd capacity in 1974 with a second expansion of a redundant treatment train in 1984 for added plant reliability. The highest monthly average flow rate during the period from November 2005 to October 2006 was in January and March 2006 at 0.060 mgd and the highest one-day flow in this same period was 0.069 mgd in December 2005. Over the last five years the highest average monthly flow was 0.067 mgd in February 2005 and the maximum day flow was 0.085 mgd in February 2005. Based on the 0.09 mgd design capacity of the plant and the 0.067 mgd monthly average flow the plant is at approximately 74% of the design capacity. With the plant operating at approximately 74% of the design capacity and the anticipated growth within the Desert Crest service area, the District is considering an alternative to abandon the treatment plant and gravity flow to the new Dos Palmas Lift Station (DPLS) which would eventually be served by the new RWWTP.

Based on the 20-year wastewater flow projections presented in Figure 5.11 and the Horton WWTP capacity of 3.8 mgd, the RWWTP should be planned, designed, constructed and made operational by 2012. It is projected that at ultimate build-out, the total wastewater flow would be approximately 23 mgd. The new regional WWTP initial treatment capacity should be at least 8 mgd in order to serve the District until approximately 2023. This would allow for an approximate10-year period before the next plant expansion.

2.6 EXISTING WASTEWATER COLLECTION SYSTEM

Currently, MSWD wastewater collection system is comprised of approximately 75 miles of gravity sewer lines, one diversion structure, one sewage lift station, and two wastewater treatment plants. The entire collection system is based on pipe size and is comprised of approximately 75.4 miles of collection and interceptor sewer lines as shown in Table 2-16.

Table 2-16
MSWD Pipe Diameters

Gravity Pipe Diameter (inch)	Length (feet)	Length (mile)
Collection Sewers		
8	287,807	54.5
10	25,077	4.8
12	40,200	7.6
Subtotal	359,692	66.9
Interceptor Sewers		
15	24,709	4.7
18	7,639	1.5
24	9,530	1.8
30	2,570	0.5
Subtotal	44,448	8.5
Total	**404,139**	**75.4**

The Dos Palmas Lift Station (DPLS) is located on Dillon road just west of Manzana and has a circular wet well eight feet in diameter and 30 feet deep. The station houses two 60 HP submersible pumps, each with a design capacity of 700 gpm and 133 feet of total dynamic head. The lift station has a 10 inch PVC force main running north along Avenida Manzana Road.

2.7 EXISTING COLLECTION SYSTEM ANALYSIS

The existing wastewater collection system was hydraulically modeled to determine the system ability to convey wastewater flows. Sewer line and manhole information such as nodal coordinate data, invert elevations, slopes, rim elevations, diameters, lengths, and flow quantities were required to setup the wastewater system model. Design criteria discussed in Section 4 provides a basis of comparison for the existing system performance. With the exception of a few sewer lines, the existing collection system is adequately sized to convey the existing wastewater flow at this time.

However, there are eight sewer lines that do not meet the established d/D criteria during PDF and 33 sewer lines exceeding d/D criteria when the PWF is applied to the system. There are seven sewer lines exceeding d/D criteria at PWF in the Desert Crest collection system, the majority of the sewer lines exceeding criteria are in the Horton collection system (Figures 2.5 and 2.6).

The minimum pipe velocity per design criteria is two feet per second (fps) and the maximum velocity design criterion is recommended to be ten fps. At PDF, nearly 950 sewer lines show a velocity below the minimum velocity criteria of two fps and at PWF, approximately 750 sewer lines are still below minimum velocity criteria. The large number of sewer lines with low velocities is primarily due to low flow values in certain parts of the system and is not uncommon in wastewater collection system modeling. Eight sewer lines exceed the established maximum velocity criteria at PDF and one additional sewer line exceeds the criteria at PWF (Figure 2.7).

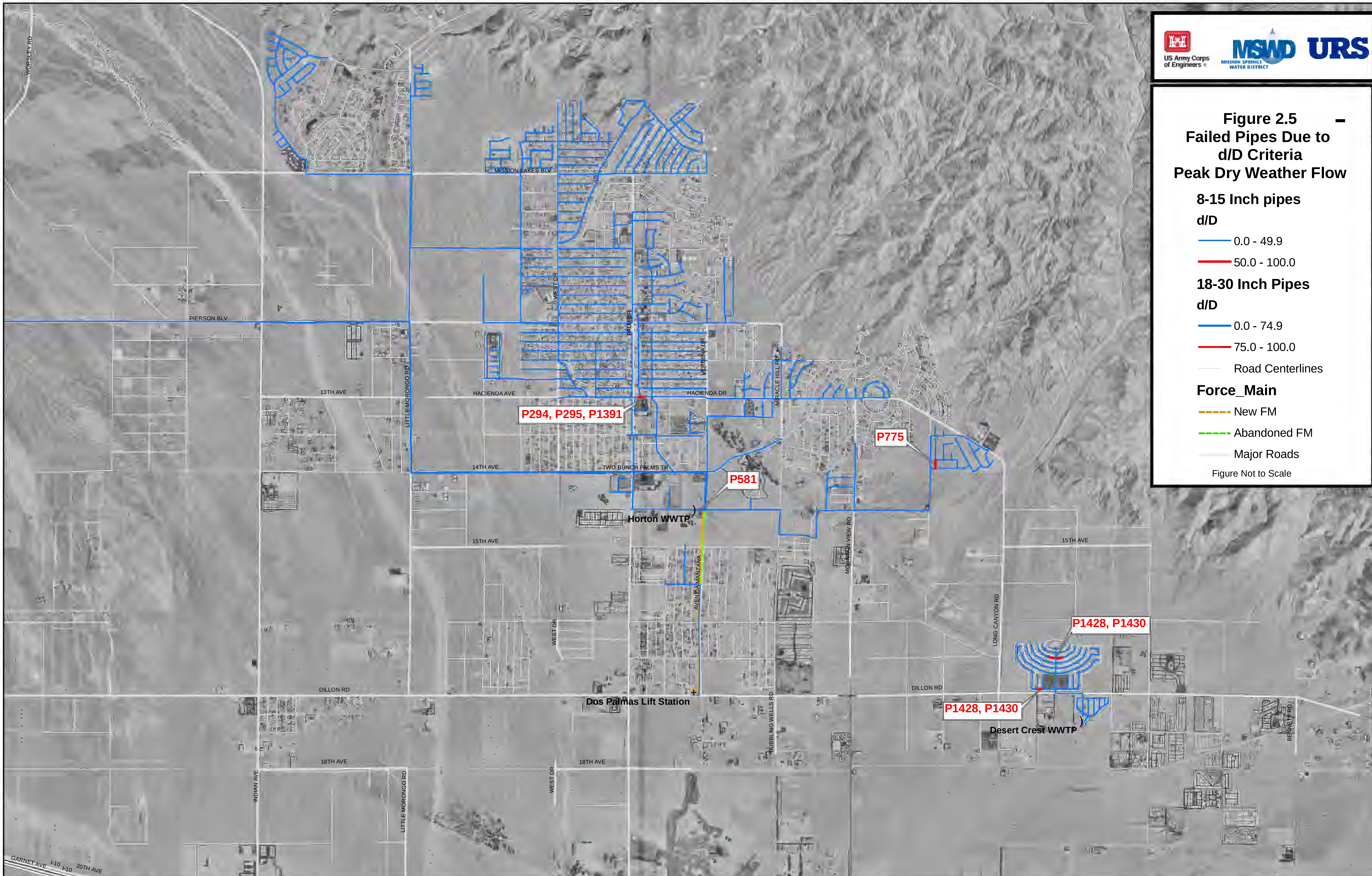
For the existing system flows, the capacity of the Dos Palmas Lift Station of 1.0 mgd exceeds the current use of 25,000 gpd. As a part of Assessment District 12, the southern portion of the city will be tied to the collection system at which time these flows will increase to approximately half of the lift station capacity.

2.8 FUTURE COLLECTION SYSTEM ANALYSIS AND CIP

The future collection system analysis is performed to provide the requirements for future wastewater collection system needs. The CIP program is developed to assist MSWD in identifying the possible financial requirement to plan, design, and construct their improvements. Both the analysis and CIP program are based on a 20-year planning horizon.

As part of the ultimate flow scenario, URS developed a list of existing sewer lines that do not meet criteria and determined a proposed layout for interceptors to handle future development. The sewer lines recommended for replacement in the CIP include only sewer lines that are surcharged (d/D ratio greater than 1.0). There are 47 sewer lines at PWF in the existing system that have a d/D ratio greater than 1.0. Nine of these sewer lines also fail d/D criteria during existing flow conditions for peak wet weather flow and are considered priority replacements in the CIP program (Figure 2.8).

Sewer lines failing minimum velocity criteria are not identified for replacement but should be considered for additional routine maintenance. Sewer lines failing maximum velocity criteria of ten fps should be monitored closely for pipe integrity and/or manhole corrosion due to the H_2S gases and those exceeding the NCPI regulation of 20 fps should be identified for replacement. Seventeen sewer lines failed the maximum velocity criteria, however, only one (P568) is recommended for replacement (Figure 2.9).


US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 2.5
Failed Pipes Due to d/D Criteria
Peak Dry Weather Flow
8-15 Inch pipes
d/D
0.0 - 49.9
50.0 - 100.0
18-30 Inch Pipes
d/D
0.0 - 74.9
75.0 - 100.0
Road Centerlines
Force_Main
New FM
Abandoned FM
Major Roads
Figure Not to Scale
P294, P295, P1391
P775
P581
Horton WWTP
P1428, P1430
P1428, P1430
Dos Palmas Lift Station
Desert Crest WWTP
MISSION LAKES BLV
PIERSON BLV
13TH AVE
HACIENDA AVE
HACIENDA DR
14TH AVE
TWO BUNCH PALMS TR
15TH AVE
15TH AVE
DILLON RD
DILLON RD
18TH AVE
18TH AVE
20TH AVE
GARNET AVE
I-10
WORSLEY RD
LITTLE MORONGO RD
WEST DR
PALM DR
VERBENA DR
MIRACLE HILL RD
MOUNTAIN VIEW RD
AVENIDA MANZANA
LONG CANYON RD
BUBBLING WELLS RD
INDIAN AVE
BENNETT RD

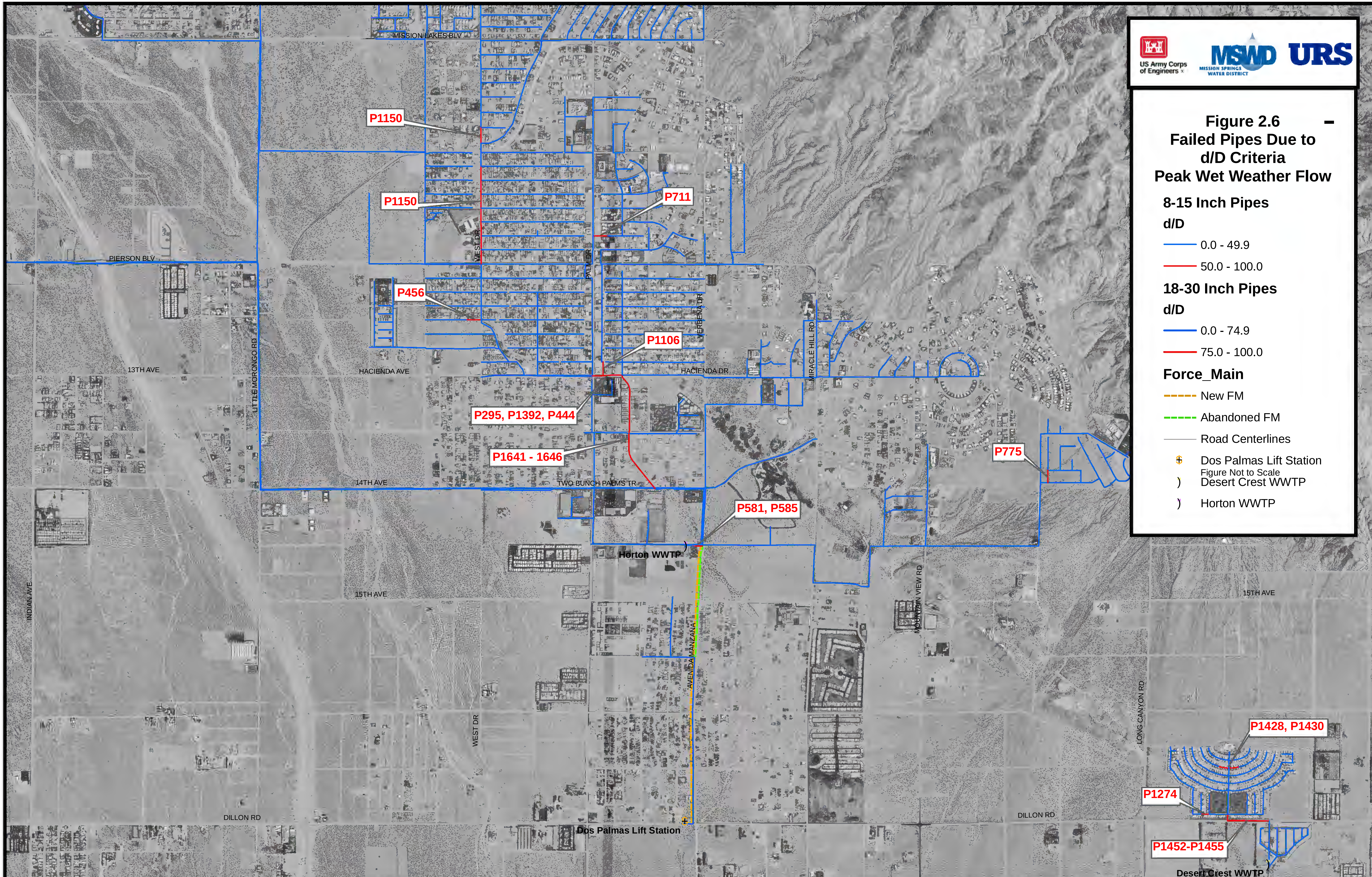
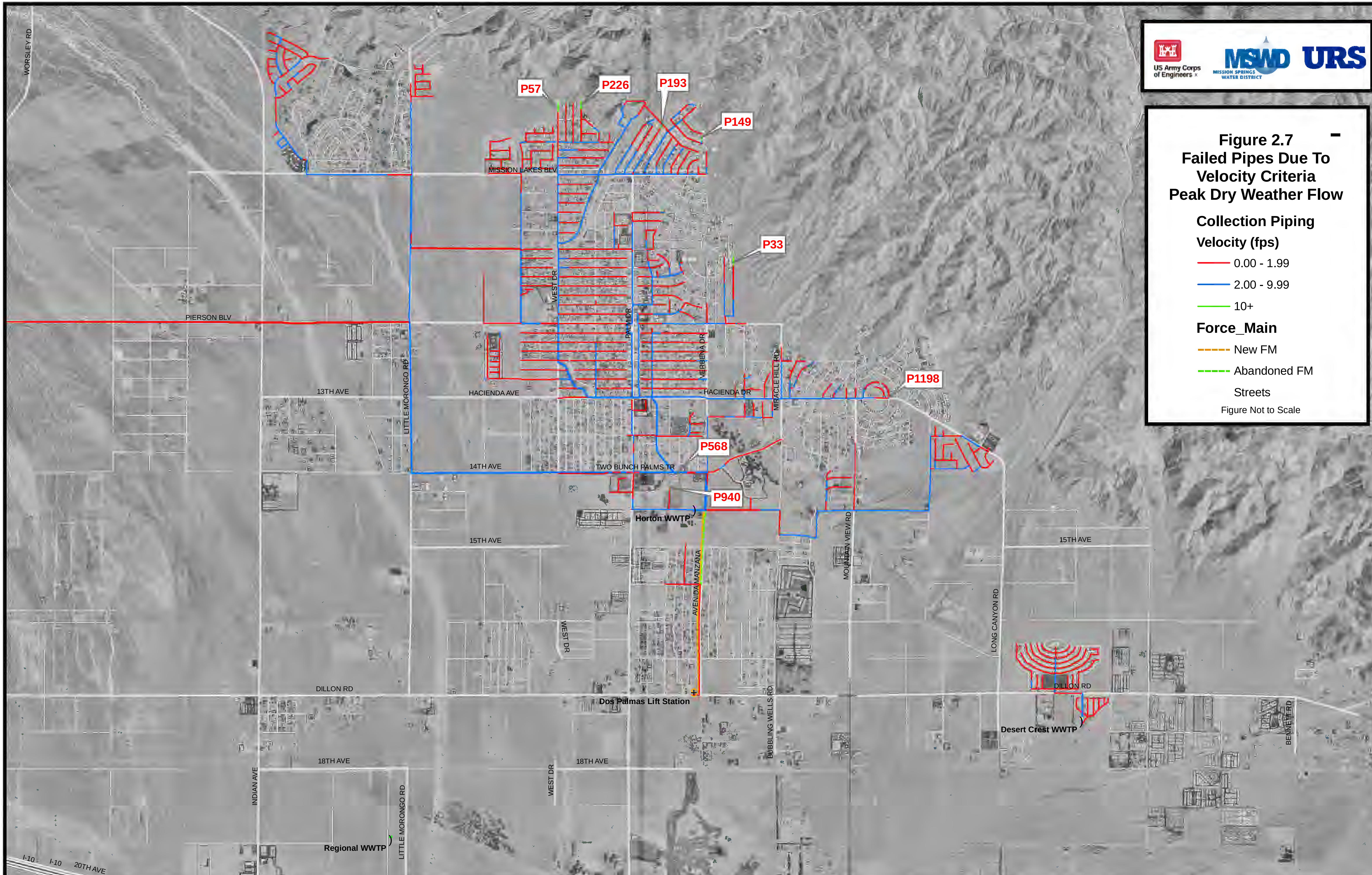
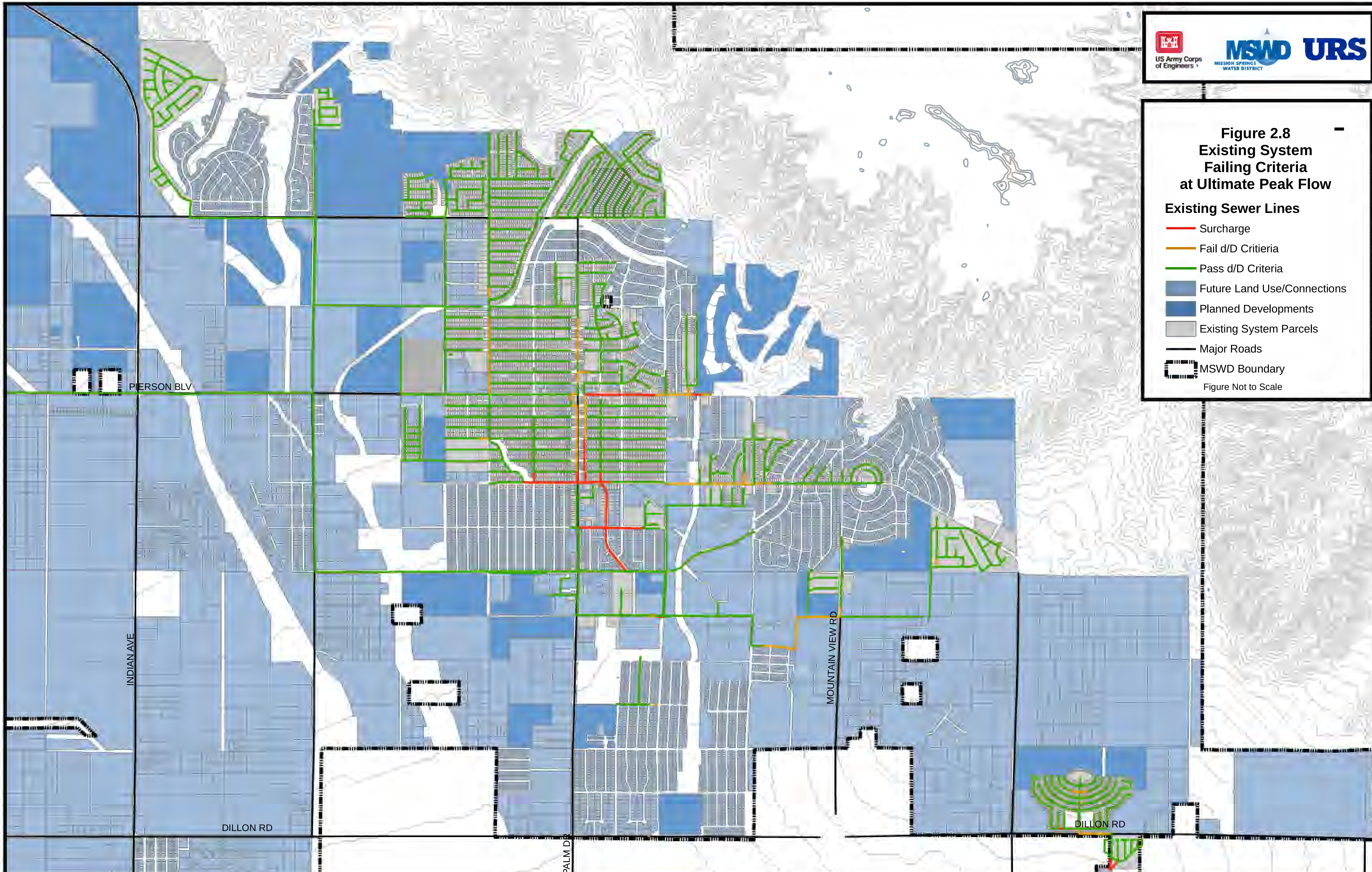


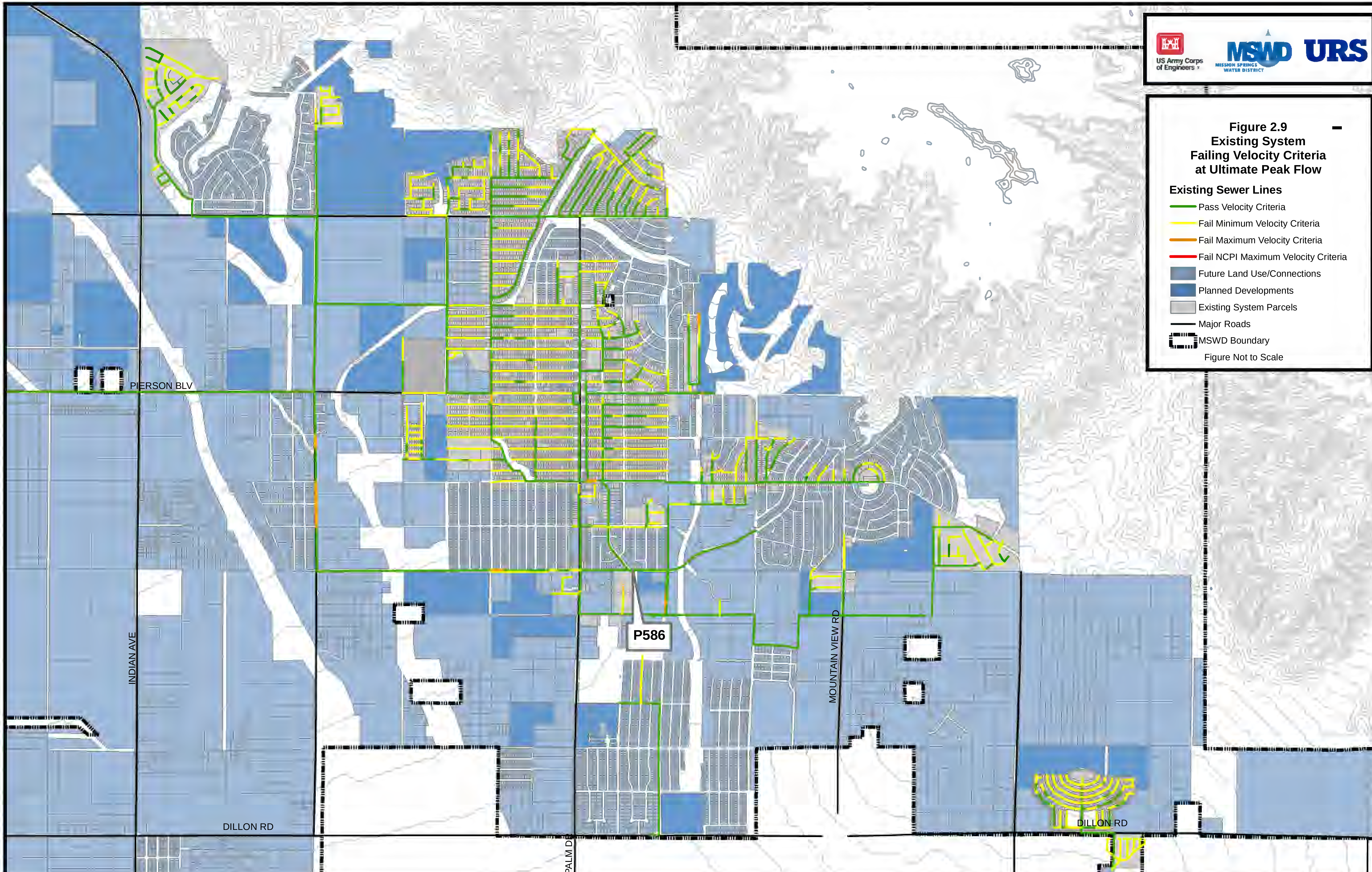
Figure 2.6
Failed Pipes Due to d/D Criteria
Peak Wet Weather Flow



US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 2.7
Failed Pipes Due To
Velocity Criteria
Peak Dry Weather Flow
Collection Piping
Velocity (fps)
0.00 - 1.99
2.00 - 9.99
10+
Force_Main
New FM
Abandoned FM
Streets
Figure Not to Scale
P57
P226
P193
P149
P33
P1198
P568
P940
WORSLEY RD
MISSION LAKES BLV
PIERSON BLV
13TH AVE
HACIENDA AVE
HACIENDA DR
14TH AVE
TWO BUNCH PALMS TR
15TH AVE
DILLON RD
18TH AVE
20TH AVE
I-10
INDIAN AVE
LITTLE MORONGO RD
WEST DR
PALM DR
VERBENA DR
MIRACLE HILL RD
AVENIDA MANZANA
MOUNTAIN VIEW RD
BUBBLING WELLS RD
LONG CANYON RD
BENNETT RD
Horton WWTP
Dos Palmas Lift Station
Desert Crest WWTP
Regional WWTP



US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 2.8
Existing System
Failing Criteria
at Ultimate Peak Flow
Existing Sewer Lines
Surcharge
Fail d/D Critieria
Pass d/D Criteria
Future Land Use/Connections
Planned Developments
Existing System Parcels
Major Roads
MSWD Boundary
Figure Not to Scale
PIERSON BLV
INDIAN AVE
DILLON RD
PALM DR
MOUNTAIN VIEW RD
DILLON RD


US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 2.9
Existing System
Failing Velocity Criteria
at Ultimate Peak Flow
Existing Sewer Lines
Pass Velocity Criteria
Fail Minimum Velocity Criteria
Fail Maximum Velocity Criteria
Fail NCPI Maximum Velocity Criteria
Future Land Use/Connections
Planned Developments
Existing System Parcels
Major Roads
MSWD Boundary
Figure Not to Scale
PIERSON BLVD
INDIAN AVE
DILLON RD
PALM DR
P586
MOUNTAIN VIEW RD
DILLON RD

URS has proposed future interceptors throughout the District to collect and transmit the ultimate build out flow. Figure 2.10 illustrates the layout and size of the proposed interceptors and Table 2-17 contains a list of sewer line sizes and corresponding lengths that are needed over the next 20-years.

Table 2-17
Proposed Interceptor Size and Lengths

Pipe Diameter (inch)	Pipe Length (mile)
8	5.95
10	1.80
12	8.45
15	8.59
18	15.05
21	3.64
24	0.61
27	3.08
30	0.88
33	0.07
Total	48.12

As discussed earlier, wastewater treatment plant improvements include the 1.5 expansion of the Horton WWTP, the abandonment of the Desert Crest Lift Station including the lift station requirement, and the installation of the initial phases of the 8 mgd Regional WWTP. Cost estimates associated with these improvements are provided in Table 2-18.

Table 2-18
Facility and Wastewater Treatment Plant Cost Summary

Planning Year / Cost				
Project	**2007-2011**	**2012-2016**	**2017-2021**	**2022-2026**
Horton WWTP 1.5 mgd Expansion*	$20M	$0	$0	$0
Desert Crest WWTP Abandonment**	$0.5M	$0	$0	$0
Regional WWTP Phase I & II	$100M	$0	$0	$100M
Subtotals	**$120.5M**	**$0**	**$0**	**$100M**

*Preliminary Cost Estimate from District

**Cost Estimate includes the following components from Webb Memo dated 8/17/06; D.C. Sewer Lift Station, D.C. 4 inch Dia. Sewer Forcemain, Paving fro 4 inch Dia. Forcemain. Costs have been inflated to 2007 dollars using the ENR cost index (Appendix G).

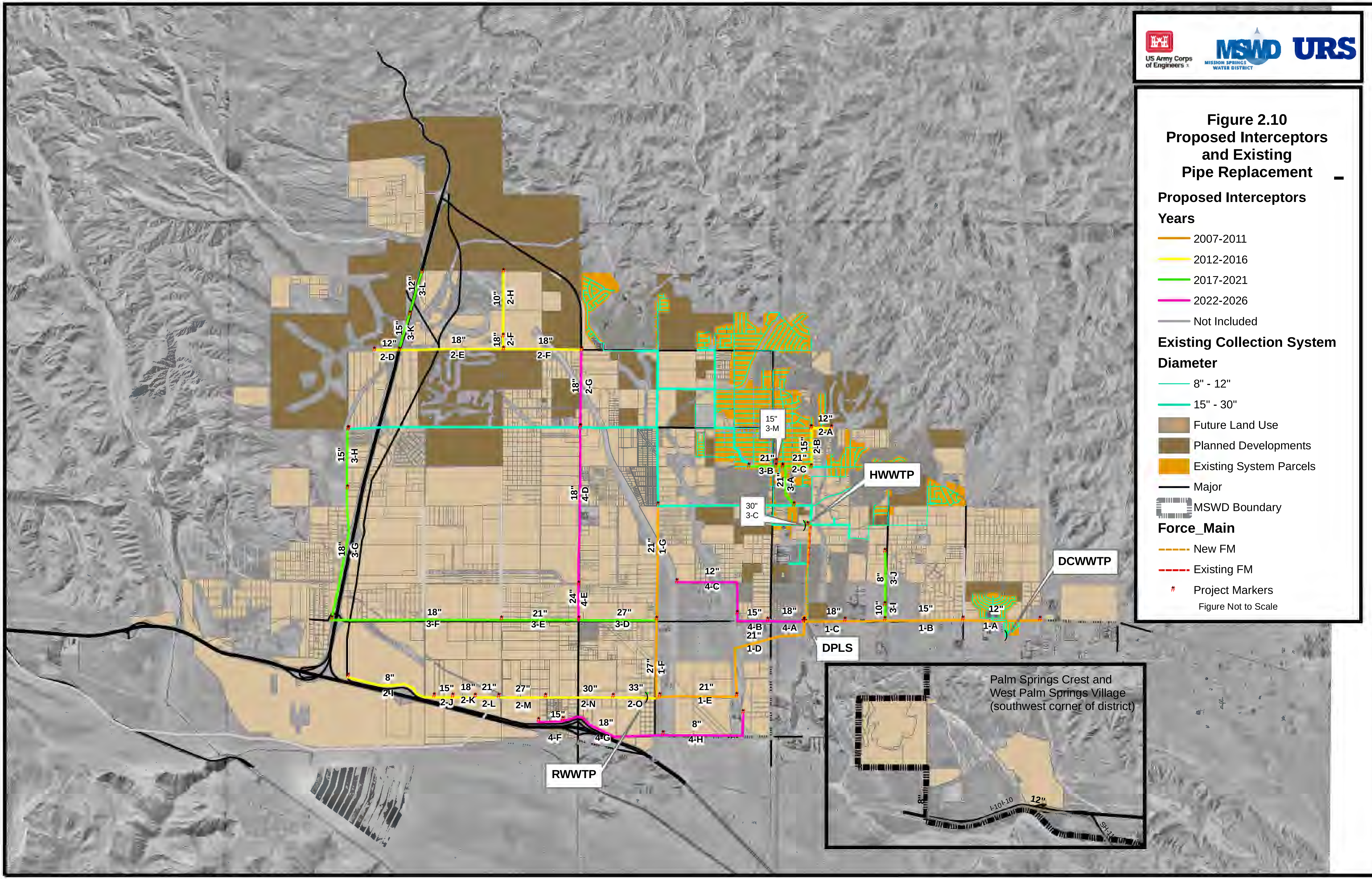


Figure 2.10
Proposed Interceptors
and Existing
Pipe Replacement

The sanitary sewer line renewals address existing sewer lines that do not meet current d/D, maximum NCPI velocity criteria, and interceptor sewer lines proposed for future development. Tables 2-19 and 2-20 are cost summary tables for the replacement and proposed sewer lines.

Table 2-19
Replacement Sewer Line Cost Summary

Planning Year / Cost					
Sewer Line	**2007-2011**	**2012-2016**	**2017-2021**	**2022-2026**	**Subtotal**
12”	$0	$539,590	$0	$0	$539,590
15”	$0	$1,290,491	$153,903	$0	$1,444,394
21”	$0	$1,306,016	$3,443,850	$0	$4,749,866
30”	$0	$0	$361,604	$0	$361,604
Subtotals	$0	$3,136,096	$3,959,357	$0	$70,954,453

Table 2-20
Proposed Sewer Line Cost Summary

Planning Year / Cost					
Sewer Line	**2007-2011**	**2012-2016**	**2017-2021**	**2022-2026**	**Subtotal**
8”	$0	$1,699,161	$981,180	$1,987,744	$4,668,085
10”	$0	$1,454,078	$338,553	$0	$1,792,631
12”	$2,054,475	$672,550	$1,168,725	$2,457,228	$6,352,978
15”	$3,890,592	$606,531	$3,240,089	$2,029,417	$9,766,629
18”	$6,852,923	$11,047,987	$11,797,553	$11,459,424	$41,157,887
21”	$7,296,695	$1,069,577	$2,974,923	$0	$11,341,195
24”	$0	$0	$0	$1,808,664	$1,808,664
27”	$6,425,314	$2,710,784	$3,709,495	$0	$12,845,593
30”	$0	$4,331,821	$0	$0	$4,331,821
33”	$0	$3,000,541	$0	$0	$3,000,541
Subtotals	$26,519,995	$26,593,026	$24,210,514	$19,742,473	$97,066,024

2.9 CIP FUNDING ALTERNATIVES

An important component of the Sewer Master Plan is the identification of potential funding sources for construction, maintenance and operation of the project. The MSWD has historically financed capital projects through multiple funding sources, while adhering to fiscal policy that guides the development of the sewer rate and fee structure. Potential funding sources for collection and treatment system capital projects identified in this Master Plan include:

- Section 219(f) WRDA 1999 – Federal funds administered by the Corps of Engineers;
- State and Tribal Assistance Grants (STAG) – administered through USEPA;
- Clean Water State Revolving Fund – USEPA and state loan program;
- Proposition 50 – State of California Grant funds;
- Proposition 84 – State of California Grant funds;
- Levy assessment fees; and
- Commercial bank loans.

Some, or all, of these funding sources may be used in combination to finance implementation of the capital projects identified in the Sewer Master Plan.

3.1 INTRODUCTION

The MSWD encompasses the city of Desert Hot Springs and portions of neighboring communities within Riverside County including the villages of Palm Springs Crest and West Palm Springs. The District currently provides 6,116 wastewater treatment connections mainly to residents and non-residential customers in central Desert Hot Springs (Figure 3.1).

MSWD is in the process of connecting the existing development to the wastewater collection system and incorporating new development as it occurs.

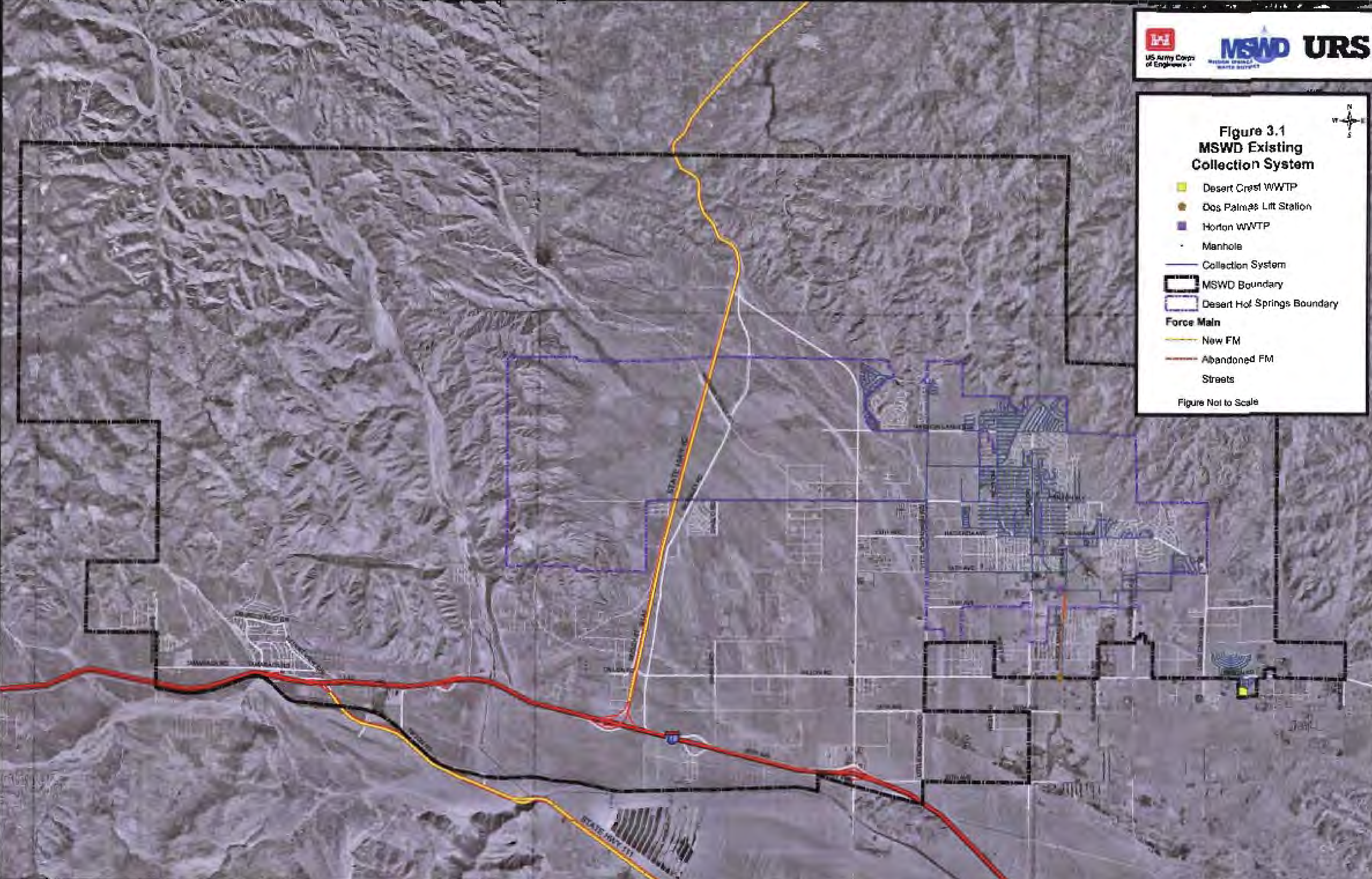
The customer and population estimates presented in this analysis update MSWD customer analyses conducted for the 2001 Master Sewer Plan and 2005 Water Master Plan. The 2001 Master Sewer Plan identified the 2000 population within the District to be 26,821. The plan also projected the District's 2020 population to be 44,698. The ultimate build out population projection was identified in the 2001 Master Sewer Plan as 102,000, although no year was attributed to that population estimate.

This section is organized to present the data and methods used to characterize existing and projected future MSWD sewer service customers, historical population growth in the MSWD service area, the City of Desert Hot Springs, and the Coachella Valley, data on historical and current MSWD sewer connections, future land uses within the MSWD, and projected future MSWD sewer service connections through 2035.

3.2 METHODS AND DATA

US Census Bureau and the California Department of Finance provided data used to characterize population and housing and MSWD provided data used to characterize existing and historic service connections. Land use data was accessed through the Riverside County website and through the City of Desert Hot Springs website. The City of Desert Hot Springs Planning Office provided data on current development. In addition, this discussion of customers and population relies on the City of Desert Hot Springs General Plan (2000) and the MSWD Master Water Plan (2005).

Projected future population is based on projections made by the California Department of Finance and on information contained in the City of Desert Hot Springs General Plan. MSWD customer projections are based on the Sewer Rate and Connection Fee Study(2005), development data provided by the City of Desert Hot Springs Planning Department, and Riverside County land use data. The projections of future sewer service connections incorporate City of Desert Hot Springs data for approved construction projects and MSWD data on collection system expansion projects.


US Army Corps of Engineers
MSWD
URS
Figure 3.1
MSWD Existing
Collection System
Desert Crest WWTP
Dos Palmas Lift Station
Horton WWTP
Manhole
Collection System
MSWD Boundary
Desert Hot Springs Boundary
Force Main
New FM
Abandoned FM
Streets
Figure Not to Scale
N
S
E
W
STATE HWY 111

3.3 HISTORICAL GROWTH IN POPULATION AND HOUSING

Estimates of historical population and housing are based on information presented in the 2005 Water Master Plan, which are based on 2000 US Census data and 2005 California Department of Finance data, and on 2006 data from the California Department of Finance. Table 3-1 presents MSWD population estimates broken out into separate estimates for the City of Desert Hot Springs and for the areas outside of the city that are within the MSWD service area. The 2006 estimates for the overall MSWD service area population (36,224) and the service area population outside of the City (14,213) are based on the historical average proportion of service area population within the City to the proportion outside of the City, as presented in the 2005 Water Master Plan.

Table 3-1
MSWD Service Area Historical Population Estimates

	1990	2000	2006
City of Desert Hot Springs	11,668	16,582	22,011
Non-City	7,832	9,518	14,213
Total MSWD Service Area	19,500	26,100	36,224

Sources: 1990 and 2000: MSWD Water Master Plan 2005, 2006: CA Dept of Finance
Future annexation to City boundaries will affect the proportion.

Table 3-2 presents historical population growth estimates for MSWD service area since 1990. Additional detail on more rapid growth experienced since 2000 is presented in Table 3-3, including details for the incorporated areas within Coachella Valley[1]. The large growth that occurred in the City of Desert Hot Springs between 2005 and 2006 (12.8%) contributed to Riverside County being California's second fastest growing county in 2006 (3.4%), which added more than 65,000 people during that time.

Table 3-2
MSWD Service Area Historical Population
Annual Growth Rate Estimates

1990 through 2006	3.95%
1990 through 2000	2.96%
2000 through 2006	5.61%

Sources: 1990 and 2000: MSWD Water Master Plan 2005 and 2006: CA Dept of Finance

[1] Blythe, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage

Table 3-3
City of Desert Hot Springs and Coachella Valley
Historical Population Estimates

	City of Desert Hot Springs		Coachella Valley	
	Population	**Annual Growth Rate**	**Population**	**Annual Growth Rate**
2000	16,582		276,253	
2001	16,777	1.2%	285,129	3.2%
2002	16,985	1.2%	295,676	3.7%
2003	17,398	2.4%	308,410	4.3%
2004	18,000	3.5%	321,990	4.4%
2005	19,507	8.4%	343,358	6.6%
2006	22,011	12.8%	357,985	4.3%

Source: California Department of Finance. Note population as of 01January each year.

Table 3-4 and 3-5 portray the historic growth in housing units for the City of Desert Hot Springs and the Coachella Valley by the type of housing unit: single family, multi-family, or mobile home. The historical growth in housing units for the City of Desert Hot Springs and the Coachella Valley are dominated by an increase in the number of single family units.

Table 3-4
City of Desert Hot Springs Historical Housing Units by Type

	Total Units	Single Family	Multi-Family	Mobile
2000	7,034	3,960	2,506	568
2001	7,046	3,972	2,506	568
2002	7,068	3,994	2,506	568
2003	7,171	4,086	2,506	579
2004	7,380	4,295	2,506	579
2005	8,016	4,895	2,512	609
2006	9,184	5,933	2,592	569
2000-2006 (1)	4.55%	6.97%	0.56%	2.51%

Note: (1) Annual growth rate. Source: California Department of Finance

Table 3-5
Coachella Valley Historical Housing Units by Type

	Total Units	Single Family	Multi-Family	Mobile
2000	138,066	89,189	35,536	13,341
2001	141,096	92,052	35,690	13,354
2002	144,758	95,265	36,119	13,374
2003	148,887	98,392	37,087	13,408
2004	153,654	102,508	37,674	13,472
2005	163,817	109,690	38,521	15,606
2006	171,344	116,642	38,978	15,724
2000-2006 (1)	3.66%	4.57%	1.55%	2.78%

Note: (1) Annual growth rate. Source: California Department of Finance

3.4 HISTORICAL AND CURRENT MSWD SEWER CONNECTIONS

Recent historical data for MSWD sewer connections is presented in Table 3-6. Data for FY 2004 is presented in the MSWD Sewer Rate and Connection Fee study as actual December 2003 data. Data for FY 2007 is actual October 2006 data taken from MSWD operational records. The MSWD fiscal year runs from 01 July through 30 June. Growth in the number of sewer connections may be greater than population growth due to programs such as AD-12 and the in-fill programs, which connect existing structures to the collection system.

Table 3-6
Historical MSWD Sewer Connections

	FY 2003	FY 2004 (1)	FY 2005	FY 2006	FY 2007 (2)
Single Family Residential	2,810	3,154	3,414	4,175	5,442
Multi Family Residential	371	374	390	406	422
Mobile Home Parks	4	4	4	4	3
Non-Residential	241	242	248	249	249
Total	3,426	3,774	4,056	4,835	6,116

Notes: Fiscal year runs from 01July through 30June. FY 2005 and FY 2006 residential data interpolated from actual data from FY 2004 and FY 2007.

(1)Data from December 2003. (2) Data from October 2006.

Sources: MSWD Sewer Rate and Connection Fee Study, Dec. 2003 and MSWD Operations Data.

In FY 2004, the 374 multi-family residential connections accounted for 1,785 equivalent dwelling units (EDUs) and the four mobile home park connections accounted for 282 EDUs. In

FY 2007, the 422 multi-family residential connections accounted for 2,092 EDUs and the three mobile home park connections accounted for 259 EDUs. In FY 2007 (October 2006) MSWD provided sewer services to 7,793 dwelling units (see Table 3-9), which is more than 60% of the total existing dwelling units (12,692) within the MSWD service area (see Table 3-8).

3.5 CURRENT AND FUTURE LAND USE

Current and future land uses were identified by Assessor's Parcel Number (APN) for each parcel within the MSWD. Land use categorizations for parcels within the City of Desert Hot Springs (including the sphere of influence: county managed lands over which the City has an advisory role) are based on data provided by the City of Desert Hot Springs Planning Department. Land use categorizations for parcels not categorized by the City data were identified by data provided by Riverside County. Parcels designated with multiple land uses were subdivided in sub-parcel areas according to the land use designation of the sub-parcel. Acreages presented in this section are based on sub-parcel land use designations. Table 3-7 presents the MSWD acreage for each general land use category.

Table 3-7
MSWD Acreage for General Land Use Categories

Category	Acres
Commercial	3,284
Industrial	2,590
Public and Transportation	1,654
Residential	34,621
Open Space	41,467
Sub-total	83,616
Unknown	4,627
Total	88,243

Sources: City of Desert Hot Springs Planning Department and Riverside County

Undeveloped residential parcels were identified as those residential parcels for which the data indicated no structure present. The future build out scenario assumes that all residential parcels would be developed to maximum density (dwelling units per acre) according to the parcel's residential categorization. Future build out for the MSWD is 73,012 dwelling units, which is the equivalent of all existing and future dwelling units. Table 3-8 presents the acreage, existing dwelling units, and future dwelling units for the MSWD. Residential parcel categorizations are summarized as follows:

- Low Density = less than 5 dwelling units per acre;
- Medium Density = 5 to 8 dwelling units per acre; and
- High Density = more than 8 dwelling units per acre.

Table 3-8
MSWD Existing and Future Dwelling Units (DUs)

	Acres	Existing DUs	Future DUs	Total DUs
Low Density	30,078	5,933	35,493	41,426
Medium Density	3,600	4,370	14,264	18,634
High Density	943	2,389	10,563	12,952
Totals	34,621	12,692	60,320	73,012

Sources: City of Desert Hot Springs Planning Department and Riverside County

3.6 PROJECTED SEWER SERVICE CONNECTIONS

There are currently 57 approved residential development projects within the MSWD that account for more than 20,000 new dwelling units. Information for these development projects was gathered from the Residential Approval Projects of April 2006 for DHS and from information provided by the District. In addition, MSWD's AD-12 construction project and planned infill will add approximately 6,500 dwelling units by 2016. Projected sewer service connection growth is based on completion of the AD-12 and infill projects by 2016 and on a projected growth rate for the approved residential construction projects.

An additional nine development projects, as identified by the District Staff, will add approximately 7,400 dwelling units, which have been spread evenly over the next ten years. Table 3-9 presents projected MSWD connections for 2007 – 2027. An underlying assumption is that all new dwelling units associated with the approved construction projects will be connected to MSWD's collection system. The annual growth rate in dwelling units from 2006 through 2017 is 10%. Growth beyond 2017 is based on a growth rate of 6.5%, which is an average growth rate for DHS over the past four (4) years.

Table 3-9
Projected Sewer Connections

Year	Existing Development Connections		Proposed Development		Total Connections
	AD-12	Infill	Growth Rate	Connections	
2000					4698
2006					7793
2007	667	147	10%	779	9386
2008	667	147	10%	939	11138
2009	667	147	10%	1114	13065
2010	571		10%	1306	14943
2011	571		10%	1494	17008
2012	571		8%	1361	18940
2013	571		8%	1515	21027
2014	571		8%	1682	23281
2015	571		8%	1862	25714
2016	571		8%	2057	28343
2017			5.6%	1587	29930
2018			5.6%	1676	31606
2019			5.6%	1770	33376
2020*			5.6%	1869	35245
2021			5.6%	1974	37219
2022			4.5%	1675	38894
2023			4.5%	1750	40644
2024			4.5%	1829	42473
2025			4.5%	1911	44384
2026			4.5%	1997	46382

Note: Growth rates are based on current Desert Hot Springs growth rate for 2007-2011, an average Desert Hot Springs growth rate for 2012-2016, an average District growth rate for 2017-2021, and an average Coachella Valley growth rate for 2022-2026.

*Total of proposed development connections reaches the number of connections in existing development projects.

4.1 INTRODUCTION

Mission Springs Water District, like many districts and agencies throughout the Coachella Valley, is experiencing an extremely high rate of growth. Due to the rapid growth and the current initiative to eliminate individual septic systems within the Districts service boundary, the planning for new sewer collection system infrastructure throughout the District is significant. It is important to determine if the current MSWD design criteria will meet current and future collection system demands.

URS compared the existing MSWD criteria with recommended industry standards and other local agencies' criteria to develop wastewater collection system performance standard recommendations. Public agencies used in the design criteria comparison include the following:

CPS – City of Palm Springs

CSD – the City of San Diego

CVWD – Coachella Valley Waster District

DWA – Desert Water Association

EMWD – Eastern Municipal Water District

EVMWD – Elsinore Valley Municipal Water District

EVWD – East Valley Municipal Water District

WMWD – Western Municipal Water District

Table 4-1
Existing Design Criteria Comparison

	d/D		**Material(s)**	**Velocity (fps)**
	≤ 15 inch	**> 15 inch**		**Min/Max/Rec**
MSWD	0.5	0.75	VCP	2 / *NL* / *NL*
EMWD	0.5 (14")	0.75 (14")	Plastic, VCP	2 / *NL* / 3
WMWD	0.5	0.75	NL	2 / 10 / *NL*
EVWD	0.5	0.75	VCP, PVC, ABS, DI	NL
CSD	0.5	0.75	NL	2 / 10 / 3-5
EVMWD	0.5 (=<12")	0.66 (>12")	PVC, Vylon	NL
CVWD	*NL*	*NL*	VCP	NL
DWA	*NL*	*NL*	VCP	NL
CPS	0.5	0.5	*NL*	*2/NL/NL*

NL – Not Listed
Rec - Recommended

4.2 WASTEWATER COLLECTION SYSTEM

The wastewater collection system sewer lines are the backbone of every system and represent the highest system asset value. The proper design of sewer lines will provide long-term benefits by reducing operation and maintenance needs and will reduce the need for replacement. The suggested modifications to the MSWD collection system performance is presented below.

4.2.1 Sewer Line Material

Currently, MSWD requires that all "Sewer shall be vitrified clay pipe (VCP) or ductile iron for sewer as required." The District plans to change this wording to "Sewer shall be vitrified clay pipe (VCP) or otherwise as specified by the District." VCP has been used in all MSWD gravity sewer lines and URS recommends the developers be allowed continued use of these materials. History has demonstrated that VCP has performed well with some problems stemming from root intrusions at the bell/spigot interface and its fragile nature with hauling and installing causing cracks in the VCP pipe.

URS reviewed other potential pipe materials common to the industry, as outlined below, however, it is the District criteria to only allow the use of VCP at this time.

- Polyvinyl chloride (PVC)
- High-density polyethylene (HDPE)
- Acroylonitril-butadiene-styrene (ABS).

Some of the advantages of these alternatives are a greater life expectancy and a greater flexibility during ground movement. When critical interceptors are designed to cross fault lines, the design material should be reviewed. These materials, particularly HDPE, will require fewer joints and are more durable during a seismic event, thereby reducing the potential for induced I&I, and the potential for a sanitary sewer overflow (SSO).

4.2.2 Hydraulic Criteria

The hydraulic design of sewer lines is a combination of line slope, diameter, and material. These aspects are important in order to accurately predict sewer line capacity and the velocities achieved during peak and average wastewater flow conditions. The proper hydraulic design of a sewer line provides a specific sewer line size to convey existing and future flows while reducing the potential for solids deposition and subsequent high maintenance needs. The specific future flow needs must be considered to eliminate potential capacity restriction that could lead to a sanitary sewer overflow (SSO). SSOs can cause a health hazard, groundwater contamination, property damage, and could lead to significant regulatory fines.

4.2.2.1 Capacity (d/D)

The current MSWD capacity is defined as the ratio of pipe depth (d) to diameter (D). Sewer line hydraulic capacity criteria is defined as; *"Sewer shall be sized based on being half full (d) at peak flow for 8-inch through 15 inch (D) and ¾ full (d) at peak flow for larger sewers (D)."* This criterion is the same as, or similar to, the criteria established throughout the region (Table 4-1). In addition to listing the d/D requirements, the criteria should also state that the d/D criteria,

Table 4-2, are calculated for Peak Wet Weather flow conditions and that Dry Weather flow conditions should be used to assess minimum flow conditions. (Refer to Section 5.2.2 for details regarding Peak Flows)

Table 4-2
MSWD Sewer Line d/D Criteria

Pipe Diameter	≤ 15 inch	> 15 inch
d/D	0.5	0.75

4.2.2.2 Velocity (V)

Velocity is the rate (fps) at which wastewater travels through a component of the collection system. Recommended sewer line velocities have been established to assist engineers in the design of a collection system that will minimize the deposition of solids and, thus, reduces the potential for sewer line clogging or an increase in maintenance. Therefore, the sewer lines should be designed to stay within the flow velocity ranges depicted in Table 4-3.

Table 4-3
Velocity Design Criteria

Velocities	**(fps)**
Minimum	2
Desired	**3 - 5**
Maximum	10

4.2.2.3 Manning's Pipe Roughness Coefficient

The roughness of a sewer line pipe material will have a direct relationship to its ability to carry primary wastewater at a certain flow rate. Sewer line pipe materials have varying degrees of internal pipe wall roughness that is defined by the Manning "n" roughness coefficient. Based on industry testing of various materials, the following roughness coefficients (Table 4-4) are typically used in collection systems:

Table 4-4
Mannings "n" Values

Material	**"n"**
PVC/HDPE/ABS	0.009
DI	0.013
VCP/RCP	0.011

As the collection system develops and is operational for extended periods of time, adjustments to these n values for aged pipe conditions will be required. The standard Mannings roughness coefficient for VCP in SewerCAD is equal to 0.011. This coefficient is used for all sewer lines in both the existing and the future flow condition models.

4.2.2.4 Sewer Line Slope

The sewer line slope is directly related to the minimum and maximum flow velocities. MSWD's current standard only provides minimum slope values. URS recommends the inclusion of maximum slope values and criteria for sewer lines up to 24-inch diameter. Based on the comparison of MSWD slope criteria with other local agencies, URS recommends the slope values presented in Table 4-5 to be incorporated into the MSWD's sewer design manual.

Table 4-5
Slope Design Criteria Comparison (ft/ft)

Sewer Line Size	MSWD (Existing)	EMWD	WMWD	EVWD	MSWD (Recommended)
	Min	**Min / Max**	**Min / Max**	**Min**	**Min / Max**
4"*	0.020	0.020 / NA	0.020 / NA	0.020	**0.020 / NA**
6"*	0.020	0.020 / NA	0.020 / NA	0.020	**0.020 / NA**
8"	0.0040	0.0040 / 0.1200	0.0034 / 0.086	0.0044	**0.0040 / 0.083**
10"	0.0028	0.0032 / 0.0850	0.0026 / 0.061	0.0033	**0.0028 / 0.062**
12"	0.0022	0.0024 / 0.0660	0.0020 / 0.049	0.0026	**0.0022 / 0.049**
14"	ABD	NL	NL	NL	**0.0016 / 0.040**
15"	ABD	0.0016 / 0.0500	0.0015 / 0.036	0.0019	**0.0015 / 0.036**
16"	ABD	NL	NL	NL	**0.0014 / 0.040**
18"	ABD	0.0014 / 0.0370	0.00113 / 0.029	0.0012	**0.0012 / 0.028**
21"	ABD	0.0012 / 0.0300	0.00092 / 0.024	0.0010	**0.0010 / 0.023**
24"	ABD	0.0010 / 0.0250	0.00076 / 0.020	0.0008	**0.0008 / 0.019**

* Diameters allowed for Lateral Lines Only
ABD – Approved By District
NL – Not Listed

4.3 WASTEWATER COLLECTION SYSTEM FACILITIES

Wastewater collection system facilities include manholes, diversion structures, lift stations, and inverted siphons. These facilities should be constructed to meet specific standards in order to maximize the life and minimize the maintenance and operational costs. Suggested modifications to manhole and lift station criteria are presented below.

4.3.1 Sewer Manholes

Sanitary sewer manholes provide operators the ability to access sewer lines for cleaning and general maintenance. Access in public rights-of-way are needed to provide operators with safe access and spacing requirements necessary to safely clean certain sewer line lengths. Spacing requirements are typically based on the capabilities of the entities jet cleaning trucks. MSWD current criteria include the following;

- *Manholes shall be installed on spacing not to exceed 350 feet.*
- *Manholes shall be designed with 0.10' minimum fall from inlet to outlet for straight through to 45-degree horizontal deflections and 0.20' minimum fall from inlet to outlet for junctions or deflections greater than 45 degrees. If the average slope of the inlet and outlet sewers yields a greater drop then this shall control. For any junction manhole of sewers of the same diameter the inlets shall be at the same elevation.*
- *Where sewers of different diameters junction at the manhole the inverts shall be set based on the depth of flow, assuming pipe to be ½ full for 8 inch sewers through 15 inch sewers and ¾ full for larger sewers unless other wise approved by the district*
- *48 inch (4') diameter manholes shall be used for sewers 8 inch through 24 inch diameter. Sixty-inch (5') diameter manholes for larger sewers and for sewer manholes with less than 5 foot in depth.*
- *Lateral connections are not allowed into manholes.*

In general, the criteria stated above will provide a high level of collection system operation with no foreseen long-term problems. However, URS would have MSWD consider the following adjustments to the current criteria:

- 5 feet diameter manholes should be considered for sewer depths greater than 10 feet and sewer lines greater than 15 inch.
- Increase the required manhole distance to 400' under normal condition and increase manhole spacing on primary interceptors when crossing fault zones.
- Specify that drop manholes should be used only in extreme cases and only if approved by the District.

4.3.2 Sewage Lift Stations

Sewage lift stations are required when the terrain does not allow for a portion of the system to gravity flow to the centralized wastewater treatment plant. Lift stations are generally maintenance intensive and allow for a greater chance of SSOs, especially in a seismic region. Therefore, the District should take all steps possible to eliminate and/or minimize adding lift stations to the collection system. If a lift station is necessary, the proper design to include safe access and to protect the health of operators during maintenance is critical. MSWD current sewage lift station criteria includes the following:

2.2.10 All pump stations, siphons, or non-standard construction shall be approved in concept prior to preparation of drawings.

2.2.16 Pumping stations shall discharge to existing force mains when available. If a force main must discharge within a tract gravity sewer system the discharge pipe shall be detailed on the drawings and approved for the District.

We recommend that the District expand on the existing criteria by adding the following items:

- Replace the word "Pumping" with "Lift" in order to avoid confusion with water distribution system booster pump stations.
- Lift stations shall be designed to pump the calculated peak wet weather flow from the upstream sewer basin area.
- A minimum of four hours of emergency storage should be required in order to provide operators with response time necessary to address unforeseen conditions.
- For lift stations handling less than 1 mgd, a duplex pumping unit lift station should be provided with 100% backup capacity.
- For lift stations handling in excess of 1 mgd, at least three pumping units should be provided to meet 100% of the flow with the largest pump out of service.
- All variable speed pumps shall be inverter duty motors.
- There should be some means of measuring flow at lift stations.
- Lift stations shall be equipped with backup power with auto-transfer capabilities.
- All unattended lift stations should have standardized instrumentation to allow remote detection of various operating and security conditions.
- Check valves shall be in a separate vault at or above grade.
- Lift Stations shall be designed as a submersible pump in a dry well, as applicable.
- Wet wells shall be designed as self-cleaning.
- Intake and wet well design should be in accordance with the Hydraulic Institute standards.

4.4 PIPE BEDDING

Proper bedding is very important in maintaining the integrity of the pipe, assuring it is laid to the proper grade, and preventing subsequent settling. We suggest the following for inclusion into MSWD pipe bedding specifications:

- All sewers, including laterals, shall be adequately bedded.
- The entire pipe barrel shall have a continuous and uniform line bearing support.
- Minimum bedding beneath sewers shall be at least one-eighth of the pipe diameter and in no case less than 6 inches.
- Minimum bedding backfill above sewers shall be 12 inches.
- Bedding material and size shall be in accordance with ASTM standards for appropriate pipe material and loading.
- Load factor for VCP bedding shall be based on the calculated load and a safety factor of 1.5. Bedding should be selected based on a load factor of 2.2 for rock encasement and a load factor of 4.5 for concrete encasement.

4.5 DESIGN FLOWS

Design flows are used to size collection pipes and interceptors in order to have adequate capacity for all of the properties contributing to that element; i.e. the collection system of the unit. The current design criteria only addresses residential flow and is written as follows;

> *2.2.11 Sewer from SFR shall be designed based on an average of 250 gpm per dwelling unit per day.*

Based on the calculations performed in this report, the following modifications and additions to the current design criteria are recommended:

- The units shown be changed to *gallons per day per equivalent dwelling unit (gpd/EDU)*
- The flow values be established per Table 4-6

Table 4-6
Recommended Design Unit Flow Values

Land Use	Unit Flow	Units
Residential (EDU)	200	gpd/EDU
Commercial / Industrial	2,000	gpd/acre
Public Uses (excluding schools)	1,000	gpd/acre
Schools	500	gpd/acre

Calculations to justify the above design flow values can be found in Section 5.3.2.

5.1 INTRODUCTION

This section provides an overview and analysis of the historical and projected 20-year wastewater flows within the Mission Springs Water District (MSWD) wastewater collection system. The evaluation and analysis of existing wastewater flows is necessary to appropriately calibrate and model the collection system hydraulics throughout the system as well as evaluate existing and proposed collection system design parameters for future flow conditions.

This section provides the basis for flow parameters, how each flow is incorporated into the collection system model, and the resulting design criteria established for future wastewater collection components.

5.2 HISTORICAL FLOW ANALYSIS

Wastewater flow comes from varying land use types within the collection system including single family residential, multi-family residential, commercial, hotel/spas, public, and industrial facilities. Additional flows are the result of groundwater infiltration and wet weather inflow and infiltration. Furthermore, wastewater flow in a collection system is measured and defined in several ways; Average Day Dry Weather Flow (ADF), Peak Dry Weather Flow (PDF) and Peak Wet Weather Flow (PWF). Inflow and infiltration and the various flow types are further defined and evaluated for the MSWD collection system below.

5.2.1 Inflow and Infiltration

Infiltration is flow entering the system from a storm event through pipe defects or leaky joints. Inflow is flow entering the system from a storm event through manholes or other surface components. Infiltration can be present during dry weather or wet weather whereas inflow is only present during a wet weather event.

Because the District collection system is relatively new and the groundwater table around the District is fairly deep, groundwater infiltration affecting the system during dry weather periods is assumed to be negligible. For wet weather, infiltration and inflow is accounted for by applying a wet weather peaking factor developed later in this section.

5.2.2 Average Day Dry Weather Flow

Average Day Dry Weather Flow (ADF) is the average wastewater flow in a collection system measured at the wastewater treatment plant occurring during a dry weather condition (i.e. no storm water flow component). The flow includes sanitary wastewater from residential, commercial, industrial and public properties and applicable baseline groundwater infiltration. The system-wide ADF is typically calculated as the average annual flow measured at the wastewater treatment facility.

MSWD maintains two flow meters, one at each wastewater treatment plant, and from which, URS conducted the flow analysis. The District maintains a daily flow log recording the cumulative flow entering each plant and weekly flow charts of instantaneous flow. The District supplied the daily flow logs for the past five years, instantaneous flow charts for the maximum, minimum, and average weeks, and flow charts for dates surrounding rainfall events as identified later in this section. The flow logs and records can be found in Appendix A. The ADF flows discharged to the Horton Wastewater Treatment Plant (HWWTP) and Desert Crest Wastewater Treatment Plant (DCWWTP) over the past five years are shown in Figures 5.1 and 5.2, respectively.

Figure 5.1
HWWTP Average Annual Dry Weather Flows

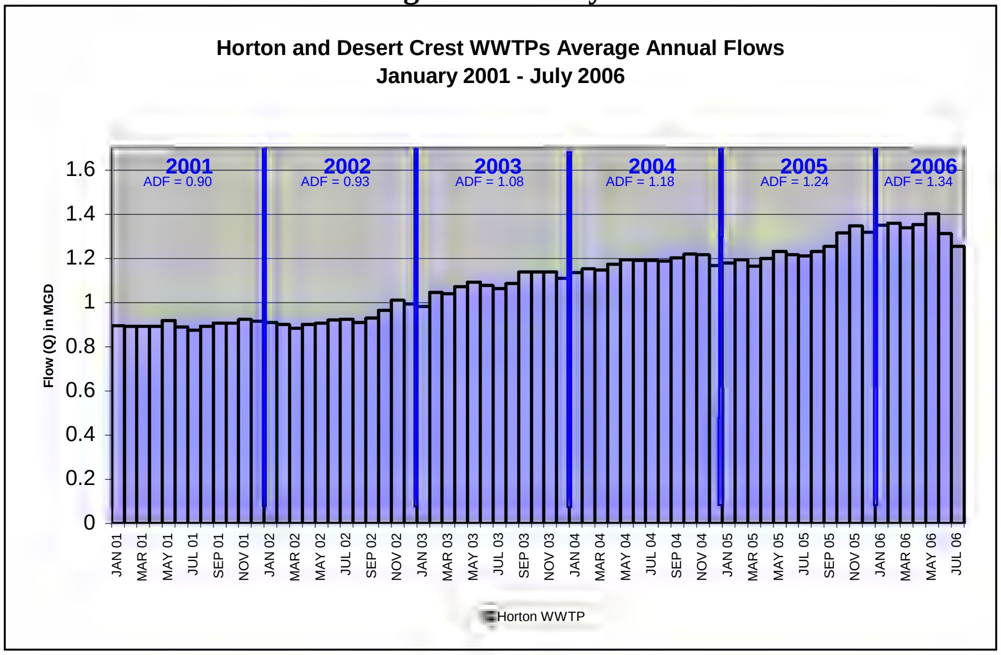
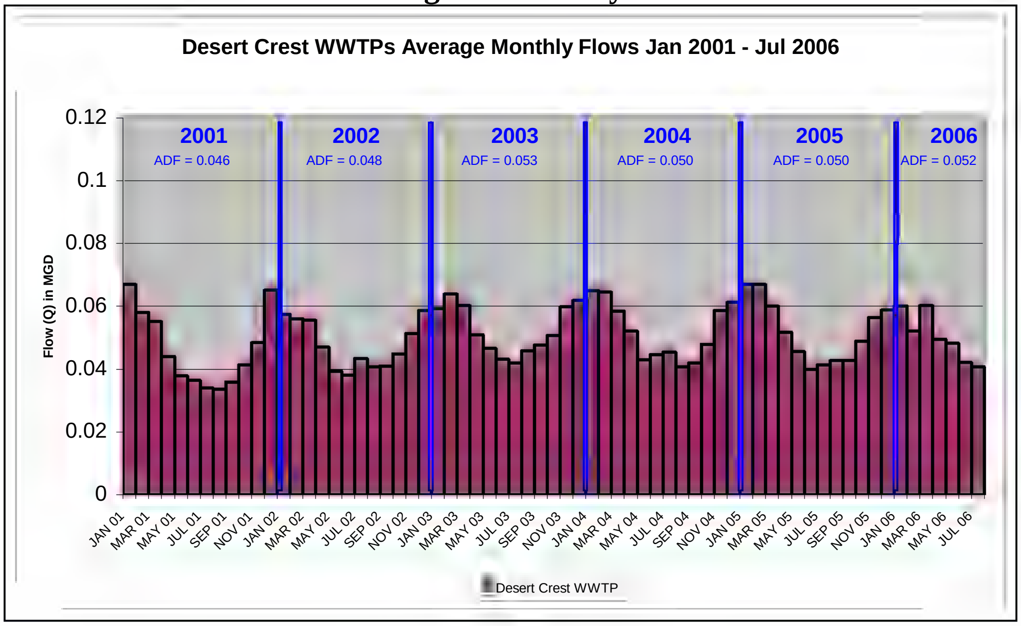


Figure 5.2
DCWWTP Average Annual Dry Weather Flows



Unlike the Desert Crest flows, which have remained fairly consistent over the last five years, the Horton ADF wastewater flows have increased from 0.90 mgd in 2001 to 1.34 mgd in 2006 or an approximate 35% increase over the past five years.

Because the water records used for model calibration are summarized by Fiscal Year (FY), the FY 2006 average dry weather flow at each wastewater treatment plant was calculated and is listed in Table 5-1.

Table 5-1
FY 2006 ADF

	ADF (mgd)
HWWTP	1.32
DCWWTP	0.05
Total	**1.37**

5.2.3 Peak Dry Weather Flow

Wastewater flow entering a collection system fluctuates depending on the land use, the amount of contributing upstream flow, the day of the week, or the time of year. For each wastewater treatment collection system, there is a general pattern representing the daily variance in flow entering the wastewater treatment plant. This pattern is referred to as the collection system diurnal flow pattern (diurnal pattern). Typical diurnal patterns have two peaks representing the hours when the most flow is entering the system. The largest peak, if it occurs on a day there is no applicable inflow or infiltration, is referred to as Peak Dry Weather Flow (PDF). The dry weather *Peaking Factor (PF)* is determined from dividing the PDF by the ADF. Figures 5.3 and 5.4 below represent a typical day wastewater influent diurnal pattern to the HWWTP and DCWWTP, respectively.

Figure 5.3
HWWTP Diurnal Flow Pattern

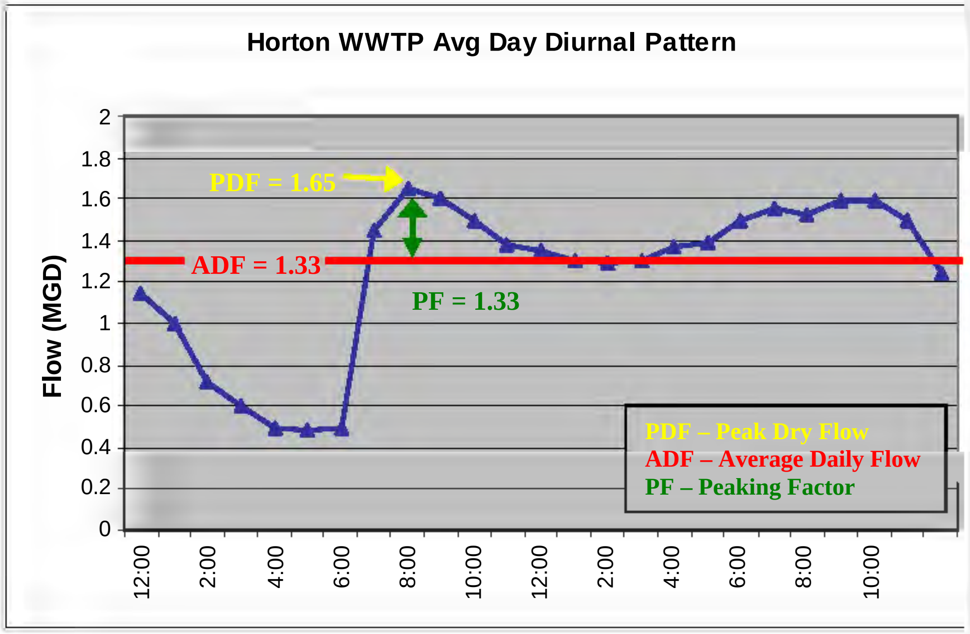
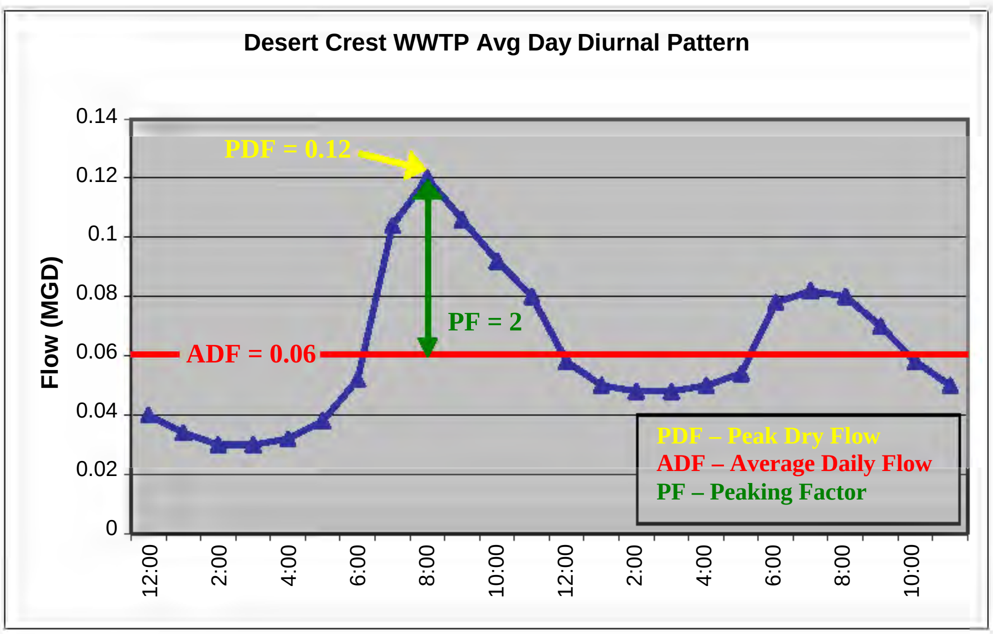


Figure 5.4
DCWWTP Diurnal Flow Pattern



The diurnal flow pattern for the Horton collection system presents two peaks, a morning peak around 8 AM and a smaller afternoon peak around 9 PM. The land uses contributing to this basin include residential, commercial, and public facilities. The commercial properties include schools, spas resorts, car washes, and laundromats. The diurnal pattern for the HWWTP has lower peaks, which is common in very large systems, however, for MSWD, this is due to a combination of the large commercial flow and the wet well and lift station configuration at the plant entrance. The average daily flow is 1.33 mgd, the peak dry weather flow is 1.65 mgd and the peaking factor is approximately 1.33.

The Desert Crest basin diurnal flow pattern also presents two peaks, a morning peak around 8 AM and an evening peak around 7 PM. The DCWWTP collects wastewater from only residential properties and a small community so the peaks are more pronounced. The average daily flow is 0.06 mgd, the peak dry weather flow is 0.12 mgd and the peaking factor is approximately 2.0.

5.2.4 Peak Wet Weather Flow

Peak Wet Weather Flow (PWF) is the result of inflow (precipitation events) and an increase in infiltration (i.e. extraneous flow being added to the ADF). Collection system inflow is the amount of storm water that primarily flows into the collection system through manholes and infiltration is the amount of groundwater that enters the system through pipe defects or leaky joints. The effect of inflow and infiltration (I&I) on a collection system will vary based on the system condition as well as the duration and intensity of a storm event. The Peak Wet Weather Flow (PWF) is used to assist engineers in the design of collection system facilities including major interceptors and lift stations.

URS referenced the National Oceanic and Atmospheric Administration (NOAA) San Diego California National Weather Service Office website to assist in establishing dates of local precipitation events. For the past eight years at the Palm Springs rain gauge station, records were reviewed. The seven storms depicted on Table 5-2 were identified as precipitation events large enough to potentially have an effect on MSWD wastewater collection system. Instantaneous flow charts were obtained for the surrounding week of dates highlighted in yellow.

Table 5-2
Palm Springs Rain Gauge Data Storm Events

Date	**Rain (In)**
January 7th, 2005	0.49
January 10th, 2005	1.19
January 11th, 2005	0.78
February 21st, 2005	0.98
October 17th, 2005	1.10
October 18th, 2005	0.71
March 11th, 2006	0.64

The flow charts were reviewed to determine the effects, if any, on the collection system and the average day flows. The wastewater flow charts for October 17, 2005, October 18, 2005, and February 21, 2005 showed significant peaks as compared to the flow records for the rest of the week. There are many misleading peaks on the Horton diurnal flow pattern as result of wet well cleaning, pump tests, and meter misreads. However, the Horton wet weather flow can be correlated to the storm event by establishing the time of the peak flow on the Desert Crest diurnal flow pattern record. A daily diurnal comparison for each event and each collection system (or WWTP) is shown in Figures 5.5 through 5.8.

Figure 5.5
Horton WWTP Flow Storm Events 2/21/2005

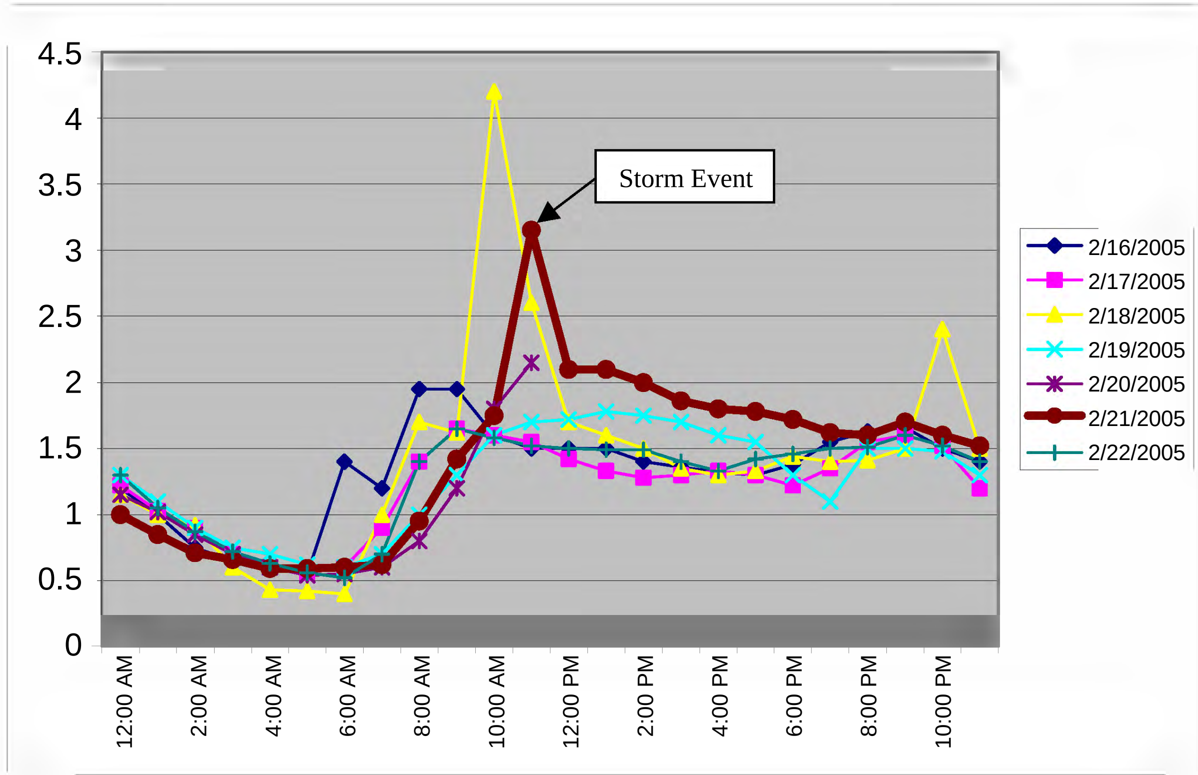
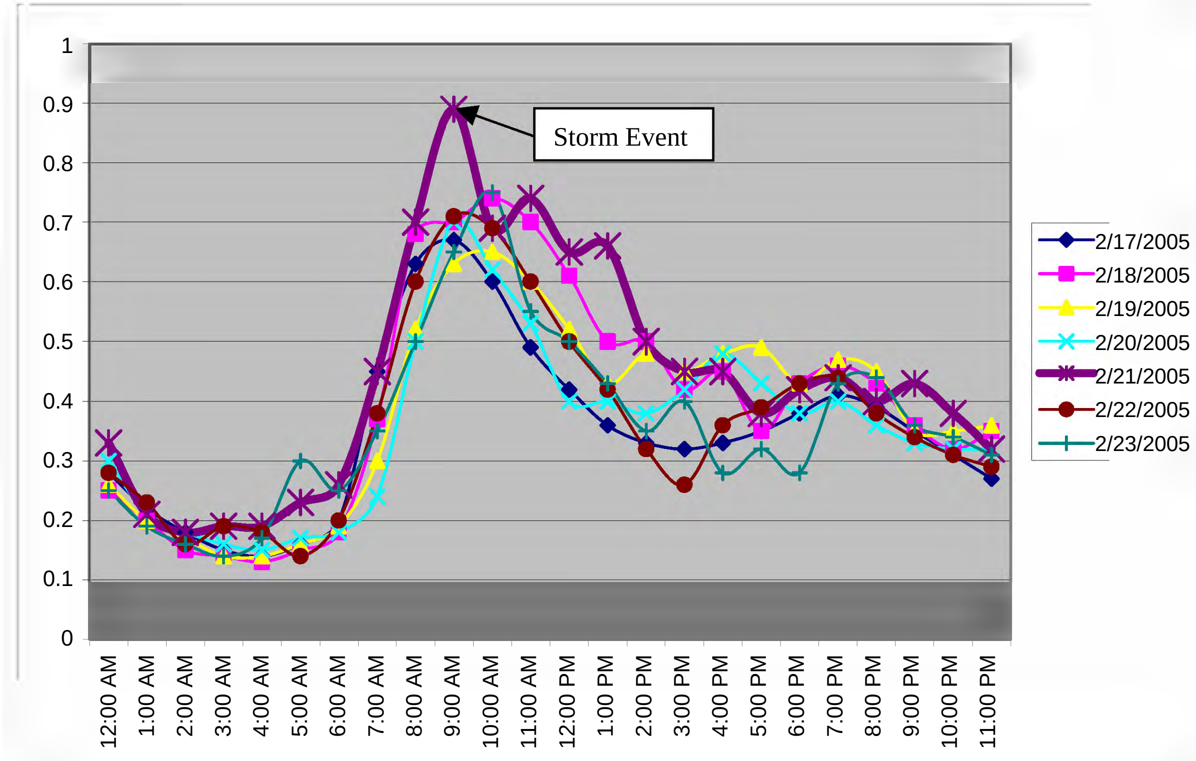


Figure 5.6
Desert Crest WWTP Flow Storm Events 2/21/2005



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Figures 5.5 – 5.8

Wet Weather Effects on Flow for HWWTP and DCWWTP

Note: Peaks and Valleys not labeled as storm event are due to operation and maintenance activities.

Figure 5.7
Horton WWTP Flow Storm Events 10/17 & 10/18 2005

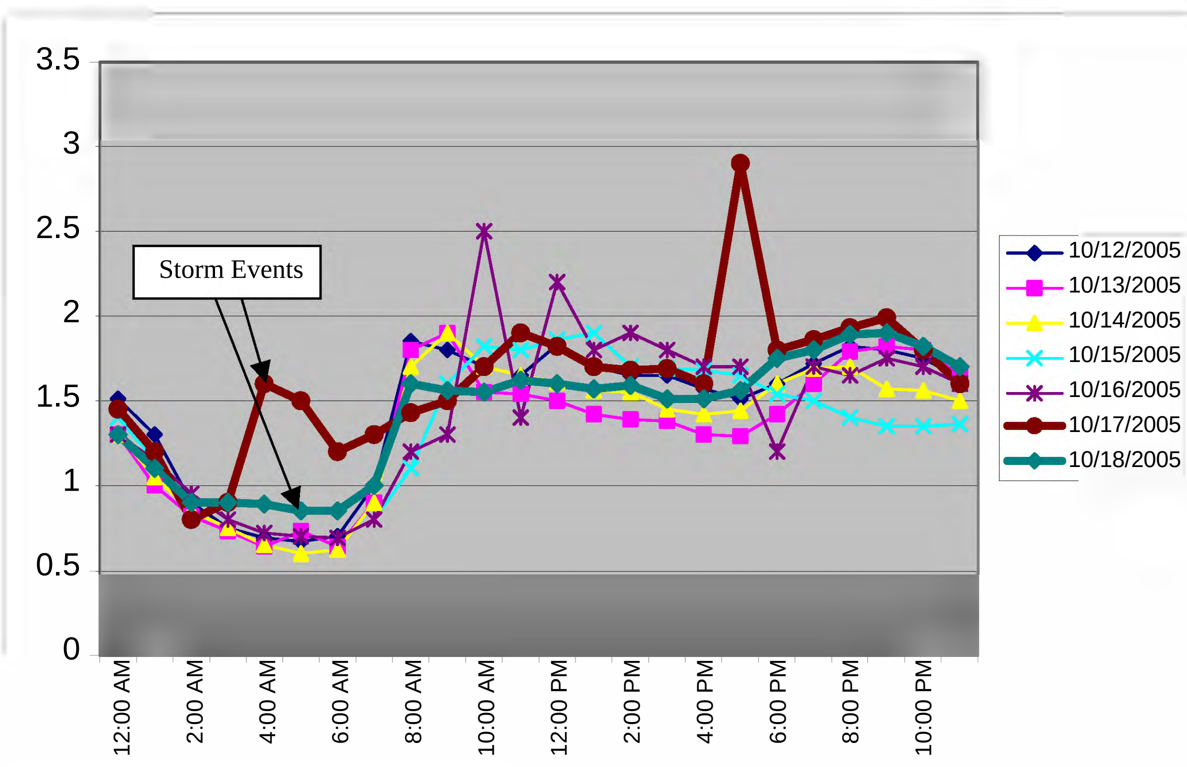
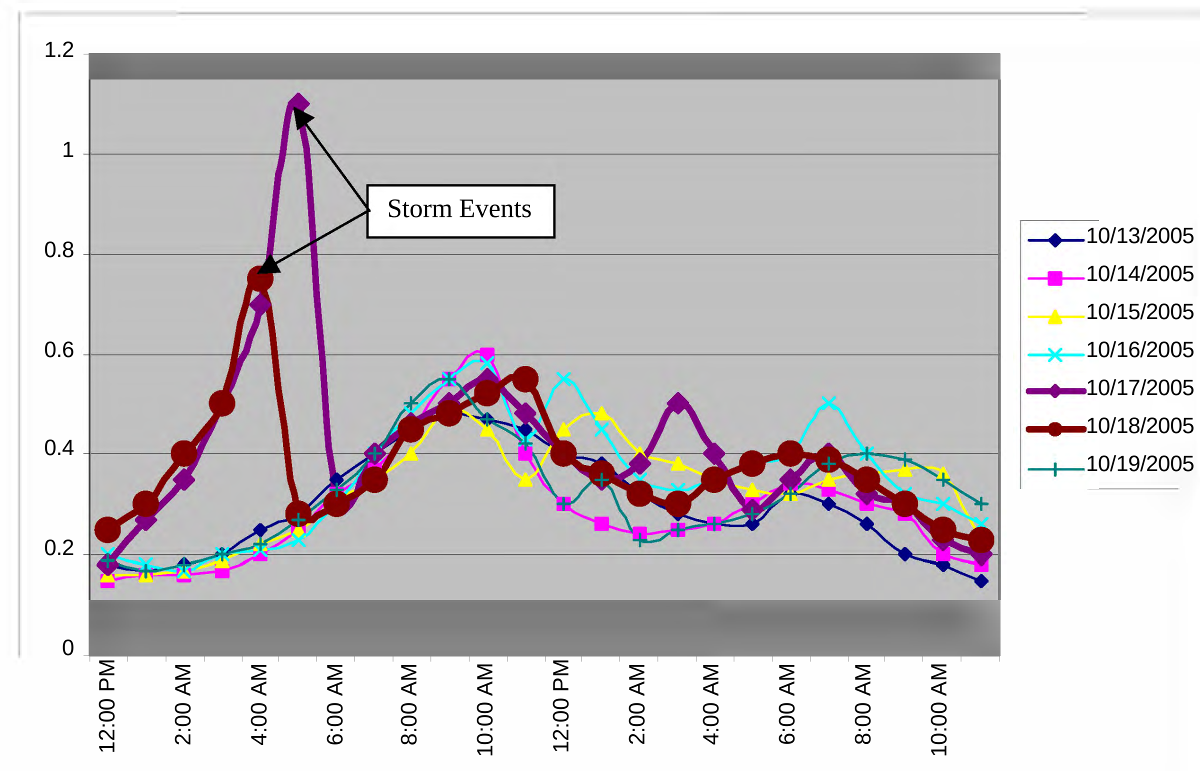


Figure 5.8
Desert Crest WWTP Flow Storm Events 10/17 & 10/18 2005



Peaking factors were established for each storm event and treatment plant by comparing the PWF with the average flow at that time of day. The peaking factor and the corresponding storm event data are listed in Table 5-3.

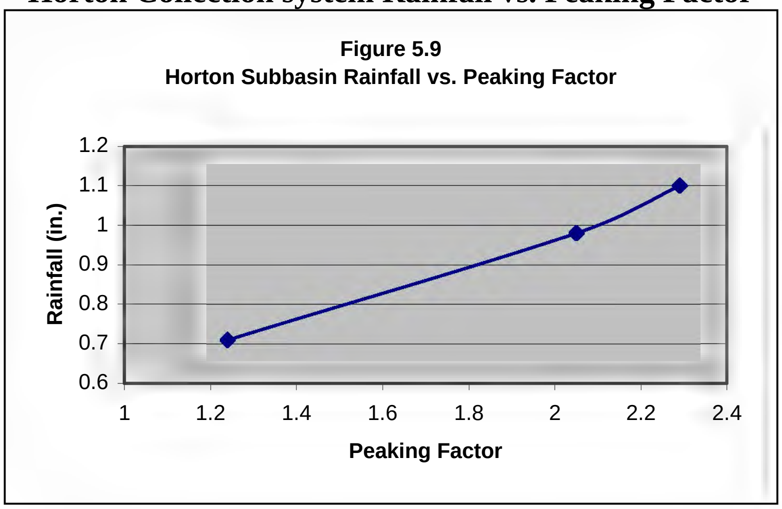
Table 5-3
Horton and Desert Crest WWTP
Wet Weather Peaking Factors

STORM EVENT	R (IN)	HWWTP			DCWWTP		
		ADF (mgd)	PWF (mgd)	PF	ADF (mgd)	PWF (mgd)	PF
2/21/2006	0.98	1.54	3.15	2.05	0.067	0.089	1.33
10/17/2005	1.1	0.7	1.6	**2.29**	0.022	0.075	3.41
10/18/2005	0.71	0.72	0.89	1.24	0.027	0.110	**4.07**

It is important to note that storm events will occur at different times during the day and thus the peak will occur at different times in relation to the dry weather diurnal flow pattern. In the most extreme case, the PWF would occur during the same time as the PDF. This is the case for the February storm event and the corresponding wet weather peak flow.

The effect of the above storm events on the Horton wastewater collection system appears to be linear depending on the amount of rainfall, Figure 5.9. However, URS was unable to obtain rainfall intensity curves and was therefore unable to establish a peaking factor relative to storm frequency. An I&I metering study or installation of electronic flow meters is recommended to assist engineers in establishing such a correlation.

Figure 5.9
Horton Collection system Rainfall vs. Peaking Factor



The wet weather peaking factors currently used by the District are included in Table 5-4 below.

Table 5-4
Current MSWD Wet Weather Peaking Factors

Average Flow (mgd)	PF
0.00 – 0.01	4.0
0.05	3.4
0.10	3.2
0.20	3.0
0.30	2.8
0.50	2.7
0.80	2.6
1.00	2.5
1.50	2.4
2.50	2.3
4.00	2.2
6.00	2.1
10.00	2.0
15.00	1.9
30.00	1.8

The factors developed for each collection system are close to the existing peaking factors as can be seen in Table 5-5.

Table 5-5
Horton and Desert Crest WWTP
Peaking Factors

Peaking Factor	Horton	Desert Crest
PF	1.33	2.00
PWF	**2.29**	**4.07**
PWF (MSWD Criteria)	2.44	3.40
Percent Difference	-6%	+20%

The wet weather peaking factors of 2.29 and 4.07 for Horton and Desert Crest collection systems, respectively, are used to model the peak wet weather existing flow.

5.3 CALIBRATION AND DESIGN UNIT FLOWS

Unit flow values are established for each land use type for existing and future flow conditions. The calibration unit flow values are those established for existing flow conditions and are used to calibrate the existing flow model. Design unit flow values are established for estimating pipe sizes for future collection systems and in this master plan are used to develop future flow scenario models.

5.3.1 Calibration Unit Flows

General land use categories within the District include Single Family Residential (SFR), Multiple Family Residential (MFR), Commercial, Industrial, Public, and Open Space. For the purposes of this report, all residential properties are converted to Equivalent Dwelling Units (EDUs), which equate to one residential unit. In addition, all Open Space is assumed to have no return flow.

As mentioned previously, groundwater infiltration affecting the system during dry weather periods is assumed to be negligible. Therefore, the total ADF of 1.37 mgd unit flows from various land uses and is incorporated into the model through the use of unit flow values.

The unit flow for each land use category was calculated using the wastewater treatment flow records and non-residential water supply records. The water supply records can be found in Appendix B. The data provided by the District included commercial water customers that had a connection to the wastewater treatment system. It is assumed that for commercial and industrial land use classifications, the water use is equal to the return flow minus an assumed 15% consumption rate.

5.3.2 Residential Calibration Unit Flows

As discussed in Section 3, the total numbers of residential EDUs were calculated using water supply account records. The "Sewer Count" field identifies water customer accounts that also have connected to the wastewater collection system. The total number of EDUs connected to the wastewater collection system as of October 12, 2006 is 7,793, Table 5-6.

Table 5-6
Total Residential EDU Serviced by
MSWD Collection System (10/12/2006)

Land Use Class	**Sewer Count**	**EDUs**
Single Family Residential	5,442	5,442
Multi-Family Residential	422	2,092
Mobil Home Parks	3	259
Total		**7,793**

Using this information, the total flow discharged to the collection system by residential properties is determined by summing the non-residential water use minus a 15% consumption rate, and subtracting it from the total ADF. This number is divided by the total number of EDUs to estimate the flow per EDU (Table 5-7).

Table 5-7
Residential Unit Flow Determination

Factor	**Flow**	**Units**	**Notes**	**Source**
Average Daily Flow	1.369	mgd	Includes any applicable I&I	Flow data provided by MSWD (MSWD_WWTP_AvgMonthQ01-06.xls)
Commercial Flow	- 0.286	mgd	Total Non-Res Flow minus 15% consumption	Flow data for 50 large and additional customer accounts provided by MSWD (hard copy fax dated 10/12/2006)
Residential Flow	= 1.083	mgd		Average Daily Flow - Commercial Flow
Residential EDU	/ 7793	EDU		Flow data for 50 large and additional customer accounts provided by MSWD (hard copy fax dated 10/12/2006)
Total	**= 139.0**	**gpd/EDU**		

The 2006 calculated flow per EDU of 139 appears to be reasonable when compared to values established by the previous sewer master plan (149 gpd/EDU) and the appendices data in the sewer rate connection fee study (142 gpd/EDU). The unit EDU wastewater flow rate of 139 gpd was applied to all residential EDUs in the existing collection system for model calibration.

5.3.2.1 Non-Residential Calibration Unit Flows

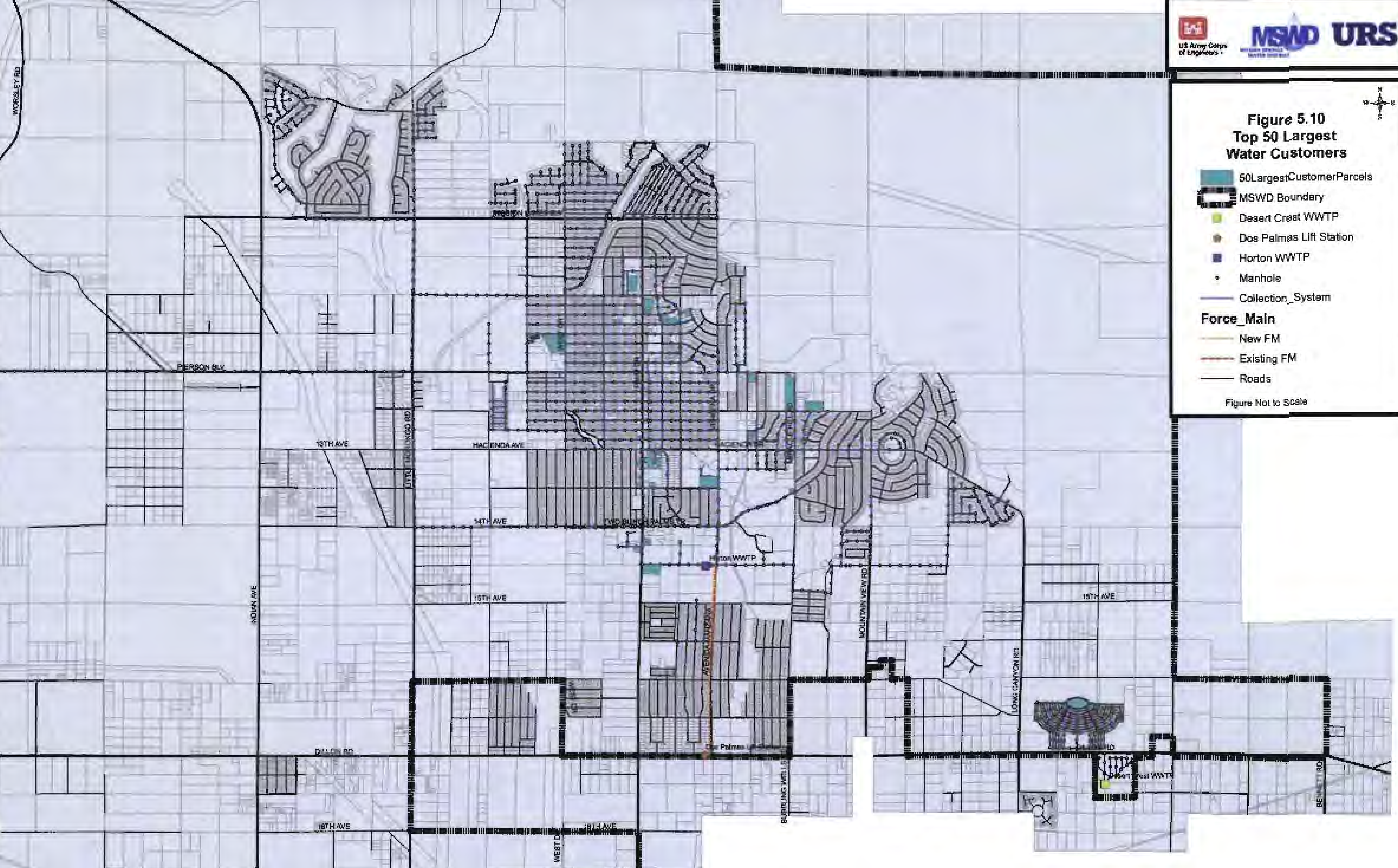
Unit wastewater flow for non-residential land use classifications were determined using water supply records from FY 2006. The top 50 non-residential property water accounts, which are assumed to have the largest amount of wastewater flow, (i.e. car washes, hotels, schools, etc.) account for approximately 71% of the total non-residential flow and approximately 17% of the total flow. These properties, as identified in Figure 5.10, were assigned actual water use minus an assumed 15% consumption.

The remaining non-residential accounts were assigned an average of non-residential flow minus the top 50 customers which equals 405 gal/day. The calculation to establish this value is shown in Table 5-8.

Table 5-8
ADF for Non-Residential Accounts*

Total Non-Residential Flow* (FY06)	46,531	hcf/yr
Total NR Flow Minus 15% Consumption	39,551	
Daily Non-Residential Flow (conversion)	= 10,836	cf/day
Gallon per Cubic Foot (conversion factor)	* 7.48	gal
Non-Residential Sewer Accounts	/ 200	accounts
ADF Flow per Account	**= 405**	**gal/day**

*Excludes Top 50 Non-Residential Water Users



US Army Corps of Engineers
MSWD
URS
Figure 5.10
Top 50 Largest Water Customers
50LargestCustomerParcels
MSWD Boundary
Desert Crest WWTP
Dos Palmas Lift Station
Horton WWTP
Manhole
Collection_System
Force_Main
New FM
Existing FM
Roads
Figure Not to Scale
WORSLEY RD
PIERSON BLV
13TH AVE
HACIENDA AVE
14TH AVE
15TH AVE
INDIAN AVE
Horton WWTP
MOUNTAIN VIEW RD
LONG CANYON RD
DILLON RD
18TH AVE

5.3.3 Design Unit Flow Values

In order to estimate a flow and to adequately design sewer lines and other facilities for future growth scenarios, it is necessary to establish design unit flows for residential and non-residential properties.

The calculated flow per EDU used to calibrate the model is 139 gpd/EDU. This value must be adjusted to account for non-residential flow from large parcels assigned strictly for residential land use. When dividing the current flow of 1.37 mgd by the existing number of dwelling units, the flow per EDU is 175 gpd. The design unit flow has been increased to 200 gpd/EDU to apply a factor of conservancy. A value of 200 gpd/EDU is used to develop the future flow scenario model and is suggested to the District for an established residential design unit flow.

The non-residential design unit flow currently used by the District (Table 5-9) were used for future flow model scenarios and are also suggested for inclusion in the current MSWD standards.

Table 5-9
Current Non-Residential MSWD Design Unit Flow Values

Land Use	Unit Flow	
Commercial / Industrial	2,000	gpd/acre
Public Uses (excluding schools)	1,000	gpd/acre
Schools	500	gpd/acre

The following sections describe the application of these unit flows used to establish the future flow model.

5.4 FUTURE WASTEWATER FLOW ANALYSIS

The projected flow analysis includes the estimation of the flows in the collection system for the next twenty years as well as establishing flow values for ultimate build out. The 20-year flow estimate will be used to establish facility needs whereas the ultimate flow will be used to design sewer line and facility capacity.

The future customer and population projections developed in Section 3 along with the design unit flow values established in the previous section were used to create the future flow scenario.

5.4.1 Assessment Districts and Existing Development

As discussed in Section 3, the Assessment District 12 will connect approximately 2,000 dwelling units to the collection system by 2009 and an additional 4,000 dwelling units by 2016. A flow rate of 200 gpd/EDU is assigned to each unit and the connections are spread out evenly among the planned construction years. Table 5-10 summarizes the projected flows for the proposed Assessment Districts.

Table 5-10
Flow Rates Resulting from Future and Existing Assessment Districts

	AD-12 Additional Dwelling Units	AD-12 Flow Per Year (MGD)	Cumulative AD-12 Flow (MGD)
2007	667	0.133	0.133
2008	667	0.133	0.266
2009	667	0.133	0.399
2010	571	0.114	0.514
2011	571	0.114	0.628
2012	571	0.114	0.724
2013	571	0.114	0.857
2014	571	0.114	0.971
2015	571	0.114	1.085
2016	571	0.114	1.200

Assuming that the District has approximately 53% of the existing water customers connected to the sewage collection system, the cumulative flow value of 1.2 mgd for the assessment districts is reasonable.

5.4.2 Projected Development

Per Section 3.6, there are 57 approved residential development projects with approximately 20,000 dwelling units planned for construction. A growth rate and corresponding DU/yr has been established for the 20-year planning period. The table below lists the projected flow per year due to new construction projects that are in the planning or construction stages.

Table 5-11
Future Projects Projected Flows

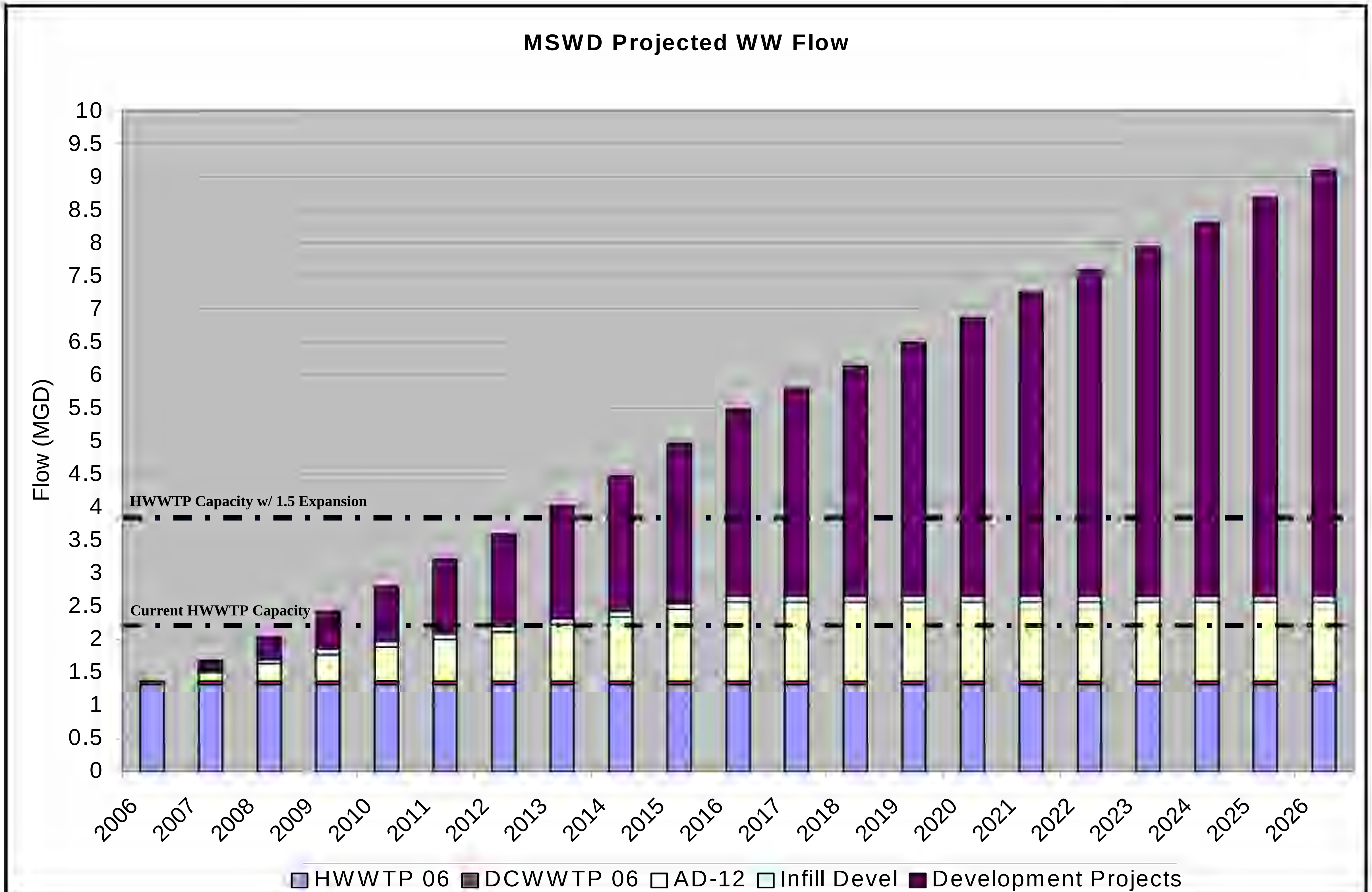
Year Complete	Dwelling Units	Annual Flows (mgd)
2007	779	0.155
2008	939	0.188
2009	1114	0.223
2010	1306	0.261
2011	1494	0.300
2012	1361	0.272
2013	1515	0.303
2014	1682	0.336
2015	2057	0.411
2016	1587	0.317
2017	1676	0.335

In addition to the planned development projects, there are 880 planned infill dwelling units projected for completion between 2004 and 2009.

Based on the assessment district, planned development projects, and infill construction flow information, cumulative flow projections have been established for the planning period of 2007 through 2026. Figure 5.11 and Table 5-12 present these cumulative flows.

Table 5-12
Projected Wastewater Collection Flow for MSWD

Year	Cumulative Flow (mgd)	Year	Cumulative Flow (mgd)
2006	1.37	2017	5.80
2007	1.69	2018	6.13
2008	2.04	2019	6.49
2009	2.42	2020	6.86
2010	2.80	2021	7.26
2011	3.21	2022	7.59
2012	3.60	2023	7.94
2013	4.02	2024	8.31
2014	4.47	2025	8.69
2015	4.95	2026	9.09
2016	5.48		



US Army Corps of Engineers

MSWD MISSION SPRINGS WATER DISTRICT

URS

Figure 5.11

MSWD Projected Wastewater Flow Through 2026

6.1 INTRODUCTION

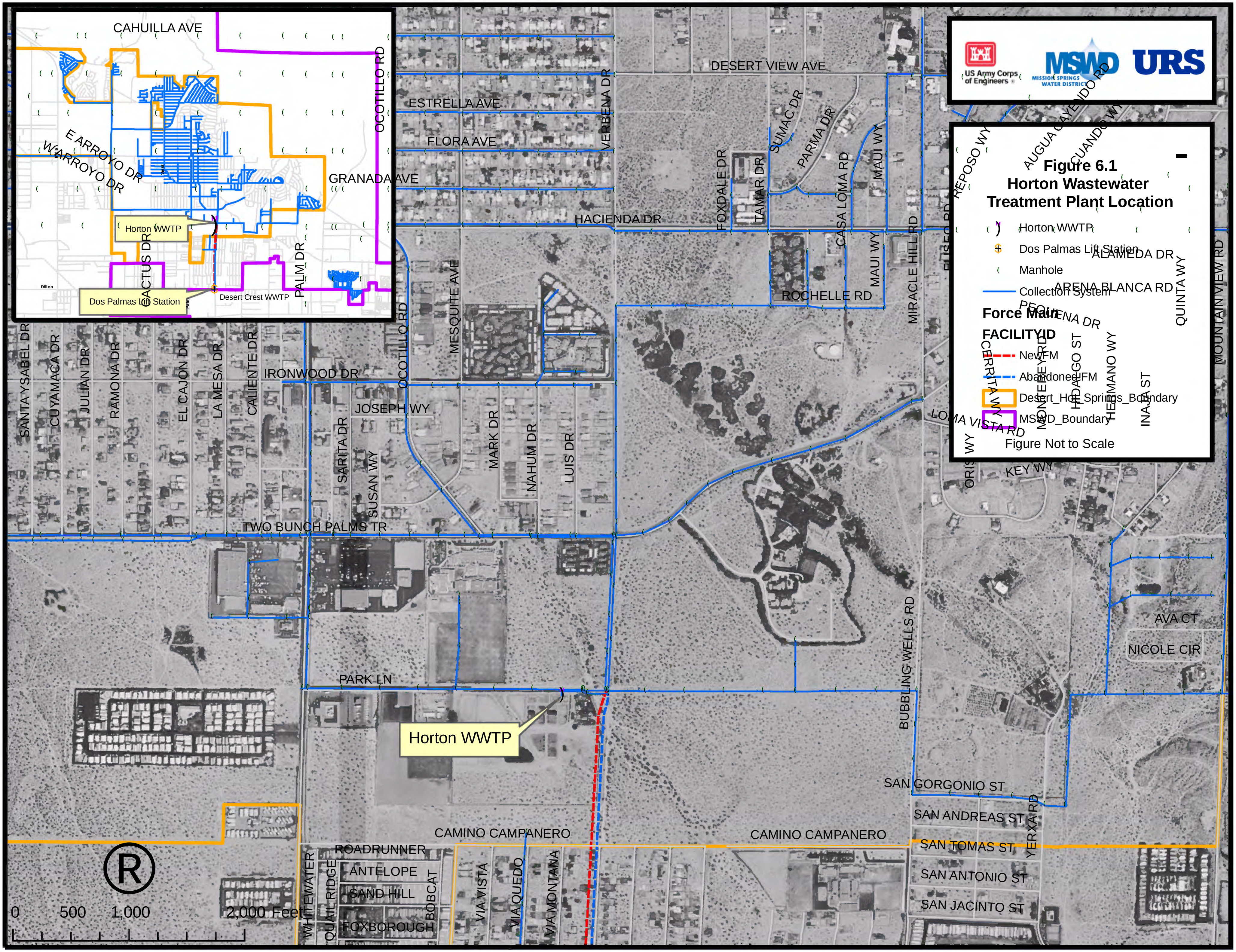
The Horton and Desert Crest Wastewater Treatment Plants (WWTP) are located within the service boundaries of the Mission Springs Water District. The intent of this section is to describe existing facilities, cite the design capacities of each WWTP, identify existing and anticipated future discharge limitations, evaluate each WWTP's capability to treat future wastewater flow and meet California Regional Water Quality Control Board (CRWQCB) discharge requirements. Currently, there is a plan for a Regional WWTP (RWWTP). This section provides a time frame for when the new RWWTP may be required.

The Horton and Desert Crest treated wastewater effluent is discharged to recharge the groundwater aquifer via percolations ponds. These same aquifer(s) are a source for MSWD drinking water supplies and therefore, nitrate contamination of the aquifer above the Safe Drinking Water Act maximum contaminant level of 10 mg/L as nitrogen (N) may become an issue. In telephone communications with Mr. Charles Springer (December 11, 2006) and Ms. Fawn Lee (December 18, 2006) of the CRWQCB, URS questioned whether nitrates could be subject to state discharge limits for the MSWD WWTPs in the future. They indicated that there are no plans to add nitrates to the discharge permits but that a report entitled "Evaluation of the Source and Transport of High Nitrate Concentrations in Ground Water, Warren Subbasin, California" (USGS Water Investigation Report 03-4009, 2003) was being studied by the CRWQCB for its implications related to other areas. In summary, this report identifies septic tanks and irrigation returns as increasing the nitrate levels in the Warren subbasin ground water. Point source discharges including publicly owned treatment works (POTWs) were not specifically identified as sources of nitrates but in other areas, POTWs have been identified as a source of nitrates and have been required to treat their wastewater to limit nitrates to less than 10 mg/L as N. The Warren Subbasin is in the Morongo Groundwater Basin and is just north of MSWD, on the other side of the San Bernardino/Riverside County Line.

Treatment to reduce nitrates requires additional treatment processes and modified operating procedures from those currently practiced at the Horton and Desert Crest WWTPs. At this time, we recommend that the MSWD monitor the direction of the CRWQCB on the nitrate issue as it can potentially result in a substantial increase in capital and operating costs for the MSWD. For this report and to provide a conservative evaluation, URS will assume that for the long-term future WWTP requirements, nitrates will be included in the MSWD state discharge permit for the new RWWTP.

6.2 HORTON WWTP

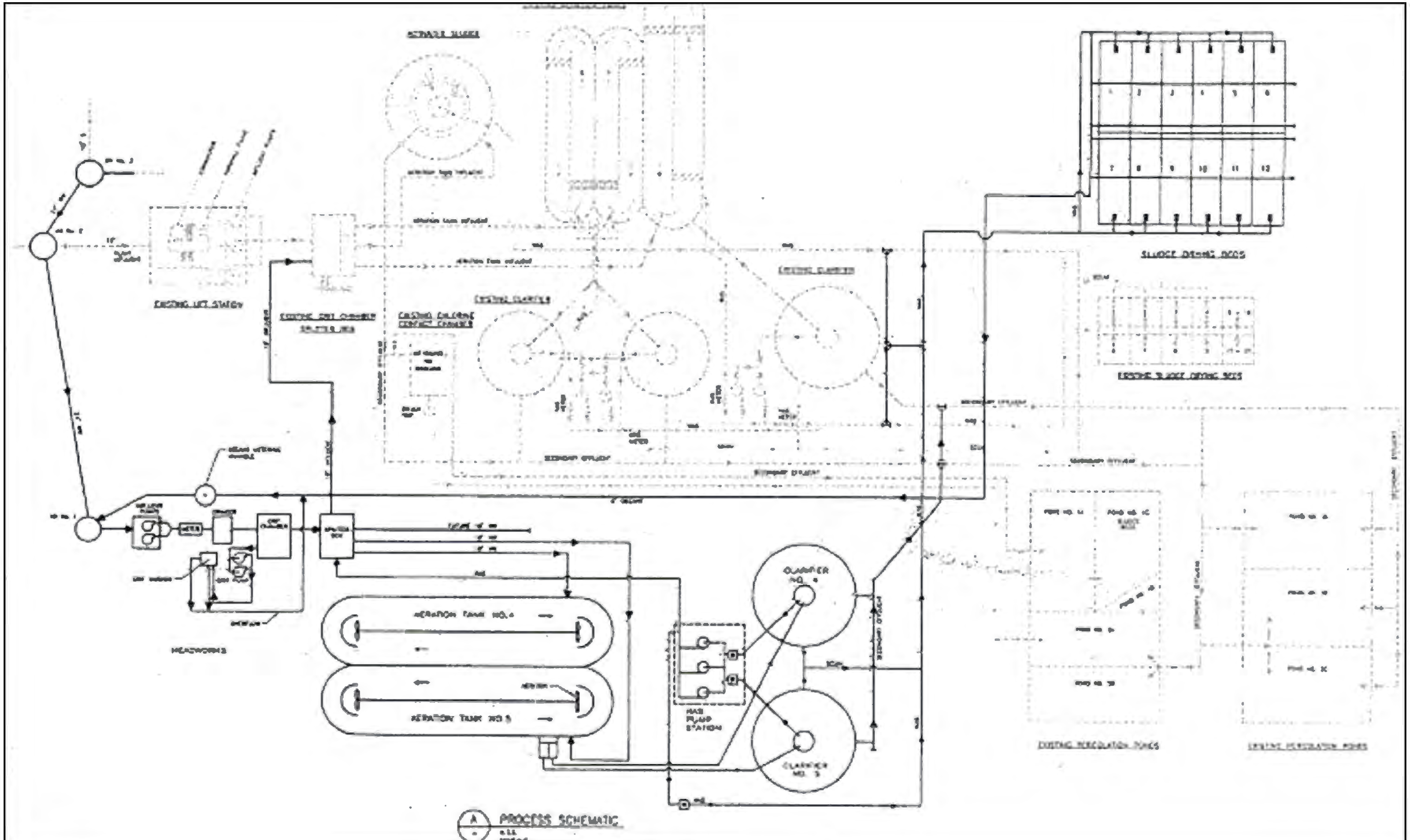
The Horton WWTP is located at 14601 Verbena Drive in Desert Hot Springs as depicted on Figure 6.1. According to the CRWQCB wastewater treatment discharge permit requirements dated May 15, 2001, accounting for on-going construction at the Horton WWTP at the time of the permit, the existing rated capacity of 1 mgd was increased to 2 mgd. The actual capacity of the HWWTP is 2.3 mgd per conversations with the District. The initial 0.2 mgd contact stabilization plant was first operational in 1973 and the latest expansion of capacity to 2.3 mgd was completed in 2002 with addition of the Carousel® oxidation ditches. Figure 6.2 is a schematic diagram of the treatment processes at the Horton WWTP.



US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 6.1
Horton Wastewater Treatment Plant Location
Horton WWTP
Dos Palmas Lift Station
Manhole
Collection System
Force Main
FACILITYID
NewFM
AbandonedFM
Desert_Hot_Springs_Boundary
MSWD_Boundary
Figure Not to Scale
0
500
1,000
2,000 Feet
Horton WWTP
Dos Palmas Lift Station
Desert Crest WWTP
CAHUILLA AVE
OCOTILLO RD
E ARROYO DR
W ARROYO DR
GRANADA AVE
CACTUS DR
PALM DR
DESERT VIEW AVE
ESTRELLA AVE
FLORA AVE
HACIENDA DR
VERBENA DR
IRONWOOD DR
JOSEPH WY
TWO BUNCH PALMS TR
PARK LN
CAMINO CAMPANERO
ROCHELLE RD
MIRACLE HILL RD
BUBBLING WELLS RD
SAN GORGONIO ST
SAN ANDREAS ST
SAN TOMAS ST
SAN ANTONIO ST
SAN JACINTO ST
MOUNTAIN VIEW RD
AVA CT
NICOLE CIR
LOMA VISTA RD
KEY WY
ALAMEDA DR
ARENA BLANCA RD
QUINTA WY
MESQUITE AVE
MARK DR
NAHUM DR
LUIS DR
SARITA DR
SUSAN WY
SANTA YSABEL DR
CUYAMACA DR
JULIAN DR
RAMONA DR
EL CAJON DR
LA MESA DR
CALIENTE DR
FOXDALE DR
TAMAR DR
SUMAC DR
PARMA DR
CASA LOMA RD
MAUI WY
ROADRUNNER
ANTELOPE
SAND HILL
FOXBOROUGH
BOBCAT
WHITEWATER
QUAIL RIDGE
VIA VISTA
VIA QUEDO
VIA MONTANA
YERXA RD

Figures 6.2

HWWTP Schematic Diagram



6.2.1 Discharge Permit Requirements

The effluent discharge requirements for the HWWTP are:

- Discharge permit rated capacity – 2.0 mgd
- 5-day Biological Oxygen Demand (BOD_{5}) - 30 mg/L 30-day arithmetic mean/45 mg/L 7-day arithmetic mean
- Total Suspended Solids (TSS) - 30 mg/L 30-day arithmetic mean/45 mg/L 7-day arithmetic mean
- Total Dissolved Solids (TDS) – not exceeding 400 mg/L over that contained in the community water supply (423 to 486 mg/L water supply TDS).
- No exceedence of the US EPA designated 126 Priority Pollutants Limits
- No discharge into surface waters

6.2.2 Anticipated Future Discharge Permit Requirements

Ms. Fawn Lee of the CRWQCB indicated that the discharge requirements for the Horton WWTP are anticipated to remain the same as the May 15, 2001 discharge permit. (Personal communication, December 18 2006).

6.2.3 Existing Plant Treatment Processes

The HWWTP consists of the following primary treatment processes and related major equipment:

- Actual treatment capacity – 2.3 mgd
- Preliminary Treatment – Influent pumps, grinder, magnetic flow meter, grit chamber, and flow splitter
- Walker Process concentric aeration basin, reaeration basin, and final clarifier contact stabilization unit – 0.2 mgd capacity (currently off-line)
- Two extended aeration oxidation ditch basins with brush aerators and circular clarifiers– 0.2 mgd capacity each
- One extended aeration oxidation ditch basin with brush aerators and circular clarifier – 0.4 mgd capacity
- Two extended aeration Carousel® oxidation ditch basins with two final clarifiers – 0.5 mgd capacity each with an estimated capacity of 0.75 mgd each

Effluent from the biological treatment process is conveyed to five infiltration ponds where treated effluent percolates into the ground. Grit is removed and hauled to the landfill for disposal. Biosolids are delivered to twelve asphalt lined drying beds (7,500 square feet each) with dried biosolids being hauled off-site by a private contractor (Synagro) to either land application or a composting facility for subsequent reuse. Biosolids are currently being hauled to the Needles Arizona area approximately 180 miles away. The biosolids leaving the plant comply with EPA 503 class B requirements. There are 16 sand beds (average 4,000 square feet each) that are used as drying beds. The new asphalt lined drying beds provide an improved surface for removal of dried biosolids compared to the sand beds. Filtrate from the drying beds is returned to the headworks for treatment.

Figure 6.3 are photographs of the existing HWWTP and the key facilities at the plant.

A listing of detailed design criteria for the HWWTP is provided in Appendix C.

Figure 6.3
Photographs of the Existing Horton WWTP Facilities

Carousel® Ditches

Carousel® Final Clarifier

Sludge Drying Beds

Package Treatment

Oxidation Ditch

Oxidation Ditch Final Clarifiers

6.2.4 WWTP Performance

The highest average monthly flow rate for the period from November 2005 to October 2006 was in May 2006 at 1.40 mgd, and the highest daily flow was 1.54 mgd in October 2006. Based on the 2.3 mgd design plant capacity, the 1.4 mgd monthly average flow would constitute approximately 65% of its design capacity.

The recent historical influent wastewater parameters and effluent discharge parameters of the Horton WWTP are presented in Tables 6-1 and 6-2.

Table 6-1
Historic Average Influent Wastewater Parameters

Year	Annual Average Day Flow (mgd)	Maximum Month Average Day Flow (mgd)	BOD_5 (mg/L)	TSS (mg/L)
2001	0.90	0.92	182	122
2002	0.93	1.01	220	182
2003	1.08	1.14	213	211
2004	1.18	1.22	208	164
2005	1.30	1.35	231	205

Source: District operating records (Appendix A)

Table 6-2
Historic Average Effluent Wastewater Discharge Parameters

Year	BOD_5 (mg/L)	TSS (mg/L)	Nitrates mg/L as N	TDS (mg/L)
2001	5	6	16	584
2002	7	9	16	584
2003	4	5	22	613
2004	5	6	15	632
2005	6	6	3	580

Source: District operating records (Appendix A)

6.2.5 Horton Treatment Capacity

The CRWQCB discharge permit indicates that the treatment capacity of the plant is 2.0 mgd. The District indicates that the capacity may actually be 2.3 mgd based on the facilities in place. Based on URS' review of the design criteria used for the plant and the actual performance of the plant, it is recommended that an increase in capacity to at least 2.3 mgd be proposed to the CRWQCB.

6.2.6 Projected Wastewater Flow

Projected wastewater flow presented in Section 5 for the 20-year period from 2006 to 2027 indicates the existing 2.3 mgd Horton WWTP capacity will be exceeded between the years 2008 and 2009. The 20-year flow projections show a total influent flow of 9.09 mgd by 2026. When a plant reaches 80% of its design capacity, planning for future facilities is required to begin unless no increase beyond the capacity is expected. It must be noted that if increases are expected to occur very rapidly, and the time required for design and construction exceeds the time available, planning for design and construction should begin earlier than 80%.

Based on the maximum monthly flow projections, the plant will reach its 80% capacity near the end of 2009. For the purpose of this report, the maximum monthly flow will be the basis for the decision of when to begin planning for added treatment capacity. A more sophisticated evaluation would use a running 30-day average rather than a calendar month average, but a calendar month average is adequate for the purposes of this report.

Currently, an expansion of 1.5 mgd which would raise the total treatment capacity to 3.8 mgd is being considered by MSWD and could potentially be in service by 2008.

6.2.7 Expansion Planning

Based on projected wastewater flows presented in Section 5, the 2.3 mgd capacity of the Horton WWTP will be exceeded in 2008. The current expansion plan for the Horton WWTP is the addition of 1.5 mgd which would provide a total treatment capacity of 3.8 mgd. Based on the wastewater flow projection in Section 5, 3.8 mgd would serve the District's needs until approximately the 2012 to 2013 period.

For optimum planning and operation of the wastewater collection system and to handle the rapid development within the existing District boundaries, a regional plant (RWWTP) is anticipated by the District. Although, it is possible to expand the Horton WWTP, residential properties are now planned and being constructed that will eventually surround the treatment plant site. The District is considering the abandonment of the HWWTP biosolids drying beds due to their proximity to residential neighborhoods to mitigate potential aesthetic, odor, traffic, and public perception issues that may be associated with biosolids handling. The biosolids from the Horton plant would be returned to the collection system that flows to the RWWTP.

The RWWTP is proposed to be on-line in 2012 at which time the Horton drying beds would be abandoned. A further discussion of the proposed RWWTP is in Section 6.4.

6.3 DESERT CREST WWTP

The Desert Crest WWTP is located at 17400 Sunrise Road in Desert Hot Springs as depicted on Figure 6.4. The CRWQCB wastewater treatment discharge permit dated May 15, 2001 states the rated plant capacity is 0.18 mgd. The WWTP was initially operational with a 0.09 mgd capacity in 1974 with a second expansion of a redundant treatment train in 1984 for added plant reliability. The plant treats wastewater generated from the Desert Crest Country Club and Dillon mobile home parks. As of October 2006 there were a total of 736 connections (618 Desert Crest and 118 Dillon) to the wastewater collection system that serves this plant.

Figure 6.5 is a schematic diagram of the treatment processes at the Desert Crest WWTP.

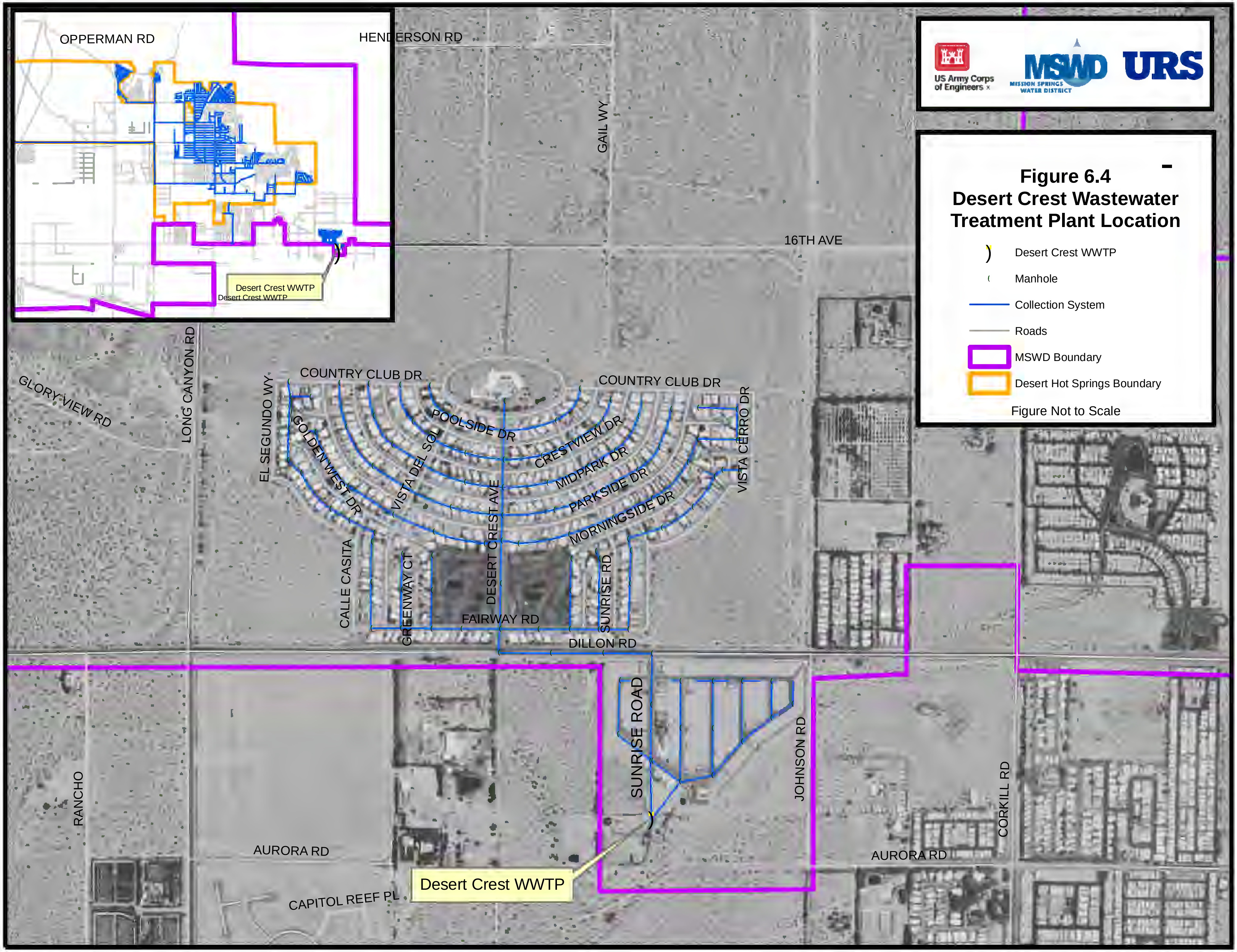
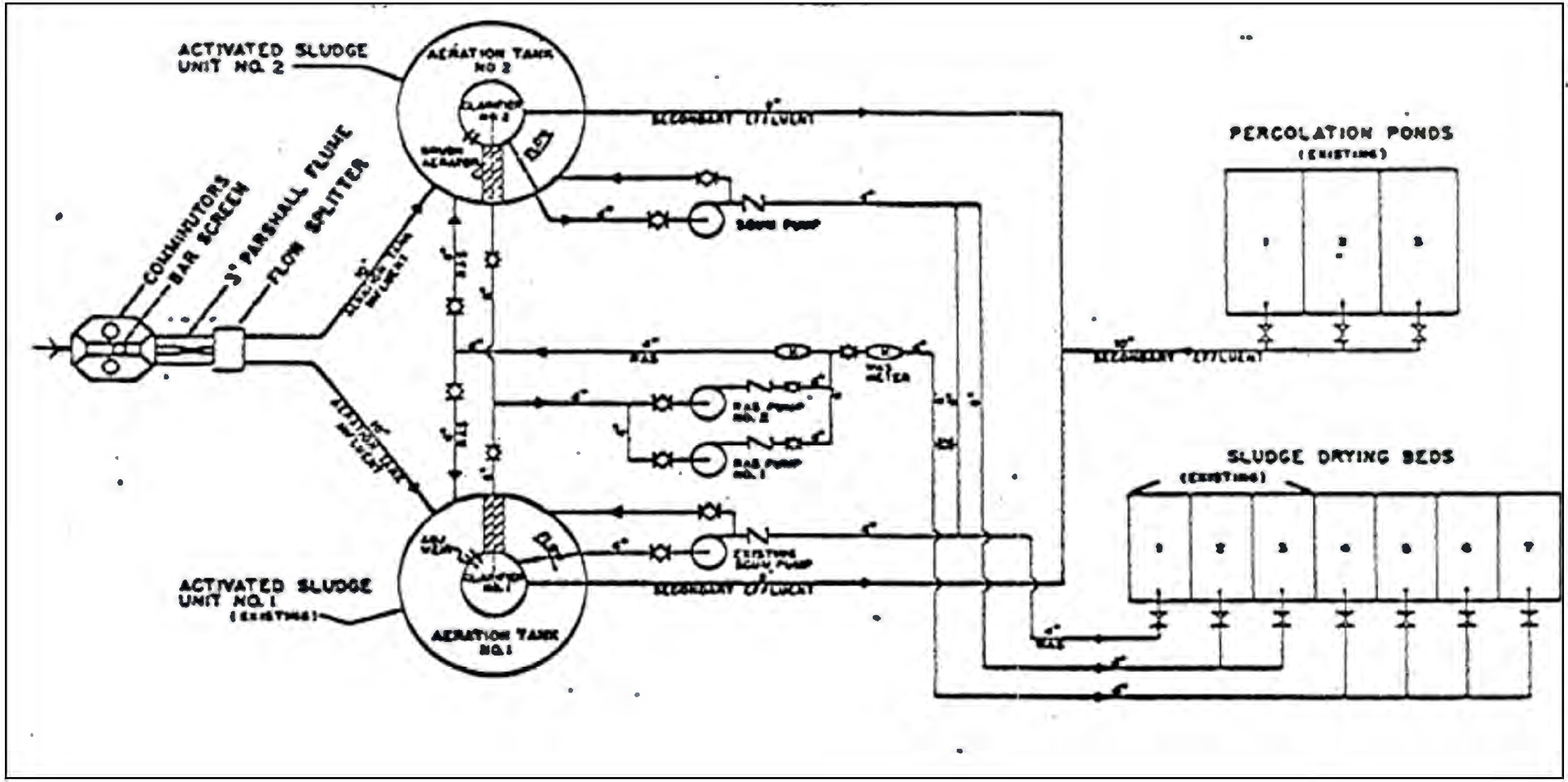


Figure 6.4
Desert Crest Wastewater Treatment Plant Location



Figures 6.5

DCWWTP Schematic Diagram

6.3.1 Discharge Permit Requirements

The effluent discharge requirements for the DCWWTP are:

- Discharge permit rated capacity – 0.18 mgd
- 5 day Biological Oxygen Demand ($BOD_{5)}$ - 30 mg/L 30-day arithmetic mean/45 mg/L 7-day arithmetic mean
- Total Suspended Solids (TSS) - 30 mg/L 30-day arithmetic mean/45 mg/L 7-day arithmetic mean
- Total Dissolved Solids (TDS) – not exceeding 400 mg/L over that contained in the community water supply (400 to 425 mg/L water supply TDS).
- No exceedence of the US EPA designated 126 Priority Pollutants Limits
- No discharge into surface waters

A list of detailed design criteria for the DCWWTP is provided in Appendix C.

6.3.2 Anticipated Future Discharge Permit Requirements

Mr. Charles Springer of the CRWQCB indicated that the discharge requirements for the Desert Crest WWTP are anticipated to remain the same as the May 15, 2001 discharge permit. (Personal communication, December 11, 2006). Mr. Springer did indicate that limiting nitrates discharged to the ground water is being investigated by the CRWQCB. At the time of these communications with the CRWQCB representatives, there was not a timetable for a decision on nitrates.

The quarterly average water quality test results for three monitoring wells at the Horton WWTP from the 4^{th} quarter of 2002 through 2006 reported nitrates in the range of 10 to 23 mg/L as nitrogen (N). If this groundwater is used as a potable water supply it would exceed the 10 mg/L as N nitrate limit established by the Safe Drinking Water Act. These test results are indicators that future requirements for the Horton WWTP may include a limit on the discharge of nitrates.

6.3.3 Existing Plant Treatment Processes

The plant consists of the following primary treatment processes and related major equipment:

- Preliminary Treatment – Grinder, comminutor (off-line), Parshall flume, and gravity grit collection box
- Two concentric oxidation ditch basins with brush aerators and final clarifier – 0.09 mgd capacity each

The reliable treatment capacity of the plant is 0.09 mgd considering that one of the two treatment trains is to provide plant reliability and redundancy.

Effluent from the biological treatment process is conveyed to three infiltration ponds where it percolates into the ground. Biosolids and grit are delivered to four drying beds with the dried biosolids being hauled to the HWWTP. The dried Desert Crest biosolids are combined with the dried Horton biosolids and hauled for land application or composting.

Figure 6.6 includes photographs of the existing treatment plant and its key facilities.

Figure 6.6
Photographs of the Existing Desert Crest WWTP Facilities

Headworks

Headworks Grit Box

Oxidation Ditch and Clarifier

Oxidation Ditch Brush Aerator

Effluent Percolation Basins

Office

6.3.4 WWTP Performance

The highest monthly average flow rate during the period from November 2005 to October 2006 was in January and March 2006 at 0.060 mgd and the highest one-day flow in this same period was 0.069 mgd in December 2005. Over the last five years the highest average monthly flow was 0.067 mgd in February 2005 and the maximum day flow was 0.085 mgd in February 2005. Based on the 0.09 mgd design capacity of the plant and the 0.067 mgd monthly average flow the plant is at approximately 74% of the design capacity.

The recent historical influent wastewater parameters and effluent discharge parameters of the DCWWTP are presented in Tables 6-3 and 6-4.

Table 6-3
Historic Average Influent Wastewater Parameters

Year	Annual Average Day Flow (mgd)	Maximum Month Average Day Flow (mgd)	BOD_5 (mg/L)	TSS (mg/L)
2001	0.046	0.067	189	168
2002	0.047	0.058	202	202
2003	0.052	0.062	185	173
2004	0.051	0.065	273	220
2005	0.051	0.067	196	170

Source: District operating records (Appendix A)

Table 6-4
Historic Average Effluent Wastewater Discharge Parameters

Year	BOD_5 (mg/L)	TSS (mg/L)	Nitrates mg/L as N[1]	TDS (mg/L)
2001	6	14	N/A	674
2002	7	11	N/A	653
2003	5	7	N/A	676
2004	11	17	N/A	667
2005	10	11	N/A	670

[1]Operating records do not indicate nitrate testing at DCWWTP

Source: District operating records (Appendix A)

6.3.5 Projected Wastewater Flow

There is a new development planned within the existing Desert Crest collection system, just north of the existing residences. The plan contains over 1,000 new dwelling units, which will result in a 0.2 mgd increase in flow.

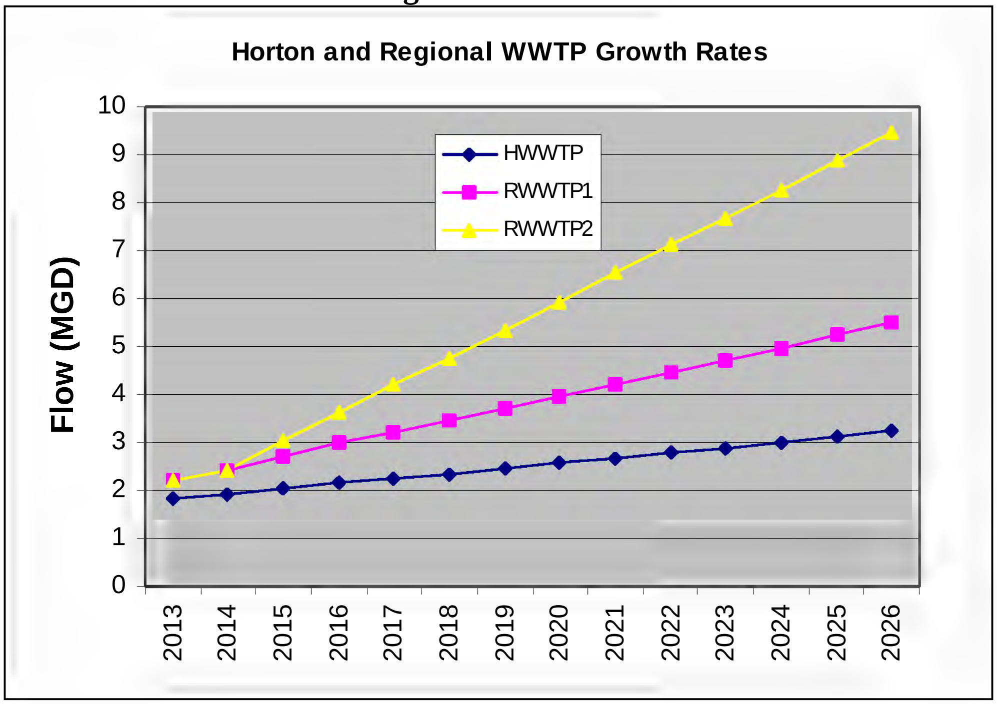
6.3.6 Expansion Planning

With the plant operating at approximately 74% of the design capacity and the anticipated growth within the Desert Crest service area, the District should begin planning for expansion of the facility or the proposed abandonment. Per a letter to the District titled, "Desert Crest Sewer Area Study" dated 8/17/06, an alternative to expanding the facility would be to abandon the treatment plant and gravity flow to the new Dos Palmas Lift Station (DPLS). This alternative would require that the small amount of flow collected south of Dillon Road be lifted to a proposed interceptor along Dillon Road. The flow would be treated by the HWWTP until the RWWTP comes on line at which time the DPLS would be abandoned and all of the flow served by the DPLS would be sent to the RWWTP.

6.4 NEW REGIONAL WWTP

The location of the proposed RWWTP is along the southernmost boundary of the District, just northeast of the intersection of Interstate 10 and Indiana Avenue as depicted in Figure 6.7. At this location, a majority of MSWD service area can be served and wastewater collected and conveyed to the RWWTP via a gravity system. Based on the 20-year wastewater flow projections presented in Figure 5.11 and the Horton WWTP capacity of 3.8 mgd, the RWWTP should be planned, designed, constructed and made operational by 2012.

Figure 6.8
Horton and Regional WWTP Growth Rates



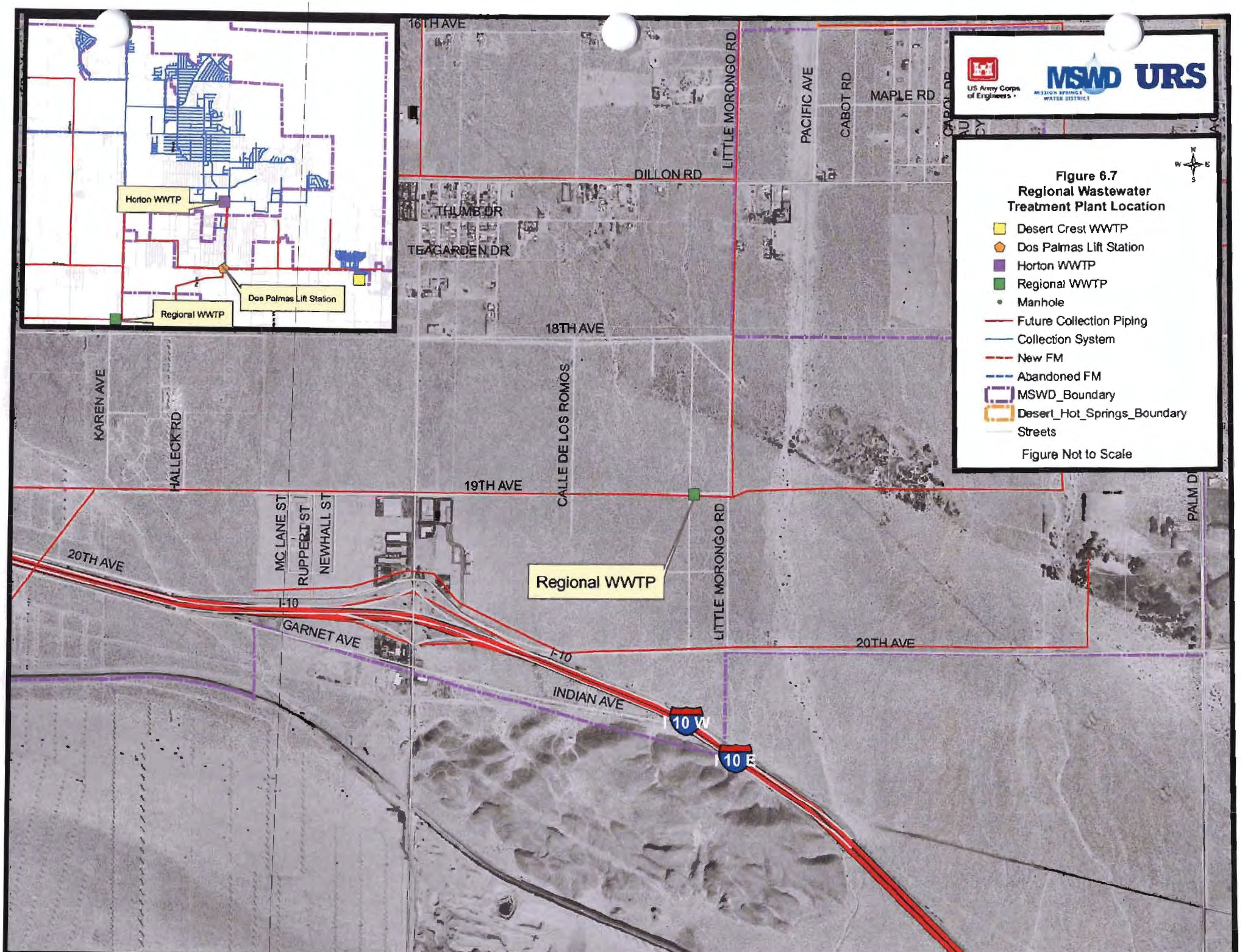
It is projected that at this ultimate build-out of the District the total wastewater generated would be 23 mgd. The new regional WWTP initial capacity could be at least 8 mgd in order to serve the District until approximately 2023 assuming the high projected flow rate growth presented in Figure 6.8. This would allow for an approximate10-year period before the next plant expansion.

The state discharge limitations developed for the new regional plant will determine the types of treatment processes used at the new regional WWTP. As previously indicated, CRWQCB representatives are not aware of any future limitations on existing state permit requirements, other than a potential nitrate limit of 10 mg/L as nitrogen to preserve groundwater as a source of potable water. It is expected that the effluent from the regional plant would ultimately be discharged into percolation ponds to aid in the recharge of the underlying groundwater aquifer or used for tertiary reclaimed water applications.

It is proposed that all biosolids from the HWWTP be sent via the collection system to the RWWTP for treatment.

If the existing state discharge limits remain in effect and nitrate limitations are added, there are a variety of liquid treatment process options that may be used. These options include:

- Conventional activated sludge with nitrification and selectors for denitrification
- Conventional activated sludge with second stage nitrification biotowers and selectors for denitrification
- Extended aeration activated sludge with selectors for denitrification
- Oxidation ditch with selectors for nitrate reduction
- Extended aeration activated sludge membrane bio-reactors with selectors for denitrification



US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 6.7
Regional Wastewater Treatment Plant Location
Desert Crest WWTP
Dos Palmas Lift Station
Horton WWTP
Regional WWTP
Manhole
Future Collection Piping
Collection System
New FM
Abandoned FM
MSWD_Boundary
Desert_Hot_Springs_Boundary
Streets
Figure Not to Scale
Horton WWTP
Dos Palmas Lift Station
Regional WWTP
16TH AVE
LITTLE MORONGO RD
PACIFIC AVE
CABOT RD
MAPLE RD
DILLON RD
THUMB DR
TEAGARDEN DR
18TH AVE
KAREN AVE
HALLECK RD
CALLE DE LOS ROMOS
19TH AVE
MC LANE ST
RUPPERT ST
NEWHALL ST
20TH AVE
Regional WWTP
I-10
GARNET AVE
I-10
20TH AVE
INDIAN AVE
I 10 W
I 10 E
PALM D

Biosolids handling options would depend on the decision of whether to meet Class A or B limitations for biosolids reuse. Whatever the liquid treatment option, it is recommended that biosolids digestion be provided to meet at least Class B biosolids criteria.

After digestion, Class B biosolids could be hauled to a reuse site and applied as slurry and a soil supplement. A second option to applying slurry is to dewater the solids at the RWWTP and then haul the solids to a reuse site. The biosolids could then be applied and incorporated into the soil. The sites where Class B biosolids are reused must meet criteria that provides protection from exposure to the public, where the biosolids are not used on products for human consumption, and where water sources are protected from contamination. The nitrogen content of the biosolids typically limits agronomic rates of application. Typical processing options after digestion to meet Class B biosolids requirements include the following:

1. Hauling biosolids slurry to restricted reuse sites for application and incorporation into the soil.

2. Dewatering digested biosolids using the following treatment processes, followed by hauling to an approved reuse site.

- Sludge drying beds
- Belt filter press
- Centrifuge

Further drying and storage could include windrow air-drying that includes protection from the wind.

A second biosolids concept is to treat the digested solids further to yield a Class A product. Class A biosolids are suitable for distribution for unrestricted use. If used as a soil amendment, agronomic application rates are still observed. Typical processing options after digestion to meet Class A biosolids requirements include the following:

1. Dewater the biosolids using the belt filter press or centrifuge process then further treat the biosolids using one of the following processes.

- Composting
- Driers
- Lime stabilization

7.1 INTRODUCTION

Over the last 20 years MSWD, through federal support, has been installing a wastewater collection and treatment system in order to eliminate or substantially reduce the number of individual sewage disposal systems (ISDS). Currently, MSWD wastewater collection system is comprised of approximately 75 miles of gravity sewer lines, one diversion structure, one sewage lift station, and two wastewater treatment plants as shown in Figure 7-1. The primary collection system is concentrated in the town of Desert Hot Springs, and conveys flow to the Alan L. Horton Wastewater Treatment Plant (HWWTP). A smaller and separate treatment facility, Desert Crest WWTP (DCWWTP), was adopted by MSWD upon inception. The DCWWTP is a treatment system constructed to serve a smaller community called the Desert Crest Country Club in the southeastern portion of the District. The capacities of HWWTP and DCWWTP are 2.3 mgd and 0.18 mgd respectively. Both of these facilities are described previously in detail in Section 6. The Dos Palmas Lift Station transports flow from the southernmost portion of the District to the HWWTP. The details and operation of this facility are discussed in section 7.2.4.

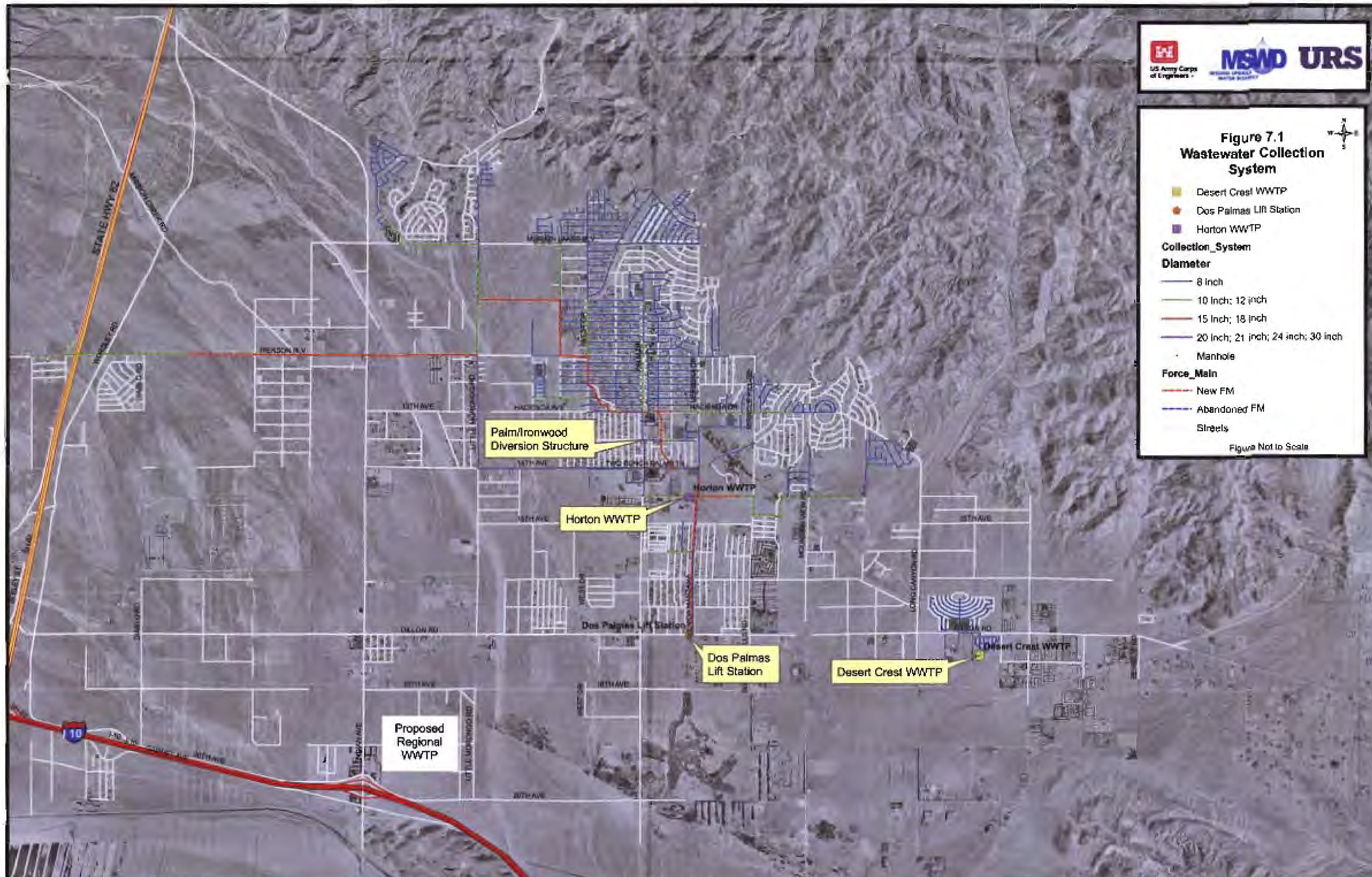
7.2 COLLECTION SYSTEM

7.2.1 Sewer Lines

Currently, there are approximately 75 miles of gravity sewer lines throughout the MSWD collection system. The length of sewer line is rapidly increasing with new development and the addition of collection piping within existing development. Collection sewer lines, with the exception of the Dos Palmas Lift Station force main, are vitrified clay pipe (VCP) and range in size from 8 inch to 12 inch with a length of almost 67 miles. The interceptors, which are used primarily for conveyance, range in size from 15 inch to 30 inch and make up the remaining 29 miles of gravity sewer. The entire collection system is currently comprised of approximately 1,540 pipes as shown in Table 7-1. According to MSWD staff, there are a few minor problems in the system (Section 7.3), but the majority of the sewer lines are in good condition.

Table 7-1
MSWD Pipe Diameters

Gravity Pipe Diameter (inch)	Length (feet)	Length (mile)
Collection Sewers		
8	287,807	54.5
10	25,077	4.8
12	40,200	7.6
Subtotal	359,692	66.9
Interceptor Sewers		
15	24,709	4.7
18	7,639	1.5
24	9,530	1.8
30	2,570	0.5
Subtotal	44,448	8.5
Total	**404,139**	**75.4**


US Army Corps of Engineers
MSWD
URS
Figure 7.1
Wastewater Collection System
Desert Crest WWTP
Dos Palmas Lift Station
Horton WWTP
Collection_System
Diameter
8 inch
10 Inch; 12 inch
15 Inch; 18 Inch
20 Inch; 21 inch; 24 inch; 30 inch
Manhole
Force_Main
New FM
Abandoned FM
Streets
Figure Not to Scale
STATE HWY 62
Palm/Ironwood
Diversion Structure
Horton WWTP
Dos Palmas Lift Station
Desert Crest WWTP
Proposed
Regional
WWTP
10

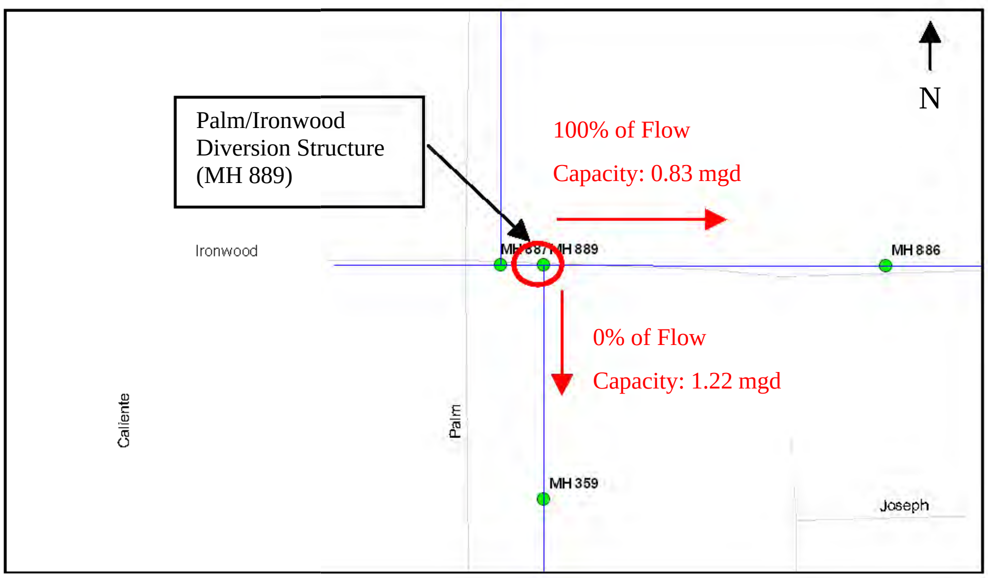
7.2.2 Collection Facilities

MSWD wastewater collection system facilities include 1,400 manholes, one diversion structure, and one lift station. The manholes provide cleaning and maintenance access to the 76 miles of sewer line, the diversion structure provides an optional flow path if the flow upstream of the structure exceeds that of the current flow path and the Dos Palmas lift station transfers flow from a community in the southern portion of the District to the HWWTP as shown in Figure 7.1.

7.2.3 Diversion Structure

The diversion structure is located at the intersection of Palm Drive and Ironwood Drive (Figure 7-1). Wastewater flow collected upstream of the diversion structure is conveyed south through an 8 inch gravity sewer line along Palm and then east along Ironwood. The diversion structure is designated as MH 889, just east of the intersection as shown in Figure 7.2. There are three pipes connected to this manhole; one inlet pipe and two outlet pipes. The gate controlling the southern outlet pipe remains closed, as additional capacity has not yet been required. In the event there is flow beyond capacity or there is a repair necessary along the eastern sewer line, the gate may be opened and the flow rerouted south, parallel to Palm Drive.

Figure 7.2
Diversion Structure at Ironwood Drive and Palm Drive



7.2.4 Dos Palmas Lift Station

The original lift station constructed in 1987 served a small development southwest of the Horton Treatment Plant as seen in Figure 7-3. This lift station, previously located at Camino Campesino between Avenida Manzana and Via Montana, housed two 7.5 HP submersible pumps, each with a capacity of 225 gpm. In order to serve the additional development south of the treatment plant and potentially the flow from DCWWTP, the original lift station has been replaced by the Dos Palmas Lift Station (DPLS). The DPLS is located on Dillon road just west of Manzana and has a circular wet well eight feet in diameter and 30 feet deep. The station houses two 60 HP submersible pumps, each with a design capacity of 700 gpm and 133 feet of total dynamic head. The lift station has a 10 inch PVC force main running north along Avenida Manzana Road.

Figure 7.3
Lift Station Locations and Service Areas

7.3 SEWER SYSTEM MANAGEMENT PLAN

MSWD staff performs routine maintenance activities on the wastewater collection system on an on-going basis. The entire system is jet cleaned every two to three years and in known problem areas, cleaned more frequently. The minor problems in the system include root intrusion, sediment deposition, and the presence of grease. MSWD staff camera and jet clean these known problem areas once every year.

Along the Two Bunch Palms sewer line, there is corrosion from a previously existing hydrogen sulfide (H_2S) problem. The problem has been alleviated by the expansion of the lift station at the HWWTP, and the damage is not significant enough to warrant repairs. According to MSWD staff there are no existing H_2S or odor problems throughout the collection system. The majority of the system is in good condition.

The District is currently in the process of developing a Sewer System Management Plan (SSMP) to comply with the State Water Resources Control Board (SWRCB) Order No. 2006-0003-DWQ. The SSMP suggests a number of operation and maintenance activities including a spill response plan for immediate action in response to a Sanitary Sewer Overflow (SSO), a Closed Circuit Television (CCTV) inspection, and a Capital Improvement Plan (CIP). The SWRCB requires SSMPs be completed by August 2009; however, the District is scheduled to complete their SSMP by the end of 2007.

8.1 INTRODUCTION

A hydraulic model of the existing wastewater collection system can determine the system ability to convey wastewater flows. The hydraulic model for MSWD wastewater system was developed and analyzed in Bentley SewerCAD version 5.6. Sewer line and manhole information such as nodal coordinate data, invert elevations, slopes, rim elevations, diameters, lengths, and flow quantities were required to setup and run the wastewater system model. Specifications for the Dos Palmas Lift Station were also used to set up the model. The information provided by the District will allow the wastewater system to be modeled as closely as possible to the actual wastewater collection system.

Analysis of the existing collection system will help determine system capacity, functionality, and potential for sanitary sewer overflows (SSO). Design criteria discussed in Section 4 provides a basis of comparison for the existing system performance. With the exception of a few sewer lines, the existing collection system is adequately sized for the amount of wastewater flow at this time. This section covers the existing system model, the analysis, and the results.

8.2 WASTEWATER MODEL DEVELOPMENT

The MSWD wastewater collection system model was created from the original GIS shapefiles provided by MSWD. URS edited the database to include missing slopes and inverts. URS documented any edits in a spreadsheet which includes the added/edited information and the data source (Appendix D). The shapefiles were then imported into SewerCAD to define the pipe and manhole layout of the system. Pumps, outlets, and wet wells were added to the system manually. The necessary settings and information for these elements were specified in the model from detailed information received from MSWD. Once the collection system database was complete and ran without errors, flows were applied to the system.

8.3 EXISTING WASTEWATER FLOW CALIBRATION

As discussed in Section 5, the flow meters at the HWWTP and DCWWTP were used to develop residential and non-residential properties calibration unit flow values. These were then applied to the existing collection system model as described below. All of the parcels that appeared to be connected to the existing collection system were selected and assigned a flow value based on unit flows, land use, and corresponding acreages.

8.3.1 Flow Allocation

Flows in the model were allocated and assigned to manholes or junctions based on their proximity to an existing system manhole. Figure 8.1 shows an example of flow allocation. The following are identified in Figure 8.1:

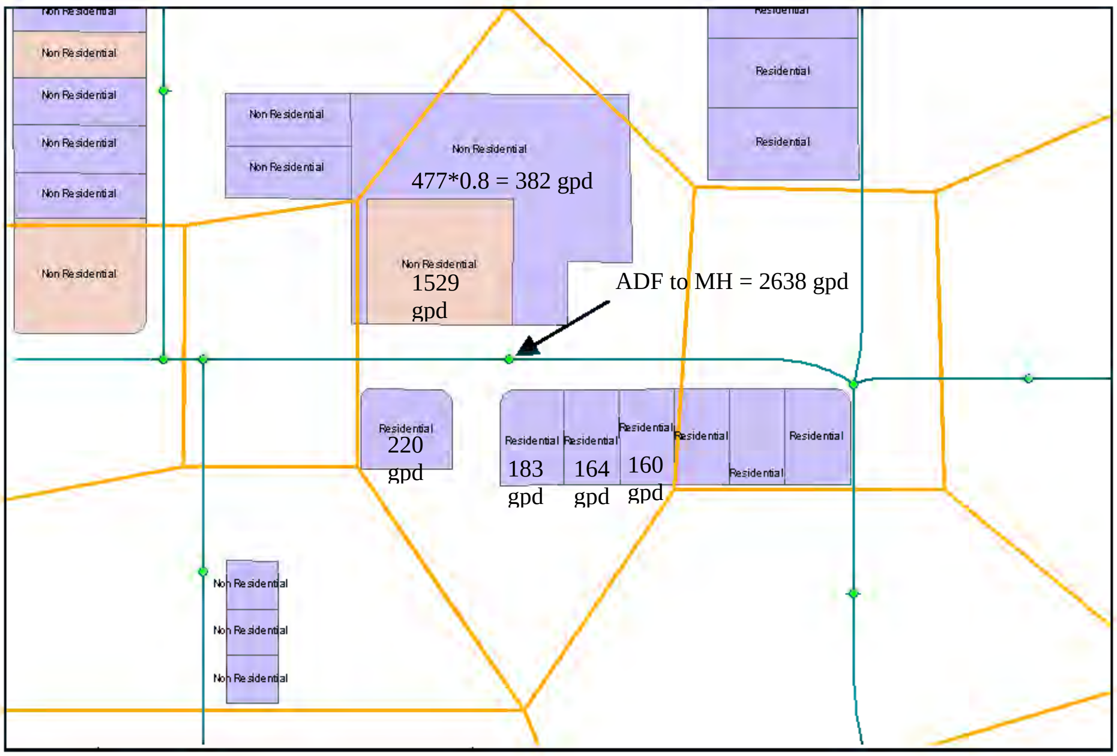
- The pink parcels represent the Top 50 non-residential water accounts which were assigned actual flow values minus 15% consumption (Section 5.3.1).
- The purple parcels represent both the residential properties and the remainder (excluding Top 50) of the non-residential properties. The residential properties were assigned a total number of EDUs based on land use and acreage and then a

flow of 139 gpd/EDU. The remaining non-residential properties were assigned an average water usage of remaining non-residential accounts equal to 477 gpd (Section 5.3.1).

- The orange polygon outlines represent the Theissen polygon layer. This layer is the representative area assigned to each manhole. The amount of flow in the parcels, or portion therein, is assigned to that manhole.

As can be seen in the example below, five of the six parcels are 100% within the Theissen polygon, 100% of their flow is assigned to the manhole. The last parcel is approximately 80% within the Theissen polygon, thus assigning the manhole 80% of that parcels flow. The flows are then summed to get the final ADF for that manhole. Once the flows were assigned to a manhole in GIS, the flow values could be imported into the SewerCAD model.

Figure 8.1
Schematic of Flow Distribution



The hourly wastewater flow patterns, or diurnal patterns, for each collection system (Section 5.2.3) were then incorporated into the flow for each manhole within the system. The diurnal patterns were used in the model to run an extended period simulation (EPS). The patterns are used for a 24-hour simulation to model the fluctuation of wastewater flow throughout the day. Additionally, the peaking factors established in Section 5.2 were applied to the patterns in order to model a worst case scenario EPS.

8.3.2 Model Calibration

The model was calibrated by adjusting the time step associated with the diurnal patterns. The flows farther away from the treatment plant have a longer travel time and therefore cause the peaks to shift. The model is considered calibrated when the model flow closely represents the actual flow. Figures 8.2 and 8.3 show the modeled flow for both HWWTP and DCWWTP which corresponds closely to the actual flow after final calibration.

Figure 8.2
HWWTP 24-Hour Flow vs. EPS Model 24-Hour Flow

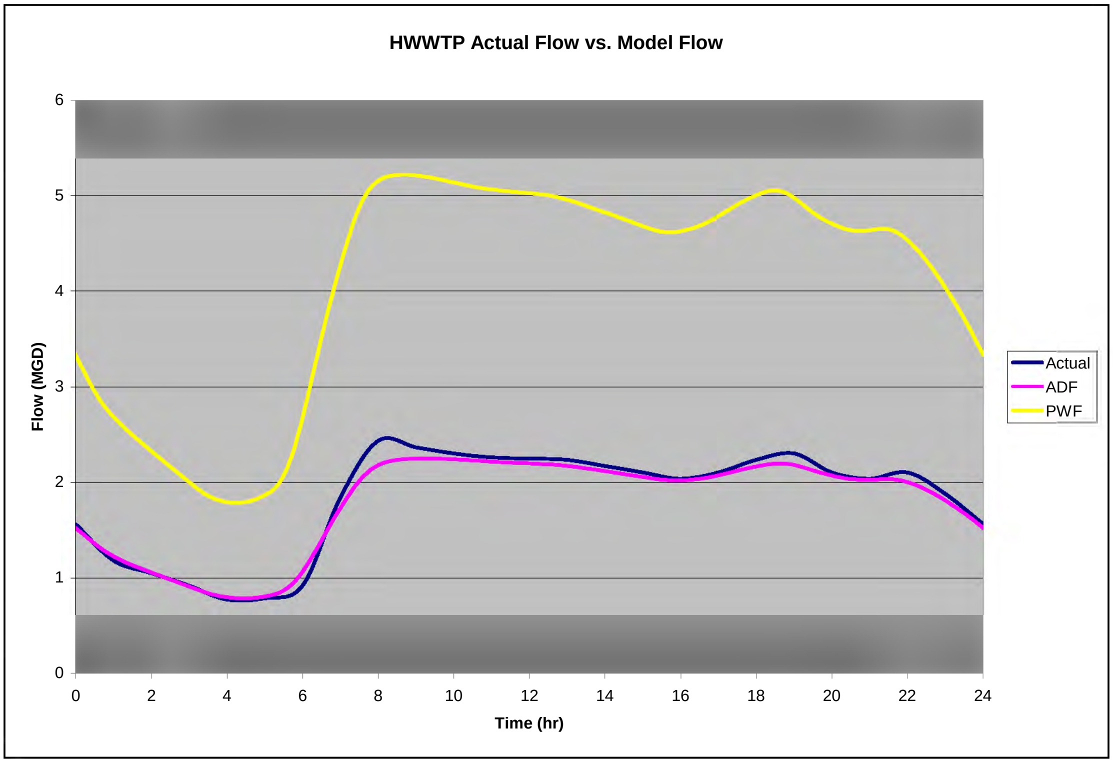
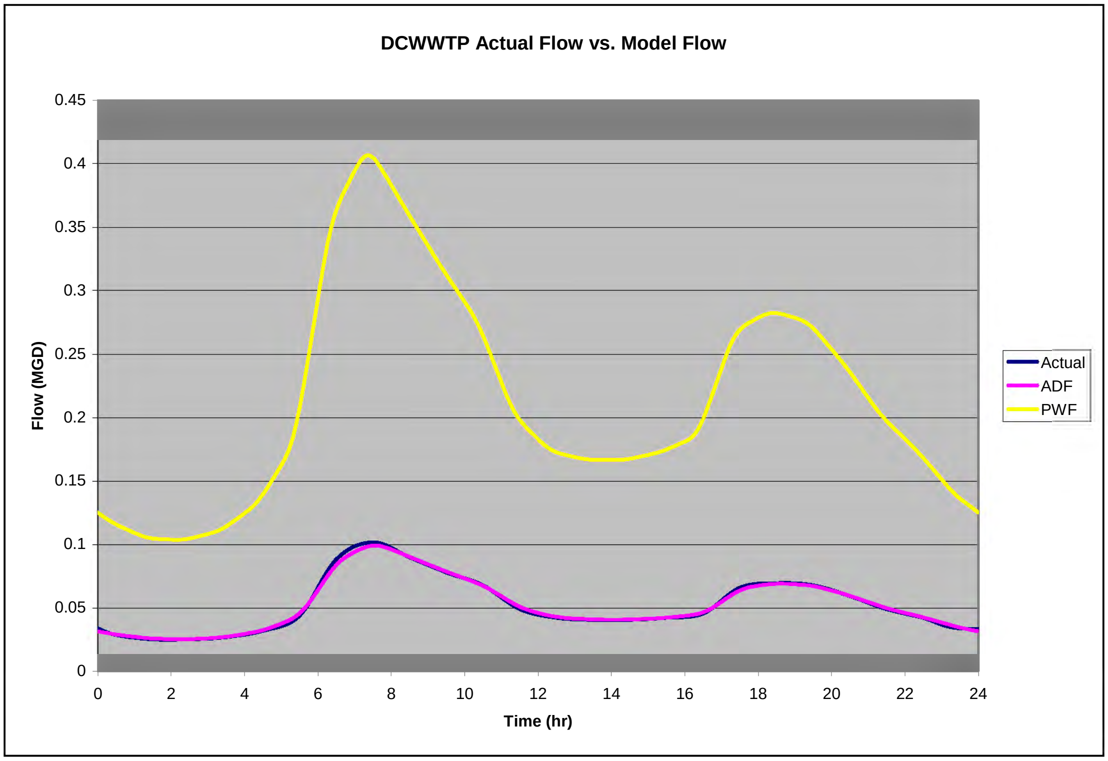


Figure 8.3
DCWWTP 24-Hour Flow vs. EPS Model 24-Hour Flow



8.4 EXISTING SYSTEM EVALUATION

The existing flows modeled in the current wastewater collection system are compared to MSWD design criteria values in Table 8-1. The design criteria is further discussed in Section 4.

Table 8-1
MSWD Design Criteria

d/D		Velocity (fps)
≤ 15 inch	**> 15 inch**	**Min / Max**
0.5	0.75	2 / 10

8.4.1 d/D Criteria Analysis

The wastewater collection system during existing peak dry weather flows (PDF) results in only a few sewer lines not meeting the above listed design criteria. There are eight sewer lines identified in Table 8-2 and shown in Figure 8.4 that do not meet the established d/D criteria during PDF. Five of the sewer lines that violate the d/D criteria are in the Horton collection system. Three of the sewer lines are in the Desert Crest collection system.

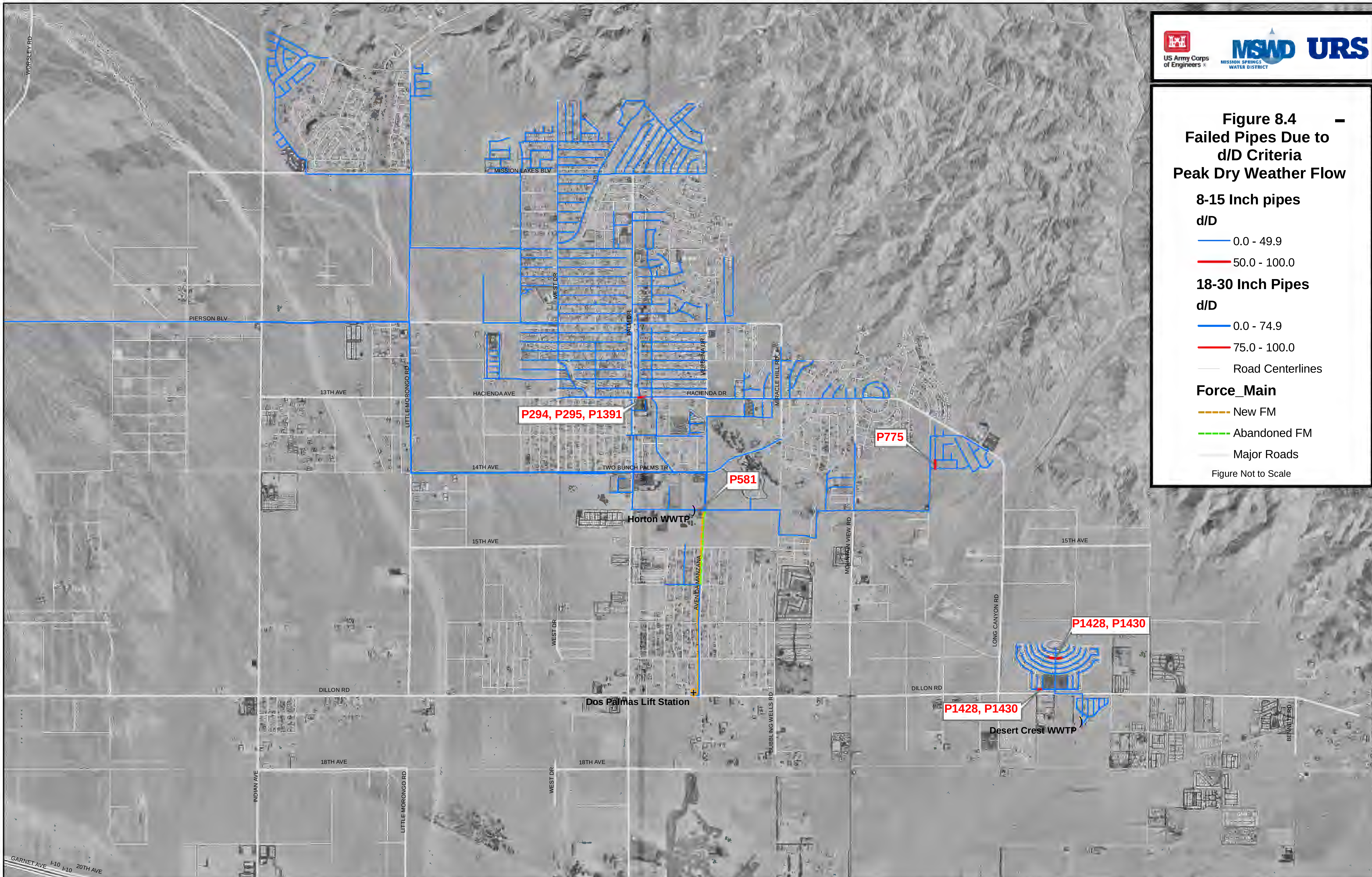
Table 8-2
Sewer Lines Exceeding d/D Criteria at PDF

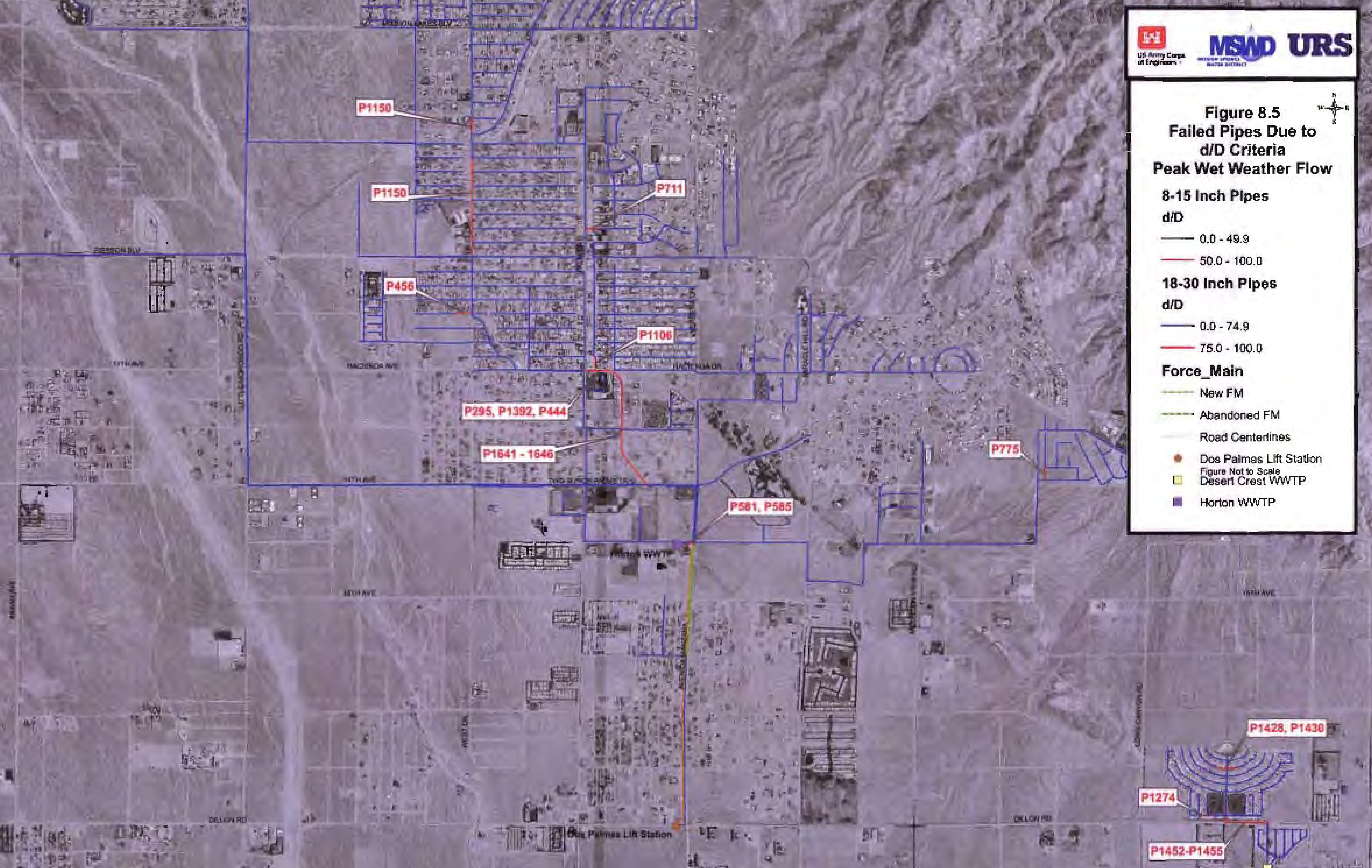
Pipe Number	Collection system	Slope (ft/ft)	Velocity (fps)	d/D	Length (ft)	Diameter (inch)
P 295	Horton	0.0088	4.90	52.1	271	12 inch
P 581	Horton	0.0100	5.62	63.6	15	12 inch
P 1391	Horton	0.0186	6.74	52.1	44	12 inch
P 775	Horton	0.0589	2.65	56.2	295	8 inch
P 294	Horton	0.0012	2.26	51.2	271	15 inch
P 1430	Desert Crest	0.0081	0.96	83.3	246	8 inch
P 1428	Desert Crest	0.0077	0.98	76.0	246	8 inch
P 1274	Desert Crest	0.0087	1.46	89.0	190	8 inch

When the PWF is applied to the system, there are 33 sewer lines exceeding d/D criteria as identified in Table 8-3 and shown in Figure 8.5. There are seven sewer lines exceeding d/D criteria at PWF in the Desert Crest collection system, the majority of the sewer lines exceeding criteria are in the Horton collection system.

Table 8-3
Sewer Lines Exceeding d/D Criteria at PWF

Pipe Number	Collection system	Slope (ft/ft)	Velocity (fps)	d/D	Length (ft)	Diameter (inch)
P 498	Horton	0.0396	7.07	50.9	330	10 inch
P 495	Horton	0.0384	7.39	56.5	330	10 inch
P 711	Horton	0.0042	2.63	53.1	351	8 inch
P 295	Horton	0.0088	5.71	85.8	271	12 inch
P 581	Horton	0.0100	7.44	103.4	15	12 inch
P 1391	Horton	0.0186	8.19	81.3	44	12 inch
P 493	Horton	0.0403	7.75	59.7	330	10 inch
P 496	Horton	0.0404	7.46	55.0	330	10 inch
P 585	Horton	0.0220	4.59	50.6	223	12 inch
P 494	Horton	0.0386	7.54	58.0	330	10 inch
P 456	Horton	0.0137	1.57	50.6	334	8 inch
P 497	Horton	0.0270	6.28	53.2	330	10 inch
P 1106	Horton	0.0300	4.87	76.6	322	8 inch
P 1150	Horton	0.0384	5.77	54.4	366	8 inch
P 775	Horton	0.0589	3.36	63.3	295	8 inch
P 731	Horton	0.0437	8.13	63.1	340	10 inch
P 294	Horton	0.0012	3.08	87.1	271	15 inch
P 444	Horton	0.0099	6.18	84.1	226	15 inch
P 1642	Horton	0.0240	9.16	72.1	496	15 inch
P 1646	Horton	0.0189	8.46	60.9	511	15 inch
P 576	Horton	0.0240	9.15	71.3	509	15 inch
P 1643	Horton	0.0192	8.52	60.7	267	15 inch
P 1392	Horton	0.0099	6.31	59.0	214	15 inch
P 1644	Horton	0.0193	8.53	60.7	434	15 inch
P 1641	Horton	0.0150	7.67	71.1	379	15 inch
P 1645	Horton	0.0191	8.51	60.8	297	15 inch
P 1430	Desert Crest	0.0081	1.46	92.0	246	8 inch
P 1428	Desert Crest	0.0077	1.50	84.9	246	8 inch
P 1274	Desert Crest	0.0087	2.22	100.2	190	8 inch
P 1454	Desert Crest	0.0100	3.91	54.9	150	8 inch
P 1453	Desert Crest	0.0040	2.77	62.1	335	8 inch
P 1452	Desert Crest	0.0042	2.82	57.4	312	8 inch
P 1455	Desert Crest	0.0040	2.77	58.5	335	8 inch


US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 8.4
Failed Pipes Due to
d/D Criteria
Peak Dry Weather Flow
8-15 Inch pipes
d/D
0.0 - 49.9
50.0 - 100.0
18-30 Inch Pipes
d/D
0.0 - 74.9
75.0 - 100.0
Road Centerlines
Force_Main
New FM
Abandoned FM
Major Roads
Figure Not to Scale
P294, P295, P1391
P775
P581
Horton WWTP
P1428, P1430
P1428, P1430
Dos Palmas Lift Station
Desert Crest WWTP
MISSION LAKES BLV
PIERSON BLV
HACIENDA AVE
HACIENDA DR
13TH AVE
14TH AVE
TWO BUNCH PALMS TR
15TH AVE
15TH AVE
DILLON RD
DILLON RD
18TH AVE
18TH AVE
WORSLEY RD
LITTLE MORONGO RD
WEST DR
PALM DR
VERBENA DR
MIRACLE HILL RD
MOUNTAIN VIEW RD
AVENIDA MANZANA
LONG CANYON RD
BUBBLING WELLS RD
INDIAN AVE
BENNETT RD
GARNET AVE
I-10
20TH AVE


US Army Corps of Engineers
MSWD
URS
Figure 8.5
Failed Pipes Due to
d/D Criteria
Peak Wet Weather Flow
8-15 Inch Pipes
d/D
0.0 - 49.9
50.0 - 100.0
18-30 Inch Pipes
d/D
0.0 - 74.9
75.0 - 100.0
Force_Main
New FM
Abandoned FM
Road Centerlines
Dos Palmas Lift Station
Figure Not to Scale
Desert Crest WWTP
Horton WWTP
P1150
P1150
P711
P456
P1106
P295, P1392, P444
P1641 - 1646
P581, P585
P775
P1428, P1430
P1274
P1452-P1455
Dos Palmas Lift Station

8.4.2 Velocity Criteria Analysis

The minimum pipe velocity per design criteria is two feet per second (fps). This velocity criterion is established in order to minimize the deposition of solids and thus minimizes maintenance needs. At PDF, nearly 950 sewer lines show a velocity below the minimum velocity criteria of two fps. These sewer lines are shown in Figure 8.4. At PWF, approximately 750 sewer lines are still below minimum velocity criteria. These sewer lines are shown in Figure 8.5. The low velocities are primarily concentrated in the gravity sewer lines that are running from east to west. MSWD has noticed sedimentation problems in these gravity sewer lines and perform more frequent routine maintenance on these sewer lines. The large number of sewer lines with low velocities is primarily due to low flow values in certain parts of the system and is not uncommon in wastewater collection system modeling. Future flow values throughout the system should decrease the number of sewer lines with low velocities.

The maximum velocity design criterion is recommended to be ten fps. Sewer lines with high velocities can cause a number of problems including the release of H_2S gases or potentially compromising the pipe integrity or movement over time. The data associated with sewer lines showing velocities greater than ten fps were analyzed to verify the invert and slope data were modeled correctly per the MSWD GIS database or reasonable nature. Eight sewer lines, identified in Table 8-4 and shown in Figure 8.6, exceed the established maximum velocity criteria at PDF. All of these sewer lines are in the Horton collection system. There is one additional sewer lines at PWF that exceeds the established maximum velocity criteria. This sewer line is identified in Table 8-5.

Table 8-4
Sewer lines Exceeding Maximum Velocity Criteria at PDF

Pipe Number	Slope (ft/ft)	Velocity (fps)	d/D	Length (ft)	Diameter (inch)
P 1198	0.305	14.9	1.3	50	12 inch
P 568	0.199	15	21.7	14	21 Inch
P 193	0.072	15.5	2.1	73	8 inch
P 57	0.067	15.7	1.9	350	8 inch
*P 149	0.129	21	1	200	8 inch
*P 33	0.058	21	1.6	307	8 inch
*P 226	0.103	22.9	1.9	300	8 inch
*P 940	0.081	26.8	1.3	61	8 inch

*These sewer lines should be given special considerations because they are above the NCPI maximum criteria.

Table 8-5
Sewer lines Exceeding Maximum Velocity Criteria at PWF

Pipe Number	Slope (ft/ft)	Velocity (fps)	d/D	Length (ft)	Diameter (inch)
P 947	0.467	10.83	19.4	12	8 inch

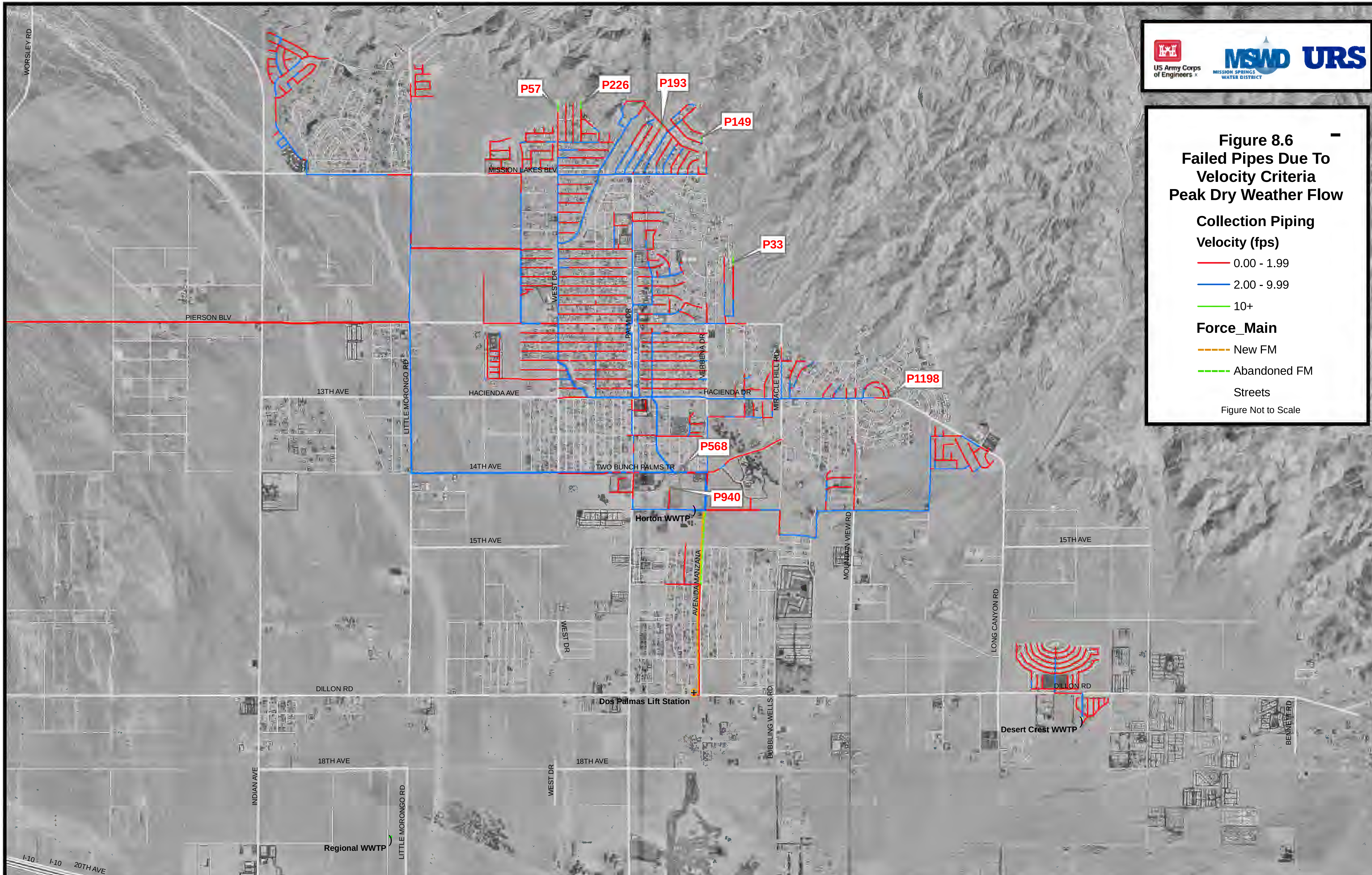


Figure 8.6
Failed Pipes Due To Velocity Criteria
Peak Dry Weather Flow

8.4.3 Lift Station Analysis

For the existing system flows, the capacity of the Dos Palmas Lift Station of 1.0 mgd exceeds the current use of 25,000 gpd. As a part of Assessment District 12, the southern portion of the city will be tied to the collection system at which time these flows will increase to approximately half of the lift station capacity. Additionally, there is a consideration to abandon the Desert Crest WWTP and transfer this flow to the Dos Palmas lift station, which would then increase the flow to nearly full capacity. However, while the flows are still a small percentage of the lift station total capacity, the District should consider operating the lift station so as to avoid long detention times and avoid overworking the pumps.

8.5 FINDINGS AND SUMMARY

Overall, the wastewater collection system performs well in respect to conveying existing flows within the design criteria established in Section 4. Sewer lines that did not meet the design criteria were evaluated more closely to verify that data in the system model was correct per the MSWD database or reasonable in nature. Sewer lines with correct information and still not meeting the design criteria should either be considered for replacement or be considered for more frequent maintenance. The sewer lines that do not meet the minimum velocity criteria will need more routine maintenance to avoid sedimentation issues. The sewer lines not meeting d/D criteria or exceeding the maximum velocity criteria should be replaced to prevent surcharging or degradation of the lines. Recommendations for pipe replacement and maintenance will be discussed in detail in Section 10.

9.1 INTRODUCTION

The future collection system analysis is performed to provide the requirements for future wastewater collection and treatment. The CIP program is developed to assist MSWD in identifying the possible financial requirement to plan, design, and construct their improvements. Both the analysis and CIP program are based on a 20-year planning horizon. Though the planning period for this master plan is 20 years, the interceptors are designed at an ultimate build out scenario, thus avoiding costly replacement of sewer lines to handle additional capacity in the future.

It is the overall intention of this master plan to provide broad based guidance for future development and thus provide the locations and approximate sizes of interceptors to handle the ultimate build out scenario.

9.2 FUTURE WASTEWATER COLLECTION SYSTEM ANALYSIS

URS performed the future collection system analysis at an ultimate build out flow scenario utilizing data from the Desert Hot Springs and Riverside County land use plans. Residential projects currently in the Desert Hot Springs permitting process or otherwise identified by District staff were assigned a flow based on a known number of EDUs and a unit flow value of 200 gpd/EDU, as identified in Section 5. Any developable land outside the identified projects was assigned a flow using the land use designation tables from both Desert Hot Springs and Riverside County (Appendix E). Each table provides a land use designation and a corresponding building density range. The highest number of dwelling units per acre were selected in order to provide a conservative flow estimate throughout the District. All non-residential properties were assigned unit flows based on the information developed in Section 5. Figure 9.1 depicts land uses and identified developments used to calculate the ultimate wastewater flows.

The ultimate flows were divided into flow subbasins (Figure 9.2) and assigned to proposed or existing interceptors at designated collection points. The ultimate flows, initially calculated using average day unit flow values, were peaked at an average rate of 2.4 from the MSWD peaking factors table included in Section 5 (Table 5.4).

9.2.1 WASTEWATER TREATMENT PLANTS

As discussed in Section 6, the District plans to expand the HWWTP, construct a new Regional WWTP, and potentially abandon the DCWWTP. This section describes the details of these projects and the effects on the future collection system.

9.2.1.1 Horton WWTP

The District is planning to expand the HWWTP by 1.5 mgd thus providing a capacity of 3.8 mgd. A future HWWTP collection system (Figure 9.2) has been created using ultimate flows upon which the total flow within the boundary is 3.8 mgd. If the RWWTP plant is operational by the end of 2012, the HWWTP will have the capacity and ability to treat the flow from assessment districts, new development, and the DCWWTP collection system, all of which occur outside the ultimate collection basin until the RWWTP comes on line.

9.2.1.2 Desert Crest WWTP and Dos Palmas Lift Station

According to conversations with the District and material presented in Section 6, the DCWWTP facility is near capacity. Any new development will require the District to either add capacity to the treatment plant or abandon the facility and redirect its flow. There is currently a proposed project north of the existing Desert Crest development and thus action in the near future is required. The District is considering abandoning the DCWWTP and redirecting the flow to the Dos Palmas Lift Station (DPLS). In an August 2006 report by Webb Associates, the abandonment will require a small lift station to handle the flow produced by the properties south of Dillon Road, but the remainder of the area and the new development will gravity flow to a proposed 12 inch and 15 inch interceptor leading to the DPLS. The DPLS capacity will allow flow from the Desert Crest area until the Regional Plant is brought on line. At that time, the DPLS will be abandoned and the service area will gravity flow to the new plant.

9.2.1.3 New Regional WWTP

Due to the substantial new development and the progress with connecting existing properties to the wastewater collection system, the HWWTP is projected to exceed the 3.8 mgd capacity sometime between 2012 and 2013. Details on this analysis and a recommendation to bring the Regional WWTP on line within the next five years can be found in Section 6.

Initially the Regional Plant will receive flow from the new developments in the northwestern part of the District and the area previously served by the DPLS. The District is considering sending the biosolids produced by the HWWTP down to the RWWTP, which may add additional flow to the plant and will require a revision to the treatment process.

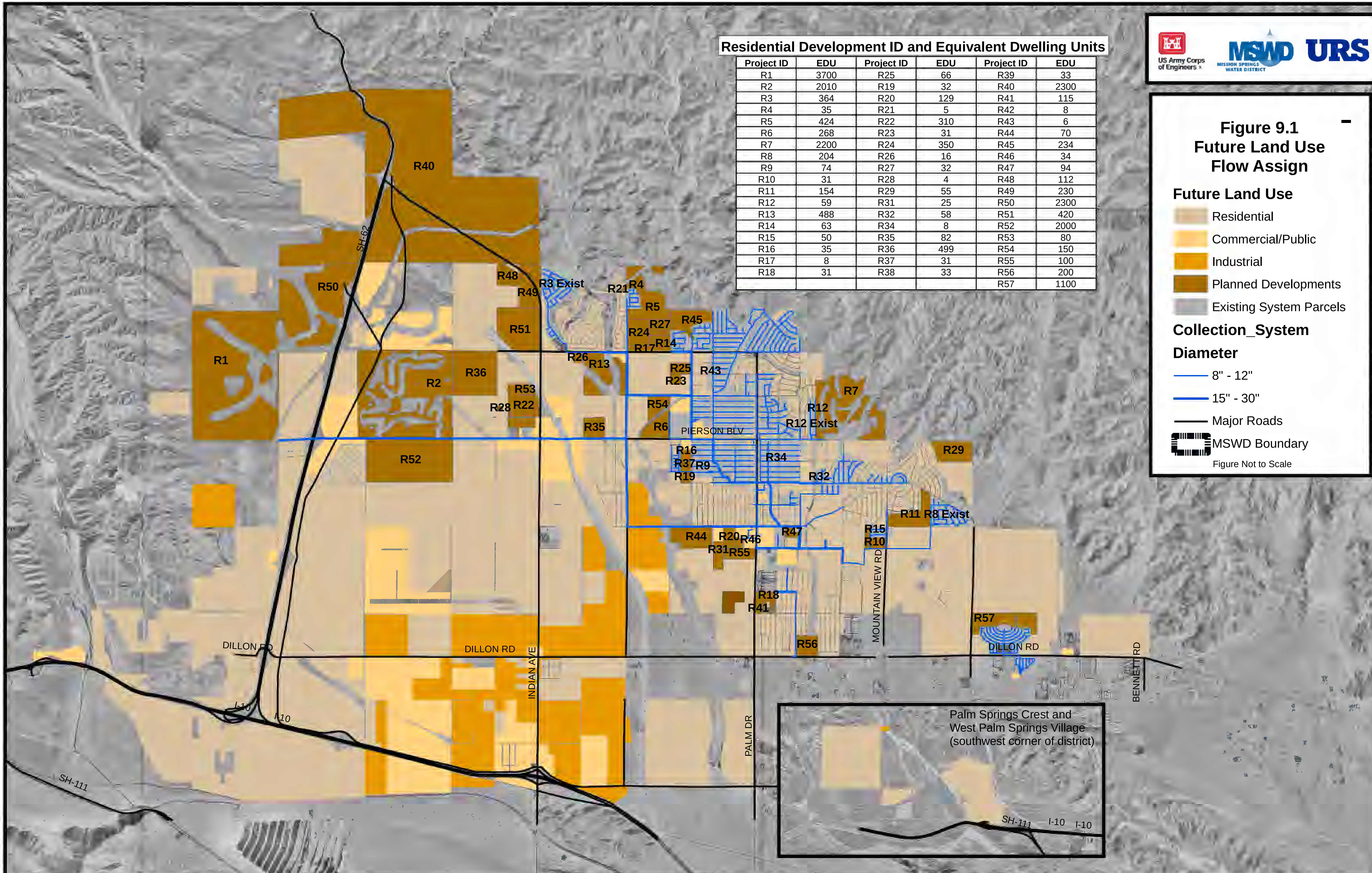


Figure 9.1
Future Land Use
Flow Assign

Residential Development ID and Equivalent Dwelling Units

Project ID	EDU	Project ID	EDU	Project ID	EDU
R1	3700	R25	66	R39	33
R2	2010	R19	32	R40	2300
R3	364	R20	129	R41	115
R4	35	R21	5	R42	8
R5	424	R22	310	R43	6
R6	268	R23	31	R44	70
R7	2200	R24	350	R45	234
R8	204	R26	16	R46	34
R9	74	R27	32	R47	94
R10	31	R28	4	R48	112
R11	154	R29	55	R49	230
R12	59	R31	25	R50	2300
R13	488	R32	58	R51	420
R14	63	R34	8	R52	2000
R15	50	R35	82	R53	80
R16	35	R36	499	R54	150
R17	8	R37	31	R55	100
R18	31	R38	33	R56	200
				R57	1100

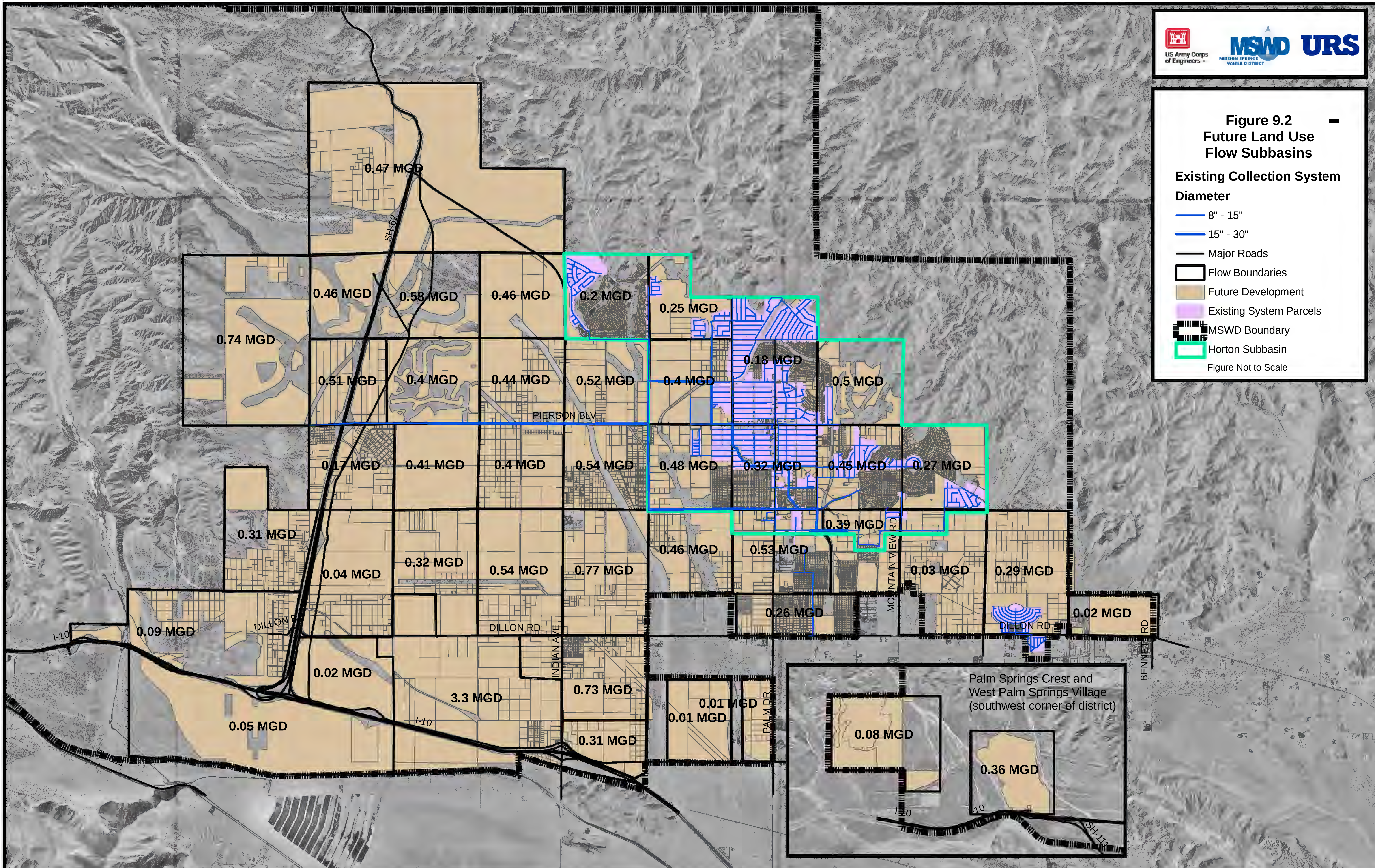


Figure 9.2
Future Land Use
Flow Subbasins

9.2.2 WASTEWATER COLLECTION SEWER LINES

As part of the ultimate flow scenario, URS developed a list of existing sewer lines that do not meet criteria and determined a proposed layout for interceptors to handle future development. All sewer lines resulting in deficiencies are identified in this section, however, only surcharging sewer lines (d/D ratio greater than 1.0), are included for replacement in the CIP program. Although the remaining sewer lines are not recommended for replacement at this time, they should be added to a watch list for potential replacement in the future.

Deficiencies in the existing collection system interceptors are addressed by pipe replacement of an increased diameter to handle ultimate flow capacity. The future collection system interceptors are designed to meet d/D and velocity design criteria discussed in Section 4 and are modeled in the future scenario with approximate sewer line slope, length and diameter. The following sections describe existing sewer lines that fail design criteria and the proposed layout of the future collection system interceptors at ultimate flow.

9.2.2.1 Existing Sewer Lines

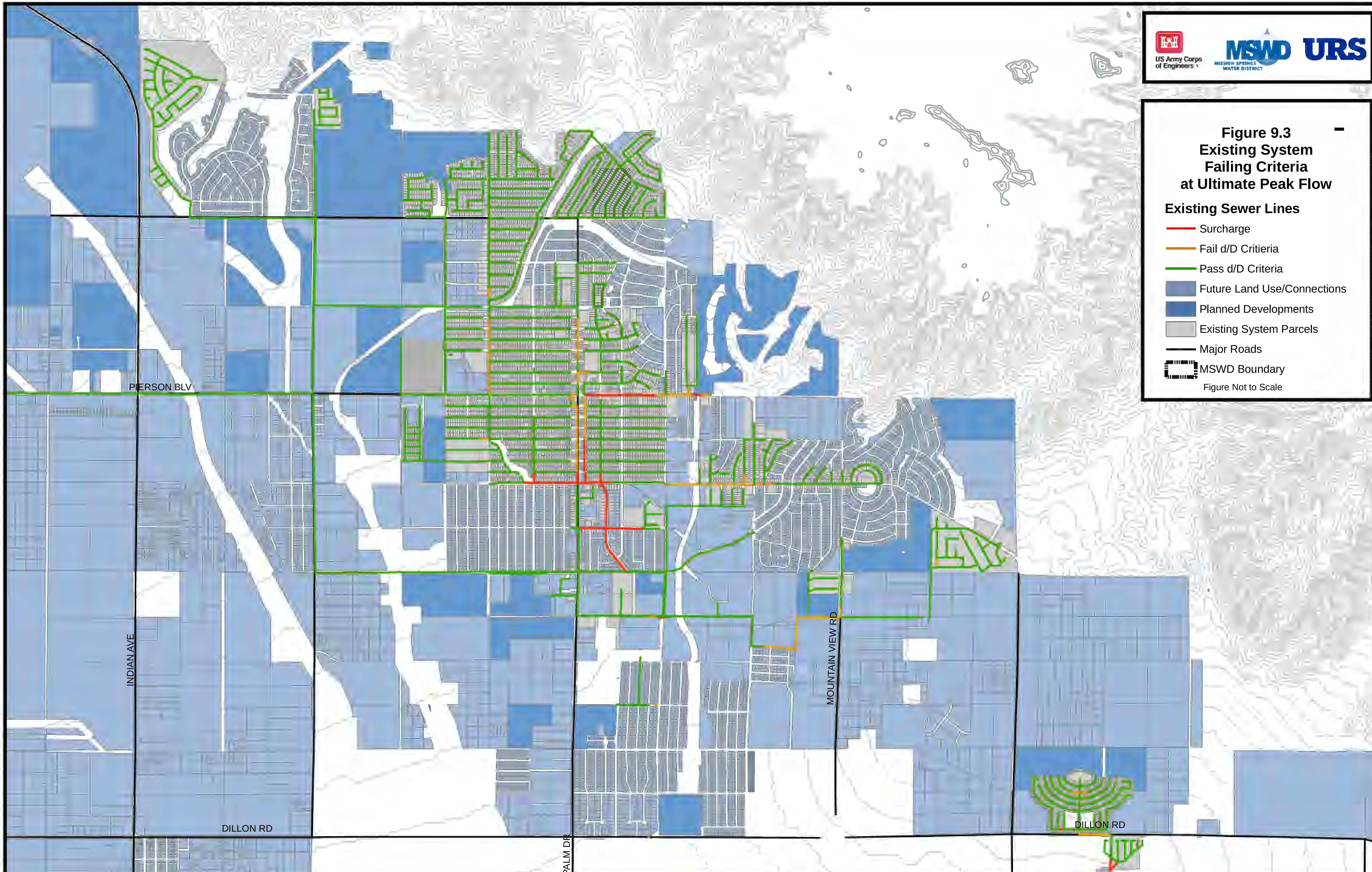
At the peak wet weather ultimate build out scenario, there are several sewer lines in the existing collection system failing d/D design criteria. A list of these sewer lines can be found in Appendix F. The sewer lines recommended for replacement in the CIP include only surcharging sewer lines (d/D ratio greater than 1.0) as listed in Table 9-1 and identified in Figure 9.3.

Table 9-1
Surcharging Sewer Lines at
Peak Wet Weather Flow and Ultimate Build Out

Pipe Number	Velocity (fps)	d/D (fps)	Slope (ft/ft)	Length (ft)	Diameter (inch)
P 1274	2.22	100.2	0.008737	190	8 inch
P 1677	2.54	101.4	0.008163	392	8 inch
P 1673	5.52	108	0.011538	26	8 inch
P 701	8.66	114.5	0.036364	330	8 inch
P 2	8.48	137.4	0.035958	334	8 inch
P 1387	1.92	173.6	0.006605	324	8 inch
P 9	12.91	199	0.1129	100	8 inch
P 995	5.4	199	0.00978	182	8 inch
P 1255	5.07	211.4	0.036311	309	8 inch
P 1298	5.79	292.3	0.009125	240	8 inch
P 702	6.22	309.4	0.030211	331	8 inch
P 163	5.72	448.3	0.030302	331	8 inch
P 681	0.51	456.9	0.008665	442	8 inch
P 703	5.77	691.5	0.009024	246	8 inch
P 1625	6.24	693.7	0.031627	332	8 inch
P 164	5.74	894.5	0.026806	335	8 inch
P 1105	6.25	939.9	0.033793	29	8 inch
P 1293	5.76	997.2	0.00494	332	8 inch
P 1106	6.25	1137.4	0.029969	322	8 inch
P 165	5.76	1220.9	0.025788	330	8 inch
P 371	2.59	113.8	0.004369	325	10 inch
P 1389	0.17	340.6	0.002878	344	10 inch
P 1390	0.24	457.8	0.002922	219	10 inch
P 688	7.17	478.9	0.027018	332	10 inch
P 1236	0.24	545.9	0.002922	219	10 inch
P 613	1.82	102.6	0.011951	287	12 inch
P 612	4.53	114.9	0.016012	346	12 inch
P 585	7.23	121.1	0.022018	223	12 inch
P 295	11.41	893.3	0.008782	271	12 inch
P 294	8.63	1209.6	0.001181	271	12 inch
P 1436	8.16	116.8	0.017781	320	15 inch
P 1393	4.83	146	0.009505	323	15 inch
P 1646	9.33	171.4	0.018865	511	15 inch
P 576	8.86	208.7	0.024047	509	15 inch
P 1641	8.85	211.3	0.015013	379	15 inch
P 1391	8.84	257.2	0.018636	44	15 inch
P 1645	9.31	284.6	0.019125	297	15 inch
P 1392	7.31	285.3	0.009907	214	15 inch
P 1642	8.89	356.5	0.023992	496	15 inch

P 1644	9.3	376.6	0.019286	434	15 inch
P 1643	9.3	463.5	0.019213	267	15 inch
P 444	5.52	646.9	0.009912	226	15 inch
P 1435	2.94	246.8	0.010774	310	18 inch
P 826	2.16	326.2	0.003146	302	21 inch
P 825	2.17	368.1	0.003214	308	21 inch
P 1434	2.18	415.8	0.003169	385	21 inch

The sewer lines highlighted in Table 9-1 (P 1274, P1106, P585, P295, P294, P 576, P 1391, P 1392, P 444) also fail d/D criteria during existing flow conditions for peak wet weather flow and are considered priority replacements in the CIP program.

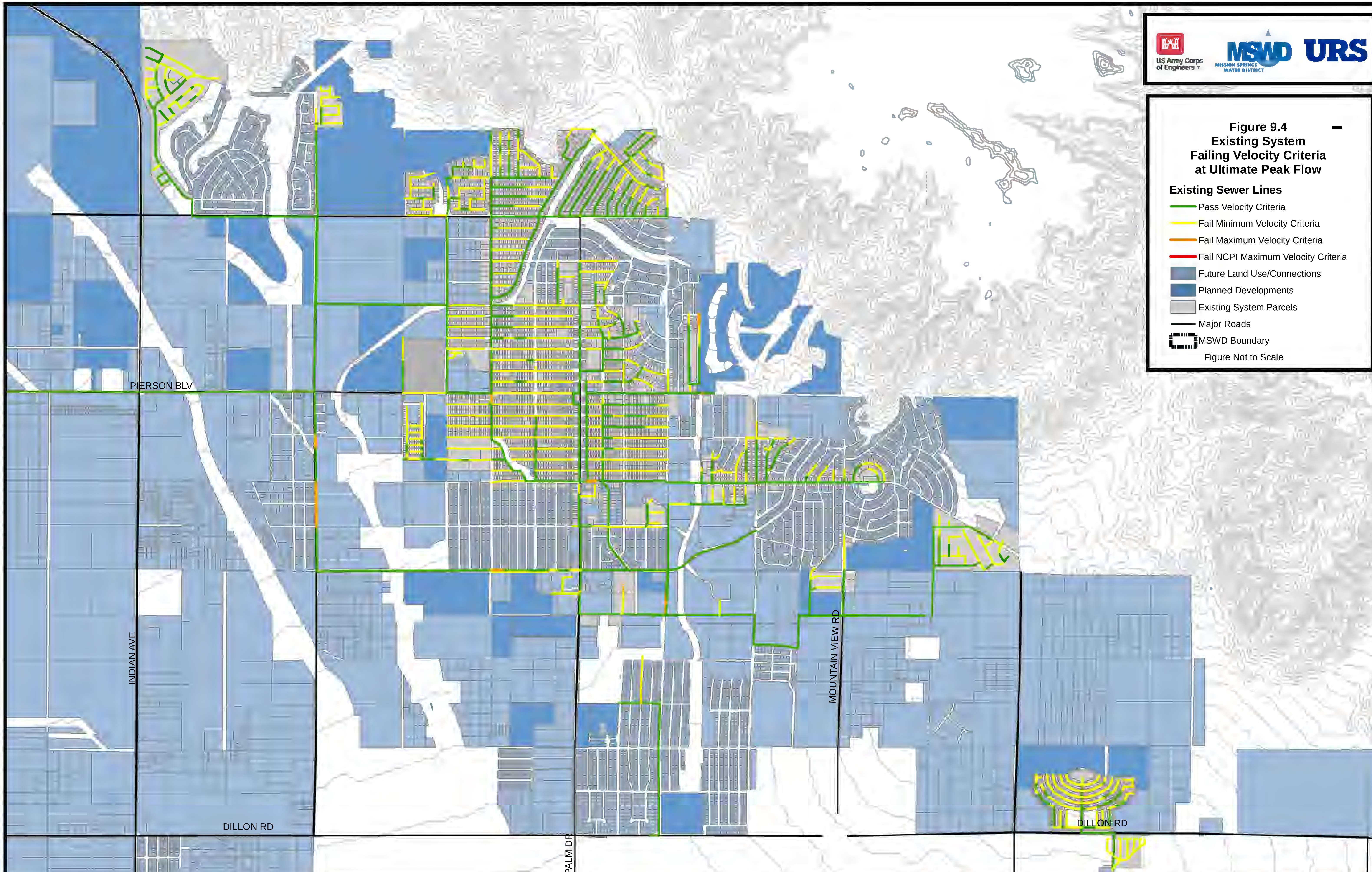

US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 9.3
Existing System
Failing Criteria
at Ultimate Peak Flow
Existing Sewer Lines
Surcharge
Fail d/D Critieria
Pass d/D Criteria
Future Land Use/Connections
Planned Developments
Existing System Parcels
Major Roads
MSWD Boundary
Figure Not to Scale
PIERSON BLV
INDIAN AVE
DILLON RD
PALM DR
MOUNTAIN VIEW RD
DILLON RD

Sewer lines failing minimum velocity criteria are not identified for replacement but should be considered for additional routine maintenance. Sewer lines failing maximum velocity criteria of ten fps should be monitored closely for pipe integrity and/or manhole corrosion due to the H_2S gases and those exceeding the NCPI regulation of 20 fps should be identified for replacement. All of the sewer lines failing the velocity criteria are listed in Table 9-2 and identified in Figure 9.4.

Table 9-2
Sewer Lines Failing Maximum Velocity Criteria at Peak Wet Weather Flow and Ultimate Build out

Sewer Line ID	Velocity (fps)	Slope (ft/ft)	Length (ft)	Diameter (inch)
P 442	10.04	0.021	364	21
P 888	10.05	0.034	345	15
P 1024	10.12	0.022	322	21
P 1023	10.12	0.022	328	21
P 1022	10.12	0.022	347	21
P 1025	10.13	0.022	353	21
P 556	10.90	0.013	327	30
P 557	10.92	0.013	330	30
P 1058	11.08	0.022	327	24
P 295	11.41	0.009	271	12
P 947	12.21	0.466	12	8
P 9	12.91	0.113	100	8
P 1481	13.06	0.225	12	8
P 33	15.71	0.058	307	8
P 940	19.99	0.081	61	8
P 568	**24.35**	**0.199**	**14**	**21**

The sewer line criteria failure is based on the information present in the MSWD GIS database and this information, principally the slope and diameter, should be checked for accuracy. If an error is found, the data should be updated and the sewer line remodeled to verify an alleviation of the criteria failure.


US Army Corps of Engineers
MSWD
MISSION SPRINGS WATER DISTRICT
URS
Figure 9.4
Existing System
Failing Velocity Criteria
at Ultimate Peak Flow
Existing Sewer Lines
Pass Velocity Criteria
Fail Minimum Velocity Criteria
Fail Maximum Velocity Criteria
Fail NCPI Maximum Velocity Criteria
Future Land Use/Connections
Planned Developments
Existing System Parcels
Major Roads
MSWD Boundary
Figure Not to Scale
PIERSON BLV
INDIAN AVE
DILLON RD
PALM DR
MOUNTAIN VIEW RD
DILLON RD

9.2.3 Proposed Collection System Interceptors

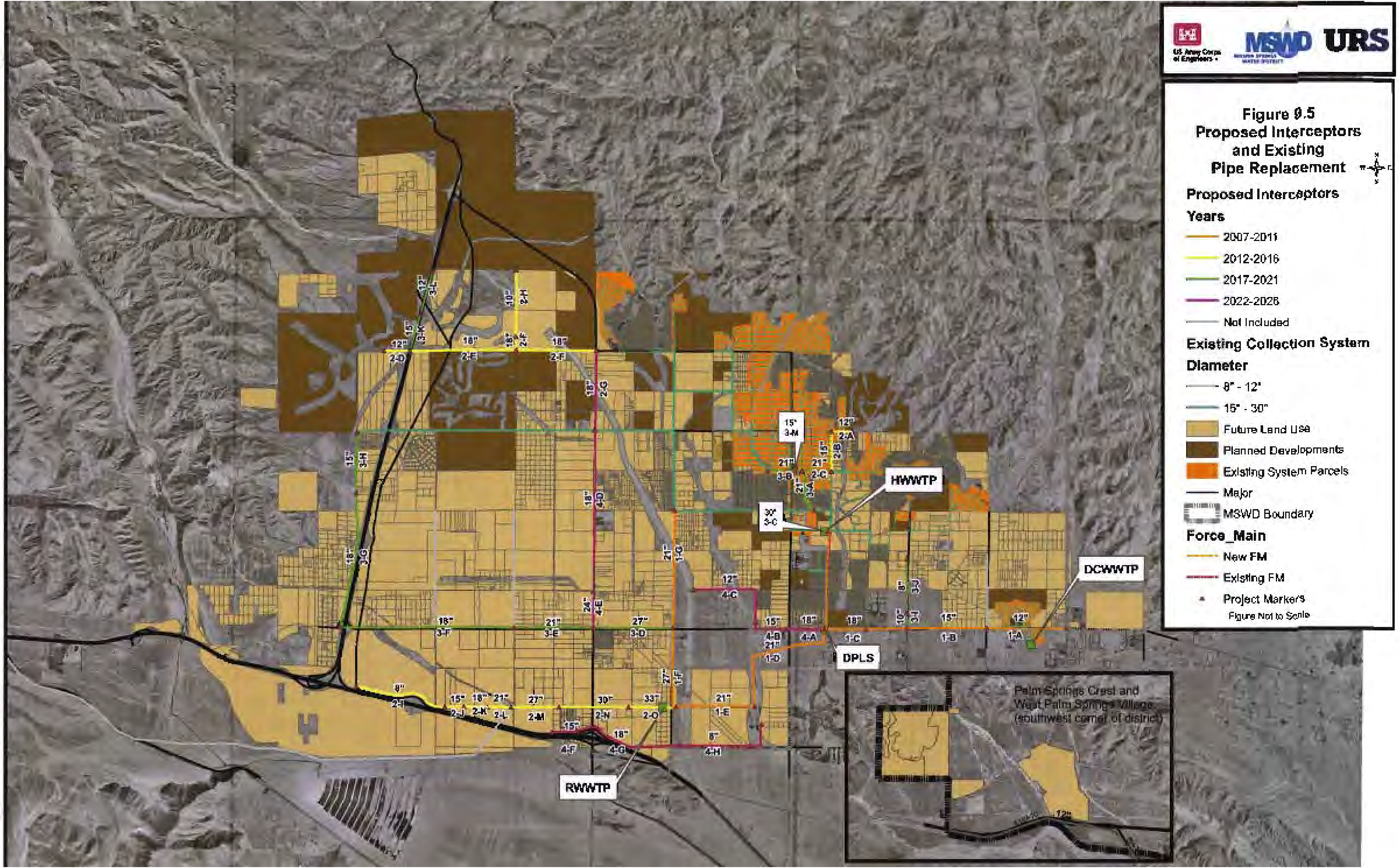
URS has proposed future interceptors throughout the District to collect the ultimate build out flow. Figure 9.5 illustrates the layout and size of the proposed interceptors and Table 9-3 contains a list of sewer line sizes and corresponding lengths.

Table 9-3
Proposed Interceptor Size and Lengths

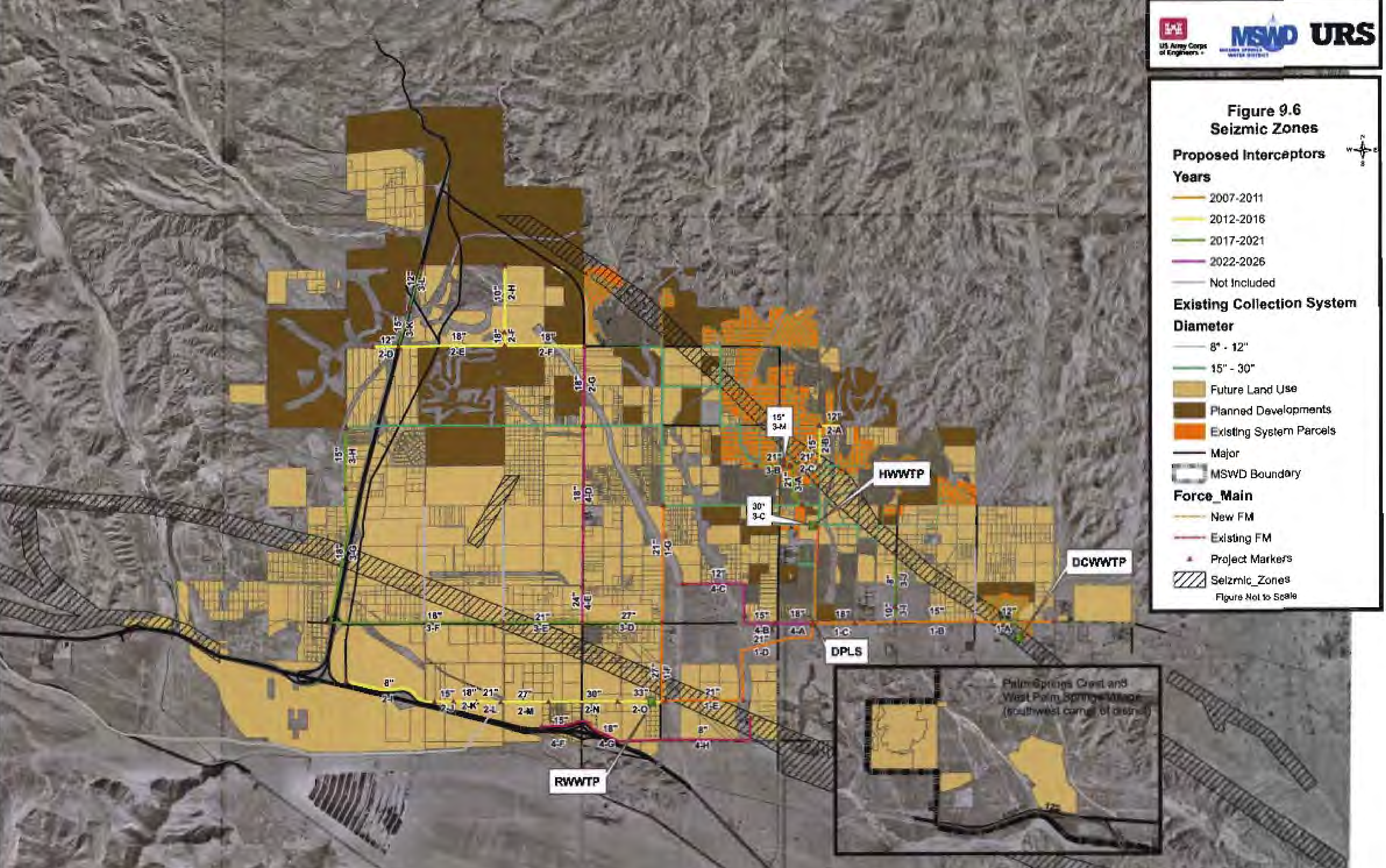
Pipe Diameter (inch)	Pipe Length (mile)
8	5.95
10	1.80
12	8.45
15	8.59
18	15.05
21	3.64
24	0.61
27	3.08
30	0.88
33	0.07
Total	48.12

Additionally, URS has applied or suggests that the District should apply the following special considerations when planning for future collection system components:

- Allow flow in the proposed RWWTP collection basin to flow to the HWWTP until the Regional Plant is constructed but have the immediate ability to reroute that flow to the RWWTP;
- Potentially transfer biosolids from HWWTP to the RWWTP;
- Include additional capacity by means of increased diameter or parallel pipe to ultimately convey the flow produced by the potential abandonment of the HWWTP.
- Special design considerations for those interceptors or facilities crossing seismic zone. (Figure 9-6)



US Army Corps of Engineers
MSWD
URS
Figure 9.5
Proposed Interceptors and Existing Pipe Replacement
Proposed Interceptors
Years
2007-2011
2012-2016
2017-2021
2022-2026
Not Included
Existing Collection System
Diameter
8" - 12"
15" - 30"
Future Land Use
Planned Developments
Existing System Parcels
Major
MSWD Boundary
Force_Main
New FM
Existing FM
Project Markers
Figure Not to Scale
HWWTP
DCWWTP
DPLS
RWWTP
Palm Springs Crest and West Palm Springs Village (southwest corner of district)


US Army Corps of Engineers
MSWD
URS
Figure 9.6
Seizmic Zones
Proposed Interceptors
Years
2007-2011
2012-2016
2017-2021
2022-2026
Not Included
Existing Collection System
Diameter
8" - 12"
15" - 30"
Future Land Use
Planned Developments
Existing System Parcels
Major
MSWD Boundary
Force_Main
New FM
Existing FM
Project Markers
Seizmic_Zones
Figure Not to Scale
HWWTP
DCWWTP
DPLS
RWWTP
Palm Springs Crest and West Palm Springs Village (southwest corner of district)

9.3 CAPITAL IMPROVEMENT PROGRAM

The wastewater Capital Improvement Program (CIP) has been developed based on the recommendation to increase the overall system reliability and minimize the potential for SSO. CIP level construction cost estimates were developed from the evaluation of existing and future sanitary sewer flows. Cost estimates and CIP schedule are divided into five-year blocks from 2007 through 2026. Unit pricing development for the CIP is accomplished by using the cost indexes from published and URS' internally developed and maintained historical databases that have factors for location, contractor markups, and other project specific criteria. All unit costs follow a logical method and procedure used for developing costs that meet industry standards. Construction cost indexes include the following:

- General Purpose Cost Indices including Engineering News Record, the Department of Commerce and the Bureau of Reclamation;
- Contractor Pricing Indices including those received and maintained from previous and current similar projects; and
- Special Purpose Indices including RS Means, the Bureau of Labor Statistics and various State Departments of Transportation.

The CIP construction cost estimates are intended to provide the MSWD with a user-friendly method to update the Wastewater CIP program and associated construction cost. The estimated engineering, administration, and construction costs are in 2007 dollars. Project costs will need to be adjusted accordingly as project implementation dates are further defined beyond 2007. The CIP cost estimates are based on estimated quantities from existing mapping and conceptual "sketch" concept designs. Therefore, all quantity estimates are approximate and not based on detailed designs.

Various limitations are built into the use of unit prices calculated from indices. These limitations include the potential for changes in technology, the methods and construction applications, the impact of short-term economic cycles, the ever present time-lag of reporting databases, and cost index databases that are a composite average and, therefore, have a range of acceptability.

Accuracy is not guaranteed and the use of unit pricing should not be deemed as an offering or proposal with respect to the outcome of the cost of an activity or project. Unit price opinions are subject to change. Any budget estimate of unit prices is not intended to predict the outcome of hard dollar that would result from open and competitive bidding but to provide the MSWD the ability to begin the budgeting for CIP projects.

9.3.1 Cost Estimate Procedures

The CIP project cost estimates have been developed based on evaluation of existing and proposed infrastructure and a conceptual planning level to address deficiencies in the wastewater collection system from modeling results. Preliminary design drawings have not been developed to estimate a defined construction scope of work. The construction work items are approximated, as are the quantities to complete this work. Various percentages have been included to account for potential design changes, enhancements, and alterations that are typical as a design moves forward to bidding contract documents.

For the wastewater CIP development, we have included the following cost items as percentages for estimating the total project cost. Land acquisition costs have not been included in any of the cost estimating.

- **Construction Contingency (40%)**

  URS typically uses 40% construction contingencies for planning level cost estimating. The 40% is then reduced as the design level approaches final 100% design. At the 100% level of design, the construction contingency will have been reduced to about 5%. This contingency includes such items as difference in stated quantities, changes in material and equipment costs, and design level information from a conceptual design to a final design.

- **General Construction Requirements (18%)**

  General Construction Requirements include contractor general supervision and management related issues such as mobilization, demobilization, bonds, insurance, overhead and profit. It also includes items such as temporary facilities including construction trailers, traffic control, temporary construction fencing, field office computers, sanitary facilities, trash pick up etc.

- **Engineering (Design, Bidding and Construction Management) (20%)**

  Engineering costs include preliminary design, special studies, pipeline alignment studies, and intermediate and final design. A typical design project includes preparation of drawings and specifications for bidding construction documents, engineers construction cost estimates, bidding services and construction management.

- **Public Process (5%)**

  Public Process costs address items such as public meeting with homeowners and business groups for a particular project that may have short-term impacts. Such efforts are typically required for installation of a pipeline, sitting of a water storage tank, or development of a sanitary sewer lift station or water pumping station in a neighborhood. This effort might also include public involvement to address a visible project by providing public meetings to facilitate discussions.

- **Permitting (5%)**

  Permitting includes efforts associated with the Contractor obtaining a building permit; street cut permits, storm water management plan (SWMP) or other permits associated with construction.

- **Survey/Geotechnical (5%)**

  Survey and geotechnical work associated with the design effort. Survey efforts may include alignment surveys, ownership determination, Right of Way determination, and preparation of legal descriptions and exhibits for easement acquisitions. The geotechnical engineering will include geotechnical investigations, test pit excavation or drilling and associated laboratory analysis to be used in design.

9.3.2 Facility and Wastewater Treatment Plant Improvements

The Wastewater Treatment Plant Improvements include the 1.5 expansion of the Horton WWTP, the abandonment of the Desert Crest Lift Station including the lift station requirement, and the installation of the initial phases of the Regional WWTP.

Table 9-4
Facility and Wastewater Treatment Plant Cost Summary

	Planning Year / Cost			
Project	**2007-2011**	**2012-2016**	**2017-2021**	**2022-2026**
Horton WWTP 1.5 mgd Expansion*	$20M	$0	$0	$0
Desert Crest WWTP Abandonment**	$0.5M	$0	$0	$0
Regional WWTP Phase I & II	$100M	$0	$0	$100M
Subtotals	**$120.5M**	**$0**	**$0**	**$100M**

*Preliminary Cost Estimate from District

**Cost Estimate includes the following components from Webb Memo dated 8/17/06; D.C. Sewer Lift Station, D.C. 4 inch Dia. Sewer Forcemain, Paving fro 4 inch Dia. Forcemain. Costs have been inflated to 2007 dollars using the ENR cost index (Appendix G).

9.3.3 Existing Sewer Line Renewals and Proposed Interceptors

The sanitary sewer line renewals address existing sewer lines that do not meet current d/D, maximum NCPI velocity criteria, and interceptor sewer lines proposed for future development. Only replacements due to development/connections within the 20 year CIP time frame and for surcharging sewer lines (d/D ratio greater than 1.0) are included for replacement in this CIP program. However, any sewer line that does not meet d/D design criteria should still be considered for possible sewer line replacement. A complete list of sewer lines failing criteria can be found in Appendix F. Figure 9.5 show the improvements scheduled for the next 20 years and the approximate year of construction, and a project ID number. Tables 9-5 and 9-6 are cost summary tables for the replacement and proposed sewer lines, and Table 9-7 is summary of cost per project ID. The replacement sewer lines will be paid for directly by the District and the proposed sewer lines will initially be paid for by developers who will then be included in future cost recovery agreements.

Table 9-5
Replacement Sewer Line Cost Summary

Sewer Line	Planning Year / Cost				
	2007-2011	2012-2016	2017-2021	2022-2026	Subtotal
12”	$0	$539,590	$0	$0	$539,590
15”	$0	$1,290,491	$153,903	$0	$1,444,394
21”	$0	$1,306,016	$3,443,850	$0	$4,749,866
30”	$0	$0	$361,604	$0	$361,604
Subtotals	$0	$3,136,096	$3,959,357	$0	$70,954,453

Table 9-6
Proposed Sewer Line Cost Summary

Sewer Line	Planning Year / Cost				
	2007-2011	2012-2016	2017-2021	2022-2026	Subtotal
8”	$0	$1,699,161	$981,180	$1,987,744	$4,668,085
10”	$0	$1,454,078	$338,553	$0	$1,792,631
12”	$2,054,475	$672,550	$1,168,725	$2,457,228	$6,352,978
15”	$3,890,592	$606,531	$3,240,089	$2,029,417	$9,766,629
18”	$6,852,923	$11,047,987	$11,797,553	$11,459,424	$41,157,887
21”	$7,296,695	$1,069,577	$2,974,923	$0	$11,341,195
24”	$0	$0	$0	$1,808,664	$1,808,664
27”	$6,425,314	$2,710,784	$3,709,495	$0	$12,845,593
30”	$0	$4,331,821	$0	$0	$4,331,821
33”	$0	$3,000,541	$0	$0	$3,000,541
Subtotals	$26,519,995	$26,593,026	$24,210,514	$19,742,473	$97,066,024

Table 9-7
Proposed Sewer Line Projects

Project ID	Length (ft)	Diameter (in)	Cost
1-A	5306	12	$2,054,474
1-B	8140	15	$3,890,592
1-C	2811	18	$1,597,443
1-D	9248	18	$5,255,480
1-E	5571	21	$3,669,093
1-F	7656	27	$6,425,314
1-G	5508	21	$3,627,601
2-A	**1392**	**12**	**$539,590**
2-B	**2700**	**15**	**$1,290,491**
2-C	**1983**	**21**	**$1,306,016**
2-D	1735	12	$672,550
2-E	7176	18	$4,077,998
2-F	5387	18	$3,061,340
2-G	5321	18	$3,023,833
2-H	4441	10	$1,454,078
2-I	6359	8	$1,699,161
2-J	1269	15	$606,531
2-K	1557	18	$884,817
2-L	1624	21	$1,069,577
2-M	3230	27	$2,710,784
2-N	4660	30	$4,331,821
2-O	2942	33	$3,000,541
3-A	**2893**	**21**	**$1,905,347**
3-B	**2336**	**21**	**$1,538,503**
3-C	**389**	**30**	**$361,604**
3-D	4420	27	$3,709,495
3-E	4517	21	$2,974,923
3-F	11686	18	$6,640,954
3-G	9074	18	$5,156,599
3-H	4200	15	$2,007,431
3-I	1034	10	$338,553
3-J	3672	8	$981,180
3-K	2579	15	$1,232,658
3-L	3015	12	$1,168,725
3-M	**322**	**15**	**$153,903**
4-A	2504	18	$1,422,980
4-B	2561	15	$1,224,054
4-C	6339	12	$2,457,228
4-D	10837	18	$6,158,481
4-E	2415	24	$1,808,664

4-F	1685	15	$805,363
4-G	6824	18	$3,877,963
4-H	7439	8	$1,987,744
	Total Replacement Project		**$3,959,357**
	Total Proposed Projects		**$97,066,022**

***Bolded lines are replacement projects**

9.3.4 Wastewater Flow Metering Program

URS recommends the District install electronic flow meters at major collection system connections, lift stations, and treatment plants. Flow meters are important in a wastewater collection system to develop historical flow records for the purpose of future design and system modeling.

10.1 INTRODUCTION

An important component of the Sewer Master Plan is the identification of potential funding sources for construction, maintenance and operation of the project. The Mission Springs Water District typically operates on a "pay as you go" approach, such that the rate structure is periodically reviewed and adjusted to accommodate projected future capital, maintenance, and operations expenses. This approach includes the concept that "growth pays for growth" such that the costs incurred by expansion of the collection and treatment system are balanced with anticipated revenue flows.

MSWD's rates are structured to cover repayment of debts incurred for capital projects. The most recent rate review study[2] was conducted in 2003 (Beck, 2004), which projected the District's financial needs through FY 2009. The rate structure developed in the 2003 rate review study was based on the following financial policies:

- Collection of 100% of depreciation through rates by FY 2009;
- Maintenance of a debt service coverage ratio greater than 1.5;
- Maintenance of an operating reserve balance greater than six months of operations and maintenance expenses; and
- Phasing in of cost-of-service rates through FY 2009.

The 2003 rate review study identifies $14.1 million of capital expenditures by MSWD through FY 2009. These expenditures include collection system expansion in Assessment Districts 11 and 12, trunk line construction at Little Morongo Boulevard and Two Bunch Palms Trail, and additional expansion of the Horton Treatment Plant tentatively scheduled to commence in 2008.

10.2 SEWER MASTER PLAN FUNDING SOURCE

In general, authorization for federal assistance in the planning and design of environmental infrastructure is provided by section 219 (c) of the Water Resources Development Act of 1992. The federal government is authorized to provide as much as 75% of technical, planning, and design costs. Authorization to provide technical, planning, and design assistance for "resource protection and wastewater infrastructure, Desert Hot Springs, California" is designated by the Consolidated Appropriations Act of 2001, Section 108 (a) (23), which amends section 219 (c) of WRDA 1992, by adding Desert Hot Springs to the list of authorized projects.

10.3 RECENT CAPITAL PROJECT FUNDING SOURCES

Local voters approved the formation of Assessment District (AD) 12 and its assessment fees in 2004. Planning for AD 12 infrastructure improvements was partially funded through section 219(c) WRDA 1992. The AD 12 collection system expansion is funded through a variety of sources. AD 12 construction is partially financed with State and Tribal Assistance Grant (STAG) funds administered through Region 9 of the USEPA. Revenue bonds are also used to fund AD 12 capital expenditures. Revenue bond debt payment is funded by assessment fees.

[2] 2003 Sewer Rate and Connection Fee Study, Beck 2004

The 2004 Horton Treatment Plant Expansion Project was financed through short-term commercial bank loans, which are being repaid through rate and non-rate revenues.

MSWD has historically issued revenue bonds to cover collection system and treatment facility capital expenditures. The 2003 rate review study (Beck, 2004) indicates that revenue bonds issued in 1996 and 2003 funded collection system expansion and that revenue bonds issued in 1996 also funded previous expansion projects at the Horton Treatment Plant.

State funding for wastewater collection and treatment has historically been available through Proposition 13 and Proposition 40. Proposition 13 (2000 Water Bond) was approved in March 2000 and authorized the State of California to sell nearly $2 billion in general obligation bonds to support water supply related projects. In the past, MSWD has used grant funding through the Proposition 13 Non-point Source Pollution Control Program. This program no longer supports new projects, as all funds have been committed.

Proposition 40 (The California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002) authorized the state to issue $2.6 billion in general obligation bonds for land conservation, cultural resource, and water-related projects. All Proposition 40 funds have been committed.

10.4 POTENTIAL CAPITAL PROJECT FUNDING SOURCES

Potential funding sources for collection and treatment system capital projects identified in this Master Plan include:

- Section 219(f) WRDA 1999 – Federal funds administered by the Corps of Engineers;
- State and Tribal Assistance Grants (STAG) – administered through USEPA;
- Clean Water State Revolving Fund – USEPA and state loan program;
- Proposition 50 – State of California Grant funds;
- Proposition 84 – State of California Grant funds;
- Levy assessment fees; and
- Commercial bank loans.

Some, or all, of these funding sources may be used in combination to finance implementation of the capital projects identified in the Sewer Master Plan.

10.4.1 Section 219 (f) WRDA 1999

The Water and Resources Development Act of 1999 added construction assistance (section 219 (f)) to the environmental infrastructure technical planning and design assistance authorization established in WRDA 1992 (section 219 (c)). Projects may be identified for construction assistance through an amendment to section 219 (f). Amendments may be inserted into an annual appropriations act in the same way that Desert Hot Springs planning assistance was authorized by the Consolidated Appropriations Act of 2001. The amendment to section 219 (f) would identify the type of project, the location (Desert Hot Springs), and the amount of federal assistance. The local sponsor cost-share must be at least 25% of the project cost.

10.4.2 State and Tribal Assistance Grants (STAG)

Administered by the USEPA, State and Tribal Assistance Grants provide funds for programs operated primarily by the states. These programs include Clean Water State Revolving Fund grants, which are intended to help eliminate municipal discharge of untreated or inadequately treated pollutants. Drinking Water State Revolving Fund grants and grants for other infrastructure projects may also be funded through STAG. Grants allocated under the STAG program require a 20% non-federal cost share.

10.4.3 State Revolving Fund Loan Program

The Federal Clean Water Act, as amended in 1987, established the State Revolving Fund (SRF) Loan Program. The SRF loan program provides long-term, low interest loans for Clean Water Act implementation including construction of wastewater infrastructure. The loans are typically a 20-year term with the interest rate set at one-half the State General Obligation Bond Rate. The SRF program is funded through federal grants, state funds, and revenue bonds. The MSWD generally has a low preference for funding capital projects through SRF loans because of the cost of long-term financing.

10.4.4 Proposition 50: Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002

Proposition 50 was passed by California voters in November 2002. The purpose of Proposition 50 is to provide funds for integrated regional water management projects and programs. Approximately $380 million will be appropriated by the state legislature for grant funding. The grant program is administered jointly by the Department of Water Resources and the State Water Resources Control Board. The integrated regional water management grant program is a competitive program aimed at funding projects and programs that integrate water needs and resource management at the regional level. Grant recipients are required to provide a funding match from non-state sources. The maximum grant for implementation is $50 million. Federal funds, such as those accessed through Section 219 (f) WRDA 1999 may be used as Proposition 50 matching funds.

10.4.5 Proposition 84: Clean Water, Parks and Coastal Protection Bond Act of 2006

In November 2006, California voters passed Proposition 84, which authorizes $5.4 billion on general obligation bonds to be used for water-related projects. $1.3 billion will be directed towards integrated water management and water quality projects. Proposition 84 continues the regional, integrated management approach identified in Proposition 50. The guidelines for project selection and grant administration are not yet available.

10.4.6 Assessment and Connection Fees

In November 1996, California voters passed Proposition 218, which requires voter approval of assessments and property-related fees. The funds from such assessments or fees may only be used to finance projects and services that directly benefit the property. Proposition 218 limits the types of benefits, which are assessable. Under proposition 218 special benefits, which are traditional improvements that directly benefit a property such as sidewalks, wastewater collection, street lights, etc., are allowable but general benefits such as open space preservation, flood control, etc are not assessable. Implementation of the Master Sewer Plan, or some components of the Sewer Master Plan, may be financed through the creation of an assessment district and the levying of assessment fees. Similar assessment district funding has been used for AD 11 and AD 12 collection system expansion projects. Revenues from assessment fees are typically used to pay bond or loan debt.

The 2003 rate review study indicates that connection fees are projected to provide substantial revenue through FY 2009. The growth projected in analyses conducted for the Master Sewer Plan suggests that connection fee revenue will continue to be an important component of MSWD revenues. Connection fee revenue may also be used to pay debts incurred for capital projects. However, connection fee revenue is less reliable than revenues from assessment fees.

10.4.7 Revenue Bonds

The MSWD may issue revenue bonds to fund capital projects. Bonds may be repaid through assessment fees, rates, or non-rate revenues. Payment of revenue bond debt is itemized as an annual expense in the rate review study.

10.4.8 Commercial Bank Loans

Commercial bank loans offer more term flexibility than SRF loans, which may reduce the project's overall financing cost. The MSWD has used commercial bank loans to fund a previous expansion project at the Horton Treatment Plant.

10.5 CONCLUSION

The Master Sewer Plan identifies the capital projects and expenditures required to meet the demands of population and housing growth projected for the MSWD service area. The MSWD has historically financed capital projects through multiple funding sources, while adhering to fiscal policy that guides the development of the sewer rate and fee structure.

There are multiple options for funding the projected capital expenditures identified in the Sewer Master Plan. The previous section identifies opportunities to leverage federal assistance, through section 219 (f) WRDA 1999, and state grants through Proposition 50 and Proposition 84. Various loan options are also available.

Appendix A

Daily Flow Logs & Instantaneous Flow Charts For HWWTP & DCWWTP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - ALAN HORTON

WDID NO.:7A330109012
ORDER NO.: 95-047 (Revision 1)
REPORTING FREQUENCY: MONTHLY

MONTH :JANUARY 2001

EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	BI-MONTHLY	BI-MONTHLY	DAILY	BI-MONYHLY	BI-MONTHLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	24-HR COMP
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.967831					
2	0.952512			<0.1		
3	0.919293	5	8	<0.1	670	7.5
4	0.904770			<0.1		
5	0.889045			<0.1		
6	0.928138					
7	0.889837					
8	0.854690			<0.1		
9	0.882557			<0.1		
10	0.848975			<0.1		
11	0.896053			<0.1		
12	0.864793			<0.1		
13	0.922366					
14	0.947561					
15	0.954198					
16	0.876326			0.2		
17	0.867654	7	11	<0.1	634	7.5
18	0.889921			<0.1		
19	0.894785			<0.1		
20	0.924178					
21	0.946764					
22	0.869839			<0.1		
23	0.864399					
24	0.844636			<0.1		
25	0.841667			<0.1		
26	0.860803			<0.1		
27	0.914036					
28	0.912161					
29	0.886081			0.1		
30	0.867059			<0.1		
31	0.862356			<0.1		
MONTHLY MEAN	**0.895009**	**6.0**	**9.5**	**<0.1**	**652**	**7.5**

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - ALAN HORTON

WDID NO.:7A330109012 MONTH :FEBRUARY 2001
ORDER NO.: 95-047 (Revision 1)
REPORTING FREQUENCY: MONTHLY EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	BI-MONTHLY	BI-MONTHLY	DAILY	BI-MONYHLY	BI-MONTHLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	24-HR COMP
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.858606			<0.1		
2	0.894652			<0.1		
3	0.925287					
4	0.961725					
5	0.821556			<0.1		
6	0.823278			<0.1		
7	0.838162	3	5	<0.1	610	7.5
8	0.862050			<0.1		
9	0.882447			<0.1		
10	0.921432					
11	0.936574					
12	0.902561			<0.1		
13	0.890519			<0.1		
14	0.872303			<0.1		
15	0.880537	5	6	<0.1	549	7.3
16	0.890575			<0.1		
17	0.935169					
18	0.962208					
19	0.933587					
20	0.881655			<0.1		
21	0.872542			<0.1		
22	0.862638			<0.1		
23	0.874515			<0.1		
24	0.903393					
25	0.936799					
26	0.925329			<0.1		
27	0.897305			<0.1		
28	0.893539			<0.1		
29						
30						
31						
MONTHLY MEAN	**0.894319**	**4.0**	**5.5**	**<0.1**	**580**	7.4

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - ALAN HORTON

WDID NO.:7A330109012
ORDER NO.: 95-047 (Revision 1)
REPORTING FREQUENCY: MONTHLY

MONTH :MARCH 2001

EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	BI-MONTHLY	BI-MONTHLY	DAILY	BI-MONYHLY	BI-MONTHLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	24-HR COMP
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.894845			<0.1		
2	0.914600			<0.1		
3	0.958057					
4	0.951486					
5	0.931256			<0.1		
6	0.888938			<0.1		
7	0.883620			<0.1		
8	0.882070	9	11	<0.1	662	7.5
9	0.892954			<0.1		
10	0.934340					
11	0.941656					
12	0.895402					
13	0.868691			<0.1		
14	0.889368	6	5	<0.1	611	7.4
15	0.868524			<0.1		
16	0.886064					
17	0.934479					
18	0.930993					
19	0.874148			<0.1		
20	0.845133			<0.1		
21	0.872187			<0.1		
22	0.854637			<0.1		
23	0.896294			<0.1		
24	0.917049					
25	0.885954					
26	0.869618			<0.1		
27	0.838870			<0.1		
28	0.859808			<0.1		
29	0.876036			<0.1		
30	0.856941			<0.1		
31	0.883264					
MONTHLY MEAN	**0.892816**	**7.5**	**8.0**	**<0.1**	**637**	**7.5**

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - ALAN HORTON

WDID NO.:7A330109012
ORDER NO.: 95-047 (Revision 1)
REPORTING FREQUENCY: MONTHLY

MONTH :APRIL 2001

EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	BI-MONTHLY	BI-MONTHLY	DAILY	BI-MONYHLY	BI-MONTHLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	24-HR COMP
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.898159					
2	0.828515			<0.1		
3	0.824216			<0.1		
4	0.824803	8	7	<0.1	495	7.2
5	0.865354			<0.1		
6	0.896690			<0.1		
7	0.895557					
8	0.941879					
9	0.892097			<0.1		
10	0.840270			<0.1		
11	0.864829	4	5	<0.1	563	7.6
12	0.885683			<0.1		
13	0.943335			<0.1		
14	0.910175					
15	0.897735					
16	0.840798			<0.1		
17	0.894419			<0.1		
18	0.900837			<0.1		
19	0.859410			<0.1		
20	0.857989			<0.1		
21	0.939787					
22	0.964562					
23	0.946081			<0.1		
24	0.910256			<0.1		
25	0.883924			<0.1		
26	0.892178			<0.1		
27	0.891403			<0.1		
28	0.960602					
29	0.957502					
30	0.891266			<0.1		
31						
MONTHLY MEAN	**0.893344**	**6.0**	**6.0**	**<0.1**	**529**	**7.4**

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature

REPORTING FREQUENCY: **MONTHLY**

MONTH: MAY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.906721						
2	165	58	0.885573	2	4	7.7	671		
3			0.917536						
4			0.918440						
5			0.935661						
6			0.955661						
7			0.906891						
8			0.899624						
9			0.900329	6	9	7.8	631		
10			0.920622						
11			0.921120						
12			0.920985						
13			0.938239						
14			0.922991						
15			0.899822						
16			0.904736						
17			0.893939						
18			0.898538						
19			0.948347						
20			0.973010						
21			0.953210						
22			0.900372			7.4			
23			0.895347						
24			0.899599						
25			0.886152						
26			0.944865						
27			0.991071						
28			1.003050						
29			0.889875			7.3			
30			0.882970						
31			0.873598						
30-DAY MEAN	165	58	0.918997	4	7	7.6	651	NOT TESTED IN MAY	
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1] The facility is expanding from 1 MGD to 2 MGD.

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JUNE
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.899191						
2			0.857611						
3			0.904586						
4			0.870498						
5			0.899559			7.2			
6	150	65	0.922340	3	4		670		
7			0.860854						
8			0.882610						
9			0.897586						
10			0.887557						
11			0.920497					21	21
12			0.883993			7.3			
13			0.902992	9	10		688		
14			0.908736						
15			0.908968						
16			0.876488						
17			0.928968						
18			0.932857						
19			0.940151			7.3			
20			0.868678						
21			0.893653						
22			0.880120						
23			0.900742						
24			0.876121						
25			0.872129						
26			0.838978			7.5			
27			0.865547						
28			0.912615						
29			0.859331						
30			0.903406						
31									
30-DAY MEAN	150	65	0.891912	6	7	7.3	679	21	21
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]The facility is expanding from 1 MGD to 2 MGD.
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: MONTHLY

MONTH: JULY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.904270						
2			0.884270						
3			0.887836			7.5			
4			0.892203						
5			0.894932						
6			0.879349						
7			0.902875						
8			0.883752						
9			0.856451					20	21
10			0.879678			7.4			
11	165	79	0.860507	5	2				
12			0.871214						
13			0.880715						
14			0.863335						
15			0.860134						
16			0.849563						
17			0.861130			7.2			
18			0.853601	3	3		466		
19			0.843209						
20			0.863207						
21			0.872758						
22			0.889486						
23			0.847700						
24			0.858543			7.5			
25			0.880128						
26			0.866322						
27			0.936313						
28			0.897140						
29			0.896147						
30			0.850129						
31			0.901364			7.3			
30-DAY MEAN	165	79	0.876396	4	3	7.4	466	20	21
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[1]The facility is expanding from 1 MGD to 2 MGD.
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: AUGUST
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.883344						
2			0.847836						
3			0.898590						
4			0.930920						
5			0.932462						
6			0.890005						
7			0.886983			7.3			
8	208	133	0.879108	4	4		550		
9			0.867983						
10			0.872961						
11			0.917153						
12			0.919782						
13			0.914429					16	17
14			0.903965			7.4			
15			0.900151	4	4				
16			0.889036						
17			0.879136						
18			0.924160						
19			0.898500						
20			0.863248						
21			0.855728			7.4			
22			0.890905						
23			0.890824						
24			0.906562						
25			0.913330						
26			0.908880						
27			0.889677						
28			0.908293			7.3			
29			0.878792						
30			0.889024						
31			0.875797						
30-DAY MEAN	208	133	0.893792	4	4	7.4	550	16	17
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

MONTH: SEPTEMBER
YEAR: 2001

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.940982						
2			1.001758						
3			0.975873						
4			0.928907			7.4			
5	178	141	0.891059	6	9		570		
6			0.886248						
7			0.917308						
8			0.921881						
9			0.922085						
10			0.907445					12	13
11			0.900780			7.3			
12			0.906581	8	5				
13			0.884891						
14			0.895031						
15			0.912919						
16			0.929480						
17			0.879350						
18			0.869866			7.3			
19			0.885762						
20			0.865197						
21			0.876213						
22			0.891554						
23			0.931839						
24			0.906217						
25			0.879555			7.4			
26			0.877859						
27			0.855584						
28			0.934845						
29			0.928817						
30			0.905060						
31									
30-DAY MEAN	**178**	**141**	**0.907032**	**7**	**7**	**7.4**	**570**	**12**	**13**
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: OCTOBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.901132						
2			0.908865			6.9			
3	217	182	0.913173	6	7		673		
4			0.900334						
5			0.887116						
6			0.888590						
7			0.924495						
8			0.901132					12	13
9			0.871837			7.3			
10			0.862912	7	6				
11			0.861024						
12			0.850643						
13			0.924617						
14			0.905055						
15			0.891339						
16			0.888216						
17			0.895347						
18			0.877685						
19			0.899186						
20			0.958577						
21			0.970321						
22			0.908378						
23			0.911604			6.7			
24			0.921089						
25			0.901838						
26			0.922725						
27			0.966497						
28			0.969743						
29			0.897120						
30			0.912499			6.3			
31			0.902607						
30-DAY MEAN	217	182	0.906313	7	7	6.8	673	12	13
7-DAY MEAN	----	----	----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: NOVEMBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.908582						
2			0.896266						
3			0.963232						
4			0.972156						
5			0.906622						
6			0.940066			7.2			
7			0.955527						
8			0.908126						
9			0.905142						
10			0.951951						
11			0.950505						
12			0.940142					15	16
13			0.879750			7.1			
14	195	162	0.898300	5	7		671		
15			0.891660						
16			0.886536						
17			0.917721						
18			0.924240						
19			0.912002						
20			0.896333			7.2			
21			0.932153	4	6				
22			0.957417						
23			0.979317						
24			0.974670						
25			0.976049						
26			0.904206						
27			0.905735			7.4			
28			0.869217						
29			0.866212						
30			0.910093						
31									
30-DAY MEAN	**195**	**162**	**0.922664**	**5**	**7**	**7.2**	**671**	**15**	**16**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: DECEMBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.935627						
2			0.972488						
3			0.924799						
4	180	152	0.926629	4	6	7	408		
5			0.915639						
6			0.910326						
7			0.901439						
8			0.909059						
9			0.923041						
10			0.873492					13	13
11			0.897367			7.3			
12			0.878421	3	7				
13			0.863331						
14			0.876989						
15			0.902598						
16			0.940985						
17			0.896301						
18			0.895886			7.3			
19			0.875730						
20			0.881171						
21			0.888173						
22			0.909547						
23			0.921815						
24			0.941399						
25			0.854422						
26			0.910005						
27			0.936576			7.4			
28			0.955304						
29			0.974388						
30			0.995942						
31			1.023879						
30-DAY MEAN	**180**	**152**	**0.916541**	**4**	**7**	**7.3**	**408**	**13**	**13**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JANUARY
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.974149						
2	211	192	0.956945	6	8		501		
3			0.961157			7.4			
4			0.961234						
5			0.942910						
6			0.941300						
7			0.905894					11	12
8			0.887977			7.7			
9			0.862809	13	22				
10			0.862809						
11			0.841520						
12			0.907124						
13			0.946796						
14			0.899653						
15			0.880980			7.2			
16			0.903498						
17			0.865729						
18			0.885123						
19			0.895767						
20			0.944981						
21			0.944442						
22			0.874909			7.4			
23			0.925562						
24			0.890296						
25			0.900236						
26			0.955264						
27			0.949903						
28			0.900995						
29			0.887909			7.2			
30			0.885938						
31			0.876886						
30-DAY MEAN	211	192	0.910345	10	15	7.4	501	11	12
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:_ ____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: FEBRUARY
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.889329						
2			0.911428						
3			0.953479						
4			0.912747						
5			0.896881						
6	212	185	0.923023	4	4		450		
7			0.909155						
8			0.906536			7.2			
9			0.934355						
10			0.909679						
11			0.924549					15	16
12			0.890748			7.4			
13			0.879098						
14			0.886558	7	9				
15			0.904453						
16			0.960955						
17			0.919017						
18			0.949569						
19			0.880684			7.4			
20			0.870050						
21			0.870575						
22			0.872933						
23			0.911316						
24			0.909429						
25			0.868666						
26			0.857332			7.2			
27			0.879018						
28			0.861274						
29									
30									
31									
30-DAY MEAN	212	185	0.901530	6	7	7.3	450	15	16
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

MONTH: MARCH
YEAR: 2002

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.833217						
2			0.883434						
3			0.935641						
4			0.840854						
5			0.872778			7.3			
6	205	155	0.888699	5	13		582		
7			0.891406						
8			0.854386						
9			0.903221						
10			0.912851						
11			0.865156					17	18
12			0.872897	7	14	7.3			
13			0.840140						
14			0.843400						
15			0.875229						
16			0.893718						
17			0.916300						
18			0.863870						
19			0.837360			7.3			
20			0.895651						
21			0.861153						
22			0.874488						
23			0.892485						
24			0.923913						
25			0.889058						
26			0.903816			7.5			
27			0.899992						
28			0.866241						
29			0.913516						
30			0.969980						
31			0.905077						
30-DAY MEAN	205	155	0.884514	6	14	7.4	582	17	18
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

								MONTH:	APRIL
REPORTING FREQUENCY:	**MONTHLY**							YEAR:	2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.889044						
2			0.894666			7.6			
3			0.897927						
4			0.912449						
5			0.906642						
6			0.938879						
7			0.964096						
8			0.924939					15	16
9			0.922528			7.4			
10			0.900547						
11			0.874181						
12			0.886128						
13			0.942045						
14			0.939177						
15			0.882596						
16			0.891692			7.6			
17	205	211	0.903821	14	37		654		
18			0.900330						
19			0.892408						
20			0.907309						
21			0.894086						
22			0.884862						
23			0.868828			7.2			
24			0.870480	5	8				
25			0.890543						
26			0.858400						
27			0.923453						
28			0.939549						
29			0.889034						
30			0.870267			7.2			
31									
30-DAY MEAN	**205**	**211**	**0.902030**	**10**	**23**	**7.4**	**654**	**15**	**16**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_______________________________

								MONTH:	MAY
REPORTING FREQUENCY:	MONTHLY							YEAR:	2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.884076						
2			0.861815						
3			0.876520						
4			0.943458						
5			0.940859						
6			0.919400						
7			0.879401			7.3			
8	264	166	0.877561	6	11		575		
9			0.879302						
10			0.890372						
11			0.931553						
12			0.916745						
13			0.869963					14	18
14			0.903942			7.2			
15			0.886787	20	5				
16			0.906348						
17			0.941787						
18			0.947634						
19			0.930746						
20			0.858300						
21			0.887257			7.1			
22			0.872110						
23			0.889497						
24			0.886988						
25			0.943874						
26			0.999972						
27			1.003398						
28			0.919366			7.3			
29			0.890254						
30			0.872877						
31			0.877952						
30-DAY MEAN	264	166	0.906133	13	8	7.2	575	14	18
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JUNE
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.907131						
2			0.909381						
3			0.935908						
4			0.898785			7.3			
5			0.890510						
6	120	136	0.909626	5	3		559		
7			0.905208						
8			0.889772						
9			0.898040						
10			0.905230					15	16
11			0.893556			7.3			
12			0.919037	5	3				
13			0.918806						
14			0.907770						
15			0.930808						
16			0.888822						
17			0.907526						
18			0.912653			7.4			
19			0.951188						
20			0.953941						
21			0.941815						
22			0.959530						
23			0.937544						
24			0.963985						
25			0.911760			7.4			
26			0.929205						
27			0.879147						
28			0.922244						
29			0.962182						
30			0.954019						
31									
30-DAY MEAN	**120**	**136**	**0.919838**	**5**	**3**	**7.4**	**559**	**15**	**16**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:__________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JULY
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.931295						
2			0.912717						
3	200	183	0.903534	5	8	7.4	648	15	18
4			0.952080						
5			0.917935						
6			0.962771						
7			0.927162						
8			0.938361						
9			0.911723			7.4			
10			0.911710	5	4				
11			0.896745						
12			0.934558						
13			0.950999						
14			0.943275						
15			0.927204						
16			0.929330			7.5			
17			0.938294						
18			0.902261						
19			0.926429						
20			0.938373						
21			0.932811						
22			0.928056						
23			0.957481			7.4			
24			0.959696						
25			0.936039						
26			0.912816						
27			0.901255						
28			0.922108						
29			0.884837						
30			0.891343			7.4			
31			0.893159						
30-DAY MEAN	**200**	**183**	**0.925044**	**5**	**6**	**7.4**	**648**	**15**	**18**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: AUGUST
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.885876						
2			0.894294						
3			0.937108						
4			0.833910						
5			0.894782						
6	236	172	0.886756	6	6	7.3	645		
7			0.877527						
8			0.894252						
9			0.918131						
10			0.914780						
11			0.890209						
12			0.910819					17	18
13			0.893038			7.5			
14			0.875291						
15			0.885566						
16			0.900678						
17			0.950534						
18			0.901794						
19			0.929645						
20			0.926541			7.6			
21			0.942526						
22			0.922682						
23			0.913419						
24			0.963300						
25			0.950682						
26			0.926350						
27			0.902049			7.5			
28			0.909741						
29			0.882385						
30			0.941232						
31			0.978483						
30-DAY MEAN	**236**	**172**	**0.910786**	**6**	**6**	**7.5**	**645**	**17**	**18**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: SEPTEMBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.958372						
2			1.029085						
3			0.914512			7.5			
4	216	168	0.922654	9	10		564		
5			0.889521						
6			0.893895						
7			0.946684						
8			0.901127						
9			0.938885					14	17
10			0.924955			7.4			
11			0.935675	2	5				
12			0.918228						
13			0.935228						
14			0.950000						
15			0.883149						
16			0.869907						
17			0.951181			7.4			
18			0.943760						
19			0.949860						
20			0.878625						
21			0.958237						
22			0.959918						
23			0.905537						
24			0.929393			7.5			
25			0.894767						
26			0.944426						
27			0.928382						
28			0.941871						
29			0.923828						
30			0.942087						
31									
30-DAY MEAN	216	168	0.928792	6	8	7.5	564	14	17
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ____

REPORTING FREQUENCY: **MONTHLY**

MONTH: OCTOBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			0.976710			7.3	566		
2	229	280	0.950890	9	11				
3			0.955399						
4			0.942550						
5			0.962828						
6			0.929515						
7			0.950425						
8			0.950031			7.6			
9			0.921337	5	6				
10			0.955399						
11			0.915889						
12			0.959155						
13			0.975881						
14			0.963425					17	18
15			0.937117			7.4			
16			0.934433						
17			0.953579						
18			0.929190						
19			0.950449						
20			0.953891						
21			0.961594						
22			0.934417			7.7			
23			1.014334						
24			1.002227						
25			0.998013						
26			1.018719						
27			1.018931						
28			1.001857						
29			1.012013			7			
30			1.014932						
31			1.003114						
30-DAY MEAN	**229**	**280**	**0.966072**	**7**	**9**	**7.4**	**566**	**17**	**18**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: NOVEMBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			1 - 2						
DATE OF SAMPLE:									
1			1.025896						
2			1.020388						
3			1.057412						
4			1.009884						
5			1.098157						
6	202	118	1.091072	4	6		576		
7			0.989137			7.3			
8			0.964086						
9			1.015166						
10			1.035208						
11			1.037766						
12			1.061852			7.2		23	24
13			0.983841						
14			0.971078						
15			0.975281						
16			1.021514						
17			1.045146						
18			0.999359						
19			0.973766			7.4			
20			0.946319						
21			0.945265	6	3				
22			0.944374						
23			0.986772						
24			1.012676						
25			0.975003						
26			0.968176			7			
27			0.973952						
28			1.066254						
29			1.025284						
30			1.076468						
31									
30-DAY MEAN	**202**	**118**	**1.009885**	**5**	**5**	**7.2**	**576**	**23**	**24**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:______________________________

Monthly Report

REPORTING FREQUENCY: MONTHLY

MONTH: DECEMBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM									
DATE OF SAMPLE:									
1			1.069486						
2			0.990401						
3			0.999507			7.5			
4	335	213	0.989997	11	6		692		
5			0.989272						
6			0.967174						
7			0.953355						
8			0.997903						
9			0.963572					23	24
10			0.963943			7.3			
11			0.928497	5	6				
12			0.946379					23	24
13			0.954631						
14			0.950007						
15			0.998998						
16			0.944539						
17			0.957491			7.1			
18			0.944550						
19			0.970148						
20			0.943237						
21			1.020262						
22			1.010132						
23			1.024956						
24			1.021395						
25			0.949431						
26			1.028184			7.5			
27			1.055608						
28			1.067827						
29			1.060781						
30			1.046292						
31			1.103023						
30-DAY MEAN	**335**	**213**	**0.993903**	**8**	**6**	**7.4**	**692**	**23**	**24**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: January
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM									
DATE OF SAMPLE:									
1			1.062008						
2			1.067936			7.3			
3			1.049398						
4			1.057651						
5			1.066600						
6			0.991873						
7			1.013948			7			
8	211	142	0.989774	5	5		674		
9			0.996078						
10			0.980602						
11			1.031321						
12			1.007282						
13			0.097151					23	23
14			0.983133			7.3			
15			0.984270		5				
16			0.974848						
17			0.990659						
18			1.043672						
19			1.044540						
20			1.015459						
21			0.999895			7.4			
22			1.007554						
23			0.973740	4					
24			1.001816						
25			1.074656						
26			1.050231						
27			0.960564						
28			0.970369			7.3			
29			0.949318						
30			0.979916						
31			0.986423						
30-DAY MEAN	**211**	**142**	**0.980732**	**5**	**5**	**7.3**	**674**	**23**	**23**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.035305						
2			1.066136						
3			1.001921						
4			1.008688			7.4			
5	216	161	0.974491	2	2		555		
6			1.010118						
7			1.036390						
8			1.072078						
9			1.055447						
10			1.017531					23	24
11			1.002409			7.3			
12			1.011832	3	3				
13			1.000252						
14			1.032458						
15			1.085680						
16			1.098712						
17			1.106362						
18			1.047894			7.1			
19			1.036023						
20			1.052327						
21			1.064391						
22			1.096818						
23			1.110568						
24			1.071276						
25			1.091714						
26			1.064754						
27			1.043488			7.1			
28			1.020173						
29									
30									
31									
30-DAY MEAN	**216**	**161**	**1.046973**	**3**	**3**	**7.2**	**555**	**23**	**24**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]The facility is expanding from 1 MGD to 2 MGD.

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

MONTH: March
YEAR: 2003

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.066875						
2			1.138078						
3			1.076811						
4			1.066020			7.3			
5	196	194	1.054786	3	4		613	21	22
6			1.026825						
7			0.990595						
8			1.096018						
9			1.058052						
10			0.992831						
11			1.010245			7.2			
12			1.013886	10	4				
13			0.985040						
14			0.996716						
15			1.060539						
16			1.104036						
17			1.040814						
18			1.019848			7.6			
19			1.006886						
20			1.012922						
21			1.028754						
22			1.039561						
23			1.071550						
24			0.973647						
25			1.021916						
26			0.999630						
27			1.023799			7.4			
28			1.025239						
29			1.092015						
30			1.113725						
31			1.034248						
30-DAY MEAN	196	194	1.040062	7	4	7.4	613	21	22
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: April
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400[2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.036986			7.5			
2	236	166	1.030035	4	6		676		
3			1.057731						
4			1.022785						
5			1.113547						
6			1.124360						
7			1.017450					23	23
8			1.093748			7.5			
9			1.035784	5	5				
10			1.029400						
11			1.064997						
12			1.080637						
13			1.063960						
14			1.070568						
15			1.025899			7.4			
16			1.050007						
17			1.023462						
18			1.054518						
19			1.103708						
20			1.062605						
21			1.100058						
22			1.110377			7.3			
23			1.126932						
24			1.100547						
25			1.070729						
26			1.113056						
27			1.162194						
28			1.097808						
29			1.091051			7.5			
30			1.064875						
31									
30-DAY MEAN	236	166	1.073327	5	6	7.4	676	23	23
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.071721						
2			1.065759						
3			1.117264						
4			1.124923						
5			1.128398						
6			1.076883			7.4			
7	208	201	1.076057	4	8				
8			1.036762						
9			1.059090						
10			1.132012						
11			1.105483						
12			1.120463					22	23
13			1.081213			7.4			
14			1.046262						
15			1.087159						
16			1.103409						
17			1.125701						
18			1.162197						
19			1.103925						
20			1.082979			7.3			
21			1.051765						
22			1.076313	4	5		637		
23			1.052991						
24			1.115662						
25			1.176459						
26			1.163126						
27			1.063968			7.3			
28			1.071713						
29			1.084003						
30			1.035423						
31			1.080906						
30-DAY MEAN	**208**	**201**	**1.092903**	**4**	**7**	**7.4**	**637**	**22**	**23**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature.____________________________

MONTH: JUNE
YEAR: 2003

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.121341						
2			1.067927						
3			1.064242			7.4			
4	214	126	1.053337	4	4		555		
5			1.033757						
6			1.047988						
7			1.116529						
8			1.113620						
9			1.077059					22	22
10			1.104260			7.2			
11			1.078535	2	4				
12			1.065856						
13			1.108122						
14			1.129661						
15			1.131473						
16			1.123256						
17			1.107628			7.7			
18			1.120400						
19			1.114031						
20			1.099410						
21			1.119460						
22			1.069348						
23			1.061094						
24			1.046413			7.5			
25			1.040214						
26			1.026966						
27			0.990135						
28			1.012095						
29			1.059726						
30			1.025226						
31									
30-DAY MEAN	214	126	1.077637	3	4	7.5	555	22	22
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JULY
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.033637			7.4			
2	258	567	1.048045	4	5		686		
3			1.036804						
4			1.098630						
5			1.099437						
6			1.076730						
7			1.064533					21	22
8			1.046145			7.3			
9			1.059505						
10			1.068547						
11			1.050613						
12			1.054251						
13			1.056877						
14			1.051676						
15			1.035235			7.3			
16			1.083739	4	4				
17			1.035181						
18			1.058048						
19			1.057700						
20			1.056014						
21			1.084433						
22			1.072937			7.4			
23			1.070025						
24			1.027617						
25			1.078360						
26			1.061260						
27			1.079257						
28			1.092257						
29			1.091381			7.7			
30			1.082277						
31			1.055318						
30-DAY MEAN	**258**	**567**	**1.063434**	**4**	**5**	**7.4**	**686**	**21**	**22**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: AUGUST
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.018260						
2			1.097211						
3			1.096346						
4			1.051238						
5			1.029660			7.6			
6	178	116	1.066336	2	3		671		
7			1.028660						
8			1.079426						
9			1.098695						
10			1.071520						
11			1.078266						
12			1.094492			7.5			
13			1.045863	3	4				
14			1.087284						
15			1.134488						
16			1.157689						
17			1.145935						
18			1.009647						
19			1.080380			7.6			
20			1.074673						
21			1.075855						
22			1.089569					22	22
23			1.107785						
24			1.069430						
25			1.093074						
26			1.107549			7.5			
27			1.101499						
28			1.091402						
29			1.083413						
30			1.135475						
31			1.162264						
30-DAY MEAN	**178**	**116**	**1.085916**	**3**	**4**	**7.6**	**671**	**22**	**22**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: MONTHLY

MONTH: SEPTEMBER
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.183933						
2			1.089688			7.5			
3	163	152	1.101610	2	11		566		
4			1.132617						
5			1.103091						
6			1.137758						
7			1.169856						
8			1.098296					22	22
9			1.103862	5	9	7.4			
10			1.126671						
11			1.150477						
12			1.101215						
13			1.135154						
14			1.155653						
15			1.111401						
16			1.106154			7.6			
17			1.129430						
18			1.142296						
19			1.121290						
20			1.154190						
21			1.186069						
22			1.141563						
23			1.130052			7.6			
24			1.158977						
25			1.163602						
26			1.137622						
27			1.155623						
28			1.205892						
29			1.153189						
30			1.142817			7.6			
31									
30-DAY MEAN	**163**	**152**	**1.137668**	**4**	**10**	**7.5**	**566**	**22**	**22**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: OCTOBER
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.122965						
2			1.105102						
3			1.123788						
4			1.179413						
5			1.189831						
6			1.138729						
7			1.148254			7.4			
8	223	205	1.148870	4	5		641		
9			1.132370						
10			1.129459						
11			1.190316						
12			1.180417						
13			1.120617					20	20
14			1.091369			7.5			
15			1.098665	2	3				
16			1.096767						
17			1.120325						
18			1.172168						
19			1.191455						
20			1.151586						
21			1.143603			7.4			
22			1.114328						
23			1.120706						
24			1.097189						
25			1.139729						
26			1.183881						
27			1.183881						
28			1.180133						
29			1.129704						
30			1.081772			7.5			
31			1.085370						
30-DAY MEAN	223	205	1.138476	3	4	7.5	641	20	20
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: NOVEMBER
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.122001						
2			1.194400						
3			1.158945						
4			1.158278			7.4			
5	221	211	1.135222	2	6		542		
6			1.103350						
7			1.100920						
8			1.169027						
9			1.184950						
10			1.105222					19	19
11			1.113691						
12			1.161266						
13			1.147020						
14			1.107239						
15			1.120019						
16			1.158577						
17			1.117449						
18			1.118200			7.3			
19			1.117521						
20			1.147493						
21			1.104404						
22			1.108999						
23			1.158324						
24			1.092321						
25			1.115267			7.4			
26			1.130226	2	3				
27			1.218382						
28			1.150769						
29			1.194269						
30			1.194287						
31									
30-DAY MEAN	**221**	**211**	**1.140268**	**2**	**5**	**7.4**	**542**	**19**	**19**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[1] The facility is expanding from 1 MGD to 2 MGD.

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:

REPORTING FREQUENCY: **MONTHLY**

MONTH: DECEMBER
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.126989						
2			1.098644			7.4			
3	234	290	1.082053	2	4		537	21	21
4			1.085050						
5			1.069436						
6			1.120046						
7			1.132041						
8			1.104033						
9			1.140358			7.3			
10			1.070073						
11			1.055314	4	3				
12			1.057435						
13			1.113986						
14			1.121858						
15			1.084660						
16			1.075147			7.4			
17			1.078010						
18			1.087063						
19			1.056122						
20			1.121250						
21			1.140750						
22			1.125268						
23			1.108285			7.3			
24			1.128405						
25			1.030907						
26			1.097230						
27			1.207339						
28			1.180780						
29			1.150944						
30			1.175461			7.2			
31			1.187732						
30-DAY MEAN	**234**	**290**	**1.110086**	3	4	7.3	537	21	21
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JANUARY
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.168331						
2			1.175298						
3			1.208908						
4			1.192700						
5			1.135490						
6			1.103208			6.8			
7	224	165	1.100362	5	9		551		
8			1.105842						
9			1.078244						
10			1.166152						
11			1.183918						
12			1.115530					21	22
13			1.135173			7.2			
14			1.093958						
15			1.089999	7	6				
16			1.099612						
17			1.148743						
18			1.185455						
19			1.155022						
20			1.118779			7.4			
21			1.098258						
22			1.105048						
23			1.100657						
24			1.165000						
25			1.180704						
26			1.136396						
27			1.143751			7.5			
28			1.116271						
29			1.114903						
30			1.112998						
31			1.174624						
30-DAY MEAN	**224**	**165**	**1.135785**	**6**	**8**	**7.2**	**551**	**21**	**22**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.217084						
2			1.155720						
3			1.138736			7.4			
4	204	239	1.147881	3	4		657		
5			1.120531						
6			1.125279						
7			1.158564						
8			1.177102						
9			1.167000					21	21
10			1.153060			7.3			
11			1.133781						
12			1.118334						
13			1.114565	5	4				
14			1.172733						
15			1.188414						
16			1.239960						
17			1.163703						
18			1.126341						
19			1.152129			7.3			
20			1.095219						
21			1.164300						
22			1.213181						
23			1.192005						
24			1.134828			7.4			
25			1.108106						
26			1.116357						
27			1.110284						
28			1.157586						
29			1.176612						
30									
31									
30-DAY MEAN	204	239	1.153083	4	4	7.4	657	21	21
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

MONTH: March
YEAR: 2004

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.095820						
2			1.131565						
3	190	192	1.123685	3	6	7.4	639	17	18
4			1.095028						
5			1.103212						
6			1.154736						
7			1.196028						
8			1.140442						
9			1.162259						
10			1.116623	3	2				
11			1.111323			7.5			
12			1.128402						
13			1.221165						
14			1.212685						
15			1.142954						
16			1.138358			7.4			
17			1.104636						
18			1.135059						
19			1.158068						
20			1.211301						
21			1.232351						
22			1.148329						
23			1.123607			7.6			
24			1.127900						
25			1.108271						
26			1.120503						
27			1.211561						
28			1.240518						
29			1.156042						
30			1.122276			7.5			
31			1.114229						
30-DAY MEAN	**190**	**192**	**1.148030**	3	4	**7.5**	**639**	17	**18**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:__________________________

						MONTH:	April
REPORTING FREQUENCY:	**MONTHLY**					YEAR:	2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.150008						
2			1.095062						
3			1.168658						
4			1.214332						
5			1.183765						
6			1.166958			7.4			
7	198	166	1.156975	3	4		636		
8			1.182511						
9			1.179947						
10			1.192952						
11			1.092923						
12			1.181747					18	18
13			1.189594						
14			1.150504						
15			1.184340			7.3			
16			1.158408						
17			1.193039						
18			1.210873						
19			1.137458						
20			1.141109			7.3			
21			1.151835	4	6				
22			1.157911						
23			1.176569						
24			1.233163						
25			1.234999						
26			1.205318						
27			1.172671			7.6			
28			1.168382						
29			1.154600						
30			1.230307						
31									
30-DAY MEAN	**198**	**166**	**1.173897**	**4**	**5**	**7.4**	**636**	**18**	**18**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.218178						
2			1.167697						
3			1.201365						
4			1.186192			7.5			
5	203	157	1.178639	4	3		642		
6			1.173499						
7			1.177406						
8			1.218415						
9			1.223001						
10			1.175834					17	17
11			1.197151			7.4			
12			1.215895						
13			1.174393						
14			1.169309						
15			1.203765						
16			1.231756						
17			1.185772						
18			1.246420			7.4			
19			1.208571						
20			1.156010						
21			1.137315						
22			1.176976						
23			1.174281						
24			1.159674						
25			1.190327			7.5			
26			1.165593						
27			1.116296	10	16				
28			1.151049						
29			1.211119						
30			1.275853						
31			1.345310						
30-DAY MEAN	**203**	**157**	**1.193970**	**7**	**10**	**7.5**	**642**	**17**	**17**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: June
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.182524			7.5			
2	206	143	1.164332	4	2		665		
3			1.134749						
4			1.128824						
5			1.208563						
6			1.204817						
7			1.175783						
8			1.218699			7.4			
9			1.193496	5	8				
10			1.198494						
11			1.186128						
12			1.221827						
13			1.251261						
14			1.222090					16	16
15			1.184863			7.4			
16			1.181110						
17			1.140610						
18			1.202579						
19			1.224542						
20			1.189860						
21			1.194001						
22			1.196759			7.5			
23			1.237596						
24			1.185941						
25			1.160400						
26			1.165065						
27			1.219708						
28			1.216705						
29			1.216820			7.5			
30			1.164854						
31									
30-DAY MEAN	**206**	**143**	**1.192433**	**5**	**5**	**7.5**	**665**	**16**	**16**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.141332						
2			1.162834						
3			1.231935						
4			1.230750						
5			1.254664						
6			1.230623			7.5			
7			1.154346						
8			1.178269						
9			1.176608						
10			1.190645						
11			1.184690						
12			1.202331					10	11
13			1.176221			7.6			
14	248	137	1.169344	6	3		642		
15			1.185082						
16			1.191638						
17			1.209144						
18			1.196688						
19			1.235100						
20			1.184041			7.4			
21			1.162667		4				
22			1.181020						
23			1.169124						
24			1.188063						
25			1.196837						
26			1.207546						
27			1.198082			7.6			
28			1.175275	5					
29			1.170011						
30			1.153514						
31			1.212420						
30-DAY MEAN	**248**	**137**	**1.190350**	**6**	**4**	**7.5**	**642**	**10**	**11**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: August
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.196794						
2			1.177442						
3			1.177044			7.4			
4	200	139	1.213708	5	5		609		
5			1.191067						
6			1.164312						
7			1.185645						
8			1.197425						
9			1.158775					10	11
10			1.181234			7.4			
11			1.193882	4	8				
12			1.196898						
13			1.173135						
14			1.192432						
15			1.216769						
16			1.192736						
17			1.177844			7.6			
18			1.144221						
19			1.226971						
20			1.169693						
21			1.188037						
22			1.209172						
23			1.228447						
24			1.221828			7.6			
25			1.170207						
26			1.179098						
27			1.164705						
28			1.189493						
29			1.239199						
30			1.160410						
31			1.135138			7.5			
30-DAY MEAN	**200**	**139**	**1.187541**	**5**	**7**	**7.5**	**609**	**10**	**11**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]The facility is expanding from 1 MGD to 2 MGD.
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_______________

REPORTING FREQUENCY: **MONTHLY**

MONTH: September
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.146681						
2			1.191103						
3			1.183176						
4			1.250513						
5			1.276266						
6			1.326944						
7			1.186917			7.5			
8			1.172770						
9	203	128	1.184436	5	4		615		
10			1.194099						
11			1.208213						
12			1.236125						
13			1.205656					7.6	9.6
14			1.206173			7.5			
15			1.188808	5	4				
16			1.187857						
17			1.181001						
18			1.180345						
19			1.242824						
20			1.220438						
21			1.206920			7.5			
22			1.220126						
23			1.192421						
24			1.175415						
25			1.234416						
26			1.240328						
27			1.208762						
28			1.156912			7.6			
29			1.158552						
30			1.177727						
31			1.145633						
30-DAY MEAN	**203**	**128**	**1.202824**	5	4	7.5	615	7.6	9.6
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: October
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.145633						
2			1.211894						
3			1.247270						
4			1.200934						
5			1.188646			7.5			
6	205	170	1.196230	6	6		620	12	13
7			1.204699						
8			1.184498						
9			1.259100						
10			1.252024						
11			1.245108						
12			1.221633			7.5			
13			1.206308	6	5				
14			1.225912						
15			1.188937						
16			1.205675						
17			1.273264						
18			1.229219						
19			1.232017			7.5			
20			1.271135						
21			1.236991						
22			1.214045						
23			1.268515						
24			1.289370						
25			1.198704						
26			1.203158			7.3			
27			1.241270						
28			1.183698						
29			1.156652						
30			1.221261						
31			1.213728						
30-DAY MEAN	**205**	**170**	**1.219920**	**6**	**6**	**7.5**	**620**	**12**	**13**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:__ ________________________

MONTH: November
YEAR: 2004

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.192533						
2			1.188430			7.3			
3	219	163	1.204132	5	4		666		
4			1.188319						
5			1.229284						
6			1.251492						
7			1.283927						
8			1.226287					12	13
9			1.218482			7.5			
10			1.196836	4	5				
11			1.194941						
12			1.200868						
13			1.236581						
14			1.233338						
15			1.194300						
16			1.193051			7.3			
17			1.169190						
18			1.179065						
19			1.170536						
20			1.213057						
21			1.246278						
22			1.189905						
23			1.190422			7.4			
24			1.224089						
25			1.256846						
26			1.245771						
27			1.249822						
28			1.299740						
29			1.253679						
30			1.167332			7.2			
31									
30-DAY MEAN	**219**	**163**	**1.216284**	5	5	7.3	666	12	13
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:______________________

Monthly Report

REPORTING FREQUENCY: **MONTHLY**

MONTH: December
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.131569						
2			1.158650						
3			1.147523						
4			1.174691						
5			1.159371						
6			1.177968						
7			1.137121						
8			1.149554			7.4			
9	200	163	1.153529	5	8		647		
10			1.108237						
11			1.158263						
12			1.161335						
13			1.152478					13	16
14			1.128820			7.4			
15			1.112545						
16			1.126922						
17			1.104714						
18			1.173062						
19			1.161518						
20			1.169753						
21			1.144698			7.4			
22			1.128195	10	4				
23			1.138617						
24			1.148387						
25			1.110146						
26			1.173633						
27			1.234488						
28			1.367192			7.3			
29			1.319048						
30			1.222065						
31			1.258390						
30-DAY MEAN	**200**	**163**	**1.167499**	**8**	**6**	**7.4**	**647**	**13**	**16**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:__________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: Janaury
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.193953						
2			1.249986						
3			1.238069						
4			1.173522			7.5			
5	194	166	1.198941	9	9		489		
6			1.166874						
7			1.130690						
8			1.177203						
9			1.286085						
10			1.240279					8	11
11			1.244143			7			
12			1.174878						
13			1.138324						
14			1.111444						
15			1.187380						
16			1.202720						
17			1.219440						
18			1.171148						
19			1.132855						
20			1.160053			7			
21			1.136565	9	18				
22			1.174637						
23			1.212499						
24			1.137905						
25			1.144451			7			
26			1.111938						
27			1.112643						
28			1.138151						
29			1.169827						
30			1.226535						
31			1.177582						
30-DAY MEAN	**194**	**166**	**1.178733**	**9**	**14**	**7.1**	**489**	**8**	**11**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.163611						
2	118	66	1.163287	9	12		661		
3			1.168289			7.2			
4			1.153051						
5			1.184472						
6			1.186058						
7			1.131605					11	12
8			1.154673	6	5	7.5			
9			1.160658						
10			1.134548						
11			1.221738						
12			1.219724						
13			1.276427						
14			1.170167						
15			1.157564			7.5			
16			1.168457						
17			1.134470						
18			1.219165						
19			1.216444						
20			1.240447						
21			1.337781						
22			1.182486			7.5			
23			1.364773						
24			1.189204						
25			1.165948						
26			1.207799						
27			1.211586						
28			1.172892						
29									
30									
31									
30-DAY MEAN	118	66	1.194904	8	9	7.4	661	11	12
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: March
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.173360			7.6			
2	269	244	1.153708	6	8		627		
3			1.152785						
4			1.135402						
5			1.168150						
6			1.243433						
7			1.169381						
8			1.179035			7.6			
9			1.151392	5	4				
10			1.154324						
11			1.123751						
12			1.154867						
13			1.219997						
14			1.165463					0.45	1.7
15			1.166305			7.6			
16			1.141286						
17			1.111591						
18			1.082774						
19			1.189337						
20			1.221356						
21			1.168498						
22			1.168235						
23			1.143775						
24			1.150922			7.6			
25			1.179652						
26			1.227599						
27			1.178828						
28			1.163523						
29			1.171617			7.4			
30			1.164900						
31			1.167658						
30-DAY MEAN	**269**	**244**	**1.165900**	**6**	**6**	7.6	**627**	**0.45**	1.7
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature: ____________________

				MONTH:	April
REPORTING FREQUENCY:	MONTHLY			YEAR:	2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.168823						
2			1.220289						
3			1.234523						
4			1.167643						
5			1.213061			7.4			
6	243	213	1.196475	5	4		653		
7			1.162523						
8			1.116239						
9			1.173220						
10			1.240051						
11			1.204041					0.25	1.2
12			1.216263			7.3			
13			1.202841	4	3				
14			1.204107						
15			1.173982						
16			1.250758						
17			1.268062						
18			1.156250						
19			1.159630			7.6			
20			1.178240						
21			1.217262						
22			1.166390						
23			1.246294						
24			1.229305						
25			1.188923						
26			1.198652			7.3			
27			1.172484						
28			1.195379						
29			1.186783						
30			1.250318						
31									
30-DAY MEAN	243	213	1.198627	5	4	7.4	653	0.25	1.2
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

Monthly Report

									MONTH:	May
REPORTING FREQUENCY:	MONTHLY								YEAR:	2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.271649						
2			1.199131						
3			1.157244			7.5			
4	275	206	1.180896	6	6		615		
5			1.148973						
6			1.152698						
7			1.220283						
8			1.191864						
9			1.176601					1.6	3.2
10			1.170000						
11			1.162512	5	6				
12			1.177200			7.3			
13			1.175057						
14			1.280830						
15			1.272175						
16			1.246141						
17			1.245389			7.5			
18			1.247129						
19			1.243026						
20			1.222913						
21			1.251834						
22			1.271222						
23			1.245897						
24			1.251917			7.6			
25			1.268168						
26			1.287421						
27			1.229590						
28			1.280770						
29			1.318266						
30			1.372790						
31			1.311224			7.4			
30-DAY MEAN	**275**	**206**	**1.233252**	**6**	**6**	**7.5**	**615**	**1.6**	**3.2**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:________________________

[1]The facility is expanding from 1 MGD to 2 MGD.

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: June
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.225529						
2			1.207630						
3			1.210075						
4			1.282229						
5			1.257728						
6			1.252782						
7			1.244535			7.5			
8	239	140	1.221935	7	8		620		
9			1.241533						
10			1.182028						
11			1.280725						
12			1.269837						
13			1.261857					0.74	2.6
14			1.191998			7.6			
15			1.160183						
16			1.203234	10	8				
17			1.216612						
18			1.199436						
19			1.151581						
20			1.132864						
21			1.172949						
22			1.207289						
23			1.212447			7.4			
24			1.206622						
25			1.233721						
26			1.254644						
27			1.221791						
28			1.195572			7.6			
29			1.195805						
30			1.200992						
31									
30-DAY MEAN	**239**	**140**	**1.216539**	**9**	**8**	**7.5**	**620**	**0.74**	**2.6**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.166133						
2			1.247936						
3			1.202616						
4			1.286315						
5			1.185122			7.8			
6	251	263	1.219477	5	3		526		
7			1.153635						
8			1.170742						
9			1.233370						
10			1.212866						
11			1.234886					0.79	2.4
12			1.226578			7.7			
13			1.219537	7	5				
14			1.193963						
15			1.204169						
16			1.252917						
17			1.245486						
18			1.213173						
19			1.224441						
20			1.199171						
21			1.215502			7.7			
22			1.216806						
23			1.265029						
24			1.219135						
25			1.245805						
26			1.200374						
27			1.196369						
28			1.187242			7.7			
29			1.152053						
30			1.206302						
31			1.169447						
30-DAY MEAN	251	263	1.211826	6	4	7.7	526	0.79	2.4
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: August
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.158506						
2			1.230745			7.60			
3			1.269691						
4			1.264388						
5			1.200509						
6			1.263797						
7			1.189396						
8			1.208907					1.5	3.2
9			1.212135			7.71			
10	198	164	1.214562	4	3		621		
11			1.209105						
12			1.228223						
13			1.229871						
14			1.224123						
15			1.225468						
16			1.239802			7.66			
17			1.222532						
18			1.216666						
19			1.255829						
20			1.293630						
21			1.230915						
22			1.197995						
23			1.250250			7.56			
24			1.310589						
25			1.256997	3	2				
26			1.210196						
27			1.230365						
28			1.210779						
29			1.214162						
30			1.268023			7.61			
31			1.240595						
30-DAY MEAN	**198**	**164**	**1.231573**	**4**	**3**	**7.63**	**621**	**1.5**	**3.2**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ______________________

Monthly Report

REPORTING FREQUENCY: **MONTHLY**

MONTH: September
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.225349						
2			1.240973						
3			1.316759						
4			1.293506						
5			1.377745						
6			1.292235			7.64			
7	256	244	1.261612	4	2		559		
8			1.241119						
9			1.216470						
10			1.242739						
11			1.268239						
12			1.255320						
13			1.265715			7.67			
14			1.262663	4	3			12	12
15			1.262513						
16			1.198790						
17			1.269951						
18			1.317782						
19			1.252159						
20			1.222494			7.6			
21			1.226983						
22			1.236851						
23			1.228841						
24			1.231291						
25			1.330030						
26			1.252802						
27			1.239976			7.73			
28			1.203539						
29			1.205152						
30			1.196944						
31									
30-DAY MEAN	**256**	**244**	**1.254551**	**4**	**3**	**7.66**	**559**	**12.0**	**12.0**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: October
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.238659						
2			1.322313						
3			1.257210						
4			1.258060			7.63			
5	245	207	1.250564	3	2		532		
6			1.258612						
7			1.256764						
8			1.318204						
9			1.390460						
10			1.304945					2.6	4.2
11			1.260557			7.62			
12			1.278001						
13			1.285151						
14			1.260405						
15			1.306343						
16			1.358269						
17			1.452527						
18			1.363104			7.56			
19			1.351389	7	5				
20			1.328757						
21			1.315067						
22			1.357028						
23			1.387068						
24			1.310537						
25			1.265330			7.67			
26			1.302556						
27			1.305940						
28			1.285142						
29			1.375400						
30			1.401681						
31			1.374630						
30-DAY MEAN	**245**	**207**	**1.315506**	**5**	**4**	**7.62**	**532**	**2.6**	**4.2**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:___ ______________________

MONTH: November
REPORTING FREQUENCY: **MONTHLY** YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.324964			7.39			
2	233	221	1.296163	4	6		506		
3			1.273879						
4			1.301462						
5			1.409543						
6			1.425319						
7			1.360359						
8			1.366314			7.54			
9			1.326619	7	5				
10			1.322035						
11			1.366556						
12			1.088949						
13			1.456620						
14			1.374210					0.27	1.8
15			1.304777			7.55			
16			1.298474						
17			1.314001						
18			1.421273						
19			1.350034						
20			1.411811						
21			1.359594						
22			1.329641			7.05			
23			1.315118						
24			1.471080						
25			1.388550						
26			1.396362						
27			1.368514						
28			1.341110						
29			1.330162			7.55			
30			1.307264						
31									
30-DAY MEAN	**233**	**221**	**1.346692**	**6**	**6**	**7.42**	**506**	**0.27**	**1.8**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: December
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.293014						
2			1.256336						
3			1.293769						
4			1.373790						
5			1.338760						
6			1.310139			7.45			
7	255	324	1.290753	4	5		556		
8			1.268403						
9			1.262123						
10			1.316624						
11			1.399896						
12			1.304000					0.52	2.3
13			1.257690			7.51			
14			1.251221	7	7				
15			1.258792						
16			1.268097						
17			1.292170						
18			1.308558						
19			1.366239						
20			1.266214			7.47			
21			1.289206						
22			1.283256						
23			1.288928						
24			1.378867						
25			1.247335						
26			1.395765						
27			1.382434			7.29			
28			1.365331						
29			1.385564						
30			1.396595						
31			1.467974						
30-DAY MEAN	**255**	**324**	**1.317995**	6	**6**	7.43	556	0.52	2.3
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: January
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.352113						
2			1.452320						
3			1.380504			7.36			
4	223	185	1.354780	3	4		563		
5			1.334765						
6			1.280106						
7			1.337097						
8			1.371437						
9			1.327860					17	18
10			1.295438			7.19			
11			1.317347						
12			1.318548	5	5				
13			1.275711						
14			1.365704						
15			1.358458						
16			1.448289						
17			1.380503			7.24			
18			1.320546						
19			1.313410						
20			1.325611						
21			1.371847						
22			1.421739						
23			1.338388						
24			1.334390			7.26			
25			1.318231						
26			1.303193						
27			1.289962						
28			1.421745						
29			1.480602						
30			1.380011						
31			1.325012			7.30			
30-DAY MEAN	223	185	1.351473	4	5	7.27	563	17	18
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.343435						
2			1.304277						
3			1.337660						
4			1.434545						
5			1.458714						
6			1.377768						
7			1.362576			7.26			
8	290	203	1.346049	6	3		510		
9			1.356580						
10			1.361388						
11			1.389556						
12			1.406872						
13			1.375540					16	17
14			1.332669			7.23			
15			1.238830						
16			1.345808	6	7				
17			1.329400						
18			1.335237						
19			1.387601						
20			1.468673						
21			1.354157			7.33			
22			1.363646						
23			1.357546						
24			1.305682						
25			1.401769						
26			1.436407						
27			1.293160						
28			1.357537			7.26			
29									
30			1.335164						
31			1.298917						
30-DAY MEAN	**290**	**203**	**1.359905**	**6**	**5**	**7.27**	**510**	**16**	**17**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: March
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.348648						
2			1.335164						
3			1.298917						
4			1.380516						
5			1.381473						
6			1.341841						
7			1.279041			7.18			
8	no value	144	1.282126	no value	9		602		
9			1.358092						
10			1.349642						
11			1.334561						
12			1.381470						
13			1.358839					10	24
14			1.390706			7.26			
15			1.316769						
16			1.336795						
17			1.354958						
18			1.308803						
19			1.340228						
20			1.332500						
21			1.316776			7.25			
22	190	150	1.355180	7	9		682		
23			1.338555						
24			1.322624						
25			1.399748						
26			1.451604						
27			1.345240						
28			1.322597			7.15			
29			1.311581						
30			1.297125	no value	30				
31			1.227665						
30-DAY MEAN	**190**	**147**	**1.338703**	**7**	**16**	**7.21**	**642**	**10**	**24**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1] The facility is expanding from 1 MGD to 2 MGD.

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:_______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: APRIL
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.335987						
2			1.428715						
3			1.315641						
4			1.408107						
5			1.337325						
6			1.360386			7.21			
7			1.334572						
8			1.418719						
9			1.412601						
10			1.249817					16	20
11			1.302579			7.25			
12	196	168	1.337993	9	10		718		
13			1.347722						
14			1.341237						
15			1.354773						
16			1.341237						
17			1.286153						
18			1.357648			7.2			
19			1.340423	8	9				
20			1.342352						
21			1.349082						
22			1.363299						
23			1.384937						
24			1.342235						
25			1.346319			7.06			
26			1.292175						
27			1.323831						
28			1.372202						
29			1.443679						
30			1.470145						
31									
30-DAY MEAN	**196**	**168**	**1.354730**	**9**	**10**	**7.18**	**718**	**16**	**20**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.400629						
2			1.363629			7.52			
3	155	119	1.355606	5	7		661		
4			1.326685						
5			1.311919						
6			1.456554						
7			1.461105						
8			1.426934					10	13
9			1.411133			7.31			
10			1.369089	3	1				
11			1.359353						
12			1.394376						
13			1.468067						
14			1.378421						
15			1.390699						
16			1.438921			7.42			
17			1.465965						
18			1.422828						
19			1.378769						
20			1.332114						
21			1.446755						
22			1.445688						
23			1.420980			7.37			
24			1.390127						
25			1.424762						
26			1.269666						
27			1.463248						
28			1.476928						
29			1.538733						
30			1.371536			7.22			
31			1.303085						
30-DAY MEAN	**155**	**119**	**1.402074**	**4**	**4**	**7.37**	**661**	**10**	**13**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature:_ ____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: June
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.295306						
2			1.276498						
3			1.312455						
4			1.401824						
5			1.370949						
6			1.356830			7.2			
7	273	152	1.368310	6	8		659		
8			1.224387						
9			1.333283						
10			1.315969						
11			1.403008						
12			1.429210					15	16
13			1.304325			7.21			
14			1.296132						
15			1.240745						
16			1.259640						
17			1.364868						
18			1.327698						
19			1.281065						
20			1.314433			7.22			
21			1.314178	5	4				
22			1.235832						
23			1.314433						
24			1.314178						
25			1.235832						
26			1.306114						
27			1.414562			7.17			
28			1.393495						
29			1.194011						
30			1.178666						
31									
30-DAY MEAN	273	152	1.312608	6	6	7.20	659	15	16
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING						
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	Nitrate as N	Total Nitrogen
FREQUENCY	Monthly (M)	M	Daily (D)	Bi-Monthly (BM)	BM	Weekly (W)	M	M	M
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	G	G
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	mg/L	mg/L
REQUIREMENTS									
30-DAY MEAN				30	30	6 - 9	400 [2]		
7-DAY MEAN				45	45	6 - 9			
MAXIMUM			2.0						
DATE OF SAMPLE:									
1			1.217334						
2			1.242584						
3			1.204929			7.16			
4			1.367419						
5			1.240515						
6			1.183330						
7			1.194712						
8			1.187985						
9			1.204299						
10			1.202766						
11			1.290369			7.2			
12	219	156	1.215107	7	8		609	23	23
13			1.161225						
14			1.176090						
15			1.188979						
16			1.225509						
17			1.288605						
18			1.204536			7.17			
19			1.246209	6	9				
20			1.285367						
21			1.274561						
22			1.354714						
23			1.359561						
24			1.303621						
25			1.351279			7.28			
26			1.325112						
27			1.265256						
28			1.228382						
29			1.285248						
30			1.381646						
31			1.261449						
30-DAY MEAN	**219**	**156**	**1.255442**	**7**	**9**	**7.20**	**609**	**23**	**23**
7-DAY MEAN	----		----				----	----	----
MAXIMUM	----	----		----	----	----	----	----	----

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Signature: ____________________

[1] The facility is expanding from 1 MGD to 2 MGD
[2] TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: JANUARY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.056519					
2			0.051527					
3			0.062865					
4			0.073967					
5			0.079518					
6			0.073829					
7			0.077437					
8			0.066215					
9			0.052633					
10			0.055614					
11			0.067836					
12			0.062679					
13			0.060756					
14			0.058327					
15			0.064501					
16			0.064896					
17			0.070653					
18			0.088834					
19			0.087967					
20			0.080700					
21			0.085054					
22			0.069638					
23			0.059826					
24			0.060684					
25			0.064070					
26			0.069086					
27			0.066055					
28			0.063560					
29			0.062506					
30			0.060442					
31			0.058286					
30-DAY MEAN	#DIV/0!	#DIV/0!	0.066983	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:____________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: FEBRUARY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.055311					
2			0.056953					
3			0.052637					
4			0.052148					
5			0.057635					
6			0.051294					
7			0.057994					
8			0.058782					
9			0.060981					
10			0.058951					
11			0.058091					
12			0.060063					
13			0.063149					
14			0.056104					
15			0.060709					
16			0.059845					
17			0.056071					
18			0.057687					
19			0.057144					
20			0.054945					
21			0.054087					
22			0.055319					
23			0.062048					
24			0.062085					
25			0.063524					
26			0.061325					
27			0.064978					
28			0.058745					
29								
30								
31								
30-DAY MEAN	#DIV/0!	#DIV/0!	0.058164	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - DESERT CREST

WDID NO.:7A330109021
ORDER NO.: 95-050 (Revision 1)
REPORTING FREQUENCY: MONTHLY

MONTH: MARCH 2001

EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	MONTHLY	MONTHLY	DAILY	MONTHLY	WEEKLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	GRAB
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.057779			<0.1		
2	0.058330			<0.1		
3	0.056982					
4	0.059089					
5	0.059133			<0.1		
6	0.058372			<0.1		7
7	0.055404			<0.1		
8	0.056389					
9	0.055731			<0.1		
10	0.053990					
11	0.053536					
12	0.053125			<0.1		
13	0.052538			<0.1		7.1
14	0.053046	8	12	<0.1	659	
15	0.053044			<0.1		
16	0.058951					
17	0.055800					
18	0.057214					
19	0.059552			<0.1		
20	0.049290			<0.1		7
21	0.052483			<0.1		
22	0.055310			<0.1		
23	0.053689			<0.1		
24	0.052927					
25	0.052516					
26	0.059131			<0.1		
27	0.055306			<0.1		7
28	0.052766			<0.1		
29	0.054310			<0.1		
30	0.051573			<0.1		
31	0.051354					
MONTHLY MEAN	**0.055118**	**8.0**	**12.0**	**<0.1**	**659**	**7.0**

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations

Signature

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM
FOR
MISSION SPRINGS WATER DISTRICT - DESERT CREST

WDID NO.:7A330109021
ORDER NO.: 95-050 (Revision 1)
REPORTING FREQUENCY: MONTHLY

MONTH: APRIL 2001

EFFLUENT

CONSTITUENTS	FLOW	BOD	SUS. SOLIDS	SETT MATT	TDS	pH
SAMPLE						
FREQUENCY	DAILY	MONTHLY	MONTHLY	DAILY	MONTHLY	WEEKLY
DESCRIPTION		24-HR COMP	24-HR COMP	GRAB	24-HR COMP	GRAB
UNITS	MGD	MG/L	MG/L	ML/L	MG/L	pH UNITS
REQUIREMENTS						
30-DAY MEAN		30	30	0.3		
7-DAY MEAN		45	45	0.5		
MAXIMUM						
DATE OF SAMPLE						
1	0.048389					
2	0.050240					
3	0.047329			<0.1		
4	0.054560			<0.1		
5	0.057056			<0.1		6.9
6	0.052279			<0.1		
7	0.051524					
8	0.048456					
9	0.052977			<0.1		
10	0.048634			<0.1		7.1
11	0.047428	5	2	<0.1	607	
12	0.045355			<0.1		
13	0.047393			<0.1		
14	0.045746					
15	0.043291					
16	0.043845			<0.1		
17	0.042297			<0.1		7.1
18	0.038701			<0.1		
19	0.035537			<0.1		
20	0.036119			<0.1		
21	0.038722					
22	0.038315					
23	0.037830			<0.1		
24	0.036356			<0.1		
25	0.038675			<0.1		
26	0.036940			<0.1		7.1
27	0.038282			<0.1		
28	0.040125					
29	0.039927					
30	0.038145			<0.1		
31						
MONTHLY MEAN	**0.044016**	**5.0**	**2.0**	**<0.1**	**607**	**7.1**

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations

Signature

REPORTING FREQUENCY: MONTHLY

MONTH: MAY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.035665			7.1		
2			0.036843					
3			0.033248					
4			0.037843					
5			0.035074					
6			0.038308					
7			0.038855					
8			0.038804			7.3		
9			0.037840	3.0	8.0		705	
10			0.036434					
11			0.036754					
12			0.035441					
13			0.036502					
14			0.040377					
15			0.037221			7.2		
16			0.036394					
17			0.038979					
18			0.036918					
19			0.036298					
20			0.037774					
21			0.038558					
22			0.040639			7.3		
23			0.036035					
24			0.034072					
25			0.036457					
26			0.039775					
27			0.040432					
28			0.042350					
29			0.040793			7.2		
30			0.039475					
31			0.043104					
30-DAY MEAN	NOT TESTED	NOT TESTED	0.037847	3.0	8	7.2	705	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ____________________

MONTH: JUNE
REPORTING FREQUENCY: **MONTHLY** YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE								
1			0.040003					
2			0.041552					
3			0.038153					
4			0.036244					
5			0.036880			7.2		
6			0.036890					
7			0.036109					
8			0.039402					
9			0.039982					
10			0.035871					
11			0.036483					
12			0.034386			7.5		
13	213	138	0.034184	4	9		680	
14			0.034371					
15			0.036608					
16			0.036829					
17			0.034796					
18			0.036701					
19			0.035214			7.2		
20			0.032580					
21			0.038507					
22			0.034852					
23			0.036430					
24			0.034852					
25			0.037262					
26			0.032195			7.4		
27			0.032833					
28			0.035349					
29			0.038453					
30			0.036528					
31								
30-DAY MEAN	213	138	0.036350	4	9	7.3	680	
7-DAY MEAN		----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:__ ____________________

REPORTING FREQUENCY: MONTHLY

MONTH: JULY
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.034922					
2			0.036748					
3			0.035123			7.3		
4			0.035596					
5			0.034315					
6			0.033910					
7			0.033705					
8			0.036314					
9			0.033535					
10			0.029096			7.5		
11			0.032963					
12			0.034188					
13			0.033761					
14			0.035472					
15			0.029032					
16			0.031331					
17			0.031268			7.4		
18	153	148	0.032217	5	26		693	
19			0.031274					
20			0.029323					
21			0.036193					
22			0.034862					
23			0.034866					
24			0.031233			7.3		
25			0.034269					
26			0.037175					
27			0.036640					
28			0.039254					
29			0.037862					
30			0.035011					
31			0.030191			7.3		
30-DAY MEAN	**153**	**148**	**0.033924**	**5**	**26**	**7.4**	**693**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:_______________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: AUGUST
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.032797					
2			0.031322					
3			0.029320					
4			0.031880					
5			0.034399					
6			0.036129					
7			0.037280			7.4		
8			0.035470					
9			0.035956					
10			0.032973					
11			0.033288					
12			0.032932					
13			0.033981					
14			0.035476			7.6		
15	145	128	0.035477	9	23		631	
16			0.034420					
17			0.036795					
18			0.036191					
19			0.034688					
20			0.034554					
21			0.029488			7.1		
22			0.028231					
23			0.030512					
24			0.031361					
25			0.035609					
26			0.033351					
27			0.036767					
28			0.033930			7.7		
29			0.032645					
30			0.030557					
31			0.031984					
30-DAY MEAN	145	128	0.033541	9	23	7.5	631	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

							MONTH:	SEPT
REPORTING FREQUENCY:	MONTHLY						YEAR:	2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS:	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.034665					
2			0.032624					
3			0.036126					
4			0.039448			7.3		
5			0.031645					
6			0.032206					
7			0.030894					
8			0.034112					
9			0.036941					
10			0.037440					
11			0.034654			7.6		
12	226	210	0.033324	8	11			
13			0.038800					
14			0.038864					
15			0.037135				631	
16			0.036806					
17			0.040413					
18			0.035069			7.5		
19			0.035312					
20			0.035337					
21			0.032859					
22			0.035686					
23			0.035820					
24			0.038818					
25			0.034508			7.6		
26			0.036353					
27			0.035303					
28			0.036207					
29			0.038322					
30			0.039429					
31								
30-DAY MEAN	226	210	0.035837	8	11	7.5	631	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

REPORTING FREQUENCY: MONTHLY

MONTH: OCTOBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.038878					
2			0.036296			7.4		
3			0.034541					
4			0.035263					
5			0.035588					
6			0.042492					
7			0.041110					
8			0.041818					
9			0.038180			7.4		
10	253	162	0.037546	5	10		693	
11			0.040250					
12			0.036938					
13			0.036844					
14			0.038792					
15			0.041801					
16			0.043927					
17			0.041035					
18			0.041961					
19			0.038950					
20			0.042737					
21			0.043298					
22			0.043784					
23			0.042264			7.1		
24			0.044022					
25			0.047046					
26			0.045131					
27			0.046613					
28			0.043352					
29			0.048477					
30			0.045715			6.8		
31			0.044824					
30-DAY MEAN	253	162	0.041273	5	10	7.2	693	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: NOVEMBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.047319					
2			0.046158					
3			0.046898					
4			0.044834					
5			0.047235					
6			0.044854					
7			0.049757					
8			0.044828					
9			0.046905					
10			0.046754					
11			0.049628					
12			0.049369					
13			0.044699					
14			0.047339					
15			0.046999					
16			0.048821					
17			0.048455					
18			0.047387					
19			0.047886					
20			0.044490					
21			0.048650					
22			0.048794					
23			0.049833					
24			0.051540					
25			0.053779					
26			0.053416					
27			0.049570					
28			0.051783					
29			0.050572					
30			0.050031					
31			0.053240					
30-DAY MEAN	**168**	**194**	**0.048446**	**6**	**14**	**#DIV/0!**	**#DIV/0!**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]F ow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: DECEMBER
YEAR: 2001

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.053240					
2			0.052412					
3			0.051335					
4			0.049781			7		
5			0.051873					
6			0.063418					
7			0.070524					
8			0.071201					
9			0.077255					
10			0.075068					
11			0.073317			7.3		
12	168	194	0.071525	6	14		714	
13			0.081271					
14			0.081226					
15			0.079175					
16			0.077155					
17			0.084859					
18			0.079553			6.9		
19			0.069276					
20			0.059116					
21			0.061476					
22			0.065221					
23			0.061161					
24			0.055011					
25			0.054922					
26			0.057691					
27			0.058054			7.3		
28			0.057922					
29			0.060198					
30			0.056542					
31			0.058168					
30-DAY MEAN	**168**	**194**	**0.065127**	**6**	**14**	**7.1**	**714**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ______________________

REPORTING FREQUENCY: MONTHLY

MONTH: JANUARY
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.058168					
2			0.058008					
3			0.058548			7.3		
4			0.058497					
5			0.058099					
6			0.055499					
7			0.055619					
8			0.048803			7.1		
9	211	237	0.055366	9	16		711	
10			0.053822					
11			0.056955					
12			0.054351					
13			0.055077					
14			0.060349					
15			0.058129			7.1		
16			0.056448					
17			0.058987					
18			0.061244					
19			0.064145					
20			0.059684					
21			0.059587					
22			0.054392			7.7		
23			0.054891					
24			0.051505					
25			0.060250					
26			0.056155					
27			0.060459					
28			0.065253					
29			0.059132			7.2		
30			0.057338					
31			0.056669					
30-DAY MEAN	211	237	0.057465	9	16	7.3	711	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:__________________________

		MONTH:	FEBRUARY
REPORTING FREQUENCY:	MONTHLY	YEAR:	2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.058514					
2			0.058015					
3			0.058254					
4			0.053688					
5			0.053753					
6			0.054258					
7			0.055912					
8			0.054775			7.1		
9			0.050904					
10			0.057697					
11			0.056301					
12			0.053856			7.3		
13			0.049393					
14	235	281	0.051247				563	
15			0.053396					
16			0.053773					
17			0.056371					
18			0.064182					
19			0.056760			7.3		
20			0.060522	20	25			
21			0.058443					
22			0.060802					
23			0.056126					
24			0.054115					
25			0.062154					
26			0.054226			7.2		
27			0.055176					
28			0.058304					
29								
30								
31								
30-DAY MEAN	**235**	**281**	**0.056104**	**20**	**25**	**7.2**	**563**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:________________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: MARCH
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.055385					
2			0.059733					
3			0.059301					
4			0.058632					
5			0.052967			7.2		
6			0.053535					
7			0.053348					
8			0.053430					
9			0.050406					
10			0.053971					
11			0.056593					
12	203	184	0.050351	7	25	7.1	682	
13			0.052784					
14			0.053057					
15			0.058548					
16			0.061400					
17			0.061575					
18			0.064344					
19			0.060705			7.3		
20			0.056135					
21			0.053966					
22			0.053981					
23			0.051293					
24			0.054402					
25			0.056518					
26			0.052677			7.2		
27			0.055576					
28			0.057896					
29			0.052789					
30			0.054064					
31			0.052327					
30-DAY MEAN	**203**	**184**	**0.055538**	**7**	**25**	**7.2**	**682**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: APRIL
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.053506					
2			0.048639			7.1		
3			0.045544					
4			0.047018					
5			0.049185					
6			0.048447					
7			0.049998					
8			0.050240					
9			0.049467			7.2		
10			0.050232					
11			0.051938					
12			0.051867					
13			0.050050					
14			0.048030					
15			0.048906					
16			0.047403			7.3		
17			0.051659					
18			0.054218					
19			0.045560					
20			0.042760					
21			0.046355					
22			0.044421					
23			0.038911			7.3		
24	219	183	0.040354	5	5		655	
25			0.040644					
26			0.043687					
27			0.043773					
28			0.041636					
29			0.042864					
30			0.041712			7.3		
31								
30-DAY MEAN	**219**	**183**	**0.046967**	5	5	7.2	655	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: MAY
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.040153					
2			0.041089					
3			0.041519					
4			0.044297					
5			0.039225					
6			0.040781					
7			0.036548			7.3		
8			0.038710					
9			0.038769					
10			0.036531					
11			0.040152					
12			0.039797					
13			0.042183					
14			0.039440			7.2		
15	140	66	0.037292	10	7		468	
16			0.039450					
17			0.040560					
18			0.039992					
19			0.040426					
20			0.037824					
21			0.037640			7.3		
22			0.033268					
23			0.041503					
24			0.038939					
25			0.040224					
26			0.043152					
27			0.040636					
28			0.037317			7.2		
29			0.039271					
30			0.036462					
31			0.036707					
30-DAY MEAN	**140**	**66**	**0.039350**	**10**	**7**	**7.3**	**468**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: JUNE
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.035946					
2			0.037405					
3			0.035024					
4			0.038462			7.3		
5			0.036498					
6			0.037505					
7			0.036576					
8			0.036412					
9			0.036022					
10			0.039635					
11			0.036133			7.2		
12	150	141	0.040218	6	10		658	
13			0.040976					
14			0.040755					
15			0.036781					
16			0.035573					
17			0.035793					
18			0.033422			7.4		
19			0.035691					
20			0.035594					
21			0.033660					
22			0.037318					
23			0.038554					
24			0.040281					
25			0.040152			7.3		
26			0.037031					
27			0.038000					
28			0.041776					
29			0.045769					
30			0.049414					
31								
30-DAY MEAN	150	141	0.038079	6	10	7.3	658	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

MONTH: JULY
YEAR: 2002

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.043659					
2			0.044189					
3			0.044180			7.5		
4			0.045833					
5			0.044311					
6			0.045466					
7			0.047461					
8			0.047409					
9			0.046579			7.2		
10	100	185	0.047581	5	10		685	
11			0.043440					
12			0.043467					
13			0.049436					
14			0.049022					
15			0.045974					
16			0.046769			7.3		
17			0.049829					
18			0.043237					
19			0.041322					
20			0.044636					
21			0.044905					
22			0.040830					
23			0.039710			7.3		
24			0.039484					
25			0.036632					
26			0.038606					
27			0.039121					
28			0.036903					
29			0.039177					
30			0.037337			7.6		
31			0.037238					
30-DAY MEAN	100	185	0.043347	5	10	7.4	685	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: AUGUST
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400[2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.038918					
2			0.039262					
3			0.039074					
4			0.040412					
5			0.039222					
6			0.039655			7.3		
7			0.035964					
8			0.035723					
9			0.035930					
10			0.036028					
11			0.035584					
12			0.035922					
13			0.034342			7.6		
14	168	148	0.040621	4	7		723	
15			0.041279					
16			0.042093					
17			0.044368					
18			0.043558					
19			0.044409					
20			0.042606			7.5		
21			0.043768					
22			0.043768					
23			0.043932					
24			0.047171					
25			0.051543					
26			0.045321					
27			0.044926			7.6		
28			0.037963					
29			0.035180					
30			0.040664					
31			0.038731					
30-DAY MEAN	168	148	0.040643	4	7	7.5	723	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

								SEPTEMBER
REPORTING FREQUENCY:	**MONTHLY**						YEAR:	2002

TYPE OF SAMPLE	**INFLUENT**		**EFFLUENT MONITORING**					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.040130					
2			0.041169					
3			0.039889			7.4		
4			0.037675					
5			0.037435					
6			0.037176					
7			0.039893					
8			0.042568					
9			0.041189					
10			0.039207			7.4		
11	158	150	0.037423	3	6		707	
12			0.037529					
13			0.039574					
14			0.041930					
15			0.043686					
16			0.042682					
17			0.040430			7.3		
18			0.040959					
19			0.040446					
20			0.044649					
21			0.047572					
22			0.047587					
23			0.040470					
24			0.036743			7.3		
25			0.041301					
26			0.035381					
27			0.040439					
28			0.045831					
29			0.043750					
30			0.044630					
31								
30-DAY MEAN	**158**	**150**	**0.040978**	3	**6**	7.4	707	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_________________________

MONTH: OCTOBER
REPORTING FREQUENCY: **MONTHLY** YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.040567			6.9		
2			0.039200					
3			0.038277					
4			0.043755					
5			0.040676					
6			0.042905					
7			0.044143					
8			0.042522			7.4		
9	266	273	0.043225	4	6		712	
10			0.043218					
11			0.043729					
12			0.044790					
13			0.045872					
14			0.045520					
15			0.041449			7.3		
16			0.042634					
17			0.042098					
18			0.046151					
19			0.045266					
20			0.049089					
21			0.047866					
22			0.047345			7.4		
23			0.050203					
24			0.044260					
25			0.048279					
26			0.047112					
27			0.047557					
28			0.049352					
29			0.049352			8		
30			0.047722					
31			0.047874					
30-DAY MEAN	**266**	**273**	**0.044903**	**4**	**6**	**7.4**	**712**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: NOVEMBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.046008					
2			0.047065					
3			0.046661					
4			0.048609					
5			0.045618					
6			0.046214					
7			0.044260			7.2		
8			0.046184					
9			0.050278					
10			0.049469					
11			0.050781					
12			0.048268			7.2		
13			0.049513					
14	360	430	0.048199	6	9		661	
15			0.052103					
16			0.050897					
17			0.055839					
18			0.054851					
19			0.051908			7.4		
20			0.043017					
21			0.052932					
22			0.053323					
23			0.054408					
24			0.057024					
25			0.047672					
26			0.058195			6.9		
27			0.060112					
28			0.060543					
29			0.060745					
30			0.061271					
31								
30-DAY MEAN	**360**	**430**	**0.051399**	**6**	**9**	7.2	**661**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:____________________

[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: DECEMBER
YEAR: 2002

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.057362					
2			0.055460					
3			0.051939			7.4		
4			0.050010					
5			0.057527					
6			0.053817					
7			0.051279					
8			0.054565					
9			0.054931					
10			0.052424			7.1		
11	214	141	0.051756	5	8		607	
12			0.050064					
13			0.054760					
14			0.060068					
15			0.057527					
16			0.061561					
17			0.057370			7.2		
18			0.069790					
19			0.069993					
20			0.072978					
21			0.065488					
22			0.065175					
23			0.064820					
24			0.061006					
25			0.051947					
26			0.056738			7.2		
27			0.063503					
28			0.065237					
29			0.062570					
30			0.059698					
31			0.058191					
30-DAY MEAN	**214**	**141**	**0.058702**	5	8	7.2	607	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY:	MONTHLY					MONTH:	January		
						YEAR:	2003		

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.057995					
2			0.053076			7.2		
3			0.060417					
4			0.059250					
5			0.057618					
6			0.058863					
7			0.055836			7		
8			0.056621					
9			0.057428					
10			0.058087					
11			0.058229					
12			0.058869					
13			0.059843					
14			0.058779			7.2		
15		186	0.058043		5		588	
16			0.056681					
17			0.060396					
18			0.062458					
19			0.063133					
20			0.062892					
21			0.057413			7.3		
22			0.057751					
23	205		0.059938	5				
24			0.060088					
25			0.057452					
26			0.059616					
27			0.063046					
28			0.060388			7.2		
29			0.064779					
30			0.062467					
31			0.058939					
30-DAY MEAN	**205**	**186**	**0.059238**	**5**	**5**	**7.2**	**588**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_ ____________________

Monthly Report

REPORTING FREQUENCY: **MONTHLY**

MONTH: FEBRUARY
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.058327					
2			0.063534					
3			0.062936					
4			0.060723			7.2		
5			0.065277					
6			0.064987					
7			0.067764					
8			0.062096					
9			0.067016					
10			0.062699					
11			0.064541			7.2		
12	150	74	0.064073	5	6		696	
13			0.064394					
14			0.068670					
15			0.057703					
16			0.065531					
17			0.071372					
18			0.067175			7.2		
19			0.060723					
20			0.065833					
21			0.067242					
22			0.064308					
23			0.064785					
24			0.062872					
25			0.066160					
26			0.059304					
27			0.059218			7.2		
28			0.060076					
29								
30								
31								
30-DAY MEAN	**150**	**74**	**0.063905**	**5**	**6**	7.2	**696**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_______________ ___________

REPORTING FREQUENCY: **MONTHLY**

MONTH: MARCH
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.060367					
2			0.062447					
3			0.065216					
4			0.063974			7.2		
5			0.063058					
6			0.063967					
7			0.063671					
8			0.059373					
9			0.059409					
10			0.061241					
11			0.056928			7.4		
12	204	229	0.057046	11	4		686	
13			0.057937					
14			0.060180					
15			0.061936					
16			0.058396					
17			0.060223					
18			0.053605			7.2		
19			0.053583					
20			0.059764					
21			0.064512					
22			0.065215					
23			0.065027					
24			0.063969					
25			0.061708					
26			0.061539					
27			0.059253			7.3		
28			0.057465					
29			0.055863					
30			0.053023					
31			0.056655					
30-DAY MEAN	**204**	**229**	**0.060211**	**11**	**4**	7.3	**686**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: April
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.051001			7.3		
2			0.049870					
3			0.050561					
4			0.054468					
5			0.052668					
6			0.052378					
7			0.054564					
8			0.052875			7.4		
9	214	179	0.051111	6	5		723	
10			0.051863					
11			0.052624					
12			0.053224					
13			0.050141					
14			0.051876					
15			0.051088			7.3		
16			0.051895					
17			0.050885					
18			0.051922					
19			0.053024					
20			0.054277					
21			0.053438					
22			0.049810			7.3		
23			0.049004					
24			0.047952					
25			0.050287					
26			0.049281					
27			0.049714					
28			0.047523					
29			0.045879					
30			0.045078					
31								
30-DAY MEAN	**214**	**179**	**0.051009**	6	5	7.3	723	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:________________________

[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

		MONTH:	May
REPORTING FREQUENCY:	**MONTHLY**	YEAR:	2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.042964			7.2		
2			0.043716					
3			0.046828					
4			0.048012					
5			0.049319					
6			0.043654			7.2		
7			0.042194					
8			0.044260					
9			0.043561					
10			0.043110					
11			0.042068					
12			0.041792					
13			0.045012					
14			0.042029					
15			0.044580			7.3		
16			0.047559					
17			0.049027					
18			0.049160					
19			0.053470					
20			0.046992			7.4		
21			0.049118					
22	140	193	0.049166	9	9		728	
23			0.047499					
24			0.048881					
25			0.050025					
26			0.054154					
27			0.047351			7.2		
28			0.046665					
29			0.047323					
30			0.046836					
31			0.047861					
30-DAY MEAN	140	193	0.046587	9	9	7.3	728	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

MONTH: June
YEAR: 2003

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS:	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.047914					
2			0.048116					
3			0.040892			7.2		
4			0.041311					
5			0.039562					
6			0.038408					
7			0.042431					
8			0.046585					
9			0.045679					
10			0.039562			7.2		
11	128	211	0.045166	5	9		728	
12			0.040733					
13			0.040607					
14			0.042248					
15			0.042674					
16			0.043182					
17			0.039301			7.8		
18			0.041086					
19			0.040714					
20			0.039956					
21			0.044142					
22			0.045916					
23			0.047042					
24			0.046156			7.3		
25			0.045617					
26			0.044007					
27			0.044283					
28			0.043070					
29			0.043689					
30			0.042406					
31								
30-DAY MEAN	**128**	**211**	**0.043082**	**5**	**9**	**7.4**	**728**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

				MONTH:	JULY
REPORTING FREQUENCY:	MONTHLY			YEAR:	2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.045223			7.3		
2			0.040626					
3			0.041058					
4			0.043001					
5			0.042779					
6			0.041063					
7			0.041899					
8			0.043545			7.2		
9			0.040256					
10			0.040885					
11			0.039219					
12			0.042238					
13			0.042253					
14			0.043795					
15			0.037528			7.2		
16	173	158	0.041417	5	5		698	
17			0.046792					
18			0.044810					
19			0.043414					
20			0.039124					
21			0.041530					
22			0.038050			7.2		
23			0.039678					
24			0.039665					
25			0.039031					
26			0.041172					
27			0.043674					
28			0.044094					
29			0.042853			7.8		
30			0.043043					
31			0.048595					
30-DAY MEAN	173	158	0.042010	5	5	7.3	698	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:________________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: August
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.052656					
2			0.056915					
3			0.053513					
4			0.050346					
5			0.037513			7.4		
6			0.040280					
7			0.045983					
8			0.044447					
9			0.047796					
10			0.047294					
11			0.046409					
12			0.042675			7.3		
13	175	146	0.044681	6	9		621	
14			0.045619					
15			0.043049					
16			0.043875					
17			0.046267					
18			0.048234					
19			0.045251			7.4		
20			0.049452					
21			0.049095					
22			0.041282					
23			0.046056					
24			0.041015					
25			0.046802					
26			0.041760			7.4		
27			0.043193					
28			0.041546					
29			0.045179					
30			0.045853					
31			0.044832					
30-DAY MEAN	175	146	0.045770	6	9	7.4	621	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: MONTHLY

MONTH: September
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.049021					
2			0.046734			7.3		
3			0.049125					
4			0.052901					
5			0.052654					
6			0.050659					
7			0.044755					
8			0.040744					
9	349	190	0.038199	5	9	7.5	610	
10			0.043020					
11			0.048719					
12			0.043884					
13			0.048990					
14			0.052949					
15			0.054926					
16			0.044528			7.4		
17			0.043739					
18			0.046134					
19			0.049159					
20			0.052160					
21			0.048276					
22			0.048999					
23			0.049905			7.4		
24			0.047266					
25			0.047977					
26			0.047657					
27			0.048458					
28			0.046363					
29			0.044633					
30			0.046164			7.4		
31								
30-DAY MEAN	**349**	**190**	**0.047623**	5	9	7.4	**610**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: October
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.046965					
2			0.042955					
3			0.043275					
4			0.052065					
5			0.048268					
6			0.046534					
7			0.044706			7.1		
8			0.047405					
9			0.046237					
10			0.046842					
11			0.050497					
12			0.053480					
13			0.053629					
14			0.049973			7.4		
15	138	137	0.050694	1	5		669	
16			0.047018					
17			0.048778					
18			0.049598					
19			0.050202					
20			0.046525					
21			0.047616			7.6		
22			0.048847					
23			0.049781					
24			0.054974					
25			0.054172					
26			0.055004					
27			0.060110					
28			0.050300					
29			0.059327					
30			0.063970			7.9		
31			0.060257					
30-DAY MEAN	138	137	0.050645	1	5	7.5	669	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

							MONTH:	November
REPORTING FREQUENCY:		MONTHLY					YEAR:	2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.057689					
2			0.059356					
3			0.062891					
4			0.057649			7.8		
5			0.058137					
6			0.057427					
7			0.058394					
8			0.056602					
9			0.055523					
10			0.057763					
11			0.058948			Holiday		
12			0.068204					
13			0.058155					
14			0.061420					
15			0.060237					
16			0.058904					
17			0.060053					
18			0.055282			7.7		
19			0.052990					
20			0.060396					
21			0.059856					
22			0.063949					
23			0.059880					
24			0.063474					
25			0.059504			7.4		
26	155	138	0.061474	2	12		666	
27			0.063971					
28			0.063845					
29			0.062926					
30			0.059735					
31								
30-DAY MEAN	**155**	**138**	**0.059821**	2	12	7.6	**666**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

Signature:____________________

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: December
YEAR: 2003

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.057030					
2			0.057092			7.3		
3			0.058558					
4			0.057352					
5			0.060520					
6			0.056089					
7			0.061517					
8			0.062638					
9			0.061280			7.2		
10			0.060760					
11	185	231	0.059232	5	6		698	
12			0.063747					
13			0.059024					
14			0.060000					
15			0.061000					
16			0.061000			7.2		
17			0.061000					
18			0.061000					
19			0.065214					
20			0.063078					
21			0.063330					
22			0.061777					
23			0.063630			7.2		
24			0.065000					
25			0.066857					
26			0.065000					
27			0.065000					
28			0.065000					
29			0.065000					
30			0.065000			7.3		
31			0.065000					
30-DAY MEAN	**185**	**231**	**0.061862**	**5**	**6**	**7.2**	**698**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel property gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

REPORTING FREQUENCY: MONTHLY

MONTH: JANUARY
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.070983					
2			0.071927					
3			0.064983					
4			0.070370					
5			0.066123					
6			0.066376			7.3		
7			0.061321					
8			0.062227					
9			0.061681					
10			0.057899					
11			0.060984					
12			0.062564					
13			0.056500			7.2		
14			0.057212					
15	273	220	0.061461	7	4		667	
16			0.069758					
17			0.065589					
18			0.068730					
19			0.071297					
20			0.064984			7.5		
21			0.063153					
22			0.063371					
23			0.064813					
24			0.070926					
25			0.066913					
26			0.070394					
27			0.065897			7.3		
28			0.063504					
29			0.065475					
30			0.064883					
31			0.062665					
30-DAY MEAN	**273**	**220**	**0.064999**	7	**4**	7.3	**667**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:______________________

[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: MONTHLY

MONTH: February
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.069111					
2			0.070693					
3			0.061950			7.2		
4			0.061505					
5			0.062699					
6			0.064388					
7			0.063457					
8			0.061950					
9			0.067110					
10			0.060194			7.2		
11			0.063264					
12			0.068824					
13	210	179	0.064958	10	12		728	
14			0.067536					
15			0.063153					
16			0.062285					
17			0.060911					
18			0.061757					
19			0.066381			7.2		
20			0.063076					
21			0.063393					
22			0.062359					
23			0.066062					
24			0.066033			7.3		
25			0.066784					
26			0.064436					
27			0.066050					
28			0.067581					
29			0.063331					
30								
31								
30-DAY MEAN	**210**	**179**	**0.064525**	**10**	**12**	**7.2**	**728**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:____________________

[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY:	MONTHLY						MONTH:	March
							YEAR:	2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.067801					
2			0.063679			7		
3			0.058217					
4			0.062229					
5			0.061089					
6			0.060870					
7			0.058081					
8			0.058449					
9			0.055112					
10	261	205	0.053143	13	17		633	
11			0.051679			7.2		
12			0.059098					
13			0.061141					
14			0.060279					
15			0.056882					
16			0.055659			7.4		
17			0.055924					
18			0.064092					
19			0.064591					
20			0.058181					
21			0.058189					
22			0.059745					
23			0.059715			7.4		
24			0.054540					
25			0.054882					
26			0.056292					
27			0.059292					
28			0.057337					
29			0.057221					
30			0.055234			7.3		
31			0.056605					
30-DAY MEAN	261	205	0.058557	13	17	7.3	633	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:________________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: April
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.056338					
2			0.057553					
3			0.058226					
4			0.056759					
5			0.058085					
6			0.053514			7.2		
7			0.052898					
8			0.057190					
9			0.055336					
10			0.057283					
11			0.057265					
12			0.058734					
13			0.049584					
14			0.047702					
15			0.049446			7.2		
16			0.050033					
17			0.053845					
18			0.049704					
19			0.050968					
20			0.050648			7.2		
21	299	190	0.046496				717	
22			0.052869					
23			0.050010					
24			0.048118					
25			0.047696					
26			0.050239					
27			0.048418			7.2		
28			0.043319	26	33			
29			0.047298					
30			0.046350					
31								
30-DAY MEAN	**299**	**190**	**0.052064**	**26**	**33**	**7.2**	**717**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.047378					
2			0.053917					
3			0.047635					
4			0.042471			7.2		
5			0.042739					
6			0.044417					
7			0.044054					
8			0.048203					
9			0.044808					
10			0.044165					
11			0.039676			7.2		
12			0.041272					
13			0.042398					
14			0.041570					
15			0.044873					
16			0.042725					
17			0.045298					
18			0.038722			7.3		
19			0.039996					
20			0.039218					
21			0.039257					
22			0.044006					
23			0.041510					
24			0.041157					
25			0.039323			7.3		
26			0.039796					
27	185	232	0.040457	11	21		663	
28			0.044197					
29			0.041865					
30			0.041833					
31			0.045134					
30-DAY MEAN	**185**	**232**	**0.043035**	**11**	**21**	**7.3**	**663**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: MONTHLY

MONTH: June
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.037854			7.4		
2			0.039330					
3			0.039861					
4			0.039368					
5			0.039305					
6			0.039494					
7			0.041197					
8			0.045534			7.4		
9	180	154	0.042754	5	13		598	
10			0.043498					
11			0.043953					
12			0.046564					
13			0.046469					
14			0.048313					
15			0.042754			7.4		
16			0.045846					
17			0.047006					
18			0.046353					
19			0.047710					
20			0.044692					
21			0.047746					
22			0.044324			7.3		
23			0.045008					
24			0.050162					
25			0.046609					
26			0.047802					
27			0.048423					
28			0.048799					
29			0.043576			7.4		
30			0.046473					
31								
30-DAY MEAN	**180**	**154**	**0.044559**	**5**	**13**	**7.4**	**598**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.043977					
2			0.044553					
3			0.046834					
4			0.045591					
5			0.048510					
6			0.043245			7.3		
7			0.039739					
8			0.041278					
9			0.043424					
10			0.047686					
11			0.043622					
12			0.045851					
13			0.047062			7.4		
14			0.047341					
15			0.044702					
16			0.050890					
17			0.046333					
18			0.043622					
19			0.050492					
20			0.044511			7.4		
21		214	0.044396		13		655	
22			0.045645					
23			0.047428					
24			0.047211					
25			0.046730					
26			0.046814					
27			0.043394			7.4		
28	159		0.043390	4				
29			0.043653					
30			0.045583					
31			0.042474					
30-DAY MEAN	159	214	0.045354	4	13	7.4	655	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:_______________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: August
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.044444					
2			0.039483					
3			0.041728			7.4		
4			0.043112					
5			0.039735					
6			0.043136					
7			0.042606					
8			0.048545					
9			0.046914					
10			0.044838			7.5		
11	130	135	0.046206	11	22		699	
12			0.042360					
13			0.035562					
14			0.039326					
15			0.041646					
16			0.040190					
17			0.037774			7.6		
18			0.036467					
19			0.035964					
20			0.039509					
21			0.039352					
22			0.038811					
23			0.039888					
24			0.039353			7.6		
25			0.039619					
26			0.041314					
27			0.038980					
28			0.038868					
29			0.043256					
30			0.038627					
31			0.037889			7.6		
30-DAY MEAN	130	135	0.040823	11	22	7.5	699	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: September
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.042490					
2			0.040629					
3			0.039701					
4			0.041187					
5			0.042168					
6			0.044757					
7			0.039896			7.5		
8			0.044566					
9			0.045000					
10			0.045000					
11			0.044586					
12			0.044831					
13			0.040646					
14			0.039365			7.5		
15	259	355	0.039706	11	14		661	
16			0.039791					
17			0.039670					
18			0.042387					
19			0.044251					
20			0.040637					
21			0.041418			7.6		
22			0.039448					
23			0.041092					
24			0.042449					
25			0.042325					
26			0.040475					
27			0.040184					
28			0.038930			7.5		
29			0.042885					
30			0.044716					
31			0.043830					
30-DAY MEAN	259	355	0.041904	11	14	7.5	661	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: October
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.043830					
2			0.044472					
3			0.045400					
4			0.043183					
5			0.042658			7.4		
6			0.042272					
7			0.043894					
8			0.053768					
9			0.048000					
10			0.044436					
11			0.043288					
12			0.041801			7.5		
13	221	276	0.042436	9	11		691	
14			0.044790					
15			0.047027					
16			0.043735					
17			0.044345					
18			0.046086					
19			0.045767			7.4		
20			0.051196					
21			0.047957					
22			0.046103					
23			0.050373					
24			0.049791					
25			0.054907					
26			0.054027			7.2		
27			0.059117					
28			0.052883					
29			0.057693					
30			0.057752					
31			0.053775					
30-DAY MEAN	**221**	**276**	**0.047960**	**9**	**11**	**7.4**	**691**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ______________________

								MONTH:	November
REPORTING FREQUENCY:	MONTHLY							YEAR:	2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.058521					
2			0.053725			7.2		
3			0.057684					
4			0.060068					
5			0.058820					
6			0.057057					
7			0.060198					
8			0.055511					
9			0.055153			7.2		
10	200	105	0.054876	15	18		680	
11			0.055377					
12			0.054568					
13			0.056805					
14			0.059573					
15			0.054412					
16			0.050893			7.2		
17			0.054212					
18			0.053841					
19			0.056811					
20			0.058729					
21			0.060872					
22			0.071281					
23			0.064011			7.3		
24			0.065498					
25			0.065064					
26			0.061015					
27			0.061701					
28			0.061754					
29			0.064000					
30						7.2		
31								
30-DAY MEAN	**200**	**105**	**0.058691**	**15**	**18**	**7.2**	**680**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ____________ ________

REPORTING FREQUENCY: **MONTHLY**

MONTH: December
YEAR: 2004

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.059871					
2			0.062279					
3			0.062517					
4			0.058892					
5			0.066576					
6			0.061802					
7			0.061969					
8			0.061449			7.2		
9			0.062494					
10			0.059908					
11			0.057342					
12			0.057714					
13			0.057565					
14			0.055465			7.2		
15			0.058933					
16			0.059419					
17			0.054959					
18			0.055955					
19			0.056523					
20			0.060375					
21			0.059506			7.2		
22	238	166	0.058813	12	22		717	
23			0.059709					
24			0.066169					
25			0.061829					
26			0.067985					
27			0.064724					
28			0.076022			7.2		
29			0.064423					
30			0.060888					
31			0.065888					
30-DAY MEAN	**238**	**166**	**0.061225**	12	22	7.2	717	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: January
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.073982					
2			0.068968					
3			0.065390					
4			0.066952			7.3		
5			0.066152					
6			0.063524					
7			0.070851					
8			0.067218					
9			0.073829					
10			0.073727					
11			0.068654			7.1		
12			0.065721					
13			0.067999					
14			0.064558					
15			0.067910					
16			0.065774					
17			0.065059					
18			0.066000					
19			0.066000					
20	183	134	0.066000	11	10	7.2	674	
21			0.066265					
22			0.067835					
23			0.065833					
24			0.069293					
25			0.062778			7.2		
26			0.062035					
27			0.063462					
28			0.067661					
29			0.064322					
30			0.066800					
31			0.064432					
30-DAY MEAN	**183**	**134**	**0.066935**	**11**	**10**	**7.2**	**674**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.061692					
2			0.062126					
3			0.058966			7.2		
4			0.063352					
5			0.066524					
6			0.065737					
7			0.068039					
8	180	111	0.065141	6	5	7.2	717	
9			0.065606					
10			0.066457					
11			0.080499					
12			0.070043					
13			0.062751					
14			0.064172					
15			0.063810			7.3		
16			0.062277					
17			0.066708					
18			0.076856					
19			0.072659					
20			0.067703					
21			0.085009					
22			0.069980			7.2		
23			0.071522					
24			0.066788					
25			0.061062					
26			0.064089					
27			0.060910					
28			0.066159					
29								
30								
31								
30-DAY MEAN	**180**	**111**	**0.067023**	**6**	**5**	**7.2**	**717**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature: ______________________

REPORTING FREQUENCY: MONTHLY

MONTH: March
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.059056			7.3		
2			0.062081					
3			0.063428					
4			0.061238					
5			0.063587					
6			0.060465					
7			0.066316					
8			0.059723			7.2		
9	204	138	0.057346	10	8		675	
10			0.056859					
11			0.060181					
12			0.060086					
13			0.058804					
14			0.061741					
15			0.055973			7.3		
16			0.056088					
17			0.055217					
18			0.060443					
19			0.060187					
20			0.059822					
21			0.064764					
22			0.059071					
23			0.057293					
24			0.058450			7.4		
25			0.064284					
26			0.063468					
27			0.060357					
28			0.062171					
29			0.058483			7.3		
30			0.056151					
31			0.057685					
30-DAY MEAN	204	138	0.060026	10	8	7.3	675	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:__________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: April
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.058817					
2			0.056653					
3			0.057681					
4			0.058158					
5			0.053280			7.3		
6			0.053553					
7			0.054797					
8			0.053742					
9			0.052713					
10			0.050727					
11			0.051016					
12			0.047840			7		
13	250	203	0.049596	10	9		612	
14			0.048959					
15			0.050825					
16			0.052864					
17			0.049706					
18			0.054230					
19			0.056855			7.2		
20			0.051134					
21			0.048910					
22			0.052408					
23			0.052768					
24			0.050628					
25			0.051821					
26			0.047316			7.1		
27			0.045679					
28			0.046945					
29			0.050365					
30			0.045043					
31								
30-DAY MEAN	**250**	**203**	**0.051834**	**10**	**9**	**7.2**	**612**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:____________________

[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS:	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.047343					
2			0.048305					
3			0.048525			7.1		
4			0.045415					
5			0.047139					
6			0.047369					
7			0.048289					
8			0.045465					
9			0.048568					
10			0.045952					
11	230	202	0.045282	9	11		715	
12			0.047467			7.1		
13			0.046549					
14			0.044758					
15			0.046379					
16			0.045421					
17			0.045586			7.1		
18			0.044314					
19			0.045721					
20			0.045163					
21			0.046549					
22			0.048463					
23			0.051167					
24			0.043597			7.1		
25			0.041659					
26			0.040967					
27			0.041783					
28			0.040686					
29			0.042132					
30			0.046118					
31			0.041340			7.1		
30-DAY MEAN	**230**	**202**	**0.045596**	**9**	**11**	**7.1**	**715**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:_______________

REPORTING FREQUENCY: MONTHLY

MONTH: June
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.039318					
2			0.042871					
3			0.038657					
4			0.037549					
5			0.038714					
6			0.040009					
7			0.040301			7		
8			0.044077					
9			0.044255					
10			0.041587					
11			0.040073					
12			0.040426					
13			0.039308					
14			0.034435			7.2		
15			0.038475					
16	226	249	0.037753	11	12		698	
17			0.037102					
18			0.038692					
19			0.043090					
20			0.040305					
21			0.039039					
22			0.044960					
23			0.039206			6.9		
24			0.038727					
25			0.038202					
26			0.037402					
27			0.042789					
28			0.038922			7.1		
29			0.038509					
30			0.042565					
31								
30-DAY MEAN	226	249	0.039911	11	12	7.1	698	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.037367					
2			0.039152					
3			0.041065					
4			0.042166					
5			0.038947			7.1		
6			0.037335					
7			0.039375					
8			0.037123					
9			0.042129					
10			0.041767					
11			0.038772					
12			0.037119			7.6		
13	212	176	0.041502	7	9		732	
14			0.041986					
15			0.045250					
16			0.046505					
17			0.046057					
18			0.043696					
19			0.042671			7.5		
20			0.043281					
21			0.042420					
22			0.042258					
23			0.040755					
24			0.042182					
25			0.040093					
26			0.038064					
27			0.040083					
28			0.040823			7.5		
29			0.043223					
30			0.045046					
31			0.043253					
30-DAY MEAN	**212**	**176**	**0.041338**	**7**	**9**	**7.4**	**732**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:__________________ __________

REPORTING FREQUENCY: **MONTHLY**

MONTH: August
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400[2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.043464					
2			0.041074			7.80		
3			0.043507					
4			0.043215					
5			0.040787					
6			0.043027					
7			0.043858					
8			0.043337					
9			0.046279			7.78		
10			0.036667					
11			0.038565					
12			0.039086					
13			0.038123					
14			0.038940					
15			0.040494					
16			0.039195			7.76		
17			0.048789					
18			0.042733					
19			0.039902					
20			0.041835					
21			0.041708					
22			0.042228					
23			0.044035			7.81		
24			0.044246					
25	140	169	0.039624	32	32		674	
26			0.042769					
27			0.045869					
28			0.049450					
29			0.056380					
30			0.044887			7.55		
31	161	161	0.039078	8	10			
30-DAY MEAN	**151**	**165**	**0.042682**	**20**	**21**	**7.74**	**674**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: September
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.043193					
2			0.043231					
3			0.044515					
4			0.044725					
5			0.042572					
6			0.040183			7.44		
7			0.037152					
8			0.038605					
9			0.036829					
10			0.042544					
11			0.037669					
12			0.039557					
13			0.038718			7.48		
14	128	141	0.038494	3	4		688	
15			0.040186					
16			0.041626					
17			0.042915					
18			0.042366					
19			0.040747					
20			0.041310			7.59		
21			0.042911					
22			0.043055					
23			0.042957					
24			0.045123					
25			0.046442					
26			0.044260					
27			0.043554			7.61		
28			0.047302					
29			0.045707					
30			0.051070					
31			0.054167					
30-DAY MEAN	128	141	0.042700	3	4	7.53	688	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: MONTHLY

MONTH: October
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400[2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.054167					
2			0.050885					
3			0.046836					
4			0.042437			7.50		
5			0.040902					
6			0.042738					
7			0.046154					
8			0.047669					
9			0.047293					
10			0.044804					
11			0.047260			7.74		
12			0.047248					
13			0.043320					
14			0.044187					
15			0.048998					
16			0.054322					
17			0.060263					
18			0.054656			7.50		
19	235	169	0.045088	5	5		501	
20			0.045975					
21			0.048200					
22			0.048667					
23			0.049014					
24			0.051920					
25			0.048388			7.19		
26			0.047967					
27			0.050952					
28			0.051232					
29			0.055926					
30			0.053208					
31			0.052286					
30-DAY MEAN	**235**	**169**	**0.048805**	**5**	**5**	**7.48**	**501**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: November
YEAR: 2005

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.052315					
2			0.052191			7.61		
3			0.053603					
4			0.058341					
5			0.056391					
6			0.059127					
7			0.056789					
8			0.058699					
9	133	101	0.060591	6	6	7.14	718	
10			0.062464					
11			0.065289					
12			0.063032					
13			0.059852					
14			0.061521					
15			0.054953					
16			0.055665			7.18		
17			0.053654					
18			0.051908					
19			0.053125					
20			0.052987					
21			0.054533					
22			0.052594					
23			0.054118			7.48		
24			0.056968					
25			0.055558					
26			0.057219					
27			0.055626					
28			0.056981					
29			0.053720			7.12		
30			0.053250					
31								
30-DAY MEAN	133	101	**0.056435**	6	6	7.31	718	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

Signature: ______________________

[2]TDS shall not exceed 400 mg/L above domestic water supply

MONTH: December
YEAR: 2005

REPORTING FREQUENCY: **MONTHLY**

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.054911					
2			0.055768					
3			0.056428					
4			0.053752					
5			0.057770					
6			0.056693			6.95		
7			0.005960					
8			0.056812					
9			0.057372					
10			0.058585					
11			0.054654					
12			0.062171					
13			0.062850			7.08		
14	220	256	0.059500	16	29		641	
15			0.060457					
16			0.062577					
17			0.063130					
18			0.062237					
19			0.064518					
20			0.061981			7.04		
21			0.058196					
22			0.061815					
23			0.061242					
24			0.061746					
25			0.061562					
26			0.068922					
27			0.064443			7.1		
28			0.064050					
29			0.068714					
30			0.064450					
31			0.060105					
30-DAY MEAN	**220**	**256**	**0.058818**	**16**	**29**	**7.04**	**641**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:____________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: January
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.059712					
2			0.068390					
3			0.061724			7.17		
4			0.056070					
5			0.053117					
6			0.056831					
7			0.059051					
8			0.057152					
9			0.058777					
10			0.060493			7.27		
11			0.058144					
12	265	126	0.059137	15	27		618	
13			0.060381					
14			0.061430					
15			0.062557					
16			0.067080					
17			0.058816			7.18		
18			0.059283					
19			0.060313					
20			0.066658					
21			0.061805					
22			0.061751					
23			0.061497					
24			0.055282			7.03		
25			0.058789					
26			0.060961					
27			0.061467					
28			0.059714					
29			0.057252					
30			0.060738					
31			0.058804			7.1		
30-DAY MEAN	**265**	**126**	**0.060102**	**15**	**27**	**7.15**	**618**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: February
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.055761					
2			0.057754					
3			0.060871					
4			0.059086					
5			0.057450					
6			0.057104					
7			0.055185			6.94		
8			0.052090					
9			0.056605					
10			0.061476					
11			0.057105					
12			0.057110					
13			0.058088					
14			0.058400			6.73		
15			0.060262					
16	233	298	0.063962	14	34		627	
17			0.065098					
18			0.063711					
19			0.065769					
20			0.063590					
21			0.062013			6.9		
22			0.059561		19			
23			0.059904					
24			0.062575					
25			0.592670					
26			0.058395					
27			0.062431					
28			0.063569			7.22		
29								
30								
31								
30-DAY MEAN	233	298	0.078843	14	27	6.95	627	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

								MONTH: March
REPORTING FREQUENCY:	**MONTHLY**							YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.057830					
2			0.060791					
3			0.062901					
4			0.061133					
5			0.059073					
6			0.062138					
7			0.060018			7.07		
8			0.056515					
9			0.059313					
10			0.063909					
11			0.067706					
12			0.060108					
13			0.063566					
14			0.058615			7.13		
15			0.056540					
16			0.058815					
17			0.063044					
18			0.064525					
19			0.063382					
20			0.064858					
21			0.061028			7.05		
22			0.062174					
23			0.059445					
24			0.058007					
25			0.062350					
26			0.060766					
27			0.056848					
28			0.056520			7.01		
29	231	207	0.055405	17	13		716	
30			0.056290					
31			0.054912					
30-DAY MEAN	**231**	**207**	**0.060275**	**17**	**13**	**7.07**	**716**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:__________________ ________

[1] Flow Measurement

[2] TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: MONTHLY

MONTH: April
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.052888					
2			0.053075					
3			0.052141					
4			0.050328					
5			0.053873					
6			0.051574			6.98		
7			0.049629					
8			0.052900					
9			0.050388					
10			0.052639					
11			0.048342			7.07		
12			0.050423					
13			0.048283					
14			0.049416					
15			0.053285					
16			0.049532					
17			0.053196					
18			0.044472			7.03		
19	221	207	0.043572	22	26		742	
20			0.045378					
21			0.046039					
22			0.048650					
23			0.048581					
24			0.048631					
25			0.046890			7.21		
26			0.045235					
27			0.048828					
28			0.046901					
29			0.051022					
30			0.051473					
31								
30-DAY MEAN	**221**	**207**	**0.049586**	**22**	**26**	7.07	**742**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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Signature:____________________

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

REPORTING FREQUENCY: **MONTHLY**

MONTH: May
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.051830					
2			0.050638			6.98		
3			0.050197					
4			0.049388					
5			0.050674					
6			0.051464					
7			0.048733					
8			0.050034					
9			0.045577			7.06		
10	235	240	0.045577	8	6		648	
11			0.050423					
12			0.051073					
13			0.052876					
14			0.046787					
15			0.049770					
16			0.046458			7.09		
17			0.046899					
18			0.045764					
19			0.047516					
20			0.047806					
21			0.047679					
22			0.047353					
23			0.047719			7.25		
24			0.045911					
25			0.047552					
26			0.045764					
27			0.049705					
28			0.044942					
29			0.049618					
30			0.045209			7.03		
31			0.044287					
30-DAY MEAN	235	240	0.048233	8	6	7.08	648	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

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[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: June
YEAR: 2006

TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.046231					
2			0.046163					
3			0.046919					
4			0.047263					
5			0.045196					
6			0.046905			7.05		
7			0.044086					
8			0.043779					
9			0.044955					
10			0.048735					
11			0.042837					
12			0.042357					
13			0.039834			6.88		
14			0.041326					
15			0.038546					
16			0.038913					
17			0.042388					
18			0.042071					
19			0.042868					
20			0.034776			7.02		
21	254	291	0.038323	14	29		747	
22			0.037187					
23			0.041672					
24			0.043473					
25			0.036451					
26			0.043370					
27			0.038807			7.01		
28			0.038021					
29			0.042224					
30			0.038236					
31								
30-DAY MEAN	**254**	**291**	**0.042130**	**14**	**29**	**6.99**	**747**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

[1]Flow Measurement

[2]TDS shall not exceed 400 mg/L above domestic water supply

Signature:______________________________

REPORTING FREQUENCY: **MONTHLY**

MONTH: July
YEAR: 2006

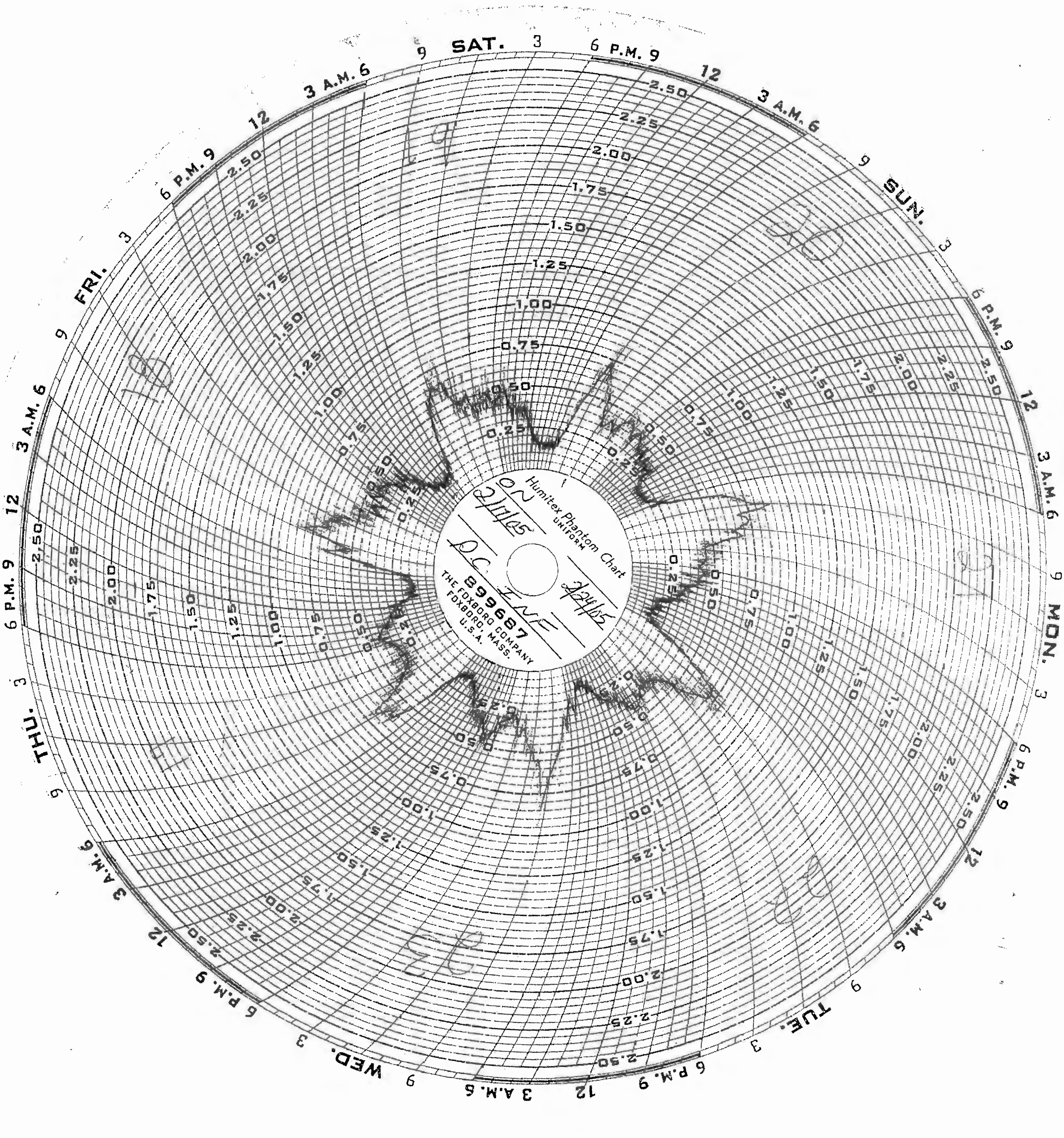
TYPE OF SAMPLE	INFLUENT		EFFLUENT MONITORING					
CONSTITUENTS	BOD	TSS	FLOW	BOD	TSS	Ph	TDS	
FREQUENCY:	Monthly (M)	M	Daily (D)	M	M	Weekly (W)	M	
DESCRIPTION:	24-Hr Composite (C)		Flow[1]	C	C	Grab (G)	C	
UNITS:	mg/L	mg/L	mgd	mg/L	mg/L	pH units	mg/L	
REQUIREMENTS:								
30-DAY MEAN				30	30	6 - 9	400 [2]	
7-DAY MEAN				45	45	6 - 9		
MAXIMUM			0.18					
DATE OF SAMPLE:								
1			0.041608					
2			0.037454					
3			0.035845			7.14		
4			0.039812					
5			0.038536					
6			0.039126					
7			0.039177					
8			0.042307					
9			0.041906					
10			0.039140					
11			0.036626			7.26		
12			0.039403					
13			0.037679					
14			0.038241					
15			0.038336					
16			0.043411					
17			0.043443					
18			0.049132			7.13		
19	180	158	0.047262	13	30		617	
20			0.041159					
21			0.041930					
22			0.039880					
23			0.040150					
24			0.047964					
25			0.042267			6.99		
26			0.045467					
27			0.039176					
28			0.040533					
29			0.038669					
30			0.040349					
31			0.037477					
30-DAY MEAN	**180**	**158**	**0.040828**	**13**	**30**	**7.13**	**617**	
7-DAY MEAN	----	----	----				----	----
MAXIMUM	----	----		----	----	----	----	----

I certify under penalty of law that this document and all attachments were prepared under the direction of supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information. The information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations

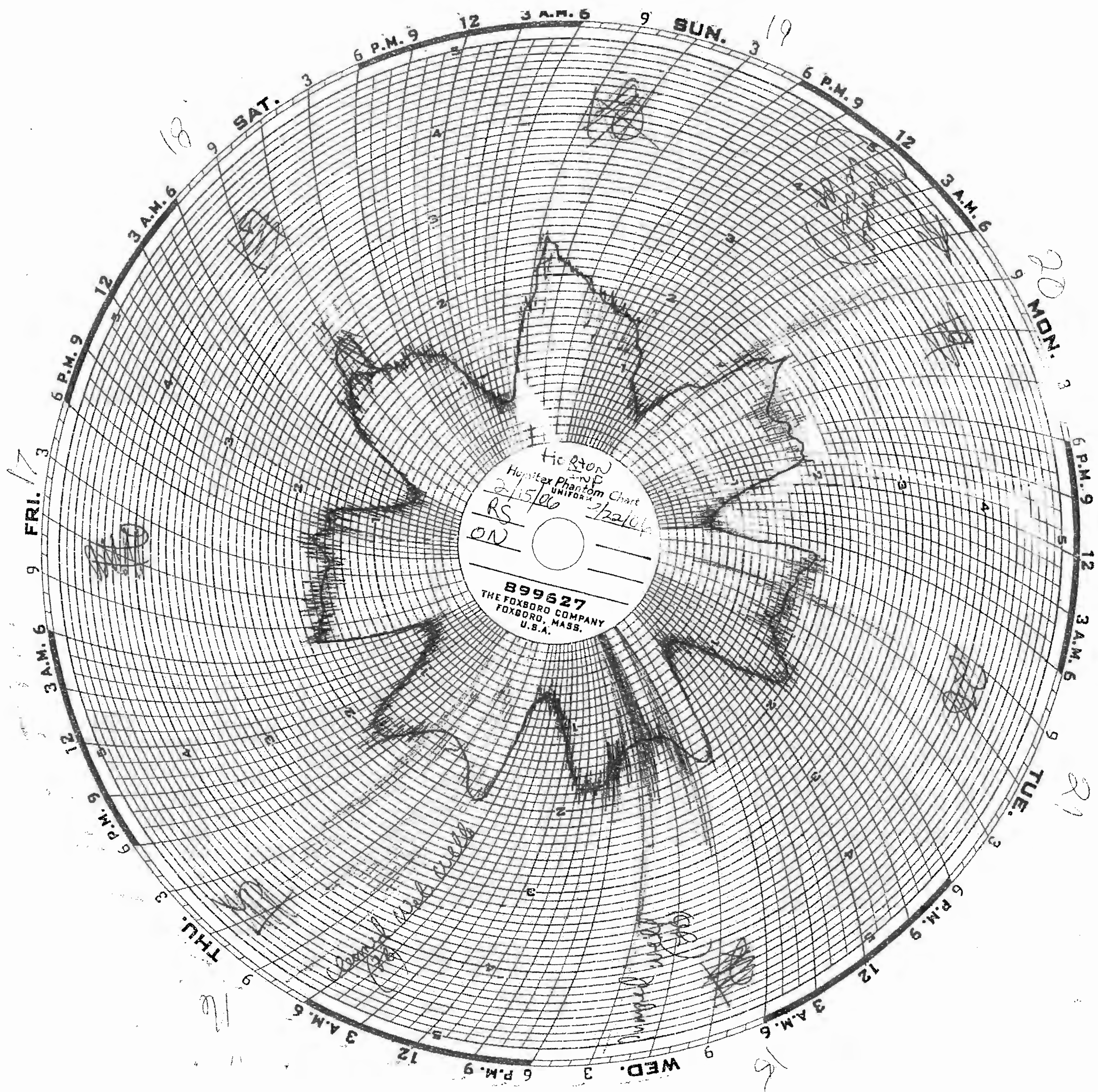
[1]Flow Measurement
[2]TDS shall not exceed 400 mg/L above domestic water supply

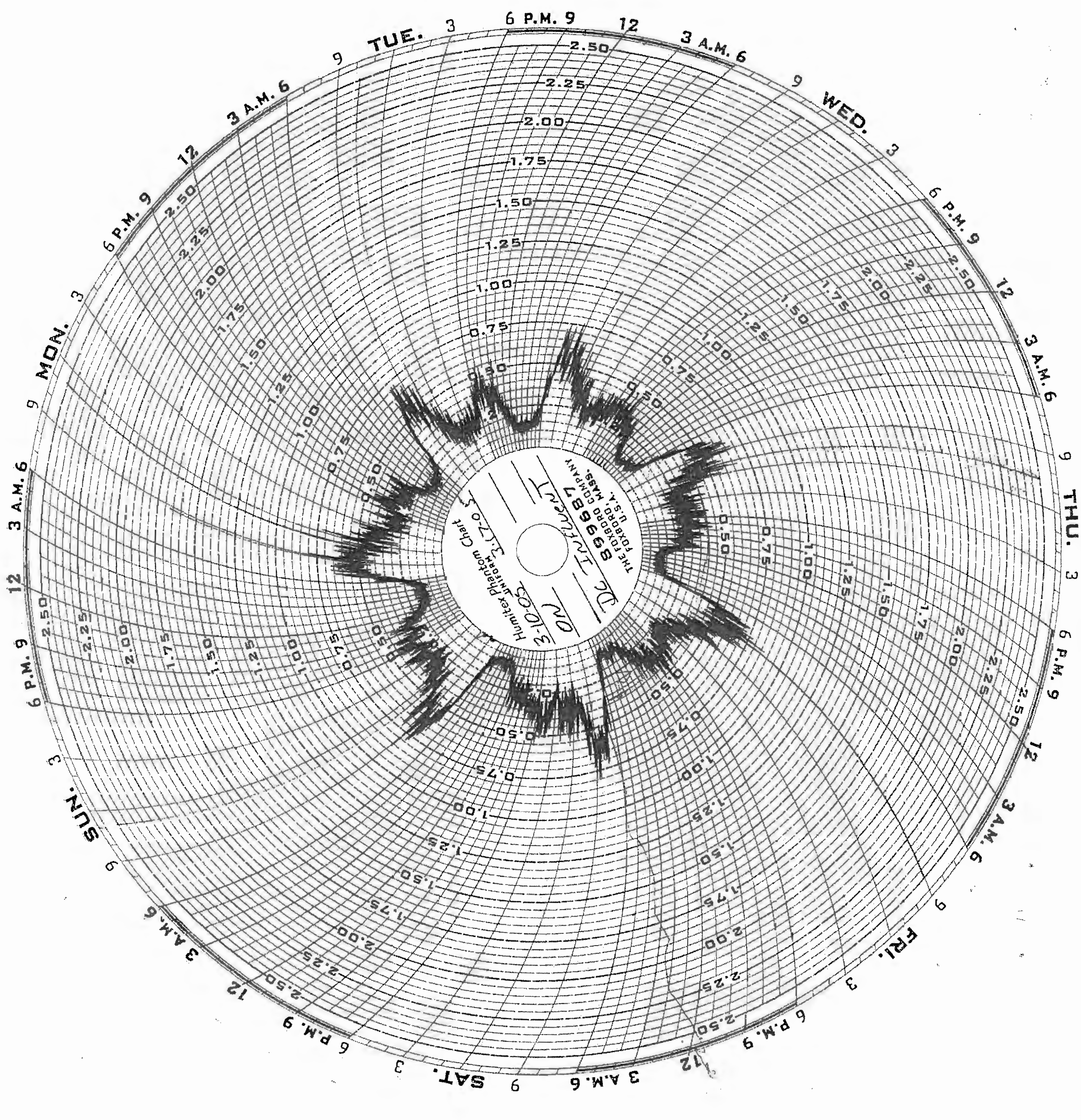
Signature:________________________

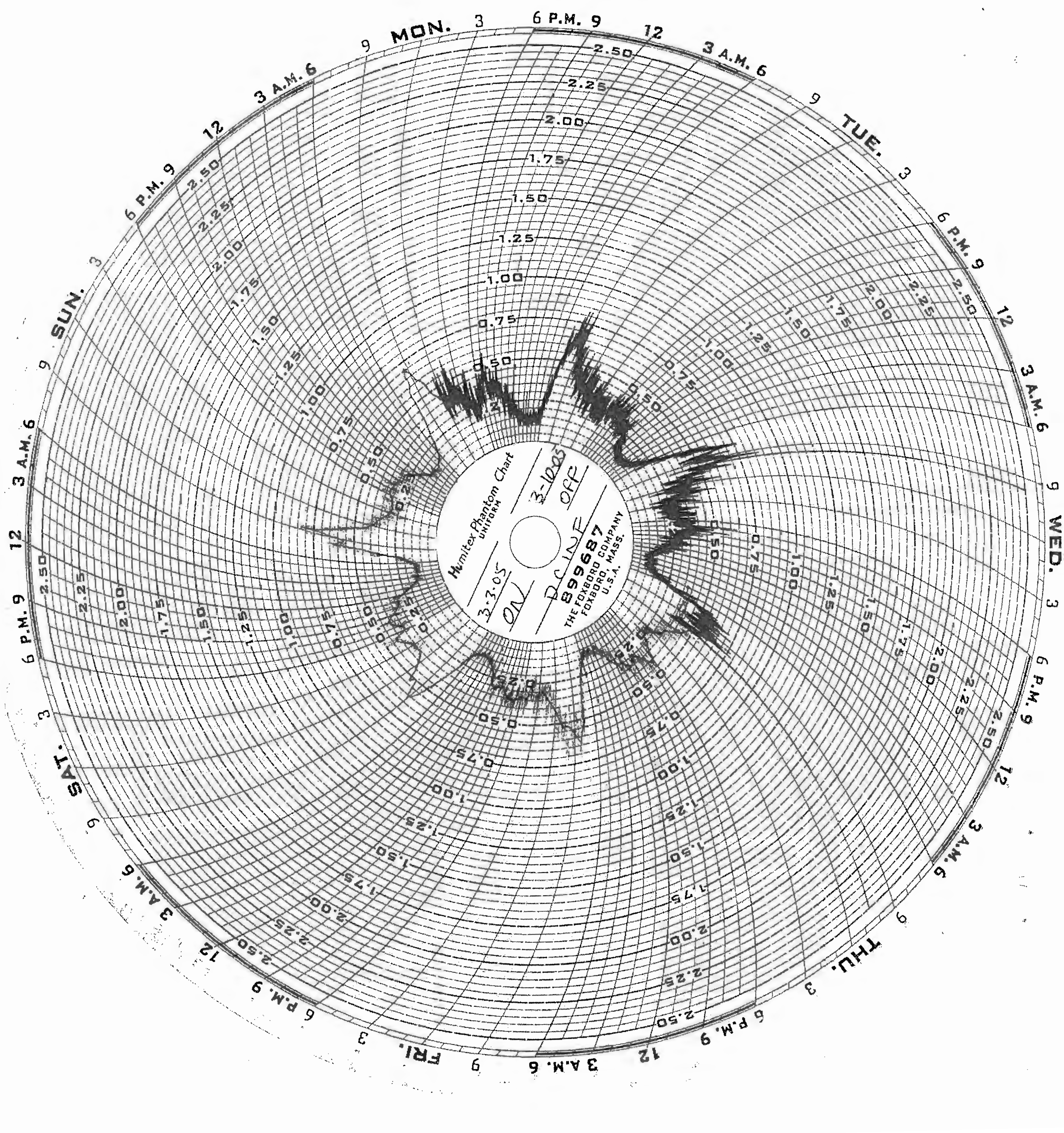
Feb 17-23rd, 2005
Decent Cart
2/18 .42
2/19 .38
2/21 .98
2/23 .44



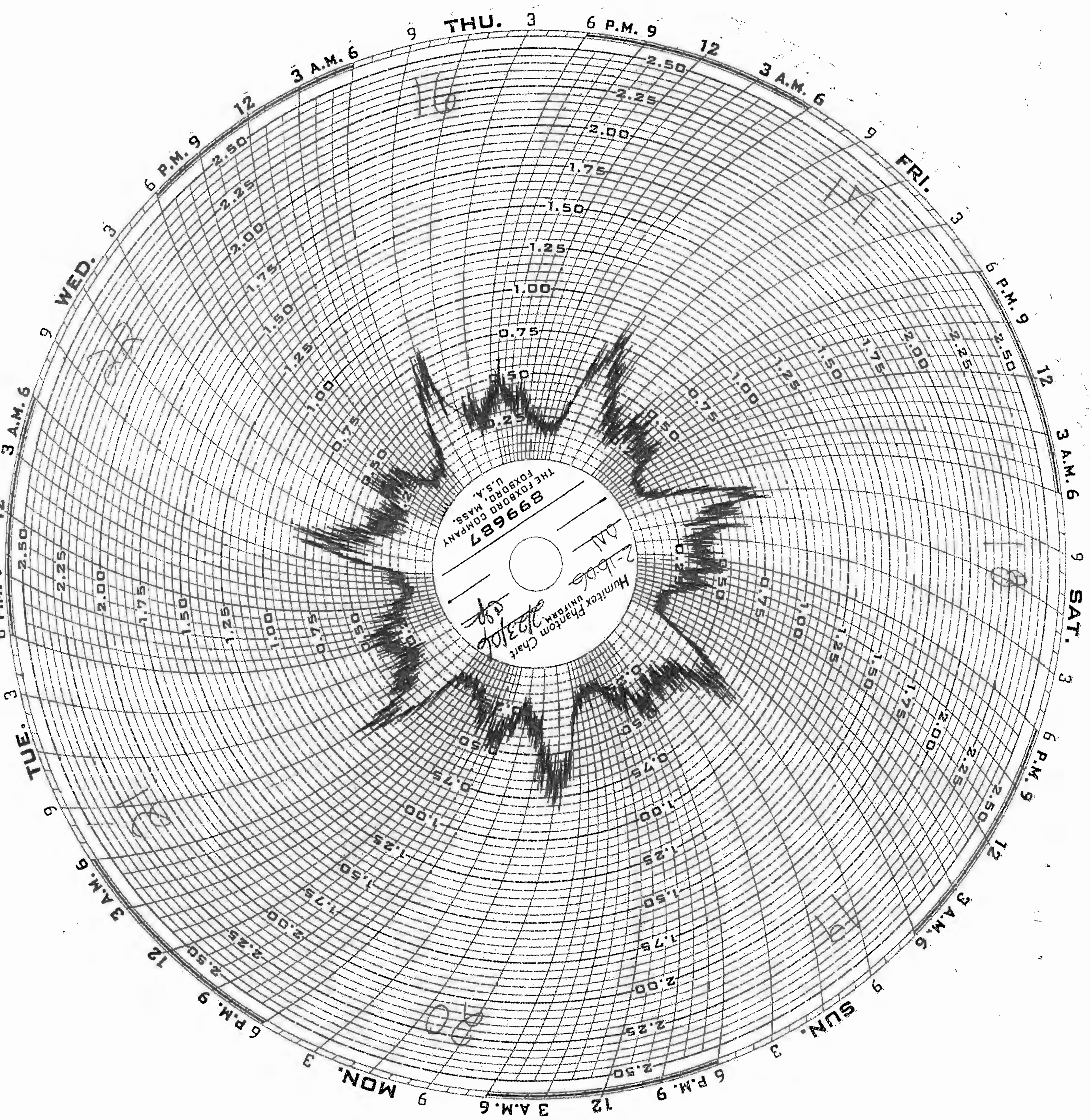
Feb 19, 2006
Mass Day
@ Horton

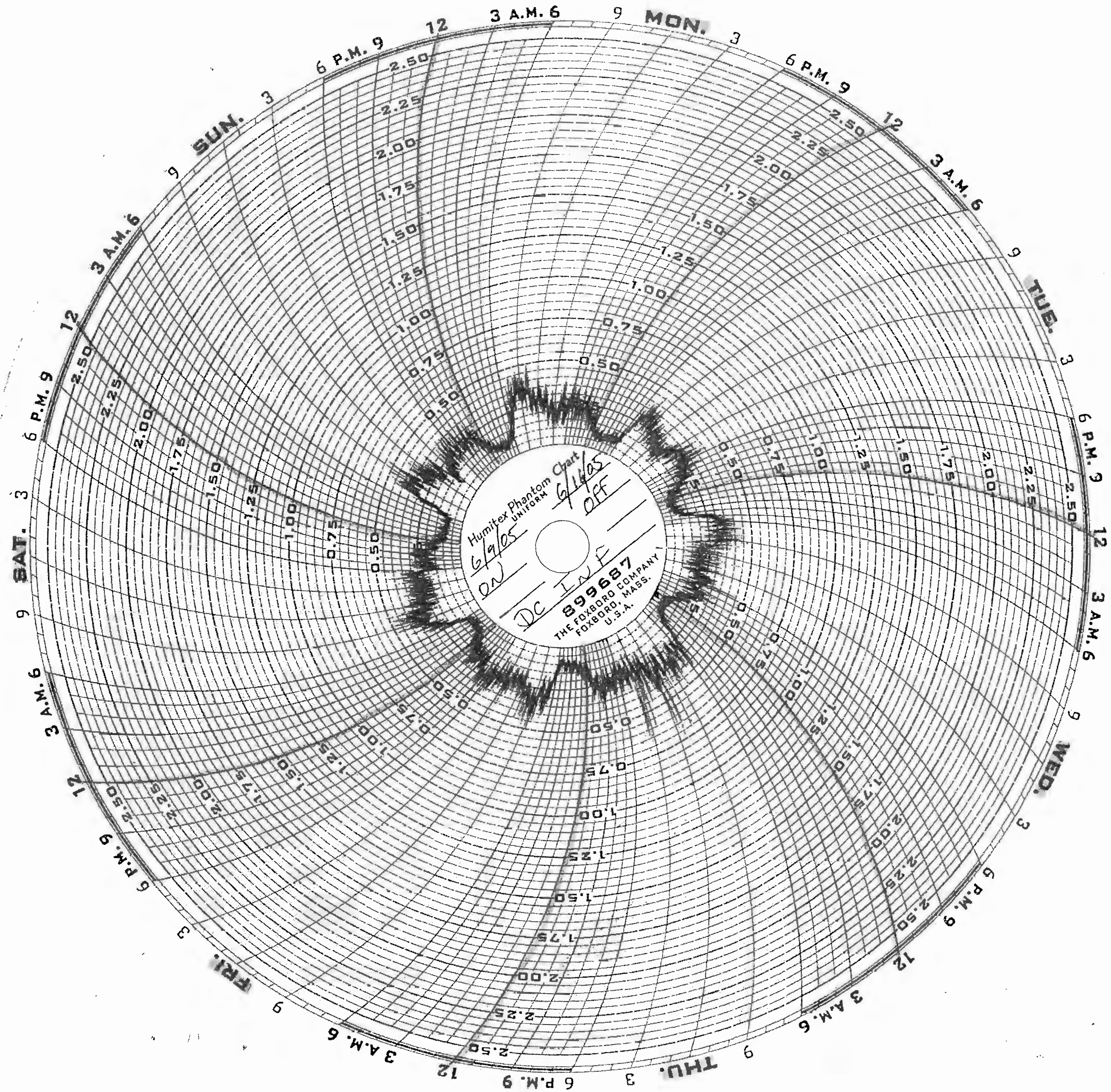



MON.
TUE.
WED.
THU.
FRI.
SAT.
SUN.
Humitex Phantom Chart
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.


Humitex Phantom Chart
UNIFORM
3-3-05 ON
3-10-05 OFF
B99687
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.
MON.
TUE.
WED.
THU.
FRI.
SAT.
SUN.
3 A.M. 6
6 P.M. 9
12
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
2.25
2.50

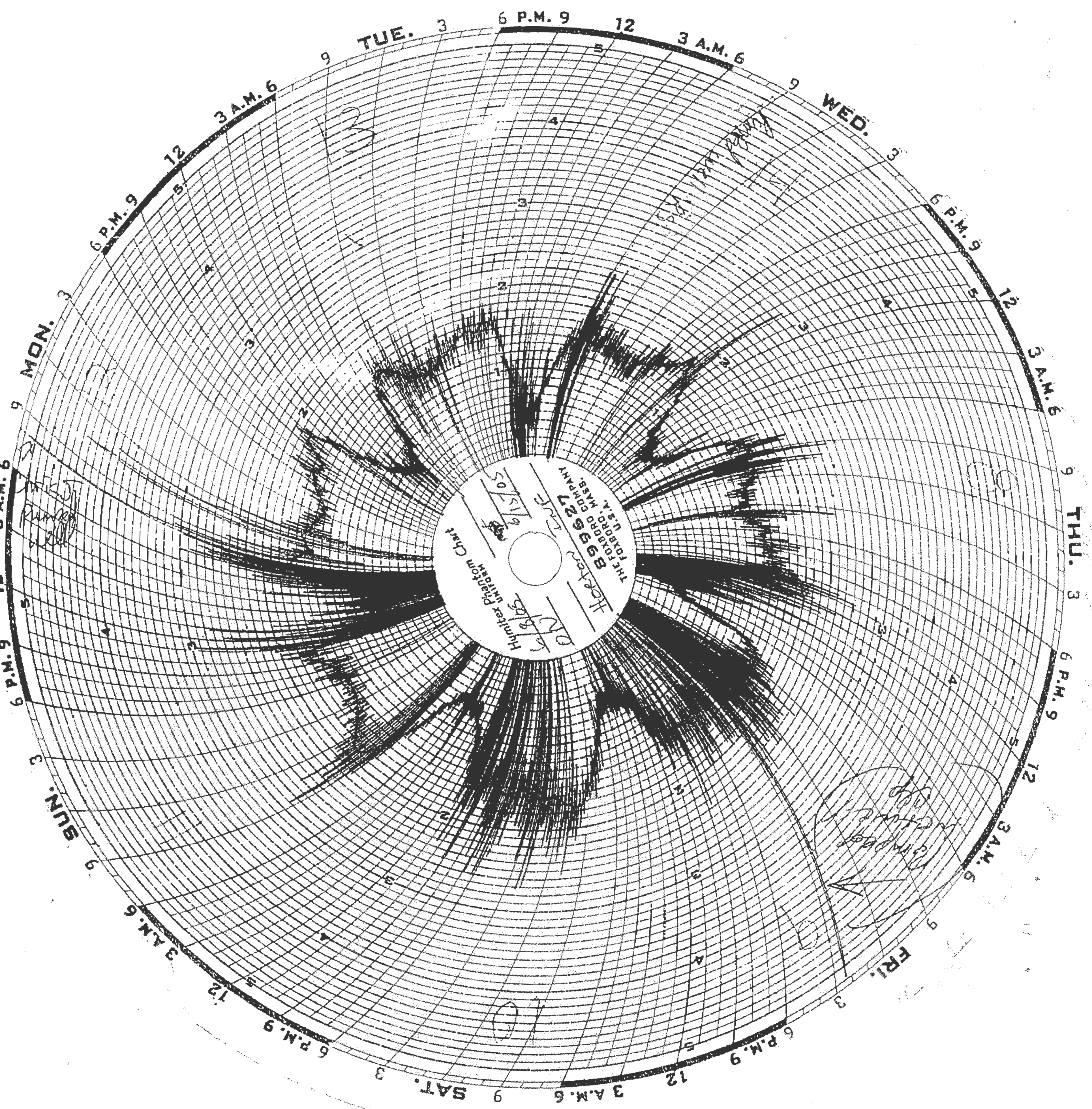
Feb 19, 2006
Max Day
Desert Test

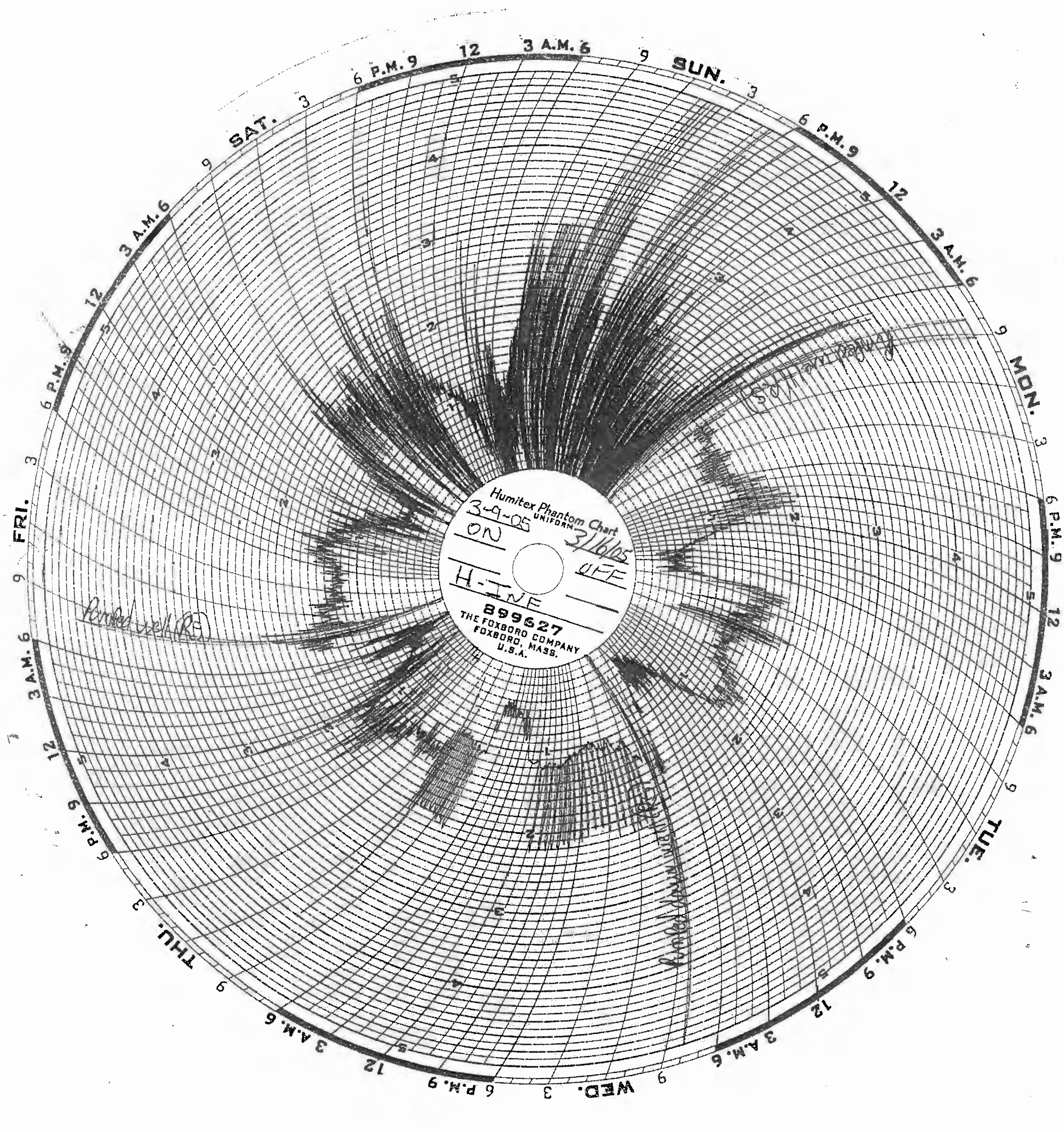




June 14th - Mis Day
Desert Crest

June 14th, 2005
Min Day
Horton




Humitex Phantom Chart
UNIFORM
3-9-05
ON
3/16/05
OFF
H-INF
899627
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.
SUN.
MON.
TUE.
WED.
THU.
FRI.
SAT.

October 16-19, 2005

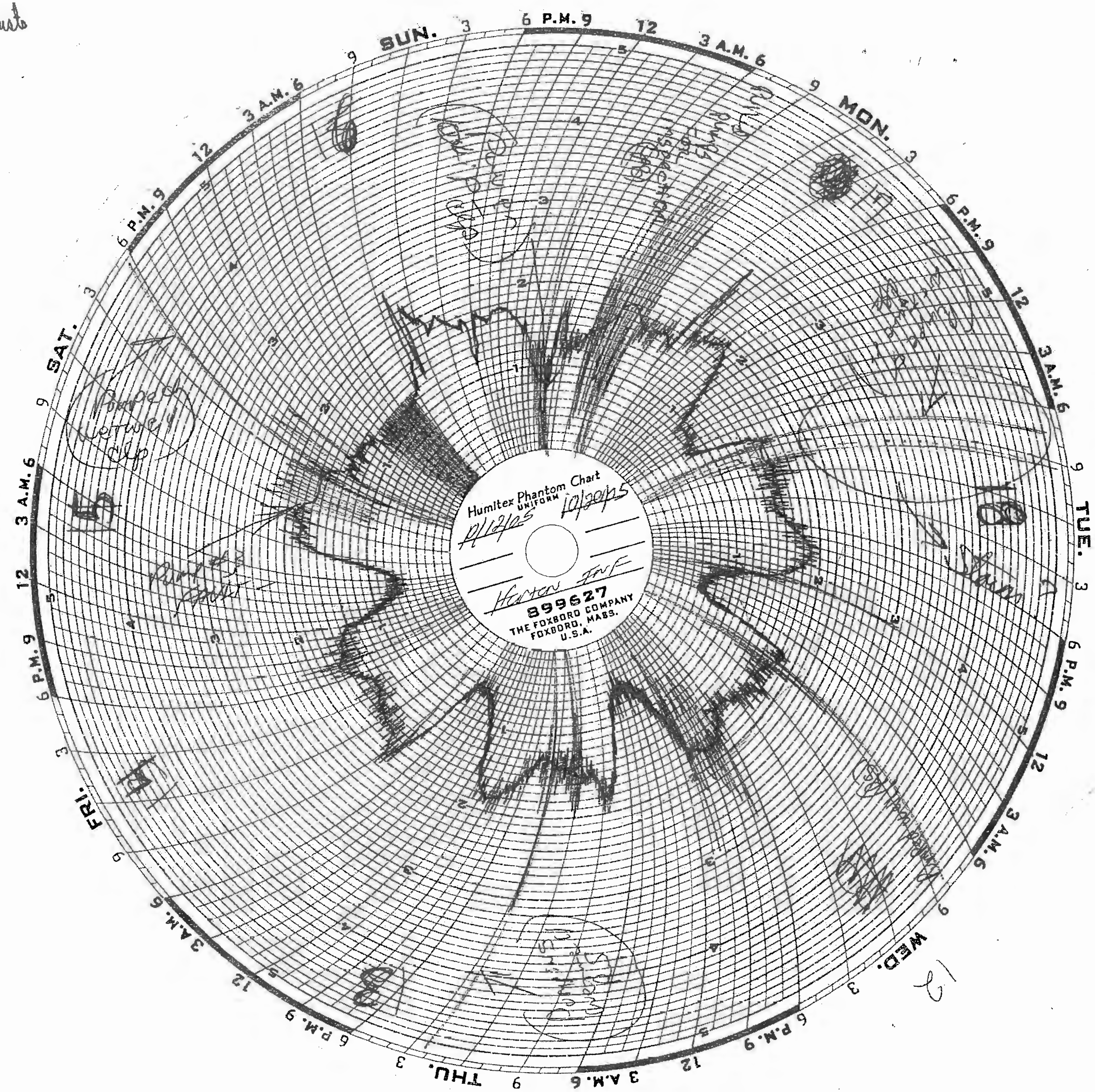
Horton

10/17 1.1 in
10/18 .71 in

The [illegible]

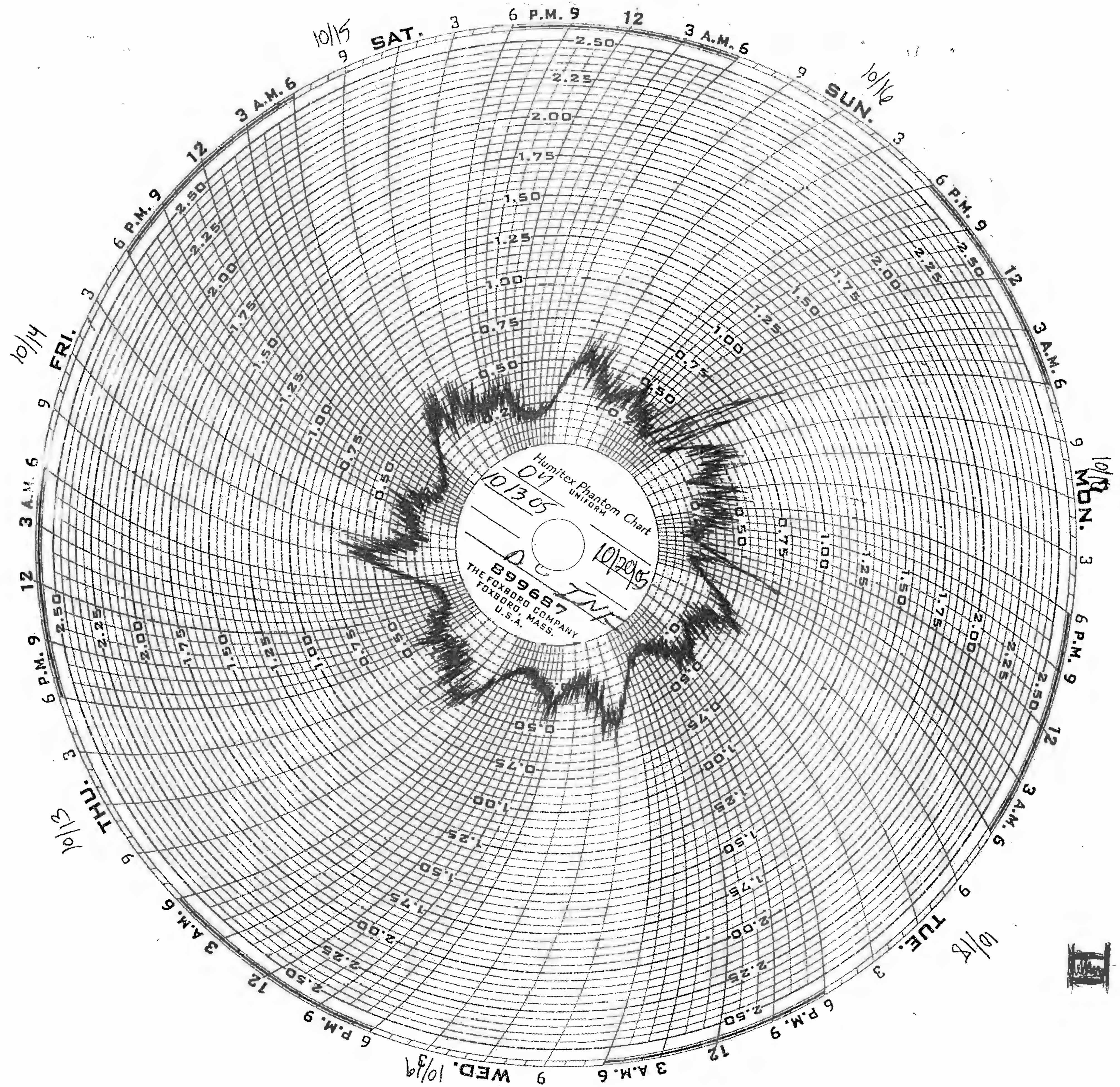
DC PEAKS	
2.34	1.96
1.76	1.59
2.55	2.09
2.10	1.70

HORTON PEAKS	
1.49	1.33
1.96	1.51
1.73	1.34
2.00	1.51

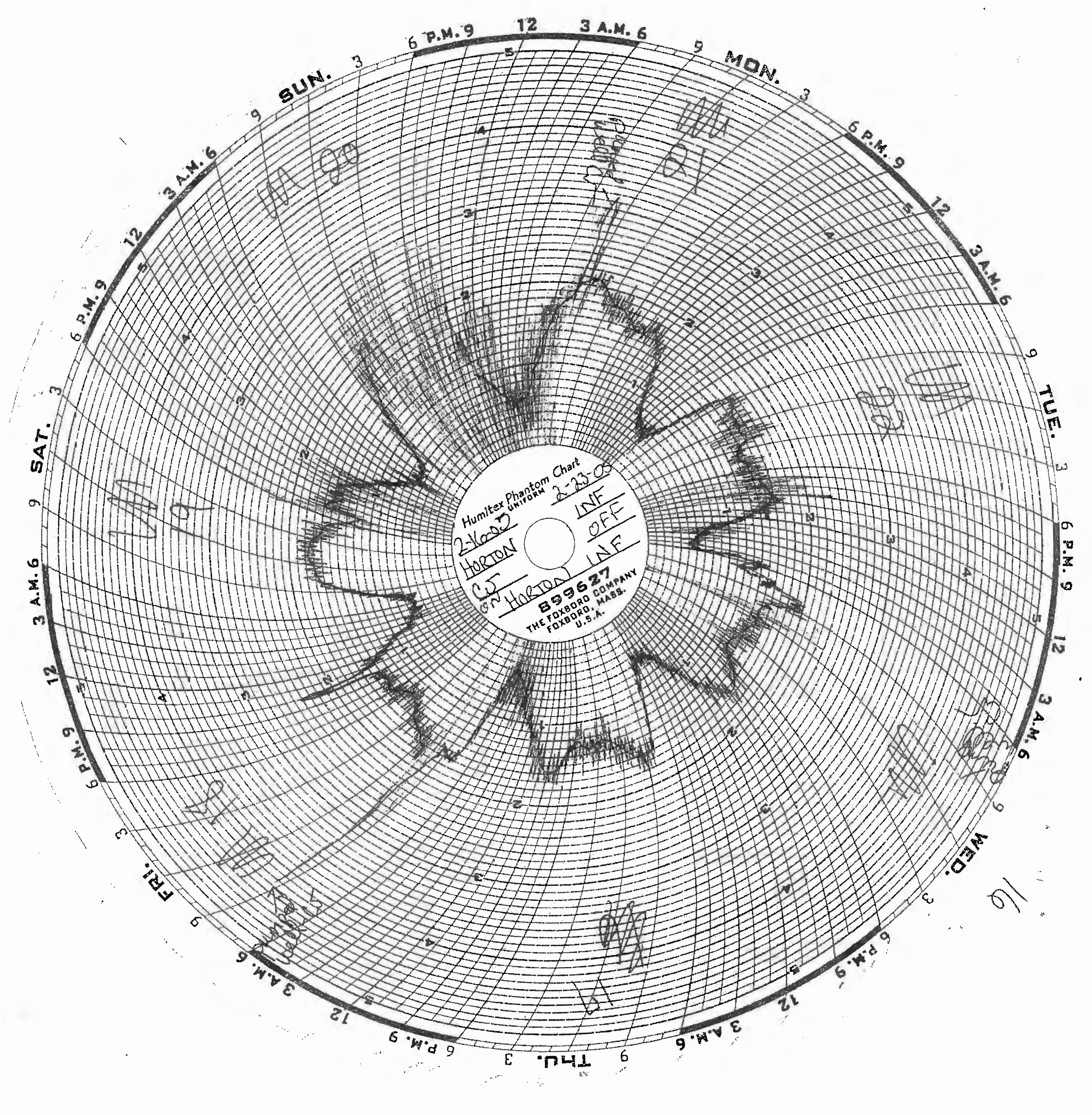


10/17 - 1.1 in
10/18 0.71 in

October
16-19 2005
Desert Crest



Feb 17-22 2005
Horton



Appendix B

Water Supply Records

MISSION SPRINGS WATER DISTRICT PAGE 1 TIME 10:34:23 10-12-06
(PUB777:FUB22) COUNT OF ACTIVE AND INACTIVE ACCOUNTS BY USER CATAGORY

CATEGORY.................	ACTIVE COUNT...	INACTIVE COUNT...	CUSTMER COUNT...	SEWER COUNT...	NON SEWER COUNT....	CURR FY YR CCF CONS......	SEWER CONS...........	NON SEWER CONS...........
101 SINGLE FAMILY RESIDEN	10,758	421	11,179	5,442	5,737	1,093,380	509,498	583,882
102 MULTIPLE FAMILY RESID	658	22	680	422	258	191,069	147,619	43,450
103 MOBILHOME PARKS	13	0	13	3	10	89,288	15,973	73,315
201 RETAIL STORES	32	3	35	27	8	2,957	1,822	1,135
202 OFFICES	38	3	41	33	8	2,824	1,614	1,210
203 BARS	2	0	2	2	0	141	141	0
204 CAR WASHES	2	0	2	2	0	696	696	0
206 SERVICE SHOPS	22	0	22	12	10	7,698	4,256	3,442
207 LAUNDROMATS	2	0	2	2	0	1,923	1,923	0
208 HOSPITALS	7	2	9	4	5	5,574	568	5,006
209 UNCLASSIFIED	14	2	16	12	4	3,729	2,756	973
211 COMMERCIAL	72	3	75	28	47	7,992	1,708	6,284
301 REPAIR SHOP & SERVICE	11	2	13	10	3	1,285	1,082	203
302 HOTELS/MOTELS (W/O RE	50	7	57	48	9	27,808	22,763	5,045
303 MANUFACTURING	3	0	3	0	3	1,573	0	1,573
401 HOTELS/MOTELS (W REST	4	0	4	3	1	25,420	10,085	15,335
402 MARKETS	3	0	3	2	1	3,474	3,244	230
403 MORTUARY	2	0	2	2	0	166	166	0
404 RESTAURANTS	32	3	35	28	7	8,587	5,804	2,783
500 MSWD ACCOUNTS	33	1	34	0	34	6,596	0	6,596
501 SCHOOLS (NURSERY)	2	0	2	1	1	96	83	13
503 GOVERNMENT	14	0	14	12	2	1,584	1,403	181
506 RELIGIOUS ORGANIZATIO	21	3	24	13	11	3,176	1,710	1,466
511 MSWD PRODUCTION - WEL	12	0	12	0	12	1,518,221	0	1,518,221
801 SCHOOLS	22	0	22	8	14	14,517	1,414	13,103
900 DETECTOR CHECK	1	0	1	0	1	0	0	0
901 TRACT CONSTRUCTION WA	61	0	61	0	61	80,875	0	80,875
999 LANDSCAPE-IRRIGATION	117	10	127	0	127	148,594	0	148,594
	========	========	========	========	========	==============	==============	==============
TOTAL	12,008	482	12,490	6,116	6,374	3,249,243	736,328	2,512,915

12490 records listed

249

2,092 EDU's

259 EDU's

SORT BY APN

SORT ACCOUNTS BY-DSND 57 985 2 57 TOTAL M1 TOTAL M2 LPTR 09:34:47 Nov 03 2006 1

ACCOUNTS....	USER CATEGORY....................	SERVICE ADDRESS..........	APN........	07/01/05-06/30/06 USAGE...........	07/01/04-06/30/05 USAGE...........
26-038090-10	SCHOOLS	65850 PIERSON "A"	6641900406	1,361	1,156
-101200-10	RETAIL STORES	14011 PALM "A"	6641900275	928	1,025
-871500-0	SCHOOLS	11605 WEST	6641900154	2,538	1,487
26-656990-5	LAUNDROMATS	65945 PIERSON	6633020075	4,805	6,425
26-019968-0	UNCLASSIFIED	15300 PALM	6560800133	1,587	1,289
26-021008-11	HOTELS/MOTELS (W RESTAURANTS)	14500 PALM	6560500107	9,622	9,560
-021258-0	MARKETS	14200 PALM--VONS	6560400249	4,285	4,011
-021248-12	SERVICE SHOPS	14208 PALM BLDG A	6560400139	2,359	2,202
-021208-0	RESTAURANTS	14290 PALM #413	6560400128	1,262	1,508
-021218-10	RESTAURANTS	14280 PALM	6560400117	1,149	1,355
26-101350-0	RESTAURANTS	14577 PALM "A"	6560200335	754	832
26-207003-11	UNCLASSIFIED	69400 COUNTRY CLUB	6540210012	1,827	1,505
26-833001-8	HOTELS/MOTELS (W/O RESTAURANTS)	68187 CLUB CIRCLE	6440720164	907	335
26-837001-12	HOTELS/MOTELS (W/O RESTAURANTS)	68075 CLUB CIRCLE	6440720032	710	812
26-838001-12	HOTELS/MOTELS (W/O RESTAURANTS)	68055 CLUB CIRCLE	6440720010	903	357
26-776001-13	HOTELS/MOTELS (W/O RESTAURANTS)	67751 HACIENDA	6421850026	934	1,841
26-775591-11	HOTELS/MOTELS (W RESTAURANTS)	67585 HACIENDA "A"	6421820160	2,593	1,992
26-775611-12	HOTELS/MOTELS (W/O RESTAURANTS)	67585 HACIENDA "C"	6421820016	981	526
26-775321-12	HOTELS/MOTELS (W/O RESTAURANTS)	67485 HACIENDA	6421640076	3,413	5,641
26-896001-10	HOTELS/MOTELS (W/O RESTAURANTS)	12673 REPOSO WAY	6421220021	955	1,073
26-894001-10	HOTELS/MOTELS (W/O RESTAURANTS)	12885 ELISEO	6421210237	2,707	1,202
26-898001-2	HOTELS/MOTELS (W/O RESTAURANTS)	12672 ELISEO	6421120020	708	1,082
26-913001-10	HOTELS/MOTELS (W/O RESTAURANTS)	12801 TAMAR	6420820084	755	948
26-911001-12	HOTELS/MOTELS (W/O RESTAURANTS)	12921 TAMAR	6420820040	1,234	1,224
26-912001-10	HOTELS/MOTELS (W/O RESTAURANTS)	12800 FOXDALE	6420820017	1,732	1,084
26-900001-10	COMMERCIAL	67616 DESERT VIEW	6420600130	693	928
26-903001-10	HOSPITALS	12379 MIRACLE HILL	6420500063	936	1,613
26-916001-16	HOTELS/MOTELS (W/O RESTAURANTS)	67221 PIERSON	6420410054	1,264	641
021350-13	RESTAURANTS	13900 PALM	6412960644	1,951	1,932
021358-11	CAR WASHES	13900 PALM "B"	6412960644	2,218	3,840
524890-0	SERVICE SHOPS	66950 IRONWOOD (POOL) "J"	6412810192	2,349	1,982
022228-10	UNCLASSIFIED	66550 IRONWOOD	6412710058	739	802
021748-10	COMMERCIAL	13140 PALM	6412610211	813	641
021758-10	SERVICE SHOPS	13100 PALM	6412610211	800	902
021810-0	CAR WASHES	13040 PALM	6412610190	960	1,011
021708-1	RESTAURANTS	13010 PALM	6412610178	1,323	1,083
021728-0	MARKETS	13200 PALM	6412610145	3,619	3,434
000406-1	RESTAURANTS	13947 PALM	6412520060	2,035	1,834
004006-12	HOTELS/MOTELS (W/O RESTAURANTS)	13495 PALM	6412140194	875	1,202
007006-12	HOTELS/MOTELS (W/O RESTAURANTS)	13355 PALM	6412140150	2,500	1,147
26-009006-18	SERVICE SHOPS	13163 PALM	6412040236	1,070	595
26-003105-13	LAUNDROMATS	13189 PALM DR "A"	6412040193	3,695	1,244
26-012340-0	REPAIR SHOP & SERVICE STATIONS	12775 PALM	6410910238	1,709	1,359
46000-10	HOTELS/MOTELS (W/O RESTAURANTS)	66185 ACOMA	6410220191	1,022	1,089
38001-11	HOTELS/MOTELS (W/O RESTAURANTS)	12991 CRESCENT	6393010273	1,902	1,359
37001-11	HOTELS/MOTELS (W/O RESTAURANTS)	11190 MESQUITE	6393010239	881	1,564
43001-0	COMMERCIAL	66546 1ST	6392910163	913	1,427
58001-11	HOTELS/MOTELS (W/O RESTAURANTS)	66700 5TH	6392720153	2,905	3,116
00001-10	HOTELS/MOTELS (W/O RESTAURANTS)	66659 6TH	6392720131	967	2,038
59001-13	HOTELS/MOTELS (W/O RESTAURANTS)	66634 5TH	6392720087	1,049	876
04501-10	HOTELS/MOTELS (W/O RESTAURANTS)	11000 PALM "A"	6392610160	5,756	12,210

SORT ACCOUNTS BY-DSND 57 985 2 57 TOTAL M1 TOTAL M2 LPTR 09:34:47 Nov 03 2006 2

ACCOUNTS....	USER CATEGORY....................	SERVICE ADDRESS..........	APN.........	07/01/05-06/30/06 USAGE...........	07/01/04-06/30/05 USAGE.........
26-606001-2	HOTELS/MOTELS (W/O RESTAURANTS)	66540 6TH	6392610050	861	853
-605001-12	HOTELS/MOTELS (W/O RESTAURANTS)	11220 PALM	6392610069	1,131	1,637
-612000-16	HOSPITALS	66135 2ND	6392310453	445	1,037
26-094000-10	HOTELS/MOTELS (W/O RESTAURANTS)	66358 5TH	6392110220	1,674	1,823
26-097000-10	HOTELS/MOTELS (W/O RESTAURANTS)	66334 5TH	6392110219	3,212	2,323
26-965001-1	HOTELS/MOTELS (W RESTAURANTS)	10805 PALM	6390930545	9,304	8,260
-041100-11	HOTELS/MOTELS (W/O RESTAURANTS)	10625 PALM	6390830379	5,740	8,097
-961311-11	RESTAURANTS	10625 PALM "C"	6390830379	1,241	1,237
962701-10	GOVERNMENT	66200 8TH "B"	0	1,244	932
-009106-1	SERVICE SHOPS	13313 PALM DR		1,000	10
26-025788-11	UNCLASSIFIED	67425 TWO BUNCH PALMS "B"		1,854	1,710
26-527011-1	RETAIL STORES	66550 PIERSON "B"		690	990
TOTAL				124,349	129,250

63 records listed

Trailer Parks

Approx 12 mths
5 mths 6-30-06

SORT ACCOUNTS BY RTE 45 1 2 AS 6 MS 20 TOTAL 11 RTE TOTAL CPY.USAGE TOTAL PPY.USAGE LPTR 16:39:21 Dec 12 2006 1

ACCOUNTS....	USER CODE	CUSTOMER NAME.................	SERVICE ADDRESS..........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
26-001608-10	103	JEAJ PROPERTIES, LP	15687 PALM	A	07-23-02	600	NS	134.00	213	25,193	29,313
26-010004-10	103	HIDDEN SPRINGS COUNTRY CLUB	15045 YERKA	A	02-18-98	600	NS	317.00	213	9,533	27,603
26-101601-1	103	AKE VIDE	14881 PALM DR	A	07-21-04	200	NS	60.00	213	1,624	3,941
26-408601-10	103	CALIENTE SPRINGS	70200 DILLON	A	01-14-03	200	NS	370.00	221	24,500	30,130
26-409001-10	103	FLORENCE WILDERMUTH, TRUST	69530 DILLON	A	07-08-97	300 200 M	NS	104.00	221	5,059	10,683
26-069005-10	103	JACK HALE	17069 INDIAN	A	01-15-04	200	NS	109.00	316	3,653	8,054
26-028002-0	103	W ETCHASON	64625 PIERSON A	A	07-29-94	200	NS	83.00	331	3,177	7,956
26-030002-0	103	D ETCHASON	64625 PIERSON B	A	12-17-91	200	NS	82.00	331	2,759	6,738
26-084006-13	103	TWO SPRINGS LLC	14200 INDIAN	A	10-17-05	200 M 400 200 M	NS	224.00	331	2,985	7,738
TOTAL								1483.00		78,483	132,156

9 records listed

Multi- Family *Approx 12 mths* *5 mths 6-30-06*

SORT ACCOUNTS BY RTE 45 1 2 AS 6 NS 20 TOTAL 11 RTE TOTAL CPY.USAGE TOTAL PPY.USAGE LPTR 16:57:50 Dec 13 2006 1

ACCOUNTS....	USER CODE	CUSTOMER NAME..................	SERVICE ADDRESS..........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
26-994521-1	102	DR NUBAR VARTANIAN	66410 MISSION LAKES	A	06-06-85	100	NS	2.00	106	546	897
26-996121-0	102	KAY FRIML	9250 ALEGRE	A	08-04-60	075	NS	2.00	106	113	220
26-960941-3	102	GENAY CURROW	66472 12TH	A	05-01-89	100	NS	2.00	107	36	344
26-961001-10	102	SYLVIA BRAITENBACK	66436 12TH	A	08-13-01	100	NS	3.00	107	153	265
26-919451-10	102	MARK SABOSKY	66718 8TH	A	02-09-04	100	NS	4.00	130	596	941
26-919551-10	102	CHRIS RAGONE	66734 8TH	A	02-09-04	100	NS	4.00	130	335	534
26-919601-11	102	STEVEN FELD	66760 8TH	A	12-06-00	100	NS	3.00	130	458	931
26-919631-14	102	THOMAS SPENCE	66772 8TH	A	07-13-04	100	NS	3.00	130	271	488
26-920001-10	102	GREG KILLINGSWORTH	66790 SAN REMO	A	01-19-06	075	NS	2.00	130	37	114
26-920931-11	102	JIM MOORE	66709 PINTO	A	12-03-02	100	NS	3.00	130	202	424
26-920941-10	102	SEMSI ENSARI	10592 SUNSET	A	03-07-06	150	NS	12.00	130	581	1,303
26-920951-11	102	MAJD DAYEH	10680 SUNSET	A	05-10-04	075	NS	2.00	130	313	440
26-944001-2	102	DIXIE MILLER	66860 YUCCA	A	08-18-87	075	NS	2.00	130	67	68
26-945001-10	102	LOUISE CAPPER	66810 YUCCA	A	10-12-04	075	NS	2.00	130	116	453
26-957331-0	102	VISTA DEL JACINTO	66735 12TH "C"	A	09-11-90	100	NS	5.00	130	267	488
26-957341-0	102	VISTA DEL JACINTO	66735 12TH "B"	A	12-30-80	100	NS	5.00	130	386	722
26-957351-0	102	VISTA DEL JACINTO	66735 12TH "A"	A	12-30-80	100	NS	10.00	130	898	1,108
26-957361-11	102	JENNIFER CHEN	66725 12TH	A	08-01-06	100	NS	6.00	130	241	613
26-957370-13	102	TERESA FELIX	66738 TACO WAY	A	05-07-03	100	NS	3.00	130	353	539
26-957801-11	102	RANCH RECOVERY CENTER, INC	66610 12TH	A	10-30-02	150	NS	5.00	130	191	316
26-958431-1	102	JOHN O'MALLEY	66919 SAN RAFAEL "A"	A	01-11-95	075	NS	3.00	130	75	141
26-958441-1	102	JOHN O'MALLEY	66919 SAN RAFAEL "B"	A	01-11-95	075	NS	2.00	130	238	289
26-958521-11	102	ADI HACKER	10351 VERBENA	A	09-17-03	100	NS	4.00	130	336	1,029
26-958601-1	102	RUBEN PULIDO	66920 SAN RAFAEL	A	01-16-86	075	NS	3.00	130	35	155
26-958761-4	102	FRED WELDER	66800 SAN RAFAEL	A	01-11-88	075	NS	3.00	130	285	262
26-707001-10	102	MICHELLE SMITH	13031 BEECH	A	01-03-06	075	NS	3.00	204	329	436
26-708001-0	102	S MIRICKI	68510 HACIENDA	A	08-13-64	100	NS	4.00	204	33	83
26-709001-0	102	W GIBSON	68530 HACIENDA	A	08-13-64	100	NS	4.00	204	101	195
26-711001-12	102	TOM HILE	13100 BEECH	A	04-19-01	150	NS	4.00	204	352	311
26-769761-10	102	TOM HILE	12470 SKYLINE DR	A	05-05-06	075	NS	2.00	204	350	172
26-771901-11	102	VERNON PORTER	12985 REDBUD	A	07-30-99	075	NS	2.00	204	25	372
26-775701-13	102	SID METCALFE	13079 ELISEO	A	02-28-00	150	NS	8.00	210	252	444
26-775751-12	102	SID METCALFE	13150 MIRACLE HILL	A	02-18-05	100	NS	2.00	210	79	124
26-775761-12	102	SID METCALFE	13180 MIRACLE HILL	A	02-18-05	100	NS	2.00	210	264	492
26-777381-14	102	SID METCALFE	13160 AGUA CAYENDO	A	03-25-02	100	NS	2.00	210	116	206
26-777391-2	102	KIMBERLY TENNIS	13180 AGUA CAYENDO	A	08-26-92	100	NS	2.00	210	171	244
26-779971-12	102	IRENE AUDET	13525 HERMANO	A	05-27-05	100	NS	2.00	210	124	185
26-779981-11	102	MARIA ELENA ALTAMIRANO	13485 HERMANO	A	12-14-05	100	NS	2.00	210	675	239
26-779991-13	102	JOEY VILLANUEVA	13505 HERMANO	A	05-04-98	100	NS	2.00	210	171	250
26-781001-12	102	GAIL GARCEAU	13285 HERMANO	A	02-01-06	075	NS	3.00	210	96	183
26-781401-10	102	LYNNE MCCLEERY	67780 ARENA BLANCA	A	04-01-02	100	NS	5.00	210	201	297
26-783991-14	102	MARIA DEL CARMEN MELARA	13705 QUINTA	A	01-06-00	100	NS	2.00	210	164	375
26-784101-13	102	WILLIAM/ELEANOR CUSHING	13745 QUINTA	A	11-16-04	100	NS	2.00	210	161	200
26-788501-12	102	WILLIAM T NUNN	13105 MOUNTAIN VIEW	A	05-03-04	100	NS	2.00	210	181	476
26-788601-10	102	SINDEY METCALFE	13145 MOUNTAIN VIEW	A	03-22-01	100	NS	2.00	210	161	246
26-788701-12	102	DHS HILLS PROPERTIES	13165 MOUNTAIN VIEW	A	11-30-05	100	NS	2.00	210	158	171
26-790051-10	102	GAYLE RAMIREZ	13255 MOUNTAIN VIEW	A	01-22-01	100	NS	2.00	210	97	184
26-791501-16	102	TOM SPENCE	13360 QUINTA	A	04-23-04	075	NS	2.00	210	380	477
26-791901-11	102	BARTOLO VILLANUEVA	13440 QUINTA	A	12-14-00	075	NS	2.00	210	330	634
26-791931-11	102	MARIA DORA SALAS	13460 QUINTA	A	09-26-01	100	NS	4.00	210	339	834

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ACCOUNTS....	USER CODE	CUSTOMER NAME..................	SERVICE ADDRESS...........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
6-792001-2	102	ROBERT JOHNSON	13521 MOUNTAIN VIEW	A	12-01-86	075	NS	2.00	210	94	125
6-793001-11	102	TODD GREGORY YOUNG	13520 QUINTA	A	11-05-96	100	NS	3.00	210	116	162
26-793481-16	102	JESUS C MARQUEZ	13565 MOUNTAIN VIEW	A	08-22-05	100	NS	3.00	210	94	306
26-793491-16	102	JENNIFER KREMMPP	13585 MOUNTAIN VIEW	A	09-01-05	100	NS	3.00	210	72	150
26-793551-11	102	JACK W MOREY JR	13620 QUINTA	A	11-20-98	150	NS	8.00	210	313.	747
6-794021-14	102	SOUTHLAND DISPLAY CO	13700 QUINTA	A	10-01-01	150	NS	8.00	210	510	587
6-794601-12	102	FRANCISCO PADILLA	13960 QUINTA	A	09-21-05	100	NS	2.00	210	169	244
6-796001-11	102	JUDY BOWMAN	13340 MOUNTAIN VIEW	A	09-05-03	150	NS	10.00	210	142	320
6-797061-12	102	RODRIGO MARQUEZ	68090 CALLE LAS TIENDAS	A	11-03-00	100	NS	4.00	210	756	1,615
26-797071-15	102	EDWARD FIXEN	68100 CALLE LAS TIENDAS	A	06-06-06	100	NS	4.00	210	779	1,204
26-797101-15	102	JEAN N CASTEL	68110 CALLE LAS TIENDAS	A	03-25-05	100	NS	4.00	210	779	1,346
26-797201-12	102	GLEN SISSON	68120 CALLE LAS TIENDAS	A	05-02-01	100	NS	4.00	210	511	714
26-797301-12	102	GLEN SISSON	68130 CALLE LAS TIENDAS	A	05-02-01	100	NS	4.00	210	529	1,049
26-797341-14	102	MARK HARRIS	68140 CALLE LAS TIENDAS	A	07-11-05	100	NS	4.00	210	368	1,151
26-797351-13	102	GREG KILLINGSWORTH	68150 CALLE LAS TIENDAS	A	12-01-05	100	NS	4.00	210	1,044	1,629
26-797361-14	102	GREG KILLINGSWORTH	68160 CALLE LAS TIENDAS	A	12-01-05	100	NS	4.00	210	536	1,623
26-797401-14	102	SALVADOR ESCOSTO	68170 CALLE LAS TIENDAS	A	02-15-05	100	NS	4.00	210	843	1,350
26-797471-13	102	TRENT SNART	68180 CALLE LAS TIENDAS	A	06-02-03	100	NS	4.00	210	667	807
26-797481-12	102	JAMES HILTON	68190 CALLE LAS TIENDAS	A	06-09-06	100	NS	4.00	210	596	1,328
26-797491-12	102	PATRICK LAWRENCE	68200 CALLE LAS TIENDAS	A	12-21-04	100	NS	4.00	210	1,417	1,745
26-797601-12	102	J SQUARED INVESTMENTS	68210 CALLE LAS TIENDAS	A	01-12-05	100	NS	4.00	210	624	713
26-798001-14	102	ERIC HENSTREET	68061 CALLE AZTECA	A	09-06-02	150	NS	12.00	210	307	866
26-798501-11	102	GUMESINDO RODRIGUEZ	13085 MOUNTAIN VIEW	A	08-08-05	100	NS	2.00	210	248	479
26-799001-10	102	ERS, LLC	13181 CALLE AMAPOLA	A	03-22-02	200	NS	19.00	210	985	2,436
26-800001-12	102	ROMARINO ZERI	68257 CALLE AZTECA	A	08-07-06	100	NS	3.00	210	198	226
26-802001-11	102	OCCUPANT	68200 CALLE BLANCO	I	10-09-06	075	NS	2.00	210	114	344
26-802201-10	102	ROBERT VALDEZ	68195 CALLE AZTECA	A	04-04-06	100	NS	2.00	210	88	278
26-802601-10	102	ROBERT VALDEZ	68185 CALLE AZTECA	A	04-04-06	100	NS	2.00	210	153	222
26-802801-10	102	ROBERT VALDEZ	68175 CALLE AZTECA	A	04-03-06	100	NS	2.00	210	33	79
26-803221-11	102	LUCILE BAYLESS	68155 CALLE AZTECA	A	02-19-02	075	NS	2.00	210	4	351
26-804001-11	102	STEPHEN BINDMAN	13336 AVE HERMOSA	A	10-05-99	075	NS	6.00	210	295	470
26-804151-10	102	ED RUSH	68110 CALLE BOLSO	A	05-31-02	100	NS	3.00	210	153	1,209
26-804651-11	102	MICHAEL PATTON	68085 CALLE AZTECA	A	05-12-05	100	NS	3.00	210	186	198
26-804701-1	102	URI MANDELBAUM	68073 CALLE AZTECA	A	06-09-81	075	NS	2.00	210	214	328
26-804801-11	102	JIM RHODES	68085 CALLE BOLSO	A	03-19-96	100	NS	3.00	210	123	158
26-804821-14	102	JUDITH BOWMAN	68075 CALLE BOLSO	A	07-07-05	100	NS	3.00	210	58	102
26-804841-11	102	DAVID SOBEL	68065 CALLE BOLSO	A	01-28-05	100	NS	3.00	210	30	40
26-805001-1	102	J R MALTOS	68155 CALLE BLANCO	A	04-08-86	075	NS	3.00	210	34	116
26-820001-1	102	HIGHLAND HOMES	13704 AVE HERMOSA	A	10-03-90	150	NS	12.00	210	946	1,417
26-820814-2	102	RICHARD MURRAY	68147 VIA DOMINGO	A	12-04-90	075	NS	2.00	210	291	524
26-847001-11	102	BRIAN FARBER	68256 CALLE CALMOSO	A	01-29-99	075	NS	3.00	211	99	315
26-864001-10	102	ANTHONY R HALL	12690 AVE ALTA LOMA	A	05-24-02	100	NS	4.00	211	89	315
26-878401-1	102	ROSETTA J TRENT	12800 QUINTA	A	01-26-87	100	NS	3.00	211	228	459
26-882001-2	102	IRENE E GONTA	12960 AGUA CAYENDO	A	03-20-80	075	NS	2.00	211	390	217
26-883001-5	102	KENNETH KAESER	12651 AGUA CAYENDO	A	12-12-83	100	NS	6.00	211	159	359
26-887011-11	102	MARIA LEASE	67635 SUERTE	A	05-05-05	075	NS	2.00	211	177	597
26-889001-3	102	BRUCE JOHNSTON	67585 ORO LOMA	A	05-24-85	100	NS	4.00	211	279	428
26-889201-1	102	MARIA C ROMERO	67605 ORO LOMA	A	03-04-87	100	NS	2.00	211	121	233
26-889301-10	102	JOE AGUILAR	67625 ORO LOMA	I	12-06-06	100	NS	3.00	211	99	222
26-908501-10	102	COLLEEN FARBER	12700 PARMA	A	05-26-99	075	NS	3.00	211	166	261

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ACCOUNTS....	USER CODE	CUSTOMER NAME..................	SERVICE ADDRESS..........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
6-908551-0	102	VICTORIA CHRISTIAN	12670 PARMA "B"	A	11-02-90	100	NS	2.00	211	129	236
6-909001-10	102	VIRGIL HAVENER	12650 PARMA	A	11-12-97	100	NS	3.00	211	438	404
26-909301-1	102	DON WILHELM	12675 PARMA "A"	A	02-13-85	100	NS	6.00	211	631	799
26-909401-5	102	DON WILHELM	12675 PARMA "B"	A	04-05-89	100	NS	6.00	211	275	540
26-909501-11	102	DHS HILL PROPERTIES	12755 PARMA	A	04-18-03	075	NS	2.00	211	221	337
6-917921-11	102	LUCIA B CRUZ	67285 PIERSON	A	09-07-06	075	NS	2.00	211	149	185
6-918001-2	102	NAREN CHAUDHARI	12170 SUMAC	A	06-01-88	100	NS	4.00	211	300	198
6-002100-10	102	STEVE LOWE	67710 SAN ANTONIO	A	05-11-00	100	NS	4.00	213	119	87
6-009708-14	102	CARMEN LOPEZ	15905 AVE RAMADA	A	08-10-98	075	NS	3.00	213	501	871
26-004788-11	102	MARWA OAKBEID	15340 VIA VISTA	A	05-25-05	100	NS	2.00	214	141	187
26-006378-11	102	JOSE SOLARES	16102 VIA MONTANA	A	01-17-96	075	NS	2.00	214	154	288
26-036942-11	102	ISAEL SOSA	13715 VIA REAL	A	07-20-06	100	NS	2.00	305	80	321
26-038462-2	102	TOM PENN	13213 DEL RAY	A	02-08-91	100	NS	2.00	305	247	506
26-038502-1	102	REYNALDO SERRANO	13237 DEL RAY	A	08-06-90	100	NS	2.00	305	200	506
26-041022-12	102	JAIME/PATRICIA CERVANTES	13301 WEST	A	10-17-05	075	NS	2.00	305	75	148
26-041062-14	102	MICHAEL PATTON	13279 WEST	A	01-19-05	075	NS	2.00	305	104	197
26-112005-12	102	OCCUPANT	17726 INDIAN	I	09-06-05	075	NS	2.00	316	0	31
26-013004-10	102	IQBAL AHMED	19355 WILSON	A	07-05-06	075	NS	3.00	317	3	0
26-006557-10	102	DOROTHY GOLDBERG	12390 WOODRIDGE	A	11-30-01	100	NS	3.00	332	148	560
26-009007-0	102	CHAS LUCKMAN/PENTHSE	12400 WOODRIDGE	A	03-13-73	200	NS	2.00	332	1,770	4,155
26-010007-2	102	RAY MARTIN	12460-70 WOODRIDGE	A	02-16-95	075	NS	2.00	332	141	398
26-041007-11	102	CHERYL SMITH	13391 MESQUITE	A	02-15-05	075	NS	2.00	332	26	140
26-422000-1	102	ROGER TOLCES	11872 WEST	A	05-15-91	075	NS	2.00	401	49	41
26-611001-2	102	OCCUPANT	11076 OCOTILLO "B"	I	09-15-93	075	NS	4.00	408	0	0
26-626001-10	102	MARIA BRAUN	66781 VISTA	A	09-10-96	075	NS	3.00	408	233	479
26-627001-10	102	RENE S. HICKEY	66875 VISTA	A	09-12-01	100	NS	2.00	408	190	255
26-627878-1	102	HHK DEVELOPMENT	66878 VISTA PL	A	10-12-05	075	NS	2.00	408	232	37
26-628401-2	102	LOWELL SIGMUND	66935 VISTA	A	03-16-89	075	NS	2.00	408	170	227
26-632001-15	102	GREG KILLINGSWORTH	66912 VISTA PL	A	01-04-05	100	NS	4.00	408	170	269
26-632201-11	102	LAURA ARELLANO	66915 VISTA PL	A	11-16-04	075	NS	2.00	408	53	143
26-634101-12	102	DHS HILLS PROPERTIES	66820 VISTA	A	04-18-03	075	NS	2.00	408	163	208
26-639001-10	102	PAM WISE	66949 TERRACE	A	05-20-03	100	NS	4.00	408	249	892
26-639901-14	102	SIDNEY METCALFE	11331 VERBENA	A	10-01-04	075	NS	2.00	408	195	429
26-000206-2	102	EAGLE ENTERPRISES	13950 WEST	A	05-13-92	100	NS	2.00	412	432	327
26-000706-2	102	EAGLE ENTERPRISES	13800 WEST	A	05-13-92	100	NS	2.00	412	227	244
26-001406-2	102	EAGLE ENTERPRISES	13590 WEST	A	05-14-92	100	NS	2.00	412	167	368
26-010326-13	102	MICHAEL ARULSAMY	13901 CALIENTE	A	07-28-04	100	NS	3.00	412	166	448
26-010466-10	102	FRANCES JACQUEZ	13677 CALIENTE	A	02-21-06	075	NS	2.00	412	190	200
26-010486-10	102	FRANCES JACQUEZ	13653 CALIENTE	A	02-21-06	075	NS	2.00	412	201	266
26-010606-12	102	TIMOTHY RADIGAN BROPHY	66424 IRONWOOD	A	06-25-03	100	NS	2.00	412	184	542
26-010706-10	102	CARLOS JIMENEZ	13359 CALIENTE	A	12-11-96	075	NS	3.00	412	238	351
26-012236-3	102	CAROL QUAN	13501 CALIENTE	A	10-05-89	100	NS	3.00	412	344	640
26-012326-10	102	LAMESA TRUST PROPERTY PARTNERS	13642 LA MESA	A	08-26-05	100	NS	3.00	412	307	657
26-012696-10	102	BETTY STOLT	13285 LA MESA	A	08-15-00	100	NS	2.00	412	100	184
26-012706-0	102	ALVIN LA SALLE	13225 LA MESA	A	04-30-85	100	NS	2.00	412	164	217
26-013286-12	102	ED RUSH	13971 EL CAJON	A	04-26-02	100	NS	3.00	412	215	659
26-013296-2	102	MARIA DEL CARMEN SALAS	13875 EL CAJON	A	11-28-89	100	NS	3.00	412	196	211
26-013306-12	102	LEO ESPARZA TRUST	13751 EL CAJON	A	11-21-06	100	NS	4.00	412	256	357
26-013596-2	102	CAROL QUAN	66300 IRONWOOD	A	03-11-88	100	NS	3.00	412	332	1,049
26-013626-10	102	DHS HILLS PROPERTIES	13405 EL CAJON	A	04-18-03	100	NS	3.00	412	88	279

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ACCOUNTS....	USER CODE	CUSTOMER NAME..................	SERVICE ADDRESS..........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
26-014686-13	102	ALFREDO TERRAZAS	13560 CACTUS	A	05-01-97	100	NS	3.00	412	203	513
26-016906-10	102	BERTA MADRID	13625 JULIAN	A	02-05-03	075	NS	3.00	412	277	989
26-017806-10	102	CINDY RIVAS	13470 CUYAMACA	A	10-06-95	075	NS	2.00	412	119	223
26-020006-2	102	EAGLE ENTERPRISES	13865 JULIAN	A	05-13-92	100	NS	2.00	412	217	522
26-033906-2	102	EAGLE ENTERPRISES	13955 CACTUS	A	05-13-92	100	NS	2.00	412	498	781
26-034906-3	102	ALFREDO TERRAZAS	13740 CACTUS	A	03-27-95	100	NS	3.00	412	237	502
26-035006-10	102	JESUS VALENCIA	13710 CACTUS	A	07-31-96	100	NS	3.00	412	317	512
26-038806-2	102	EAGLE ENTERPRISES	13255 EL CAJON	A	12-10-91	100	NS	3.00	412	563	364
26-043506-11	102	ANGEL GARCIA	13600 EL CAJON	A	07-12-06	100	NS	3.00	412	159	205
26-043606-14	102	EAGLE CONSTRUCTION, INC.	13576 EL CAJON	A	08-22-06	100	NS	3.00	412	121	125
26-044806-12	102	MARIBEL BARAJAS	13280 EL CAJON	A	10-12-05	100	NS	3.00	412	307	236
26-049206-12	102	JUAN DIAZ	13797 LA MESA	A	02-13-03	100	NS	3.00	412	204	433
26-051056-10	102	JUAN J JIMENEZ	13774 LA MESA	A	04-04-01	100	NS	3.00	412	138	496
26-058200-11	102	SUSANA DAUTO	13999 CALIENTE	A	12-05-00	100	NS	2.00	412	135	295
26-058400-12	102	SUSAN BENNICK	13998 CALIENTE	A	05-22-02	100	NS	2.00	412	100	91
26-059206-12	102	KAREN KADY	13548 CALIENTE	A	01-07-98	150	NS	8.00	412	649	879
26-059900-16	102	ARMANDO GERMAN	13374 CALIENTE	A	08-30-06	100	NS	2.00	412	195	458
26-060000-14	102	MICHAEL KOCIS	13360 CALIENTE	A	06-13-06	100	NS	2.00	412	0	834
26-060900-1	102	BILL MAUER CONST	13136 CALIENTE	A	08-16-06	075	NS	2.00	412	90	0
26-065306-2	102	PHYLLIS HOLMES	13525 CALIENTE	A	01-16-90	100	NS	3.00	412	220	1,007
26-022088-11	102	CYNTHIA T MOUNT	13107 MESQUITE AVE	A	06-02-06	075	NS	2.00	426	1,070	765
26-022128-1	102	CAROL QUAN	13229 MESQUITE	A	05-11-79	075	NS	5.00	426	589	1,007
26-022138-14	102	TIM RADIGAN BROPHY	13255 MESQUITE	A	04-08-03	150	NS	8.00	426	379	758
26-022148-14	102	TIM RADIGAN BROPHY	13285 MESQUITE	A	04-08-03	150	NS	8.00	426	1,272	2,602
26-022220-2	102	RICHARD MURRAY	13735 SARITA	A	12-06-90	100	NS	2.00	426	292	345
26-022518-11	102	RON D GILBREATH	13740 SARITA	A	05-03-02	100	NS	2.00	426	63	305
26-022708-1	102	TONY & CARMEN VALENCIA	66605 JOSEPH	A	09-09-86	100	NS	2.00	426	111	366
26-022718-10	102	JOSE L TORRES	66609 JOSEPH WAY	A	06-12-06	075	NS	2.00	426	74	24
26-022728-10	102	TIM FORD	66621 JOSEPH WAY	A	08-28-06	075	NS	2.00	426	58	16
26-022828-12	102	RAUL FELIX	13735 RICHARD	A	08-22-01	100	NS	2.00	426	288	344
26-022894-10	102	JOYCE SOONG	66630 MESQUITE	A	02-06-04	100	NS	2.00	426	201	438
26-022928-1	102	JOSEPH FARBER	13800 SUSAN	A	10-25-91	100	NS	2.00	426	554	513
26-023100-10	102	STEPHEN CLARO	13735 SUSAN	A	03-01-04	100	NS	2.00	426	254	355
26-023108-11	102	DIANA JEAN WALAYAT	66625 MESQUITE	A	07-12-06	100	NS	2.00	426	10	418
26-023118-11	102	GIL & CHRISTIE GOREN	66635 MESQUITE	A	05-27-05	100	NS	2.00	426	192	421
26-023388-10	102	RODOLFO RUBIO RUBIO	66700 JOSEPH	A	12-27-05	100	NS	2.00	426	340	361
26-023398-12	102	STEVE SNULLINS	66680 JOSEPH	A	07-05-02	100	NS	2.00	426	95	219
26-023598-11	102	ALFONSO FELIX	13740 MESQUITE "A"	A	08-11-03	100	NS	2.00	426	438	585
26-023608-2	102	JOSEPH & NELLIE VIGH	13730 MESQUITE	A	04-09-90	100	NS	2.00	426	169	350
26-023616-1	102	HACIENDA RIDGE, LLC	13616 MESQUITE AVE	A	11-17-05	075	NS	2.00	426	51	72
26-023628-1	102	AGNES KONG	13700 MESQUITE	A	05-20-85	075	NS	2.00	426	154	182
26-023638-1	102	AGNES KONG	13710 MESQUITE	A	04-15-85	075	NS	2.00	426	56	538
26-023647-10	102	JOSIELINDA CRISTOBAL	13647 MESQUITE AVE	A	04-06-06	075	NS	2.00	426	133	149
26-023648-1	102	HACIENDA RIDGE, LLC	13648 MESQUITE AVE	A	11-17-05	075	NS	2.00	426	66	65
26-023658-1	102	HORST SCHOR	13660 MESQUITE	A	12-28-89	100	NS	2.00	426	446	804
26-023849-1	102	RC CONSTRUCTION	13849 MARK DR	A	11-30-06	075	NS	2.00	426		
26-023898-11	102	ALBERTO JIMENEZ	13895 MARK	A	11-21-97	100	NS	2.00	426	268	331
26-023948-1	102	TONY & CARMEN VALENCIA	13840 MARK	A	09-09-86	100	NS	2.00	426	70	178
26-023958-1	102	T & C VALENCIA	13820 MARK	A	09-09-86	100	NS	2.00	426	48	116
26-023968-12	102	BERTHA A. GARCIA	13800 MARK	A	08-14-96	100	NS	2.00	426	111	198

SORT ACCOUNTS BY RTE 45 1 2 AS 6 MS 20 TOTAL 11 RTE TOTAL CPY.USAGE TOTAL PPY.USAGE LPTR 16:57:50 Dec 13 2006 5

ACCOUNTS....	USER CODE	CUSTOMER NAME.................	SERVICE ADDRESS..........	A	START DATE....	MTR SIZ	SEWER RATE CODE.	NO OF UNITS.	RTE#	CURRENT FISCAL YR USAGE	PREVIOUS FISCAL YR USAGE
6-023978-2	102	JERROL LINKHART	13760 MARK	A	08-11-92	100	NS	2.00	426	366	859
6-023998-2	102	JERROL LINKHART	13780 MARK	A	09-09-92	100	NS	2.00	426	242	409
26-024038-11	102	PAMELA BROSKA	13660 MARK	A	04-29-02	100	NS	2.00	426	161	246
26-024048-11	102	PAMELA BROSKA	13640 MARK	A	04-29-02	100	NS	2.00	426	90	429
26-024128-10	102	ARNIDA ENCINAS	13595 NAHUM	A	01-25-02	100	NS	2.00	426	72	269
26-024130-12	102	DHS HILLS PROPERTIES	13575 NAHUM	A	01-30-06	100	NS	2.00	426	122	210
6-024148-13	102	ALFREDO R. SOLIS	13635 NAHUM	A	05-03-01	100	NS	2.00	426	201	326
26-024168-13	102	FRANCISCO ARREDONDO	13675 NAHUM	A	08-10-06	100	NS	2.00	426	161	316
26-024238-13	102	DHS HILLS PROPERTIES	13815 NAHUM	A	04-18-03	100	NS	2.00	426	232	566
26-024239-12	102	STEVEN A. FELD	13835 NAHUM	A	01-06-03	100	NS	2.00	426	108	609
26-024268-0	102	DON WILHELM	13920 NAHUM	A	03-08-89	100	NS	2.00	426	264	490
26-024348-2	102	JERROL LINKHART	13760 NAHUM	A	07-23-92	100	NS	2.00	426	146	295
26-024358-14	102	MARCOS R PARRA	13740 NAHUM	A	05-20-05	100	NS	2.00	426	154	271
26-024378-12	102	ALFREDO GONZALEZ	13700 NAHUM	A	04-30-04	100	NS	2.00	426	175	386
26-024382-1	102	JAM REAL ESTATE	13828 LUIS DR	A	08-22-06	075	NS	2.00	426	7	0
26-024386-1	102	STEPHEN W SCHNEE	13680 NAHUM	A	12-11-90	100	NS	2.00	426	292	567
26-024448-11	102	SCOTT CUNNINGHAM	66885 IRONWOOD	A	07-31-06	100	NS	2.00	426	120	289
26-024498-12	102	NIKE FINLEY	13615 LUIS	A	01-10-05	075	NS	2.00	426	76	209
26-024508-12	102	FILOGONIO RODRIGUEZ	13635 LUIS	A	03-03-05	100	NS	2.00	426	213	430
26-024518-10	102	DHS HILLS PROPERTIES	13655 LUIS	A	01-30-06	100	NS	2.00	426	183	272
26-024528-14	102	YOLANDA RAMIREZ	13675 LUIS	A	11-29-01	100	NS	2.00	426	208	422
26-024558-12	102	JINNY C SMITH	13735 LUIS	A	03-03-05	100	NS	2.00	426	143	245
26-024588-11	102	MANNY VILLAGRANA	13795 LUIS	A	01-05-05	100	NS	2.00	426	252	534
26-024618-11	102	GUILLERMO BARAJAS	13855 LUIS	A	06-10-03	100	NS	2.00	426	342	604
26-024708-10	102	LEISURE PACIFIC, LLC	13860 LUIS	A	11-05-02	100	NS	2.00	426	170	449
26-024718-11	102	DHS HILLS PROPERTIES	13840 LUIS	A	05-08-03	100	NS	2.00	426	156	381
26-024758-10	102	MARIA ANGELA SOTO	13740 LUIS	A	08-08-01	100	NS	2.00	426	111	319
26-024788-13	102	ROSA M JAIMES	13700 LUIS	A	08-14-06	100	NS	2.00	426	210	270
26-024792-1	102	JAM REAL ESTATE	13792 LUIS DR	A	08-22-06	075	NS	2.00	426	0	0
26-024798-1	102	DON WILHELM	13680 LUIS	A	04-26-95	100	NS	2.00	426	275	406
26-024811-1	102	JAM REAL ESTATE	13811 LUIS DR	A	08-29-06	075	NS	2.00	426	0	0
26-024818-10	102	CARMEN MURCIA	13640 LUIS	A	05-24-95	100	NS	2.00	426	170	271
26-024827-1	102	JAM REAL ESTATE	13827 LUIS DR	A	08-29-06	075	NS	2.00	426	0	0
26-025778-11	102	TWO BUNCH PALMS, LLC	67520 TWO BUNCH PALMS "D"	A	04-29-05	150	NS	140.00	426	481	906
26-076808-11	102	SID METCALFE	13575 SARITA	A	04-12-04	100	NS	2.00	426	81	140
26-077408-11	102	JOSE M. VASQUEZ	13655 SARITA	A	06-09-04	075	NS	2.00	426	218	651
26-078408-11	102	EFRAIN VELEZ	13755 SARITA	A	06-07-01	100	NS	2.00	426	300	409
26-086428-10	102	JUNE ROBLEDO	13680 MESQUITE	A	07-18-02	100	NS	2.00	426	78	279
26-086718-12	102	J.H. PROPERTY MANAGEMENT	13595 MARK	A	12-29-04	100	NS	2.00	426	131	217
26-086728-12	102	J.H. PROPERTY MANAGEMENT	13615 MARK	A	12-29-04	100	NS	2.00	426	252	276
26-086738-10	102	JOSEPH FANUCCHI JR	13635 MARK	A	09-27-00	100	NS	2.00	426	59	300
26-086910-11	102	DAVID YAGHOUBIAN	13580 MARK	A	08-05-03	100	NS	2.00	426	80	118
26-086918-11	102	PAMELA BROSKA	13620 MARK	A	04-29-02	100	NS	2.00	426	100	174
26-087278-12	102	PAMELA BROSKA	13655 NAHUM	A	02-11-04	100	NS	2.00	426	145	263
26-522658-10	102	JUAN M FELIX	66585 JOSEPH	A	03-07-02	100	NS	2.00	426	193	304
26-641001-13	102	JAMES DANIELS	11520 VERBENA	A	07-12-05	100	NS	4.00	429	438	345
								======		========	========
TOTAL								870.00		61,547	112,112

246 records listed

Appendix C
Design Criteria For HWWTP & DCWWTP

Alan L. Horton Treatment Plant
Process and Equipment Sizes

Influent Pump Station

Type	Submersible Pumps
Main Raw Sewage Pumps	
Number of Pumps	2
Drive Type	VFD
Capacity of each Pump (GPM)	1,740
Low Flow Pumps	
Number of Pumps	2
Drive Type	VFD
Capacity of Each Pump (GPM)	870
Firm Pumping Capacity (GPM) (1)	3,480
ADF Influent Pumping Capacity (MGD) (2)	2.
ADF Capacity of Structure (MGD) (3)	5.0

Influent Metering

Type	Magnetic Flow Meter
Number	1
Size	12"
Capacity at 10 fps (GPM)	4,488
ADF Capacity (MGD) (2)	2.58

Influent Grinder

Type	Channel Mounted Grinder
Number	1
Maximum Capacity (GPM)	4,350
ADF Capacity (MGD)	2.5

Grit Removal

Type of Grit Basins	Vortex
Number	1
Diameter (ft)	10
Capacity, each (MGD)	7
ADF Capacity (MGD)	2.8

Grit Handling

Grit Pumping	
Type	Torque Flow
Number	2 (1 + 1 STANDBY)
Capacity, each (GPM)	200
Grit Dewatering	
Type	Cyclone/Classifier
Number of Classifiers	2
Capacity, each (GPM)	200

Aeration Basin

Type	Carrousel Oxidation Ditch
Number	2
Basin Length (ft)	180
Basin Width (ft)	60
SWD (ft)	12.5
Basin Volume, each (MG)	0.80
Detention time (hrs)	24
SRT (days)	20
BOD Removal (lbs/day)	3,149
Operating MLSS (mg/L)	3,500
Sludge Production (lbs/day)	2,330
Aerators per Basin (one duty, one standby)	2
Type	Propeller
HP per Aerator	56 low, 75 high
SOR each Basin (lbs O_2/day)	4,848
ADF Capacity each (MGD)	0.75
Total ADF Capacity Aeration Basin (MGD)	1.5
ADF Capacity Existing Plant Aeration Basin (MGD)	0.8
Total ADF Aeration System Capacity (MGD)	2.3

Secondary Clarifiers

Number	2
Diameter (ft)	55
Side Water Depth (ft)	14
Peak Surface Overflow rate (GPD/sq ft)	346
ADF Capacity each (MGD)	0.75
Total ADF Capacity Secondary Clarifiers (MGD)	1.5
ADF Capacity Existing Plant Secondary Clarifier (MGD)	0.8
Total ADF Secondary Clarifier Capacity (NGD)	2.3

Return Activated Sludge Pumps

Type	Torque Flow
Number	3 (2 + standby)
Drive Type	VFD
Capacity each (GPM)	625

Waste Activated Sludge

Type	Flow Control Valve
Size (inches)	4
Capacity at 5 fps (GPM)	195

Sludge Beds

New Sludge Beds	
Number	12

Size (length x width)	150 x 50
Surface Area each (sq ft)	7,500
New Bed Total Capacity (MGD)	1.5
Existing Sludge Bed Surface Area (square feet)	42,074
Existing Sludge Bed Capacity (MGD)	1.0
Total Sludge Bed Capacity (MGD)	2.5

<u>Outfall to Percolation Ponds</u>

Pond Numbers	3A, 3B, 3C, 2A, 2B
Pipeline Size Each (inches)	16
Peak Capacity (MGD) [(4) (5)]	7.5
ADF Capacity (MGD) [(4) (5)]	3.0

<u>Notes:</u>

(1) Based on largest pump out of service.

(2) Peak Wet Weather Flow (PWWF) is assumed to be 2.5 times the Average Daily Flow (AFD).

(3) Base on ultimate pump size with one out of service.

(4) Assuming the ponds are almost full.

(5) The hydraulic capacity (ADF) of the outfall system to Ponds 2A and 2B is 1.14 MGD. Ponds 2A and 2B are fed from a single 16 inch pipeline.

Desert Crest Wastewater Treatment Plant
Process and Equipment Sizes

Headworks
3" Parshall Flume after a 10" influent discharge pipe.

Influent Metering

Type	Ultrasonic

Influent Grinders

Grinder with 8" cutter stack in a 13"w X 40"d channel.	1
7" (0-450,000 GPD), Comminutor (offline).	1

Grit Removal
None (manually done)

Grit Handling
None

Aeration Basin
2 – 90,000 gallon capacity Aeration Basins, (1 unit offline) with surface mounted rotors.

Clarifier

Number	2 (1 standby)
Diameter	1 @ 26 ft, 1 @ 20 ft
Side Water Depth (ft)	11, 8.5

Return/Waste Activated Sludge Pumps

Type	Recessed Impeller Centrifugal
Number	2 (1 + 1 standby)
Capacity each (GPM)	200

Waste Activated Sludge

Type	¼ turn valve
Size (inches)	4

Sludge Beds

Type	Sand Bottom
Number	4
Size (length x Width)	64 x 20

Outfall to Percolation Ponds

Number of Ponds	3
Size (length x Width)	2 @ 153 x 57 1 @ 75 x 57
Pipeline Size (inches)	8

Appendix D

List Of Data Changed In Database

Complete List of Pipes that were modified with URS Comments

KeyID	UPSTREAMIN	DOWNSTREAM	SLOPE	RECORDED_L	COMMENTS	SHAPE_LENG	Diameter
P 1000	1176.42	1169.40	0.0652	200	URS adj. inverts based on US,DS inv.	200.000	10 inch
P 1005	1072.15	1060.45	0.0340	344	URS adj. inverts based on MSWD field survey	343.794	8 inch
P 1006	1086.85	1072.15	0.0420	350	URS adj. inverts based on MSWD field survey	350.002	8 inch
P 1007	1104.40	1086.85	0.0500	351	URS adj. inverts based on MSWD field survey	351.169	8 inch
P 1009	1035.07	1021.07	0.0400	350	URS adj. inverts based on MSWD field survey	350.002	8 inch
P 1010	1060.45	1049.77	0.0300	356	URS adj. inverts based on MSWD field survey	356.204	8 inch
P 1011	1049.77	1035.07	0.0420	350	URS adj. inverts based on MSWD field survey	350.002	8 inch
P 1076	1129.27	1125.14	0.0275	150	URS:Slope fm rel inv. Adj diam based on MSWD cmnts	146.067	8 inch
P 11	1133.34	1123.04	0.1020	200	URS adj. inverts based on US,DS inv.	198.488	8 inch
P 119	1212.16	1204.63	0.0371	203	URS adj. inverts based on MSWD field survey	205.249	8 inch
P 1198	1246.40	1231.16	0.3050	50	URS:DS inv, slope frm DS info. Diam frm MSWD cmts	45.025	8 inch
P 120	1183.51	1174.25	0.0292	295	URS adj. inverts based on MSWD field survey	295.403	8 inch
P 1205	1187.58	1177.01	0.1060	100	URS: Slope assigned from inverts and length	100.000	8 inch
P 121	1202.34	1196.01	0.0181	350	URS adj. inverts based on MSWD field survey	353.676	8 inch
P 122	1196.01	1183.48	0.0572	219	URS adj. inverts based on MSWD field survey	223.336	8 inch
P 123	1183.48	1165.88	0.0503	350	URS adj. inverts based on MSWD field survey	347.028	8 inch
P 124	1183.51	1175.82	0.0375	205	URS adj. inverts based on MSWD field survey	203.017	8 inch
P 125	1165.88	1162.09	0.0129	294	URS adj. inverts based on MSWD field survey	288.129	8 inch
P 1257	1134.12	1130.05	0.0407	100	URS:Slope from relative inverts	76.810	8 inch
P 1259	1147.87	1146.78	0.0140	78	Change diam. based on MSWD comments	42.045	8 inch
P 126	1186.32	1175.82	0.0420	250	URS adj. inverts based on MSWD field survey	250.001	8 inch
P 1260	1146.78	1144.87	0.0382	50	URS:Slope fm rel inv. Adj diam based on MSWD cmnts	40.117	8 inch
P 1261	1147.87	1144.66	0.1050	2	Change diam. based on MSWD comments	9.883	8 inch
P 1263	1183.20	1177.70	0.0367	150	URS: Slope from rel inverts	193.031	8 inch
P 127	1204.63	1202.02	0.0125	209	URS adj. inverts based on MSWD field survey	213.106	8 inch
P 128	1202.02	1197.65	0.0125	350	URS adj. inverts based on MSWD field survey	350.072	8 inch
P 129	1197.65	1193.52	0.0118	350	URS adj. inverts based on MSWD field survey	338.812	8 inch
P 1291	1236.33	1233.62	0.0100	271	URS adj. inverts based on MSWD field survey	275.796	8 inch
P 1292	1237.07	1236.33	0.0100	74	URS adj. inverts based on MSWD field survey	73.730	8 inch
P 1299	1123.04	1115.10	0.0530	149	URS: Slope from rel inverts	150.535	8 inch
P 1306	1154.37	1148.94	0.0367	148	URS adj. inverts based on MSWD field survey	157.759	12 inch
P 1315	1067.57	1065.09	0.0248	100	URS: Slope from rel inverts	100.000	8 inch
P 1328	993.96	988.22	0.0290	204	URS adj. inverts based on US,DS inv.	217.818	6 inch
P 1329	980.72	978.67	0.0045	346	URS adj. inverts based on US,DS inv.	346.795	8 inch
P 133	1198.10	1194.36	0.0356	105	URS adj. inverts based on MSWD field survey	105.210	8 inch
P 134	1201.99	1198.10	0.0564	69	URS adj. inverts based on MSWD field survey	69.251	8 inch
P 1343	1166.00	1157.00	0.0450	203	URS changed diam. based on MSWD coments	163.163	8 inch
P 1344	1172.50	1166.00	0.0650	100	URS changed diam. based on MSWD coments	138.246	8 inch
P 135	1193.47	1183.95	0.0469	204	URS adj. inverts based on MSWD field survey	208.261	8 inch
P 136	1183.95	1174.25	0.0385	252	URS adj. inverts based on MSWD field survey	257.792	8 inch
P 1369	1152.11	1147.87	0.0848	50	URS:Slope fm rel inv. Adj diam based on MSWD cmnts	50.432	8 inch
P 137	1174.25	1164.31	0.0375	265	URS adj. inverts based on MSWD field survey	251.967	8 inch
P 1370	1176.25	1170.09	0.0200	306	URS changed diam. based on MSWD coments	217.159	8 inch
P 1371	1170.09	1166.97	0.0450	198	URS adj inv bsd on US,DS inv. Diam frm MSWD comts	167.859	8 inch
P 138	1164.31	1154.37	0.0375	265	URS adj. inverts based on MSWD field survey	263.467	8 inch
P 139	1194.36	1194.25	0.0033	33	URS adj. inverts based on MSWD field survey	33.049	8 inch
P 14	1125.14	1125.04	0.0100	2	Changed diameter based on MSWD comments	4.300	8 inch
P 140	1194.25	1193.52	0.0033	223	URS adj. inverts based on MSWD field survey	233.538	8 inch
P 1448	965.92	962.20	0.0032	203	URS adj. inverts based on US,DS inv.	207.169	8 inch
P 1452	948.38	947.08	0.0040	312	URS adj. inverts based on US,DS inv.	315.587	8 inch
P 1464	1148.94	1145.29	0.0317	115	URS adj. inverts based on MSWD field survey	109.430	12 inch
P 148	1467.42	1465.57	0.0211	87	URS adj. inverts based on US,DS inv.	87.425	8 inch
P 1480	912.29	906.92	0.0556	125	URS adj. inverts based on US,DS inv.	113.350	8 inch
P 1481	906.92	904.22	0.2200	12	URS: Rec L from Shape L; Inve, slope from rel info	11.650	8 inch
P 1501	995.50	988.39	0.0267	259	URS adj. inverts based on US,DS inv.	259.032	6 inch
P 1507	1002.50	1001.00	0.0050	159	URS adj. inverts based on US,DS inv.	159.990	6 inch
P 153	1013.85	1007.27	0.0200	329	URS adj. inverts based on MSWD field survey	366.009	10 inch
P 1535	978.87	974.39	0.0860	282	URS adj. inverts based on US,DS inv.	286.262	8 inch
P 1536	974.39	973.04	0.0400	338	URS adj. inverts based on US,DS inv.	339.382	8 inch
P 154	1039.45	1013.85	0.0740	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 155	1081.39	1068.24	0.0380	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 156	1093.15	1089.00	0.0120	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 1581	1036.37	1030.37	0.0320	197	URS adj. inverts based on MSWD field survey	194.152	8 inch
P 1610	1129.40	1126.16	0.0160	198	URS: Slope and DS invert changed based on rel info	199.998	15 inch
P 1627	1224.66	1223.25	0.0282	50	URS: Slope from rel inverts	50.000	8 inch
P 1646	988.22	980.72	0.0375	200	URS adj. inverts based on US,DS inv.	199.970	8 inch
P 1679	1042.42	1039.80	0.0524	50	URS: Slope from rel inverts	50.000	8 inch
P 1697	1081.64	1076.57	0.0338	150	URS: Slope from rel inverts	150.000	8 inch
P 1699	1021.07	1007.27	0.0460	300	URS adj. inverts based on MSWD field survey	300.002	8 inch
P 1805	905.68	905.56	0.0020	62	URS: Rec L from Shape L, US invert from slope	61.683	21 inch
P 2000	883.36	883.26	0.0064	15	URS added new pipe for new Lift Station	13.700	30 inch
P 2001	847.97	847.53	0.0040	110	URS added new pipe to gravity to new Lift Station	110.019	8 inch
P 2002	856.00	854.40	0.0040	400	URS added new pipe to gravity to new Lift Station	399.582	8 inch
P 2003	857.60	856.00	0.0040	400	URS added new pipe to gravity to new Lift Station	400.409	8 inch
P 2004	859.20	857.60	0.0040	400	URS added new pipe to gravity to new Lift Station	399.580	8 inch
P 2005	860.12	859.20	0.0040	230	URS added new pipe to gravity to new Lift Station	230.141	8 inch
P 2006	800.13	797.69	0.0120	203	URS added new pipe to gravity to new Lift Station	202.703	8 inch
P 2007	803.18	800.13	0.0120	254	URS added new pipe to gravity to new Lift Station	254.000	8 inch
P 2008	806.81	803.18	0.0120	303	URS added new pipe to gravity to new Lift Station	303.173	8 inch
P 2009	811.61	806.81	0.0120	400	URS added new pipe to gravity to new Lift Station	400.362	8 inch
P 2010	816.41	811.61	0.0120	400	URS added new pipe to gravity to new Lift Station	399.748	8 inch
P 2011	822.21	816.41	0.0120	483	URS added new pipe to gravity to new Lift Station	483.103	8 inch
P 2012	827.02	822.21	0.0120	401	URS added new pipe to gravity to new Lift Station	400.522	8 inch
P 2013	831.83	827.02	0.0120	401	URS added new pipe to gravity to new Lift Station	400.679	8 inch
P 2014	833.12	831.83	0.0120	107	URS added new pipe to gravity to new Lift Station	106.906	8 inch
P 2015	837.93	833.12	0.0120	401	URS added new pipe to gravity to new Lift Station	400.582	8 inch
P 2016	842.73	837.93	0.0120	400	URS added new pipe to gravity to new Lift Station	400.369	8 inch
P 2017	847.53	842.73	0.0120	400	URS added new pipe to gravity to new Lift Station	399.474	8 inch
P 219	1283.44	1280.15	0.0248	253	URS adj. inverts based on US,DS inv.	256.999	8 inch
P 24	1182.19	1179.84	0.0300	75	URS: DS invert and slope based on relative info	70.725	8 inch
P 25	1179.84	1179.77	0.0300	2	URS: DS invert and slope based on relative info	4.275	8 inch
P 282	1175.82	1165.88	0.0337	295	URS adj. inverts based on MSWD field survey	291.409	8 inch
P 304	884.13	883.31	0.0215	25	URS adj. inverts based on MSWD field survey	24.782	15 inch
P 305	884.80	884.13	0.0020	320	URS adj. inverts based on MSWD field survey	314.675	15 inch
P 306	885.52	884.80	0.0020	340	URS adj. inverts based on MSWD field survey	340.001	15 inch
P 307	886.20	885.52	0.0020	340	URS adj. inverts based on MSWD field survey	340.001	15 inch
P 308	886.88	886.20	0.0020	340	URS adj. inverts based on MSWD field survey	339.993	15 inch
P 309	887.44	886.88	0.0020	280	URS adj. inverts based on MSWD field survey	280.001	15 inch
P 310	890.81	887.44	0.0153	220	URS adj. inverts based on MSWD field survey	220.167	12 inch

P 311	894.28	890.81	0.0160	217	URS adj. inverts based on MSWD field survey	216.834	12 inch
P 312	1206.98	1206.32	0.0065	102	URS adj. inverts based on MSWD field survey	103.753	8 inch
P 313	1209.52	1206.98	0.0135	188	URS adj. inverts based on MSWD field survey	187.339	8 inch
P 314	1211.06	1209.52	0.0135	114	URS adj. inverts based on MSWD field survey	114.734	8 inch
P 315	1213.97	1211.06	0.0098	297	URS adj. inverts based on MSWD field survey	297.101	8 inch
P 316	1217.09	1213.97	0.0119	262	URS adj. inverts based on MSWD field survey	245.671	8 inch
P 317	1222.67	1209.52	0.0760	173	URS adj. inverts based on MSWD field survey	172.127	8 inch
P 318	1145.29	1144.02	0.0071	179	URS adj. inverts based on MSWD field survey	177.827	8 inch
P 319	1210.85	1205.60	0.0202	260	URS adj. inverts based on MSWD field survey	259.222	8 inch
P 320	1206.25	1205.60	0.0032	205	URS adj. inverts based on MSWD field survey	205.445	8 inch
P 322	1068.24	1039.45	0.0832	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 323	1089.00	1081.39	0.0220	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 337	1188.98	1187.78	0.0150	74	URS specified Rec L from MSWD comments	74.585	8 inch
P 348	1228.14	1224.54	0.0131	275	URS adjust DS invert based on slope	275.068	8 inch
P 349	1224.54	1221.00	0.0354	100	URS adj. inv. and S based on rel info	100.001	8 inch
P 352	1170.00	1162.08	0.0260	150	URS adj invert based on rel info	150.000	8 inch
P 353	1162.08	1156.42	0.0156	308	URS adj invert based on rel info	305.984	8 inch
P 354	1166.30	1162.90	0.0340	100	URS: Slope based on relative info	97.100	8 inch
P 357	1067.48	1061.49	0.0300	200	URS: Slope based on relative info	200.000	10 inch
P 359	975.88	972.30	0.0240	150	URS: Slope based on relative info	150.000	15 inch
P 361	1029.06	1023.98	0.0510	100	URS: Slope based on relative info	100.001	8 inch
P 37	1038.13	1030.37	0.0388	200	URS adj. inverts based on MSWD field survey	197.610	8 inch
P 38	1056.56	1045.28	0.0564	200	URS adj. inverts based on MSWD field survey	199.634	8 inch
P 39	1045.28	1041.03	0.0170	250	URS adj. inverts based on MSWD field survey	250.001	8 inch
P 40	1041.03	1038.13	0.0116	250	URS adj. inverts based on MSWD field survey	250.368	8 inch
P 41	1021.40	1018.78	0.0075	350	URS adj. inverts based on MSWD field survey	349.992	8 inch
P 42	1039.60	1021.40	0.0520	350	URS adj. inverts based on MSWD field survey	350.001	8 inch
P 43	1018.78	998.45	0.0937	217	URS adj. inverts based on MSWD field survey	214.521	8 inch
P 431	911.45	902.10	0.0294	318	URS adj. inverts based on MSWD field survey	331.292	10 inch
P 432	902.10	900.63	0.0050	294	URS adj. inverts based on MSWD field survey	298.007	12 inch
P 433	900.63	899.15	0.0050	296	URS adj. inverts based on MSWD field survey	300.271	12 inch
P 434	899.15	897.66	0.0050	298	URS adj. inverts based on MSWD field survey	299.795	12 inch
P 435	897.66	894.91	0.0080	344	URS adj. inverts based on MSWD field survey	348.451	12 inch
P 436	894.91	888.13	0.0196	346	URS adj. inverts based on MSWD field survey	349.750	12 inch
P 437	888.13	887.44	0.0020	346	URS adj. inverts based on MSWD field survey	354.206	15 inch
P 44	1206.32	1205.13	0.0065	182	URS adj. inverts based on MSWD field survey	172.821	8 inch
P 45	1177.67	1162.09	0.0511	305	URS adj. inverts based on MSWD field survey	303.325	8 inch
P 458	1144.02	1137.60	0.0440	146	URS adj. inverts based on MSWD field survey	99.760	8 inch
P 459	1152.78	1144.02	0.0440	199	URS adj. inverts based on MSWD field survey	250.246	8 inch
P 46	1195.65	1177.68	0.0599	300	URS adj. inverts based on MSWD field survey	299.999	8 inch
P 460	1172.15	1152.78	0.0560	346	URS adj. inverts based on MSWD field survey	349.997	8 inch
P 461	1193.61	1172.15	0.0620	346	URS adj. inverts based on MSWD field survey	349.997	8 inch
P 462	1205.13	1193.61	0.0440	262	URS adj. inverts based on MSWD field survey	213.379	8 inch
P 463	1233.62	1226.34	0.0200	364	URS adj. inverts based on MSWD field survey	355.990	8 inch
P 465	1226.34	1217.09	0.0246	376	URS adj. inverts based on MSWD field survey	402.013	8 inch
P 466	1236.89	1236.33	0.0040	140	URS:RecL frm MSDW cmts; SL, US/DS inv from survey	114.999	8 inch
P 469	1182.12	1177.08	0.0420	120	URS: Slope from rel inverts	120.000	8 inch
P 47	1206.75	1195.65	0.0600	185	URS adj. inverts based on MSWD field survey	184.997	8 inch
P 471	1157.12	1151.80	0.0440	120	URS: Slope from rel inverts	120.003	8 inch
P 48	1206.85	1206.25	0.0032	188	URS adj. inverts based on MSWD field survey	183.917	8 inch
P 480	1062.53	1052.54	0.0300	333	URS adj inverts based on rel invert info and slope	329.221	8 inch
P 49	1213.39	1206.85	0.0357	183	URS adj. inverts based on MSWD field survey	182.519	8 inch
P 50	1214.70	1210.85	0.0128	301	URS adj. inverts based on MSWD field survey	298.755	8 inch
P 51	1215.43	1214.70	0.0039	187	URS adj. inverts based on MSWD field survey	191.496	8 inch
P 52	1216.89	1215.43	0.0078	188	URS adj. inverts based on MSWD field survey	189.922	8 inch
P 53	1205.60	1201.99	0.0239	151	URS adj. inverts based on MSWD field survey	149.759	8 inch
P 54	1227.03	1214.70	0.0469	263	URS adj. inverts based on MSWD field survey	266.808	8 inch
P 55	1235.58	1223.89	0.0485	241	URS adj. inverts based on MSWD field survey	235.889	8 inch
P 56	1223.89	1206.85	0.0395	266	URS adj. inverts based on MSWD field survey	257.835	8 inch
P 570	1030.37	998.45	0.0912	350	URS adj. inverts based on MSWD field survey	350.546	8 inch
P 571	998.45	985.09	0.0334	400	URS adj. inverts based on MSWD field survey	401.875	8 inch
P 581	881.92	881.80	0.0080	15	URS spec L from MSWD Comts, US/DS from dwgs	13.677	12 inch
P 582	880.48	880.33	0.0000	15	URS spec L,D from MSWD Comts, US/DS from dwgs	36.721	24 inch
P 583	881.80	880.48	0.0100	136	URS spec L,D from MSWD Comts, US/DS from dwgs	172.358	24 inch
P 585	883.31	882.00	0.0060	223	URS spec L from MSWD Comts, US/DS from dwgs	187.996	12 inch
P 586	882.00	881.80	0.0100	15	URS spec L,D from MSWD Comts, US/DS from dwgs	48.037	24 inch
P 611	1002.88	1002.50	0.0040	107	URS: Rec L from Shap; Slope, Invs from MHs	95.201	8 inch
P 614	1004.16	1000.70	0.0100	346	URS adj. inverts based on MSWD field survey	350.008	10 inch
P 615	1000.70	987.20	0.0900	150	URS adj. inverts based on MSWD field survey	149.616	10 inch
P 616	987.20	976.37	0.0595	182	URS adj. inverts based on MSWD field survey	186.145	10 inch
P 617	976.37	965.46	0.0360	303	URS adj. inverts based on MSWD field survey	306.980	10 inch
P 618	965.46	958.38	0.0280	253	URS adj. inverts based on MSWD field survey	257.212	10 inch
P 619	958.38	941.91	0.0476	346	URS adj. inverts based on MSWD field survey	350.269	10 inch
P 620	941.91	934.19	0.0220	351	URS adj. inverts based on MSWD field survey	355.310	10 inch
P 621	934.19	930.36	0.0220	174	URS adj. inverts based on MSWD field survey	177.997	10 inch
P 622	923.75	917.16	0.0232	284	URS adj. inverts based on MSWD field survey	287.981	10 inch
P 657	1007.27	1004.16	0.0100	311	URS adj. inverts based on MSWD field survey	315.567	10 inch
P 689	1154.00	1139.00	0.0454	331	URS adj. inverts based on US,DS inv.	329.892	8 inch
P 696	1177.98	1177.01	0.0040	241	URS: DS invert adjustedbased on rel information	243.092	8 inch
P 720	1230.56	1228.14	0.0135	179	URS: Reassign US DS inv from relative MH info	179.051	8 inch
P 723	1186.05	1171.78	0.0430	332	Changed diam based on MSWD comments	330.001	8 inch
P 771	931.40	929.26	0.0080	280	URS: US inv from L and DS invert	252.902	6 inch
P 775	1162.09	1144.72	0.0589	295	URS adj. inverts based on MSWD field survey	294.428	8 inch
P 776	1229.02	1206.32	0.0668	340	URS adj. inverts based on MSWD field survey	342.401	8 inch
P 777	1114.99	1106.99	0.0320	250	URS adj. inverts based on MSWD field survey	225.692	10 inch
P 778	1120.47	1114.99	0.0160	342	URS adj. inverts based on MSWD field survey	349.998	8 inch
P 779	1126.00	1120.47	0.0160	346	URS adj. inverts based on MSWD field survey	350.006	8 inch
P 780	1130.74	1126.00	0.0160	296	URS adj. inverts based on MSWD field survey	350.022	8 inch
P 781	1137.60	1130.74	0.0200	343	URS adj. inverts based on MSWD field survey	350.334	8 inch
P 782	1106.99	1093.15	0.0400	346	URS adj. inverts based on MSWD field survey	350.001	10 inch
P 830	917.16	911.45	0.0232	246	URS adj. inverts based on MSWD field survey	250.278	10 inch
P 840	1041.44	1036.67	0.0300	159	URS adj. inverts based on MSWD field survey	161.432	8 inch
P 842	985.09	976.37	0.0249	350	URS adj. inverts based on MSWD field survey	357.431	8 inch
P 843	927.90	923.75	0.0232	179	URS adj. inverts based on MSWD field survey	181.114	10 inch
P 844	930.36	927.90	0.0232	106	URS adj. inverts based on MSWD field survey	112.265	10 inch
P 992	1127.63	1118.21	0.0942	100	URS: Slope from rel inverts	100.003	8 inch

Complete List of Manholes that were modified with URS Comments

KEYID	RIMELEVATI	ACCESSDIAM	INVERTELEV	RIM_EL_URS	URSCOMMENT
MH 8	1044.80	24	1036.67	1045.50	URS edited invert based on MSWD field survey
MH 9	1050.60	24	1041.44	1053.10	URS edited invert based on MSWD field survey
MH 10	996.00	24	985.09	997.34	URS edited invert based on MSWD field survey
MH 12	1070.20	24	1060.45	1073.78	URS edited invert based on MSWD field survey
MH 13	1081.30	24	1072.15	1082.61	URS edited invert based on MSWD field survey
MH 14	1114.00	24	1104.40	1119.05	URS edited invert based on MSWD field survey
MH 15	1030.60	24	1021.07	1037.58	URS edited invert based on MSWD field survey
MH 16	1044.40	24	1035.07	1049.52	URS edited invert based on MSWD field survey
MH 17	1059.50	24	1049.77	1062.59	URS edited invert based on MSWD field survey
MH 94	0.00	24	905.68	914.91	Invert calced by DS invert and pipe slope
MH 145	1191.72	24	1177.67	1191.14	URS edited invert based on MSWD field survey
MH 146	1243.44	24	1229.02	1251.02	URS edited invert based on MSWD field survey
MH 147	1176.23	24	1162.09	1172.00	URS edited invert based on MSWD field survey
MH 148	1237.00	24	1222.67	1245.17	URS edited invert based on MSWD field survey
MH 149	1154.05	24	1144.02	1157.87	URS edited invert based on MSWD field survey
MH 150	1232.35	24	1210.85	1226.05	URS edited invert based on MSWD field survey
MH 151	1227.91	24	1205.80	1228.55	URS edited invert based on MSWD field survey
MH 152	1228.88	24	1206.85	1239.14	URS edited invert based on MSWD field survey
MH 153	1236.19	24	1214.70	1229.93	URS edited invert based on MSWD field survey
MH 154	1237.02	24	1215.43	1232.42	URS edited invert based on MSWD field survey
MH 155	1238.48	24	1216.89	1231.60	URS edited invert based on MSWD field survey
MH 156	1228.38	24	1206.25	1229.55	URS edited invert based on MSWD field survey
MH 157	1248.90	24	1227.03	1243.45	URS edited invert based on MSWD field survey
MH 158	1238.80	24	1223.89	1240.35	URS edited invert based on MSWD field survey
MH 159	1250.40	24	1235.58	1245.53	URS edited invert based on MSWD field survey
MH 304	895.80	24	888.13	898.64	URS edited invert based on MSWD field survey
MH 307	0.00	24	927.90	940.00	URS edited invert based on MSWD field survey
MH 340	0.00	24	887.44	894.62	URS edited invert based on MSWD field survey
MH 341	953.70	24	941.91	956.32	URS edited invert based on MSWD field survey
MH 342	975.00	24	965.46	975.42	URS edited invert based on MSWD field survey
MH 350	892.67	24	883.31	895.44	URS edited invert based on MSWD field survey
MH 396	0.00	24	884.13	895.44	URS edited invert based on MSWD field survey
MH 397	0.00	24	884.80	895.44	URS edited invert based on MSWD field survey
MH 398	0.00	24	885.52	894.50	URS edited invert based on MSWD field survey
MH 399	0.00	24	886.20	893.90	URS edited invert based on MSWD field survey
MH 400	0.00	24	886.88	893.96	URS edited invert based on MSWD field survey
MH 401	0.00	24	890.81	902.41	URS edited invert based on MSWD field survey
MH 402	0.00	24	894.28	909.60	URS edited invert based on MSWD field survey
MH 406	894.40	24	881.80	893.60	URS changed invert from MSWD drawings
MH 407	0.00	24	880.48	892.16	URS changed invert from MSWD drawings
MH 408	0.00	24	882.00	892.98	URS changed invert from MSWD drawings
MH 425	0.00	24	1002.88	1022.47	Invert calced by DS invert and minimum slope
MH 426	1017.30	24	1004.16	1011.02	URS edited invert based on MSWD field survey
MH 427	1011.20	24	1000.70	1003.76	URS edited invert based on MSWD field survey
MH 428	995.40	24	987.20	998.01	URS edited invert based on MSWD field survey
MH 429	986.00	24	976.37	988.65	URS edited invert based on MSWD field survey
MH 430	966.65	24	958.38	959.32	URS edited invert based on MSWD field survey
MH 431	0.00	24	934.19	950.67	URS edited invert based on MSWD field survey
MH 432	0.00	24	930.36	942.54	URS edited invert based on MSWD field survey
MH 433	933.35	24	923.75	936.48	URS edited invert based on MSWD field survey
MH 434	926.40	24	917.16	926.89	URS edited invert based on MSWD field survey
MH 435	918.90	24	911.45	920.51	URS edited invert based on MSWD field survey
MH 436	909.30	24	902.10	909.41	URS edited invert based on MSWD field survey
MH 437	913.00	24	900.63	911.57	URS edited invert based on MSWD field survey
MH 438	916.50	24	899.15	914.81	URS edited invert based on MSWD field survey
MH 439	915.50	24	897.66	915.20	URS edited invert based on MSWD field survey
MH 517	1190.40	24	1176.90	1196.13	URS:MH invert changed based on DS pipe invert
MH 571	1054.80	24	1039.60	1050.06	URS edited invert based on MSWD field survey
MH 572	1035.49	24	1021.40	1035.06	URS edited invert based on MSWD field survey
MH 573	1030.58	24	1018.78	1033.30	URS edited invert based on MSWD field survey
MH 574	1067.16	24	1056.56	1064.06	URS edited invert based on MSWD field survey
MH 575	1058.29	24	1045.28	1051.54	URS edited invert based on MSWD field survey
MH 576	1052.54	24	1041.03	1046.57	URS edited invert based on MSWD field survey
MH 577	1049.34	24	1038.13	1047.73	URS edited invert based on MSWD field survey
MH 578	1222.16	24	1205.13	1228.62	URS edited invert based on MSWD field survey
MH 579	1232.19	24	1213.97	1233.15	URS edited invert based on MSWD field survey
MH 580	1227.51	24	1211.06	1235.27	URS edited invert based on MSWD field survey
MH 581	1224.49	24	1206.98	1233.19	URS edited invert based on MSWD field survey
MH 582	1209.68	24	1195.65	1209.34	URS edited invert based on MSWD field survey
MH 702	1226.94	24	1212.16	1227.40	URS edited invert based on MSWD field survey
MH 703	1219.52	24	1204.63	1218.94	URS edited invert based on MSWD field survey
MH 704	1216.87	24	1202.02	1215.53	URS edited invert based on MSWD field survey
MH 705	1208.28	24	1193.47	1209.60	URS edited invert based on MSWD field survey
MH 706	1223.00	24	1201.99	1215.75	URS edited invert based on MSWD field survey
MH 707	1208.50	24	1194.25	1206.73	URS edited invert based on MSWD field survey
MH 714	1198.78	24	1183.95	1200.27	URS edited invert based on MSWD field survey
MH 715	1189.16	24	1174.25	1191.83	URS edited invert based on MSWD field survey
MH 716	1197.67	24	1183.51	1197.78	URS edited invert based on MSWD field survey
MH 717	1190.03	24	1175.82	1191.02	URS edited invert based on MSWD field survey
MH 718	1216.49	24	1202.34	1215.54	URS edited invert based on MSWD field survey
MH 719	1226.37	24	1209.52	1238.01	URS edited invert based on MSWD field survey
MH 720	1223.48	24	1206.32	1232.09	URS edited invert based on MSWD field survey
MH 721	1220.78	24	1206.75	1224.64	URS edited invert based on MSWD field survey
MH 778	1197.70	24	1183.48	1196.35	URS edited invert based on MSWD field survey
MH 779	1209.99	24	1196.01	1209.98	URS edited invert based on MSWD field survey
MH 780	1179.78	24	1165.88	1181.54	URS edited invert based on MSWD field survey
MH 781	1212.50	24	1197.65	1210.79	URS edited invert based on MSWD field survey
MH 782	1200.45	24	1186.32	1196.33	URS edited invert based on MSWD field survey
MH 783	1212.00	24	1198.10	1212.50	URS edited invert based on MSWD field survey
MH 784	1211.50	24	1194.36	1207.75	URS edited invert based on MSWD field survey
MH 785	1179.22	24	1164.31	1179.90	URS edited invert based on MSWD field survey
MH 817	1096.10	24	1086.85	1099.07	URS edited invert based on MSWD field survey
MH 818	1020.00	24	1007.27	1017.71	URS edited invert based on MSWD field survey
MH 819	1024.90	24	1013.85	1033.74	URS edited invert based on MSWD field survey
MH 820	1049.30	24	1039.45	1047.83	URS edited invert based on MSWD field survey
MH 821	1078.00	24	1068.24	1076.12	URS edited invert based on MSWD field survey
MH 822	1091.40	24	1081.39	1088.96	URS edited invert based on MSWD field survey

MH 823	1099.00	24	1089.00	1104.85	URS edited invert based on MSWD field survey
MH 824	1103.65	24	1093 15	1112.71	URS edited invert based on MSWD field survey
MH 825	1124.60	24	1114.99	1125.43	URS edited invert based on MSWD field survey
MH 826	1131.50	24	1120.47	1132.26	URS edited invert based on MSWD field survey
MH 827	1135.20	24	1126.00	1138.75	URS edited invert based on MSWD field survey
MH 828	1116.90	24	1106.99	1120.46	URS edited invert based on MSWD field survey
MH 831	0.00	8	1236 33	1246.19	URS edited invert based on MSWD field survey
MH 832	0.00	8	1236 89	1253.41	URS edited invert based on MSWD field survey
MH 835	905.20	24	894.91	903.59	URS edited invert based on MSWD field survey
MH 853	1046.00	24	1030.37	1042.03	URS edited invert based on MSWD field survey
MH 854	1014.00	24	998 45	1028.53	URS edited invert based on MSWD field survey
MH 925	1141.70	24	1130.74	1144.79	URS edited invert based on MSWD field survey
MH 926	1148.45	24	1137.60	1154.58	URS edited invert based on MSWD field survey
MH 927	1163.30	24	1152.78	1167.03	URS edited invert based on MSWD field survey
MH 928	1183.35	24	1172.15	1188.12	URS edited invert based on MSWD field survey
MH 929	1204.00	24	1193.61	1210.81	URS edited invert based on MSWD field survey
MH 930	1238.00	24	1226.34	1237.52	URS edited invert based on MSWD field survey
MH 931	1245.80	24	1233.62	1245.08	URS edited invert based on MSWD field survey
MH 1251	1235.20	24	1213.39	1243.29	URS edited invert based on MSWD field survey
MH 1252	1158 98	24	1145.29	1158.79	URS edited invert based on MSWD field survey
MH 1253	1169 28	24	1154.37	1167.80	URS edited invert based on MSWD field survey
MH 1254	1234 54	24	1217.09	1233.35	URS edited invert based on MSWD field survey
MH 2000	0.00	24	883.36	895.44	URS add new gravity pipe for new lift station
MH 2001	0.00	24	860.12	879.04	URS add new gravity pipe to new lift station
MH 2002	0 00	24	859.20	875.76	URS add new gravity pipe to new lift station
MH 2003	0 00	24	857 60	872.48	URS add new gravity pipe to new lift station
MH 2004	0.00	24	856.00	862.64	URS add new gravity pipe to new lift station
MH 2006	0.00	24	847.53	856.08	URS add new gravity pipe to new lift station
MH 2007	0.00	24	842.73	852.80	URS add new gravity pipe to new lift station
MH 2008	0.00	24	837.93	849.52	URS add new gravity pipe to new lift station
MH 2009	0.00	24	833.12	842.96	URS add new gravity pipe to new lift station
MH 2010	0 00	24	831.83	842.96	URS add new gravity pipe to new lift station
MH 2011	0.00	24	827.02	836.40	URS add new gravity pipe to new lift station
MH 2012	0.00	24	822.21	833.12	URS add new gravity pipe to new lift station
MH 2013	0.00	24	816.41	820.00	URS add new gravity pipe to new lift station
MH 2014	0.00	24	811.61	813.44	URS add new gravity pipe to new lift station
MH 2015	0.00	24	806.81	813.44	URS add new gravity pipe to new lift station
MH 2016	0.00	24	800.13	800.32	URS add new gravity pipe to new lift station
MH 2017	0.00	24	803.18	810.16	URS add new gravity pipe to new lift station
MH 2018	0.00	24	797.69	803.60	URS add new gravity pipe to new lift station

Appendix E

Land Use Designation Tables

Table LU-3
Land Use Designations Summary Table

Foundation Component	Area Plan Land Use Designation	Building Density/Intensity Range	Comments
Community Development	Estate Density Residential (EDR)	2 AC Min.	• Single-family detached residences on large parcels where intensive animal keeping is discouraged
	Very Low Density Residential (VLDR)	1 AC Min.	• Single-family detached residences on large parcels where intensive animal keeping is discouraged
	Low Density Residential (LDR)	½ AC Min.	• Single-family detached residences on large parcels where intensive animal keeping is discouraged
	Medium Density Residential (MDR)	2 - 5 DU/AC	• Single-family detached residences • Lot sizes range from 5,500 to 20,000 sq. ft., that means standard 7200 sq. ft. lots allowed
	Medium High Density Residential (MHDR)	5 - 8 DU/AC	• Single-family detached residences, with potential for cluster development • Lot sizes range from 4,000 to 6,500 sq. ft.
	High Density Residential (HDR)	8 - 14 DU/AC	• Single-family attached residences, including townhouses, stacked flats, courtyard homes etc.
	Very High Density Residential (VHDR)	14 - 20 DU/AC	• Single-family attached residences and multifamily dwellings
	Highest Density Residential (H`TDR)	20+ DU/AC	• Multi-family dwellings, includes apartments and condominium • Multi-storied (3 +) structures are allowed
	Commercial Retail (CR)	0.20 - 0.35 FAR*	• Local and regional serving retail and service uses
	Commercial Tourist (CT)	0.20 - 0.35 FAR*	• Tourist related commercial including hotels, golf courses, and recreation/ amusement activities
	Commercial Office (CO)	0.25 - 1.0 FAR*	• Variety of office related uses including financial, legal, insurance and other office services
	Light Industrial (LI)	0.25 - 0.60 FAR*	• Industrial and related uses including warehousing/ distribution, assembly and light manufacturing, and repair facilities.
	Heavy Industrial (HI)	0.15 - 0.50 FAR*	• More intense industrial activities that generate significant impacts such as excessive noise, dust, and other nuisances.
	Business Park (BP)	0.25 - 0.60 FAR*	• Employee intensive uses, including research & development, technology centers, corporate offices and "clean" industry
	Public Facilities (PF)	< 0.60 FAR*	• Public/ quasi-public uses such as landfills, airports, utilities, and other civic uses.
	Community Center (CC)	5 - 40 DU/AC 0.01 - 0.3 FAR*	• Includes combination of small-lot single family residences, multi-family residences, commercial retail, office, business park uses, civic uses, transit facilities, and recreational open space within a unified planned development area
	Mixed Use per Adopted Specific Plan		• Mixture of residential, commercial, office, entertainment, educational and/or recreational uses or other uses per adopted Specific Plans
Rural Community	Estate Density Residential (EDR)	2 AC Min.	• Single-family detached residences on large parcels • Intensive equestrian and animal keeping uses are expected and encouraged • 1 Ac. Min. for SOI of City of Corona, Moreno Valley & Riverside; 10,000 sq. ft. Min. for projects adjacent to CD Foundation with clustered units; ½ Ac. Min. for all other areas
	Very Low Density Residential (VLDR)	1 AC Min.	• Single-family detached residences on large parcels • Intensive equestrian and animal keeping uses are expected and encouraged • 1 Ac. Min. for SOI of City of Corona, Moreno Valley & Riverside; 10,000 sq. ft. Min. for projects adjacent to CD Foundation with clustered units; ½ Ac. Min. for all other areas
	Low Density Residential (LDR)	½ AC Min.	• Single-family detached residences on large parcels • Intensive equestrian and animal keeping uses are expected and encouraged • 1 Ac. Min. for SOI of City of Corona, Moreno Valley & Riverside; 10,000 sq. ft. Min. for projects adjacent to CD Foundation with clustered units; ½ Ac. Min. for all other areas
Rural	Rural Residential (RR)	5 AC Min.	• One single-family residence with a minimum lot size of 5 AC • Limited animal keeping and agricultural uses are allowed
	Rural Mountainous (RM)	10 AC Min.	• Single-family residential uses with a minimum lot size of 10 AC and limited animal keeping and agriculture • 70% areas of 10 Acres has slopes of 25% or greater
	Rural Desert (RD)	10 AC Min.	• Single-family residential uses with a minimum lot size of 10 AC • Allows limited animal keeping, agriculture, recreational, renewable energy uses, compatible resource development, and governmental and utility uses.
Agriculture	Agriculture (AG)	10 AC Min.	• Agricultural land including row corps, groves, nurseries, dairies, poultry farms, processing plants and other related uses • One single-family residence allowed per 10 acres
Open Space	Conservation (C)	N/A	• The protection of open space for natural hazard protection, and natural and scenic resource preservation. Existing agriculture is permitted
	Conservation Habitat (CH)	N/A	• Applies to lands conserved and managed in accordance with adopted Habitat Conservation Plans
	Water (W)	N/A	• Includes bodies of water and natural drainage corridors
	Recreation (R)	N/A	• Recreational uses including parks, trails, athletic fields, golf courses • Neighborhood parks are permitted within residential land uses
	Rural (RUR)	20 AC Min.	• One single-family residence allowed per 20 acres
	Mineral Resources (MR)	N/A	• Mineral extraction and processing facilities • Areas held in reserve for future mineral extraction and processing
Overlays (Not a Foundation Component, may be used in different foundation components)	Community Center Overlay (CCO)		• Future Community Center, where there is a need to protect other options for development while Community Center concept is pursued.
	Rural Village Overlay (RVO)		• A concentration of development of residential and commercial uses within areas of rural character • Allows uses and maximum density of Medium Density Residential, Medium High Density Residential and Commercial Retail
	Community Development (CDO)		• Allows Community Development land use designations to be applied in future within specified areas within other foundations while maintaining underlying foundation until CD uses are approved

*FAR- Floor Area Ratio

Table III-1
City of Desert Hot Springs General Plan
Proposed Land Use Designations

Land Use Designation (Density)	Purpose of Land
Residential	
(R-E) Residential Estates (0-1 du/varies ac)	This designation provides for single-family residential development on lots varying from one to 10 acre minimum in size. This land use provides intermediate steps in development density between more typical open space lands and low residential densities, providing lots sufficient for rural and estate lifestyle yet with room to limit site and environmental impacts.
(R-L) Low Density Residential (0-5 du/ac)	This low density designation provides for single-family residential development on individual lots of not less than 9,000 sq. ft. These lands serve to buffer more dense residential development from estate residential uses, and may be appropriate in areas with some site constraints. This designation typically provides for moderately low density single family subdivisions and Planned Residential Developments (PRDs). It serves to transition between lower and more moderate (medium) residential densities. **Planned Residential Developments (PRDs)** are master planned communities which consolidate areas for structures, common open space and recreation areas, and integrate access and private internal roadways. PRDs permit the transfer of densities from open space/recreation areas, thus preserving open space and possibly permitting the development to maximize allowable densities. The purpose of PRDs is to promote planned residential development and amenities

beyond those expected under conventional development. They are also meant to provide greater flexibility in design, varying ranges in densities, and to encourage well planned neighborhoods through creative and imaginative planning. PRDs also provide for an appropriate mix of housing types, which are unique in their physical characteristics to warrant special methods of residential development. A full range of residential development is permitted in PRDs.

(R-M) Medium Density Residential (0-8 du/ ac)

Appropriate residential development under this designation includes single family and PRDs with shared open space, recreation and other amenities. Condominiums, garden apartments and affordable housing may also be appropriate for these lands. The intent of this designation is to encourage development of a wide variety of dwelling unit types.

(R-MH) Residential Mobilehome (0-10 du/ac)

This land use designation is assigned to existing mobilehome parks and subdivisions, and also provides for new mobilehome developments on thoughtfully considered lands. Projects developed under this designation should be integrated and planned developments within a minimum planning area of 2.5 acres, although larger sites are preferred.

(R-H) High Density Residential (0-14 du/ac)

This designation allows for the greatest diversity of residential development, including attached single and multi-family dwellings. This designation is most suitable for planned communities and affordable and senior housing, where smaller units and higher densities may be appropriate. Duplex and multiplex development is the most common and provides for PRDs comprised of a varying range of residential types, including apartments and condominiums. Mobile home parks or subdivisions with PRDS type development may also allowed with the approval of a Conditional Use Permit.

(R-VS) Residential-Visitor Serving (varies du/ac)

This land use designation recognizes the predominant residential character of lands which also include numerous spa-type hotels. It is meant to foster compatible development to serve permanent and seasonal residents, as well as the vacationing public visiting resorts, hotels and motels. To this end, this designation is followed by a suffix (L, M & H) designating permitted residential densities.

(C-N) Neighborhood Commercial

This designation provides for neighborhood scale shopping centers conveniently located near residential areas. These developments are typically anchored by supermarkets and super drugstores. A wide range of other uses, including banking, barbers/beauty salons, dry cleaners, restaurants, service businesses, offices and other related activities are typically found in these planned centers. Typical sizes are 8 to 10 acres providing approximately 80,000 to 100,000 square feet of gross leasable floor area.

(C-G) General Commercial

These lands includes a wide variety of smaller commercial centers, specialty retail shops, a broad range of clothing and apparel, jewelry stores and a variety of personal service businesses. Smaller, moderately priced department stores may also be appropriate under this designation. Development may range from free-standing retail buildings, offices and restaurants, to planned commercial centers. Typical sizes range between 2 to 8 acres with gross leasable square footage varying with uses. Hotels and motels may also be appropriate on these lands.

(C-C) Community Commercial

This designation provides for larger, community scale shopping centers and malls, which may be anchored by several department stores or other large-scale anchors. A variety of retail outlets, and restaurant and entertainment uses are also typical. Hotels and motels may also be appropriate on these lands. Office development may also be an integral part of these developments. Typical sizes range between 100-300,000 square feet or more of gross leasable floor area. This type of development requires approval of a Specific Plan. While smaller than regional facilities, the community commercial center will serve the entire community, as well as the surrounding market area.

(---/SP) Specific Plan Overlay

This designation is used in conjunction with other underlying designations. It requires the development of a Specific Plan of Land Use on parcels or groups of parcels of 40 acres or more. The designation is applied as an overlay on the General Plan Land Use Map and can be added to any land use designation. It is also appropriate as a means of processing community-scale commercial and mixed use development proposals.

Specific Plans provide detailed design and analysis of large scale and/or complex projects indicating the distribution, location, and intensity of proposed land uses. They also examine the required level of public facilities and services and their availability, and they should help establish economic viability of proposed developments. Several Specific Plans have been adopted and shall be shown on the Land Use Map.

Pierson Boulevard Specific Plan Overlay

This area-specific land use planning corridor is limited to that portion of Pierson Boulevard extending from Atlantic Avenue westward to Highway 62, and extending one-half mile north and south of this portion of Pierson Boulevard. The Pierson

Boulevard Specific Plan corridor encourages the preparation of mixed-use development plans within this planning area. Development proposals in the corridor requesting approval of more than one type of land use are required to submit Specific Plans for consideration by the City. Development proposals limited only to the underlying land use designation need not prepare a Specific Plan if planning areas are less than 40 acres in size.

(I-L) Light Industrial

This designation provides for business parks and the development of any and all industrial uses operating entirely in enclosed buildings, and those requiring limited and screenable outdoor storage. Examples include clean manufacturing operations, warehousing and distribution facilities, mini-warehouse storage, and a variety of light manufacturing businesses. Siting industrial lands in close proximity to major regional highways is also desirable. Preferred development includes master planned business and industrial parks with integrated access and internal circulation.

(I-M) Medium Industrial

This designation allows development of more intense industrial uses with the potential to generate substantial levels of noise, smoke, dust, glare, traffic vibration or other nuisance. Examples include the manufacturing of durable goods such as appliances, furniture, fabricated metal products, and light electrical and transportation equipment. These uses may also have greater dependence on outdoor storage. Proponents will be required to mitigate any adverse impacts to acceptable or insignificant levels, demonstrate conformance with all community environmental standards, and be compatible with existing and planned land uses.

(I-E) Energy-Related Industrial	This land use designation provides for the development of energy producing industries, including windfarms and solar photovoltaic or thermal arrays on an industrial scale. Proposed development must demonstrate compatibility with surrounding uses, and must be especially sensitive to nearby residential development. Other appropriate uses may include those incidental to energy production or transmission, as well as those which do not impair development of energy resources, including plant nurseries and non-structural recreation such as golf courses.

Institutional Services and Facilities

(P) Public/Quasi-Public	As noted herein and on the Land Use Map, this designation provides for City Hall, other City and governmental offices, libraries, schools, hospitals, police and fire stations, utility substations, as well as other public/quasi-public administrative offices.
(P/CH)	City Hall
(P/FS) Fire Station	Fire Station
(P/PS) Police Station	Police Station
(P/H) Hospital	Hospitals and similar in/out patient medical services. Also may be assigned to convalescent and skilled nursing facilities.
(P/S)	Provides for educational facilities such as day care, elementary, intermediate, high schools, special schools and technical schools.
(P/L)	Libraries
(P/PO)	Post Offices
(P/U)	Utility Substation- designates electric, gas, telephone, water and other similar facilities.

(T)	Designated major transportation corridors.
(OS) Open Space	This designation is assigned to those lands which constitute special, important or valuable natural resources that warrant protection. The designation is assigned to such lands as parks, which carry a designation of OS/PP; golf courses/pool areas/landscaped lands are defined as private open space with a designation of OS/PV. Mountainous areas under public or quasi-public ownership are assigned the designation of Mountain Reserve (OS/MR). The designation allows the discretionary approval of trails, trailheads and associated facilities, but does not allow vehicular access. The Open Space designation may also be used to define special resource areas or those that may pose threats or hazards to development. Lands important for their recreational, biological, or regional economic value may also be assigned an open space designation. Examples of resource lands and hazards include ground rupture or liquefaction hazard areas, detention and retention basins, trails, estuaries and large habitat areas for biological resources.
(OS/PP)	Public Parks
(OS/MR)	Mountain Reserve
(OS/PV)	Private Open Space
(OS/FW)	Floodways

Table III-2
City Of Desert Hot Springs & SOI
Statistical Summary Of Land Uses
GPAC Preferred Alternative

Land Use Category	Total Acres	Acres (Dev.d/Vac.)	% of Total Acres
R-E Residential Estates (0-1 du/ac)	2,053	375/1,678	5.5%
R-E Residential Estates (0-1 du/2.5 ac)	1,345	148/1,197	3.6%
R-E Residential Estates (0-1 du/5 ac)	102	0/102	0.3%
R-E Residential Estates (0-1 du/10 ac)	719	3/716	1.9%
R-L Low Density Residential (0-5 du/ac)	14,779	2,908/11,871	40.0%
R-VSL Vis. Serv. Low (0-5 du/ac)	216	57/204	0.6%
R-M Medium Density Residential (0-8 du/ac)	472	213/259	1.3%
R-VSM Vis. Serv. Med. (0-8 du/ac)	74	31/43	0.2%
R-H High Density Residential (0-14 du/ac)	1,329	114/1,215	3.6%
R-VSH Vis. Serv. High (0-14 du/ac)	82	22/60	0.2%
R-MH Residential Mobilehome (0-10 du/ac)	517	275/242	1.4%
R-VS Hotel/Motel Rooms (25 rooms/ac)	417	110/307	1.1%
Residential Subtotal	**22,150**	**4,256/17,894**	**59.7%**
C-N Neighborhood Commercial	73	30/43	0.2%
C-C Community Commercial	128	14/114	0.3%
C-G General Commercial	841	180/661	2.3%
Commercial Subtotal	**1,042**	**224/818**	**2.8%**
I-L Light Industrial	900	31/869	2.4%
I-M Medium Industrial	1,623	116/1,507	4.4%
I-E Energy-Related Industrial	1,875	906/969	5.1%
Industrial Subtotal	**4,398**	**1,053/3,345**	**11.9%**
P Public/Quasi-Public (Institutional)	**1,009**	**581/428**	**2.7%**
OS/MR Mountain Reserve	5,316	67/5,249	14.4%
OS/PP Parks Open Space	223	22/201	0.6%
OS/PV Private Open Space	1,204	42/1,162	3.3%
OS/FW Floodways	1,617	214/1,403	4.4%
Open Space Subtotal	**8,360**	**345/8,015**	**22.7%**
Total	**36,959**	**6,459/30,500**	**100%**

Appendix F

Existing Sewer Lines Failing Criteria At Ultimate Flow

Mission Springs Water District
CWWMP
Sewer Lines Failing Criteria
at Ultimate Flow

Sewer Line ID	Avg Velocity	d/D (%)	Slope (ft/ft)	Length (ft)	Diameter (in)
P 1150	5.73	53.5	0.038	366	8 inch
P 1454	3.91	54.9	0.010	150	8 inch
P 693	6.84	55.8	0.047	330	8 inch
P 512	1.68	56.0	0.005	300	8 inch
P 1452	2.82	57.4	0.004	312	8 inch
P 689	6.93	58.2	0.045	331	8 inch
P 1455	2.77	58.5	0.004	335	8 inch
P 1401	0.51	59.2	0.000	349	8 inch
P 1699	6.91	60.0	0.046	300	8 inch
P 690	6.82	60.6	0.041	331	8 inch
P 1453	2.77	62.1	0.004	335	8 inch
P 711	2.62	62.5	0.004	351	8 inch
P 775	3.33	63.0	0.059	295	8 inch
P 691	7.29	63.1	0.046	329	8 inch
P 2014	4.80	65.9	0.012	107	8 inch
P 2012	4.79	65.9	0.012	401	8 inch
P 2006	4.79	65.9	0.012	203	8 inch
P 2015	4.79	65.9	0.012	401	8 inch
P 2013	4.79	65.9	0.012	401	8 inch
P 2007	4.79	65.9	0.012	254	8 inch
P 2016	4.79	65.9	0.012	400	8 inch
P 2010	4.79	65.9	0.012	400	8 inch
P 2008	4.79	65.9	0.012	303	8 inch
P 2017	4.79	65.9	0.012	400	8 inch
P 2011	4.79	65.9	0.012	483	8 inch
P 2009	4.79	65.9	0.012	400	8 inch
P 2018	4.46	70.0	0.010	2	8 inch
P 456	1.56	71.0	0.014	334	8 inch
P 8	9.25	74.5	0.046	287	8 inch
P 166	9.25	76.0	0.045	353	8 inch
P 1	8.83	77.6	0.040	313	8 inch
P 705	9.08	79.8	0.041	329	8 inch
P 704	8.86	80.2	0.039	343	8 inch
P 706	8.92	80.4	0.039	332	8 inch
P 707	8.51	81.9	0.035	330	8 inch
P 1428	1.50	84.9	0.008	246	8 inch
P 14	1.98	86.3	0.050	2	8 inch
P 2001	2.96	86.3	0.004	110	8 inch
P 1430	1.46	92.0	0.008	246	8 inch
P 996	8.59	93.1	0.038	150	8 inch
P 0	8.74	93.7	0.039	320	8 inch
P 1274	2.22	100.2	0.009	190	8 inch
P 1677	2.54	101.4	0.008	392	8 inch
P 1673	5.52	108.0	0.012	26	8 inch
P 701	8.66	114.5	0.036	330	8 inch

Mission Springs Water District
CWWMP
Sewer Lines Failing Criteria
at Ultimate Flow

P 2	8.48	137.4	0.036	334	8 inch
P 1387	1.92	173.6	0.007	324	8 inch
P 9	12.91	199.0	0.113	100	8 inch
P 995	5.40	199.0	0.010	182	8 inch
P 1255	5.07	211.4	0.036	309	8 inch
P 1298	5.79	292.3	0.009	240	8 inch
P 702	6.22	309.4	0.030	331	8 inch
P 163	5.72	448.3	0.030	331	8 inch
P 681	0.51	456.9	0.009	442	8 inch
P 703	5.77	691.5	0.009	246	8 inch
P 1625	6.24	693.7	0.032	332	8 inch
P 164	5.74	894.5	0.027	335	8 inch
P 1105	6.25	939.9	0.034	29	8 inch
P 1293	5.76	997.2	0.005	332	8 inch
P 1106	6.25	1137.4	0.030	322	8 inch
P 165	5.76	1220.9	0.026	330	8 inch
P 1397	6.16	50.2	0.021	359	10 inch
P 498	7.01	50.2	0.040	330	10 inch
P 240	7.34	50.8	0.045	271	10 inch
P 357	7.28	51.2	0.030	200	10 inch
P 657	4.35	51.3	0.010	311	10 inch
P 614	4.37	51.7	0.010	346	10 inch
P 615	9.66	52.1	0.090	150	10 inch
P 497	6.23	52.4	0.027	330	10 inch
P 616	8.37	53.0	0.060	182	10 inch
P 617	7.09	53.8	0.036	303	10 inch
P 241	5.97	54.0	0.023	313	10 inch
P 618	6.50	54.2	0.028	253	10 inch
P 496	7.40	54.3	0.040	330	10 inch
P 619	7.90	54.6	0.048	346	10 inch
P 620	6.00	55.0	0.022	351	10 inch
P 621	6.03	55.3	0.022	174	10 inch
P 495	7.34	55.7	0.038	330	10 inch
P 844	6.17	55.7	0.023	106	10 inch
P 843	6.19	56.1	0.023	179	10 inch
P 622	6.21	56.4	0.023	284	10 inch
P 242	7.34	56.5	0.038	305	10 inch
P 830	6.23	56.8	0.023	246	10 inch
P 494	7.49	57.3	0.039	330	10 inch
P 243	7.55	58.2	0.039	306	10 inch
P 493	7.69	59.0	0.040	330	10 inch
P 719	7.88	59.6	0.042	361	10 inch
P 682	4.39	60.6	0.008	173	10 inch
P 1229	4.23	61.3	0.007	176	10 inch
P 692	8.01	62.2	0.041	329	10 inch
P 683	7.93	64.2	0.038	332	10 inch
P 684	7.60	64.5	0.033	330	10 inch

Mission Springs Water District
CWWMP
Sewer Lines Failing Criteria
at Ultimate Flow

P 685	8.00	64.7	0.038	328	10 inch
P 686	7.67	64.9	0.034	334	10 inch
P 687	7.33	65.2	0.030	333	10 inch
P 1622	7.86	66.0	0.036	329	10 inch
P 731	8.08	80.1	0.044	340	10 inch
P 371	2.59	113.8	0.004	325	10 inch
P 1389	0.17	340.6	0.003	344	10 inch
P 1390	0.24	457.8	0.003	219	10 inch
P 688	7.17	478.9	0.027	332	10 inch
P 1236	0.24	545.9	0.003	219	10 inch
P 1316	5.80	50.6	0.017	321	12 inch
P 1394	6.72	51.6	0.024	344	12 inch
P 1750	6.29	51.8	0.020	350	12 inch
P 234	6.18	52.5	0.019	333	12 inch
P 1395	6.63	53.0	0.022	339	12 inch
P 1758	8.72	53.9	0.033	350	12 inch
P 1754	6.73	53.9	0.023	350	12 inch
P 923	4.22	54.8	0.009	149	12 inch
P 1753	6.86	56.0	0.023	286	12 inch
P 1752	7.01	58.0	0.023	264	12 inch
P 1745	7.13	59.6	0.023	300	12 inch
P 1751	7.21	61.0	0.023	350	12 inch
P 1761	7.30	62.4	0.023	250	12 inch
P 1762	7.99	63.7	0.029	350	12 inch
P 1755	8.19	65.0	0.030	350	12 inch
P 1756	7.65	66.2	0.024	350	12 inch
P 1757	8.19	67.5	0.028	350	12 inch
P 613	1.82	102.6	0.012	287	12 inch
P 612	4.53	114.9	0.016	346	12 inch
P 585	7.23	121.1	0.022	223	12 inch
P 295	11.41	893.3	0.009	271	12 inch
P 294	8.63	1209.6	0.001	271	12 inch
P 448	6.89	50.5	0.018	330	15 inch
P 1759	9.29	52.3	0.040	350	15 inch
P 1760	9.38	53.2	0.040	350	15 inch
P 1767	7.98	54.1	0.025	350	15 inch
P 1768	7.39	55.0	0.020	350	15 inch
P 1766	7.23	55.8	0.018	350	15 inch
P 1765	7.28	56.7	0.018	350	15 inch
P 1764	7.89	57.5	0.022	350	15 inch
P 1663	8.09	58.2	0.018	266	15 inch
P 1769	8.11	58.3	0.023	350	15 inch
P 580	5.39	58.8	0.022	469	15 inch
P 1696	8.00	58.8	0.017	64	15 inch
P 1763	8.05	59.1	0.022	393	15 inch
P 368	7.81	59.1	0.016	359	15 inch
P 828	8.17	59.4	0.018	185	15 inch
P 1664	7.39	59.9	0.014	170	15 inch

Mission Springs Water District
CWWMP
Sewer Lines Failing Criteria
at Ultimate Flow

P 369	7.91	59.9	0.016	390	15 inch
P 1720	7.74	60.0	0.020	357	15 inch
P 370	7.79	60.3	0.016	370	15 inch
P 1777	8.45	60.8	0.019	264	15 inch
P 1719	7.80	61.0	0.020	350	15 inch
P 1718	8.21	61.9	0.022	350	15 inch
P 1717	8.27	62.9	0.022	350	15 inch
P 1722	8.15	63.8	0.021	300	15 inch
P 1723	7.81	64.7	0.018	328	15 inch
P 1465	7.86	65.6	0.018	297	15 inch
P 1715	8.07	66.5	0.019	327	15 inch
P 1770	9.06	67.4	0.026	348	15 inch
P 888	10.05	67.7	0.034	345	15 inch
P 1771	8.15	68.2	0.019	350	15 inch
P 889	8.20	68.7	0.019	330	15 inch
P 890	9.28	69.0	0.026	325	15 inch
P 1772	8.20	69.1	0.019	350	15 inch
P 490	7.65	69.3	0.015	332	15 inch
P 1773	8.25	69.9	0.019	350	15 inch
P 1774	8.30	70.7	0.019	350	15 inch
P 1775	8.35	71.5	0.019	350	15 inch
P 1776	8.40	72.3	0.019	300	15 inch
P 1436	8.16	116.8	0.018	320	15 inch
P 1393	4.83	146.0	0.010	323	15 inch
P 1646	9.33	171.4	0.019	511	15 inch
P 576	8.86	208.7	0.024	509	15 inch
P 1641	8.85	211.3	0.015	379	15 inch
P 1391	8.84	257.2	0.019	44	15 inch
P 1645	9.31	284.6	0.019	297	15 inch
P 1392	7.31	285.3	0.010	214	15 inch
P 1642	8.89	356.5	0.024	496	15 inch
P 1644	9.30	376.6	0.019	434	15 inch
P 1643	9.30	463.5	0.019	267	15 inch
P 444	5.52	646.9	0.010	226	15 inch
P 1435	2.94	246.8	0.011	310	18 inch
P 826	2.16	326.2	0.003	302	21 inch
P 825	2.17	368.1	0.003	308	21 inch
P 1434	2.18	415.8	0.003	385	21 inch
P 582	9.19	92.8	0.010	15	24 inch
P 586	5.12	93.4	0.010	15	24 inch
P 583	9.19	95.3	0.010	136	24 inch

Appendix G

Engineering News Record (Enr) Cost Index

McGraw_Hill CONSTRUCTION ENR

cost index - Los Angeles

The building and construction cost indexes for ENR's individual cities use the same components and weighting as those for the 20-city national indexes. The city indexes use local prices for portland cement and 2 X 4 lumber and the national average price for structural steel. The city's BCI uses local union wages, plus fringes, for carpenters, bricklayers and iron workers The city's CCI uses the same union wages for laborers.

ENR Cost Indexes in 20 cities, 1978-2007					
1913=100		LOS ANGELES			
		BCI	% Chg.	CCI	% Chg.
1978	Dec.	1969.77	+8.9	3421.25	+8.2
1979	Dec.	2065.79	+4.9	3638.81	+6.4
1980	Dec.	2272.26	+10.0	4102.37	+12.7
1981	Dec.	2405.22	+5.9	4530.96	+10.4
1982	Dec.	2540.67	+5.6	4934.14	+8.9
1983	Dec.	2586.58	+1.8	5063.89	+2.6
1984	Dec.	2726.44	+5.4	5259.93	+3.9
1985	Dec.	2664.58	-2.3	5446.69	+3.6
1986	Dec.	2762.63	+3.7	5452.20	+0.1
1987	Dec.	2816.48	+1.9	5474.14	+0.4
1988	Dec.	2851.67	+1.2	5770.84	+5.4
1989	Dec.	2855.26	+0.1	5789.77	+0.3
1990	Dec.	3020.51	+5.8	5994.55	+3.5
1991	Dec.	3097.83	+2.6	6090.12	+1.6
1992	Dec.	3198.66	+3.3	6348.55	+4.2
1993	Dec.	3334.43	+4.2	6477.84	+2.0
1994	Dec.	3420.42	+2.6	6532.95	+0.9
1995	Dec.	3427.26	+0.2	6526.22	-0.1
1996	Dec.	3426.70	0.0	6558.44	+0.5
1997	Dec.	3560.53	+3.9	6663.55	+1.6
1998	Dec.	3617.00	+1.6	6851.95	+2.8
1999	Dec.	3591.01	-0.7	6825.97	-0.4
2000	Dec	3680.26	+2.5	7068.04	+3.6
2001	Dec.	3694.24	+0.4	7226.92	+2.3
2002	Dec.	3787.76	+2.5	7402.75	+2.4
2003	Dec.	3847.30	+1.6	7531.77	+1.7
2004	Dec.	4155.20	+8.0	8192.14	+8.8
2005	Dec.	4416.86	+6.3	8567.42	+4.6
2006	Dec.	4728.35	+7.1	8878.97	+3.6
2007	Jan.	4720.47	+6.7	8871.09	+3.5

	Feb.	4719.97	+7.1	8870.59	+3.6

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20-City Indexes >>
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Cost Report Issues >>
Cost Estimator >>