



HASSAYAMPA COMMUNITY FACILITIES DISTRICT BOARD AGENDA

**HASSAYAMPA CFD BOARD
PUBLIC MEETING**
Tuesday, July 28, 2015
3:00 PM

Council Chambers
201 South Cortez Street
Prescott, Arizona 86303
(928) 777-1100

The following Agenda will be considered by the Hassayampa Community Facilities District Board at its Regular Meeting pursuant to the Prescott City Charter, Article II, Section 13. Notice of this meeting is given pursuant to Arizona Revised Statutes, Section 38-431.02. One or more members of the Council may be attending this meeting through the use of a technological device.

◆ **CALL TO ORDER**

◆ **ROLL CALL**

MAYOR AND CITY COUNCIL

Chair Kuykendall

Member Kuknyo

Member Arnold

Member Blair

Member Lamerson

Member Lazzell

Member Wilcox

I. REGULAR AGENDA

- A. Approval of minutes for the Hassayampa Community Facilities District Board Meeting held on July 22, 2014

RECOMMENDED ACTION: MOVE to approve the Hassayampa Community Facilities District Board meeting minutes as presented.

- B. Public hearing and adoption of budget for Hassayampa Community Facilities District for Fiscal Year 2016

RECOMMENDED ACTION: (separate motions): (1) MOVE to close the public hearing; and (2) MOVE to adopt Resolution No. 42 setting the FY16 Budget for Hassayampa Community Facilities District.

II. ADJOURNMENT

EXECUTIVE SESSION

Upon a public majority vote of a quorum of the City Council, the Council may hold an executive session, which will not be open to the public, regarding any item listed on the agenda but only for the following purposes:

- (i) Discussion or consideration of personnel matters (A.R.S. §38-431.03(A)(1));
- (ii) Discussion or consideration of records exempt by law (A.R.S. §38-431.03(A)(2));
- (iii) Discussion or consultation for legal advice with the city's attorneys (A.R.S. §38-431.03(A)(3));
- (iv) Discussion or consultation with the city's attorneys regarding the city's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation, or in settlement discussions conducted in order to avoid litigation (A.R.S. §38-431.03(A)(4));
- (v) Discussion or consultation with designated representatives of the city to consider its position and instruct its representatives regarding negotiations with employee organizations (A.R.S. §38-431.03(A)(5));
- (vi) Discussion, consultation or consideration for negotiations by the city or its designated representatives with members of a tribal council, or its designated representatives, of an Indian reservation located within or adjacent to the city (A.R.S. §38-431.03(A)(6));
- (vii) Discussion or consultation with designated representatives of the city to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property (A.R.S. §38-431.03(A)(7)).

Confidentiality

Arizona statute precludes any person receiving executive session information from disclosing that information except as allowed by law. A.R.S. §38-431.03(F). Each violation of this statute is subject to a civil penalty not to exceed \$500, plus court costs and attorneys' fees. This penalty is assessed against the person who violates this statute or who knowingly aids, agrees to aid or attempts to aid another person in violating this article. The city is precluded from expending any public monies to employ or retain legal counsel to provide legal services or representation to the public body or any of its officers in any legal action commenced for violation of the statute unless City Council takes a legal action at a properly noticed open meeting to approve of such expenditures prior to incurring any such obligation or indebtedness. A.R.S. §38-431.07(A)(B).

CERTIFICATION OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Prescott City Hall on _____ at _____ m. in accordance with the statement filed by the Prescott City Council with the City Clerk.

Dana R. DeLong, CMC, City Clerk



HASSAYAMPA CFD BOARD AGENDA MEMO

MEETING DATE/TYPES: VOTING SESSION 7-28-15

DEPARTMENT: Clerk

AGENDA ITEM: Approval of minutes for the Hassayampa Community Facilities District Board Meeting held on July 22, 2014

Approved By:

Date:

City Clerk: DeLong, Dana	07/14/2015
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Item Summary

Attached for approval are the minutes of the Hassayampa Community Facilities District Board Meeting held on July 22, 2014.

Attachments

1. July 22, 2014, Hassayampa Community Facilities District Board Meeting Minutes

Recommended Action: **MOVE** to approve the Hassayampa Community Facilities District Board meeting minutes as presented.

PRESCOTT, ARIZONA
HASSAYAMPA COMMUNITY
FACILITIES DISTRICT
BOARD OF DIRECTORS MEETING
JULY 22, 2014

A BOARD OF DIRECTORS MEETING OF THE HASSAYAMPA COMMUNITY FACILITIES DISTRICT WAS HELD ON TUESDAY, JULY 22, 2014, in the Prescott COUNCIL CHAMBERS, 201 South Cortez Street, Prescott, Arizona.

◆ Call to Order

Chairman Kuykendall opened the meeting at 3:00 P.M.

◆ Roll Call

PRESENT:

Chair Kuykendall
Member Arnold
Member Blair
Member Kuknyo
Member Lazzell
Member Lamerson
Member Wilcox

ABSENT:

None

I. REGULAR AGENDA

- A. Approval of Minutes of the Hassayampa Community Facilities District Board Meeting held July 23, 2013.

MEMBER ARNOLD MOVED TO APPROVE THE MINUTES OF JULY 23, 2013; SECONDED BY MEMBER BLAIR; PASSED UNANIMOUSLY.

- B. Public hearing and adoption of budget for Hassayampa Community Facilities District for Fiscal Year 2015.

Mark Woodfill, Finance Director, presented noting that this was the annual meeting to consider the budget for the Hassayampa Community Facilities District; special assessments. He said there was a capital project for \$773,000.00, which had been on the books for the past few years and will be moving most of that amount forward to 2015. The total budget for 2015 was \$1,485,325.00.

Member Blair asked what the capital project was. Craig McConnell, City Manager, said the project consists of \$456,638.00 for participation in the Sundog

Trunk Main Project, the reconstruction of the major conveyance to the Sundog Wastewater Treatment Plant, or whichever treatment plant the wastewater flowed to. The balance of the money was being carried over for potential projects pertaining to the wastewater treatment plant at Hassayampa. The City of Prescott is the owner of the plant and recognized as the permit holder by the Arizona Department of Environmental Quality (ADEQ).

**MEMBER LAMERSON MOVED TO CLOSE THE PUBLIC HEARING;
SECONDED BY MEMBER ARNOLD; PASSED UNANIMOUSLY.**

**MEMBER LAMERSON MOVED TO ADOPT RESOLUTION NO. 41, ADOPTING
THE FY2015 BUDGET FOR HASSAYAMPA COMMUNITY FACILITIES
DISTRICT; SECONDED BY MEMBER ARNOLD; PASSED UNANIMOUSLY.**

II. Adjournment.

There being no further business to discuss, Chairman Kuykendall adjourned the meeting at 3:04 p.m.

MARLIN D. KUYKENDALL, Chairman

ATTEST:

DANA R. DeLONG, District Clerk

HASSAYAMPA CFD BOARD AGENDA MEMO

MEETING DATE/TYPES: VOTING SESSION 7-28-15

DEPARTMENT: Finance

AGENDA ITEM: Public hearing and adoption of budget for Hassayampa Community Facilities District for Fiscal Year 2016

Approved By:		Date:
District Treasurer:	Woodfill, Mark	07/22/2015
District Manager:	McConnell, Craig	07/22/2015

Item Summary

The Fiscal Year 2016 budget consists of debt service on the special assessment bonds used to fund the district, capital projects related to impacts on the City's Wastewater system by the district and other miscellaneous expenditures. The capital budget (\$776,000) is a FY15 carryover for the Sundog Trunk Main project identified several years prior by Public Works for the district's contribution (as outlined in the attached memo). This amount is subject to refinement as the project proceeds to design later in FY16.

Notice of this public hearing and consideration of the Fiscal Year 2016 Hassayampa Community Facilities District budget was published in the newspaper on July 12, 2015. After the public hearing is closed, it is recommended that the Hassayampa Community Facilities District Board adopt the resolution approving the District's budget for Fiscal Year 2016.

Background

Formed in 1996, the Hassayampa Community Facilities District was created to provide a funding mechanism for the development of water, wastewater and streets infrastructure at Hassayampa Village.

1. Resolution No. 42
2. FY16 Budget
3. Public Works memorandum re: Hassayampa CFD (5/30/12)

Recommended Action (separate motions): (1) MOVE to close the public hearing; and **(2) MOVE** to adopt Resolution No. 42 setting the FY16 Budget for Hassayampa Community Facilities District.

RESOLUTION NO. 42

A RESOLUTION OF THE DISTRICT BOARD OF HASSAYAMPA COMMUNITY FACILITIES DISTRICT, YAVAPAI COUNTY, ARIZONA, FINALLY DETERMINING AND ADOPTING ESTIMATES OF PROPOSED EXPENDITURES FOR THE FISCAL YEAR 2016, AND DECLARING THAT THE SAME SHALL CONSTITUTE THE BUDGET FOR THE HASSAYAMPA COMMUNITY FACILITIES DISTRICT FOR SAID FISCAL YEAR.

WHEREAS, in accordance with Arizona Revised Statutes, and following due public notice, the Board met on July 28, 2015, at which meeting any taxpayer was privileged to appear and be heard in favor of or against any of the proposed expenditures.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE HASSAYAMPA COMMUNITY FACILITIES DISTRICT AS FOLLOWS:

THAT, the said estimates of revenue and expenditures shown on the accompanying schedule as now reduced or changed by and the same is hereby adopted as the budget of the Hassayampa Community Facilities District for the Fiscal Year 2016.

PASSED, APPROVED, AND ADOPTED by the Board of Directors of the Hassayampa Community Facilities District, on this 28th day of July, 2015.

MARLIN KUYKENDALL, District Chairman

ATTEST:

DANA R. DeLONG, District Clerk

JON PALADINI, District Attorney

HASSAYAMPA COMMUNITY FACILITIES DISTRICT
FINAL BUDGET
Fiscal Year 2016

REVENUES:

Special Assessment Payments by Property Owners	\$ 385,000
Property Owner Prepayments - Unscheduled	500,000
Payment by Hassayampa Village - Insurance/Audit	<u>30,000</u>
TOTAL REVENUES	<u>\$ 915,000</u>

EXPENDITURES:

Capital Projects	\$ 776,000
Debt Service	385,000
Payment of Principal & Interest - Unscheduled	500,000
Insurance and Audit expenses	<u>30,000</u>
TOTAL EXPENDITURES	<u>\$ 1,691,000</u>



City of Prescott Public Works
433 North Virginia Street
Prescott, AZ 86301
928-777-1130

To: Mark Woodfill
City of Prescott - Finance Director

From: Joel Berman, P.E. *JB*
City of Prescott - Utility Manager

Date: May 30, 2012

Subject: Hassayampa Water Reclamation Plant Unintended Impacts on City of Prescott Infrastructure

Per internal City of Prescott discussions I have outlined three (3) projects below as potential candidates for Hassayampa Community Facilities District (CFD) expenditures. Exhibit A (attached) shows the sewer collection system associated with the Hassayampa Water Reclamation Plant (HWRP). The exhibit graphically supports the following narrative.

Project #1 - Hassayampa Trunk Main and Sundog Trunk Main

The HWRP functions by pumping ("scalping") sewage from the Sam Hill and Mile High School lift stations. These lift stations were built specifically to supply sewage to the HWRP. An unintended consequence caused by this configuration is that it reroutes sewage from one (1) "collection basin" to another. Prior to the construction of the HWRP, sewage was routed from the Mile High School area, via gravity flow, north on Granite Street to the Sundog Trunk Main in the Granite Creek Park vicinity. As a result of the HWRP pressurized influent system, the discharges from the HWRP flow through a different alignment of the collection system that is incapable of conveying these discharges. In particular discharges from the HWRP flow down "Hassayampa Trunk Main" and the "Sundog Trunk Main" as illustrated in the City of Prescott Wastewater Collection System Model Study (see attached Exhibits B and C). This discharge coupled with inflow and infiltration causes the City's collection system to surcharge (i.e., sewage backing up and out of manholes). In particular the collection system is deficient (bottleneck) in the upper reaches of the Sundog Trunk Main and intermittently throughout the Hassayampa Trunk Main.

The project to alleviate the deficiencies will consist of designing and reconstructing a portion of the Hassayampa Trunk Main and/or Sundog Trunk Main to offset conditions contributed to by the HWRP. The HWRP discharges waste sludge and treated effluent into the Hassayampa Trunk Main which runs underground along/across streets and along drainageways to the intersection of Miller Valley Road and Brannen Street (see attached Exhibit B). This discharge continues from the Hassayampa Trunk Main down through the Sundog Trunk Main to the Sundog Wastewater Treatment Plant (WWTP). The HWRP has a direct negative impact on both these trunk mains by transferring and discharging up to 0.75 million gallons per day (Aquifer Protection Permit#P-

103159 approved capacity) to these trunk mains incapable of handling these discharges. This discharge, coupled with inflow and infiltration, contributes to the surcharging condition.

Information for this analysis was gathered from the HWRP Aquifer Protection Permit (P103159) and City of Prescott Wastewater Collection System Model Study.

- The flow for the Hassayampa Trunk Main is divided into two contributors for this analysis; the HWRP and all other users within the collection system connected upstream of the intersection of Miller Valley Road and Brannen Avenue.
 - HWRP= 750,000 gallons per day (gpd) = 520.8 gallons per minute (gpm)
 - All other users within the collection system connected upstream of the intersection of Miller Valley Road and Brannen Avenue = 1,832.3 gpm (between manholes 14233NW410 and 14233NW403)
 - The percent of discharge directly contributed by the HWRP to the Hassayampa Trunk Main at this intersection is 22.1% ($520.8 / (520.8 + 1,832.3)$).
- The flow for the Sundog Trunk Main is divided into two contributors for this analysis; the HWRP and all other users within the collection system connected upstream of the intersection of Montezuma Street and La Guardia Bridge.
 - HWRP= 750,000 gallons per day (gpd) = 520.8 gallons per minute (gpm)
 - All other users within the collection system connected upstream of the intersection of Montezuma Street and La Guardia Bridge = 3661.7 gpm (between manholes 14233NE415 and 14233NE324)
 - The percent of discharge directly contributed by the HWRP to the Sundog Trunk Main at this intersection is 12.5% [$520.8 / (520.8 + 3661.7)$].

The Hassayampa and Sundog Trunk Main projects are currently identified in the Capital Improvement Program. Both these projects are of a critical nature as demonstrated most recently by the recent sanitary sewer overflow (SSO) off of Brannen Street (March 22, 2012).

- The Hassayampa Trunk Main is included in the FY 2014 budget to begin design. The estimated cost to design and construct this project is \$5,026,000. A 22.1% contribution by the Hassayampa CFD would offset the cost of this project by \$1,110,746.
- The Sundog Trunk Main is included in the FY's 2013 and 2014 budget to begin design. The estimated cost to design this project is \$1,000,000. Construction of the Sundog Trunk Main is identified in FY's 2015, 2016, 2017, and 2019 at a cost of \$10,070,000. This analysis has identified the upper third of the Sundog Trunk Main and therefore a 12.5% contribution by the Hassayampa CFD would offset the cost of the upper third of this project by \$456,638 ($\$11,070,000 * 12.5\% * \frac{1}{3}$).

Project #2 - Sundog WWTP Improvements

This HWRP pumps ("scalps") raw sewage from the City's wastewater collection system to generate effluent for irrigation purposes as described above. Subsequently, the wastewater received at the Sundog WWTP has a higher concentration due to the reduction of influent flow at the Sundog WWTP when HWRP is "scalping". Conversely the HWRP can return a "slug" of waste activated sludge into the collection system resulting in an additional increase in solids concentration at the

Sundog WWTP. The random alternation between concentrated/diluted flows affects the biological process.

The project to handle the increased solids concentrations contributed by the HWRP consists of improving the biological process with Nitrification / Denitrification improvements at the Sundog WWTP. The Nitrification / Denitrification project upgrade to the tertiary filters will provide treatment in accordance with the regulations outlined in the Sundog WWTP Aquifer Protection Permit (#100353).

The increased solids concentration attributed to the HWRP for this analysis has been derived from the City of Prescott Wastewater Master Plan Report (2011). Exhibit E from the City of Prescott Wastewater Master Plan Report identifies the average influent loadings at the Sundog WWTP. These loadings have been split proportionally between the HWRP and the Sundog WWTP assuming that the raw influent characteristics are the same throughout the collection system.

Sundog WWTP (Total Flow=2.58 mgd)				
Parameter	Average (mg/L)	Flow (mgd)	Conversion (mg/L to ppd)	Total Loading (ppd)
BOD ₅	390	2.58	8.34	8,391.7
TSS	418	2.58	8.34	8,994.2

HWRP [500 Acre-Feet Per Year per Aquifer Protection Permit (P103159) = 0.4464mgd]				
Parameter	Average (mg/L)	Flow (mgd)	Conversion (mg/L to ppd)	Total Loading (ppd)
BOD ₅	390	0.4464	8.34	1,452.0
TSS	418	0.4464	8.34	1,556.2

The percent of solids loading directly contributed to this Sundog WWTP by the HWRP is 14.8% $[1,452.0 / (1,452.0+8,391.7)]$ and/or $[1,556.2 / (1,556.2+8,994.2)]$.

The Sundog WWTP Nitrification / Denitrification Improvements project is currently identified in the Capital Improvement Program. The project is of a critical nature and has advanced due to "near compliance misses" associated with the City's regulatory requirements as outlined in the Aquifer Protection Permit (100353). The construction bids to upgrade this infrastructure were received on April 26, 2012 at an amount of \$1,150,128. A 14.8% contribution from the Hassayampa CFD would offset the cost of this project by **\$170,219**.

Project #3 - Hassayampa WRF Improvements

This project will improve the Hassayampa WRF by:

- Rectifying the list of deficiencies as outlined in a memo from the City on January 17, 2012 (attached Exhibit D).
- Installing an influent flow meter at the HWRP to quantify sewage actually scalped off the City's collection system. This will benefit both the HWRP and Sundog WWTP by providing the operators an accurate influent flow reading.

- Installing an effluent meter on the plant discharge into the collection system. The meter will benefit the Hassayampa operators in their calculations as well as the City in reporting and anticipating an accurate waste sludge and effluent volume.
- Improving the effluent pump station from the HWRP to equalize discharge into the collection system. Currently the effluent pump station operates off a float control and pumps maximum discharge when activated. Installing a variable frequency drive (VFD) will control the “slug” flows that impact the City’s collection system when the pump(s) cycle on.

Direct Impacts

- These projects are directly connected to the HWRP because:
 - The Hassayampa and Sundog Truck Mains convey HWRP waste sludge and treated effluent from the treatment plant to the Sundog WWTP. These mains experience surcharging (i.e., sewage backing up and out of manholes) when the HWRP discharges.
 - The Sundog and Hassayampa Truck Mains require above average preventative maintenance by City staff for grit removal since the discharge from the HWRP causes the sewage to back-up in the collection system, reducing velocities and allowing heavier grit to settle out in the lines.
 - The wastewater received at the Sundog WWTP has a higher strength due to the reduction of influent flow when Hassayampa is “scalping”.
- By completing these projects the City will be able to:
 - Reduce sanitary sewer overflows (SSO) and associated environmental impact, property damage, and regulatory violations.
 - Reduce staff time performing above average preventative maintenance to remove grit on the trunk mains.
 - Reduce inflow and infiltration.
 - Improve the efficiency of the biological process at Sundog WWTP and minimize regulatory offenses.
 - Reduce staff time required for adjustments to the Sundog WWTP process control in an effort to maintain regulatory compliance.

Attachments:

- Exhibit A – Collection System Overview
- Exhibit B - City of Prescott Wastewater Collection System Model Study - Sundog Trunk Main
- Exhibit C - City of Prescott Wastewater Collection System Model Study - Hassayampa Trunk Main
- Exhibit D – Attachment from January 17, 2012 memo from the City of Prescott outlining HWRP deficiencies
- Exhibit E - City of Prescott Wastewater Master Plan Report – Table 4.4 Current Wastewater Influent Loadings

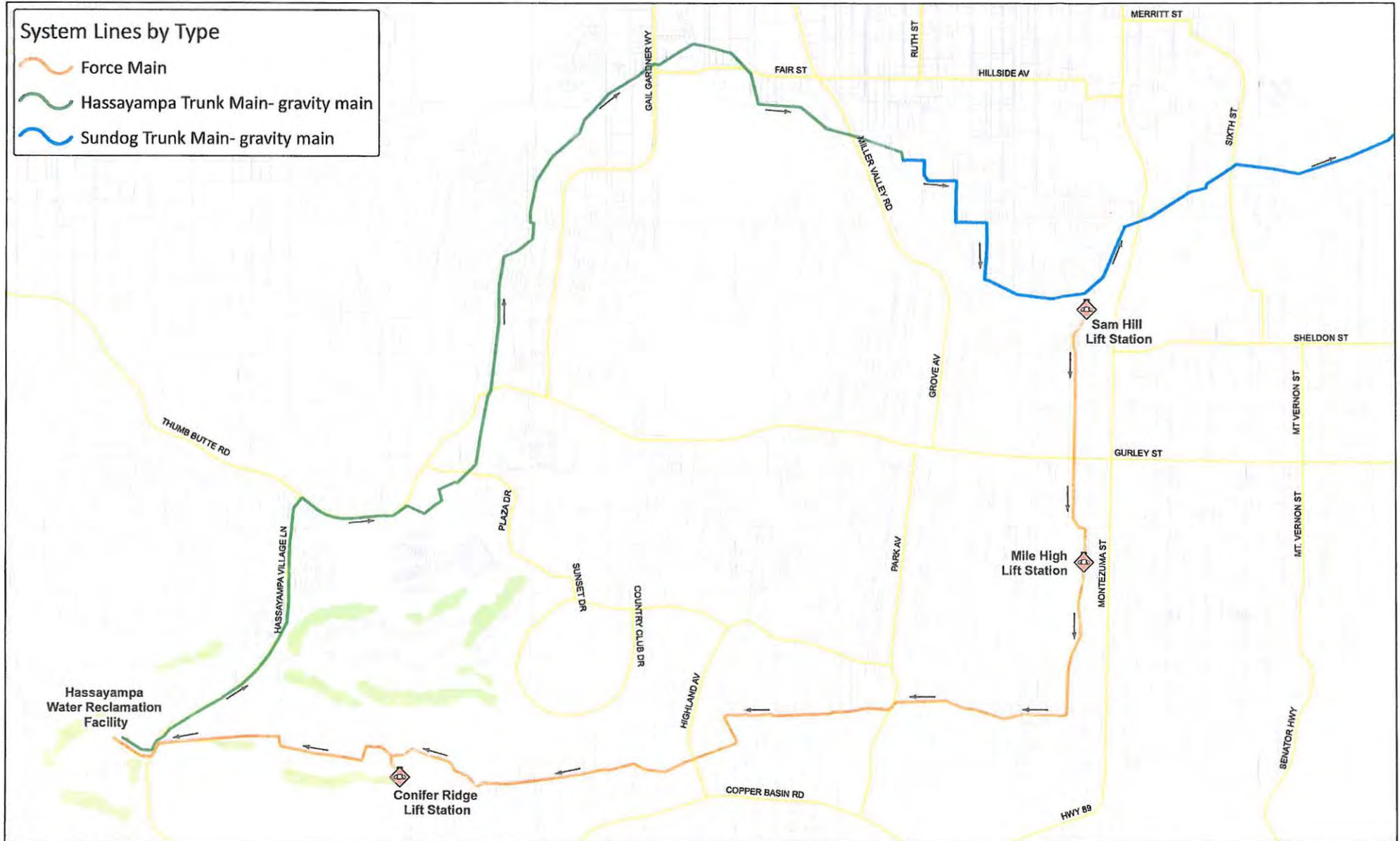
CC: Mark Nietupski
City of Prescott – Public Works Director

Exhibit A- Hassayampa Wastewater System



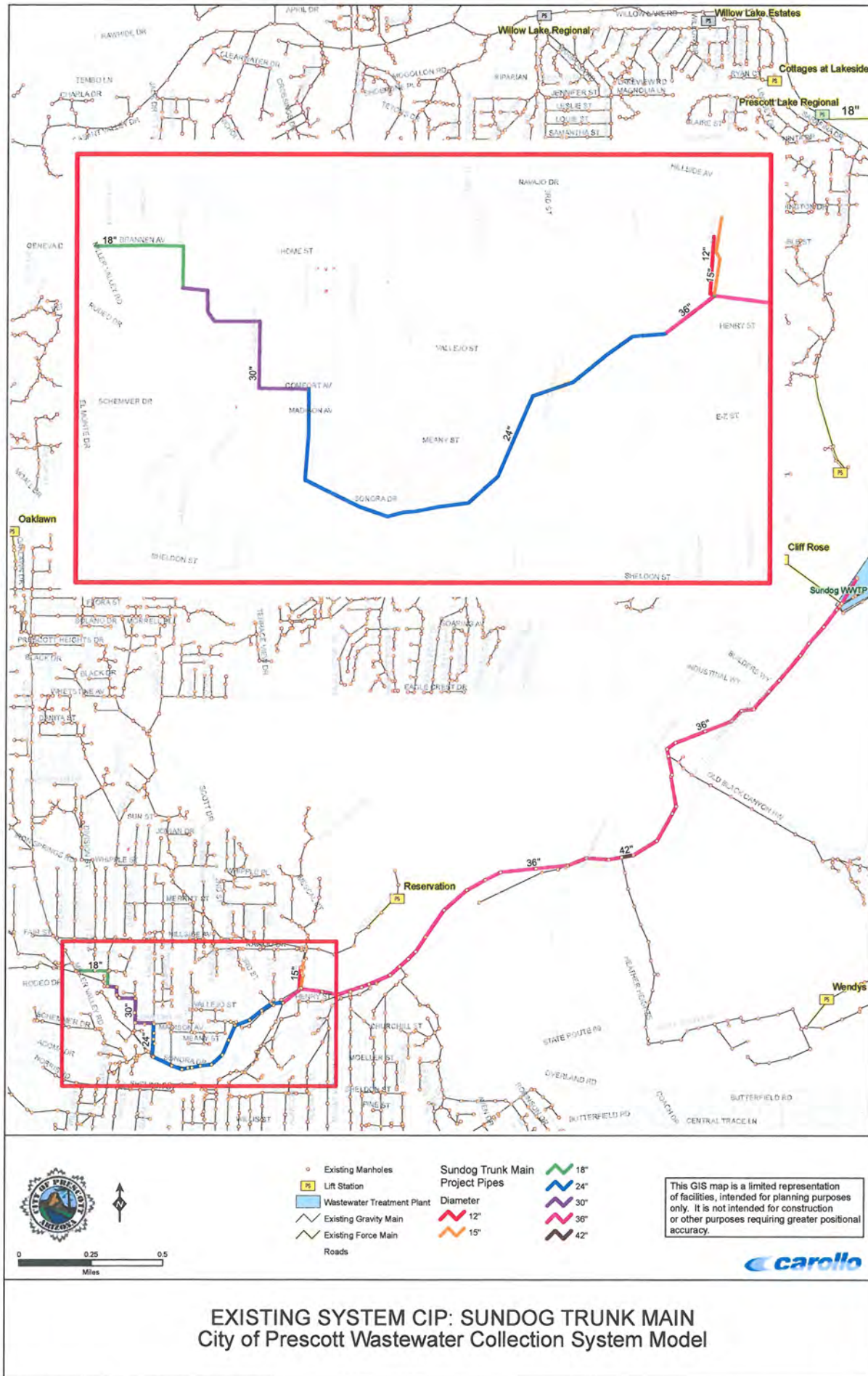
System Lines by Type

- Force Main
- Hassayampa Trunk Main- gravity main
- Sundog Trunk Main- gravity main



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Exhibit C



EXISTING SYSTEM CIP: SUNDOG TRUNK MAIN
City of Prescott Wastewater Collection System Model

Exhibit D

Hassayampa Village Water Reclamation Plant Deficiencies				
Number	Item	Potential ADEQ Violation	Cost	Cost Justification
Sam Hill Lift Station				
1	Electrical panel and conduit are under stress due to settling of the concrete base.	R18-9-E301(B)(6)	\$	
Mile High Lift Station				
2	All four pumps need to be serviced according to personnel that operate the facility.	R18-9-E301(B)(5)	\$ 4,000.00	HGC Operations Est
3	One vertical dry pit centrifugal pump is out of service and needs to be rebuilt according to personnel that operate the facility.	R18-9-E301(B)(5)	\$ 14,000.00	HGC Operations Est
4	Electrical panels are located in a damp location in the dry pit pump vault and are left open.	R18-9-E301(B)(6)	\$ 6,000.00	2008 Quote
5	Safety netting is not being used to cover the vault opening.	R18-9-E301(F)(3)	\$ -	
Conifer Ridge Lift Station				
6	Excess piping from old scrubber should be removed and replaced with a vent stack for the new odor control air intake.	R18-9-E301(D)(5)(c)(vi)		
7	One 30 hp pump is out of service and needs to be rebuilt according to personnel that operate the facility.	R18-9-E301(B)(5)	\$ 14,000.00	HGC Operations Est
8	All four pumps need to be serviced according to personnel that operate the facility.	R18-9-E301(B)(5)	\$ 4,000.00	HGC Operations Est
9	Safety netting is not being used to cover the vault opening.	R18-9-E301(F)(3)	\$ -	
10	The sump pump discharges into a drainage channel. If an overflow occurred within the lift station compound raw sewage would be pumped directly to the drainage channel. Raw sewage should be contained within the compound.	R18-9-A309(A)(3)	\$	
11	One submersible pump was sitting on top of the lift station vault awaiting repair work.	R18-9-E301(B)(5)	\$	
Water Reclamation Plant				
12	The Supervisory Control and Data Acquisition System (SCADA) is not functioning properly.	APP 2.2.4(2) & (3), Table II & R19-9-E301(D)(5)(c)(iv)	\$	
13	The Mile High LS is not shutting down as it should when triggered by a high level alarm at the reclamation plant. The Mile High LS does shut down when Conifer Ridge LS goes into high level status.	APP 2.2.4(2) & (3), Table II & R19-9-E301(D)(5)(c)(iv)	\$	
14	The sand filters have not been serviced in four years according to personnel that operate the facility.	R18-9-A313(B)(6)	\$	
15	The stand-by generator has not been serviced in several years and currently does not run due to battery failure.	APP 2.2.4(2) & (3), Table II	\$	
16	The head works odor control system does not work.	R18-9-A313(B)(9)	\$	
17	The chart recorders to monitor effluent flow to the golf course storage ponds and City collection system are out of service.	APP 2.2.4(2) & (3), Table II	\$	
18	Metal ties on EQ basin trusses are decayed and ready to fall into the basin.	APP 2.2.4(2) & (3), Table II	\$	
19	Wires are exposed on conduit J box in the EQ basin.	APP 2.2.4(2) & (3), Table II	\$	

APP References Aquifer Protection Permit No. P-103159

Exhibit E

Table 4.4 Current Wastewater Influent Loadings Technical Memorandum No. 3S - Sundog WWTP Existing Conditions City of Prescott, Arizona					
Parameters	Average (mg/L)	92%ile Max Month (mg/L)	92% Max Month: Average Annual Peak Factor	Summer Max Month Load (ppd)	Winter Max Month Load (ppd)
BOD ₅	390	608	1.56	2.58x608x8.34= 13,082	2.58x2x390x8.34= 16,783
TSS	418	676	1.62	2.58x676x8.34= 14,545	2.58x2x418x8.34= 17,988
TKN	39.5	57	1.39	2.58x57x8.34= 1,226	2.58x2x39.5x8.34= 1,700
NH ₃ -N	31.5	48.8	1.52	2.58x48.8x8.34= 1,050	2.58x2x31.5x8.34= 1,356
Note: The winter peak load used for evaluation purposes is 30/38% higher than the maximum month load measured in 2006/2009. The reason for this anomaly is to account for the extremely high winter loads measured in 2006/2007.					

The current existing wastewater concentrations are significantly higher than the criteria used for the original design of the secondary treatment facilities. Table 4.5 summarizes the comparison between the original design criteria and current existing conditions, as it pertains to influent wastewater concentrations. The existing BOD and TSS wastewater concentrations are higher than the original design criteria values by up to 4.0 times.

Table 4.5 Current Influent Wastewater Concentrations Compared with 1990 Design Values Technical Memorandum No. 3S - Sundog WWTP Existing Conditions City of Prescott, Arizona				
	Existing Conditions		Current Conditions (1990)	
	Average	Max Month	Average	Max Month
BOD ₅ (mg/L)	373	608	152	166
TSS (mg/L)	402	676	165	171
TKN (mg/L)	39.5	57	N/A	N/A
NH ₃ -N (mg/L)	31.5	48.8	24	30

Table 4.6 summarizes the comparison between 1990 design values and current existing conditions, as it pertains to influent wastewater mass loadings. Mass loadings are the product of flow and concentration and ultimately determine the loadings to the secondary system. The average influent flows are 43% of the original design values. However, the average BOD and TSS mass loadings are approximately the same as the 1990 average load. The maximum month loadings are almost 100 percent higher than the original maximum month design values. The design average and maximum month NH₃-N loads are also higher than the existing conditions.