



City of Woodland

Meeting Agenda

Parks and Recreation Commission

City Hall
300 First Street
Woodland, CA 95695

Monday, November 27, 2017

6:30 PM

Council Chambers

Please Note: The numerical order of items on this agenda is for the convenience of reference; items may be taken out of order. No new items shall begin after 10:30 pm unless unanimous consent exists to continue.

A. Call to Order

B. Roll Call

C. Pledge of Allegiance

D. Communications - Public Comment

E. Communications - Commission/Staff Statements and Requests

F. Presentation

1. None

G. New Business

H. Committee Reports

2. Standing Committee Report
 - Facilities Committee
 - Budget & Finance Committee
 - Program & Department Evaluation
 - Urban Forest Committee
 - Ad Hoc Committee
 - Volunteerism Committee

I. Consent Calendar

3. Approve October 23, 2017 Minutes

J. Other Business

4. Committee Assignments
5. Commission Absent Requests

Staff recommends that the Commission request an absence if they will miss an upcoming Commission meeting.

K. Report of the Staff

6. Parks & Recreation Commission Report

L. Next Meeting

7. January 22, 2018

M. Adjourn

I declare under penalty of perjury that the foregoing Agenda for the Parks and Recreation Commission Regular meeting of the City of Woodland scheduled for November 27, 2017 was posted on November 24, 2017 in the outside display case at 2001 East Street, City Web pages and was available to the public during normal business hours.

Cathy Haynie, Administrative Supervisor

Upon request, agendas and documents in the agenda packet will be made available in appropriate alternative formats to persons with a disability, as required by law. Any such request must be made in writing to the Office of the City Clerk of the City of Woodland. Requests will be valid for the calendar year in which the request is received, and must be renewed prior to January 1st.

Persons needing disability-related modifications or accommodations in order to participate in public meetings, including persons requiring auxiliary aids or services, may request such modifications or accommodations by calling the Office of the City Clerk (530-661-5806) at least 48 hours prior to the meeting.



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 1.
SUBJECT: None

Recommendation for Action:

No Presentations at this meeting.



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 2.
SUBJECT: Standing Committee Report

Recommendation for Action:

Staff recommends that the Commission give an update on the Standing Committees.

Staff Contact:

Cathy Haynie, Administrative Supervisor, (530) 661-2009, cathy.haynie@cityofwoodland.org

Fiscal Impact:

None

Report in Brief:

- Facilities Committee
- Budget & Finance Committee
- Program & Department Evaluation
- Urban Forest Committee
- Ad Hoc Committee
- Volunteerism Committee

Prepared By: Cathy Haynie, Administrative Supervisor



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 3.
SUBJECT: Approve October 23, 2017 Minutes

Recommendation for Action:

Staff recommends that the Commission approve the October 23, 2017 minutes.

Staff Contact:

Cathy Haynie, Administrative Supervisor, (530) 661-2009, cathy.haynie@cityofwoodland.org

Fiscal Impact:

None

Report in Brief:

October 23, 2017 Parks & Recreation Commission Minutes.

Conclusion:

Staff recommends that the Commission approve the October 23, 2017 minutes.

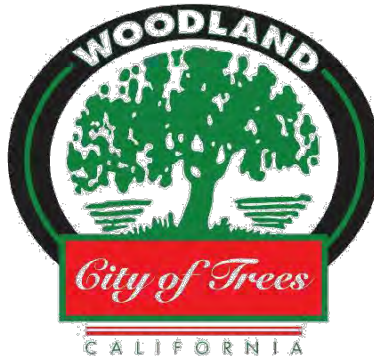
Prepared By: Cathy Haynie, Administrative Supervisor

ATTACHMENTS:

Description	Upload Date	Type
October 23, 2017 Minutes	11/7/2017	Cover Memo

City of Woodland

City Hall
300 First Street
Woodland, CA 95695



Parks and Recreation Commission Meeting Minutes

Monday, October 23, 2017

6:30 PM
Council Chambers

A. Call to Order

B. Roll Call

Absent: Miller

C. Pledge of Allegiance

D. Communications - Public Comment

E. Communications - Commission/Staff Statements and Requests

F. Presentation

G. New Business

H. Committee Reports

1. Standing Committees Reports

Staff recommends that the Commission give an update on the Standing Committees.

- Facilities Committee
- Budget and Finance Committee
- Program & Department Evaluation
- Urban Forest Committee
- Ad Hoc Committee
- Volunteerism Committee

Facility Committee: Carla White-Snyder attended the Council meeting when Council approved, in Concept the Draft Parks and Recreation Facilities Recommendations. Christine Engel asked the Commission to review the 2017 Parks & Recreation Facilities Maintenance and Improvement Needs on existing facilities. there are over \$8 million needed to address these needs.

Absent: Miller

I. Consent Calendar

2. Approve September 25, 2017 Minutes

Staff recommends that the Commission approve the September 25, 2017 minutes.

On a motion by Jesse Salinas, seconded by Sinjit Singh and, Motion to accept the September 25, 2017 minutes as written.

Ayes: Ali, Foraker, Salinas, Singh, Valcarenghi, White-Snyder

Absent: Miller

J. Other Business

3. Commissioner Absent Request

Staff recommends that the Commission request an absence if they will miss an upcoming Commission meeting.

On a motion by Carla White-Snyder, seconded by Andrew Foraker and, Motion to approve the requested absence at the November meeting by Jesse Salinas.

Ayes: Ali, Foraker, Salinas, Singh, Valcarenghi, White-Snyder

Absent: Miller

4. Community Services Quarterly Report

Discussion of Quarterly report by Jesse Salinas asked staff to notify group, with over 60% non-residents on their roster, that they no longer qualified as a City of Woodland recognized league/club.

Absent: Miller

K. Report of the Staff

5. Community Services Report for October 23, 2017

Kris Bain and Westley Schroeder highlight items from the Community Services Report for the Commission.

Absent: Miller

L. Next Meeting

6. November 27, 2017

Absent: Miller

M. Adjourn

On a motion by Jesse Salinas, seconded by Carla White-Snyder and, Motion to adjourn the meeting at 7:27 p.m.

Ayes: Ali, Foraker, Salinas, Singh, Valcarenghi, White-Snyder

Absent: Miller



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 4.
SUBJECT: Committee Assignments

Recommendation for Action:

Staff recommends that the Commission update Committee Assignments.

Staff Contact:

Cathy Haynie, Administrative Supervisor, (530) 661-2009, cathy.haynie@cityofwoodland.org

Fiscal Impact:

None

Report in Brief:

Update Committees.

Prepared By: Cathy Haynie, Administrative Supervisor

ATTACHMENTS:

Description	Upload Date	Type
Roster & Committees	11/7/2017	Cover Memo



Parks & Recreation Commission

NAME	E-MAIL ADDRESS	Term Expiration
Carla White-Snyder, Vice Chair	whitesnyderc@gmail.com	12/31/2017
Rashid Ali	radali@ucdavis.edu	12/31/2019
Jesse Salinas	jessesalinas333@gmail.com	12/31/2018
Andrew Foraker	Andrew.Foraker@cityofwoodland.org	12/31/2017
Stephanie Miller	sluthe2001@yahoo.com	12/31/2018
Sinjit Singh	Sinjit.singh@cityofwoodland.org	12/31/2018
Jon-Paul Valcarenghi, Chair	Jon-Paul.Valcarenghi@cityofwoodland.org	12/31/2020

STANDING COMMITTEES

(Max. 3 commissioners)

Facilities Committee

Valcarenghi, White-Snyder

Budget and Finance Committee

White-Snyder, Foraker

Program & Department Evaluation

Miller, Ali, Foraker

Urban Forest Committee

Valcarenghi, Ali

Ad Hoc Committee

White-Snyder, Salinas

Volunteerism Committee

Foraker, Salinas, Miller

Liaisons

Baseball:

Soccer: Salinas

Swimming: Valcarenghi

Softball: White-Snyder

Tennis: Miller

* Bold indicates lead Commissioner for the Committee

* () Indicates Alternate

Commission typically meets the fourth Monday of each month at 6:30 p.m. at the City Council Chambers.

Online agenda and packet available at: <http://www.cityofwoodland.org>

For additional information please call 530.661.2000



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 5.
SUBJECT: Commission Absent Requests

Recommendation for Action:

Staff recommends that the Commission request an absence if they will miss an upcoming Commission meeting.

Staff Contact:

Cathy Haynie, Administrative Supervisor, (530) 661-2009, cathy.haynie@cityofwoodland.org

Conclusion:

Staff recommends that the Commission request an absence if they will miss an upcoming Commission meeting.

Prepared By: Cathy Haynie, Administrative Supervisor

ATTACHMENTS:

Description	Upload Date	Type
Attendance Tracking	11/7/2017	Cover Memo
2018 Calendar	11/14/2017	Cover Memo

Parks & Recreation Commission Attendance (current commissioners only)
Meetings 4th Monday of each month @ 6:30 pm (no meetings in August or December)
November 2017

Commissioners	7/2017	8/2017	9/2017	10/2017	11/2017	1/2018	2/2018	3/2018	4/2018	5/2018	6/2018
Jesse Salinas					Excused (Requested October 2017)						
Jon-Paul Valcarenghi											
Carla White- Snyder			Excused (requested in May 2017)								
Sanjit Singh											
Stephanie Miller				Unexcused							
Andrew Foraker											
Rashid Ali											
Quorum											

Requested:
July – No Requests
September – No Requests

Notes:

Parks & Recreation Commission 2018

Election of Officers-May Meeting

Approve Workplan 2018-July

Meeting Council Report-September Meeting

January

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

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25	26	27	28			

March

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25	26	27	28	29	30	31

April

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29	30					

May

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June

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July

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29	30	31				

August

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September

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October

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28	29	30	31			

November

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December

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30	31					



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 6.
SUBJECT: Parks & Recreation Commission Report

Recommendation for Action:

Staff recommends that the Commission receive the staff report.

Staff Contact:

Kris Bain, Community Services Program Manager, (530) 661-2002, krista.bain@cityofwoodland.org

Report in Brief:

PARKS AND RECREATION FACILITIES

Hiddleson Demolition and Park Reuse Project: The Hiddleson Pool demolition project is nearly completed. The pool has been filled in, and the soil has been compacted. The area will be left as an open space area with redwood bark to reduce any silt runoff during the rainy season. After the remaining budget has been determined, staff will work on a reuse plan.



Park Maintenance

Crawford Park: The City just received notification that we will be receiving a fourth donation from the John & Eunice Davidson Foundation to purchase exercise equipment/stations for Crawford Park. With the third donation, exercise equipment/stations have been purchased for Woodside Park (to be installed in the next few months). It is anticipated that the exercise equipment for Crawford Park will be purchased and installed in the next few months as well. This donation brings the total amount received from the Foundation to over \$60,000.

Urban Forestry

CalFire Grant: The Woodland Tree Foundation held their first grant sponsored planting on October 28. There were thirty-two trees planted, twenty-eight private trees and four public trees planted at Campbell Park. There were 37 volunteers for the planting.

Staff held a kick-off meeting with Davey Resource Group for our Urban Forest Master Plan. They are currently analyzing the City's Maintenance Management Data. The completed Urban Forest Master Plan is projected to go council by the end of 2018.

As part of the CalFire grant West Coast Arborist has been contracted to stump grind eighty-six stumps. This will include the removal of grindings, and replacement of soil in various locations throughout the City. This project will begin around November 13 allowing for the replanting of trees at sites where trees were removed. This process is an integral part of the renewal of the urban forest.

Work Orders: Staff continues to assess the types of work orders that are open and schedule work in a manner to continue to reduce the overall total of work orders.

Month	Inspections	Investigations	Planting	Pruning	Pruning-City Contract	Pruning-Maintenance only	Removal Program	Removal Program-City Contract	Hazard Response	Right of Way clearance	Stump Grinding	Cabling and Bolting	Total Work Orders
17-Jan	5	9	204	1	2	5	101	1	3	0	118	0	449
17-Feb	6	11	182	1	2	5	99	1	4	0	119	0	429
17-Mar	6	11	186	1	2	5	99	1	1	0	120	0	435
17-April	6	11	46	1	2	5	100	1	0	3	120	0	295
17-May	6	11	11	2	2	5	100	1	1	3	120	0	262
17-Jun	7	11	12	3	2	5	106	1	2	3	122	0	275
17-Jul	7	11	14	3	0	5	106	0	4	3	127	0	281
17-Aug/Sept	7	11	16	3	0	9	108	0	3	2	139	0	299
17-Oct	8	11	17	3	0	9	111	1	2	2	142	1	307
17-Nov	7	11	18	10	0	10	112	2	3	2	144	2	312

Tree Plantings and Removals: In 2016, 253 trees were planted compared to 89 tree removals. To date for calendar year 2017, 236 trees have been planted compared to 123 tree removals.

Cemetery

The Woodland Cemetery had four cremation interments, and one full burial during the month of October. This generated a total of \$2,288 in sales.

RECREATION

Adult Sports

Basketball: The Fall basketball season that has played since September concluded in November. The league had ten teams participating during this season. The next league is the 40 & Over and 50 & Over league that starts the last week of November. Registration is still being accepted for this league.

Softball: The Fall softball season that started in September concluded in November. The fall league had 40 teams amongst seven divisions and played Wednesday, Thursday, and Friday nights. Softball league play resumes in March with the spring season.

Aquatics

Water Aerobics and Lap Swim: The pool is open for water aerobics and lap swim 11:30 am-1 pm weekdays, 10-11:30 am weekends, and 7-8 pm weekdays (program is at 7 pm until March 29, then changes to 7:30 pm). The morning aerobics that occurs Monday, Wednesday, and Friday mornings is closed until June 11, 2018. The warm weather during October kept the attendance higher than average.

Pool Reservations: The pool hosted several activities during October including water polo games and a swim meet.

Hosting organizations included the Woodland Swim Team, Dixon High School and Davis High School.

Community Center and Sports Park

Community & Senior Center rentals for October 2017 include:

Private Reservations

Yolo County Realtors (4)
Universal Church Meeting
Woodland Soccer Club Meeting (2)
Turning Point Community Program
Anthem Blue Cross (2)
WHC Annual Recognition Dinner
Health Net

City-related reservations

Neighborhood Meeting (CDD)
UMW I/II Exam (HR)
Police Sergeant Exam (HR)
YGRIP Operational Team

Facility maintenance projects for October 2017 included

- Ordered new flags
- Maintenance staff audio visual training
- Replaced handicap access unit by YMCA fitness center
- Cooling tower (see attached report)

General Recreation Programming

Dog Obedience Class: The Contract Recreation Program has a new contract with Healing Paws of Sacramento to offer a 6-week Basic Dog Obedience Class. The class follows the standards of the AKC Canine Good Citizen title, which is a basic obedience and socialization program for dogs including skills such as sit, stay, down, and accepting the approach of a friendly stranger. The class is \$140 and the next session starts in January.

Winter Wrestling Club: The Empire Wrestling Club will be starting in December and is currently accepting registration for youth grades K-6. Instruction is geared toward beginner and intermediate wrestlers. Fundamental skills are their focus and instructed in a progressive manner that stresses wrestling basics in a comfortable learning environment. Practices will be held at the Douglass Middle School wrestling room on Tuesday and Thursday evenings.

Sacramento Junior Tennis Fund: Staff received confirmation on October 19 that Woodland's grant application has been chosen to receive an award of \$1,800 from the Sacramento Junior Tennis Fund. Similar to last year, Woodland will create the "New Participant Youth Tennis Scholarship Round 3" which will allow 48 Woodland youth ages 6-16 to receive free tennis lessons through the Community Services Department. Tennis lessons will take place in February, March, April, and May. The Woodland Tennis Club will be a major partner in marketing, promotions, and recruitment.

Measure J Programming

After School Teen Pack: After school programming continues at Douglass and Lee Middle Schools. The program averages 30-45 participants each day at the sites and had over 1,300 students signed in for the month of October. To promote the After School Teen Pack, staff regularly attends lunch at the schools to connect with the students. In addition, the weekly activities are submitted to schools administration which are promoted through daily bulletins and Facebook announcements.

Upcoming Dates

January 15: Martin Luther King Jr. Celebration, 4-6 pm, Woodland Public Library

Background:

The following provides highlights of the Community Services Department since the last meeting.

Prepared By: Kris Bain, Community Services Program Manager

ATTACHMENTS:

Description	Upload Date	Type
Budget Report	11/14/2017	Cover Memo
Revenue Report	11/14/2017	Cover Memo
Cooling Tower Report	11/14/2017	Cover Memo

RECREATION SNAPSHOT THRU 10/31/17				
Program	Budget	Expenses & Encumbrances	Balance	% Remaining
General Fund				
Community Services Administration	\$535,876.00	\$151,363.67	\$384,512.33	71.75%
Community & Senior Center	\$980,156.52	\$228,944.77	\$751,211.75	76.64%
Brook Swim Center-Recreation	\$156,677.00	\$44,592.38	\$112,084.62	71.54%
General Recreation Programs	\$496,928.00	\$138,159.87	\$358,768.13	72.20%
Subtotal	\$2,169,637.52	\$563,060.69	\$1,606,576.83	74.05%
Enterprise Fund				
Youth Enterprise	\$409,292.37	\$138,159.65	\$271,132.72	66.24%
Subtotal	\$409,292.37	\$138,159.65	\$271,132.72	66.24%
Measure J				
General Recreation Programs	\$540,095.18	\$123,424.35	\$416,670.83	77.15%
Middle School Programs	\$202,340.00	\$45,531.75	\$156,808.25	77.50%
Aquatics	\$235,189.00	\$103,800.91	\$131,388.09	55.86%
Recreation Van	\$88,780.00	\$20,648.71	\$68,131.29	76.74%
Summer Camp	\$197,392.00	\$43,287.07	\$154,104.93	78.07%
Youth Advisory Committee and Academy	\$5,000.00	\$0.00	\$5,000.00	100.00%
Subtotal	\$1,268,796.18	\$336,692.79	\$932,103.39	73.46%
Total Recreation Budget	\$3,847,726.07	\$1,037,913.13	\$2,809,812.94	73.03%
PARKS SNAPSHOT THRU 10/31/17				
Program	Budget	Expenses & Encumbrances	Balance	% Remaining
General Fund				
General Landscape Maintenance	\$224,494.00	\$154,842.99	\$69,651.01	31.03%
Park Maintenance	\$1,507,873.00	\$717,049.33	\$790,823.67	52.45%
Hiddleson Maintenance	\$3,782.00	\$81.06	\$3,700.94	97.86%
Charles Brooks Swim Center Maintenance	\$354,925.00	\$102,569.40	\$252,355.60	71.10%
Tree Maintenance	\$385,115.50	\$203,892.79	\$181,222.71	47.06%
Subtotal	\$2,476,189.50	\$1,178,435.57	\$1,297,753.93	52.41%
Enterprise Fund				
Cemetery Maintenance	\$457,996.00	\$191,931.00	\$266,065.00	58.09%
Subtotal	\$457,996.00	\$191,931.00	\$266,065.00	58.09%
Lighting & Landscape District				
Gibson Ranch	\$711,891.00	\$271,184.18	\$440,706.82	61.91%
Gibson Ranch CIP	\$60,000.00	\$2,911.86	\$57,088.14	95.15%
North Park District	\$29,878.00	\$22,783.77	\$7,094.23	23.74%
Streng Pond Maintenance District	\$38,030.00	\$22,797.14	\$15,232.86	40.05%
Woodland West (Westwood)	\$27,949.00	\$12,987.39	\$14,961.61	53.53%
Springlake	\$988,560.00	\$398,996.63	\$589,563.37	59.64%
Community Sports Park Programs	\$457,064.58	\$159,479.29	\$297,585.29	65.11%
Gateway	\$110,237.00	\$38,805.92	\$71,431.08	64.80%
Subtotal	\$2,423,609.58	\$929,946.18	\$1,493,663.40	61.63%
Total Park Budget	\$5,357,795.08	\$2,300,312.75	\$3,057,482.33	57.07%

RECREATION - REVENUE SNAPSHOT thru 10/31/17			
Account Title	FY17 Projection	FY17 Revenue to Date	% of Projection
General Fund			
Red Cross Course Fee	\$500.00	\$1,575.00	315.00%
Msc. Sales	\$1,000.00	\$540.00	54.00%
C. Brooks Swim Center Revenue	\$150,000.00	\$25,635.00	17.09%
Community Senior Center Msc.	\$80,000.00	\$13,470.00	16.84%
Community Fitness Center	\$36,000.00	\$5,999.60	16.67%
Community Sports Park	\$205,000.00	\$72,411.00	35.32%
Subtotal	\$472,500.00	\$119,630.60	25.32%
Enterprise			
Recreation Contract	\$183,000.00	\$51,822.75	28.32%
General Recreation	\$110,000.00	\$11,893.26	10.81%
Senior Programs Revenue	\$10,000.00	\$2,908.70	29.09%
Yolano Recreation Program Income	\$5,000.00	\$5,618.00	112.36%
Adult Recreation & League Programs	\$80,000.00	\$27,427.00	34.28%
Subtotal	\$388,000.00	\$99,669.71	25.69%
Measure J			
Measure J	\$15,000.00	\$13,552.00	90.35%
Subtotal	\$15,000.00	\$13,552.00	90.35%
TOTALS	\$875,500.00	\$232,852.31	27%

PARKS - REVENUE SNAPSHOT thru 10/31/17			
Account Title	FY17 Projection	FY17 Revenue to Date	% of Projection
General Fund			
Park Revenue	\$60,000.00	\$33,620.75	56.03%
Subtotal	\$60,000.00	\$33,620.75	56.03%
Enterprise Fund			
Cemetery Internment Space	\$16,000.00	\$11,366.00	71.04%
Cemetery Services	\$44,000.00	\$15,820.00	35.95%
Cemetery Products	\$30,000.00	\$8,752.00	29.17%
Endowment Care Fee	\$9,000.00	\$4,756.00	52.84%
Subtotal	\$99,000.00	\$40,694.00	41.11%
Lighting & Landscape District			
Gibson Ranch Park Revenue	\$15,000.00	\$6,817.00	45.45%
Springlake Park Revenue	\$10,000.00	\$2,450.00	24.50%
Subtotal	\$25,000.00	\$9,267.00	37.07%
TOTALS	\$184,000.00	\$83,581.75	45%



TO: THE HONORABLE MAYOR AND CITY COUNCIL
DATE: November 7, 2017
ITEM #: 15.
SUBJECT: Authorize a \$250,000 Budget Appropriation for the Community & Senior Center Fluid Cooler Project

Recommendation for Action:

Staff recommends that the City Council approve Resolution No. _____, authorizing a budget appropriation in the amount of \$250,000 for the Community & Senior Center Fluid Cooler Project with the funds allocated from the Facilities Asset Reserve fund (Fund 011).

Staff Contact:

Troy Thompson, Fleet & Facilities Manager, (530) 661-5956, troy.thompson@cityofwoodland.org

Fiscal Impact:

Staff has identified the funding source for this project to come from the Facilities Asset Reserve Fund (Fund 011). Fund 011 will have an accumulated balance of \$1,084,554 at the end of this fiscal year; the funding is intended to resolve significant deficiencies in City-owned facilities. Staff has deemed this fluid cooler project as a top priority in which to apply these funds.

Background:

There have been numerous mechanical failures in the Community & Senior Center's geothermal system since the facility opened in 2007. The problems have resulted from high water temperatures inside of the geothermal loop, causing excessive wear and tear on the heat pumps that run off the loop. Stantec Consulting Services was the firm that originally designed the building, and staff hired Stantec again in 2014 to assess the ongoing issues with the geothermal system and provide recommendations. Stantec provided a list of short-term and long-term recommendations in their report, and that report is attached to this Council Communication.

Since 2014, staff has completed all of Stantec's short-term recommendations without avail. The hot water has persisted and has caused the refrigerant inside the heat pumps to "trip" to the point where staff has had to replace compressors and related components prematurely, amounting to over \$10,000 in maintenance costs over the last three years alone.

Two heat pump units are currently inoperable. Staff has been advised by a mechanical contractor to not operate them to avoid further damage. These units serve the lobby area where staff sits and an adjacent hallway. The remaining 18 units attached to the geothermal system have been functioning normally at this time, however, staff has been advised by numerous experts in geothermal systems to expect more malfunctions, equipment failures, and mounting maintenance costs to occur due to the excessive hot water. The hot water has already had a significant negative impact on the system's reliability and has caused issues for many rentals at the Community & Senior Center, including the refunding of rental fees due to rooms that were not adequately cooled.

Discussion:

Staff has exhausted all short-term and smaller maintenance and repair options in response to this issue. The next viable options is to install a fluid cooler. The fluid cooler option was chosen among Stantec's list of long-term recommendations due to the relatively low cost compared with the other recommendations as well as the best option in terms of energy savings. Staff has consulted a few other geothermal system designers, all of whom also advised staff to install the fluid cooler in order to resolve the ongoing issues.

The fluid cooler will be designed to resolve the excessive hot water temperatures inside of the geothermal system during the summer months and return the geothermal system to normal operational capacity. Staff estimates the project costs to be \$250,000, including consultant fees and support infrastructure. The next step for staff will be to hire a consultant for the project management and a different consultant for the design work once the project is authorized by the Council. The goal is to have the fluid cooler installed by next summer.

Conclusion:

Staff recommends that the City Council approve Resolution No. _____, authorizing a budget appropriation in the amount of \$250,000 for the Community & Senior Center Fluid Cooler Project with the funds allocated from the Facilities Asset Reserve fund (Fund 011).

Prepared By: Troy Thompson, Fleet & Facilities Manager

Reviewed By: Gregor G. Meyer, Public Works Director



Paul Navazio, City Manager

ATTACHMENTS:

Description	Upload Date	Type
Community Center Fluid Cooler Resolution	10/31/2017	Cover Memo
Stantec Report	10/30/2017	Backup Material
Resolution No. 6959 - Signed	11/8/2017	Resolution

RESOLUTION NO. _____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WOODLAND
AUTHORIZING FUNDING TO INSTALL A FLUID COOLER AT THE COMMUNITY &
SENIOR CENTER**

WHEREAS, the City of Woodland Community & Center has experienced significant mechanical failures as a result of high water temperatures inside of the geothermal system; and

WHEREAS, the mechanical failures have resulted in high maintenance costs, cancelled events, and a loss of revenue for the City; and

WHEREAS, the City of Woodland hired Stantec Consulting Services in 2014 to assess the condition of the geothermal system and to provide recommendations to staff on ways to resolve the issue; and

WHEREAS, the Stantec provided a list of short-term and long-term solutions; and

WHEREAS, the City of Woodland exhausted all short-term and smaller maintenance and repair options to resolve to issues; and

WHEREAS, the high water temperatures persisted after the short-term projects were completed; and

WHEREAS, the City of Woodland has determined the next feasible step is to install a fluid cooler in the geothermal system to bring the water temperatures down to adequate levels; and

WHEREAS, the City of Woodland recommends to the City Council a \$250,000 budget for this project; and

WHEREAS, the City of Woodland wishes to allocate \$250,000 from the Facilities Asset Reserve (Fund 011) as a funding source; and

WHEREAS, the City of Woodland wishes to apply \$60,000 from the Woodland Recreation Foundation funds set aside for the Community & Senior Center to offset the costs.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WOODLAND: hereby authorizes a \$250,000 budget appropriation for the project to install a fluid cooler at the Community & Senior Center using \$250,000 from the Facilities Asset Reserves (Fund 011).

PASSED AND ADOPTED by the City Council on this 7th day of November 2017, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Angel Barajas, Mayor

APPROVED AS TO FORM:

Kara K. Ueda, City Attorney

ATTEST:

Ana Gonzalez, City Clerk

Upgrade Recommendations
for Geothermal Water Source
Heat Pump System at
Woodland Community &
Senior Center



Prepared for:
City of Woodland

Prepared by:
Stantec Consulting Services Inc.
1201 J Street, Studio 100
Sacramento, CA 95814

September 23, 2014

UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

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EXECUTIVE SUMMARY

The following short term actions are recommended:

- Upgrade HVAC control system to control geothermal loop temperature. Upgrades consist of adding temperature sensor controllers and programming heat pump control valves to control/optimize geothermal loop temperature. This will increase the efficiency of the heat pumps serving the building. Raise room temperatures set points of all units during unoccupied hours.
- Clean/flush and add chemical treatment to the entire HVAC system. This will increase heat transfer efficiencies for the heat pump and protect the piping systems from corrosion.
- Automate the soil soaker system by installing a soil moisture sensor, controller, and solenoid valve. This will provide optimum soil moisture content to achieve good thermal conductivity of the soil. This will increase the heat transfer efficiency of the geothermal piping loop and save water.
- Install automatic flow control valves at the geothermal underground vault. This will insure even flow in all loop circuits.

Long term solutions include replacement of the existing system with packaged, unitary, or variable refrigerant flow systems as well as alternates that modify the existing system to improve summer cooling performance. These options are discussed in detail in this report. Some of the options are not recommended as discussed.

September 23, 2014

SYSTEM DESCRIPTION

- The construction on the facility was started in the summer of 2005 with commissioning in the summer of 2007.
- The central mechanical system design had 20 ducted Climate Master vertical water source heat pumps installed in attic service aisles throughout the facility. The units range in size from 26,000 btu/hr to 67,000 btu/hr (nominally 2 to 5 tons). The units are connected to a common outside air duct for ventilation air. There were six (6) rooftop packaged water source heat pump units from 118.5 mbh to 264.2 mbh (nominally 10 to 20 tons).
 - o The initial design build-out air conditioning load on the geo-field was 58 tons @ 184 gpm for the indoor units and 72 tons @ 218 gpm for the outdoor units. Total load was thus 130 tons with 402 gpm circulated.
 - Two (2) additional heat pumps were added to make the current estimated total load 152 tons and 470 gpm geo-field flow.
 - o Two (2) additional rooftop gas-electric units have also been added to serve specific areas and are not part of the geofield system.
- The mechanical room has (2) 470 gpm/25 hp base-mounted centrifugal pumps (1 standby) in a lead/lag arrangement circulating the condenser water throughout the facility. The pumps are variable speed driven and operate off of system pressure.
- Normally closed bypass valves can be manually opened and closed to drain and purge the system. A written procedure for accomplishing this has been developed by 'Earthbound Energy Resources'.
- The facility heat pumps are connected to the common hydronic water loop that either rejects the heat of compression during the cooling cycle or absorbs heat during the heating cycle.
- The existing ground loop systems consist of HDPE pipe, with seventy 1,000 ft long horizontal slinky loops (30-inch spacing) in 175 ft long trenches. There are 5 grouping of 14 loops each headered together to twenty-four 2-inch diameter supply and return pipes which are then brought into an underground vault and connected to shut-off and control valves. The field is approximately 5 ft. below the ground level. The loops are piped in a reverse return arrangement. The field is direct return.
- An introductory site visit was conducted in early August 2014.
- A technical review mechanical site visit was conducted on September 9, 2014.
- Facility staff accompanied Stantec, provided access, explained facility system operation and pointed out known concerns with the system.

September 23, 2014

PREVIOUS SYSTEM MODIFICATIONS

Many reports and memos from May 2005 to April 2008 were reviewed for this report describing steps to improve the efficiency and operation of the system. The majority of the effort was to eliminate air that had been captured in the horizontal loop and to flush and purge the system.

The initial design intent was that the geofield be installed below a recreational field (soccer) that would be irrigated in the summer. Currently no recreation field exists, only bare ground and weeds. Due to the dry summer conditions, and without adequate moisture content in the soil, poor thermal conductivity is occurring.

A soaker system was installed at 4-ft. below the ground, and while in use, has assisted in maintaining adequate water temperatures. The system is manually turned on and off. However, due to metering and increased water rate fees, it is used sparingly.

It is reported that the winter heating operation is not a concern.

CURRENT OPERATING CONDITIONS AND CONCERNS

From 08/10/2014 to 08/16/2014 a chart recorder was installed to measure ground water supply and return temperatures. Multiple readings were taken per day from 4:45 AM to 11:45 PM. During the peak times of 11:15 AM and 4:15 PM the average return water sent to the facility air conditioning units was 105-degrees F. and supplied back to the geo-field at 110-degrees F. The peak return was 105.9-degrees F, and 111.7-degrees F. supply.

The following items listed are considered major concerns to be addressed:

1. The lack of adequate chemical cleaning and treatment is resulting in scale build-up in the geo-field and building piping system. The corrosion of the heat pump water coils is affecting performance and service life.
2. High geothermal loop temperatures in the summer are increasing water temperatures and affecting cooling performance and efficiency. While air entrapment in the geofield and facility piping is likely, there are also other factors at play.

SITE VISIT OBSERVATIONS

The following observations and/or concerns were found:

1. Lack of adequate water treatment. A chemical pot-feed is installed in the mechanical room system piping but is not used.
2. System pumps are controlled based on pressure and not on geothermal loop temperature.
3. Heat pump control valves open/close on demand.
4. Soaker system is manually operated.
5. Water tests performed in August 2014 did not include adequate data to determine complete water chemistry.



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

6. Building Automation System (BAS) is Alerton, maintained by L&H Airco.
7. During the visit many rooms were 'unoccupied'. All BAS system room temperature settings were between 68-degrees F and 74-degrees F.

SHORT TERM RECOMMENDATIONS

- 1A. Control circulating pumps and heat pump solenoid valves to optimize and control supply and return water temperature to and from the geo-field instead of being pressure controlled.
- 2A. Thru BAS system programming open the heat pump control valves to allow continuous circulation thru the geo-field.
- 3A. Automate soil soaker system with a soil moisture sensor system. Install a solenoid valve, controller and moisture sensor to control optimization of geo-field heat transfer.
- 4A. Raise room temperature set-points of all heat pump units during unoccupied times.
- 5A. Provide water treatment for the geothermal and building piping systems.

WATER TREATMENT PROCEDURE, GEOTHERMAL HEAT PUMP SYSTEM

1. Sample city water and test and record the following; pH, conductivity, TDS (Total Dissolved Solids).
2. Sample circulating loop water and test and record the following; pH, conductivity, TDS, Fe (ppm) and Cu (ppm).
3. Blow down all strainers in the system i.e. at main circulating pumps and at each unit.
4. Clean piping with a heavy duty cleaner (potassium hydroxide). Add cleaner until pH is 10.0 to 10.5 and circulate for a minimum of 24 hours. Blow down all strainers several times as the cleaner is being circulated.
5. Circulate and flush the cleaner with city make-up water and drain to sanitary sewer until the water is clear. Sample and test and record the following; pH, conductivity, TDS, Fe and Cu. The pH, conductivity and TDS should be close to the values of city water. The Fe should be <1.0ppm and Cu <0.5ppm. Continue the flush until the Fe and Cu values are achieved.
6. Once the cleaning and flushing procedure is complete add Propylene Glycol to achieve a minimum 10% concentration. Range should be 10% to 15%. Test and record this value with a refractometer.



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

Table 1 Short Term Recommendations

Description	Advantages	Disadvantages	Opinion of Probable Cost	Opinion of Relative Energy Savings
1A Control Circulating Pumps and Heat pumps solenoid valves	- Optimize and control geofield supply & return water temperatures - Increase unit compressor operation - Increase system efficiency - Better zone temperature control	None	\$4,000 New temperature sensors	1
2A BAS Reprogramming	- Optimize and control geofield supply & return water temperatures - Increase unit compressor operation - Increase system efficiency - Better zone temperature control	None	\$2,400 Programming	2
3A Automate Soaker System	- Optimize and control geofield supply & return water temperatures - Increase unit compressor operation - Increase system efficiency - Better zone temperature control	Additional water costs	\$5,000 - Valves - Sensors - BMS Programming	4



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

	Description	Advantages	Disadvantages	Opinion of Probable Cost	Opinion of Relative Energy Savings
4A	Raise unoccupied areas room temperature set points	Better comfort control	None	None	5
5A	Provide water treatment	- Increase units compressor life and operation - Able to better maintain system temperatures	None	\$3,500	3

Energy Savings: 1 Highest to 5 Lowest

September 23, 2014

LONG TERM RECOMMENDATIONS

The following upgrades and system modifications are considered.

- 1B. Replace the interior vertical heat pumps system with direct expansion packaged roof-top gas electric units.

Advantages:

- Maintenance activities would not disturb occupants.
- Eliminates geofield and related mechanical room equipment.

Disadvantages:

- Structural and electrical upgrades needed.
- Not as efficient as water source heat pump.
- Increase natural gas consumption.
- Installation would cause major disruption of facility operation and increase in operating costs.

- 2B. Replace the interior vertical heat pumps system with a Variable Refrigerant Flow System with fan-coils and rooftop condensing units.

Advantages:

- Eliminates geo-field and related mechanical room equipment.

Disadvantages:

- Structural and electrical upgrades needed.

- 3B. Replace the interior vertical heat pumps system with a variable volume system with air-cooled chiller, boiler and interior variable volume boxes (VAV) with hot water re-heat coils.

Advantages:

- Eliminates geo-field and related mechanical room equipment.
- Better temperature control thru added zones.

Disadvantages:

- Structural and electrical upgrades needed.
- Site work modifications.

- 4B. Install flow control balance valves in the 16 return pipes at the underground vault.

Advantages:

- Balance the flow rate and pressure drops thru the geo-field piping to maintain better temperature differentials in the circuit loops.

Disadvantages:

- Site work at the underground vault disruptions and permanent service area required.



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

- 5B. Install forced draft fluid cooler on-site between the underground vault and the 6"-diameter supply and return pipes into the Mechanical Room.

Advantages:

- Water temperatures will be maintained at optimum conditions. (90-degrees maximum for summer cooling operation). The system will revert to geo-field operation in the winter.

The enclosure would also contain (2) small circulating pumps, bypass valve arrangement, and electrical. An automatic sump cleaning system should be installed to help remove the build-up of solids in the fluid sump basin. The service life of fluid cooler is variable depending on the correct application of water treatment chemicals, bleed rate, quality of the make-up water, and normal corrosion due to air/water contact surfaces and outdoor environment.

Added benefit to maintaining good water quality at the tower is that it will extend the service life of the water source heat pump condensers and increase heat transfer efficiency.

The fluid cooler should be sized from 105-degrees F entering water temperature to 90-degrees F. leaving water temperature.

Disadvantages:

- Site work disruptions and permanent service area required. Electrical service needed.

UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

Table 2 Long Term Recommendations

	Description	Advantages	Disadvantages	Opinion of Probable Cost (B)	Opinion of Relative Energy Savings
1B (A)	Replace interior heat pumps with packaged roof gas electric	- Ease of maintenance without disturbing occurrences - Eliminates total geofield system	- Structural and electrical upgrades needed. - Not as efficient as water source heat pump	\$600,000	5
2B (A)	Replace interior heat pumps with fan coil and variable refrigerant (Dx) System (air cooled)	Eliminates total geofield system	Structural and Electrical Upgrades needed	\$750,000	4
3B (A)	Replace interior heat pumps with variable volume system (chiller, boiler, pumps, and controls)	- Eliminates total geofield system - Better temperature control thru added zones	- Structural and Electrical Upgrades needed - Site work modifications with service area requirements	\$1,000,000	3
4B	Install flow control balance valves in geofield piping	Better control of geofield temperatures and balancing of flows	Site work modifications at the underground vault and service area requirements	\$35,000	2
5B	Install fluid cooler in main piping between underground vault and mechanical room	Geofield water loop temperatures will be maintained	Site work modifications between the underground vault and the mechanical room	\$90,000	1

Energy Savings:

1 Highest to 5 Lowest

NOTES:

(A) 1B/2B/3B – no further considerations at this time since disadvantages and architectural, structural, and additional site system electrical upgrade costs will greatly exceed the MEP costs and may not produce meaningful savings. Additionally the entire facility would likely be closed for an extended period of time during construction.

(B) MEP Costs only. Must add architectural and structural costs. See Note A.



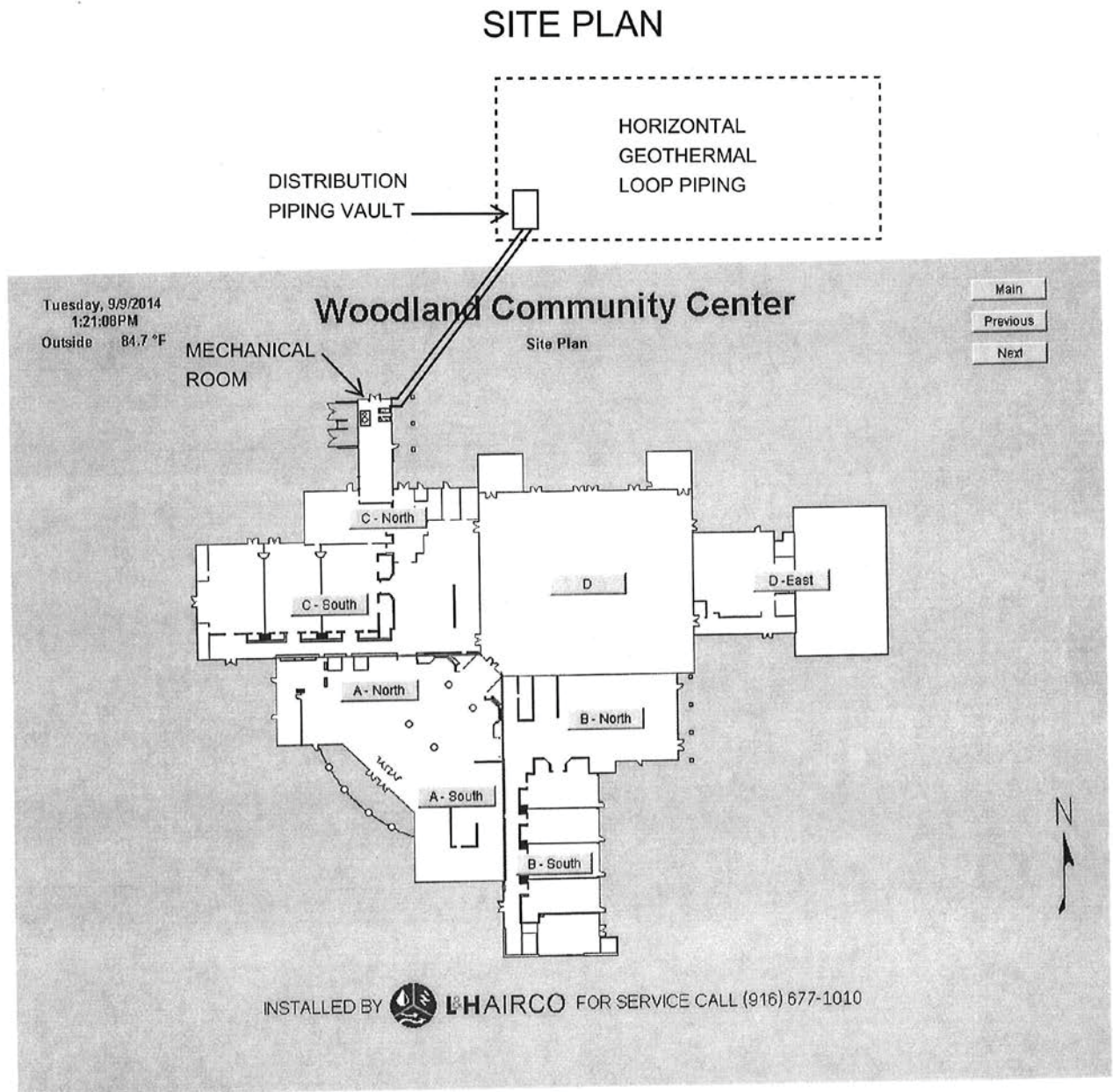
UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

APPENDIX

UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

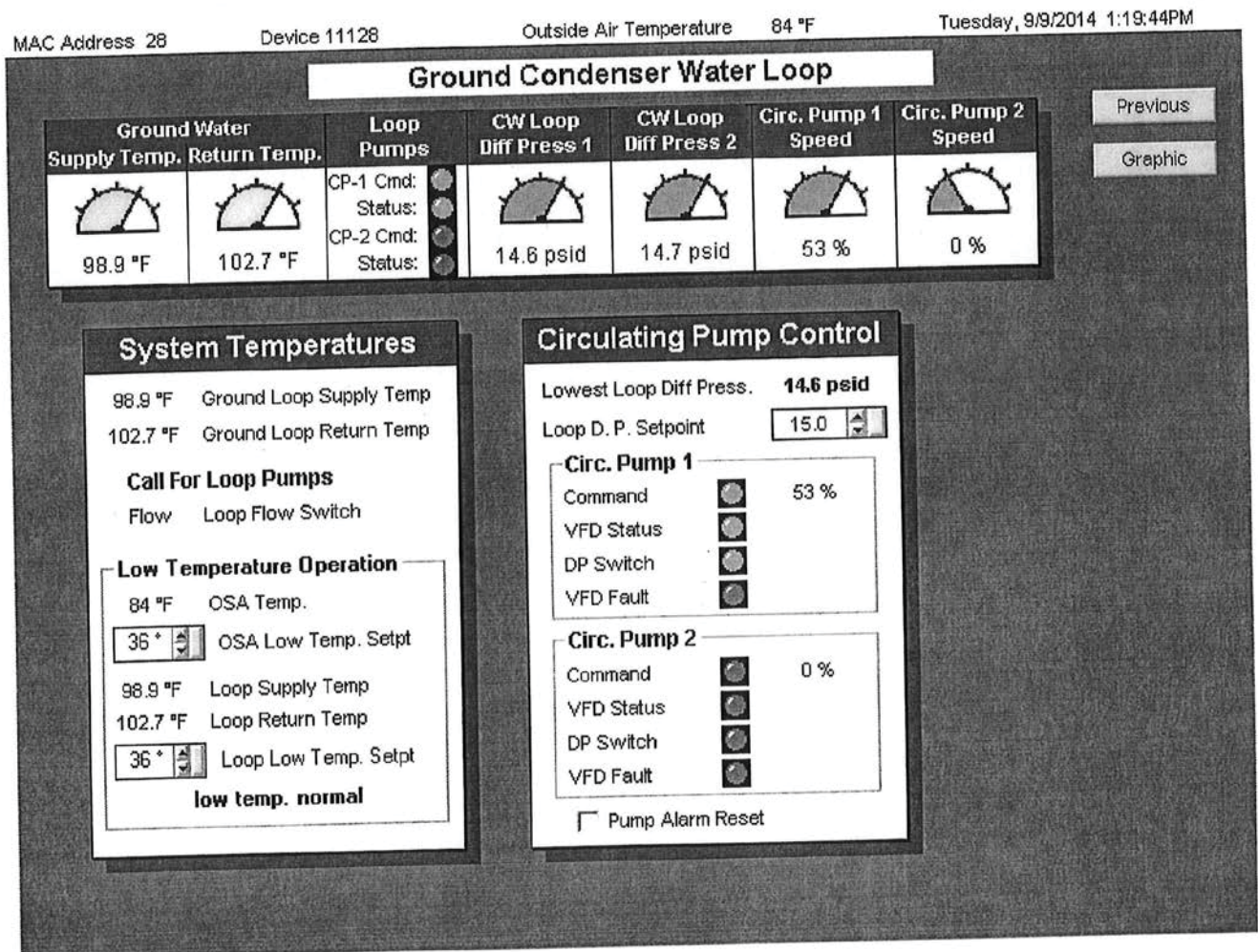
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UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

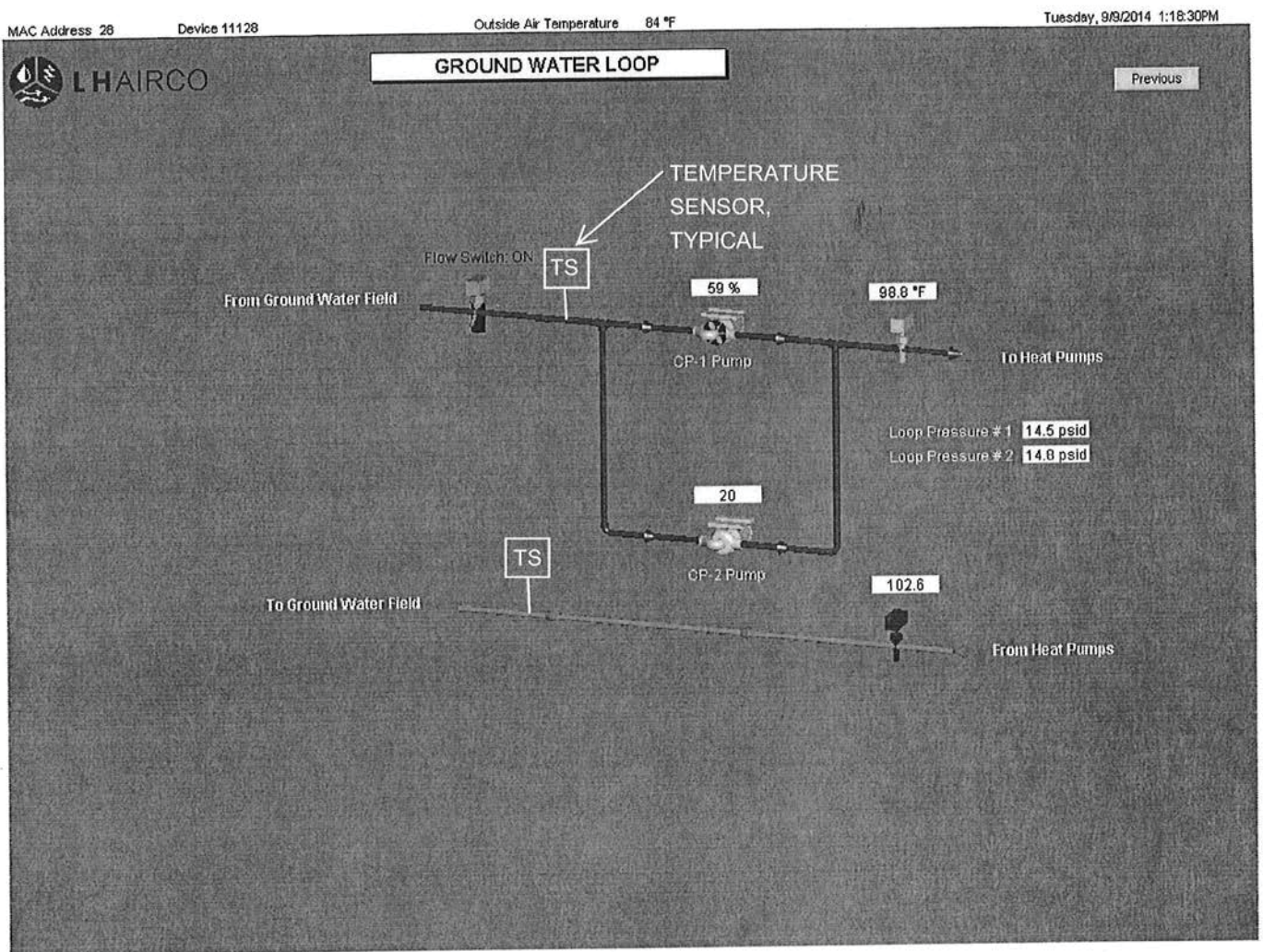
GEOTHERMAL LOOP TEMPERATURES



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

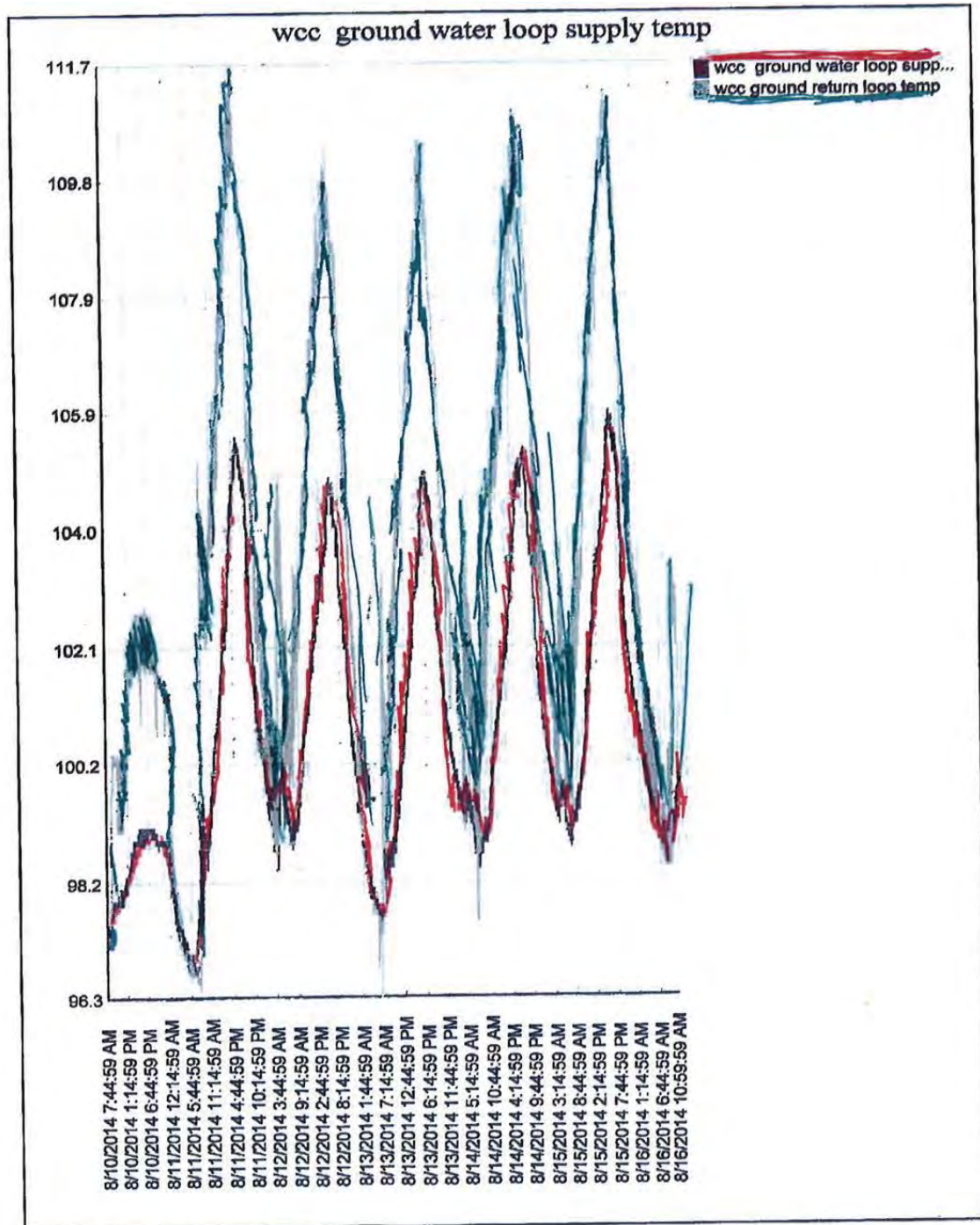
NEW TEMPERATURE SENSORS



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

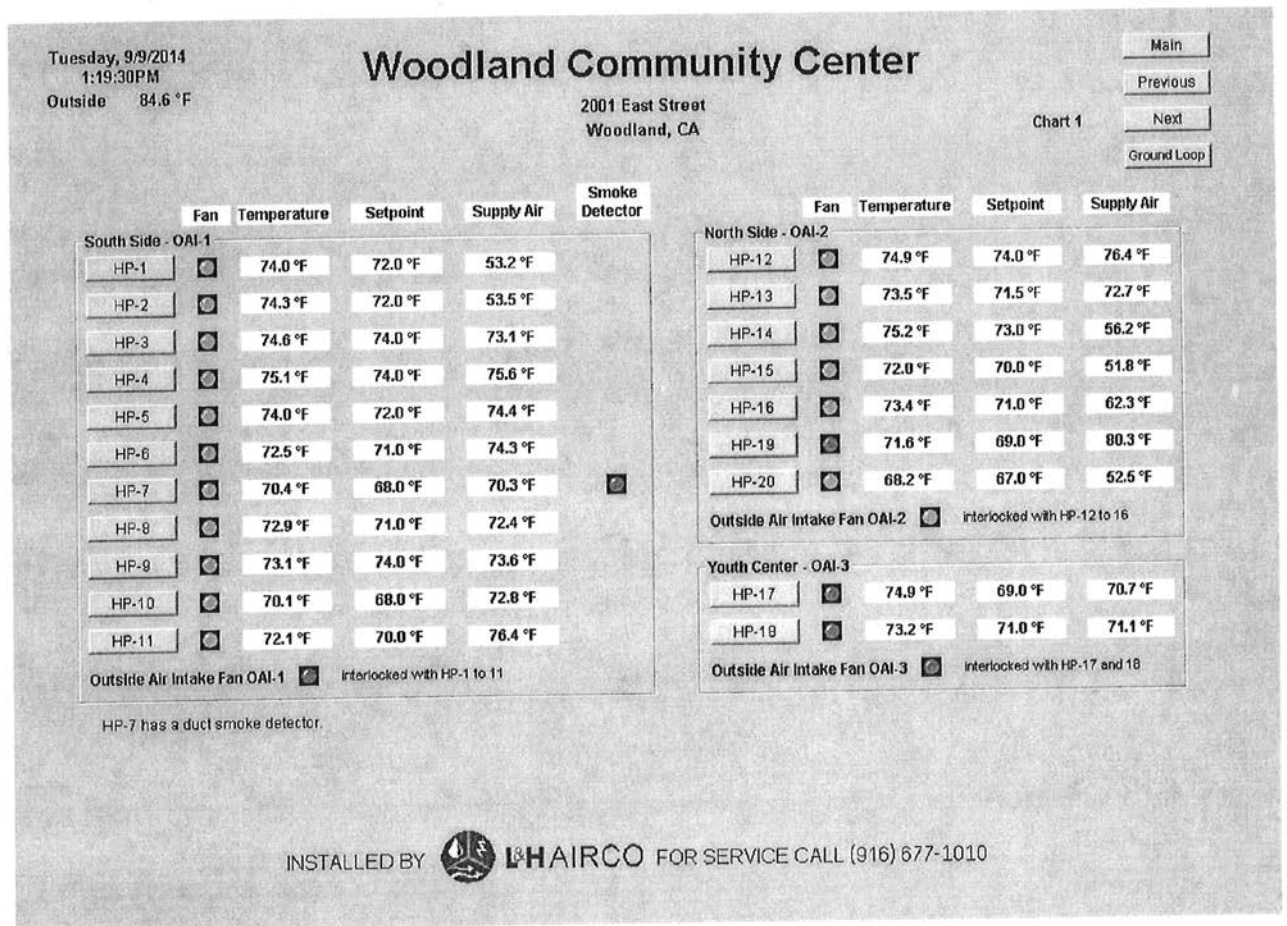
GEOTHERMAL LOOP TEMPERATURE LOG



UPGRADE RECOMMENDATIONS FOR GEOTHERMAL WATER SOURCE HEAT PUMP SYSTEM AT
WOODLAND COMMUNITY & SENIOR CENTER

September 23, 2014

TYPICAL HEAT PUMP UNIT SET POINTS



RESOLUTION NO. 6959

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WOODLAND AUTHORIZING FUNDING TO INSTALL A FLUID COOLER AT THE COMMUNITY & SENIOR CENTER

WHEREAS, the City of Woodland Community & Center has experienced significant mechanical failures as a result of high water temperatures inside of the geothermal system; and

WHEREAS, the mechanical failures have resulted in high maintenance costs, cancelled events, and a loss of revenue for the City; and

WHEREAS, the City of Woodland hired Stantec Consulting Services in 2014 to assess the condition of the geothermal system and to provide recommendations to staff on ways to resolve the issue; and

WHEREAS, the Stantec provided a list of short-term and long-term solutions; and

WHEREAS, the City of Woodland exhausted all short-term and smaller maintenance and repair options to resolve to issues; and

WHEREAS, the high water temperatures persisted after the short-term projects were completed; and

WHEREAS, the City of Woodland has determined the next feasible step is to install a fluid cooler in the geothermal system to bring the water temperatures down to adequate levels; and

WHEREAS, the City of Woodland recommends to the City Council a \$250,000 budget for this project; and

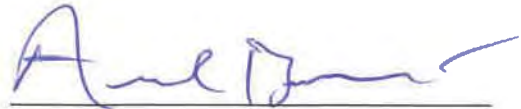
WHEREAS, the City of Woodland wishes to allocate \$250,000 from the Facilities Asset Reserve (Fund 011) as a funding source; and

WHEREAS, the City of Woodland wishes to apply \$60,000 from the Woodland Recreation Foundation funds set aside for the Community & Senior Center to offset the costs.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WOODLAND: hereby authorizes a \$250,000 budget appropriation for the project to install a fluid cooler at the Community & Senior Center using \$250,000 from the Facilities Asset Reserves (Fund 011).

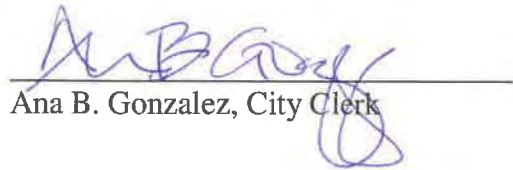
PASSED AND ADOPTED by the City Council this 7th day of November, 2017, by the following vote:

AYES: Council Member Fernandez, Rodriguez, Stallard and Mayor Barajas
NOES: None
ABSENT: Council Member Davies
ABSTAIN: None



Angel Barajas, Mayor

ATTEST:



Ana B. Gonzalez, City Clerk

APPROVED AS TO FORM:



Kara K. Ueda, City Attorney



TO: THE PARKS AND RECREATION COMMISSION
DATE: November 27, 2017
ITEM #: 7.
SUBJECT: January 22, 2018

Recommendation for Action:

Next meeting is January 22, 2018