



## City Council Staff Report

**Subject:** 3Kings Water Treatment Plant – Schematic Design  
**Author:** Roger McClain, Public Utilities Engineering Manager  
**Department:** Public Utilities  
**Date:** June 21, 2018  
**Type of Item:** Administrative

### Summary Recommendation

Staff is seeking City Council input and direction with respect to the proposed 3Kings Water Treatment Plant Schematic Design.

### Executive Summary

The 3Kings Water Treatment Plant (3KWTP) Schematic Design has been completed to a stage where staff recommends submitting the Project to Park City Planning for Conditional Use Permit (CUP) approval.

### Work Session Questions for City Council

*Based on identified Project schematic design, does Council support submitting the 3KWTP and associated subdivision plat to Park City Planning?*

### Project Purpose and Background

The 3KWTP design is being developed to meet Park City's water quality goals, increase usable water supply, increase resiliency, and meet regulatory obligations. The facility's design has been developed based on the findings of a desktop evaluation, bench-scale testing, and an extended proof of performance pilot-scale study.

At the November 16, 2017 City Council Work Session, staff presented the Concept Phase for the 3KWTP to Council and received direction to proceed with the schematic design phase. A link to the City Council meeting is provided below:

<http://parkcityut.igmp.com/Citizens/FileOpen.aspx?Type=1&ID=2306&Inline=True>

### Project Schematic Design

Located in a sensitive residential and recreational area within City, the facility is being designed to meet the Park City Land Management Code and to integrate into the neighborhood. Additionally, consistent with City Council critical priorities, net-zero energy goals and sustainable building enhancements are being incorporated into the project.

#### Facilities

The facility will generally consist of the following structures which contain administration, operations and maintenance, and treatment process elements:

- Administration, with customer access during business hours / Operations Building; 10,811 gsf (2 story)
- Maintenance Building; 5,045 gsf

- Screening/Micro-hydro Generator/Mixing Building; 5,298 gsf, 33,000 gallon basins
- Flocculation/Sedimentation Building and Basins; 6,319 gsf, 493,100 gallon basins
- Filtration Building; 4,192 gsf
- Adsorption Building; 2,986 gsf
- Backwash Waster Clarification Building; 2,169 gsf, with Equalization Basin; 196,500 gallon basin
- Disinfection/Pumping Building w/ Wet/Clear Well; 4,089 gsf, 292,024 gallon basins
- Solids Handling Building; 6,942 gsf (2 story)
- Chemical Building; 3,840 gsf
- Polymer Building; 1,490 gsf
- Electrical / Standby Power Generation Buildings; 1,834 gsf
- Gravity Thickener w/ Building (2 thickeners); 900 gsf, 168,000 gallon basins

#### Other Features

The 3KWTP design also incorporates the following appurtenances, amenities, and design elements:

- Customer service division with customer access during business hours
- Sustainable Building Enhancements
- Net-Zero Energy Related Building Systems
- Renewable Energy Generation Systems, including micro-hydro power generation equipment and photovoltaic panels
- Operations Controls, SCADA, and Security Monitoring Systems
- Wet and Dry Utilities and Storm Drainage System
- Fire Protection Sprinkler Systems
- Site Earthwork, Grading, Landscaping, and Irrigation
- Demolition of the existing Spiro Water Treatment Plant, Parks Maintenance Building, Golf Maintenance Building, and existing site infrastructure
- Temporary Spring Production Facilities (to facilitate the interim drinking water use of the Thiriot Spring source during 3KWTF construction)
- Temporary rerouting of Spiro Tunnel water discharges
- On-site and Off-site Raw Water and treated water conveyance Improvements
- Golf Course Pond Improvements (part of the passive water quality treatment process)
- On-site and Off-site parking

Included with the Staff Report are the Schematic Design site plan and two key facility perspectives. Staff is prepared to discuss the Schematic Design and associated design element at the Council meeting and will present additional images which include:

- Key design elements
- Site layout and massing required to meet facility goals
- Viewshed perspectives, illustrative plans, floor plans, and elevations;
- Approach to Energy Critical Priority and *Resolution 28-2017*; and
- Subdivision platting required for building development (Park City Back Nine Subdivision);

### **Project Schedule:**

The proposed Project schedule, as summarized below, meets regulatory deadline requirements:

- Early Contractor Involvement (ECI) Pre-Construction Services Contract Award – September 2018
- Design complete – October 2019
- Planning CUP Approval – December 2018
- ECI Construction Services Contract Award – August 2019
- Spiro WTP Demolition – September 2019
- Final Design Complete – October 2019
- Construction – September 2019 thru September 2022
- Start-up and Commissioning – October 2022 thru April 2023
- Post-Commissioning – 2023 thru 2025

### **Project Outreach:**

In accordance with the Project Communications Plan, which was sent to Council earlier this year, staff has sent notification emails to the surrounding HOA's, worked with Golf to reach out to its users, and met with any respondents. Notices inform the public of the proposed project and upcoming meetings and direct them to the City's Project webpage for more detailed information. Key neighbor input has been related to construction mitigation and walkability of Three Kings Drive. As the Project advances into Planning review, staff will heighten its outreach to coincide with the planning process.

### **Next Steps**

- Submit a CUP application to Park City Planning
- Submit a Plat application to Park City Planning
- Continue with the Community Outreach Program, as developed for the Project
- Continue with the design development of the off-site treatment related utilities
- Continue with the 3KWTP Design Development and Construction Drawing phases.
- Solicit for and select 3KWTP Project ECI Contractor for pre-construction and construction services through an ECI contract delivery methodology.

### **Department Review**

This report has been reviewed by representatives of Public Utilities, City Attorney's Office, Sustainability, and the City Manager's Office. Comments have been integrated into this report.

### **Funding Source**

The funding for this contract is from water service fees. Funding has been approved as part the 5 year CIP based on conceptual estimates. Once construction cost estimates have been completed, additional funding may be required.

### **Attachments**

- 3KWTP Site Plan
- 3KWTP Perspective
- 3KWTP Exterior Building Elevations

# Attachment 1 - 3KWTP Site Plan



**AERIAL VIEW**  
1"=30'

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

NO.	DATE	DR	REVISION	BY

3000gpd WTP Phase II Design  
Park City Municipal Corporation  
Park City, Utah

**ch2m:**  
SIN CH4  
**AERIAL VIEW**

VERIFY SCALE  
DATE: 01/17/2019  
PROJ: 894342  
DWG: 051-CF-1001  
SHEET: of

**Attachment 2 - 3KWTP Perspective**



# Attachment 3 – 3KWTP Exterior Building Elevations

## EXTERIOR MATERIALS

### VERTICAL WOOD SIDING



### STONE VENEER



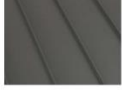
### STAINED CONCRETE



### CORRUGATED METAL SIDING



### STANDING SEAM ROOFING



### SHINGLE ROOFING



### CEMENTITIOUS PANELS

