



State of Utah

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Department of  
Environmental Quality

Alan Matheson  
*Executive Director*

DIVISION OF DRINKING WATER  
Marie E. Owens, P.E.  
*Director*

March 28, 2017

Rob Thomas  
General Manager  
Wolf Creek Water & Sewer Improvement District  
P.O. Box 658  
Eden, Utah 84310

Subject: **Feasibility Evaluation**, Drinking Water Service to Eagle Ridge Subdivision from the Wolf Creek Water & Sewer Improvement District; Water System #29013, File #10777

Dear Mr. Thomas,

**This is not Plan Approval for construction.**

The Division of Drinking Water (the Division) received your request concerning the capacity of the Wolf Creek Water & Sewer Improvement District (the District) to provide drinking water service to the Eagle Ridge Subdivision on March 9, 2017. This feasibility evaluation is solely based on the information we received from the District and the existing records available in the Division's database.

The Division's estimate is based on:

- The present number of equivalent residential connections (ERC's) the District is obligated to serve — The District indicated in the attached Project Notification Form (PNF), which we received on March 8, 2017, that the District currently is obligated to serve 1,020 ERC's, and that the proposed Eagle Ridge Subdivision will add 29 new residential connections (29 ERC's). Therefore, our estimate is based on 1,049 ERC's (i.e. 1,020 plus 29 new ERC's);
- No Irrigated acreage, which was provided by the District in their last sanitary survey and verified on March 9, 2017 by the Division; and
- Fire flow required by local fire code officials.

This evaluation is courtesy technical assistance, and is not meant to be a detailed or accurate engineering analysis. The Division does not track or verify the number of obligated connections or the status of the obligated connections. It is the responsibility of the District and Weber County to verify all information for planning purposes.

Per Utah Administrative Rule *R309-510* Minimum Sizing Requirements, the number of connections served by a public water system is affected by:

- Source water capacity;
- Storage capacity; and
- Available water rights.

Among these three components, the one with the least capacity determines the allowable number of connections for a public water system. The Division of Drinking Water's feasibility evaluation addresses only the first two components (i.e., source and storage capacities). The Division of Water Rights is the authority for water rights related regulations. Please consult with the Division of Water Rights directly for verification and interpretation regarding water rights.

The requirements related to indoor water use for these components are:

- The District was granted an reduction in required source capacity on August 27, 2012 (File #9042) which resulted in a requirement to provide **391 gallons per day (gpd) per (ERC) from its water source(s)**;
- A public water system must be able to provide **400 gallons per ERC of storage**;
- A public water system must have **0.45 acre-feet per ERC of water rights**.

Furthermore:

- If a public water system provides water for irrigation use, additional source capacity, storage capacity and water rights are required.
- If a public water system provides water for fire suppression, additional storage capacity is required.

### Source Capacity

Based on the Division records and the information provided by the District, the District has the following approved drinking water sources and safe yields:

Source Number	Water Source Name	Safe Yield (gpm)
WS001	Wolf Creek Spring	30
WS002	Warm Springs Well	400
WS003	Highland Well – Proposed	0
WS004	Eden Hills Well	48
	<b>Total</b>	<b>478</b>

*\*Average Annual Flow*

From the table above, the Division estimates the District's water source capacity to be 478 gallons per minute (gpm).

The attached capacity calculation work sheet estimates the minimum source capacity required for the District is 284.8 gpm based on indoor water use only.

It appears that the District has 192.3 gpm excess source capacity, and **has adequate source capacity to serve the Eagle Ridge Subdivision.**

### **Storage Capacity**

Based on the Division records and the information provided by the District, the District has the following approved storage tanks in service:

<b>Storage Tank Number</b>	<b>Source Name</b>	<b>Volume (gallons)</b>
ST001	Snowflake Tank	55,000
ST002	Wolf Creek Tank	250,000
ST003	Highland Tank	400,000
ST004	Eden Hills Tank	50,000
ST006	Retreat Tank - Proposed	0
	<b>Total</b>	<b>755,000</b>

From the table above, the Division estimates the District's water storage capacity to be 755,000 gallons.

The attached capacity calculation work sheet estimates the minimum storage capacity required for the District is 539,600 gallons based on indoor water use only.

It appears that the District has 215,400 gallons excess storage capacity, and **has adequate storage capacity to serve the Eagle Ridge Subdivision.**

### **Summary**

Based on information made available to the Division, it appears that at the present time the District has sufficient source and storage capacities to provide drinking water service to the proposed Eagle Ridge Subdivision.

The District submitted a Project Notification Form for the subject project on March 8, 2017, and was granted a plan review waiver by the Division, which allows the construction of this subdivision to proceed once approval is granted by Weber County.

Rob Thomas  
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March 28, 2017

If you have any questions regarding this letter, you can contact Camron Harry at (801) 536-0087 or, Ying-Ying Macauley, Engineering Section Manager, of this office, at (801) 536-4188.

Sincerely,



Marie E. Owens, P.E.  
Director

Yym/mdb/ssh

Enclosure — 1. Wolf Creek Water & Sewer Improvement District Capacity Calculation – March 9, 2017  
2. Project Notification Form Received on March 8, 2017

cc: Louis Cooper, Env. Director, Weber-Morgan Health Department, lcooper@co.weber.ut.us  
Sean Wilkinson, Weber County Planner, swilkinson@co.weber.ut.us  
Jared Andersen, P.E., Weber County Engineer, jandersen@co.weber.ut.us  
Dan White, Gardner Engineering, [dan@gecivil.com](mailto:dan@gecivil.com)  
Tyler Nielson, Gardner Engineering, [tyler@gecivil.com](mailto:tyler@gecivil.com)  
Camron Harry, P.E., Division of Drinking Water, [caharry@utah.gov](mailto:caharry@utah.gov)  
Ross Hansen, Regional Engineer, Division of Water Rights, [rosshansen@utah.gov](mailto:rosshansen@utah.gov)

DDW-2017-002505.docx

# PROJECT NOTIFICATION FORM (PNF)

Please provide the following information for all **Drinking Water Projects** by existing PWS's

Use with Plan Submittal [R309-500-6(1)] or when requesting Waiving of Plan Submittal [R309-500-6(3)]

If this is a new PWS, please complete the Supplemental PNF available on our website: [drinkingwater.utah.gov/blank\\_forms.htm](http://drinkingwater.utah.gov/blank_forms.htm)

Upon completion, Submit by Email, fax or mail to:

State of Utah - Dept of Environmental Quality - Division of Drinking Water  
P.O. Box 144830 - Salt Lake City, Utah - 84114-4830 (801) 536-4200 fax (801) 536-4211

File No: 10777  
Date Rec'd: 3/8/2017

## 1 Name of PWS [owner of system as recorded with DDW]

System Name: Wolf Creek Water and Sewer Improvement District

System Number: 29013

Address: PO Box 658

City, State, Zip: Eden, Utah 84310

Present No. of ERC's system is obligated to serve: 1020

Present No. of ERC's physically connected to system: 982

Population Served: 3000

No. of ERC's this project will add to system: 29

## 2 Addressee for Official Correspondence [Mayor, Public Works Director, etc...]

Name: Rob Thomas

Title: General Manager

Address: Same

City, State, Zip: \_\_\_\_\_

Phone No: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

## 3 PE designated as Direct Responsible Engineer for Entire System (if applicable)

Company Name: Gardner Engineering

Name: Dan White

Address: 5150 South 375 East

City, State, Zip: Ogden Utah, 84415

Phone No: 801.476.0202

E-Mail Address: dan@gecivil.com

## 4 PE responsible for design of this Project [if not same as item 3]

Name: Tyler Nielson

Address: 5150 South 375 East

City, State, Zip: Ogden Utah 84415

Phone No: 801.476.0202

Fax No: \_\_\_\_\_

E-Mail Address: tyler@gecivil.com

## 5 Name of Construction Inspector(s) and frequency of inspection

Name: Robert Thomas

Full Time:  Part Time: \_\_\_\_\_

## 6 Description of Project [in sufficient detail for DDW to identify]

Eagle Ridge Subdivision Lots 65 through 94. Lot 78 is already platted and accounted for in the Present No. of ERC's system is obligated to serve. Meter boxes will be installed per phase, which phasing has not been determined yet. This development consists of:

3500' DR18 C900 PVC main line

5 new FHs

no PRVs

Mainline valves, 29 service laterals.

## 7 Anticipated Construction Schedule:

Advertise for Bids: Unknown, 2017 likely

Bid Opening: Unknown, 2017 likely

Begin Construction: Unknown, 2017 likely

Complete Construction: Unknown, 2017 likely

## 8 Is this PNF for plan review waiver 3a? [see R309 500-6(3a) to verify]

Yes No

If Yes, you must have a previously approved Master Plan and Construction Standards.

## Is this PNF for plan review waiver 3b? [see R309 500-6(3b) to verify]

Yes No

If Yes, you must have a designated PE responsible for the system and previously approved Construction Standards.

## Does this project meet any of the criteria to be exempt from the hydraulic modeling rule requirements? [see R309 511-4(1)(a)(i) through (iv) to verify]

Yes No

If Yes, specify rule reference here:

[for example, R309-511-4(1)(a)(ii)]

R309 511-4(1)(a)(iii)

## 9 Fire Suppression Authority [if system has fire hydrants]

Name: Weber Fire District

Address: 2023 W 1300 N

City, State, Zip: Ogden Utah 84404

Phone No: 801.782.3580

Fax No: \_\_\_\_\_

E-Mail Address: bthueson@weberfd.com

Req'd flow (gpm): 1000 Duration (hrs): 2

## 10 Funded by State or Federal Agency?

Drinking Water Board (SRF or FSRF) Loan #: \_\_\_\_\_

Community Impact Board

None

Other (Specify) \_\_\_\_\_

# Division of Drinking Water – Water System Capacity Calculation Sheet

*\*Enter the green cells only\**

System Name **Wolf Creek Water & Sewer Improvement District**

System Number **29013**

## 1.1 Indoor Water Use

Convert "Number of other connections" (Cell E9) to ERCs here. [ERCs of other connections = peak day demand of other connections in gal per day / 800 gpd]

Number of residential connections ----- 1,010  
 Number of other connections --- **10** ----- ERCs of other connections **10.0**

Enter number of non-residential connections, e.g., 2 industrial connections.

Total Equivalent Residential Connections (ERCs) **1,049.0**

MINIMUM REQUIREMENTS FOR INDOOR WATER USE					
Source		Storage		Water Rights	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)	ac-ft/yr/ERC	Total (ac-ft/yr)
391	<b>284.8</b>	400	<b>419,600</b>	0.45	472.05

## 1.2 Outdoor Water Use

Enter estimated irrigated acre

Is the drinking water used for outdoor irrigation?  Yes  No  
 Residential ERCs using drinking water for irrigation ----- >> **0**  
 Percentage of Residential ERCs using DW for irrigation ----- >>: **0%**  
 Average irrigated acreage per residential connection ----- >> **0.00**  
 Total irrigated acreage of other connections (park, school, etc.) ----- >> **0.00**  
 Irrigation zone **3**

(Enter notes here regarding whether and what % of irrigation water is supplied by PWS.)

Enter total irrigated acres of other connections here.

Select Irrigated Zone # from the pick list. See "Irrigation Demands & Map" tab on the bottom of the screen.

MINIMUM REQUIREMENTS FOR IRRIGATION USE					
Source		Storage		Water Rights	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)	ac-ft/yr/ERC	Total (ac-ft/yr)
0	<b>0.0</b>	0	<b>0</b>	0.00	0.00

## 1.3 Fire Flow Water Use

Enter fire flow in gpm.

Does the water system provide fire protection?  Yes  No  
 Maximum fire flow demand (in gpm) for water system or pressure zone **1,000**  
 Maximum fire suppression duration (in hours) for water system or pressure zone **2**  
 Required Fire Suppression Storage (in gallons) ----- >>: **120,000**

(\*Verify req'd fire flow and duration with local fire code officials.\* Enter notes here, e.g. fire official contact info or comments.)

Enter duration in hours.

## 2. Summary of Water System Capacity Requirements

MINIMUM CAPACITY REQUIREMENTS FOR WATER SYSTEM					
Source (indoor + outdoor)		Storage (indoor + outdoor + fire)		Water Rights (indoor + outdoor)	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)	ac-ft/yr/ERC	Total (ac-ft/yr)
391	<b>284.8</b>	400	<b>539,600</b>	0.45	472.05

### 2.1 Does this system have adequate source capacity (per R309-510-7)?

This source capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.

Required Source Capacity 284.8 **gpm**  
 Existing Source Capacity 478.0 **gpm**  
 Source Capacity Deficit **None** **gpm**  
 Existing % of Total Req'd 167.8%  
 Difference 193.2 **gpm**

Autolink to 2 "Total Source" cell above.  
 Autolink to 4.2 "Total Existing Source Capacity" cell below.  
 Source deficit indicates that: (1) additional source capacity is needed, and (2) source deficiency should be assessed.  
 Less than 100% indicates: (1) additional source capacity is needed, and (2) source deficiency should be assessed.



**2.2 Does this system have adequate storage capacity (per R309-510-8)?**

This storage capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.

<b>Total Required Storage</b>	539,600	gal	Autolink to 2 "Total Storage" cell above.
<b>Existing Storage Capacity</b>	755,000	gal	Autolink to 4.3 "Total Existing Storage Capacity" cell below.
<b>Storage Capacity Deficit</b>	None	gal	Storage deficit indicates that: (1) additional storage volume is needed, and (2) storage deficiency should be assessed.
<b>Required Fire Storage</b>	120,000	gal	
<b>Is storage deficiency solely due to fire storage?</b>	Not Applicable		If NO, answer one of question set 2.01 to 2.05 in ESS. If YES, answer one of question set 2.06 to 2.10 in ESS.
<b>Existing % of Total Req'd</b>	139.9%		
<b>Difference</b>	215,400	gal	Less than 100% indicates: (1) additional storage capacity is needed, and (2) storage deficiency should be assessed.

**3. Transient PWS Indoor Water Use – ERC Calculation (See R309-510, Tables 510-1, 2, & 4 for other facility types.)**

MINIMUM REQUIREMENTS FOR INDOOR USE

Facility Type	Source		Storage			Total # of sites/pads	ERCs
	GPD/person*	GPD/site or pad	Gallons/person	Gallon/site or pad	ERC/site or pad		
Modern Recreation Camp	60	0	30	0	0.00		0.0
Semi-Developed Camp w/ flush toilets	20	0	10	0	0.00		0.0
Semi-Developed Camp w/o flush toilets	5	0	2.5	0	0.00		0.0
RV Park	N/A	100	N/A	50	0.13		0.0
Number of people per camp site							
Roadway Rest Stop w/ flushometer valves	7	3.5	8.8		0.0		0.0

If applicable, enter number of people per camp site here.

If applicable, use this number in cell I8 or cell I9 on Page 1.

**4. Data Input for Calculating ERCs, Source and Storage**

**Wolf Creek Water & Sewer Improvement D**

**4.1 Projected ERCs Calculation (optional)**

Total Projected ERCs	1,049
Existing Residential Connections	1,020
Obligated Future ERCs (enter below)	29
Eagle Ridge Sub	29

Use this number in Cell I8 ("Number of residential connections") on Page 1 to calculate PROJECTED demand & req'ts (including both existing & future connections).

Diaphragm or air pressure tanks shall NOT be considered effective storage volume for (1) community systems, or (2) NTNC with significant demand UNLESS an exception has been granted.

file #9042 Granted reduction of source capacity requirement, reduced to 391 gpd.

**4.2 Summary - Existing Sources (enter in green cells below)**

Total Existing Source Capacity (in gpm)		478
WS001	Wolf Creek Spring	30
WS002	Warm Springs Well	400
WS003	Highlands Well - Proposea	0
WS004	Eden Hills Well	48
Maximum ERCs (assuming indoor use only)		860.4

**4.3 Summary - Existing Storage Tanks (enter below)**

Total Existing Storage Cap. (in gallons)		755,000
ST001	Snowflake Tank	55,000
ST002	Wolf Creek Tank	250,000
ST003	Highland Tank	400,000
ST004	Eden Hills Tank	50,000
ST006	Retreat Tank - Proposed	0