



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*

May 23, 2017

Val Surrage  
Taylor West Weber Water District  
2815 West 3300 South  
West Haven, Utah 84401

Subject: **Feasibility Evaluation**, Drinking Water Service to Farmstead Estates Subdivision from Taylor West Weber Water & Sewer Improvement District; Water System #29019, File #10853

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

Dear Mr. Surrage:

The Division of Drinking Water (the Division) received your request concerning the capacity of the Taylor West Weber Water District (The District) to provide drinking water service to the Farmstead Estates Subdivision on May 15, 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 May 15, 2017, that the District currently is obligated to serve 2,645 ERC's, and that the proposed Farmstead Estates Subdivision will add 18 new residential connections (18 ERC's). Therefore, our estimate is based on 2,663 ERC's (i.e. 2,645 plus 18 new ERC's);
- No irrigated acreage, which was provided by the District in their last sanitary survey; 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:

- A water system must be able to provide **800 gallons per day (gpd) per (ERC) from its water source(s)**;
- A water system must be able to provide **400 gallons per ERC of storage**;
- A water system must have **0.45 acre-feet per ERC of water rights**.

Furthermore:

- If a water system provides water for irrigation use, additional source capacity, storage capacity and water rights are required.
- If a 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 Taylor West Weber Water, the District has the following approved drinking water sources and safe yields:

Source Number	Water Source Name	Safe Yield (gpm)
WS001	Big Well	900
WS002	Small Well	Inactive
WS003	Weber Basin WCD Wholesale Contract	2,000
WS004	900 South Well	1,000
WS005	Shop Well	Proposed
	<b>Total</b>	<b>3,900</b>

From the table above, the Division estimates the District's water source capacity to be 3,900 gallons per minute (gpm).

The attached capacity calculation work sheet estimates the minimum source capacity required for the District is 2,900 gallons per minute (gpm). This estimate includes:

- 1,480 gpm for indoor water use; and
- 1,420 gpm for irrigation use.

**It appears that the District has 1,000 gpm excess source capacity, and has adequate source capacity to serve the Farmstead Estates Subdivision.**

### **Storage Capacity**

Based on the Division records and 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	Million Gallon Tank	1,000,000
ST002	2 Million Gallon Tank	2,000,000
ST003	250 K Gallon Tank	250,000
ST004	3 MG Tank – Temporary OP	3,000,000
	<b>Total</b>	<b>6,250,000</b>

From the table above, the Division estimates the District's water storage capacity to be 6,250,000 gallons.

The attached capacity calculation work sheet estimates the minimum storage capacity required for the District is 1,021,008 gallons based on indoor water use only.

**It appears that the District has 5,228,992 gallons excess storage capacity, and has adequate storage capacity to serve the Farmstead Estates Subdivision.**

### **Summary**

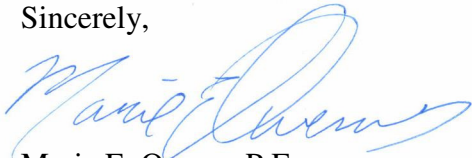
Based on information made available to the Division, it appears that at the present time the District has sufficient source and storage capacities to provide drinking water service to the proposed Farmstead Estates Subdivision.

The District submitted a Project Notification Form for the Farmstead Estates Subdivision on May 15, 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.

Val Surrage  
Page 4 of 4  
May 23, 2017

If you have any questions regarding this letter, you can contact Kelly Casteel at (801) 536-4265.

Sincerely,



Marie E. Owens, P.E.  
Director

KDC/nl/dg/hb

Enclosure — Water System Capacity Calculation Sheet and PNF

cc: Louis Cooper, Environmental Health Director, Weber-Morgan Health Dept., [lcooper@co.weber.ut.us](mailto:lcooper@co.weber.ut.us)  
Sean Wilkinson, Weber County Planner, [swilkinson@co.weber.ut.us](mailto:swilkinson@co.weber.ut.us)  
Jared Andersen, P.E., Weber County Engineer, [jandersen@co.weber.ut.us](mailto:jandersen@co.weber.ut.us)  
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Ross Hansen, Regional Engineer, Division of Water Rights, [rosshansen@utah.gov](mailto:rosshansen@utah.gov)

DDW-2017-005761.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:

Date Rec'd:

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

System Name: Taylor West Weber Water District

System Number: 29019

Address: 2815 W 3300 S

City, State, Zip: West Haven, Utah 84401

Present No. of ERC's system is obligated to serve: 2645

Present No. of ERC's physically connected to system: 2118

Population Served: 7413

No. of ERC's this project will add to system: 18

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

Name: Val Surrage

Title: 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@qecivil.com

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

Name: E. Hal Christensen

Address: P.O. Box 13059

City, State, Zip: Ogden, UT 84412

Phone No: (801) 458-9647

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

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

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

Name: Clay Penman

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

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

Farmstead Estates Subdivision: Approx. 1,300 feet of 10" C900 DR14 PVC waterline (bell and spigot), 3 FHs, mainline valves, and services to 18 lots. Inspector will ensure minimum separation standards from sewer lines as set forth in R309-550-7. This subdivision is located on the west side of 3500 W. at approximately 2665 S. in western Weber County. A feasibility analysis from the DDW similar to File #10285 is requested.

## 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 (Last Update 3/30/2017)

*\*Enter the green cells only\**

System Name **Taylor West Weber (May 19, 2017)**

System Number **29019**

## 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 -----

**2,645**

Number of other connections - - - - -

**18**

ERCs of other connections

**18.0**

(Example: water use of 2 factories equals to water use of 55 homes.)

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

Total Equivalent Residential Connections (ERCs) **2,663.0**

MIN. REQUIREMENTS FOR INDOOR WATER USE			
Source		Storage	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
800	1,479.4	400	1,065,200

## 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 ----- >>

**470**

Percentage of Residential ERCs using DW for irrigation ----- >> :

**18%**

Average irrigated acreage per residential connection ----- >>

**0.75**

Total irrigated acreage of other connections (park, school, etc.) ----- >>

**6.00**

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

Enter total irrigated acres of other connections here.

Irrigation zone

**4**

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

MIN. REQUIREMENTS FOR IRRIGATION USE			
Source		Storage	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
4,277	1,419.7	2,136	1,021,008

## 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 REQUIREMENTS FOR WATER SYSTEM			
Source (indoor + outdoor)		Storage (indoor + outdoor + fire)	
gpd/ERC	Total (gpm)	Gallons/ERC	Total (gallons)
5,077	2,899.1	2,536	2,206,208

### 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 2,899.1 **gpm**

Autolink to 2 "Total Source" cell above.

Existing Source Capacity 3,900.0 **gpm**

Autolink to 4.2 "Total Existing Source Capacity" cell below.

Source Capacity Deficit None **gpm**

Source deficit indicates that: (1) additional source capacity is needed, and (2) source deficiency should be assessed.

Existing % of Total Req'd 134.5%

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>	2,206,208	gal	Autolink to 2 "Total Storage" cell above.
<b>Existing Storage Capacity</b>	6,250,000	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>	283.3%		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.)

Facility Type	MINIMUM REQUIREMENTS FOR INDOOR USE		Storage		ERC/site or pad	Total # of sites/pads	ERCs
	Source	Storage	Gallon/person	Gallon/site or pad			
Modern Recreation Camp	60 GPD/person*	0 GPD/site or pad	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

*Number of people per camp site* → 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**  
Taylor West Weber (May 19, 2017)

**4.1 Projected ERCs Calculation (optional)**

<b>Total Projected ERCs</b>	<b>2,663</b>
Existing Residential Connections	2645
Obligated Future ERCs (enter below)	18
Farmstead Estates Subdivision	18

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.

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

<b>Total Existing Source Capacity (in gpm)</b>		<b>3,900</b>
WS001	Big Well	900
WS002	Small Well - inactive	0
WS003	Weber Basin WCD CC	2000
WS004	900 South Well	1000
WS005	Shop Well - proposed	0
Maximum ERCs (assuming indoor use only)		7020

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

<b>Total Existing Storage Cap. (in gallons)</b>		<b>6,250,000</b>
ST001	Million Gallon Tank	1,000,000
ST002	2 Million Gallon Tank	2,000,000
ST003	250 K Gallon Tank	250,000
ST004	3 MG Tank - Temporary C	3,000,000