State of Utah

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Department of
Environmental Quality

Alan Matheson
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DIVISION OF DRINKING WATER
Marie E. Owens, P.E.
Director

October 19, 2017

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

Subject: **Feasibility Evaluation**, Drinking Water Service to Terakee Village PRUD Subdivision; **Notice of Ceasing Issuance of Routine Feasibility Evaluations**; Taylor-West Weber Water District; System # 29019, File # 10985

This letter 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 Terakee Village PRUD Subdivision on October 3, 2017.

I. Feasibility Evaluation — Drinking Water Service to Terakee Village PRUD Subdivision

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 following information:

- 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 October 3, 2017, that the District currently is obligated to serve 2,879 ERC's, and that the proposed Terakee Village PRUD Subdivision will add 79 new residential connections and one assisted living center (83 ERC's). Therefore, our estimate is based on a total of 2,262 ERC's (i.e. 2,179 plus 83 new ERC's).
- Irrigatable acreage — provided by the District in the last sanitary survey
- Fire flow — as 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 the water system. The Division of Drinking Water's feasibility evaluation addresses only the first two components (i.e., source and storage capacities). Please consult with the Division of Water Rights directly for verification and interpretation of water rights, as the Division of Water Rights is the authority for water rights related regulations.

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

- A water system must to be able to provide 800 gallons per day (gpd) per ERC from its water sources; and
- A water system must be able to provide 400 gallons of storage per ERC.

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 District, the District has the following drinking water sources and a total of 5,033 gallons per minute (gpm) source capacity.

Source Number	Water Source Name	Safe Yield (gpm)
WS001	Big Well	900
WS002	Small Well	Inactive
WS003	Weber Basin WCD Contract	2,000
WS004	900 South Well	1,000
WS005	Shop Well	1,133
Total		**5,033**

The attached capacity calculation work sheet estimates the minimum source capacity required for the District is 3,065 gpm. This estimate includes:

- 1,645 gpm for indoor water use; and
- 1,420 gpm for irrigation use.

It appears that the District has adequate source capacity to serve the proposed Terakee Village PRUD Subdivision, with 1,967 gpm of excess source capacity.

Storage Capacity

Based on the Division records and the information provided by the District, the District has the following storage tanks in service and a total of 6,250,000 gallons storage capacity.

Storage Tank Number	Source Name	Volume (gallons)
ST001	Million Gallon Tank	1,000,000
ST002	2 Million Gallon Tank	2,000,000
ST003	250 K Gallon Tank	250,000
ST004	3MG Tank	3,000,000
Total		**6,250,000**

The attached capacity calculation work sheet estimates the minimum storage capacity required for this water system is 2,325,808 gallons. This estimate includes:

- 1,184,800 gallons for indoor water use;
- 1,021,008 gallons for irrigation use; and
- 120,000 gallons for fire flow.

It appears that the District has adequate storage capacity to serve the proposed Terakee Village PRUD Subdivision, with 3,924,192 gallons of excess storage capacity.

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 Terakee Village PRUD Subdivision**.

In addition, the District submitted a project notification form on October 3, 2017, and was granted a Plan Review Waiver by the Division that allows the construction of this subdivision to proceed once approval is granted by Weber County.

II. Ceasing Issuance of Routine Feasibility Evaluations by Division of Drinking Water

Please note that, due to rule changes to Utah Administrative Code *R309-500* **effective starting November 3, 2017**, **the Division of Drinking Water (the Division) will no longer prepare feasibility evaluations on a routine basis**. The Division's intent of ceasing routine feasibility evaluations was previously communicated to both Weber-Morgan County Health Department and the Taylor West Weber Water District via email on September 28, 2017. The Division's rule changes do not affect Weber County's subdivision application requirements.

It is our opinion that local government has the authority over local planning and zoning and subdivision plat approval issues. It is our understanding is that Title *106-1-4(b)(4)* of Weber County Ordinances requires a subdivision application submittal include a "*written statement of feasibility from the county or state health department which states the recommendation of the health department regarding (a) sanitary sewage disposal, (b) culinary water availability; and (c) a project notification form from the Utah State of Department of Environmental Quality, Division of Drinking Water.*" Therefore, we recommend that, in the future, Taylor West Weber Water District (the District) work with Weber County and the appropriate health department authority to fulfill Weber County's feasibility evaluation requirement.

The District is still required to submit a Project Notification Form to the Division of Drinking Water for future projects that meet the definition of a public drinking water project as defined in *R309-500-5(1),* but a feasibility evaluation will not be prepared by the Division on a routine basis.

If you have any questions regarding this letter, you can contact me either by phone at (801) 536-4188 or e-mail ymacauley@utah.gov.

Sincerely,

Ying-Ying Macauley, P.E.
Engineering Section Manager
Division of Drinking Water

CH/ym/hb

Enclosures — Project Notification Form Received October 3, 2017; Capacity Calculation Work Sheet

cc: Michela Gladwell, Environmental Health Director, Weber-Morgan Health Dept., mgladwell@co.weber.ut.us
Val Surrage, Taylor West Weber Water District, taylorwestweberwater@msn.com
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
Camron Harry, Division of Drinking Water, caharry@utah.gov
Ross Hansen, Regional Engineer, Division of Water Rights, rosshansen@utah.gov

Division of Drinking Water — Water System Capacity Calculation Sheet

Enter the green cells only

System Name Taylor West Weber Water District **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: 2,879

Number of other connections: 0 — ERCs of other connections: 0.0

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

Total Equivalent Residential Connections (ERCs): **2,962.0**

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)
800	**1,645.6**	400	**1,184,800**	0.45	1332.90

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: 16%

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.

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)
4,277	**1,419.7**	2,136	**1,021,008**	1.40	670.40

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)
5,077	**3,065.2**	2,536	**2,325,808**	1.85	2,003.30

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	3,065.2	***gpm***
Existing Source Capacity	5,033.0	***gpm***
Source Capacity Deficit	**None**	***gpm***
Existing % of Total Req'd	**164.2%**	
Difference	**1,967.8**	***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.

Total Required Storage	2,325,808	***gal***	Autolink to 2 "Total Storage" cell above.
Existing Storage Capacity	6,250,000	***gal***	Autolink to 4.3 "Total Existing Storage Capcity" cell below.
Storage Capacity Deficit	**None**	***gal***	Storage deficit indicates that: (1) additional storage volume is needed, and (2) storage deficiency should be assessed.
Required Fire Storage	120,000	***gal***	
Is storage deficiency solely due to fire storage?	**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.
Existing % of Total Req'd	**268.7%**		Less than 100% indicates: (1) additional storage capacity is needed, and (2) storage deficiency should be assessed.
Difference	**3,924,192**	***gal***	

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

MINIMUM REQUIREMENTS FOR INDOOR USE

Facility Type	Source GPD/person*	Source GPD/site or pad	Storage Gallons/person	Storage Gallon/site or pad	ERC/site or pad	Total # of sites/pads	ERCs
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							

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

	Source (GPD/vehicle)	Storage (Gal./vehicle)	ERC/1000 vehicles served	Vehicles served/day	ERCs
Roadway Rest Stop *w/ flushometer valves*	7	3.5	8.8		**0.0**

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 Water District

4.1 Projected ERCs Calculation (optional)

Total Projected ERCs	**2,962**
Existing Residential Connections	2,879
Obligated **Future** ERCs *(enter below)*	83
Terakee Village PRUD Sub	*83*

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

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

Total Existing Source Capacity (in gpm) **5,033**

WS001	*Big Well*	*900*
WS002	*Small Well-inactive*	*0*
WS003	*Weber Basin WCD CC*	*2000*
WS004	*900 South Well*	*1000*
WS005	*Shop Well - proposed*	*1133*

Maximum ERCs (assuming indoor use only) *9059.4*

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.

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

Total Existing Storage Cap. (in gallons) **6,250,000**

ST001	*Million Gallon Tank*	*1,000,000*
ST002	*2 Million Gallon Tank*	*2,000,000*
ST003	*250 K Gallon Tank*	*250,000*
ST004	*3MG tank*	*3,000,000*

Print Form | Submit by Email

PROJECT NOTIFICATION FORM (PNF)

File No: 10985
Date Rec'd: 10/3/2017

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

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

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: 2879
Present No. of ERC's physically connected to system: 2179
Population Served: 7626
No. of ERC's this project will add to system: 83

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

Name: Val Surrage
Title: Manager
Address: Same
City, State, Zip:
Phone No: 801.540.6068
E-Mail Address: taylorwestweberwater@msn.com

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: Great Basin Engineering
Address:
City, State, Zip: Ogden, Utah
Phone No: 801.621.3100 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]

Terakee Village PRUD Subdivision: Approx. 4760 feet of 10" and 2475 feet of 8" C900 DR14 PVC waterline (bell and spigot), 11 FHs (estimated until AHJ reviews), mainline valves, and services to 79 residential lots and 1 assisted living center (4 ERCs). Inspector will ensure minimum separation standards from sewer lines as set forth in R309-550-7. This subdivision is located at 900 S and 4600 W in Weber County. A feasibility analysis from the DDW similar to File #10855 is requested.

7 Anticipated Construction Schedule:

Advertise for Bids: Unknown, 2018 likely
Bid Opening: Unknown, 2018 likely
Begin Construction: Unknown, 2018 likely
Complete Construction: Unknown, 2018 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)

Revised: Nov 2013

[PNF = Project Notification Form; PWS = Public Water System; DDW = Division of Drinking Water; ERC = Equivalent Residential Connection; PE = Professional Engineer; SRF = State Revolving Fund]