State of Utah
GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

MEMORANDUM

TO: All Parties Involved

FROM: Ben Holcomb, Biological Assessment Program Coordinator

DATE: March 25, 2014

SUBJECT: Grantsville Public Water Works Discharge

Attendance: DWQ—Ben Holcomb, Nick Von Stackelberg, Dan Griffin

Grantsville Public Water Works—Ron Griffin

Background:

An initial field review of the receiving waters ('Blue Lakes') for Grantsville Public Water Works (GPWW) discharge was conducted on March 24, 2014 to verify the designated beneficial uses. The GPWW plant is a lagoon-style facility comprising nine treatment cells. The outfall for the discharge is located at 40.618296, -112.442805 (Figure 1). From there, the effluent flows north through a man-made ditch ~250 meters where it meets a seasonal depression-wetland (see photos). The wetland area is the southern-most component of a connected wetland-complex referred to as the 'Blue Lakes'. According to the wastewater operator, Ron Griffin, the Blue Lakes were created in 1948 as a Soil and Conservation District project to serve as a reservoir for irrigation water. From aerial photos, the complex consists of approximately 3-4 'lakes' that collected snowmelt, diversions from Fishing Creek, and the discharge from GPWW. The water in each ponded area was likely controlled by structures between ponds. According to Griffin, the local landowner and irrigator, Russell Johnson, breached these structures circa 2008. Since then, water no longer pools up as lakes, but flows through these areas before diversion into canals for irrigation. Currently, the lake areas are best described as seasonal wetlands that have shallow pools during the spring runoff season (see photos 1 & 2) and become dry shortly thereafter. As such, there is no evidence of a fish community in these wetlands. In the event these areas held water for a longer period of time, it would be difficult for fish to navigate up-gradient due to the defunct water control structures through the dikes (see photo 3 & 4). Furthermore, the water exiting 'downstream' of the Blue Lakes complex appears to be used entirely for irrigation and there is no evidence that it is connected to other water bodies (let alone waters with protective aquatic life uses), so that fish colonizing the receiving water (when it exists) would be highly unlikely.

Currently there is not a formal assessment unit associated with the discharge point; therefore, there are no formal designated aquatic life uses (or other designated uses) for the receiving water. Typically, in these instances, a default aquatic life use (ALU) is assumed: "Class 3D- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain" (Utah Code: R317-2-6.3d). Based on the evidence that was described above, the default ALU (Class 3D) for the receiving water for the GPWW discharge is correct. The other presumptive use, 'Secondary contact recreation': "Class 2B- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing" (Utah Code: R317-2-6.2b) applies. Finally, due to the irrigation use of the receiving water, "Class 4- Protected for agricultural uses including irrigation of crops and stock watering" (Utah Code: R317-2-6.4) will also be applied. Therefore, the GPWW discharge will be protective for 2B, 3D, and 4 use classes (Utah Code: R317-2-6). Because the receiving water is subject to connectivity modifications, it would be prudent to review the designated uses (especially the ALU) before permit renewals. If the receiving water was to become permanent (i.e. ponds/reservoirs) and if connectivity to other surface waters were established, the ALU designation may need amending.

Figure 1. Google Earth image of Grantsville treatment cells and marker of where discharge meets receiving water.

Photo 1. Image of discharge ditch looking north in the direction of flow. Note the vegetation color change from sage uplands, to tan field, and finally green-brown of seasonal wetland receiving water.

Photo 2. Image looking southeast across seasonal wetland towards discharge point. The yellow arrow is pointing at the discharge ditch as it exits the sage uplands and enters the field. The red arrow is pointing at the ditch as it meets the receiving water.

Photo 3. View from the top of dike looking south; below is the old control structure.

Photo 4. View from the top of dike looking north. Receiving water as it exits the ponded wetland unit.