

# NORTH UTAH COUNTY WATER CONSERVANCY DISTRICT

Serving Lehi, Highland, Alpine, American Fork and Pleasant Grove

75 North Center  
American Fork, Utah 84003  
Telephone 801-756-7039  
Fax 801-756-6072

Hunt Willoughby, Chairman/President  
Michael Chambers, Vice-Chairman/ Vice-President  
Ron Stewart, Secretary/Treasurer  
John H. Jacobs, Attorney

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March 17, 2017

Walt Baker, Director  
Utah Division of Water Quality  
P.O. Box 144870  
Salt Lake City, UT  
84114-4870

Re: Tibble Fork Dam Sediment Release – Sediment Remediation Plan

Dear Mr. Baker,

In a letter dated February 28, 2017, the North Utah County Water Conservancy District (NUCWCD) provided its sediment remediation plan in response to the August 20, 2016 sediment release during dam reconstruction activities at the Tibble Fork Dam. In a letter dated March 8, 2017, NUCWCD provided revision 2 of the plan in response to comments received from Division of Water Quality (DWQ) staff. In a letter dated March 13, 2017, DWQ commented on the revised plan. As hauling operations were about to begin when this letter was received, NUCWCD spoke with DWQ staff on March 13, 2017, to confirm that sediment loading and hauling could continue.

Sediment removal from the Highland City Irrigation Basin and the American Fork Irrigation Basin was substantially completed on March 16, 2017. A total of 46 loads (truck plus pup) were removed from the two basins, for a total of approximately 1,748 tons or 1,248 cubic yards. This letter provides revision 3 to the sediment remediation plan and summarizes activities completed to date.

Sediment remediation activities are grouped by the general categories Cleanup and Removal, Waste Hauling and Disposal, and Sampling.

## **Cleanup and Removal**

1. Excess water was channeled out of each irrigation basin.
2. The amount of sediment in each basin was estimated to be from 500 to 750 cubic yards for each basin (1000 to 1500 cubic yards total).
3. With the assistance and under the direction of the Highland and American Fork Public Work Departments, the sediments were moved and piled at the east end of each basin using a front-end loader.
4. Hand clean sediment from corners and other inaccessible locations. A skid steer loader was also used for this activity.
5. Clean out the sediment and debris from around the entrance sump.

6. Sediment from the American Fork Weir and the Cedar Hills Weir will be removed and allowed to dewater. This activity is tentatively scheduled to begin the week of March 20, 2017.
7. Soil stockpiles were blended to provide consistent moisture content for the disposal facility and to control fugitive dust.

### **Waste Hauling and Disposal**

1. Okleberry Trucking loaded the material into side dumps with pups for transport to the disposal facility.
2. Truck routes followed the map provided with revision 1 and 2 of this plan.
3. All material was disposed at the Intermountain Regional Landfill located at 800 South Allen Ranch Road, approximately three miles south of Fairfield, Utah. This facility has reviewed analytical results for the sediments and confirmed their acceptability for disposal.
4. The total volume of soil transported is estimated by truck volume or scale weight.
5. Additional sediments to be removed from the American Fork Weir will be hauled and disposed by the same methods, with the exception that specific trucks may vary depending on equipment availability.
6. Sediment removal from the Highland City Irrigation Basin and the American Fork Irrigation Basin was substantially complete on March 16, 2017. Remaining work is estimated to be completed on or before March 31, 2017.
7. A summary report confirming completion and volume disposed will be provided to DWQ by April 30, 2017.

### **Sampling**

No additional sampling beyond that already reported to the Utah Division of Waste Management and Radiation Control (DWMRC) has been or will be performed for sediments removed from the basins or currently located in the weirs. Additional sediments associated with the August 2016 release from Tibble Fork Dam are likely to accumulate in these areas during spring 2017 runoff, and potentially to continue to do so in later years. Accordingly, the following sampling protocol will be implemented:

1. A sampling date will be determined in early fall, once the irrigation basins have emptied following the irrigation season.
2. In addition, a total of 5 grab samples will be taken from the debris basin (i.e., the large catch basin identified in item 4 of the DWQ March 13, 2017 letter). The debris basin will be sampled when it is not receiving water, in late summer (due to water diversion for irrigation). This is anticipated to occur sometime around August 1.
3. A total of 5 grab samples will be taken from each irrigation basin, at locations consistent with the initial samples taken in October 2016. One composite sample will be taken from the American Fork Weir. Due to the small volume of sediment, one grab sample will be taken from the Cedar Hills Weir. Note that field adjustment to the specific sample location may be necessary if soil is inaccessible or not present in the same location as previously sampled.
4. Each sample will be analyzed for 8 total metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver). In addition, a single sample from the Highland City

Irrigation Basin, the American Fork Irrigation Basin, and the debris basin will be analyzed to differentiate between chromium-III and chromium-VI.

5. Sample results will be compared to background sediment metals concentrations. Background data sources will include past and continuing sediment samples taken above the Tibble Fork Reservoir, including at a minimum those reported in DWQ, "Evaluation of UDEQ Water Quality Data following the Tibble Fork Reservoir Sediment Release," page 11, MLID #5912840.
  - a. If all sediment samples for a location are at or below background concentrations, sediment from that location may be used as backfill for non-residential public works projects, subject to approval by DWMRC.
  - b. If any sediment sample for a location is above background concentrations, the following options apply:
    - i. Further analysis may be performed and presented to DWMRC requesting approval to use the sediment as backfill. This option may be selected if the results are generally close to background and the sediment can be demonstrated to be safe for its intended use. DWMRC written approval would be required for this option to be implemented.
    - ii. Sediment from the affected location may be disposed at a permitted facility consistent with the spring 2017 remediation. Prior approval would not be required for this option to be implemented.
6. Sample results and sediment management plans, including a schedule for the annual cleanout, will be reported to DWMRC and DWQ within 30 days of receipt of the lab reports.
7. This sampling protocol will continue in subsequent years until sediment accumulating in each location is at or below background concentrations.

### Summary

All work has been and will continue to be supervised by Alan K. Jenkins with the NUCWCD. He can be contacted at (801) 855-3838.

Thank you for your consideration of this issue.

Respectfully,



John H. Jacobs

Attorney for the North Utah County Water  
Conservancy District