COLORADO
Division of Water Resources
Department of Natural Resources

June 25, 2024

Walter M. Niccoli, P.E.
Telesto Solutions, Inc.
750 14th Street SW
Loveland, CO 80537

**RE: Laporte Operations Substitute Water Supply Plan (WDID 0302532, Plan ID 5958)**
**Knox Pit, DRMS Permit No. M-2017-036 (WDID 0307920)**
**SW¼ Section 28, Township 8 North, Range 69 West, 6th P.M.**
**Water Division 1, Water District 3, Larimer County**

**Approval Period: January 1, 2024 through December 31, 2024**
*Contact Information for Mr. Niccoli: 970-484-7704; wniccoli@telesto-inc.com*

Dear Mr. Niccoli:

We have reviewed your report received on January 3, 2024, requesting approval of the above referenced substitute water supply plan ("SWSP") in accordance with section 37-90-137(11), C.R.S. The SWSP is requested to cover depletions associated with the Knox Pit sand and gravel mining operation, operated by Loveland Ready-Mix Concrete, Inc. ("LRM" or "Applicant"). The required renewal fee of $257 has been submitted (receipt no. 10033577). The SWSP for this site was initially approved on April 17, 2020 and was most recently renewed for operations through December 31, 2023.

**SWSP Operations**

The Knox Pit site consists of approximately 125 acres located just east of Laporte, Colorado. The Larimer County Board of County Commissioners conditionally approved operations at the site in January of 2019; however, prior to the County issuing a building permit, a lawsuit halted all County permit issuances on the project. At that time, groundwater had been exposed in the Water Management Pond, but mining of the site had not yet begun. County approval to continue site preparation was granted in 2022 and LRM completed site construction in 2023. LRM plans to begin mining and batch-plant operations in 2024. LRM will continue excavation of the Water Management Pond and plans to begin producing concrete in March 2024. Mining of the site is anticipated to occur in five phases, consisting of approximately 17 acres each, and be completed over a period of 10 to 12 years. Material will be mined below the groundwater table, and the mining excavations will be dewatered. Water collected by the dewatering system will be pumped to the unlined Water Management Pond and used onsite for dust suppression, aggregate washing, concrete production, and truck washing. Storm water falling on the site is proposed to be captured in a storm water tank and pumped to the Water Management Pond. Water placed in the Water Management Pond that is not pumped for operational uses will be allowed to seep into the ground and will be accounted for as an

accretion to the river. The site will also contain a recirculated wash water/reclaim pond to help manage the water supply. This pond will be shallow and will be constructed above the groundwater table. As mining progresses, a compacted liner will be placed around the perimeter of the mine to seal the post-mining pits from the surrounding groundwater system. A perimeter drain will be installed between the compacted liner and the alluvial aquifer concurrent with the placement of the compacted liner to allow for groundwater flow around the site. Upon completion of mining, the site is proposed to be reclaimed to pasture/rangeland. During this plan period, replacement water will be provided pursuant to an agreement with the North Weld County Water District.

**Water Management**

You have developed a numerical groundwater model, calibrated to water level measurements taken from wells located adjacent to and around the proposed Knox Pit, to establish time- and mining-phase-dependent inflow rates, and the relationship between the water level in the Water Management Pond and anticipated groundwater inflows or outflows. The Water Management Pond will effectively act as a recharge pond when receiving dewatering water and/or storm water runoff in excess of the amount needed for operations at the site.

LRM has been dewatering the Water Management Pond since June 2022 and will continue to dewater the Water Management Pond as excavation continues. Water pumped from the Water Management Pond for dewatering purposes is returned to an infiltration area on site. Once excavation of the Water Management Pond is complete, the Phase 2 Pit will be dewatered using the Phase 2 Sump, with dewatering water delivered to the Water Management Pond. The dewatering discharge from the Water Management Pond or from the active mine sump to the Water Management Pond will be measured using a totalizing flow meter.

Storm water falling on the active mine site will be collected in a settling basin and will gravity-flow to the Water Management Pond. A tipping bucket rain gage will be installed onsite to collect daily precipitation data. Storm water inflows into the Water Management Pond must either be directly measured or calculated based on the drainage area and on-site precipitation.

**Depletions**

The surface area of the Water Management Pond is expected to remain at 0.15 acres until June 2024 at which time the surface area will increase to 5 acres. In January and February 2024 0.25 acres of groundwater will be exposed in the Reclaim Pond and dewatering trenches, and beginning in March 2024, it will increase to 0.50 acres. You have estimated evaporation from the exposed groundwater surfaces using a gross annual evaporation of 38.28 inches based on the "free water surface" (FWS) evaporation from NOAA Technical Report NWS 33. The applicant may alternately calculate gross evaporation at the site based on the local evapotranspiration (ET) data published by the Northern Colorado Water Conservancy District for the Fort Collins Central (228) weather station when such data is available. The reported ET for alfalfa will be multiplied by the reported daily pan coefficient to calculate pan evaporation. Pan evaporation will be multiplied by 0.7 to calculate pond evaporation. A factor of 0.7 should <u>not</u> be applied to the "free water surface" (FWS) evaporation obtained from NOAA Technical Report NWS 33. For the purposes of this SWSP, you have assumed that no precipitation will occur at the site. Based on the projected operations and assumptions, the depletion due to evaporation from exposed groundwater surfaces at the site is projected to total 12.39 acre-feet for this plan period. The applicant may take a credit for the amount of groundwater

and precipitation historically consumed by native vegetation on the areas under the free water surface, estimated as 70 percent of the total precipitation measured at the site for each month. This calculated amount would be subtracted from the monthly gross evaporation rate to obtain the monthly net evaporation rate.

Water used for truck washing will be pumped from the Water Management Pond. Truck washing will occur on a concrete pad. The water used for this purpose will be recycled, with any runoff being routed to a storm water pond and discharged in accordance with the stormwater pollution prevention permit/plan for the site. Therefore, the only depletion associated with truck washing will be due to evaporation from the concrete pad. The area of the concrete pad has been included in the calculations for evaporation at the site.

Water for dust control purposes will also be pumped from the Water Management Pond. For the period of January through May, prior to active mining at the site, it is anticipated that 8,000 gallons of water per month will be used for dust control purposes, based on 2023 operations. Beginning in June, you have estimated that 55,400 gallons of water per month will be required for dust control purposes, based on operations at LRM's Johnstown site. All water used for dust control purposes is assumed to be 100% consumed.

The estimated monthly consumptive use due to evaporation from the Water Management Pond, and the combined consumptive use due to evaporation from the Reclaim Pond, dewatering trenches, truck wash pad, and from water used for dust control purposes during this plan period are shown under Evaporation on the attached Table 1. The consumptive use of groundwater for these non-production purposes is estimated to total 13.70 acre-feet for this plan period.

You have projected that 194,792 tons of mined aggregate will be removed from the site during this plan period, beginning in March 2024. The material will be mined below the groundwater table, but in a dewatered state. The material will be washed, therefore the moisture content is considered to be 4% of the mined material by weight, all of which is considered to be a groundwater diversion. This results in a consumptive use of 5.73 acre-feet for the projected 194,792 tons of washed material.

The mined aggregate will be used for the production of an estimated 129,856 cubic yards of concrete at the site during this plan period, beginning in March 2024. A volume of 30 gallons of water is required per cubic yard of concrete produced. Water demands for concrete production are therefore estimated to total 12.0 acre-feet for this plan period. Water used for concrete production is considered to be 100% consumed.

The estimated monthly consumptive use due to water removed with the mined aggregate and water used for concrete batching are shown under Production on the attached Table 1. The consumptive use of groundwater for these production purposes is estimated to total 17.73 acre-feet for this plan period. Consumptive use due to evaporation (including truck washing and dust control) and production purposes at the site will therefore total 31.36 acre-feet during this plan period.

**Lagged Recharge/Depletions**

The Water Management Pond will be dewatered through this plan period, with water delivered to onsite recharge in either Phase 1-2, Phase 2-3, Phase 3-4, or Phase 4-5. Groundwater pumped for dewatering purposes will be measured with a totalizing flow meter and reported in the monthly accounting. The monthly groundwater accretions from the delivery of water to recharge are calculated as the amount of water pumped for dewatering purposes, minus the operational and evaporative consumptive use of water at the site as described above. The depletions from dewatering and accretions from recharge at each location were calculated using the Alluvial Water Accounting System (AWAS) program developed by the Integrated Decision Support (IDS) Group at Colorado State University with the alluvial aquifer boundary condition. The location where water is delivered for recharge will be indicated in the submitted accounting. Depletions/accretions are assumed to impact the Cache la Poudre River at a point perpendicular to the location of dewatering/recharge, all within the SW¼ of the NW¼ of Section 32, Township 8 North, Range 69 West, 6$^{th}$ P.M.

Lagged depletions from dewatering of the Water Management Pond are calculated using the following parameters:

- Distance from the Water Management Pond to the river (X) = 4,250 feet
- Distance from the river to the no-flow boundary (W) = 6,000 feet
- Specific yield (S) = 0.20
- Transmissivity (T) = 50,000 gallons per day per foot

Lagged accretions to the river from recharge water delivered to each site are calculated using the following parameters:

- Distance from the Phase 1-2 to the river (X) = 3,270 feet
- Distance from the Phase 2-3 to the river (X) = 3,260 feet
- Distance from the Phase 3-4 to the river (X) = 4,140 feet
- Distance from the Phase 4-5 to the river (X) = 4,670 feet
- Distance from the river to the no-flow boundary (W) = 6,000 feet
- Specific yield (S) = 0.20
- Transmissivity (T) = 50,000 gallons per day per foot

After accounting for recharge accretions within the month they accrue to the stream, you have calculated net lagged depletions resulting from operations at the site to total 12.92 acre-feet for this plan period as shown on the attached Figure 7. Using the previously provided URFs, past accounting submittals, and projected depletions/recharge for this plan period, the SEO has calculated lagged depletions to total 12.66 acre-feet for this plan period.

**Replacements**

Replacement water will be provided via a lease with the North Weld County Water District ("NWCWD") with an effective date of October 25, 2019 for up to a maximum of 129 acre-feet of water per calendar year that has been decreed to allow for augmentation use or is otherwise fully consumable, including water from the Overland Trail Reservoir system. On or before October 15 of each year, LRM will provide NWCWD with an estimate of monthly depletions for the period of

November through October of the following water year. The term of the lease is for a minimum of five years after exposure of groundwater in Pond 1. The lease agreement limits annual consumptive use associated with Pond 1 (mining Phases 1 & 2) to 54 acre-feet per year.

The Overland Trail Reservoir system (WDID 0303312) consists of a series of existing off-channel lined gravel pits, located in portions of Sections 32 & 33, T8N, and Section 3, T7N, R69W, 6th P.M. as shown in the attached Figure 8. Water is stored in the lined ponds pursuant to the Overland Trail Reservoirs conditional water storage right decreed in case no. 2000CW0251. The liners for Overland Ponds 1-5 and Treiber Lake A have been approved by this office. The Overland Trail Reservoirs may be filled with water diverted from the Cache la Poudre River via the New Mercer Ditch, Larimer County Canal No. 2, the Overland Trail Diversion Structure, Munroe Gravity Canal (a/k/a North Poudre Supply Canal), and/or the Pleasant Valley Pipeline. The total decreed capacity of the Overland Trail Reservoirs is 10,962 acre-feet, conditional. Replacement water from the Overland Trail Reservoirs is proposed to be pumped into the Cache la Poudre River in the SE¼ of Section 33, Township 8 North, Range 69 West, 6th P.M., approximately one mile downstream of the Knox Pit. There are no intervening surface water diversions along this stretch of the river.

**Long Term Augmentation**

All sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The Colorado Division of Reclamation, Mining, and Safety ("DRMS") requires that you provide information to demonstrate you can replace long term injurious stream depletions that result from mining-related exposure of groundwater. Loveland Ready-Mix Concrete, Inc. has submitted a financial warranty in the amount of $788,900.00 for the Knox Pit, which the DRMS has determined equals the estimated costs of reclamation to the proposed post-mining land use of pastureland, including the backfilling, grading, and revegetation of the disturbed areas.

**Conditions of Approval**

I hereby approve the proposed SWSP in accordance with section 37-90-137(11), C.R.S., subject to the following conditions:

1. This SWSP shall be valid for the period of January 1, 2024 through December 31, 2024 unless otherwise revoked or superseded. If groundwater depletions associated with this sand and gravel mining operation will extend beyond the expiration date of this SWSP, a renewal request must be submitted to this office with the statutory fee (currently $257) **no later than November 1, 2024.** If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP, in which case the $1,593 filing fee will apply.

2. Well permit no. 84309-F has been obtained in accordance with sections 37-90-137(2) and (11), C.R.S., in conjunction with this plan, for the proposed uses of groundwater at the site, including evaporation of exposed groundwater, truck washing, dewatering, dust control, concrete production, and water removed with the mined product. Should additional uses of groundwater be required, a new well permit must be obtained.

3. Total depletions at the Knox Pit for evaporation, truck washing, dust control, concrete production, and water lost with the mined product during this plan period are limited to 31.4 acre-feet.

4. After accounting for dewatering depletions and recharge accretions within the month they impact the river, total lagged depletions resulting from operations at the site shall not exceed 12.66 acre-feet per year. Total depletions at the Knox Pit must not exceed this amount unless an amendment is made to this plan.

5. The Applicant must replace all lagged depletions resulting from operation under this SWSP, including those lagged depletions that occur to the stream after the expiration date of this SWSP. Based on the consumptive use shown in the attached Table 1 and aquifer parameters as stated herein, lagged depletions will extend through 2032 as shown in Table A attached to this SWSP.

6. All diversions shall be measured in a manner acceptable to the division engineer. The Applicant shall install and maintain measuring devices as required by the division engineer for operation of this SWSP.

7. **A staff gage must be installed in the Water Management Pond and approved by the water commissioner, and a stage-area-capacity table provided in order to receive credit for any accretions from dewatering or stormwater delivered to the Pond.**

8. The name, address and phone number of the contact person who will be responsible for the operation and accounting of this plan must be provided with the accounting form to the division engineer and water commissioner.

9. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be uploaded to the CDSS Online Reporting Tool (https://dwr.state.co.us/Tools/reporting) within 30 days of the end of the month for which the accounting applies. Instructions for using the tool are available on the Division of Water Resources website on the "Services" → "Data & Information" page under the heading of Online Data Submittal. Accounting and reporting procedures are subject to approval and modification by the division engineer. Accounting forms need to identify the WDID number for each structure operating under this SWSP. Additional information regarding accounting requirements can be found in the attached Augmentation Plan Accounting Protocol. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.

   The Applicant shall verify that the entity making replacements (the North Weld County Water District) has included the Applicant on their accounting submitted to this office.

10. All releases of replacement water must be sufficient to cover all out-of-priority depletions in time, place, and amount and must be made under the direction and/or the approval of the water commissioner. Notice must be provided and approval made by the water commissioner at least 48 hours prior to the release of replacement water, or as required by the water commissioner. The release of replacement water may be aggregated to maximize beneficial use. The water commissioner and/or the division engineer shall determine the rate and timing of an aggregated release.

11. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.

12. The replacement water which is proposed to be utilized in this SWSP cannot be sold or leased to any other entity during the term of this plan. All replacement water must be concurrent with depletions in quantity, timing and location.

13. Dewatering at this site will produce delayed depletions to the stream system. As long as the site is continuously dewatered, the water returned to the stream system via recharge will be used to partially offset the depletions, thus dewatering is required to continue during the term of this plan. Once dewatering at the site ceases, the delayed depletions must be addressed, including any depletions resulting from the gradual refilling of the Water Management Pond ("first fill"). At least three years prior to completion of dewatering at the Knox Pit, a plan must be submitted that specifies how the post-pumping dewatering depletions will be replaced, in time, place and amount.

14. The approval of this SWSP does not relieve the Applicant and/or landowner of the requirement to ensure the permanent replacement of all depletions, including long-term evaporation losses and/or lagged depletions after gravel mining operations have ceased. If reclamation of the mine site will produce a permanent water surface exposing groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses and lagged depletions. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.

15. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, which would lead to the abandonment of the pit, the Applicant has obtained a bond in the amount of $788,900.00, which includes the cost of backfilling the pond(s).

16. The state engineer may revoke this SWSP or add additional restrictions to its operation if at any time the state engineer determines that injury to other vested water rights has occurred or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all use of water at the pit must cease immediately.

17. In accordance with amendments to section 25-8-202(7), C.R.S., and Senate Bill 89-181 Rules and Regulations adopted on February 4, 1992, the state engineer shall determine whether the substitute supply is of a quality to meet requirements of use of senior appropriators. As such, water quality data or analysis may be requested at any time to determine if the water quality is appropriate for downstream water users.

18. The decision of the state engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any pending water court case or any other legal action that may be initiated concerning this plan. This decision shall not bind the state engineer to act in a similar manner in any other applications involving other SWSPs, or in any proposed renewal of this SWSP, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

Please contact Garrett Banks in Denver at (303) 866-3581 ext. 8222, or Michael Hein in Greeley at (970) 352-8712, if you have any questions concerning this approval.

Sincerely,

*for* Joanna Williams, P.E.
Chief of Water Supply

Attachments: Table A - Projected Lagged Depletions impacting the stream after the expiration date of this SWSP
Table 1 - Estimated Consumptive Use and Pumping Over the Requested SWSP Period
Figure 2 - Mining Phase 2 and Water Management Features
Figure 7 - Lagged Depletions/Required Replacements
Figure 8 - Approximate Locations of Depletion and Replacement
NWCWD lease agreement
Augmentation Plan Accounting Protocol

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us
1809 56th Avenue, Greeley, CO 80634

Louis Flink, Tabulation/Diversion Records Coordinator, Louis.Flink@state.co.us

Dawn Ewing, Accounting Coordinator, Dawn.Ewing@state.co.us

Mark Simpson, Water Commissioner, Water District 3, Mark.Simpson@state.co.us

Brock Bowles, Division of Reclamation Mining and Safety, Brock.Bowles@state.co.us

**Table A**
**Projected Lagged Depletions impacting the stream after the expiration date of this SWSP (acre-feet)**
**Knox Pit**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2025 | -2.22 | -2.46 | -2.46 | -2.43 | -2.33 | -2.21 | -2.08 | -1.96 | -1.83 | -1.71 | -1.58 | -1.48 | -24.75 |
| 2026 | -1.39 | -1.29 | -1.23 | -1.13 | -1.02 | -0.97 | -0.92 | -0.86 | -0.79 | -0.74 | -0.7 | -0.64 | -11.68 |
| 2027 | -0.58 | -0.54 | -0.53 | -0.51 | -0.47 | -0.43 | -0.39 | -0.36 | -0.35 | -0.32 | -0.3 | -0.31 | -5.09 |
| 2028 | -0.2 | -0.27 | -0.24 | -0.22 | -0.19 | -0.18 | -0.18 | -0.16 | -0.16 | -0.11 | -0.13 | -0.14 | -2.18 |
| 2029 | -0.16 | -0.11 | -0.08 | -0.09 | -0.1 | -0.08 | -0.07 | -0.07 | -0.06 | -0.06 | -0.05 | -0.09 | -1.02 |
| 2030 | -0.04 | -0.04 | -0.04 | 0.01 | -0.04 | -0.03 | -0.06 | -0.03 | -0.04 | -0.03 | -0.01 | -0.03 | -0.39 |
| 2031 | -0.05 | 0.01 | -0.04 | -0.03 | 0 | -0.01 | 0 | 0 | -0.03 | -0.01 | -0.01 | -0.02 | -0.20 |
| 2032 | 0 | -0.02 | -0.06 | 0 | 0.01 | 0.08 | 0 | -0.03 | -0.03 | 0 | 0 | -0.01 | -0.15 |

## Table 1 Estimated Consumptive Use and Pumping (AF) Over the Requested SWSP Period

| Item | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Evaporation (af)** | **0.06** | **0.07** | **0.14** | **0.21** | **0.27** | **2.71** | **2.80** | **2.54** | **1.92** | **1.40** | **0.87** | **0.70** | **13.7** |
| WMP (acre) | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | |
| Reclaim & Conveyance Channels (acre) | 0.25 | 0.25 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | |
| **Production (af)** | **0.00** | **0.00** | **1.79** | **1.73** | **1.79** | **1.73** | **1.79** | **1.79** | **1.73** | **1.79** | **1.73** | **1.79** | **17.7** |
| Concrete Production (cy) | | | 13,155 | 12,731 | 13,155 | 12,731 | 13,155 | 13,155 | 12,731 | 13,155 | 12,731 | 13,155 | 129,856 |
| Water Removed in Concrete (af) | 0.00 | 0.00 | 1.21 | 1.17 | 1.21 | 1.17 | 1.21 | 1.21 | 1.17 | 1.21 | 1.17 | 1.21 | 12.0 |
| Washed Aggregate (ton) | 4 | 4 | 19,733 | 19,097 | 19,733 | 19,097 | 19,733 | 19,733 | 19,097 | 19,733 | 19,097 | 19,733 | 194,792 |
| Water Removed Aggregate (af) | 0.00 | 0.00 | 0.58 | 0.56 | 0.58 | 0.56 | 0.58 | 0.58 | 0.56 | 0.58 | 0.56 | 0.58 | 5.73 |
| **Total Consumptive (af)** | **0.06** | **0.07** | **1.93** | **1.95** | **2.07** | **4.45** | **4.59** | **4.33** | **3.66** | **3.19** | **2.61** | **2.49** | **31.4** |
| **Pumping** | **27.4** | **24.7** | **27.4** | **26.5** | **27.4** | **26.5** | **27.4** | **27.4** | **26.5** | **27.4** | **26.5** | **27.4** | **323.** |

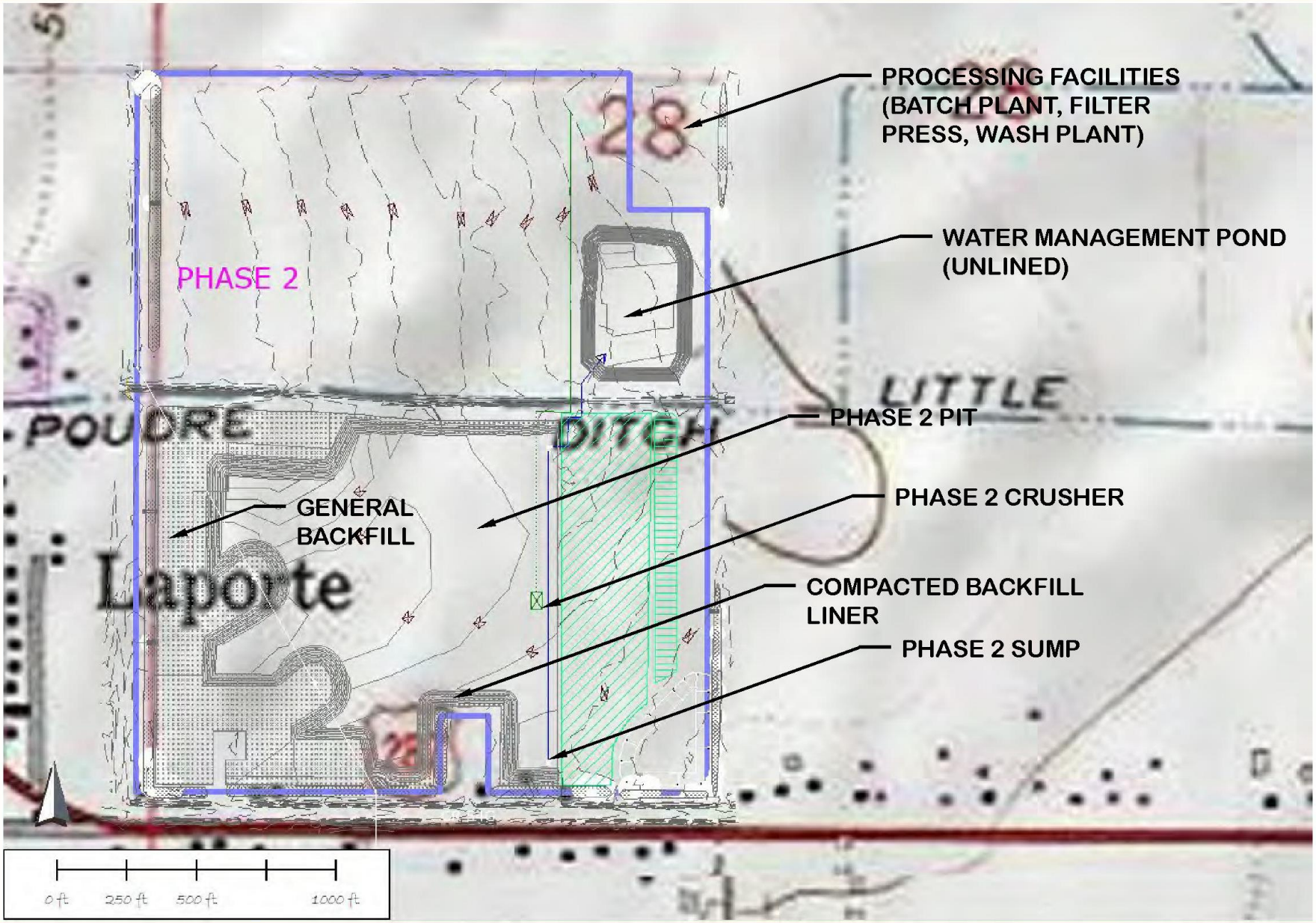


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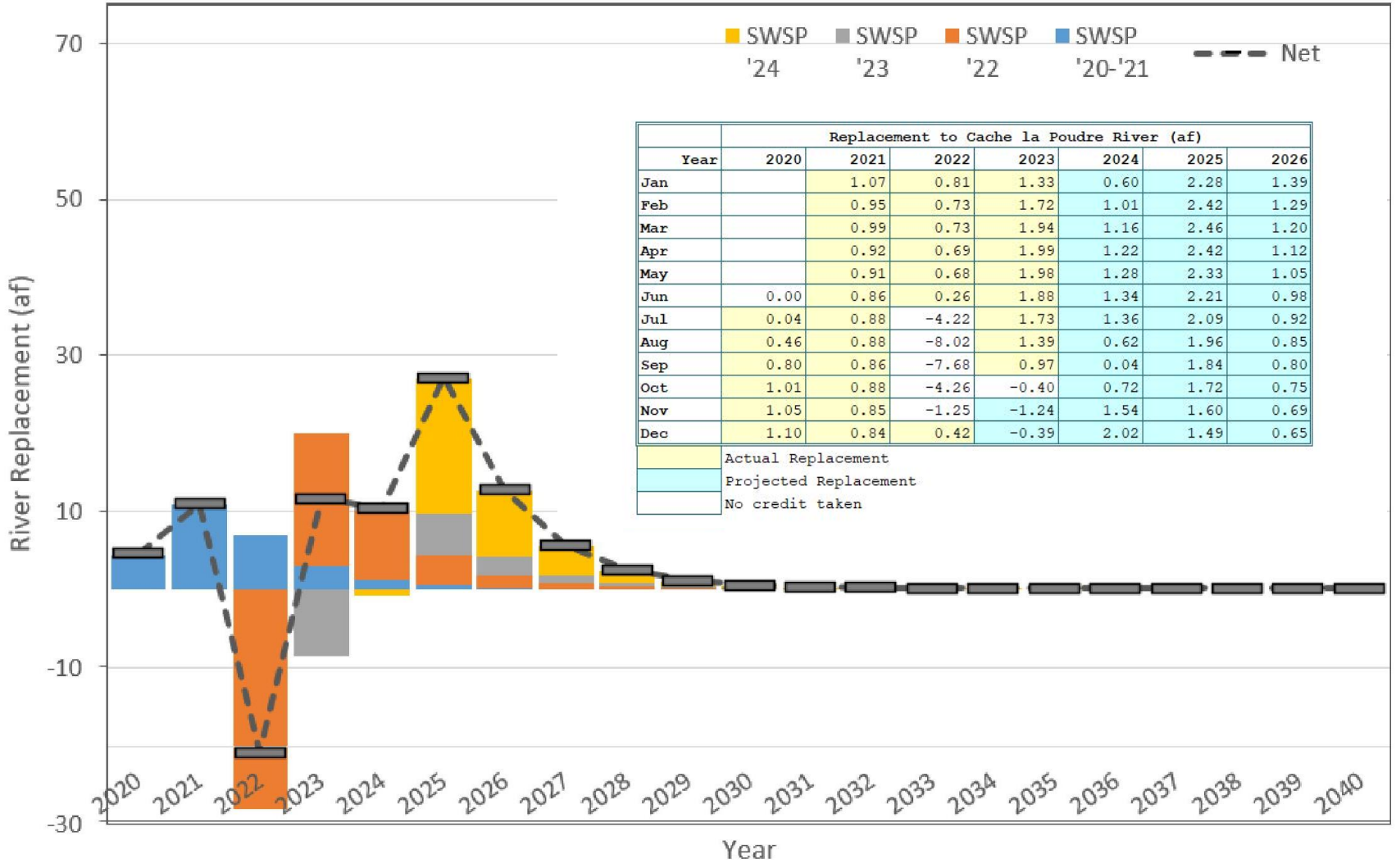
**FIGURE 2**
**MINING PHASE 2 AND WATER MANAGEMENT FEATURES**

PREPARED FOR: LOVELAND READY-MIX CONCRETE




| | Replacement to Cache la Poudre River (af) | | | | | | |
|---|---|---|---|---|---|---|---|
| Year | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Jan | | 1.07 | 0.81 | 1.33 | 0.60 | 2.28 | 1.39 |
| Feb | | 0.95 | 0.73 | 1.72 | 1.01 | 2.42 | 1.29 |
| Mar | | 0.99 | 0.73 | 1.94 | 1.16 | 2.46 | 1.20 |
| Apr | | 0.92 | 0.69 | 1.99 | 1.22 | 2.42 | 1.12 |
| May | | 0.91 | 0.68 | 1.98 | 1.28 | 2.33 | 1.05 |
| Jun | 0.00 | 0.86 | 0.26 | 1.88 | 1.34 | 2.21 | 0.98 |
| Jul | 0.04 | 0.88 | -4.22 | 1.73 | 1.36 | 2.09 | 0.92 |
| Aug | 0.46 | 0.88 | -8.02 | 1.39 | 0.62 | 1.96 | 0.85 |
| Sep | 0.80 | 0.86 | -7.68 | 0.97 | 0.04 | 1.84 | 0.80 |
| Oct | 1.01 | 0.88 | -4.26 | -0.40 | 0.72 | 1.72 | 0.75 |
| Nov | 1.05 | 0.85 | -1.25 | -1.24 | 1.54 | 1.60 | 0.69 |
| Dec | 1.10 | 0.84 | 0.42 | -0.39 | 2.02 | 1.49 | 0.65 |

Actual Replacement
Projected Replacement
No credit taken

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**FIGURE 7**
**LAGGED DEPLETIONS / REQUIRED REPLACEMENTS**

PREPARED FOR: LOVELAND READY-MIX CONCRETE

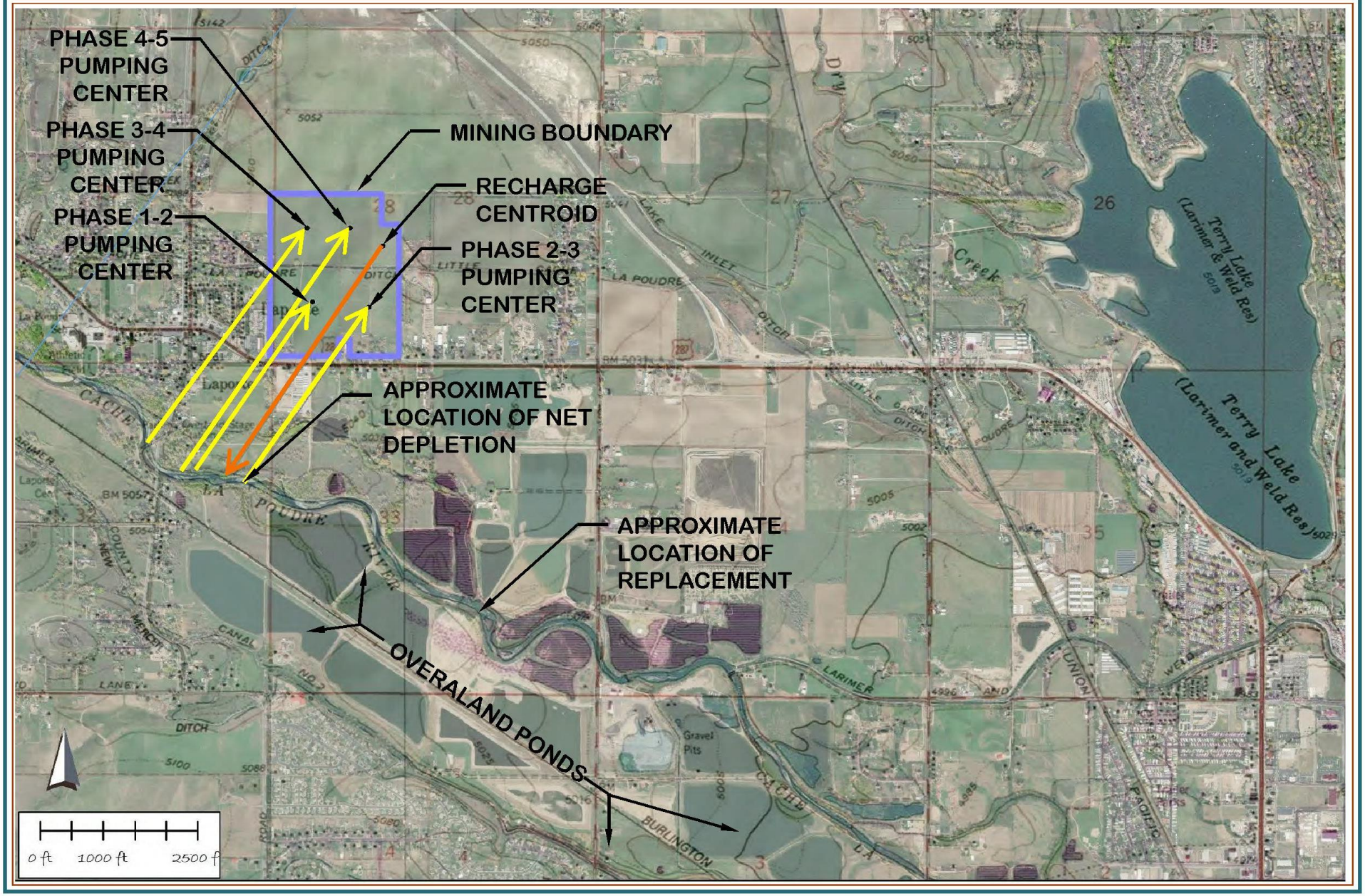


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**FIGURE 8**
**APPROXIMATE LOCATIONS OF DEPLETION AND REPLACEMENT**

PREPARED FOR: LOVELAND READY-MIX CONCRETE

WATER RENTAL AGREEMENT

THIS WATER RENTAL AGREEMENT ("Lease" or "Agreement") is made and entered into this 25th day of October, 2019 ("Effective Date"), by and between NORTH WELD COUNTY WATER DISTRICT, acting by and through the North Weld County Water District Enterprise ("Lessor"), and LOVELAND READY-MIX CONCRETE, INC., a Colorado corporation ("Lessee"), whose address is 644 N Namaqua Ave., Loveland, Colorado 80537. The Lessor and the Lessee are collectively referred to herein as the "Parties".

WHEREAS, the Lessee is the owner of approximately one hundred twenty-five (125) acres of real property legally described on Exhibit A attached hereto and has granted to North Weld County Water District an option to purchase a portion of said real property pursuant to an Option Agreement dated effective as of October 25, 2019, 2019 ("Option Agreement"). As set forth in the Option Agreement, the Lessee will mine portions of the 125-acre parcel to remove sand, gravel and other aggregate products pursuant to Division of Reclamation Mining and Safety Permit No. M2017-036; and

WHEREAS, for convenience of reference, capitalized terms used but not defined herein shall have the meanings ascribed to such terms in the Option Agreement; and

WHEREAS, Lessee wishes to lease from the Lessor upon the terms set forth below, certain water rights that may lawfully be used for augmentation purposes, including the replacement of all out-of-priority depletion to the Poudre River resulting from mining operations, including depletions occurring subsequent to the conclusion of mining ("lagged depletions"); all as necessary and sufficient to fulfill its Substitute Water Supply Plan ("SWSP") obligations with the Colorado Division of Water Resources; and

WHEREAS, the Lessor owns certain water rights which may lawfully be used for such augmentation purposes; and

WHEREAS, the Lessor is willing to lease to Lessee a portion of such water rights, pursuant to certain terms and conditions as set forth in this Lease.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

1. Definitions. For purposes of this Lease, the following terms shall have the following meanings:

   A. "Augmentation Supply" shall mean and refer to certain water rights owned by the Lessor which may lawfully be used for augmentation purposes.

   B. "Pond 1 Augmentation Supply" shall mean and refer to the Augmentation Supply leased by the Lessor to the Lessee pursuant to the terms of this Lease with respect to Pond 1.

   C. "Pond 2 Augmentation Supply" shall mean and refer to the Augmentation Supply leased by the Lessor to the Lessee pursuant to the terms of this Lease with respect to Pond 2.

   D. "Leased Augmentation Supply" shall mean and refer to the Pond 1 Augmentation Supply and/or the Pond 2 Augmentation Supply, as applicable.

   E. "Pond 1 Augmentation Supply Period" shall mean and refer to the period of time during which the Lessor will be obligated to lease the Pond 1 Augmentation Supply to the Lessee, which period of time shall commence thirty days after Lessee provides notice to Lessor that it has started

mining activities and will be exposing ground water in Pond 1, and continue thereafter until five years after the expiration or termination of the Option with respect to Pond 1 pursuant to the Option Agreement or, in the event of the purchase of Pond 1 by the Lessor, such additional period of time as is necessary and sufficient to fulfill the Lessee's Pond 1 SWSP obligations pursuant to the Option Agreement.

F. "Pond 2 Augmentation Supply Period" shall mean and refer to the period of time during which the Lessor will be obligated to lease the Pond 2 Augmentation Supply to the Lessee, which period of time shall commence thirty days after Lessee provides notice to Lessor that it has started mining activities and will be exposing ground water in Pond 2, and continue thereafter until the expiration or termination of the Option with respect to Pond 2 pursuant to the Option Agreement or, in the event of the purchase of Pond 2 by the Lessor, such additional period of time as is necessary and sufficient to fulfill the Lessee's Pond 2 SWSP obligations pursuant to the Option Agreement.

G. "Lease Expiration" shall mean and refer, unless earlier terminated as provided for herein, to the later to expire of the Pond 1 Augmentation Supply Period and the Pond 2 Augmentation Supply Period, as applicable.

2. Amount and Term: The Lessor hereby leases to the Lessee the right to receive up to a total maximum of 129 acre-feet (AF) of Augmentation Supply, annually, as more fully set forth herein during the period commencing on the Effective Date hereof and continuing thereafter until Lease Expiration.

3. Leased Water: The Lessor shall deliver, as applicable, Pond 1 Augmentation Supply during the Pond 1 Augmentation Supply Period and Pond 2 Augmentation Supply during the Pond 2 Augmentation Supply Period in such amounts and at such times as reasonably agreed to between the parties and in conformance with the SWSP ("Leased Water"). Notwithstanding the foregoing, the combined Augmentation Supply with respect to both Pond 1 and Pond 2, jointly, shall not exceed 54 acre-feet (AF), annually.

4. Payment: In consideration of the right to receive the Leased Augmentation Supply, Lessee shall, during the first water year in which any part of the Augmentation Supply is first delivered to Lessee, pay the Lessor a sum equal to the initial rate of [redacted] per acre-foot of Augmentation Supply leased and delivered. The initial rate for the Leased Water shall be [redacted] per acre-foot of Augmentation Supply leased and delivered, with the fair market value of such Leased Water being adjusted upon every five (5) year anniversary of the Pond Closing with respect to such Pond throughout the applicable Pond Augmentation Supply Period. Notwithstanding the foregoing, the rate for the Leased Water prior to Lease Expiration shall not be less than [redacted] per acre-ft and shall not exceed a per annum increase of [redacted] per year, non-compounded.

   The Lessor shall submit an Invoice to the Lessee on November 15 of each year for Lessee's previous water year's lease, including November 15 of the year following Lease Expiration. The total water leased for each year shall be determined from the monthly releases as documented in Lessee's Monthly accounting reports.

5. Default: If any required payment is not made or tendered as required herein, the Lessor shall provide the Lessee with written notice of the specific default alleged. If the Lessee fails to cure a monetary default within fifteen (15) days after receipt of notice from the Lessor or, if a non-monetary default is not capable of being cured within said fifteen (15) day period, if the Lessee fails to commence such cure within said fifteen (15) day period and diligently prosecute the same to completion, the Lessor may elect to terminate this Agreement in addition to seeking whatever damages and further legal remedies it may be entitled to.

In the event the Lessor defaults in the performance of any condition or covenant to be performed by it, the Lessee shall provide written notice to the Lessor of the specific default alleged. If the Lessor fails to cure a default within fifteen (15) days after receipt of notice from the Lessee or, if a default is not capable of being cured within said fifteen (15) day period, if the Lessor fails to commence such cure within said fifteen (15) day period and diligently prosecute the same to completion, the Lessee may elect to terminate this Agreement and seek damages, or may elect to treat this Agreement as being in full force and effect and thereby retain the right to specific performance.

6. Accounting: The Lessor agrees to cooperate with Lessee with issues related to accounting for deliveries of Leased Augmentation Supply, as the same may be required by the SWSP or personnel from Colorado Division of Water Resources from time to time.

   Lessee shall be responsible for submitting all monthly accounting reports to the Colorado Division of Water Resources Division 1 Accounting Coordinator and the Cache La Poudre River Water Commissioner as required by the SWSP. A copy of the monthly accounting will be provided to the Lessor.

   On or before October 15th of each year, Lessee shall provide the Lessor with an estimate of monthly depletions for November through October of the following water year.

7. Sources of Augmentation Water: In supplying the Leased Water pursuant to this Lease, the Lessor may use only water that has been decreed specifically to allow for augmentation uses or is otherwise considered fully consumable, including water from The Overland Ponds.

8. Delivery Location: Delivery of the Leased Water shall be made at a location on the Cache La Poudre River adjacent to The Overland Ponds, or at such other downstream or upstream location(s) as agreed to by the Lessee and the Lessor, which is in accordance with the SWSP and which is acceptable to the Colorado Division of Water Resources.

9. Lagged Depletions: As requested by Lessee, deliveries of Leased Water shall include replacements for lagged depletions as set forth and described in Lessee's SWSP Request dated February 2019. The parties acknowledge that depletions to the surface stream do not occur simultaneously with evaporation and consumption at the gravel mine, consequently depletions to the surface stream will extend beyond the conclusion of mining activities in 2031. However, as illustrated on the Calculation Documentation attached hereto as Exhibit B, such depletions asymptotically approach zero. Therefore, it is expected that Lessee may be able to satisfy replacement requirements prior to Lease Expiration, if any, by making less frequent replacements and in amounts larger than otherwise required. The parties hereby acknowledge that the term of this Lease, if not sooner terminated as herein provided, will expire on Lease Expiration as defined in Paragraph 1.G. above.

10. Post-Completion Date Replacement: Following the closing of the purchase of each Reservoir Parcel pursuant to the terms of the Option Agreement, the Lessor shall be responsible for replacing the depletions caused by Pond 1 or Pond 2 on and after the date of the closing of the Reservoir Parcel on which such Pond is located and obtaining all replacement water for evaporation and other losses required by any permits relating to Reservoirs to be replaced to the stream system, except for the ongoing lagged depletions due to the Lessee's gravel mining and described above. Nothing stated herein shall alter that requirement or contemplates such replacements.

11. Assignment of Rights to Augmentation Water: Upon thirty (30) days advance written notice, Lessee may assign its interest in this Agreement to any successor for the same augmentation purposes on the same property as provided herein. Similarly, upon thirty (30) days advance written notice, Lessor may assign and delegate all or any part of its obligations under this Agreement to one (1) or

more water districts and/or governmental entities capable of providing suitable augmentation water at the time, place and amount necessary for satisfaction of Lessee's SWSP requirements.

12. Notices: All notices shall be in writing and shall be deemed given (i) on the date and at the time of delivery if delivered personally to the party to whom notice is given at the address specified below; or (ii) on the date and at the time of delivery or refusal of acceptance of delivery if delivered or attempted to be delivered by an overnight courier service to the party to whom notice is given at the address specified below; or (iii) on the date of delivery or attempted delivery shown on the return receipt if mailed to the party to whom notice is to be given by first-class mail, sent by registered or certified mail, return receipt requested, postage prepaid and properly addressed as specified below; or (iv) on the date and at the time shown on the electronic mail message if sent electronically to the address specified below and receipt of such electronic mail message is acknowledged by the intended recipient thereof:

    If to the Lessor, to:

    North Weld County Water District
    Attention: Eric Reckentine, District Manager
    32825 Weld CR 39
    PO Box 56
    Lucerne, CO 80646
    Telephone: 970.356.3020
    Email: ericr@nwcwd.org

    If to Lessee, to:

    Loveland Ready-Mix Concrete, Inc.
    Attention: Stephanie Fancher English
    PO Box 299
    Loveland, CO 80539
    Telephone: 970.667.2680 ext 4
    Email: stephanief@Lrmconcrete.com

13. Modifications: No alteration or other modification of this Lease shall be effective unless such modification shall be in writing and signed by the parties.

14. Invalidity: In the event any portion of this Lease should become invalid, the remainder of the Lease shall remain in full force and effect.

15. Successors: This Lease shall inure to the benefit of, and be binding upon, the successors in interest of the respective parties.

16. Waiver: A waiver of a breach of any provision of this Agreement shall not waive any subsequent breach of the same or different provision of this Agreement.

17. Governing Law and Construction: This Agreement and the legal relations between the parties hereto shall be governed by and construed in accordance with the laws of the State of Colorado. The parties hereby agree that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendments or Exhibits hereto.

[Remainder of Page Intentionally Blank]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates set opposite their respective signatures below.

LESSEE: LOVELAND READY-MIX CONCRETE, INC., a Colorado corporation

DATE: October 25, 2019

By _____

Name Brad Faircher

Title V.P.

LESSOR: NORTH WELD COUNTY WATER DISTRICT, acting by and through the North Weld County Water District Enterprise

DATE: November 12, 2019

By _____

Name Gene Stille

Title President

COLORADO
Division of Water Resources
Department of Natural Resources

# Augmentation Plan Accounting Protocol
## June 2022

Accounting is an administrative tool to confirm water use is in accordance with a decree or other approval including that any required replacement is made to the stream system at the correct time, location, and amount. This guideline is subordinate to any decree language or Division Engineer specific accounting requirements. It describes basic augmentation plan accounting scenarios. Accounting for more complex scenarios can build on the fundamentals described herein.

**Contents**

## 1. Background and definitions

A thorough description of augmentation plans for well pumping is available in the Beginners Guide to Augmentation Plans for Wells. The following terms are used in this document:

- **Diversions** are withdrawals from a well, stream, or pond/reservoir.
- **Depletions** are the volume of reduced streamflow caused by a diversion. Lagged depletions are those that occur at a later time than when water is diverted by well pumping or groundwater pond evaporation due to the timing of water movement through the subsurface between the well/groundwater pond and the stream.
- **Hydrobase** is DWR's database of water information.
- **Colorado's Decision Support Systems ("CDSS")** is a State of Colorado website (https://cdss.colorado.gov/) providing access to water data and tools.
- **Replacement water** is a volume of water provided to the stream system to replace depletions and satisfy the unmet needs of senior water rights. Replacement water is typically provided from a reservoir release or another source that has been contracted for the purpose of replacing depletions. Replacement water may also be provided in the form of historic consumptive use ("HCU") credits derived from a change of water right where the use of a water right was changed to augmentation.
- **Transit loss** is the diminishment of the amount of water in a stream as water travels from upstream to the downstream location.
- **Priority Admin Number** indicates the seniority of a water right; equal to the number of days between a water right's priority date and the earliest decreed priority, December 31, 1849. For example, the Priority Admin Number for a water right with a priority date of May 5, 1950 is 36650.00000. The lower the Priority Admin Number, the more senior the water right. The five digits to the right of the period are used when the postponement doctrine applies to a water right due to a delay in decreeing the water right in the court (read more about this in the Administrative Call Standard, Appendix A).
- **Administrative Call** is a term that indicates there are unfulfilled downstream water rights "calling" for curtailment of upstream junior water rights to fulfill their need. In accounting, when the downstream Administrative Call is from a senior water right (with a lower Priority Admin Number), diversions/depletions are out-of-priority and replacement water must be provided.
- **Balance** is the amount of replacement water minus the depletions and obligations, not considering the Administrative Call. The balance may be negative when the diversions resulting in the depletions are in priority.
- **Net Effect** is the amount of replacement water minus the depletions and obligations, considering the Administrative Call. When the net effect is zero or positive, it shows that the Augmentation Plan prevented injury by replacing all out-of-priority diversions/depletions.

## 2. Methods to submit accounting

### a. Accounting and Reporting Uploader (preferred)

The preferred method to submit accounting is through the use of the CDSS Accounting and Reporting Uploader tool. To set up an online account, call or email the Division contacts for the appropriate Water Division as shown in Table 1. Additional information is available on DWR's website under Data and Information/Online Data Submittal.

### b. Email

Submit via email to the Water Commissioner and the Division Accounting email shown in Table 1. File names for accounting sheets should include the 7 digit Augmentation Plan WDID assigned by the Division Engineer's office.

**3. Timing of accounting submittal**

Accounting must be submitted as specified by your decree, DWR administrative approval (SWSP, Replacement Plan, etc.), or as requested by the Division Engineer or designated representative(s). If timing is not specified, submit accounting with the timing shown in Table 1.[1]

**Table 1. Accounting Submittal Emails and Phone Number by Division**

| Division | Accounting Question & Submittal Email | Contact Phone Number | Standard Submittal Timing |
|---|---|---|---|
| 1 - South Platte | Div1Accounting@state.co.us | 970-352-8712 | 30 days after the end of the reporting month |
| 2 - Arkansas | water.reporting@state.co.us | 719-542-3368 | 10 days after the end of the reporting month* |
| 3 - Rio Grande | kevin.boyle@state.co.us | 719-589-6683 | 10 days after the end of the reporting month |
| 4 - Gunnison | greg.powers@state.co.us | 970-249-6622 | 10 days after the end of the reporting month |
| 5 - Colorado | dnr_div5acct@state.co.us | 970-945-5665 | 10 days after the end of the reporting month |
| 6 - Yampa/White | brian.romig@state.co.us | 970-846-0036 | Annually by November 15 or as needed upon request |
| 7 - San Juan/ Dolores | dnr_div7acct@state.co.us | 970-247-1845 | 10 days after the end of the reporting month** |
| Designated Ground Water Basins | chris.grimes@state.co.us | 303-866-3851 ext. 8253 | Annually by February 15 for the prior year |

*for approvals deemed critical for administration; all others (including simple subdivisions) bi-annual readings before and after the irrigation season

**for approvals deemed critical for administration; annual submittals for others

[1] For proper administration, Water Commissioners may request regular and direct submission of water data in addition to accounting submittals described herein.

## 4. Overall organization of accounting spreadsheet and required information per tab

**a. Overall organization**

The following are typical spreadsheet tab names in accounting. See the example and screenshots section for an overview of what this might look like:

i. Contact/Plan Information tab
ii. Input tab(s)
iii. Depletions & Obligations tab
iv. Replacement tab
v. Summary tab
vi. DWR tab
vii. DWR Meters tab
viii. Version/Notes tab

Fewer or additional tabs as necessary for more simple or complex accounting, subject to approval by the Division Engineer

**b. Contact/Plan Information Tab**

The accounting must provide the contact information including name and email address for:

**i.** The party(s) responsible for submitting the accounting
**ii.** The plan administrator and/or the plan attorney
**iii.** Water court case number (format of YYCWXXXX), SWSP name and 4-digit Plan ID, or Ground Water Commission Order represented in the accounting.
**iv.** The 7-digit overall WDID(s) associated with the augmentation plan (not the individual structure WDIDs).[2]

**c. Input Tab(s)**

When possible, all cells showing diversion of water (well pumping and stream diversions) should be located on one or multiple input tabs as shown below. Cells with regular input, such as meter readings and reservoir releases, should be shaded a specifically identified color to distinguish them from cells that use formulas to convert or summarize the input.

Depending on the specific operation, the following may be included on Input tabs:

**i. Estimated water use or evaporation:**

When meters or measurement structures are not required, water consumption is estimated based on counts (number of homes, number of domestic animals, acreage of pond surface area, etc.) multiplied by a factor. Include a column or row for each of the following that are relevant to the augmentation plan:

1. Type of use: single family dwellings, domestic animals, area of lawn and garden (include units - square feet or acres), area of pond evaporation (include units - square feet or acres), etc.
2. Count or area input value for each type: the number of homes or domestic animals or the area (square footage or acres of home lawn and garden irrigation or pond surface evaporation). [this is the "Input" that could change regularly]

[2] Colorado Decision Support System Tools (https://dwr.state.co.us/Tools) can be used to find WDIDs (see Structures), court case numbers (see Water Rights), and other supporting information.

3. Factor to convert input to consumption in acre-feet.
4. Acre-feet of consumption.

**ii. Well diversion data using flow meters:**

Enter raw readings or measurements (e.g., from totalizing flow meters) and how those raw readings or measurements are converted to volumes of water. There should be one row or column for each well with a meter as described below. Once the spreadsheet formulas have been established, generally only the meter reading is entered with every submittal. The well and meter information may be located in a separate well & meter information tab (see example and screenshots section).

1. Well WDID
2. Well Permit Number
3. Priority Admin Number
4. Flow Meter Serial Number
5. Reading Date
6. Reading[3] [this is the "Input" that will change regularly]
   Enter reading exactly as shown on the face of the meter as a non-negative integer.
7. Comment
   a. When a meter rolls over (such as from 999 to 000), is replaced or reset[4] , add a comment stating the old meter serial number, the maximum number before the rollover or replacement and then enter the number on the face of the meter at the end of the reporting period. Update the meter information section with the new meter's serial number.
8. Meter information:
   a. Make
   b. Model
   c. The units represented by the digits on the meter (such as gallons or acre-feet)
   d. Multiplier for meter reading (if applicable)
      i. Residential well meters typically have a multiplier of 1.0 with units of gallons. Readings should generally report all numbers on the face of the meter (including non-rotating digits) with a multiplier of 1.0.
      ii. Larger agricultural or commercial wells typically read in acre-feet and typically have a decimal multiplier. For instance, with a multiplier of 0.001, a meter reading of 123456 represents 123.456 acre-feet.
   e. Correction factor
      i. This is a multiplier used when a meter test shows a need to correct the installed meter to an accurate reading. This will be 1.0 when there is not a test showing a need for correction.
9. Acre-feet pumped
   Use a formula to convert from the meter reading to acre-feet using the multiplier and correction factor. To convert meter readings in gallons to acre-feet, divide by 325,851.

**iii. Well diversion data using Electricity Consumption**

For wells approved to use power records and a Power Conversion Coefficient (PCC) to estimate water pumped, the accounting information is similar to well diversion data using flow meters (section 4.c.ii) above with the following replacements (instead of 6. "Reading" and 8. "Meter information):

[3] A comment on the Meter Reading cell is used to note "Actual, Estimated, Corrected, or Calculated" for all wells subject to measurement rules when the entry is not based on a reading taken on the actual date specified.
[4] Resetting a meter may be prohibited by local well measurement rules.

6. Power meter reading [this is the “Input” that will change regularly]
8. Power Meter Information
    a. PCC

**iv. Surface diversion data**

Include a column or row for each surface diversion with the following information:

1. Diversion structure name or a.k.a.
2. Structure WDID
3. Measured flow through the measurement structure and units
    a. If more than one water right is diverted through the structure, there should be adjacent columns for each. Each source should have a designated column or row and labeling should include the measuring structure WDID and the source of the water (e.g. case number).
    b. If there is a multiplier that adjusts the standard measurement-flow relationship to reflect the actual measurement-flow relationship of the specific structure (“shift”), the adjusted value should be reflected in a separate column.
4. Priority Admin Number
5. Storage and release

If the diversion is to storage, which will be followed by a release of water, follow the instructions in the Reservoir Accounting Guideline.

**v. Administrative Call (are diversions in-priority?)**

In portions of Colorado, there may be times when depletions are in-priority, and do not require replacement. Depletions are in-priority when water rights on the stream system that are senior to the diversion have enough water and are not “calling” for more water.

1. **Simplified (percent of month administrative call)**
   For certain basic accounting, such as subdivision well depletions, the Division Engineer may allow or apply an estimate of the days of expected administrative call each month. Typically, replacement water is provided based on projected call days, which is later compared to actual administrative call data to ensure that adequate replacement was provided. In this case, the accounting should have an input field either for the number of call days or the percentage of days in the month with a call.
2. **Daily record of administrative call**
   Provide a column that shows whether depletions are either “IN” or “OUT” of priority each day.
    - Locations with minimal call variation: In areas with minimal variation in the call, the Division Office may not require a formula comparing Priority Admin Numbers, but will accept manual entries of “IN” or “OUT” of priority each day.
    - All other locations: “IN” or “OUT” of priority is determined daily using formulas comparing the Priority Admin Number of depletions to the Priority Admin Number of the calling water right in each depleted stream reach. Include a column for each of the following:
        - The Priority Admin Number of the calling water right. Calling structure information can be obtained programmatically from:
            - CDSS REST services - insert a link that pulls the required information directly from DWR’s database.
            - CDSS Administrative Calls tool.

          DWR accounting staff can provide guidance on incorporating this information within an accounting spreadsheet.

- The Name of the calling water right
- "In" or "Out"-of-priority either for all structures covered by the accounting or for each structure in its own column. Use a formula to compare the Priority Admin Number of the calling structure to the Priority Admin Number of the structure(s) in the accounting.

**d. Depletion & Obligation tab**

Used to (1) convert well pumping (and groundwater pond evaporation) to lagged depletions impacting the stream and (2) show lagged depletions that are out-of-priority, and (3) include any additional water obligations of the plan for augmentation.

i. Calculate lagged depletions - Although well pumping and modeling may use a monthly step function to determine the depletions from pumping, the monthly result may, if requested by the Division Office or required by decree, then be divided by the number of days in the month in order to calculate a daily impact for daily water administration.
   1. Well Pumping (or groundwater pond evaporation) - Reference back to the Input tab for the acre-feet of water pumped or evaporated.
   2. Consumption factor (%) - If the decree or approval describes that a percentage of the water pumped is consumed and only the consumed amount is replaced.
   3. Acre-feet consumed - Multiply the acre-feet pumped by the consumption factor.
   4. Delay Factors - show factors that convert pumping in one month to depletions in future months. These may be percentages per month, that total 100 percent over an extended period of time.
   5. Depletions - a formula that combines previous months and present month pumping with the delay factors to determine depletions impacting the stream this month and in future months.

ii. Out-of-priority depletions are combined into one column for each reach considering the administrative call information included on the Input tab.

iii. Return flow obligations (if applicable): Replacement water sources changed from a historical irrigation use usually have a return flow obligation that must also be tracked in accounting. Return flow obligations are similar to depletions because they must be replaced in time, place, and amount. Depending on decree language and preference, return flow obligations may be included under the replacement tab in section 4.e. below. For each replacement source with return flow obligations, include the following:
   - the basis and volume of the return flow obligation,
   - the location of the return flow obligation,
   - replacement of the return flow obligation.

**e. Replacement tab**

List each structure providing replacement water, transit loss information, and volumes released:

i. Structure providing replacement water: name of reservoir, ditch, well, leased or other replacement water, its WDID, and the water court decree allowing its use for augmentation or replacement. For instructions on accounting for replacement using recharge accretions, refer to specific recharge guidance.

ii. Replacement water travel distance (miles)
the distance from the point of release to the location of the out-of-priority depletion where replacement is owed

iii. Transit loss percent per mile (%)

iv. Total transit loss (%)
v. Volume released (acre-feet)
vi. Transit loss volume (acre-feet)
vii. Volume delivered (acre-feet) - equal to volume released minus transit loss volume
viii. Return flow obligations (acre-feet): Depending on decree language as described above, these may be included here instead of in the depletion tab. See description under section 4.d. above.

**f. Summary Tab**

The Summary Tab is used to calculate the Net Effect of the Plan on each impacted stream reach. The summary should reference back to information and formulas in the other spreadsheet tabs. The summary tab compares obligations, replacements and that replacements equal or exceed obligations in time, place, and amount. The Summary tab should only summarize data and calculations located in other tabs of the accounting. It should not contain manual entries, input data, or make calculations that are used in other tabs.

The Summary Tab should contain the following for each impacted stream reach (typically on a daily basis or as required by the division office):

**i.** Total depletions and obligations
**ii.** Total replacement
**iii.** Balance - Total replacement minus total depletions and obligations, which may be negative when the diversions resulting in the depletions are in priority.
**iv.** Net Effect - Total replacement minus out-of-priority depletions and obligations. If the net effect is negative, the Plan resulted in injury.

**g. DWR tab for Diversion Record Data Import**

A tab titled **"DWR"** can be used to convert data input or numbers calculated in other tabs into rows that represent diversion record water classes, which DWR staff can upload to create official diversion records. When appropriate, DWR staff will develop this tab or work with plan owners to develop this tab, and ensure it follows the format shown in the "Diversion Record Spreadsheet User Guide" and utilizes water classes according to the Diversion Records Standard. This format is necessary to allow the records to be imported directly into Hydrobase.

**h. DWR Meters tab for Meter Reading Data Import**

A tab titled **"DWR Meters"** can be included for use in bulk uploading meter readings. This calculates pumping totals in compliance with well rules or to meet other Division-specific requirements. In order for this tab to be bulk uploaded into Hydrobase, the columns in this tab must be formatted as shown in the "User Guide - How to Bulk Upload Meter Readings".

**i. Version/Notes tab**

A tab to document changes in accounting formulas and the date of those changes.

## 5. Requirements and recommendations for all tabs

a. Accounting should show how raw input data is manipulated using formulas to determine the resulting impact on the river. Accounting must therefore include a functional spreadsheet (ie no pdfs) showing all operations, formulas, etc. to clearly show calculations.

b. The use of a water year of November 1 through October 31 is required unless specifically decreed otherwise. When a different water year is required by decree, DWR may request additional months of data in the accounting to include the November 1 through October 31

time period, resulting in more than 12 months of data being reported.

c. For all tabs other than the Summary tab, include running accounting for the entire water year without monthly subtotals. Monthly subtotals commonly result in errors in the spreadsheet. The Summary tab can be used as a place to show monthly totals.

d. Date fields should be complete dates (month, day, and year, recognized as a date value by the spreadsheet software) but may be formatted to display as desired.

e. Use consistent cell color shading to clearly identify the different types of information, such as manual input cells and formula cells (provide a legend for data types, see example below)

f. Enter "0" in cells to document no diversion or use, rather than blanks, hyphens, or another character.

g. When a formula is overwritten with a manual entry, the cell should be highlighted and a comment added for the reasoning.

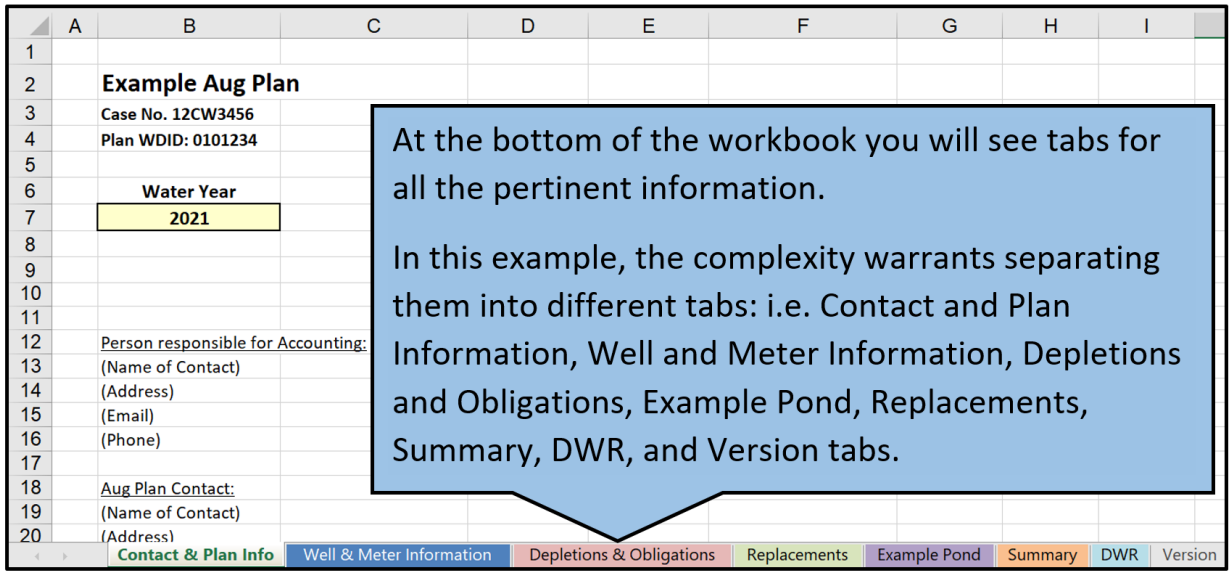
h. When there are multiple stream reaches involved, organize accounting from upstream to downstream.

i. Footnotes should be utilized, as necessary, to describe the basis for formulas, calculations imposed on the raw input data, and column descriptions.

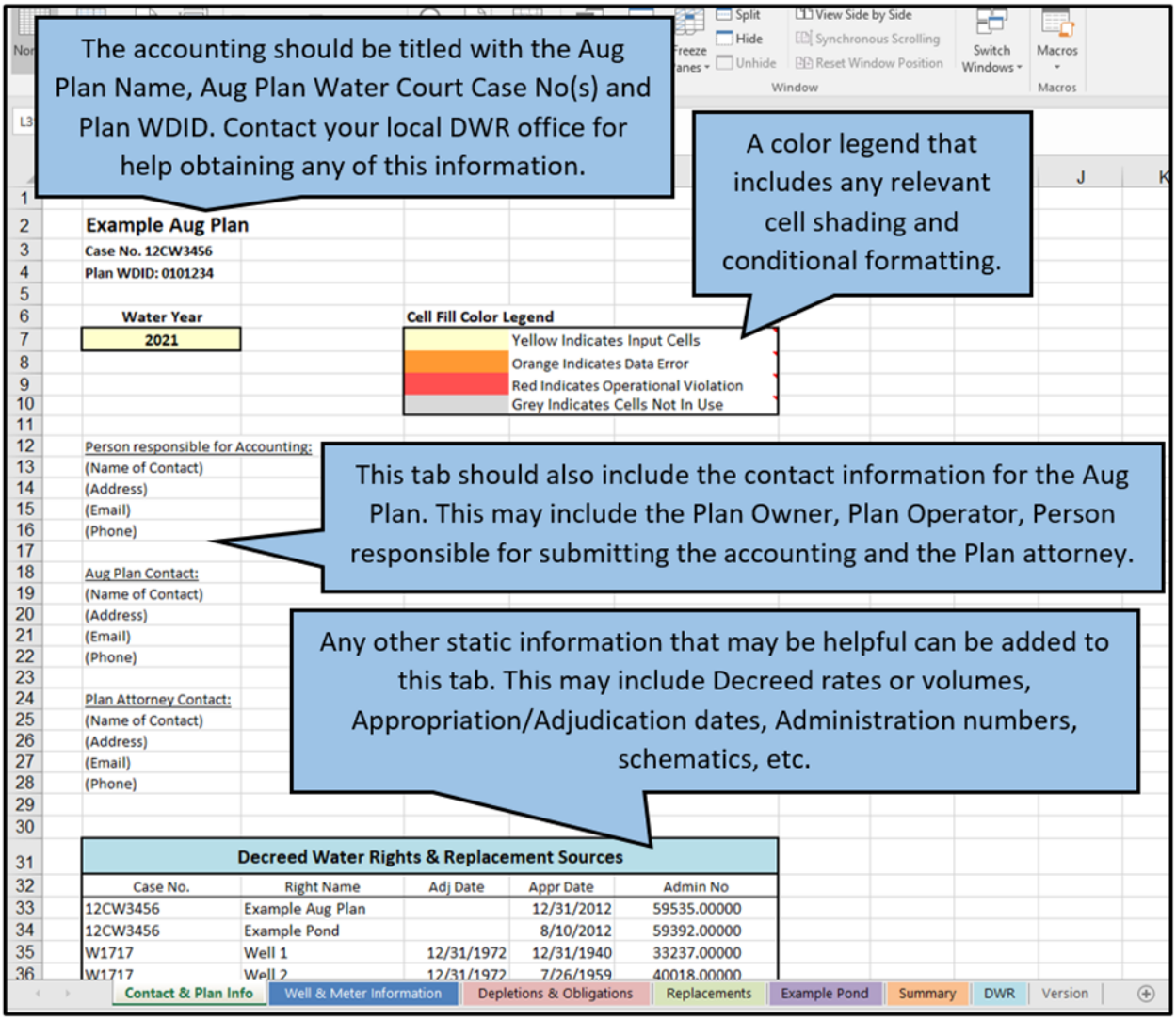
## 6. Example, Screenshots, and Spreadsheet Templates

Water users may request spreadsheet templates from their local division office for use as examples of how accounting may be assembled, but are responsible for developing their own functional accounting customized for their own Plan requirements. Note that example and actual accounting may have slightly different organization than what is described above.

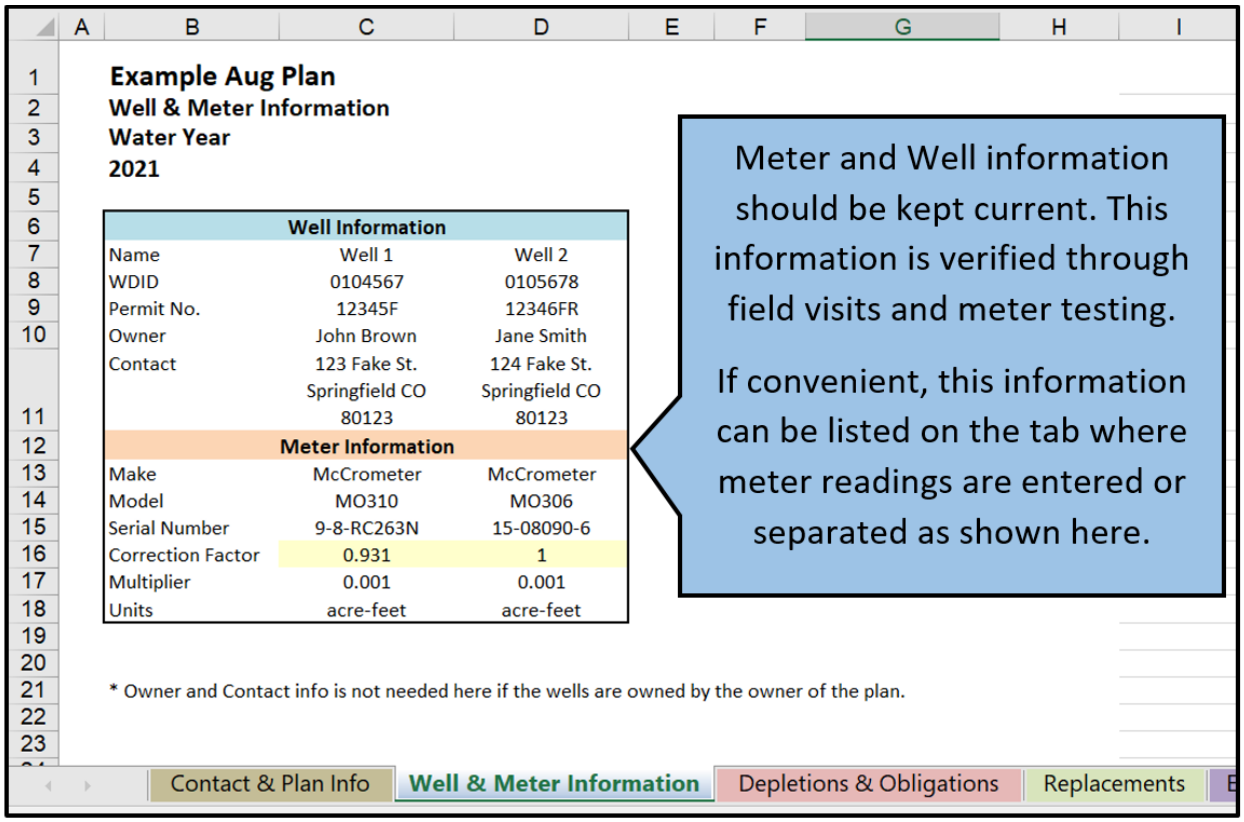
**a. (List of relevant tabs)**



## b. (Contact & Plan Information)



**c. (Well & Meter Information)**



**Example Aug Plan**
**Well & Meter Information**
**Water Year**
**2021**

| Well Information | | |
|---|---|---|
| Name | Well 1 | Well 2 |
| WDID | 0104567 | 0105678 |
| Permit No. | 12345F | 12346FR |
| Owner | John Brown | Jane Smith |
| Contact | 123 Fake St. Springfield CO 80123 | 124 Fake St. Springfield CO 80123 |
| **Meter Information** | | |
| Make | McCrometer | McCrometer |
| Model | MO310 | MO306 |
| Serial Number | 9-8-RC263N | 15-08090-6 |
| Correction Factor | 0.931 | 1 |
| Multiplier | 0.001 | 0.001 |
| Units | acre-feet | acre-feet |

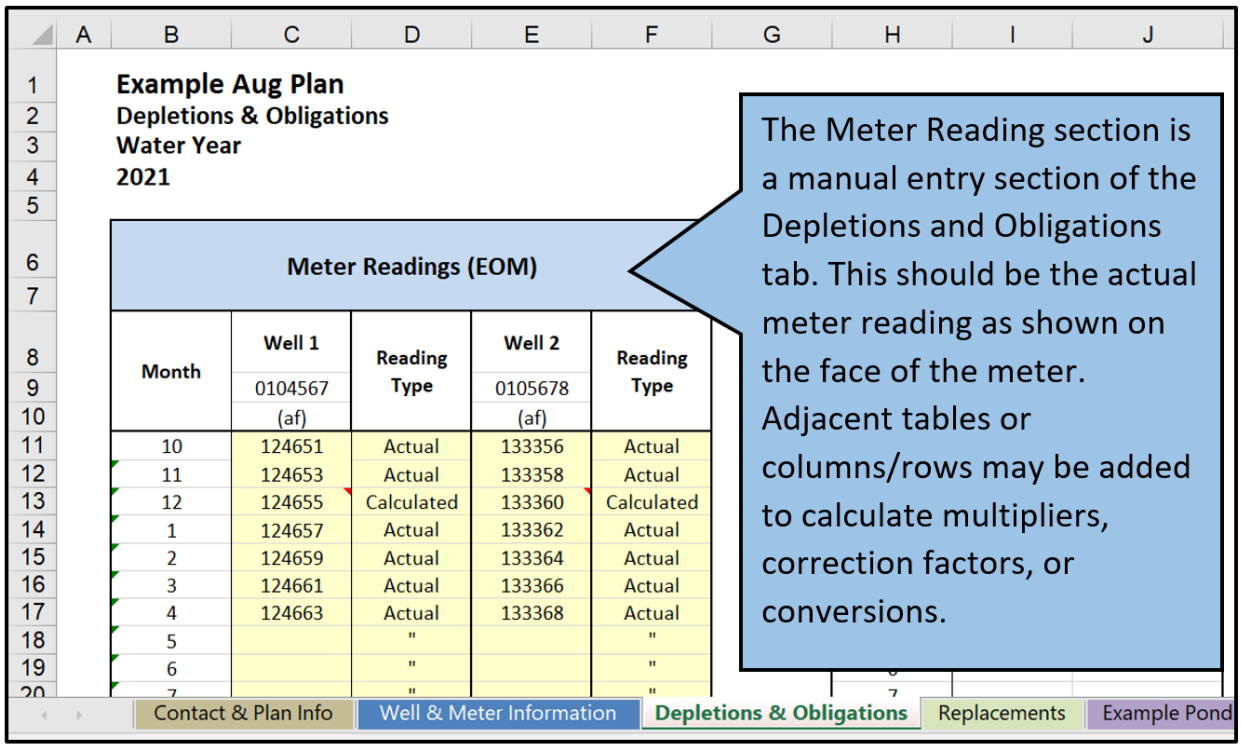
Meter and Well information should be kept current. This information is verified through field visits and meter testing.

If convenient, this information can be listed on the tab where meter readings are entered or separated as shown here.

* Owner and Contact info is not needed here if the wells are owned by the owner of the plan.

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements

**d. (Depletions & Obligations)** - in this example, the Depletions & Obligations tab includes cells for entering meter readings, calculating well pumping over the period, and converting that to lagged depetions.



**Example Aug Plan**
**Depletions & Obligations**
**Water Year**
**2021**

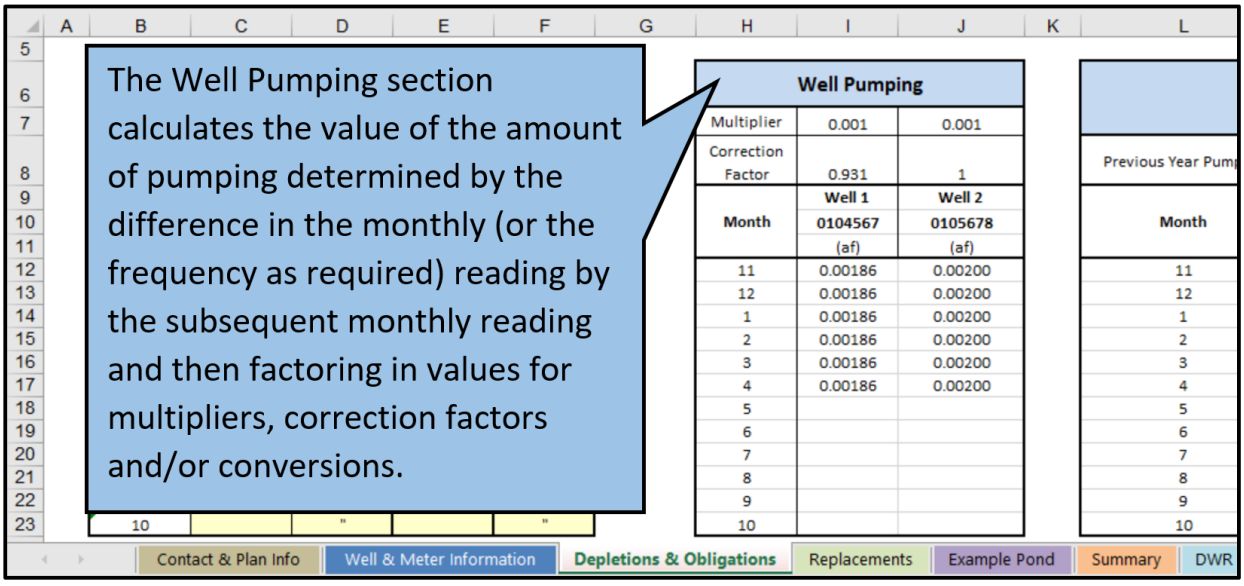
**Meter Readings (EOM)**

| Month | Well 1 0104567 (af) | Reading Type | Well 2 0105678 (af) | Reading Type |
|---|---|---|---|---|
| 10 | 124651 | Actual | 133356 | Actual |
| 11 | 124653 | Actual | 133358 | Actual |
| 12 | 124655 | Calculated | 133360 | Calculated |
| 1 | 124657 | Actual | 133362 | Actual |
| 2 | 124659 | Actual | 133364 | Actual |
| 3 | 124661 | Actual | 133366 | Actual |
| 4 | 124663 | Actual | 133368 | Actual |
| 5 | | " | | " |
| 6 | | " | | " |

The Meter Reading section is a manual entry section of the Depletions and Obligations tab. This should be the actual meter reading as shown on the face of the meter. Adjacent tables or columns/rows may be added to calculate multipliers, correction factors, or conversions.

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond

**e. (Depletions & Obligations)**



The Well Pumping section calculates the value of the amount of pumping determined by the difference in the monthly (or the frequency as required) reading by the subsequent monthly reading and then factoring in values for multipliers, correction factors and/or conversions.

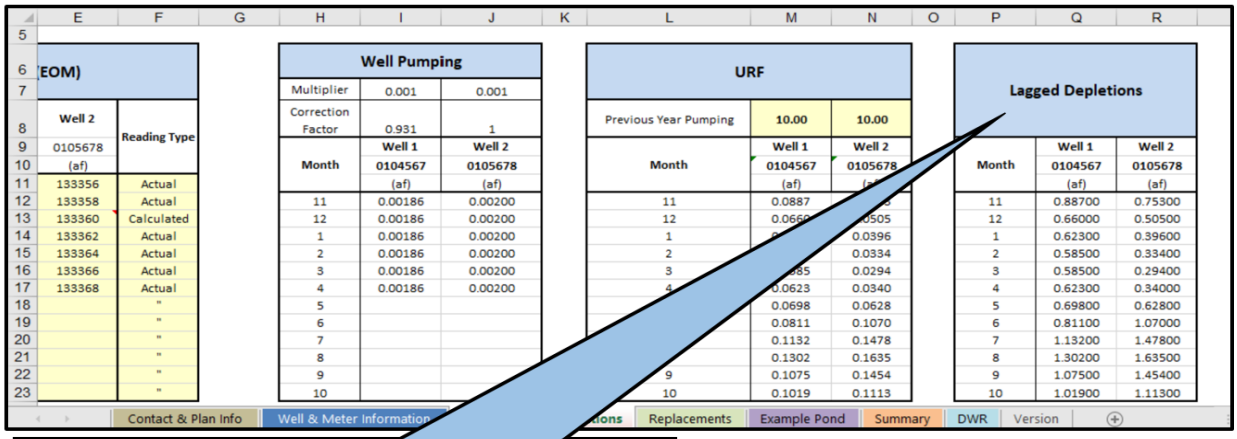
**Well Pumping**

| | | |
|---|---|---|
| Multiplier | 0.001 | 0.001 |
| Correction Factor | 0.931 | 1 |
| Month | Well 1 0104567 (af) | Well 2 0105678 (af) |
| 11 | 0.00186 | 0.00200 |
| 12 | 0.00186 | 0.00200 |
| 1 | 0.00186 | 0.00200 |
| 2 | 0.00186 | 0.00200 |
| 3 | 0.00186 | 0.00200 |
| 4 | 0.00186 | 0.00200 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

| Previous Year Pump |
|---|
| Month |
| 11 |
| 12 |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

**f. (Depletions & Obligations) - calculate lagged depletions for the month**



| (EOM) | |
|---|---|
| Well 2 0105678 (af) | Reading Type |
| 133356 | Actual |
| 133358 | Actual |
| 133360 | Calculated |
| 133362 | Actual |
| 133364 | Actual |
| 133366 | Actual |
| 133368 | Actual |

| Well Pumping | | |
|---|---|---|
| Multiplier | 0.001 | 0.001 |
| Correction Factor | 0.931 | 1 |
| Month | Well 1 0104567 (af) | Well 2 0105678 (af) |
| 11 | 0.00186 | 0.00200 |
| 12 | 0.00186 | 0.00200 |
| 1 | 0.00186 | 0.00200 |
| 2 | 0.00186 | 0.00200 |
| 3 | 0.00186 | 0.00200 |
| 4 | 0.00186 | 0.00200 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

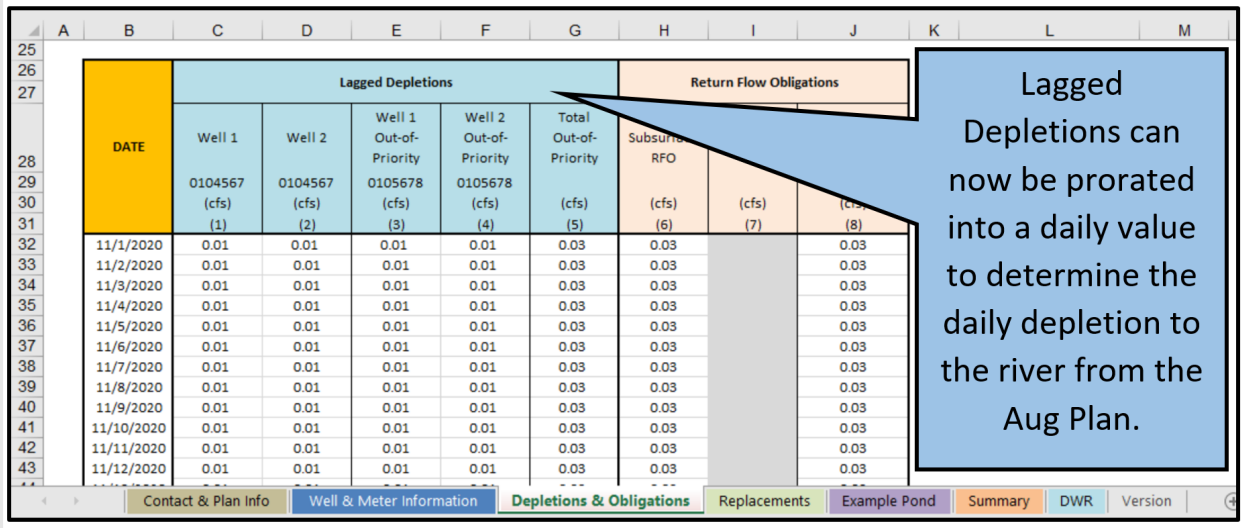
| URF | | |
|---|---|---|
| Previous Year Pumping | 10.00 | 10.00 |
| Month | Well 1 0104567 (af) | Well 2 0105678 (af) |
| 11 | 0.0887 | |
| 12 | 0.0660 | 0505 |
| 1 | | 0.0396 |
| 2 | | 0.0334 |
| 3 | 585 | 0.0294 |
| 4 | 0.0623 | 0.0340 |
| | 0.0698 | 0.0628 |
| | 0.0811 | 0.1070 |
| | 0.1132 | 0.1478 |
| | 0.1302 | 0.1635 |
| 9 | 0.1075 | 0.1454 |
| 10 | 0.1019 | 0.1113 |

| Lagged Depletions | | |
|---|---|---|
| Month | Well 1 0104567 (af) | Well 2 0105678 (af) |
| 11 | 0.88700 | 0.75300 |
| 12 | 0.66000 | 0.50500 |
| 1 | 0.62300 | 0.39600 |
| 2 | 0.58500 | 0.33400 |
| 3 | 0.58500 | 0.29400 |
| 4 | 0.62300 | 0.34000 |
| 5 | 0.69800 | 0.62800 |
| 6 | 0.81100 | 1.07000 |
| 7 | 1.13200 | 1.47800 |
| 8 | 1.30200 | 1.63500 |
| 9 | 1.07500 | 1.45400 |
| 10 | 1.01900 | 1.11300 |

Contact & Plan Info | Well & Meter Information | ...ions | Replacements | Example Pond | Summary | DWR | Version

Lagged Depletions should be calculated utilizing the Well Pumping data and the lagging method established by the relevant decree or SWSP (Stream depletion Factors or Glover Parameters).

**g. (Depletions & Obligations) - convert monthly lagged depletions to daily**

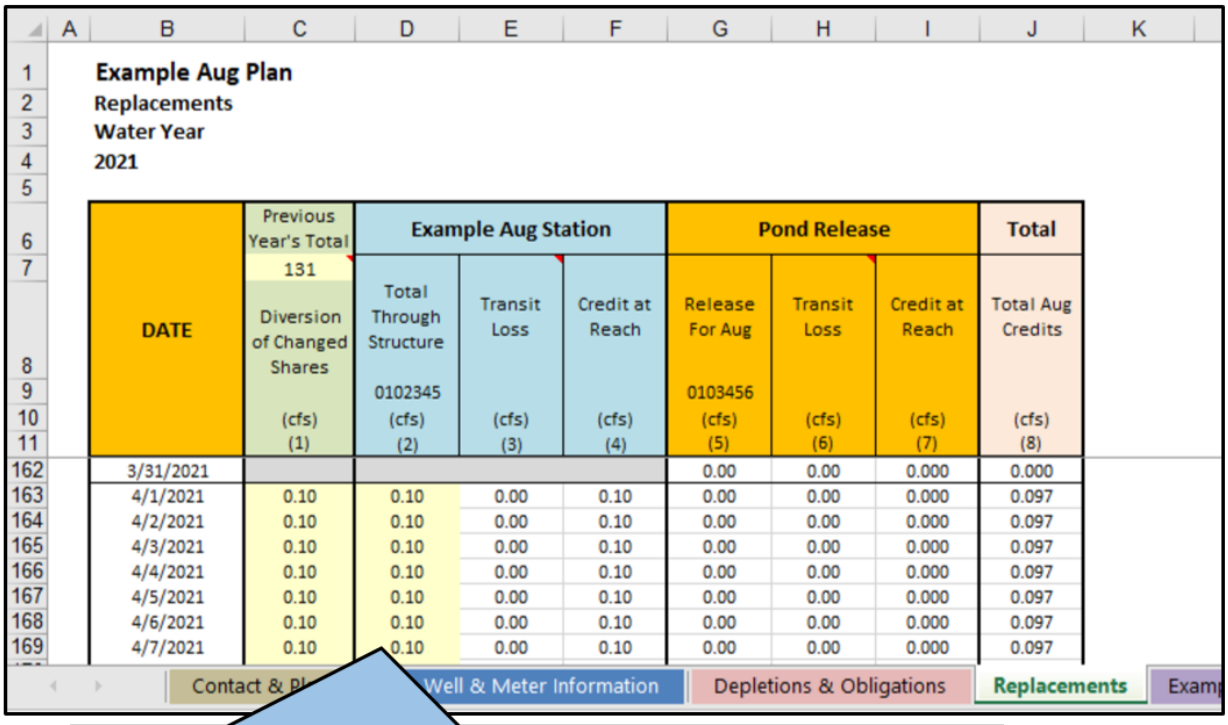


| DATE | Lagged Depletions: Well 1 0104567 (cfs) (1) | Well 2 0104567 (cfs) (2) | Well 1 Out-of-Priority 0105678 (cfs) (3) | Well 2 Out-of-Priority 0105678 (cfs) (4) | Total Out-of-Priority (cfs) (5) | Return Flow Obligations: Subsurf... RFO (cfs) (6) | (cfs) (7) | (cfs) (8) |
|---|---|---|---|---|---|---|---|---|
| 11/1/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/2/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/3/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/4/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/5/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/6/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/7/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/8/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/9/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/10/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/11/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/12/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR | Version

Lagged Depletions can now be prorated into a daily value to determine the daily depletion to the river from the Aug Plan.

**h. (Replacements)**



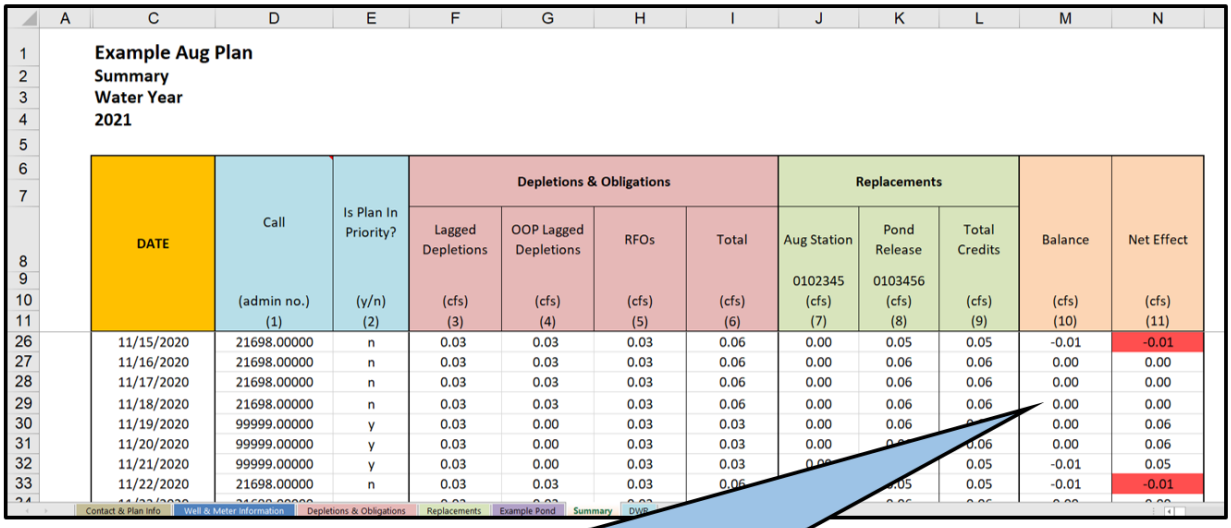
**Example Aug Plan**
Replacements
Water Year
2021

| DATE | Previous Year's Total | Example Aug Station | | | Pond Release | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 131 | | | | | | | |
| | Diversion of Changed Shares | Total Through Structure 0102345 | Transit Loss | Credit at Reach | Release For Aug 0103456 | Transit Loss | Credit at Reach | Total Aug Credits |
| | (cfs) (1) | (cfs) (2) | (cfs) (3) | (cfs) (4) | (cfs) (5) | (cfs) (6) | (cfs) (7) | (cfs) (8) |
| 3/31/2021 | | | | | 0.00 | 0.00 | 0.000 | 0.000 |
| 4/1/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/2/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/3/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/4/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/5/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/6/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/7/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |

Contact & Pl... | Well & Meter Information | Depletions & Obligations | Replacements | Exam...

Input information should be shaded differently than the calculated (cells with formulas) cells. Please provide a legend with the color/shading scheme.

**i. (Summary) - daily**



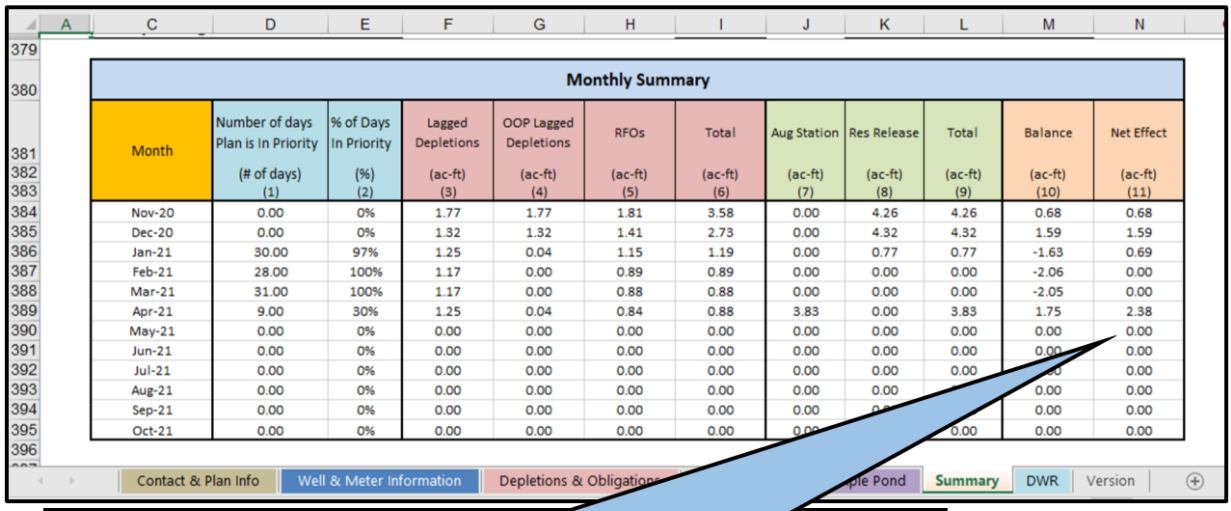
Example Aug Plan
Summary
Water Year
2021

| DATE | Call (admin no.) (1) | Is Plan In Priority? (y/n) (2) | Depletions & Obligations: Lagged Depletions (cfs) (3) | Depletions & Obligations: OOP Lagged Depletions (cfs) (4) | Depletions & Obligations: RFOs (cfs) (5) | Depletions & Obligations: Total (cfs) (6) | Replacements: Aug Station 0102345 (cfs) (7) | Replacements: Pond Release 0103456 (cfs) (8) | Replacements: Total Credits (cfs) (9) | Balance (cfs) (10) | Net Effect (cfs) (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/15/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.05 | 0.05 | -0.01 | -0.01 |
| 11/16/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/17/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/18/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/19/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 | 0.06 | [illegible] | 0.00 | 0.06 |
| 11/20/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 | [illegible] | 0.06 | 0.00 | 0.06 |
| 11/21/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | [illegible] | [illegible] | 0.05 | -0.01 | 0.05 |
| 11/22/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | [illegible] | [illegible] | 0.05 | -0.01 | -0.01 |

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

The Balance column is the balance of Replacements and actual Depletions/Obligations regardless of whether the plan is in or out of priority. It is calculated by subtracting Depletions and Obligations from Replacements.

**j. (Summary)** - a monthly summary table may be added at the bottom of the Summary tab below the daily summary



Monthly Summary

| Month | Number of days Plan is In Priority (# of days) (1) | % of Days In Priority (%) (2) | Lagged Depletions (ac-ft) (3) | OOP Lagged Depletions (ac-ft) (4) | RFOs (ac-ft) (5) | Total (ac-ft) (6) | Aug Station (ac-ft) (7) | Res Release (ac-ft) (8) | Total (ac-ft) (9) | Balance (ac-ft) (10) | Net Effect (ac-ft) (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov-20 | 0.00 | 0% | 1.77 | 1.77 | 1.81 | 3.58 | 0.00 | 4.26 | 4.26 | 0.68 | 0.68 |
| Dec-20 | 0.00 | 0% | 1.32 | 1.32 | 1.41 | 2.73 | 0.00 | 4.32 | 4.32 | 1.59 | 1.59 |
| Jan-21 | 30.00 | 97% | 1.25 | 0.04 | 1.15 | 1.19 | 0.00 | 0.77 | 0.77 | -1.63 | 0.69 |
| Feb-21 | 28.00 | 100% | 1.17 | 0.00 | 0.89 | 0.89 | 0.00 | 0.00 | 0.00 | -2.06 | 0.00 |
| Mar-21 | 31.00 | 100% | 1.17 | 0.00 | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | -2.05 | 0.00 |
| Apr-21 | 9.00 | 30% | 1.25 | 0.04 | 0.84 | 0.88 | 3.83 | 0.00 | 3.83 | 1.75 | 2.38 |
| May-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jun-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | [illegible] | 0.00 |
| Aug-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | [illegible] | 0.00 | 0.00 |
| Sep-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | [illegible] | [illegible] | 0.00 | 0.00 |
| Oct-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | [illegible] | [illegible] | 0.00 | 0.00 | 0.00 |

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | [illegible]ple Pond | Summary | DWR | Version

Net Effect is the Balance or Net Impact value with the priority of the plan included. Plans considered in priority may not be required to replace depletions. This column represents whether the Aug plan shows injury to the river or has sufficiently replaced its uses.