STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

SWSP Approval for the East Rigden Pit (Plan ID 3055)

Brucker - DNR, Sarah <sarah.brucker@state.co.us> Fri, Jul 8, 2022 at 2:47 PM
To: Lauren Berrien <lberrien@bbawater.com>, Jeff Clark <jclark@bbawater.com>
Cc: Michael Hein <michael.hein@state.co.us>, Mark Simpson <mark.simpson@state.co.us>, Louis Flink <louis.flink@state.co.us>, Dawn Ewing - DNR <dawn.ewing@state.co.us>, Amy Eschberger - DNR <amy.eschberger@state.co.us>

Please find attached the Substitute Water Supply Plan Approval for the East Rigden Pit (DRMS Permit No. M-1979-097, WDID 0302570, Plan ID 3055). Should you have any questions, please contact me at this office.

Sarah Brucker
Water Resources Engineer

COLORADO
Division of Water Resources
Department of Natural Resources

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Approval 3055.pdf
5585K

COLORADO
Division of Water Resources
Department of Natural Resources

July 1, 2022

Lauren Berrien
Jeffery A. Clark
BBA Water Consultants, Inc.
333 West Hampden Ave, Suite 1050
Englewood, CO 80110

Re: City of Fort Collins East Rigden Pit Substitute Water Supply Plan
(WDID 0302570, Plan ID 3055)
DRMS Permit No. M-1979-097 (WDID 0303021)
Sections 21, 27 & 28, T7N, R68W, 6th P.M.
Water Division 1, Water District 3, Larimer County

Approval Period: July 1, 2022 through June 30, 2023
Contact information for Ms. Berrien: 303-806-8952; lberrien@bbawater.com
Contact information for Mr. Clark: 303-806-8952; jclark@bbawater.com

Dear Ms. Berrien and Mr. Clark:

We have reviewed your letter dated May 17, 2022 requesting renewal of a substitute water supply plan ("SWSP") on behalf of the City of Fort Collins ("Applicant" or "Fort Collins") in accordance with section 37-90-137(11), C.R.S., to cover depletions caused by an existing gravel pit operation known as the East Rigden Pit, Division of Reclamation, Mining and Safety ("DRMS") Permit No. M-1979-097. The required fee of $257.00 for the renewal of this substitute water supply plan has been submitted (receipt no. 10021492).

SWSP Operations

The East Rigden Pit is located south of the Cache la Poudre River in Sections 21, 27, and 28, Township 7 North, Range 68 West of the 6th P.M., as shown on the attached Figure 1. Past sand and gravel mining operations exposed groundwater at the East Rigden Pit, but the site has not been mined in many years.

Pursuant to section 37-90-137(11)(b), C.R.S., and case no. 2009CW49, a gravel pit operator or property owner does not need to replace depletions that occur due to evaporation from groundwater exposed prior to January 1, 1981 ("pre-81") as a result of open mining of sand and gravel, regardless of whether mining continued after December 31, 1980. The May 17, 2011 SWSP Approval documented the location of 25 acres of groundwater exposed at the East Ridgen Pit at that time which were recognized as having been exposed at the site prior to January 1, 1981. Per the State Engineer's General Guidelines for Substitute Supply Plans for Sand and Gravel Pits updated April 1, 2011, pre-81 areas are tied to the physical location at which the groundwater was exposed prior to January 1, 1981, and may not be re-allocated to other areas of groundwater exposure within the

gravel pit boundary. The pre-81 areas of groundwater exposure as documented in the May 17, 2011 SWSP Approval are shown in blue on the attached Figure 1.

A compacted clay liner was constructed around the portion of the East Rigden Pit shown in yellow on the attached Figure 1 in September 2014. The liner was approved by the State Engineer's Office as meeting the design standard for liners on May 20, 2015, and classified as a lined reservoir in accordance with the August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits (Rigden Storage Reservoir, WDID 0303326). The February 27, 2015 SWSP Approval stated that upon approval of the compacted clay liner, no depletions associated with the East Rigden Pit would remain after the conclusion of that plan period and no subsequent SWSP was anticipated to be required for the site, due to all areas of groundwater exposure at that time either being within the lined area or within the 25 acres documented as having been exposed to the atmosphere prior to January 1, 1981.

A DRMS field inspection in January 2019 found that the acreage of the exposed groundwater had increased beyond the pre-81 extent. This additional exposed surface area is considered to have been exposed after December 31, 1980 ("post-80") and has been included in a substitute water supply plan since July 1, 2019. Fort Collins does not plan to conduct any mining activities during the term of this SWSP, therefore the only consumptive use of water at the East Rigden Pit will consist of evaporation from these additional areas of exposed groundwater.

Depletions

The DRMS estimated the exposed groundwater surface area of the north, west, and northwest ponds to have expanded by 18.0, 0.67, and 0.38 acres respectively beyond the areas recognized as pre-81. DRMS estimated the acreage of the southeast pond to have decreased by 0.08 acres, however this decrease does not provide credit that can be allocated elsewhere. The Applicant agreed with the new acreage for the north and west ponds, but believed that the northwest and southeast ponds have maintained the extent of their approved pre-81 areas. The Applicant attributed the minor differences in surface area between that determined by DRMS and the prior mapping conducted by Applegate Group, Inc. to mapping accuracy discrepancies. This office conducted an analysis of currently exposed areas shown on aerial imagery and found that the minor differences in surface area for the northwest and southeast ponds could be reasonably attributed to mapping accuracy discrepancies and can be considered to be within the pre-81 areas as documented in the May 17, 2011 SWSP Approval. Therefore, the total groundwater surface area requiring replacement of evaporative depletions is considered to be 18.67 acres for this plan period.

A net evaporation rate of 2.37 feet per year was used, consistent with the value used in the City of Fort Collins' augmentation plan decreed in Division 1 water court case no. 2014CW3167 for several nearby gravel pits. You have not assumed any ice-covered period, but reserve the right to reduce the monthly evaporative depletions by the pro-rata extent of ice cover during the winter months upon approval of the water commissioner. The ice-covered periods may be used to reduce the amount of evaporative losses that must be replaced; however, for the purposes of this SWSP, the Applicant shall replace the net evaporation depletions from the post-80 exposed groundwater surface area that for any time that the post-80 exposed groundwater surface is not completely covered by ice. Computation of the net evaporation during any time that the post-80 exposed groundwater surface is not completely covered by ice shall be determined as the pro-rata amount of the monthly gross evaporation rate distribution amount identified in the State Engineer's General Guidelines for Substitute Supply Plans for Sand and Gravel Pits, subtracting the pro-rata amount of the effective precipitation for that period. The net depletion of groundwater due to evaporation from the post-80

area is projected to total 44.19 acre-feet during this plan period (assuming no ice cover), as shown on the attached Table 1.

The Alluvial Water Accounting System (AWAS) program developed by the Integrated Decision Support (IDS) Group at Colorado State University was used to lag depletions from evaporation at the mine site to the Cache la Poudre River. The model requires the following parameters: distance (X) from the centroid of the exposed water surface to the river, aquifer width (W), transmissivity (T), and specific yield (S). The aquifer width, transmissivity, and specific yield are consistent with the values determined in case no. 2014CW3176 for the adjacent Port of Entry Pit. The aquifer parameters used for the East Ridgen Pit site are listed in the table below:

Aquifer Parameters – East Rigden Pit

X (ft)	W (ft)	T (gpd/ft)	S
674	1,335	49,500	0.2

Unit response factors derived from the AWAS analysis were normalized to 97% of depletions, which occurred after three months. The total lagged depletions for the East Rigden Pit site were determined to be 44.19 acre-feet for this plan period. Lagged depletions from the three months previous to July 2022 were included to account for depletions occurring prior to the beginning of this SWSP period that will impact the river during this plan period. A monthly breakdown of lagged depletions is shown in the attached Table 1.

Replacements

The City of Fort Collins has committed to replace the depletions described in this SWSP from Fort Collins' fully consumable sources. The replacement water will come from reusable sources owned or controlled by the City of Fort Collins that have been previously decreed for augmentation, which may include:

- Arthur Irrigation Company Shares (391.3642 shares changed in case no. 1992CW129 and 154.675 shares changed in case no. 2005CW323)
- Colorado-Big Thompson Project Water (attributable to North Poudre Irrigation Company Shares and allotment contracts with the Northern Colorado Water Conservancy District)
- Joe Wright Reservoir (decreed for augmentation use in case nos. CA-11217 and W-9322-78)
- Larimer County Canal No. 2 Irrigation Company Shares (67.5615 shares changed in case no. 1992CW129 and 27.61175 shares changed in case no. 2005CW323)
- Michigan Ditch Water Rights (146 cfs of transmountain water per case no. 1988CW206)
- New Mercer Ditch Company Shares (44.81716 shares changed in case no. 1992CW129 and 27.6083 shares changed in case no. 2005CW323)
- North Poudre Irrigation Company Shares ("multiple use portion", described as four units of Colorado-Big Thompson Project Water)
- Warren Lake Reservoir Company Shares (83.1892 shares changed in case no. 1992CW129 and 41.33834 shares changed in case no. 2005CW323)
- Windy Gap Units (annual reuse agreement with Platte River Power Authority for use of this water per case no. W-9322-78)

The decrees entered in case nos. 1992CW129 and 2005CW323 changed the use of the above-identified ditch shares, collectively referred to as the "Southside Ditches Water Rights", from

irrigation to all municipal uses, including augmentation and replacement, and to allow diversion and storage at multiple locations as specified in the decrees, including storage in Fossil Creek Reservoir.

In the event that Fort Collins plans to use Colorado-Big Thompson Project ("CBT") water as a replacement source, Fort Collins shall comply with the Interim Rule issued by the Northern Colorado Water Conservancy District ("Northern Water's") in May 2005, regarding the use of Colorado-Big Thompson Project water in substitute water supply plans. Prior to such use of CBT water, Fort Collins is required to notify this office, the division engineer, and the water commissioner of the amount of CBT water dedicated to this plan and provide a copy of Northern Water's approval letter as required by paragraph I(g) of the Northern District's May, 2005 Interim Rule. The beneficial use of CBT water is limited to Northern Water's boundaries, and the East Rigden Pit is located within Northern Water's boundaries.

The SWSP request lists two additional reusable sources owned or controlled by the City of Fort Collins, the Halligan Reservoir Enlargement Water Right (decreed for augmentation use in case no. 2013CW3185) and the Rigden Reservoir and Effluent (decreed for augmentation use in case no. 2014CW3158), whose decrees contain language that limit their use as a replacement source unless the use has been approved pursuant to substitute water supply plans approved under section 37-92-308, C.R.S. This SWSP is approved under a different statute, therefore these two replacement sources may not be used for this SWSP approval. The Applicant has agreed to not use the Halligan Reservoir Enlargement Water Right and the Rigden Reservoir and Effluent as replacement sources for this SWSP. If water is stored in Rigden Reservoir under free river conditions for the purpose of replacing depletions under gravel pit SWSPs, with the knowledge and approval of the water commissioner, such water could be used for replacement purposes in this SWSP.

The SWSP request additionally lists Water Supply and Storage Company Shares and references case nos. 1992CW129 and case no. 2005CW232, which did not include a change of use of any WSSC shares. Fort Collins did change the use of 26.667 shares of the WSSC in case no. 2011CW265; however, that decree contained similar language limiting the use of the changed shares for augmentation or replacement sources to use in accordance with a subsequent decree or pursuant to a substitute water supply plan approved under section 37-92-308 or interruptible water supply agreement approved under section 37-92-309, or successor statutes. Because this SWSP is not approved under the referenced statutes, Fort Collins' WSSC shares may not be used as a replacement source under this SWSP.

Replacement water will be delivered to the confluence of the Foothills Outfall Channel and the Cache la Poudre River in the NW¼ of the NW¼ of Section 34, Township 7 North, Range 68 West, 6th P.M., just below Rigden Storage Reservoir (WDID 0303326).

All replacements will be based on actual depletions determined from tracking actual evaporation losses. Replacement deliveries will be reported in Fort Collins' existing accounting. Conveyance loss for delivery of replacement water is subject to assessment and modification as determined by the division engineer. The Applicant shall coordinate with the water commissioner to apply appropriate transit losses for delivery of replacement water.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining and Safety (copy attached), 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 April 30, 2010 letter from DRMS requires that operators provide information to DRMS to demonstrate they can replace long-term injurious stream depletions that result from mining-related exposure of groundwater.

The two ponds that include groundwater exposed to the atmosphere after December 31, 1980 are located on land owned by a private landowner, Cottonwood Land and Farms, LTD. The responsibility of the final reclamation obligation for any remaining exposed groundwater is the subject of legal interpretation of an agreement between the parties. If it is determined that the Applicant bears the mitigation responsibility for the exposed groundwater described herein, Fort Collins will either backfill the remaining exposed groundwater areas or seek approval of a plan for augmentation to replace the post-80 evaporative depletions. Fort Collins will continue to replace these depletions under a SWSP while the legal issues are being resolved. Please be advised that this office will not support the release of the land containing any post-80 exposed groundwater surface area from the DRMS permit unless the depletions are included in a decreed plan for augmentation or otherwise mitigated. This office will require proof of diligence towards a plan that will meet the requirements of the DRMS for approval of future SWSPs.

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 July 1, 2022 through June 30, 2023, unless otherwise revoked or superseded by decree. If the post-80 exposed groundwater surface area is not backfilled or included in a court decreed plan for augmentation by the SWSP expiration date, a renewal request must be submitted to this office with the statutory fee of $257 no later than May 1, 2023. 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. 76136-F was obtained for the current use and exposed pond surface area of the gravel pit in accordance with sections 37-90-137(2) and (11), C.R.S.
3. The total surface area of the post-80 groundwater exposed at the East Rigden Pit site must not exceed 18.67 acres, which results in an annual net evaporative loss of 44.19 acre-feet.
4. Total consumption at the East Rigden site must not exceed the aforementioned amount unless an amendment is made to this SWSP.
5. Computation of evaporation under this plan may be reduced during the ice-covered period. However, for the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the post-80 exposed groundwater surface area that may occur during any time that the post-80 exposed water surfaces are not completely covered by ice.
6. Approval of this SWSP is for the purposes as stated herein. This office must first approve any additional uses for the water.
7. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to this site until a plan for augmentation is obtained.
8. 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. 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.

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

10. The Applicant shall install and maintain such measuring devices as required by the division engineer for operation of this SWSP.

11. 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 within 30 days of the end of the month for which the accounting applies (https://dwr.state.co.us/Tools/reporting). 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.

    For the duration of this SWSP, it is acceptable for the East Rigden Pit accounting to be incorporated with Fort Collins' comprehensive accounting forms and not reported separately.

12. The approval of this SWSP does not relieve the Applicant of the requirement to obtain a Water Court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions. If reclamation of the mine site will produce a permanent water surface exposing post-80 groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court to include, but not be limited to, long-term evaporation losses. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.

13. 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 under this SWSP must cease immediately.

14. In accordance with the letter dated April 30, 2010 (copy attached) from the Colorado DIvision of Reclamation, Mining, and Safety ("DRMS"), 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 April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining-related exposure of the groundwater.

15. 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 if the substitute supply is of a quality to meet requirements of use to which the senior appropriation receiving the substitute supply has normally been put. As such, water quality data or

analyses may be requested at any time to determine if the requirement of use of the senior appropriator is met.

16. 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 water court case or any other legal action that may be initiated concerning the SWSP. 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.

If you have any questions concerning this approval, please contact Sarah Brucker in Denver at (303) 866-3581 or Michael Hein in Greeley at (970) 352-8712.

Sincerely,

for Jeff Deatherage, P.E.
Chief of Water Supply

Attachments: Figure 1
Table 1
Letter from DRMS dated April 30, 2010
Augmentation Plan Accounting Protocol

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us
1809 56th Avenue, Greeley, CO 80634; (970) 352-8712

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

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

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

Amy Eschberger, Division of Reclamation Mining and Safety, amy.eschberger@state.co.us

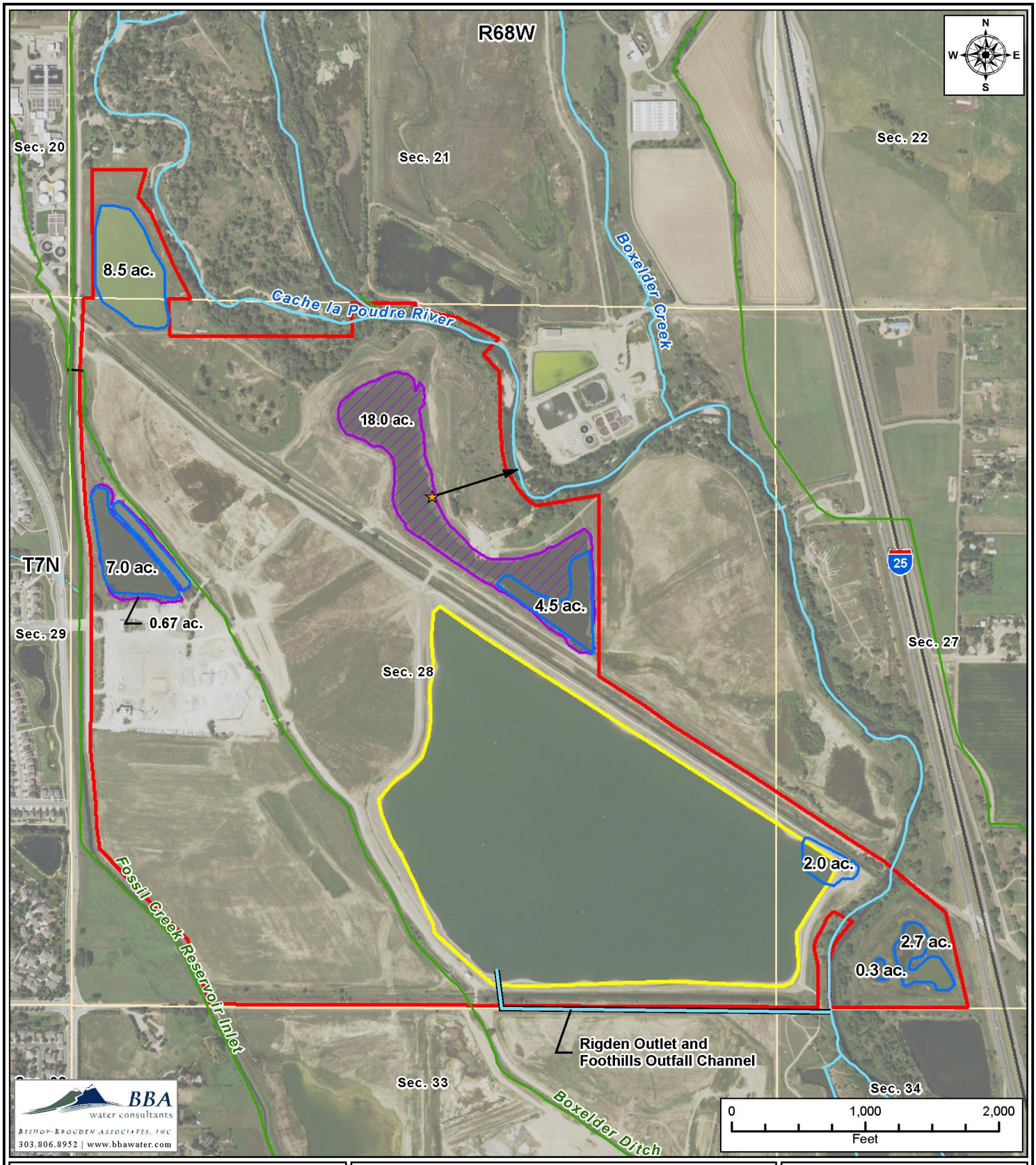


Figure 1
East Rigden Pit
Pre-1981 and
Expanded Pond Extents

Date: 5/8/2019 | Job No. 9625.15

Legend

- Expanded Pond Surface Area Centroid
- Centroid Point of Depletion
- Pre-1981 Pond Surface Area - Approx.
- Expanded Pond Surface Area - 18.67 ac.
- Rigden Reservoir
- DRMS Permit Boundary

Aerial Photo Date: 8/27/2017 USDA-NAIP
Data Source: DRMS, Applegate, CDSS, CDOT, BLM

Colorado

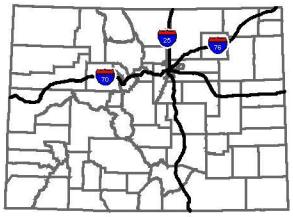


Table 1

City of Fort Collins

2022-2023 East Rigden Pit SWSP

Total Depletions

Month	Net Evaporation (feet)	Net Evaporation (ac-ft)	Total Lagged Depletions (ac-ft)
	[1]	[2]	[3]
Jul-22	0.40	7.39	6.86
Aug-22	0.35	6.57	6.92
Sep-22	0.25	4.65	5.67
Oct-22	0.16	2.99	3.98
Nov-22	0.09	1.75	2.52
Dec-22	0.07	1.27	1.62
Jan-23	0.08	1.40	1.38
Feb-23	0.09	1.59	1.48
Mar-23	0.11	2.05	1.81
Apr-23	0.18	3.40	2.69
May-23	0.23	4.37	3.77
Jun-23	0.36	6.76	5.49
Total	2.37	44.19	44.19

Notes:
[1] Net annual evaporation rate (2.37 feet) is based upon values determined in the Fort Collins augmentation plan, Division 1 Case No. 14CW3176. Annual net evaporation is distributed according to SEO Senate Bill 89-120 criteria. Monthly evaporative depletions will be reduced pro rata by the extent of ice cover during the winter months.
[2] Equal to [1] * 18.67 acres of ground water exposed post-1980.
[3] Equal to values from [2] lagged based on the following lagging parameters: Distance from stream = 674 ft, Transmissivity = 49,500 gpd/ft, Specific Yield = 0.2, Aquifer Width = 1,335 ft. Lagged depletions from three months prior to July 2022 were included to account for depletions occuring before the beginning of this SWSP period.

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

April 30, 2010

Lafarge West, Inc.
10170 Church Ranch Way, Ste. 200
Westminister, CO 800210000

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

The Division of Reclamation Mining and Safety is responsible for ensuring that Sand and Gravel mining operators comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Act) and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (Rules). Among these requirements are provisions for the protection of water resources. The Act requires that reclamation plans must ensure minimization of disturbances to the prevailing hydrologic balance, including disturbances to the quantity of water in the area affected by mining and in the surrounding areas. § 34-32.5-116(4)(h). Rule 3.1.6(1)(a) requires compliance with Colorado water laws and regulations governing injury to existing water rights both during and after mining. Permits must specify how the permittee will comply with applicable Colorado water laws and regulations governing injury to existing water right rights. Rule 6.3.3(j); Rule 6.4.5(2)(c). After an extensive review, the Division determined that several operators may not have appropriate permit conditions to address certain reclamation liabilities arising from impacts to water resources.

In September 2009 the Division of Water Resources (DWR) updated its Guidelines for Sand and Gravel Pits. These guidelines provide guidance on achieving compliance with state law regarding replacement of depletions from sand and gravel mining, thus the guidelines provide a benchmark for the protection of hydrologic balance required under the Act and Rules. As noted in the Guidelines, sand and gravel operations which expose groundwater without complying with state law create a reclamation liability by impacting available groundwater.

State law requires that any person exposing ground water must obtain a well permit from the SEO pursuant to § 37-90-137(11). Because exposed groundwater results in out-of-priority water depletions, operations which expose ground water must also eventually obtain a water-court approved augmentation plan. Currently, several operators do not have either an augmentation plan or bonding to provide an alternative method to mitigate injurious stream depletions that result from mining-related exposure of ground water. The Division has a statutory duty to ensure that lands affected by mining are reclaimed in a manner that complies with state law and to ensure that operators have sufficient bonding to achieve reclamation. In order to assist operators in achieving compliance with these requirements, the Division proposes that, by April 30, 2011, operators should contact the Division and agree upon a plan for achieving compliance.

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,

2. Obtain a court approved augmentation plan prior to exposing ground water or,

3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,

4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

The Division will work with operators on an individual basis as they move to implement one of these plans. It is likely that options 1 and 3 will require the submittal of a technical revision or an amendment to the existing permit depending on the nature of the current mining and reclamation plan and the proposed changes. Increased financial warranties, as a result of these modifications, may be posted in a phased manner not to exceed three years. Amendments or revisions currently under review will be required to be approved by April 30, 2011 and may use the phased financial warranty approach described above. New applications going forward or presently under review by the Division will be required to meet the requirements of one of the options 1-4 at the time of application approval. Failure of affected operators to initiate contact with the Division and gain compliance as described above could result in an enforcement action being issued by the Division.

If you have any questions, please contact Tony Waldron at 303-866-3567, extension 8150.

cc:

M2006064	Shields at Fossil Creek Mine			M1983031	Stromquist Pit
M1994002	Andrews S & G #5 (Burlington Pit)			M1974072	Chantala Pit
M2006018	North Bank Resources			M1985218	Rich Pit
M2006073	Sundance Sand and Gravel Resource			M1985206	Boone-Martin Pit
M2009082	Parsons Mine			M1995022	Andrews #2
M1977081	Greeley West Pit			M1990144	Boone-Fillmore Pit
M2003091	Duckworth Pit			M1997087	Hartman Pit
M2000113	Mamm Creek Sand & Gravel			M2001094	Shaw Pit
M2001090	River Valley Resource			M2002009	Beeman Pit #1
M2000016	Riverbend Operation			M1981307	Fountain Pit
M1979134	Powers Pit			M1977439	Home Office Mine
M1977036	Greeley 35th Ave Pit			M1979191	Three Bells Pit
M2000034	Reichert Pit			M1982182	Port of Entry Pit
M2001051	North Taft Hill Expansion Site			M2002081	Overland Ponds
M1974015	Lyons Pit			M1981088	McCoy Pit
M1974004	Specification Aggregates Quarry			M1982034	Miller Pit
M1987176	Hamm Pit			M1996082	Blair Mesa Pit
M1988042	Cottonwood Pit			M1980136	Chambers Pit
M1990112	State Pit			M1977098	Sievers Pit
M1979002	North Delta Pit	M1983013	Latham - Burkett Pit	M1974070	Nelson Pit
M1979159	Brose Pit	M1979097	East Rigden Pit	M2000002	Tanabe Pit
M1998014	Gypsum Ranch Pit	M1991035	Bluestone Pit	M1994045	Bluestone Pit
M1999088	Kyger Pit	M1986159	Courtner Pit	M1986079	M & G Pit
M1998075	Andrews #3 (Mock Pit)				

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 **2**

2. Methods to submit accounting **2**
- Accounting and Reporting Uploader (preferred) 2
- Email 2

3. Timing of accounting submittal **3**

4. Overall organization of accounting spreadsheet and required information per tab **4**
- Overall organization 4
- Contact/Plan Information Tab 4
- Input Tab(s) 4
- Depletion & Obligation tab 7
- Replacement tab 7
- Summary Tab 8
- DWR tab for Diversion Record Data Import 8
- DWR Meters tab for Meter Reading Data Import 8
- Version/Notes tab 8

5. Requirements and recommendations for all tabs **8**

6. Example, Screenshots, and Spreadsheet Templates **9**

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	gregory.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.

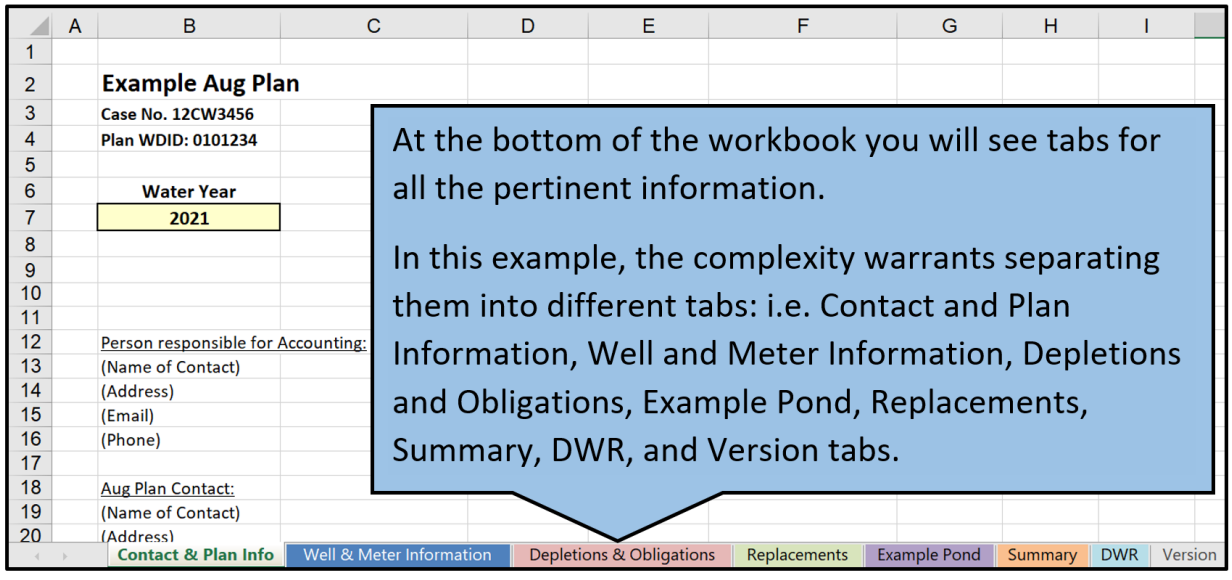
h. When there are multiple stream reaches involved, organize accounting from upstream to downstream.

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

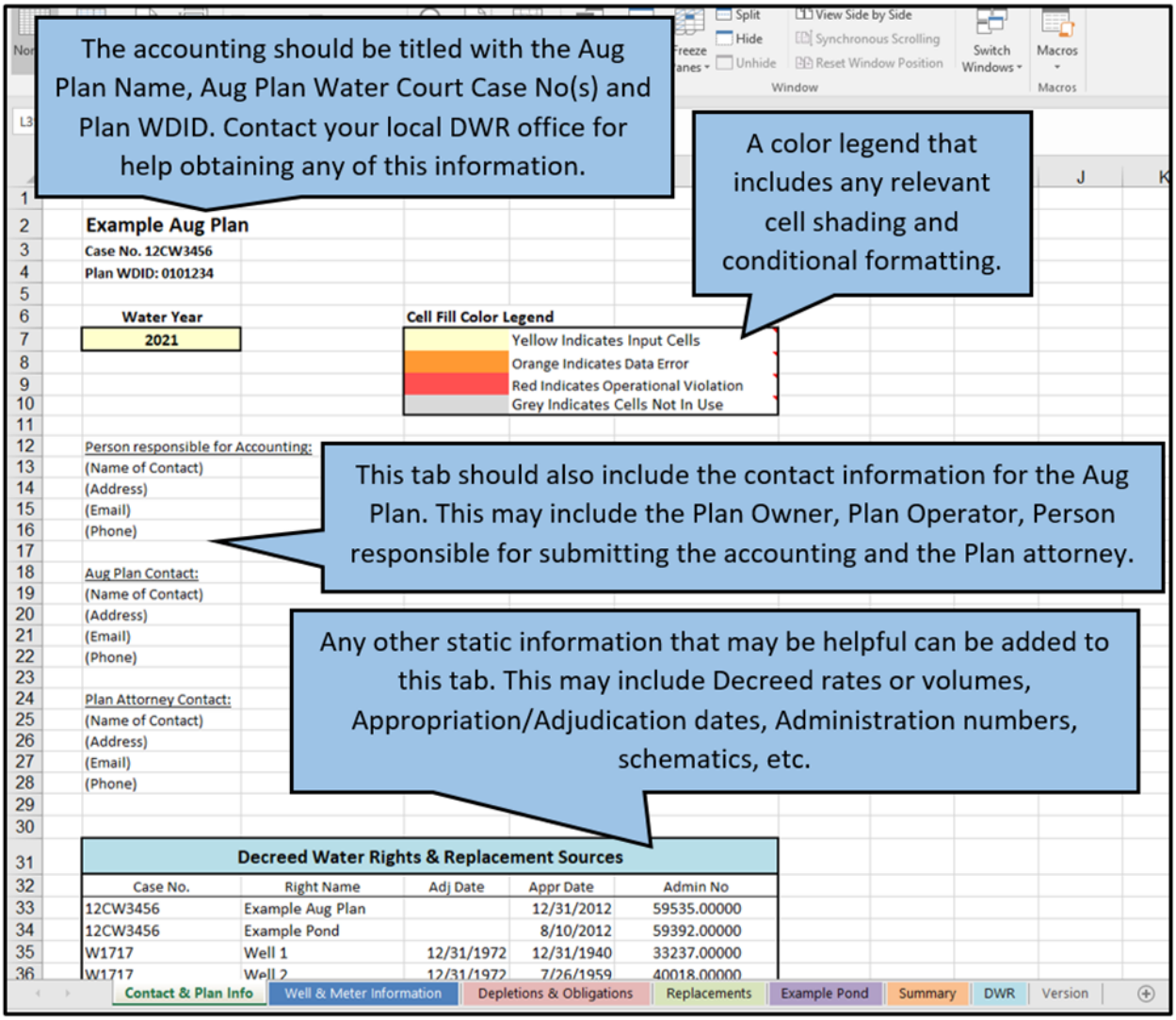
6. Example, Screenshots, and Spreadsheet Templates

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.

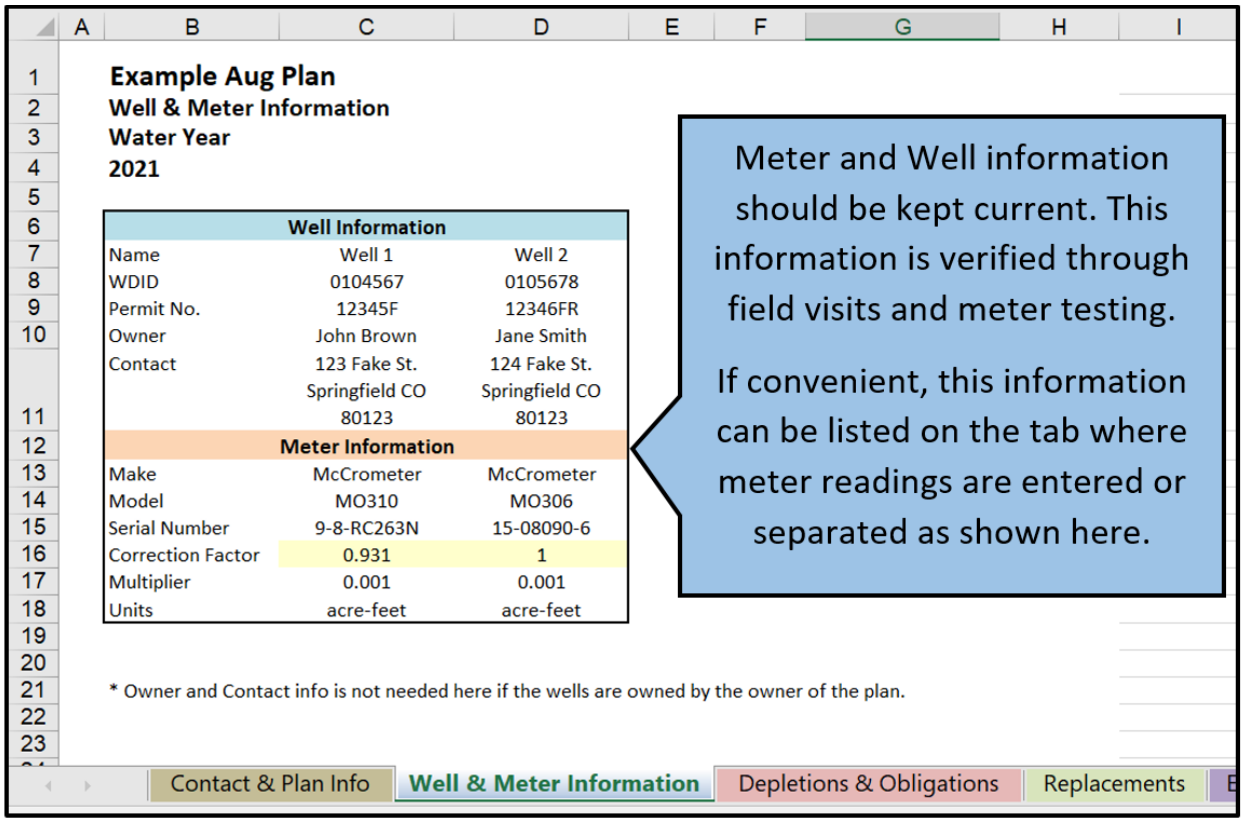
a. (List of relevant tabs)



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

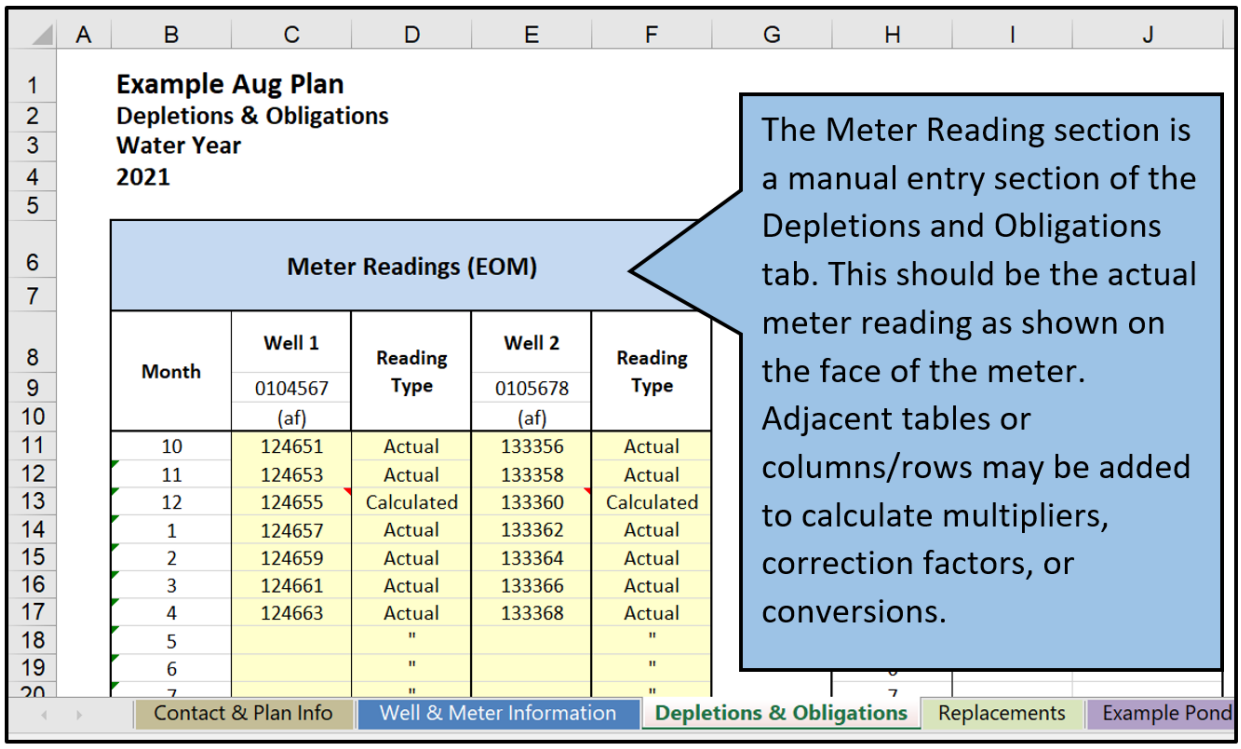
Meter and Well information should be kept current. This information is verified through field visits and meter testing.

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

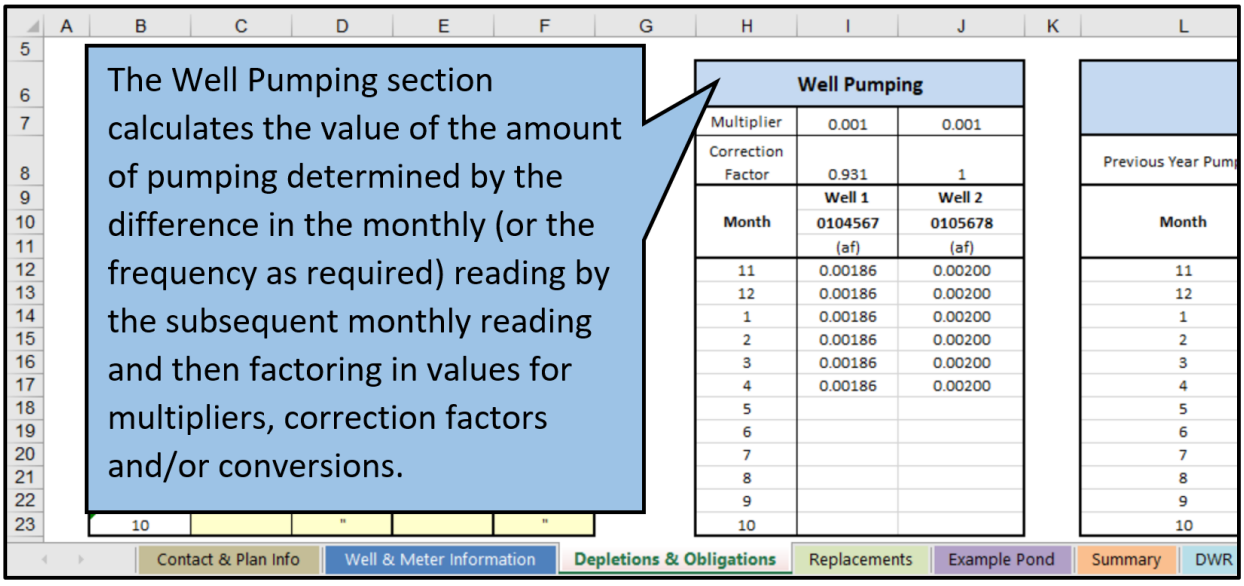
Meter Readings (EOM)

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.

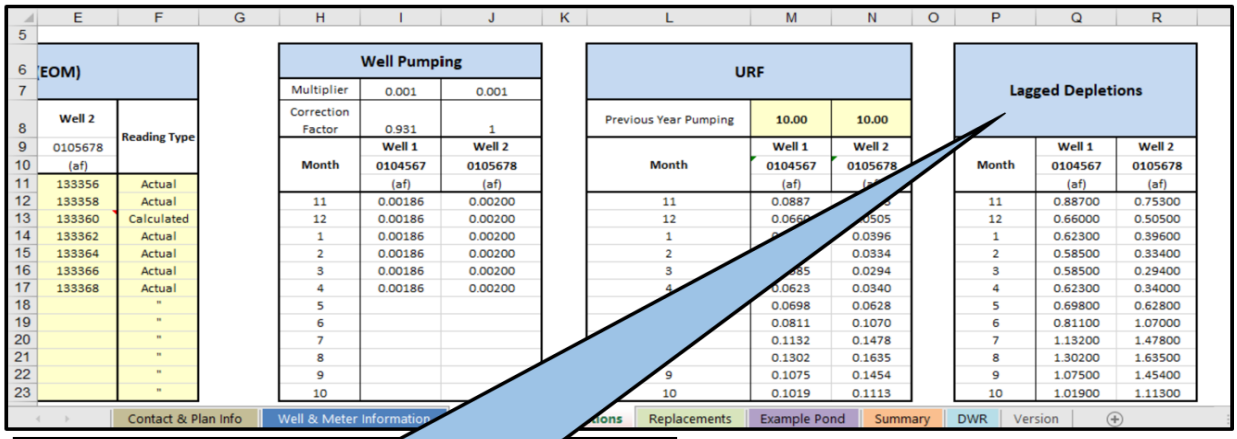
Well Pumping

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		

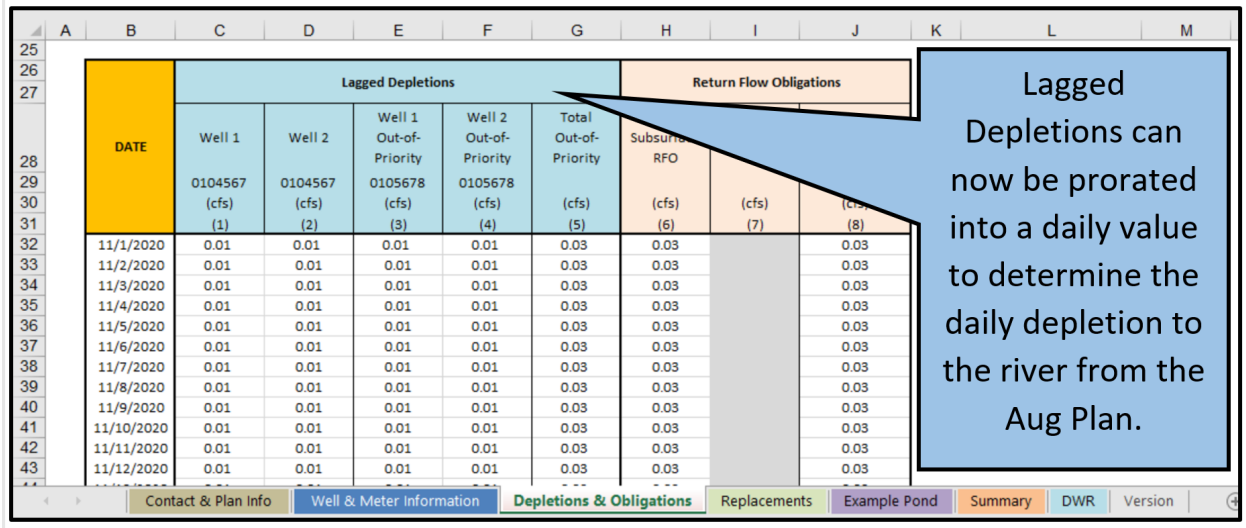
URF		
Previous Year Pumping	10.00	10.00
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.0887	
12	0.0660	0505
1		0.0396
2		0.0334
3	585	0.0294
4	0.0623	0.0340
	0.0698	0.0628
	0.0811	0.1070
	0.1132	0.1478
	0.1302	0.1635
9	0.1075	0.1454
10	0.1019	0.1113

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

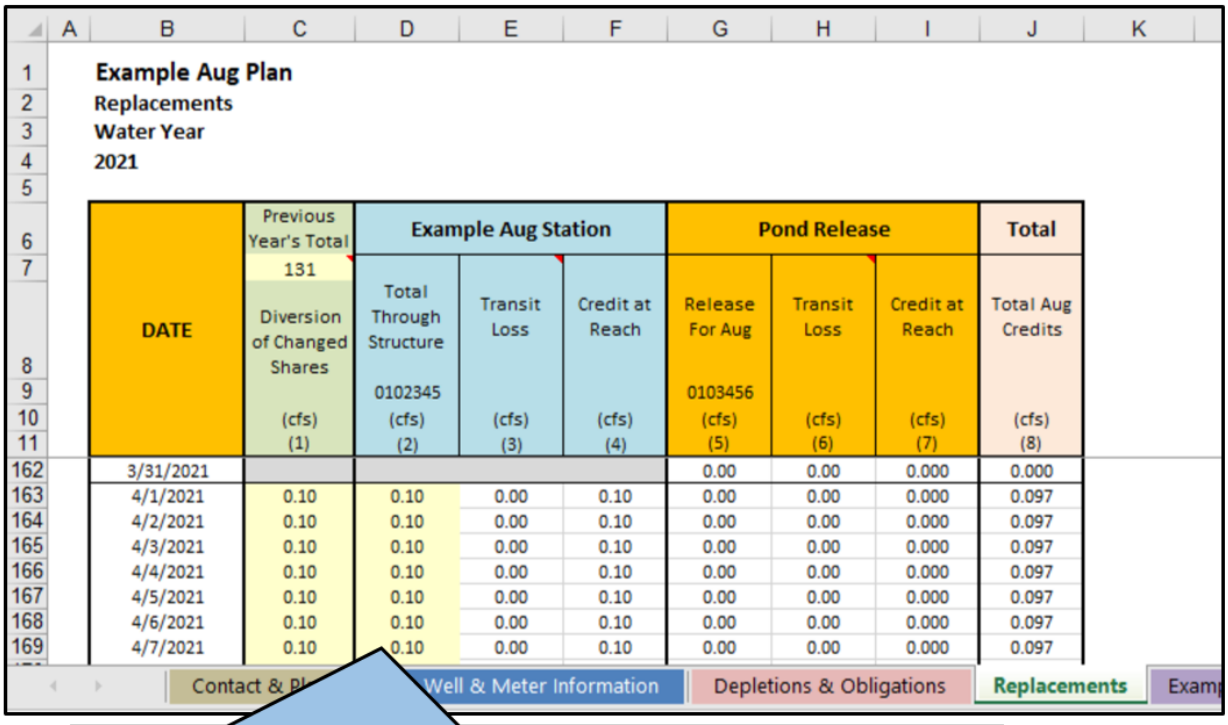


DATE	Lagged Depletions: Well 1 0104567 (cfs) (1)	Well 2 0104567 (cfs) (2)	Well 1 Out-of-Priority 0105678 (cfs) (3)	Well 2 Out-of-Priority 0105678 (cfs) (4)	Total Out-of-Priority (cfs) (5)	Return Flow Obligations: Subsurf... RFO (cfs) (6)	(cfs) (7)	(cfs) (8)
11/1/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03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



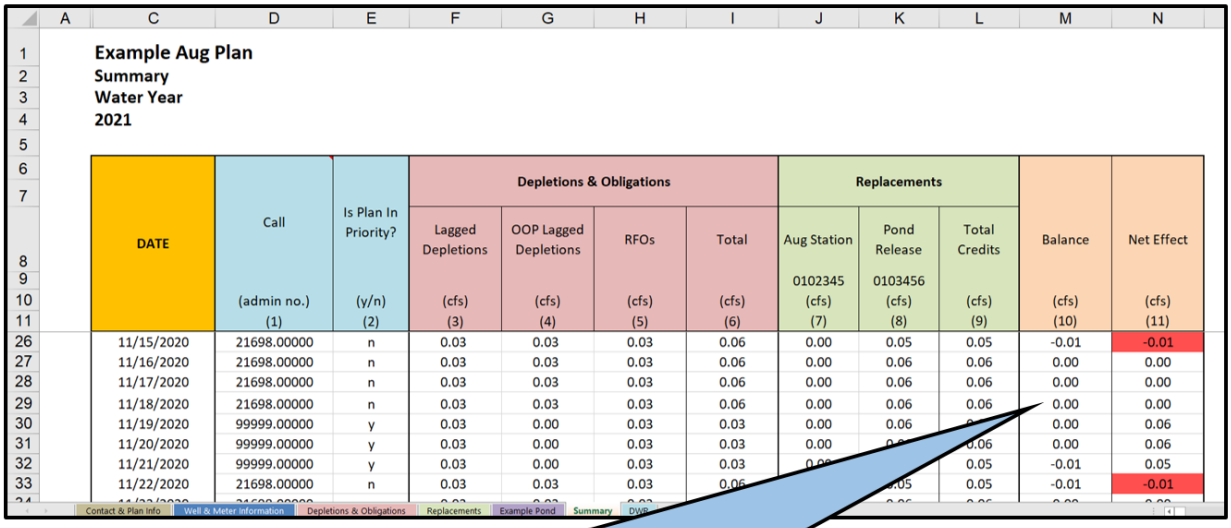
Example Aug Plan
Replacements
Water Year
2021

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



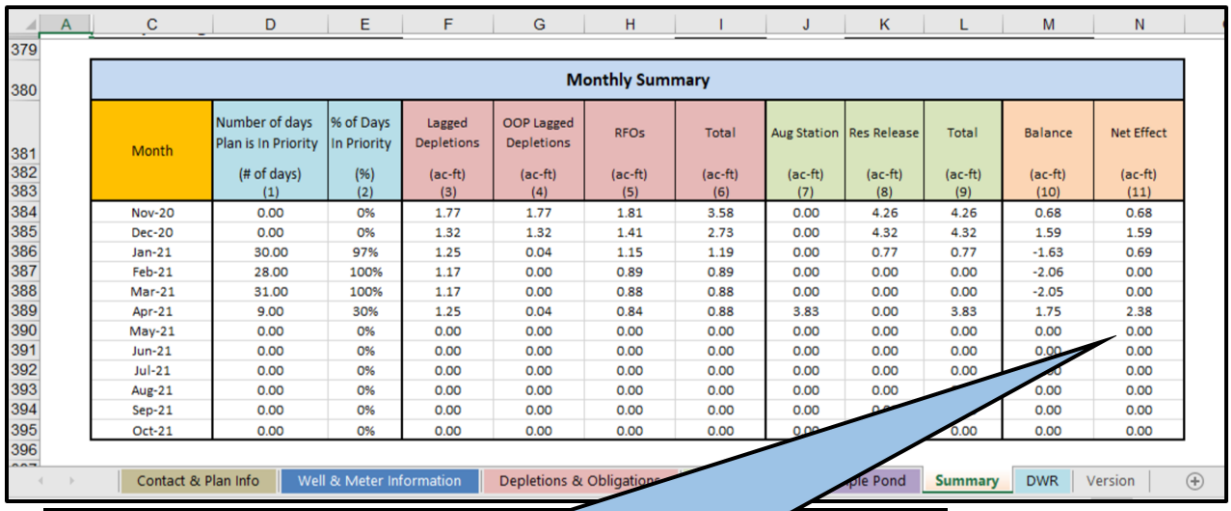
Example Aug Plan
Summary
Water Year
2021

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.