



COLORADO
Division of Water Resources
Department of Natural Resources

November 5, 2020

Mr. Abdullah Javed, E.I.T
Applegate Group, Inc.
1490 W. 121st Avenue, Suite 100
Denver, CO 80234

**RE: Bucklen Substitute Water Supply Plan (WDID 0302538, Plan ID 3183)
Bucklen Pit, DRMS File No. M-1982-131 (WDID 0303032)
Section 36, T6N, R66W, 6th P.M. and Section 31, T6N, R65W, 6th P.M.
Water Division 1, Water District 3, Weld County**

Approval Period: November 1, 2020 through October 31, 2021

Contact Information for Mr. Javed: AJaved@applegategroup.com; 303-452-6611

Dear Mr. Javed:

We have reviewed your letter dated October 22, 2020 requesting renewal of the above referenced substitute water supply plan ("SWSP") on behalf of Bucklen Equipment Co., Inc. ("Applicant") in accordance with section 37-90-137(11), C.R.S., for an existing sand and gravel operation known as the Bucklen Pit. The original SWSP was approved on September 15, 1993 and was most recently approved in a letter dated November 4, 2019. The required fee of \$257.00 for the renewal of this SWSP has been received (receipt no. 10007152).

SWSP Operations

The Bucklen Pit (well permit no. 67876-F, WDID 0303032) is located just north of the City of Greeley in the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 36, Township 6 North, Range 66 West, and in the SW $\frac{1}{4}$ of Section 31, Township 6 North, Range 65 West of the 6th P.M. The pit consists of three separate cells designated as the Original Permit Area, Amendment Area A, and Amendment Area B, as shown on the attached Figure 2. During this plan period, depletions at the Bucklen Pit will consist of evaporation from exposed groundwater, water lost in the mined product, and water used for dust control purposes. The proposed sources of replacement water are leased water from the City of Aurora and six shares of the Greeley Irrigation Company owned by the Applicant.

Depletions

Depletions from the Bucklen Pit will result from the evaporation of exposed groundwater and operational losses resulting from mining activity. Currently there are a total of 17.81 acres of groundwater exposed at the Bucklen Pit site, consisting of a 17.65-acre pond located in the Original Permit Area and 0.16 acres of dewatering trenches located within Amendment Area A. 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 as a result of open mining of sand and gravel ("pre-81 areas"), regardless of



whether mining continued after December 31, 1980. This office has previously recognized 5.27 acres of the 17.65-acre pond as being pre-81 exposure. Per the State Engineer's *General Guidelines for Substitute Supply Plans for Sand and Gravel Pits* as updated April 1, 2011, pre-81 areas are tied to the physical location at which the groundwater was exposed prior to January 1, 1981. The applicant has provided a map showing the specific location of the pre-81 area. The credits for the pre-81 area are tied to the location identified in the attached Figure 2 (Pre-81 Credit Location) and may not be re-allocated to other areas of groundwater exposure within the gravel pit boundary. Any pre-81 area that is backfilled will lose the pre-81 exemption should it be excavated in the future. Additionally, the backfilling of the pre-81 area shall not create a credit to be used elsewhere.

Net evaporative depletions were calculated using a gross annual evaporation of 45 inches from the exposed water surface, with a credit of 9.81 inches for effective precipitation, based on an average annual precipitation of 14.02 inches from the Greeley UNC weather station (Station ID 053553) for the time period of 1967 through 2005. Computation of evaporation under this plan was reduced during the ice-covered period. You have assumed the ice-covered period to occur during the months of December and January based on monthly average temperatures reported for the Greeley UNC weather station of 29.4°F for December and 28.6°F for January. The ice-covered periods may be used to reduce the amount of evaporative losses that need to be replaced; however, for the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area that may occur during the assumed ice-covered period (December through January) for any time that the pit is not completely covered by ice. Computation of the net evaporation during any time that the pit 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 12.54 acres exposed after December 31, 1980 is projected to total 34.60 acre-feet during this plan period, as shown on the attached Table 1.

Operational losses associated with mining activities will include water removed with the mined product and water used for dust control. Up to 50,000 tons of material is projected to be mined during this plan period. The material will be mined below the groundwater table in a dewatered state and will not be washed; therefore the water retained in the mined product is considered to be 2.0% of the mined material by weight. This results in a groundwater loss of 0.74 acre-feet. The Applicant has estimated that 2,000 gallons of water per day will be used for dust control purposes during the period of March through October. Water used for dust control purposes is assumed to be 100% consumed. The amount of water lost to dust control during this plan period is therefore estimated to be 1.50 acre-feet. The estimated monthly depletions due to operational losses are shown on the attached Table 2 and are projected to total 2.24 acre-feet for this plan period.

The total consumptive use of groundwater at the Bucklen Pit is estimated to be 36.84 acre-feet for this plan period. A monthly breakdown of evaporative and operational depletions is shown on the attached Table 3.

According to information previously provided to this office, dewatering commenced in Amendment Area A in the summer of 1998 and will continue throughout the water year. Dewatering occurs through the use of two pumps, with one pump usually running continuously, and two pumps running in high water events. The water is pumped into two settling ponds north of Amendment Area A and immediately adjacent to the Cache la Poudre River, where it is allowed to seep and discharge into the river. Prior to November 2012, the volume of water pumped for dewatering was not

included in the accounting submitted to this office or otherwise tracked. Subsequent SWSP approvals have required monthly volumes of dewatering discharge into the settling ponds to be recorded. However, these volumes do not need to be analyzed for depletions to the river as long as pumping remains relatively constant month to month. Dewatering operations that are constant and continuous will eventually reach a steady-state condition where the accretions to the river generated by dewatering are equal to the depletions to the river generated by dewatering. Given the long duration of historical dewatering operations, it is assumed dewatering operations at the Bucklen Pit are in a steady-state condition. At least three (3) years from the expected cessation of dewatering, a plan that addresses the replacement of long term lagged depletions, including depletions that occur with the “first fill” of the pit, must be submitted to our office. Should dewatering at the pit cease during this SWSP approval period, this SWSP will automatically be void until an amendment is sought and approved.

The monthly evaporative and operational depletions to the Cache la Poudre River were lagged from the pit using the Alluvial Water Accounting System (AWAS) program developed by the Integrated Decision Support (IDS) Group at Colorado State University with the following parameters:

- Distance from the centroid of the gravel pit pond to the river (X) = 1,390 feet
- Alluvial aquifer width (W) = 10,650 feet
- Specific yield (S) = 0.2
- Transmissivity (T) = 120,000 gallons per day per foot

Lagged depletions due to past and projected operations at the Bucklen Pit site were calculated to total 36.52 acre-feet during this plan period, as shown on the attached Table 3.

Replacements

During the irrigation season of April through October, the replacement source will be consumptive use credits associated with the historical irrigation use of six (6) shares of the Greeley Irrigation Company. During the non-irrigation season of November through March, replacement water will be provided by a lease of 21.0 acre-feet of augmentation water from Aurora Water. See Table 5 for a monthly breakdown of replacement water for this plan period (Water Year 2021).

Greeley Irrigation Company (“GIC”) Shares

The Applicant owns six (6) out of a total of 519.7 GIC shares, all six of which have been dedicated to this SWSP for this plan period. A share of GIC water provides the shareholder with GIC direct flow water and Fossil Creek Reservoir water. The Applicant’s GIC shares will be delivered to the Cache la Poudre River at the 23rd Avenue and Fourth Street Return Station (WDID 0302318). Replacements to the river will be made directly adjacent to the Bucklen Pit. Due to the close proximity of the return station to the Bucklen Pit, no transit losses will be assessed for the delivery of the GIC shares.

A portion of the Greeley Canal No. 3 (WDID 0300934) was changed in Division 1 Water Court in case no. 1996CW658 based on a ditch-wide analysis by the Poudre Prairie Mutual Reservoir and Irrigation Company (“Poudre Prairie”). The use of the subject ditch shares in this plan shall be in accordance with the terms and conditions decreed in case no. 1996CW658, including monthly and annual volumetric limits on water deliveries and monthly return flow requirements. The decree in case no. 1996CW658 found that 519.7 shares were used to irrigate 3,501 acres with an average historical consumptive use of 5,358 acre-feet per year, which yields an average consumptive use credit of 10.31 acre-feet per share (5,358 acre-feet ÷ 519.7 shares).

Based on the above, the six shares to be used in this plan result in a consumptive use credit of approximately 61.86 acre-feet per year (10.31 acre-feet per share × 6 shares). One of the Applicant's six shares was associated with Farm W-49, which is now dried up because it is part of the Bucklen Pit. The other five shares were referred to as "floating shares" in case no. 1996CW658. In accordance with paragraph 19 of case no. 1996CW658 the lands historically irrigated by the "floating shares" are reported to have already been dried up and are no longer irrigated.

In paragraph 6.7.4 of the decree in case no. 1996CW658, future farm headgate deliveries of Poudre Prairie's 67.75 shares were limited to 1,712 acre-feet per year (25.26 acre-feet per share), and 12,631 acre-feet (186.43 acre-feet per share) in any consecutive 10-year period. Deliveries of the Applicant's six shares of GIC water under this plan must comply with these per-share limits. The historical return flows shall be maintained in accordance with the return flow factors identified in case no. 1996CW658. The return flows associated with the delivery of Fossil Creek Reservoir water that is attributable to the Applicant's six GIC shares shall also be maintained in accordance with the surface and subsurface factors decreed in case nos. 1996CW658.

Pursuant to paragraph 6.7.6 of case no. 1996CW658, the subsurface component of the return flow obligation will be calculated based on the 5-year running average annual farm headgate deliveries of GIC direct flow water and Fossil Creek Reservoir water. You have proposed to calculate subsurface return flow obligations based on the 5-year running average deliveries of the subject shares. The total annual deliveries of the subject GIC shares for the last five years are shown in the following table. For the purposes of this SWSP, you have estimated the 5-year average for Water Year 2021 using the projected deliveries per share for Year One as described in paragraph 28 of the decree entered in case no. 2003CW348 for those months for which delivery records are not yet available (September and October 2020). The actual subsurface return flow obligations will be based on the average of actual deliveries for the period of 2016-2020.

Water Year	Total Annual Deliveries	
	Total Annual Delivery (acre-feet)	
	GIC Direct Flow	Fossil Creek Reservoir
2016	71.42	0
2017	79.30	0
2018	98.96	1.64
2019	80.30	0
2020	126.77	7.22
Average	91.35	1.77

As specified in case no. 1996CW658, all deliveries of GIC water incur a return flow obligation to the stream system made up of a surface and subsurface component. Surface return flows will be calculated by multiplying the GIC direct flow water by 0.237 (23.7%) and any Fossil Creek Reservoir Water delivered by 0.201 (20.1%). As described above, the subsurface component of the return flow obligation will be calculated by multiplying the 5-year average annual delivery of GIC water by the monthly subsurface return flow factors given in Appendix A-2 of the decree entered in case no. 1996CW658 (see Table 4). As shown in Table 4, the estimated subsurface return flow obligations for GIC direct flow deliveries and Fossil Creek reservoir deliveries total 21.92 acre-feet and 0.37 acre-feet, respectively. The quantity of GIC water remaining after the Applicant has satisfied its return flow obligations is equivalent to the historical consumptive use attributable to the shares.

For the purposes of this SWSP, you have used a projected yield of 20.31 acre-feet of GIC direct flow water per share and 1.19 acre-feet of Fossil Creek Reservoir deliveries per share. These amounts are consistent with projected deliveries per share for Year One as described in paragraph 28 of the decree entered in case no. 2003CW348. Projected deliveries for Year One were calculated in accordance with paragraph 20.3.3 of the decree entered in case no. 2003CW99, and are based on 2002-2006 recorded deliveries. As specified in case no. 1996CW658, all GIC direct flow deliveries incur an immediate surface return flow obligation of 23.7%, and all Fossil Creek deliveries incur an immediate surface return flow obligation of 20.1%. The estimated consumptive use credit is therefore 15.50 acre-feet per share for GIC direct flow water, and 0.95 acre-feet per share for Fossil Creek Reservoir water. In total, the six GIC shares are expected to have a net credit to the river of 98.68 acre-feet (not including subsurface return flow obligations, which are separately accounted for as a depletion as discussed above). The use of the Year One projected deliveries is acceptable for this plan period and appears reasonable based on current conditions. Should actual GIC deliveries be less than projected deliveries, the Applicant is obligated to obtain additional or alternate replacement supplies to replace all depletions at the Bucklen Pit.

Based on the actual annual GIC deliveries for 2012-2020 reported in the SWSP accounting, the 10-year farm headgate delivery will not exceed 186.43 acre-feet per share, or 1,118.58 acre-feet for all 6 shares, so long as 2021 deliveries do not exceed the annual limitation of 25.26 acre-feet per share, or 151.56 acre-feet for all 6 shares, decreed in case no. 1996CW658.

Based on information provided on behalf of the Greeley Irrigation Company, there are a total of 251.97 shares and 1,103.87 acres remaining available for irrigation under the ditch system, resulting in an average of 4.38 acres irrigated per share. This is well below the historically irrigated acreage of 6.74 acres per share. As such, no additional terms and conditions are required to assure that this SWSP does not result in an expansion of use of the Applicant's shares should the Applicant reach their annual volumetric limit and cease diverting water or decide not to take delivery of their shares.

City of Aurora Lease

A lease of 21.00 acre-feet of water provided by the City of Aurora will be used to make replacements during the period of November 2020 through March 2021. The releases will be made from the Metro Waste Reclamation Facility (aka Robert W. Hite Treatment Facility, WDID 0200700) located in Denver on the South Platte River approximately 66 miles upstream from the Cache la Poudre confluence. Therefore a 16.5% (0.25% per mile) river transit loss will be assessed on all deliveries, unless otherwise determined by the Water Commissioner for District 2. During the months of November through March, it is possible for a call to be placed at the Evans Number 2 Ditch headgate for Milton Reservoir, or a call at the Western Ditch, or the Union Ditch to fill Lower Latham Reservoir, any of which could potentially sweep the river. It is the Applicant's responsibility to track the daily call and make arrangements as necessary to ensure this water is bypassed or otherwise delivered to the Cache la Poudre and South Platte River confluence. The District 3 Water commissioner has confirmed there is no call in the winter for the stretch of the Cache la Poudre between the Bucklen Pit and the confluence with the South Platte River. Therefore, as long as a diversion structure is not sweeping the South Platte River, the Aurora lease is able to provide replacement water on behalf of the Bucklen Pit.

Additional Sources

Supplemental leases will be obtained in the event that the above-described sources are insufficient to replace all depletions from the Bucklen Pit. Such supplemental leases may be obtained from any authorized augmentation source contained in a gravel pit approved pursuant to section 37-90-137(11) that is capable of making replacements at the most upstream calling right impacted by the Bucklen Pit depletions.

The Applicant has requested permission to lease out any of its excess replacement credit to other gravel pit SWSPs approved pursuant to section 37-90-137(11), C.R.S., to the extent such excess replacement credit exists. The Applicant must provide written notice to the division engineer and water commissioner at least 30 days in advance of the desired commencement of use of the excess replacement credits, which must include the specific plan in which the credits will be used, the provision in the plan that allows an unnamed source to be added for credit, the annual and monthly amount of excess replacement credit available, the location at which the water will be delivered to the stream, and a copy of a lease agreement between the Applicant and the purchaser of the excess replacement credits if the additional plan is not owned by the Applicant. **The Applicant cannot claim credit for the use of the excess replacement credits in any other plan until they have received written approval from the division engineer or water commissioner.** Any use of any such excess replacement credits must continue to be directly related to the mining of sand and gravel.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 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 the DRMS requires that you provide information to the DRMS to demonstrate you can replace long term injurious stream depletions that result from mining-related exposure of groundwater. The DRMS letter identifies four approaches operators may implement to satisfy this requirement.

Approach no. 4 requires documentation to identify what water rights or other permanent water source will be dedicated to the SWSP to assure that all permanent depletions from either an unforeseen abandonment of the site by the Applicant or as a result of long term groundwater exposure after completion of mining and reclamation will be replaced so as to prevent injury to other water rights. You have provided an affidavit dated October 4, 2010 that dedicates five (5) of the Applicant's shares of GIC water as replacement water solely for this SWSP for as long as there are depletions at this gravel pit site or until such time as another replacement source is obtained. A copy of the affidavit is attached to this letter. For the purposes of this SWSP, this affidavit will be accepted for the dedication of the shares; however, if the State Engineer determines that a different affidavit or dedication process is necessary to assure proper dedication of the shares, additional information may be required prior to future SWSP approvals.

Conditions of Approval

I hereby approve this 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 November 1, 2020 through October 31, 2021 unless otherwise revoked or superseded by decree. If this plan will not be made absolute by a water court action by the plan's expiration date, a renewal request must be submitted to this office

with the statutory fee (currently \$257) **no later than September 1, 2021**. 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. 67876-F, as amended on February 24, 2010, was obtained for the current use and exposed water 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 groundwater exposed at the Bucklen Pit after December 31, 1980 shall not exceed 12.54 acres, which results in a maximum annual evaporative loss of 34.60 acre-feet.
4. The annual amount of water used for operational purposes at the Bucklen Pit shall not exceed 2.24 acre-feet, estimated as 1.50 acre-feet for dust suppression and 0.74 acre-feet lost with the production of 50,000 tons of mined product.
5. Total consumption at the Bucklen Pit must not exceed these aforementioned amounts unless an amendment is made to this SWSP.
6. All diversions shall be measured in a manner acceptable to the division engineer. The Applicant shall install and maintain such measuring devices as required by the division engineer for operation of this SWSP.
7. Approval of this SWSP is for the purposes as stated herein. Any additional uses for which the water may be used must first be approved by this office. Any future additional historical consumptive use credit given (e.g. agricultural water transfer) for this site must consider all previous credits given.
8. The Applicant shall replace the net evaporative depletions from the exposed groundwater surface area that may occur during the assumed ice-covered period (December through January) for any time that the exposed groundwater is not completely covered by ice.
9. The replacement water that is the subject of this plan cannot be sold or leased to any other entity, unless excess replacement credits exist and the Applicant has obtained written approval from the division engineer or water commissioner for the use of such excess replacement credits. The replacement water must be appurtenant to this site for the duration of this SWSP or until a plan for augmentation is obtained.
10. The Applicant has proposed to use for augmentation, water available from any other source legally available for augmentation and which can be provided in the amount, at the time, and at the location required to replace out of priority depletions from the Bucklen Pit. Additional sources of replacement water in this SWSP may only be used if the Applicant complies with the attached Division One Administration Protocol *"Use of Replacement Sources Not Specifically Identified in an SWSP or Augmentation Plan"*.
11. 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.

12. The Division Engineer, or his designated representative, will administer all such water transported in the South Platte River or its tributaries under this SWSP, including water for replacement of depletions, past intervening headgates to ensure that such water is not intercepted or otherwise diminished in quantity by diversion, use or other interference by intervening water rights and to assure that such water remains available and suitable for Applicant's uses under this SWSP, except when any intervening headgate is diverting the entire flow of ("sweeping") the river. In the event that delivery past headgates which sweep the river requires the installation of a bypass structure or the use of an existing bypass structure by agreement with a third-party, Applicant is responsible for either installing a new bypass structure with a continuous recording measuring device(s) as approved by the Water Commissioner or securing an agreement with a third-party to use an existing bypass structure and providing such information and agreement to the Division Engineer.
13. The Division of Water Resources will not be responsible for any enforcement or administration of third party agreements that are not included in a decree of the water court.
14. The water attributable to the six (6) shares of the Greeley Irrigation Company must continue to be diverted in priority at the ditch and then measured back to the Cache la Poudre River in the vicinity of the Bucklen Pit. Adequate measuring devices acceptable to the water commissioner must be installed.
15. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the water commissioner or division engineer.
16. Adequate accounting of depletions and replacements must be provided to the division engineer in Greeley (DNR_Div1Accounting@state.co.us) and the water commissioner (Mark Simpson at Mark.Simpson@state.co.us) on a monthly basis or other interval acceptable to both of them. Submitted accounting shall conform to the attached Division One Administration Protocol "*Augmentation Plan Accounting, Division One - South Platte Basin*".

In addition, it is the applicant's responsibility to verify that the entities making replacements are identifying this use on their accounting submitted to our office. For the period of this plan, that entity is the City of Aurora.
17. 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 on the accounting forms to the division engineer and water commissioner.
18. The approval of this SWSP does not relieve the Applicant and/or landowner 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 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.
19. Dewatering at this site will produce delayed depletions to the stream system. As long as the pit is continuously dewatered, the water returned to the stream system should be adequate to offset the depletions attributable to the dewatering operation. The operator shall equip

the dewatering operations with a totalizing flow meter and report monthly meter readings which will be used to determine the post-pumping depletions when dewatering ceases. Once dewatering at the site ceases, the delayed depletions must be addressed. Accordingly, dewatering is required to continue during the term of this approval. At least three years prior to completion of dewatering, a plan must be submitted that specifies how the post pumping dewatering depletions (including refilling of the pit) will be replaced, in time, place and amount.

20. If dewatering of the site is discontinued, the pit would fill, creating additional depletions to the stream system due to increased evaporation. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the abandonment of the pit, the Applicant has dedicated five (5) Greeley Irrigation Company shares as replacement water solely to this SWSP for as long as there are depletions at this gravel pit site or until such time as another replacement source is obtained. A copy of the affidavit dated October 4, 2010 is attached to this letter. For the purposes of this SWSP, this affidavit will be accepted for the dedication of the shares; however, if the State Engineer determines that a different affidavit or dedication process is necessary to assure proper dedication of the shares, additional information may be required prior to future SWSP approvals.
21. 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 substitute water supply plan expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all excavation of product from below the water table, and all other use of water at the pit, must cease immediately.
22. 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 this 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.
23. 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 this substitute water supply 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 Sarah Brucker in Denver at (303) 866-3581, or Michael Hein in Greeley at (970) 352-8712, if you have any questions concerning this approval.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeff Deatherage".

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

Attachments: Figure 2

Tables 1 - 5

City of Aurora Lease Agreement

Letter from DRMS dated April 30, 2010

Affidavit for dedication of GIC shares to this SWSP

Division One Administration Protocols: *"Use of Replacement Sources Not Specifically Identified in an SWSP or Augmentation Plan"* and *"Augmentation Plan Accounting, Division One - South Platte Basin"*

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us
810 9th Street, Suite 200, Greeley, CO 80631

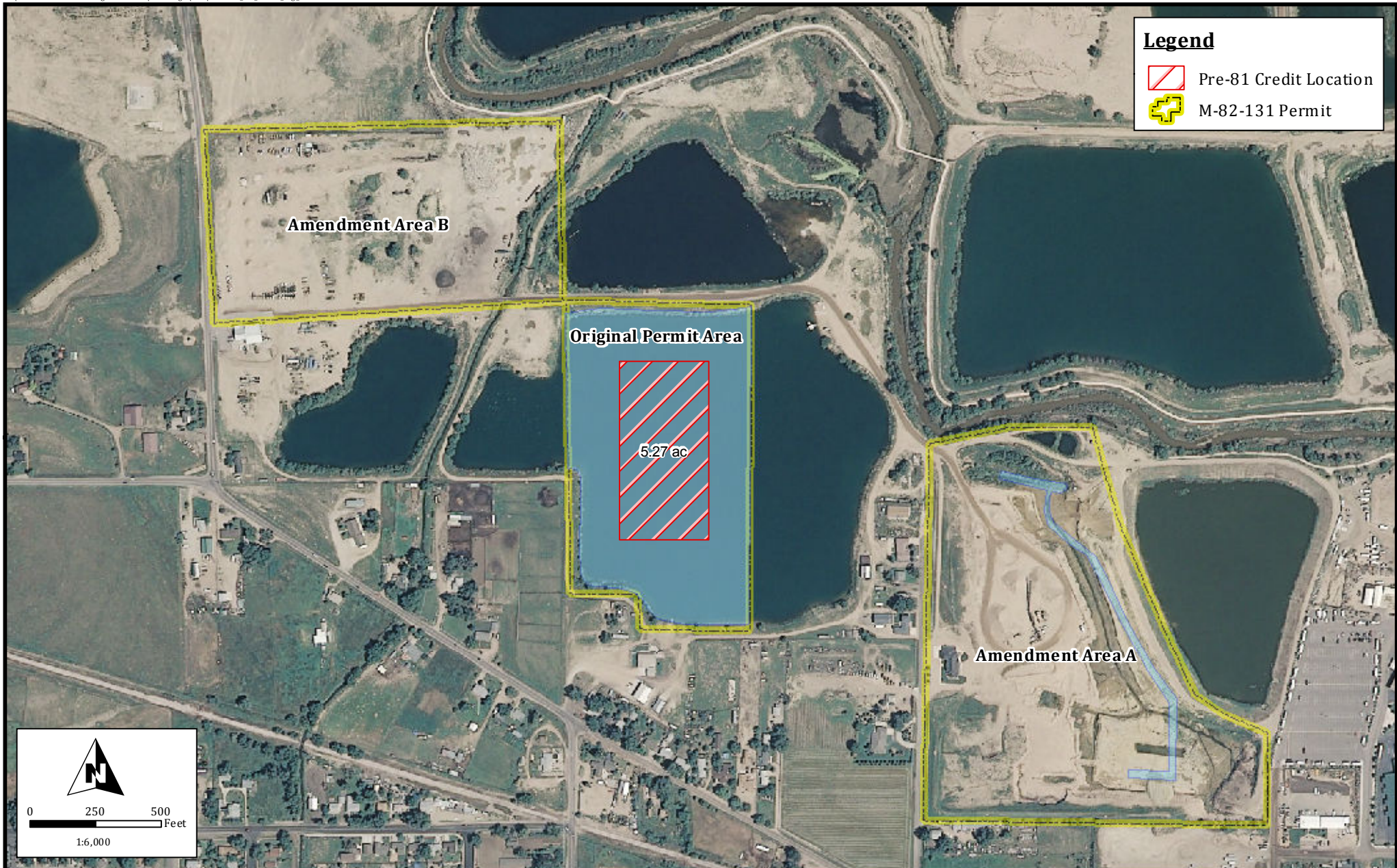
Brent Schantz, River Operations/Compact Coordinator, Brent.Schantz@state.co.us

Jorge Vidal, Water Commissioner, Water District 2, Jorge.Vidal@state.co.us

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

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

Eric Scott, Division of Reclamation Mining and Safety, eric.scott@state.co.us



BUCKLEN PIT (M-1982-131) SWSP

Current Exposed Area

Date: 7 Sep 2011

Job #: 08-127

Drawn By: JMD

Figure:

2

Of:

3

Table No. 1

Bucklen Equipment Company, Inc.
Bucklen Pit (M-1982-131)



**Evaporative Consumptive Use (aka Evap CU)
From Pond Surface**

Date Revised: 10/22/2020

AG Job #: 08-127

Month	Percent of Annual Evaporation (A)	Gross Monthly Evaporation [in] (B)	Monthly Precip [in] (C)	Monthly CU Credit [in] (D)	Monthly Avg Temp [°F] (E)	Net Evap [in] (F)	Evap CU [ac-ft] (G)
November	4.0%	1.80	0.78	0.55	37.5	1.25	1.31
December	3.0%	1.35	0.41	0.29	29.4	ICE	0.00
January	3.0%	1.35	0.48	0.34	28.6	ICE	0.00
February	3.5%	1.58	0.37	0.26	33.5	1.32	1.38
March	5.5%	2.48	1.07	0.75	41.1	1.73	1.80
April	9.0%	4.05	1.79	1.25	49.4	2.80	2.92
May	12.0%	5.40	2.45	1.72	58.6	3.69	3.85
June	14.5%	6.53	1.90	1.33	68.1	5.20	5.43
July	15.0%	6.75	1.48	1.04	73.8	5.71	5.97
August	13.5%	6.08	1.15	0.81	71.7	5.27	5.51
September	10.0%	4.50	1.11	0.78	63.0	3.72	3.89
October	7.0%	3.15	1.03	0.72	50.9	2.43	2.54
Total	100%	45.00	14.02	9.81	-	33.11	34.60

Gross Annual Evaporation = **45** inches per NOAA Technical Report NWS 33
 Historical Consumptive Use Credit = **70%** of monthly precipitation
 Freezing Point of Water = **32** °F

WY 2012 Gross Exposed Water Surface = **17.81** acres within permit area
 Pre-1981 Area = **5.27** acres within permit area
 WY 2013 Net Exposed Area = **12.54** acres within permit area (gross area minus pre-1981 area)

Notes:

- (A) Taken from *General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits Submitted to the State Engineer* for elevations below 6500 ft MSL
 (B) Gross monthly evaporation = (Gross Annual Evaporation) * (A)
 (C) Monthly precipitation from GREELEY UNC, COLORADO (053553) weather station. Period of record is 1967 to 2005
 (D) Monthly consumptive use credit = (Historical Consumptive Use Credit) * (C)
 (E) Monthly average temperature from GREELEY UNC, COLORADO (053553) weather station. Period of record is 1967 to 2005
 (F) Net evaporation = (B) - (D) if the monthly average temperature is greater than freezing. Otherwise, the pond is assumed to be frozen
 (G) Evap CU = (Net Exposed Area) * (E)/12

Table No. 2

Bucklen Equipment Company, Inc.
Bucklen Pit (M-1982-131)



**Operational Consumptive Use (aka Operation CU)
From Mining**

Date Revised: 10/22/2020

AG Job #: 08-127

Month	Percent of Annual Production (A)	Monthly Production [tons] (B)	Water Retained in Product [ac-ft] (C)	Water Used for Dust Control [ac-ft] (D)	Operation CU [ac-ft] (E)
November	7%	3,500	0.05	0.00	0.05
December	6%	3,000	0.04	0.00	0.04
January	9%	4,500	0.07	0.00	0.07
February	5%	2,500	0.04	0.00	0.04
March	6%	3,000	0.04	0.19	0.23
April	10%	5,000	0.07	0.18	0.26
May	12%	6,000	0.09	0.19	0.28
June	8%	4,000	0.06	0.18	0.24
July	10%	5,000	0.07	0.19	0.26
August	14%	7,000	0.10	0.19	0.29
September	6%	3,000	0.04	0.18	0.23
October	7%	3,500	0.05	0.19	0.24
Total	100%	50,000	0.74	1.50	2.24

Total Annual Production =	50,000	tons
Moisture Content of Product =	2%	by weight
Water Used for Dust Control =	2,000	gallons per day during March through October

Notes:

(A) Estimated monthly production percentages. Provided by Bucklen Equipment Company

(B) Monthly Production = (Total Annual Production) * (A)

(C) Water Retained in Product = [(Moisture Content of Product) * (B) * 2000] / (62.4 * 43560)

(D) Water Used for Dust Control is estimated to be 2000 gallons per day during March through October

(E) Operation CU = (C) + (D)

Table No. 3

Bucklen Equipment Company, Inc.
Bucklen Pit (M-1982-131)



Lagging Distance (X) =	1,390	feet
Aquifer Transmissivity (T) =	120,000	gallons per day per foot
Specific Yield =	0.2	
Aquifer Width (W) =	10,650	

Date Revised: 10/22/2020

AG Job #: 08-127

**Lagged Depletions
From Mining**

WY 2021 Month	Evaporation CU [ac-ft] (A)	Operation CU [ac-ft] (B)	Total CU [ac-ft] (C)	Lagged Depletions [ac-ft] (D)
November	1.31	0.05	1.36	2.65
December	0.00	0.04	0.04	1.79
January	0.00	0.07	0.07	1.22
February	1.38	0.04	1.41	1.33
March	1.80	0.23	2.04	1.93
April	2.92	0.26	3.18	2.43
May	3.85	0.28	4.13	3.18
June	5.43	0.24	5.67	3.97
July	5.97	0.26	6.23	4.84
August	5.51	0.29	5.80	5.03
September	3.89	0.23	4.12	4.43
October	2.54	0.24	2.78	3.72
Total	34.60	2.24	36.84	36.52

Notes:

(A) Evaporation CU from Table 1

(B) Operation CU from Table 2

(C) Total CU = (A) + (B)

(D) Lagged depletions from total CU. Accounts for evaporation and operational uses from prior SWSPs

Table No. 4

Bucklen Equipment Company, Inc.
Bucklen Pit (M-1982-131)

**WY 2020 Estimated GIC Subsurface Return Flow Obligations**

Date Revised: 10/22/2020

AG Job #: 08-127

WY 2021 Month	GIC Direct Flow		Fossil Creek Reservoir	
	GIC Direct Subsurface Return Flow Factor (A)	GIC Direct Subsurface RF Obligation [ac-ft] (B)	Fossil Creek Subsurface Return Flow Factor (C)	Fossil Creek Subsurface RF Obligation [ac-ft] (D)
November	2.1%	1.92	2.0%	0.04
December	2.0%	1.83	1.8%	0.03
January	1.8%	1.64	1.7%	0.03
February	1.7%	1.55	1.6%	0.03
March	1.6%	1.46	1.5%	0.03
April	1.5%	1.37	1.4%	0.02
May	1.8%	1.64	1.3%	0.02
June	2.1%	1.92	1.2%	0.02
July	2.3%	2.10	1.5%	0.03
August	2.4%	2.19	2.4%	0.04
September	2.4%	2.19	2.5%	0.04
October	2.3%	2.10	2.1%	0.04
Total	24.0%	21.92	21.0%	0.37

Water Year	Total Annual Delivery [ac-ft]		Remarks
	GIC Direct Flow	Fossil Creek Reservoir	
2016	71.42	0.00	Based on SWSP accounting
2017	79.30	0.00	Based on SWSP accounting
2018	98.96	1.64	Based on SWSP accounting
2019	80.30	0.00	Based on SWSP accounting
2020	126.77	7.22	Based on actual and projected deliveries
Average	91.35	1.77	

Notes:

- (A) Monthly subsurface return flow factors per Poudre Prairie Decree
 (B) Equals Column (A) multiplied by the average total annual delivery of GIC direct flow water
 (C) Monthly subsurface return flow factors per Poudre Prairie Decree
 (D) Equals Column (C) multiplied by the average total annual delivery of Fossil Creek Reservoir water

Table No. 5

Bucklen Equipment Company, Inc.
Bucklen Pit (M-1982-131)

**WY 2020 Water Balance**

Date Revised: 10/22/2020

AG Job #: 08-127

WY 2021 Month	Augmentation Requirement [ac-ft] (A)	GIC Direct Flow		Fossil Creek Reservoir		Estimated Total GIC Credit for all shares [ac-ft] (F)	Aurora Augmentation Lease [ac-ft] (G)	Aurora Transit Loss [ac-ft] (H)	Net Affect to River [ac-ft] (I)
		Projected GIC Direct Deliveries [ac-ft / share] (B)	Estimated GIC Direct Credit [ac-ft / share] (C)	Projected Fossil Creek Deliveries [ac-ft / share] (D)	Estimated Fossil Creek Credit [ac-ft / share] (E)				
November	4.60	0.00	0.00	0.00	0.00	0.00	5.5	0.91	0.01
December	3.65	0.00	0.00	0.00	0.00	0.00	4.4	0.73	0.03
January	2.89	0.00	0.00	0.00	0.00	0.00	3.5	0.58	0.03
February	2.91	0.00	0.00	0.00	0.00	0.00	3.5	0.58	0.01
March	3.42	0.00	0.00	0.00	0.00	0.00	4.1	0.68	0.01
April	3.83	1.69	1.29	0.03	0.02	7.88	0.0	0.00	4.06
May	4.85	3.38	2.58	0.00	0.00	15.47	0.0	0.00	10.63
June	5.91	3.29	2.51	0.06	0.05	15.35	0.0	0.00	9.44
July	6.97	3.33	2.54	0.31	0.25	16.73	0.0	0.00	9.76
August	7.26	3.08	2.35	0.61	0.49	17.02	0.0	0.00	9.76
September	6.67	3.09	2.36	0.18	0.14	15.01	0.0	0.00	8.34
October	5.86	2.45	1.87	0.00	0.00	11.22	0.0	0.00	5.36
Total	58.82	20.31	15.50	1.19	0.95	98.68	21.0	3.47	57.42

GIC Direct Surface RF Factor = 23.7% per Poudre Prairie Decree

Fossil Creek Surface RF Factor = 20.1% per Poudre Prairie Decree

Number of GIC Shares in SWSP = 6

Aurora Lease Transit Distance = 66 miles

Transit Loss Rate = 0.25% per mile

Notes:

- (A) Augmentation Requirement equal to Evap CU (Table 1) plus Operation CU (Table 2) plus GIC Return Flow Obligations (Table 3)
 (B) GIC projected deliveries for Year One of Projection - Decree Case No. 03CW348
 (C) Estimated GIC direct flow consumptive use credit per share. Calculated by removing surface return flow obligations from deliveries
 (D) Fossil Creek [r]pckted deliveries for Year One of Projection, Decree Case No. 03CW348
 (E) Estimated Fossil Creek consumptive use credit per share. Calculated by removing surface return flow obligations from deliveries
 (F) Total GIC credit for all shares = [(C) + (E)] * (Number of GIC Shares in SWSP)
 (G) Aurora lease during the period November through March.
 (H) Transit Loss on Aurora release
 (J) Net Affect to River = (F) + (G) - (H) - (A)

Water Administration
15151 E. Alameda Parkway, Suite 3600
Aurora, Colorado 80012
303.739.7370

October 19, 2020

Ms. Lori Bucklen
Bucklen Equipment Co., Inc.
804 North 25th Avenue
Greeley, CO 80631

Re: Agreement for Lease of Firm Delivery of Reclaimed Wastewater

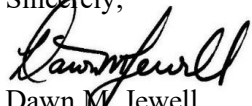
Dear Ms. Bucklen:

This letter provides the City of Aurora's consent to continue the above-referenced agreement between the City of Aurora and Bucklen Equipment Company, dated September 17, 2015 ("Agreement") for an additional Lease Year (November 1, 2020 through March 31, 2021) for delivery of water pursuant to the Delivery Schedule attached to this letter. This consent is in response to the request from Mr. Abdullah Javed, engineer with Applegate Group, Inc. representing Bucklen Equipment Co., requesting said continuance pursuant to the attached Delivery Schedule that modifies the original Delivery Schedule.

Extension of the Agreement for additional Lease Years is permitted under Paragraph 1 of the Agreement. Further, the Delivery Schedule for water under the Agreement may be modified and replaced pursuant to Paragraph 2 of the Agreement. The modified Delivery Schedule attached to this letter replaces the Delivery Schedule attached as Exhibit A to the Agreement. The Effective Date of the Agreement for the purposes of this additional Lease Year is the date of this letter. All other terms of the Agreement remain unchanged, and in full force and effect.

As a heads up, this is the last extension that can be permitted under the existing Agreement. Thus, if Bucklen requires water delivery from Aurora again in the future, a new agreement will need to be negotiated at then-current pricing levels. If you have any questions concerning this letter, please do not hesitate to contact John Murphy at the above telephone number.

Sincerely,



Dawn M. Jewell
South Platte Basin Water Resources Supervisor
City of Aurora, Colorado

Cc: Abdullah Javed
John Murphy

Agreement for Lease of Firm Delivery of Reclaimed Wastewater

Exhibit A
Delivery Schedule

Water Year 2020-21

(Acre-Feet)

	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Total
Total Release (including transit loss)	5.5	4.4	3.5	3.5	4.1	21.0

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

Bill Ritter, Jr.
GovernorJames B. Martin
Executive DirectorLoretta E. Piñeda
Director

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
	M1979159	Brose Pit	M1979097	East Rigden Pit
	M1998014	Gypsum Ranch Pit	M1991035	Bluestone Pit
	M1999088	Kyger Pit	M1986159	Courtner Pit
	M1998075	Andrews #3 (Mock Pit)	M1974070	Nelson Pit
			M2000002	Tanabe Pit
			M1994045	Bluestone Pit
			M1986079	M & G Pit

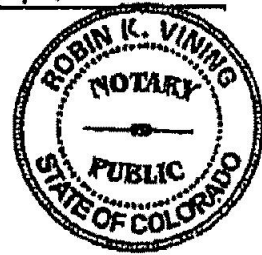
**Dedication of Water Rights to the
Bucklen Pit Substitute Water Supply Plan**

I, Randy Bucklen, as the owner of six shares of the Greeley Irrigation Company evidenced by Certificate Nos. 2884 and 3048, hereby affirm that five of the said shares will be dedicated solely to the Bucklen Pit Substitute Water Supply Plan for as long as there are depletions at this gravel pit or until such time as another replacement source is obtained. The five shares will not be sold, leased, or traded to others during the term of this dedication.

Signature: Randy Bucklen

Date: 10/4/10

STATE OF COLORADO)
)
COUNTY OF _____)



The foregoing instrument was acknowledged before me this 4 day of October, 2010, by Randy Bucklen and _____.

My Commission Expires
My commission expires: December 18, 2010

Witness my hand and official seal.

Robin K. Vining
Notary Public

ADMINISTRATION PROTOCOL
*Use Of Replacement Sources Not Specifically Identified
In An SWSP Or Augmentation Plan*
Division One – South Platte River

This protocol addresses the minimum standards required for use of a source of replacement water not specifically described in an SWSP or augmentation plan.

- Request to the Division Engineer and Water Commissioner must be in writing and must include:
 - the augmentation plan or SWSP provision in the purchasers plan that allows an unnamed source to be added to the plan for credit
 - the decree provision or SWSP provision in the sellers plan that allows water to be sold for use in the purchasers plan
 - the annual and monthly amount of water available from the water right to be used for replacement
 - the location at which the water will be delivered to the stream
 - a lease agreement between the seller and purchaser of the replacement water
- Applicant shall have written approval from the Division Engineer or Water Commissioner before an unnamed source is added to an augmentation plan or SWSP.
- Applicant must comply with the Augmentation Plan Accounting Protocol and, if appropriate, the Delivery of Water Protocol.

This protocol is subordinate to any decreed language addressing specific situations.

ADMINISTRATION PROTOCOL

Augmentation Plan Accounting

Division One – South Platte River

This protocol establishes the accounting and reporting process required to enable the division engineer's office to confirm that depletions from all out-of-priority diversions are being replaced so as to prevent injury to vested water rights. The accounting must comport with established "cradle to grave" accounting standards, which allow an audit of the information to track exactly how the data is manipulated as it is translated from raw input data to the resultant impact on the river. While this protocol is subordinate to any decreed language addressing specific accounting requirements, it generally addresses the minimum requirements of such accounting.

The accounting must use the standard convention where a depletion is "negative" and an accretion or other replacement source is "positive". The sum of the impacts will then result in either a "negative" or "positive" impact on the stream.

Wells in plans that have a negative stream impact must provide additional replacement water, curtail pumping or both until the impact is no longer negative. Plans with a negative stream impact that fail to curtail pumping will be ordered to stop pumping until such time as the projected impact of the wells is no longer negative.

1. Accounting must be submitted electronically to the water commissioner ([call 970-352-8712 to obtain email address](tel:970-352-8712)) and division engineer at Div1Accounting@state.co.us within 30 days of the end of the month for which the accounting is being submitted.
2. The accounting must provide the **contact information** including name and address for:
 - a. the owner(s) of each well
 - b. the person responsible for submitting the accounting
 - c. the plan administrator and/or the plan attorney.
3. All **input data** must be in one location, such as an "Input" worksheet, etc. The accounting must show all pumping. Input data includes the information listed below.
 - a. The required input data for each **well** is:
 - i. the monthly meter reading for wells that use a **presumptive depletion factor** (PDF) to determine the associated consumptive use (CU); or
 - ii. the monthly CU in acre-feet (AF) for wells that have a decree or approved SWSP that allows the wells to use a **water balance methodology** to determine the CU of the well. The analysis used to determine the CU must be included with the accounting.
 - iii. Wells that are decreed as an **alternate point of diversion** (APOD) to a surface water right must report pumping on a daily basis if any of the diversion during the month is claimed as being "in priority". (See *Administration Protocol – APOD Wells* for more details.)

- iv. The well meter serial readings for each meter shall be included if there is more than one meter on a well.
- b. Each **recharge site** must comply with the *Administration Protocol - Recharge* and must report the:
 - i. daily volume in AF diverted into the site;
 - ii. monthly volume in AF released from the site;
 - iii. monthly net evaporative loss in AF;
 - iv. volume of water in AF remaining at the end of the month.
- c. The accounting must identify each source of **fully consumable replacement water** actually delivered to the location impacted by the depletions. To demonstrate the water was actually delivered to the required location will require the following information:
 - i. the originating source of the water, date released and volume of water released;
 - ii. transportation losses to point of diversion or use, if any, using stream loss factors approved by the water commissioner;
 - iii. the volume of water actually delivered on a daily basis past any surface water diversion that was sweeping the river as corroborated by the water commissioner.

(See *Administration Protocol – Delivery of Water* for more details on delivering water.)
- d. For each source of **replacement water that has been “changed”** for use as a source of augmentation, such as changed reservoir shares, ditch bypass credits or credits from dry-up, etc., the following input information must be reported:
 - i. the basis and volume of the return flow obligation;
 - ii. the location the changed water was historically used; this will be the location used to determine the timing of the return flow impact on the river.
- 4. The accounting must include a monthly **projection** of the plan’s operation at least through March 31 of the next calendar year.
- 5. The accounting must include all input and output files associated with **modeling the delayed impact** of diversions. The output from the modeling must report to a summary table that shows, by month, the ongoing depletions associated with pumping, return flow obligations, etc. and accretions from recharge operations.
- 6. A **net impact** summary must show the out-of-priority depletions, accretions from each recharge site, volume of replacement water actually delivered to the location of the depletions and the resultant net impact on **a daily basis**. If necessary, the net impact must be done by river reach.

While **modeling** may use a **monthly step function** to determine the depletions from pumping and accretions from recharge, the monthly result must then be **divided by the number of days in the month** in order to **simulate a daily impact**, as water rights are administered on a daily and not monthly basis.

Replacement water must be provided such that the **daily net impact** (using the simulated daily numbers from the modeling) **is not negative**. If a well is out-of-priority for 15 days during a month, replacement must be made only for the 15 days the well is out-of-priority. The replacement must be made, however, on a daily basis as opposed to, for instance, making an aggregated release equal to the volume of the out-of-priority depletions. Likewise, the simulated daily accretion will only count toward replacing the depletion on the days the well is out-of-priority. The accretions that report to the river when the well is in priority cannot be used to replace the out-of-priority depletions.

The **accretions that impact the river when the well is in priority** are not considered “excess” unless the cumulative net impact of the well is not negative for the entire irrigation year to date. (The irrigation year for this purpose is April 1 thru the following March 31.) Until such time as the cumulative net impact is not negative, the accretions must simply be released to the river and cannot be leased to other plans or recaptured. Plans that show a positive cumulative net impact are still required to make replacements on a daily basis; the cumulative analysis only effects whether or not accretions reporting to the river when the well is in priority are considered “excess” and are, therefore, able to be recaptured.

7. The basis for determining that the depletions are **out-of-priority** must be clearly established and all steps in the calculation included in the accounting. The analysis may be done, unless otherwise limited by decree, for each well or groups of wells, provided the most junior water right associated with the group of wells is used as the reference water right for the group’s out-of-priority status.
8. Accounting must include **actual information** for the irrigation year through the month for which the accounting is being submitted **AND projections** of the plan operation through March 31 of the next calendar year.
9. The following **naming convention** must be used for all files submitted pursuant to item 1:

“Plan**WDID**_YYMMDD”

where: PlanWDID is the WDID assigned by the division engineer’s office
YYMMDD corresponds to the date the accounting is submitted.

As an example, the assigned WDID for the former GASP plan was 0103333. If accounting using Excel® was submitted for that plan on May 15, 2004, the file name would be:

“0103333_040515.xls”

The name of the file must be in the subject line of the email.

10. All accounting must be reported using the **WDID** for the structure, at a minimum. Other information such as well name, permit number, etc. may also be included as desired. All wells must be decreed by the water court, permitted by the state engineer or included in a decreed plan for augmentation. Unregistered and undecreed wells cannot, in the opinion of the division engineer, be effectively administered because of the need to know the location, allowable diversion rate and use of the well - information that is only available from the decree or permitting process.

11. If a well is covered in multiple SWSP's or augmentation plans, the monthly meter readings must be the same in the accounting for each plan covering the subject well. The accounting for every plan covering the well shall state the proportionate pumping amount covered by each plan to assure all out-of-priority depletions are replaced.
12. The following additional accounting is required for sources of replacement water used for more than one plan. The water right owner of the replacement water is responsible for accounting for the total replacement amount and how much each plan is using of that total amount. The accounting for portions of the replacement water by other users must match the accounting of the water right owner. The amount of replacement water used by the water right owner and other users together shall not exceed the total replacement amount available.

(See *Administration Protocol – Use Of Unnamed Sources For Replacement* for additional requirements concerning required notice and approval of sources of replacement not specifically described in a SWSP or augmentation plan)