COLORADO
Division of Water Resources
Department of Natural Resources

July 30, 2019

Stuart B. Corbridge, Esq.
Vranesh and Raisch, LLP
5303 Spine Road, Suite 202
Boulder, CO 80301

Re: Builders Aggregate, Inc. Substitute Water Supply Plan (WDID 0102764, Plan ID 3147)
Builder's Aggregate Pit, DRMS Permit No. M-1981-112 (WDID 0110923)
NW¼ Section 31, T4N, R57W, 6th P.M., Morgan County
Water Division 1, Water Districts 3 & 4

Approval Period: April 1, 2019 through March 31, 2020
Contact Information for Mr. Corbridge: 303-443-6151; sbc@vrlaw.com

Dear Mr. Corbridge:

We have reviewed your letter dated June 27, 2019 requesting renewal of the above-referenced substitute water supply plan ("SWSP") for a sand and gravel pit on behalf of the Builder's Aggregate, Inc. ("BA" or "Applicant"), in accordance with § 37-90-137(11), C.R.S. The required fee of $257.00 for the renewal of this SWSP has been submitted (receipt number 3692520). The original SWSP for this site was approved on March 29, 1994, and was most recently approved on August 18, 2017 for operations through March 31, 2019. According to the most recently submitted accounting for June 2019, there was no consumption of water at the site from April-June 2019, and mining of the site will not recommence until after approval of this SWSP.

SWSP Operation

This SWSP seeks to replace depletions resulting from mining operations at the Builder's Aggregate Pit (WDID 0110923, well permit no. 81256-F), located just north of the city of Fort Morgan on the south bank of the South Platte River in the NW¼ of Section 31, T4N, R57W (see the attached Figures 1 & 2). Sand and gravel mining has occurred at this location off and on since 1952. BA obtained approval from the Division of Reclamation, Mining and Safety ("DRMS") for technical revisions to permit no. M-1981-112 this winter and intends to resume sand and gravel mining operations at the site this July. BA uses a hydraulic dredge to mine near the streambank, removing marketable materials and refilling parts of the pond with unmarketable aggregate. The area of exposed groundwater will migrate as mining occurs on the property, but BA will maintain a maximum exposed surface area of 3.45 acres until the property is reclaimed. Although the mining pond has historically moved around within the mining boundary, and the bank separating the pond from the river was removed due to flooding in recent years, recent and historical aerial photos suggest that there has always been a surface water connection between the pond and the river, such that depletions to the river are assumed to be instantaneous.

During this plan period, depletions at the site will consist of evaporative losses from exposed groundwater, water removed with mined material, and water removed from the tributary stream by the "first fill". Replacement water will be supplied through a lease with the Riverside Irrigation District.

Depletions

Evaporation

A maximum of 3.45 acres of groundwater will be exposed at the site beginning in July 2019 and continuing through March 2020. For the purposes of this SWSP, you have assumed that all 3.45 acres were exposed to the atmosphere after December 31, 1980. Evaporation from the exposed water surface was calculated using a gross annual evaporation of 49.2 inches (4.09 feet), based on CDSS digitized contour lines from NOAA Atlas 33. The Applicant has elected not to claim any historical consumptive use credit for native vegetation against the gross evaporation amount. The depletion due to evaporation of exposed groundwater surface was calculated to be 9.11 acre-feet for this plan period.

Mined Product

You have estimated that a total of 8,250,000 pounds (4,125 tons) of material will be mined at the site during this plan period, estimated as 2,750,000 pounds (1,375 tons) each month during July, August, and September 2019. The material is wet mined and was assumed to have a 4 percent moisture content by weight for the purposes of this SWSP. This results in a depletion of 0.12 acre-feet of water removed with the mined material during this plan period.

First Fill

The excavation of the mining pond will create a groundwater depletion due to the "first fill". The "first fill" is the water that fills an unlined pit or pond and occupies the volume previously occupied by the removed sand, gravel, or other solid material. For a wet mined pit, the first fill occurs continuously during mining (July, August, and September 2019). The first fill is calculated as the net increase in the volume of mined material that has been filled with groundwater times one minus the porosity of the mined material [$V_{ff} = V_{mm} \times (1 - \text{Porosity})$]. You have estimated a porosity of 0.407, corresponding to the characteristics of the desired materials that are not returned to the excavation. The density of mined product was taken as 2,750 pounds per cubic yard. The total volume of water in the first fill is therefore estimated as 1.10 acre-feet for this plan period.

Total Depletions

Depletions are estimated to total 10.33 acre-feet for this plan period. A monthly breakdown of depletions is shown in the attached Table 2.

Replacements

Replacement water will be provided through a trade agreement with the Riverside Irrigation District. The Applicant has entered into an agreement with the Riverside Irrigation District for the trade of two (2) reservoir rights owned by Builder's Aggregate Co. in exchange for 14.87 acre-feet of excess recharge credits generated from Riverside Irrigation District and Riverside Reservoir and Land Company's recharge operations as decreed in Division 1 Water Court case number 02CW0086 (WDID

0102522). The term of the current agreement is from May 2019 through March 2020. A copy of the water orders between Builder's Aggregate and the Riverside Irrigation District were provided with the SWSP request and are attached to this approval. The trade will occur on a year-by-year basis, as required by case no. 02CW0086. The water order only makes specific reference to case no. 02CW0086; however, you consulted with Don Chapman of the Riverside Irrigation District and they have agreed that the ability to use excess recharge accretions from other Riverside sources would be beneficial.

Riverside has access to recharge credits from several decrees in addition to 02CW0086, but not all of the decrees allow the leasing of excess credits to others, and some of the decrees place limits on the length of time that a particular source may be leased. The following table describes Riverside's recharge decrees and if credits from that particular decree may be used by the Applicant for replacement purposes pursuant to this SWSP.

Decree	**Decree Provisions Related to the Use of Recharge or Excess Credits**
02CW86	Paragraph 25.1 states that excess recharge credits may only be leased to other entities for a one year period. Further, if recharge water is used by the entity in five separate years, the user is required to apply to the Court and obtain a decree authorizing the use of such recharge water for the use to continue. *This source may be used for up to five years.*
88CW239 a.k.a. Equus	Paragraph 5(i) on page 15 allows the lease, sale, or assignment of "surplus credits" not used by Applicants to any third party pursuant to an SWSP or augmentation plan. *This source is allowed as a replacement source in this SWSP and in future years.*
W-2919 (90CW010) a.k.a. Goodrich	Paragraph 32 of the W-2919 augmentation plan allows the use of excess recharge credits through approval by the State Engineer, but in the event the excess credits are used for three consecutive years or for a cumulative total of five years, the recipient must apply to Court and obtain a decree authorizing permanent use of the excess credits. *This source may be used for up to three consecutive years or five years total until a decree is entered allowing for additional use.*
90CW189 a.k.a. Headley	Paragraph 17 describes use of credits owned by Riverside as replacing depletions for existing wells or wells to be constructed pursuant to additional plans for augmentation or SWSPs by Riverside. There is no discussion of the use of excess credits by others. *The decree limits the use of recharge credits specifically to Riverside.* *This source may not be used as a replacement source.*

88CW264(A) a.k.a. National Hog Farm	Paragraph 7 limits the use of Riverside's portion as a replacement source within the 88CW264(B) augmentation plan, or to replace depletions from wells described in the 88CW264(A) decree, or to replace depletions from wells constructed pursuant to additional SWSPs or augmentation plans by Riverside. It continues to say that the recharge credits "will not be available for use by any other party except National Hog Farms, Inc. or its successor-in-interest". *The decree describes only specific uses of the recharge credits. This source may not be used as a replacement source.*
89CW027 a.k.a. Sublette	Paragraph 17 allows the lease, sale or assignment of excess augmentation credits to a third party through an SWSP or augmentation plan. *This source is allowed as a replacement source in this SWSP and in future years.*
86CW387, 88CW221 a.k.a. Vancil	Paragraph 11 of 86CW387 and paragraph 12 of 88CW221 contemplate using recharge to replace depletions from existing or future wells within three specific townships. *The decree describes a specific use of the recharge credits. This source may not be used as a replacement source.*

The attached Table 3 shows a comparison of the monthly total depletions and replacement supplies.

The accretion reaches described in Paragraph 20.1 of Riverside's decree in case no. 02CW0086 are as follows:

- River Reach No. 1: Riverside Inlet Ditch headgate to the Fort Morgan Canal headgate
- River Reach No. 2: Fort Morgan Canal headgate to the Upper Platte and Beaver Canal headgate
- River Reach No. 3: Upper Platte and Beaver Canal headgate to the Lower Platte and Beaver Canal headgate
- River Reach No. 4: Lower Platte and Beaver Canal headgate to the North Sterling Canal headgate

Depletions from the Builder's Aggregate Pit impact the South Platte River in Riverside's Reach 3. Replacement supplies must be provided to Reach 3 or above the next downstream calling water right. According to Riverside's June 2019 accounting, Riverside projects to utilize augmentation accretions from Reach 4 to replace depletions from the Builder's Aggregate Pit. In months where there are no excess recharge accretions available for use by Builder's Aggregate in Reach 3 and the call is such that replacement must be provided to Reach 3, Riverside will need to coordinate with the water commissioner in order to bypass supplies from Reach 2 to Reach 3 and will need to pay transit loss on those accretions. If the call is downstream of Reach 3, Riverside may apply excess credits accruing within Reach 4 without a need to apply transit losses.

Long-term Replacement

In accordance with the letter dated April 30, 2010 (copy attached) from the Colorado Division of Reclamation, Mining and Safety, 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 groundwater. The DRMS letter identifies four approaches to satisfy this requirement. As described in the SWSP request, it is anticipated that mining at the site will continue for another 20 years. Final reclamation of the site is intended to result in complete backfill of the mined area, covering all areas of exposed groundwater. In accordance with approach no. 1, Builder's Aggregate has obtained a reclamation bond through DRMS for the revised liability amount of $25,500.00.

Conditions of Approval

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

1. This plan shall be valid for the period of April 1, 2019 through March 31, 2020 unless otherwise revoked or superseded by decree. Additional SWSPs are required until all depletions associated with the mining operation have ceased or a court decreed plan for augmentation is obtained for the proposed uses. Otherwise, a renewal request must be submitted to this office with the statutory fee of $257 **no later than February 1, 2020. 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. 81256-F was obtained for the current use and exposed water surface area in accordance with § 37-90-137(2) and (11), C.R.S.
3. The total surface area of the groundwater exposed at the Builder's Aggregate Pit must not exceed 3.45 acres, which results in a maximum annual evaporative loss of 9.11 acre-feet. In future SWSP requests, the Applicant may elect to replace only the net evaporation of groundwater in order to reduce the stream obligation.
4. The annual amount of water used at the Builder's Aggregate Pit, in addition to evaporation, is limited 1.22 acre-feet, estimated as 0.12 acre-feet lost with the production of 4,125 tons of mined product and 1.10 acre-feet associated with the "first fill".
5. Total consumption at the Builder's Aggregate Pit must not exceed these aforementioned amounts unless an amendment is made to this SWSP.
6. Approval of this plan is for the purposes as stated herein. This office must first approve any additional uses for the water.
7. The applicant shall provide daily accounting (including but not limited to weight of mined product, groundwater exposed to evaporation, replacement sources, and river calls) on a monthly basis, or more frequent if required by the water commissioner. The accounting must be emailed to the water commissioner (Evan.Snyder@state.co.us), river operations coordinator (Brent.Schantz@state.co.us), and division engineer (DNR_Div1Accounting@state.co.us) within 30 days of the end of the month for which the accounting applies.

   The Applicant shall verify that the entity making replacements, in this case the Riverside Irrigation District, has included the Applicant on their accounting submitted to our office.

8. Applicant shall follow the Augmentation Plan Accounting protocol, as referenced in the attached documents, for the operation of this SWSP.
9. The name, mailing address, and phone number of the contact person who will be responsible for operation and accounting of this plan must be provided on the accounting forms to the division engineer and water commissioner.
10. 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.
11. Conveyance loss for delivery of augmentation water to the point of depletion on the South Platte River is subject to assessment and modification as determined by the division engineer.
12. All releases of replacement water must be sufficient to replace all out-of-priority depletions in time, place, and amount and must be made under the direction and/or 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.
13. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity.
14. 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.
15. 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.
16. In the event that the operator walks away from the site prior to completion of final reclamation, a bond for $25,500.00 has been obtained through DRMS to finance the backfilling of the site, thus preventing depletions to the stream system. The approval of this SWSP does not relieve the Applicant and/or landowner of the requirement to ensure the permanent replacement of all depletions, including long-term evaporation losses and 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.

17. 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.
18. In accordance with amendments to § 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.
19. 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 plan. This decision shall not bind the state engineer to act in a similar manner in any other applications involving other plans or in any proposed renewal of this plan, 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.

Should you have any comments or questions, please contact Michael Hein, Lead Assistant Division Engineer, in Greeley at (970) 352-8712 or Sarah Brucker of this office.

Sincerely,

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

Attachments: Figures 1 & 2
Table 2
Table 3
Riverside Water Order
April 30, 2010 DRMS Letter
Augmentation Plan Accounting Protocol

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

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

Brent Schantz, River Operations/Compact Commissioner (Brent.Schantz@state.co.us)

Evan Snyder, Water Commissioner, Water District 1 (Evan.Snyder@state.co.us)

Don Chapman, Riverside Irrigation District (dc@rivid.org)

Jared Ebert, Division of Reclamation, Mining and Safety (Jared.Ebert@state.co.us)

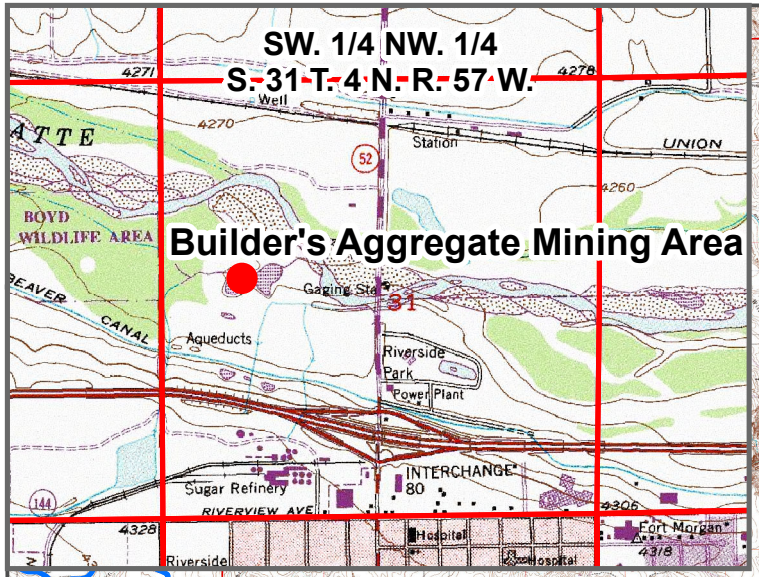

Figure 1
Builder's Aggregate
General Location Map

TZA Water Engineers
a Lamp Rynearson Company

April, 2017

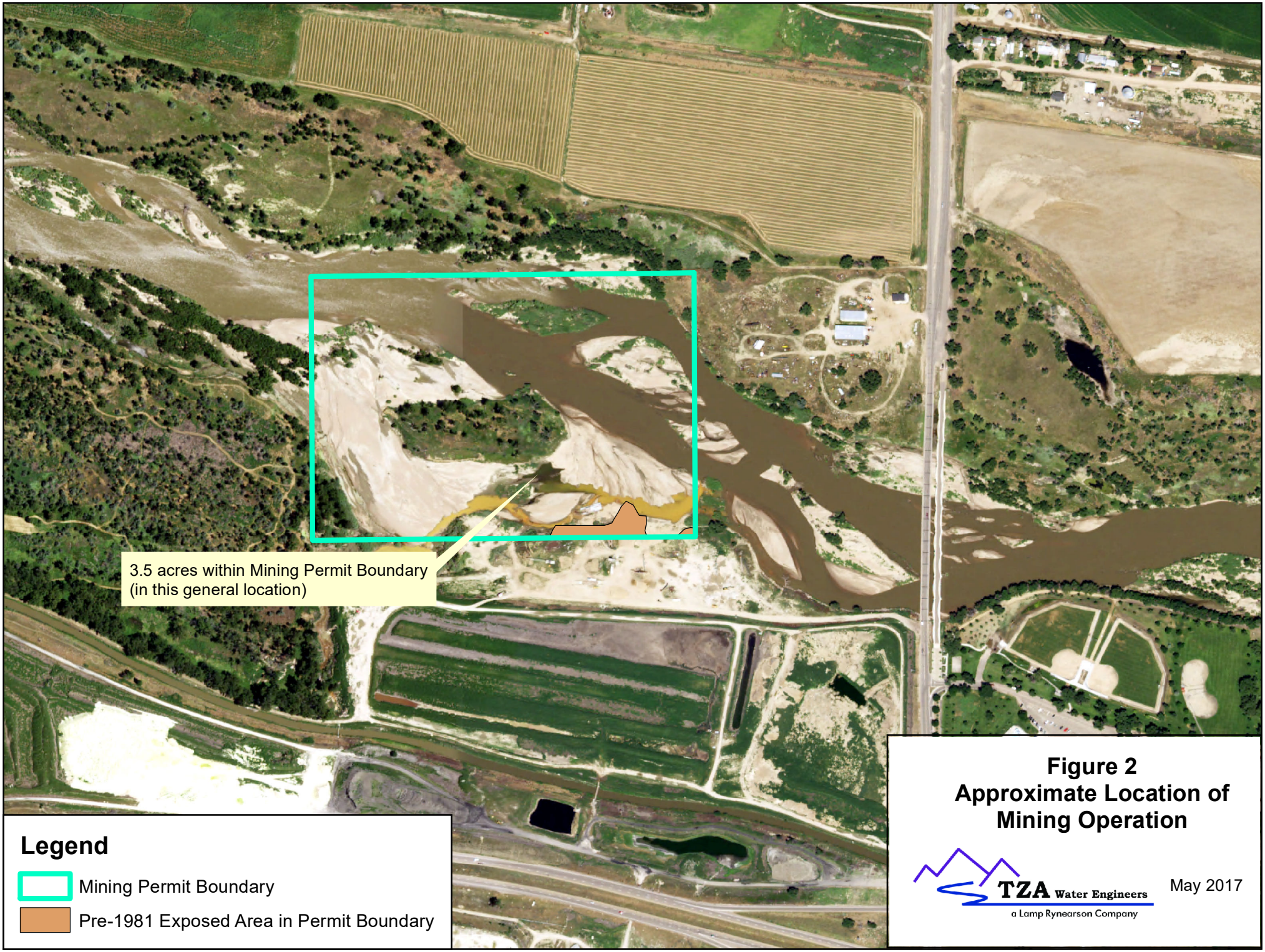

Figure 2
Approximate Location of Mining Operation

TZA Water Engineers
a Lamp Rynearson Company

May 2017

Table 2 - Builder's Aggregate Projected 2019 Depletions

Constants		
Property	Value	Units
Density of mined product	2750	lb/yd^3
Density of granite	4640	lb/yd^3
Porosity	0.407	
Moisture content [1]	4%	
Density of water	62.40	lb/ft^3

Month	Exposed area, in acres	Volume of product mined, in cubic yards	Weight of mined product, in lbs	Volume of water removed with mined material, in acre-feet	Volume of water first fill, in acre-feet	Monthly Free Water Surface Evaporation, in feet[2]	Evaporative Depletions, in acre-feet	First Fill Depletions, in acre-feet	Total monthly depletions
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
April	0	0	0	0.00	0.00	0.37	0.00	0.00	0.00
May	0	0	0	0.00	0.00	0.49	0.00	0.00	0.00
June	0	0	0	0.00	0.00	0.59	0.00	0.00	0.00
July	3.45	1000	2750000	0.04	0.37	0.62	2.14	0.41	2.55
August	3.45	1000	2750000	0.04	0.37	0.55	1.90	0.41	2.31
September	3.45	1000	2750000	0.04	0.37	0.41	1.41	0.41	1.82
October	3.45	0	0	0.00	0.00	0.29	1.00	0.00	1.00
November	3.45	0	0	0.00	0.00	0.16	0.55	0.00	0.55
December	3.45	0	0	0.00	0.00	0.12	0.41	0.00	0.41
January	3.45	0	0	0.00	0.00	0.12	0.41	0.00	0.41
February	3.45	0	0	0.00	0.00	0.14	0.48	0.00	0.48
March	3.45	0	0	0.00	0.00	0.23	0.79	0.00	0.79
Total	--	3000	8250000	0.12	1.10	4.09	9.11	1.22	10.33

[1] Hydraulic dredging operation sorts gravels in place and allows excess water and undersized materials to return to pond immediately during processing. Water removed only results from wetted surface area of mined materials. Modified from 2% to 4% to expedite processing of SWSP.

[2] Based on CDSS digitized contour lines from NOAA Atlas 33 Gross evaporation.

[4] = [3] x (density of product)

[5] = [4] x (moisture content 4%) ÷ (density of water) ÷ 43560 cu. ft./AF

[7] From Table 1

[8] = [2] x [7]

[9] = [5] + [6]

[10] = [8] + [9]

Table 3 - Builder's Aggregate Projected 2019 Net Impact to South Platte River

Month	Total monthly depletions	Total monthly replacements	Net impact
[1]	[2]	[3]	[4]
April	0.00	0.00	0.00
May	0.00	2.01	2.01
June	0.00	2.45	2.45
July	-2.55	2.56	0.01
August	-2.31	2.31	0.00
September	-1.82	1.82	0.00
October	-1.00	1.02	0.02
November	-0.55	0.56	0.01
December	-0.41	0.42	0.01
January	-0.41	0.42	0.01
February	-0.48	0.49	0.01
March	-0.79	0.81	0.02
Total	-10.33	14.87	4.54

Attachment 6

RIVERSIDE IRRIGATION DISTRICT

WATER ORDER

Date 5/12/19

Water Source: Riverside Reservoir Rights

From Builder's Aggregate

To Riverside Irrigation District

Amount 2 Reservoir Rights

RIVERSIDE IRRIGATION DISTRICT

WATER ORDER

Date 5/12/19

Water Source: Riverside Recharge

From Riverside Irrigation District

To Builder's Aggregate

Amounts (acre feet)

Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
		2.01	2.45	2.56	2.31	1.82	1.02	0.56	0.42	0.42	0.49	0.81

Total **14.87** acre feet

02CW086 paragraph 25.1 (Excess Recharge Credits)
02CW086 paragraph 20.1 (Determination of Accrual Locations for Depletions and Accretions

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

M-1981-112

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

April 30, 2010

Builder's Aggregate, Inc.
910 West Beaver Ave
Fort Morgan, CO 806020000

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: M1981112 Builders Aggr Pit

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) 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. <u>All wells must be decreed by the water court, permitted by the state engineer or included in a decreed plan for augmentation</u>. 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*)*