SMALL HYDRO CONSULTING

DRMS Recd: 8/11/2020

August 4, 2020

Terry Scanga
Manager
Upper Arkansas Water Conservancy District
Salida, CO 81201
Delivered via email

RE: Jesse Lee Pit Augmentation Requirements
DRMS File No. M84-043
SE ¼ of Section 28 and NE ¼ of Section 33, T14S R78W
Water Division 2, Water District 11

Dear Mr. Scanga;

Pelino Excavation owns and operates the Jesse Lee Pit located approximately 3 miles south of Buena Vista, CO, on the west bank of the Arkansas River. Depletions due to mining activities have been replaced in the past with a Substitute Water Supply Plan (SWSP) using leased water from either the Pueblo Board of Water Works or Upper Arkansas Water Conservancy District ("the District"). Well permit no. 67860-F (WDID 1105182) applies to the current use and exposed pond surface area of the gravel pit in accordance with §37-90-137(2) and (11) C. R. S.

The last SWSP expired on October 31, 2018. Mr. Pelino proposes to replace depletions since October 31, 2018, and into the future through the District's court-approved blanket augmentation plan, 06CW32 under paragraph 14.i.

Depletions that result from mining operations at the pit include evaporation, water lost in mined product, and dust suppression. The total net annual depletions are 2.38 acre-feet; 1.09 acre-feet of net evaporative loss, 0.29 ac-feet of water lost in mined product, and 1.0 acre-feet of water used for dust suppression. The pit will continue to be mined, and the floor of the mine will remain at least 10 feet above the groundwater table. It is not expected that any additional groundwater will be exposed; however, if additional groundwater is exposed at any time in the future, the augmentation requirements will be revised.

Total depletions due to evaporation are 1.09 ac-feet annually (see Table A). This is based on a gross annual evaporation of 39 inches at this site (NOAA Technical Report NWS 33) less effective precipitation equal to 70% of average total precipitation (measured at the Buena Vista Climate Station USC00051071 for 1950-2019). This results in a net annual evaporation of 31.7

inches. The total area of exposed water surface is 0.4 acres, including the ponds and a 400-foot-long drainage ditch (see Figure 1 attached).

Water lost in mined product hauled from the property equals 0.29 acre-feet. This volume is based on 9,000 tons of material mined each year with a 4% moisture content.

Water used for dust suppression will not exceed 1.0 acre-foot annually. Water for dust suppression is pumped from a concrete sump located in the drainage ditch prior to the discharge into the ponds. A totalizing flow meter is located on the sump. Pumping will not exceed 1.0 acre-foot, and records will be submitted to UAWCD on an annual basis.

The monthly distribution of depletions and required replacements are calculated in the attached tables and summarized below for a water year. The impact to the stream system is assumed to be instantaneous as the ponds are located approximately 200 feet from the Arkansas River.

Month	***Evaporative Depletions [ac-ft]***	***Operational Depletions [ac-ft]***	***Total Depletions [ac-ft]***
November	0.04	0.09	0.13
December	0.00	0.09	0.09
January	0.00	0.09	0.09
February	0.00	0.09	0.09
March	0.07	0.09	0.16
April	0.10	0.11	0.21
May	0.15	0.13	0.28
June	0.20	0.13	0.33
July	0.18	0.13	0.31
August	0.14	0.13	0.27
September	0.13	0.13	0.26
October	0.08	0.11	0.19
Total	**1.09**	**1.29**	**2.38**

Sincerely,

Lindsay George

Lindsay George, PhD, PE
Civil Engineer

Attachments:

Figure 1 - Vicinity and Site Map

Figure 2 - DRMS Mining Plan Topo Map

Table A - Evaporation Calculation

Table B - Operational Loss Calculation

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SMALL HYDRO CONSULTING, LLC
PO Box 1144 Salida, CO 81201
ph: 970-456-2414
Lindsay@smallhydro.us

Jesse Lee Pit

Pelino Excavating

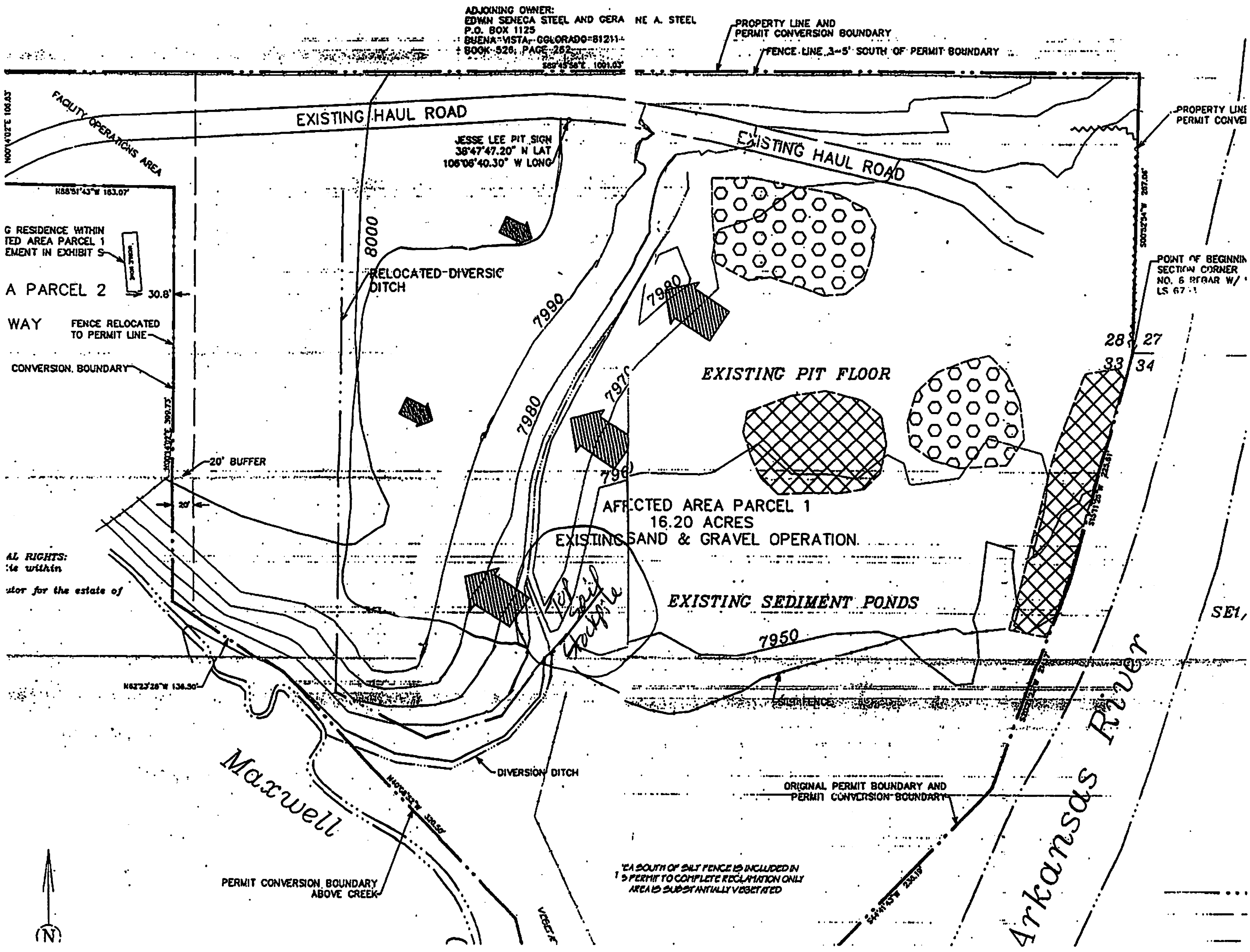
Date: 29 Jul 2020

Job #: 2020070

Drawn By: LAG

Figure: 1

Of: 1



ADJOINING OWNER:
EDWIN SENECA STEEL AND GERA NE A. STEEL
P.O. BOX 1125
BUENA VISTA, COLORADO 81211
BOOK 526, PAGE 252
PROPERTY LINE AND
PERMIT CONVERSION BOUNDARY
FENCE LINE 3-5' SOUTH OF PERMIT BOUNDARY
FACILITY OPERATIONS AREA
EXISTING HAUL ROAD
JESSE LEE PIT SIGN
38°47'47.20" N LAT
106°08'40.30" W LONG
EXISTING HAUL ROAD
PROPERTY LINE
PERMIT CONVE
G RESIDENCE WITHIN
TED AREA PARCEL 1
EMENT IN EXHIBIT S
A PARCEL 2
30.8'
WAY
FENCE RELOCATED
TO PERMIT LINE
CONVERSION BOUNDARY
8000
RELOCATED DIVERSIC
DITCH
7990
7980
7980
7970
POINT OF BEGINNIN
SECTION CORNER
28 27
33 34
EXISTING PIT FLOOR
20' BUFFER
20'
AFFECTED AREA PARCEL 1
16.20 ACRES
EXISTING SAND & GRAVEL OPERATION
AL RIGHTS:
EXISTING SEDIMENT PONDS
7950
SE1/
SILT FENCE
Maxwell
DIVERSION DITCH
Arkansas River
ORIGINAL PERMIT BOUNDARY AND
PERMIT CONVERSION BOUNDARY
PERMIT CONVERSION BOUNDARY
ABOVE CREEK
N

Table A
Jesse Lee Pit
Project: 2020070

Date Revised: 7/29/2020

Net Evaporation from Ponds and Drainage Ditch

Month	Percent of Annual Evaporation (A)	Gross Monthly Evaporation [in] (B)	Average Monthly Precipitation [in] (C)	Effective Precipitation [in] (D)	Total Net Evaporation [ac-ft] (E)
January	0.0%	0.0	0.4	0.3	0.00
February	0.0%	0.0	0.4	0.3	0.00
March	6.3%	2.5	0.6	0.4	0.07
April	9.5%	3.7	0.9	0.7	0.10
May	13.2%	5.1	1.1	0.8	0.15
June	16.4%	6.4	0.7	0.5	0.20
July	16.9%	6.6	1.6	1.1	0.18
August	13.8%	5.4	1.8	1.3	0.14
September	11.6%	4.5	1.0	0.7	0.13
October	7.9%	3.1	0.8	0.6	0.08
November	4.2%	1.6	0.5	0.3	0.04
December	0.0%	0.0	0.4	0.3	0.00
Total	**100%**	**39**	**10.4**	**7**	**1.09**

Gross Annual Evaporation =	39	inches per NOAA Technical Report NWS 33
Precipitation	10.4	inches per Buena Vista Climate Station USC00051071
Pond Size =	0.40	acres

Notes:
(A) Monthly Evaporation Distribution Schedule for structures above 6,500 feet from UAWCD 06CW32 paragraph 14.l.
(B) Gross Monthly Evaporation = (Gross Annual Evaporation) * (A).
(C) Average Monthly Precipitation BUENA VISTA (USC00051071) climate station, period of record 1950-2019.
(D) Effective Precipitation (C) * 0.70
(E) Total Net Evaporation = [(B) - (D)] * (Pond Size) / 12. Zeroed if negative. Represents total impact to stream system per year from ponds

Table B
Jesse Lee Pit
Project: 2020070

Date Revised: 7/29/2020

Operational Depletions

Month	*Water lost in hauled product*			*Dust Control*	Total
	Percent of Annual Production (A)	Aggregate Production [tons] (B)	Water Retained in product [ac-ft] (C)	Water used for Dust Contol [ac-ft] (D)	Operational Depletions [ac-ft] (E)
January	6.9%	619	0.02	0.07	0.09
February	6.9%	619	0.02	0.07	0.09
March	6.9%	619	0.02	0.07	0.09
April	8.8%	792	0.02	0.09	0.11
May	9.6%	864	0.03	0.10	0.13
June	9.6%	864	0.03	0.10	0.13
July	9.6%	864	0.03	0.10	0.13
August	9.6%	864	0.03	0.10	0.13
September	9.6%	864	0.03	0.10	0.13
October	8.8%	792	0.02	0.09	0.11
November	6.9%	619	0.02	0.07	0.09
December	6.9%	619	0.02	0.07	0.09
Total	**100%**	**9000**	**0.29**	**1.00**	**1.29**

Total Aggregate Mined	9000	tons
Moisture Content	4%	of hauled material
Water Used for Dust Control	1.00	ac-ft

Notes:
(A) Based on past and anticipated future mining activity
(B) Total Aggregate Mined * Column (A)
(C) Column (B) * Moisture Content (2000 lbs/ton / 62.4 lbs/cf) / 43,560 sf/ac
(D) Water Used for Dust Control * Column (B)
(E) Total Depletions = Column (C) + Column (D)