

Table 1
Ouray County
Road and Bridge Water Needs
DRAFT - For Review and Comment

Short Term (5 Years)				Long Term (Year 2072, 50 Year Planning Period)							
Road Dust Control and Construction	Amount of Material Removed and Washed	Water Depletions from Washing (2% of Material Weight)	Total Depletions	Road Dust Control and Construction	Total Exposed Surface Area After Completion of Phase 2 (2038)	Additional Groundwater to be Exposed Over Remainder of Planning Period	Total Exposed Groundwater at End of Planning Period	Total Evaporation Depletions	Depletions from Groundwater Filling the Pit	Water Depletions from Washing (4% of Material Weight)	Total Depletions
(AF/Yr)	(Tons/Yr)	(AF/Yr)	(AF/Yr)	(AF/Yr)	(acres)	(acres)	(acres)	(AF)	(AF)	(AF)	(AF/Yr)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5.0	60,000.0	0.9	5.9	10.0	18.0	68.0	86.0	228.8	18.9	1.8	260

Column Notes:

- (1) Value specified by Ty Barger of Ouray County per verbal conversation with Peter Foster of Wright Water Engineers, Inc. (WWE) on 9/14/22.
- (2) Value specified by Ty Barger of Ouray County per verbal conversation with Peter Foster of WWE on 9/14/22.
- (3) Calculated: Equals [(Column (2) / 1.8 tons/CY) * 27 ft³/CY] / 43,560 ft²/acre] * 2%. Density of gravel (1.8 tons/CY) calculated from nearby gravel pit. 2% assumed for material mined above the groundwater table from No. 13 of the General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits (Updated April 1, 2011).
- (4) Calculated: Equals Column (1) + Column (3).
- (5) Calculated: Equals Column (1) * 2. Water used for dust control and construction estimated to double during planning period.
- (6) Estimated exposed surface area after completion of Phase 2, projected to be complete in 16 years in 2038. Value based on Triple R pit, 1998 Reclamation 112 Conversion Permit, Brian Wilson P.E. with EarthStone Ltd.
- (7) Calculated: Equals 2 acres/year of additional exposed groundwater * 34 years remaining in planning period. Value based on Triple R pit, 1998 Reclamation 112 Conversion Permit, Brian Wilson P.E. with EarthStone Ltd.
- (8) Calculated: Equals Column (5) + Column (6).
- (9) Calculated: Equals Column (7) * 2.66 ft of evaporation per year. Value based on annual value of 41 inches of gross evaporation per NOAA Technical Report NWS 33 and combined precipitation data from NOAA recording stations in Montrose (60%) and
- (10) Calculated: Equals V_{gr} from No. 14 of the General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits (Updated April 1, 2011), Based on the removal of 60,000 tons of gravel per year and 4% moisture content for material mined below the groundwater table. Material porosity not accounted for in this calculation.
- (11) Calculated: Equals [(Column (2) / 1.8 tons/CY) * 27 ft³/CY] / 43,560 ft²/acre] * 2%. Density of gravel (1.8 tons/CY) calculated from nearby gravel pit. 4% assumed for material mined below the groundwater table from No. 13 of the General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits (Updated April 1, 2011).
- (12) Calculated: Equals Column (5) + Column (9) + Column (10) + Column (11).