

August 16, 2023

Mr. Patrick Lennberg  
Division of Reclamation, Mining and Safety  
1313 Sherman Street, Room 215  
Denver, CO 80203

RE: M-1977-439 Technical Revision (TR-06) responses to Adequacy Review No. 1

Dear Mr. Patrick Lennberg:

Please find below our responses to your Adequacy Review No. 1 dated June 28, 2023.

1. In Adequacy Review Response No. 3 of AM-04, dated February 7, 2023, the Operator committed to monthly groundwater level monitoring and submitting those results on a quarterly basis. To date, the Division has not received any groundwater level monitoring data. Please submit all missing groundwater level monitoring data. At a minimum, the submittal shall include the well location map, table(s) that clearly define ground surface elevation for each well location, depth to groundwater from ground surface, graphs of groundwater levels over time, and a statement as to whether the groundwater level has been within 4-feet of ground surface and if so, for how long.

Response

*Per AM-04 approved on February 15, 2023, we are to submit the water level data quarterly. Please find the data enclosed in the format that was requested.*

*As part of AM-04, we did agree to install an underdrain on the north side of G-I if the groundwater levels were within 4-feet of the ground surface for 2 consecutive months. Our monitoring data for HO-01 was hovering around 4 feet until we used the unlined ditch just north of the well to fill the reservoir in May and then unfortunately we have gotten record rain fall every month since. As you can see on the data pulled from the Colorado State University Colorado Climate Center Data for Fort Collins, the past few months have seen between 400% and nearly 1000% more rain than the past 5-year average. Our data for this well shows the water depth has been within 4 feet of the surface for HO-01 since February. There will be more discussion on this shortly in our response to CT-01.*

2. The Division recognizes where the G-I and G-II due to prior permitting, however the Technical Revision should be a stand-alone document. Please update with an index map that shows the complete permit boundary, identifies the permit acreage, and the locations of G-I and G-II.

Response

*Revised index map is enclosed.*

3. What is the current construction status of the West Underdrain?

Response

*The West Underdrain has been constructed. It was installed when the liner for G-II was installed.*

4. Please clearly show on the maps the different underdrains, West and North and any others using different shading so it is clear what specific segment of underdrain is part of TR-6.

Response

*Revised Exhibit F is enclosed.*

5. Please state whether or not the seepage analysis calculations contained in Adequacy Review Response No. 3 were used in the north side underdrain design.

Response

*Yes, Schnabel used the same seepage analysis calculations when designing the north extension.*

Please accept this letter and enclosures as our response to your technical revision adequacy review and I can be reached at 970-407-3631 if any additional information is needed at this time.

Sincerely,

A handwritten signature in cursive script that reads "Julie Mikulas".

Julie Mikulas  
Regional Land Manager

M-1977-439 Home Office Well Monitoring

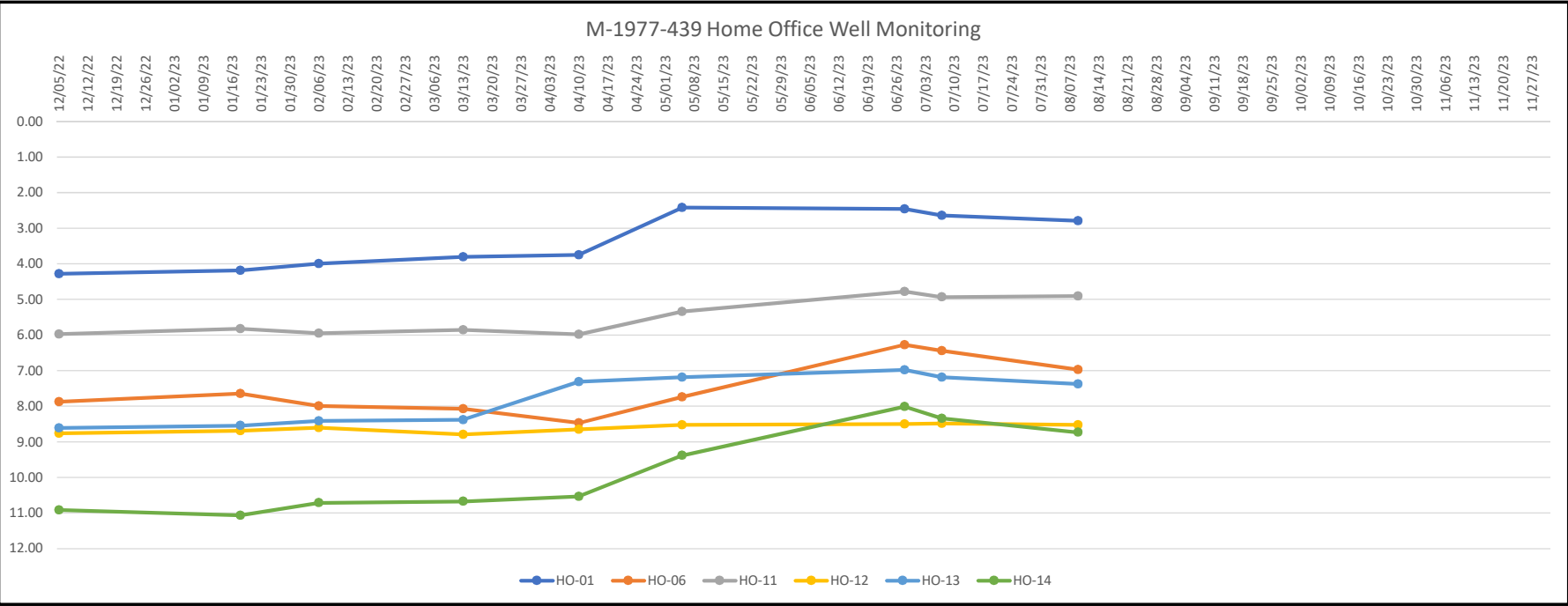
Depth to Water from Surface (Feet)						
DATE	HO-01	HO-06	HO-11	HO-12	HO-13	HO-14
12/05/22	4.28	7.87	5.97	8.76	8.61	10.91
01/18/23	4.18	7.64	5.82	8.69	8.54	11.06
02/06/23	3.99	7.99	5.95	8.60	8.41	10.71
03/13/23	3.80	8.07	5.85	8.79	8.38	10.67
04/10/23	3.75	8.47	5.98	8.65	7.31	10.53
05/05/23	2.42	7.74	5.34	8.52	7.18	9.38
06/28/23	2.46	6.27	4.78	8.50	6.98	8.01
7/7/2023	2.64	6.44	4.93	8.48	7.18	8.34
8/9/2023	2.79	6.97	4.90	8.52	7.37	8.73

09/01/23  
10/01/23  
11/1/2023  
12/1/2023

Colorado State University - Colorado Climate Center Data - Precipitation pcpn in inches  
FT COLLINS - Station ID 053005 (Longitude -105.0857 Latitude 40.5763 Elevation 5004 ft

	2018	2019	2020	2021	2022	Previous 5 yr avg	2023
JAN	0.45	0.49	0.00	0.30	0.85	0.42	0.79
FEB	0.67	0.16	0.69	0.81	0.98	0.66	0.41
MAR	0.71	2.02	1.29	2.66	0.97	1.53	1.15
APR	0.75	1.78	1.71	2.15	0.11	1.30	1.27
MAY	5.12	2.92	2.55	5.52	2.37	3.70	3.33
JUN	1.22	2.59	1.33	0.48	0.94	1.31	5.60
JUL	2.21	1.25	0.15	0.65	3.84	1.62	3.95
AUG	0.28	0.20	0.48	0.64	0.51	0.42	4.18
SEP	0.46	0.71	1.39	0.56	1.22	0.87	
OCT	1.08	0.94	1.14	0.20	0.33	0.74	
NOV	0.62	1.79	0.64	0.26	0.79	0.82	
DEC	0.03	0.57	0.50	0.55	0.32	0.39	
Annual	13.60	15.42	11.87	14.78	13.23	13.78	20.68

to 8/10/23



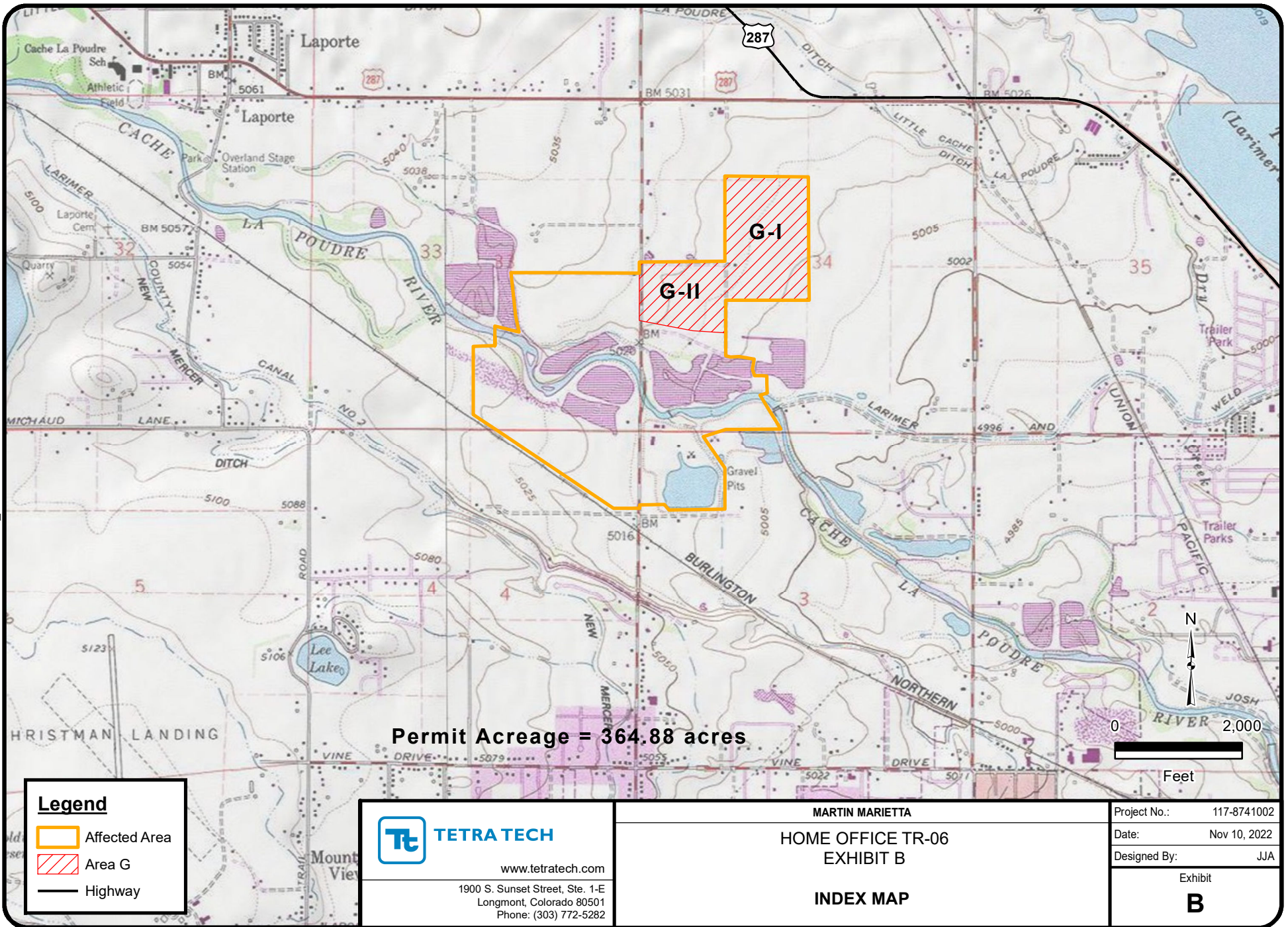
TAFT HILL												
Well Name	HO-1				HO-6				HO-11			
Latitude	40.621719				40.614632				40.621691			
Longitude	-105.109344				-105.109917				-105.105226			
Top of PVC Casing (ft)	5024.08				5019.39				5021.36			
Ground Elevation (ft)	5021.21				5016.45				5018.43			
PVC Stickup (ft)	2.87				2.94				2.93			
DATE	Reading	PVC Stickup	Ground Water Elev	Depth from Ground	Reading	PVC Stickup	Ground Water Elev	Depth from Ground	Reading	PVC Stickup	Ground Water Elev	Depth from Ground
12/5/2022	7.15	2.87	5016.93	4.28	10.81	2.94	5008.58	7.87	8.90	2.93	5012.46	5.97
1/18/2023	7.05	2.87	5017.03	4.18	10.58	2.94	5008.81	7.64	8.75	2.93	5012.61	5.82
2/6/2023	6.86	2.87	5017.22	3.99	10.93	2.94	5008.46	7.99	8.88	2.93	5012.48	5.95
3/13/2023	6.67	2.87	5017.41	3.80	11.01	2.94	5008.38	8.07	8.78	2.93	5012.58	5.85
4/10/2023	6.62	2.87	5017.46	3.75	11.41	2.94	5007.98	8.47	8.91	2.93	5012.45	5.98
5/5/2023	5.29	2.87	5018.79	2.42	10.68	2.94	5008.71	7.74	8.27	2.93	5013.09	5.34
6/28/2023	5.33	2.87	5018.75	2.46	9.21	2.94	5010.18	6.27	7.71	2.93	5013.65	4.78
7/7/2023	5.51	2.87	5018.57	2.64	9.38	2.94	5010.01	6.44	7.86	2.93	5013.5	4.93
8/9/2023	5.66	2.87	5018.42	2.79	9.91	2.94	5009.48	6.97	7.83	2.93	5013.53	4.90



TAFT HILL												
Well Name	HO-12				HO-13				HO-14			
Latitude	40.618254				40.618117				40.615757			
Longitude	-105.109329				-105.113706				-105.114103			
Top of PVC Casing (ft)	5023.53				5026.66				5023.73			
Ground Elevation (ft)	5021.17				5023.74				5021.53			
PVC Stickup (ft)	2.36				2.92				2.20			
DATE	Reading	PVC Stickup	Ground Water Elev	Depth from Ground	Reading	PVC Stickup	Ground Water Elev	Depth from Ground	Reading	PVC Stickup	Ground Water Elev	Depth from Ground
12/5/2022	11.12	2.36	5012.41	8.76	11.55	2.94	5015.13	8.61	13.11	2.20	5010.62	10.91
1/18/2023	11.05	2.36	5012.48	8.69	11.48	2.94	5015.20	8.54	13.26	2.20	5010.47	11.06
2/6/2023	10.96	2.36	5012.57	8.60	11.35	2.94	5015.33	8.41	12.91	2.20	5010.82	10.71
3/13/2023	11.15	2.36	5012.38	8.79	11.32	2.94	5015.36	8.38	12.87	2.20	5010.86	10.67
4/10/2023	11.01	2.36	5012.52	8.65	10.25	2.94	5016.43	7.31	12.73	2.20	5011.00	10.53
5/5/2023	10.88	2.36	5012.65	8.52	10.12	2.94	5016.56	7.18	11.58	2.20	5012.15	9.38
6/28/2023	10.86	2.36	5012.67	8.50	9.92	2.94	5016.76	6.98	10.21	2.20	5013.52	8.01
7/7/2023	10.84	2.36	5012.69	8.48	10.12	2.94	5016.56	7.18	10.54	2.20	5013.19	8.34
8/9/2023	10.88	2.36	5012.65	8.52	10.31	2.94	5016.37	7.37	10.93	2.20	5012.80	8.73









LEGEND

- B**

MINE PERMIT BOUNDARY  
EASEMENT  
EXISTING CONTOURS  
EXISTING WETLAND BUFFER  
ADJACENT PARCEL LINES  
EXISTING FENCE  
EXISTING EDGE OF ROAD  
EXISTING OVERHEAD ELECTRIC LINE  
OE  
W  
ACCESS ROAD  
UNDERDRAIN  
SURFACE DRAINAGE DITCH

TOPSOIL 6"-8" AND SEED  
AS PREVIOUSLY APPROVED AND PRE-1973 DISTURBANCE, HISTORICAL USE NOT RE-AFFECTED OR RECLAIMED AND WILL CONTINUE  
AS PREVIOUSLY APPROVED, AREAS HISTORICALLY USED FOR COMMERCIAL/INDUSTRIAL WILL NOT BE RECLAIMED OR VEGETATED  
UNLINED PRE-81 BY DWR

NOTE: STRUCTURES IN AREA 1. 2 AND Y TO REMAIN (PRE-1973 DISTURBANCE AREA AND COMMERCIAL/ INDUSTRIAL AREAS)

CERTIFICATION  
THIS MAP WAS PREPARED BY TETRA TECH IN COOPERATION WITH AND UNDER THE DIRECT SUPERVISION OF MARTIN MARIETTA MATERIALS, INC. MARTIN MARIETTA MATERIALS, INC. WILL KEEP THE DIVISION OF RECLAMATION, MINING, AND SAFETY INFORMED OF ANY CHANGES TO THE MINING OR RECLAMATION PLANS THROUGH ANNUAL REPORTS AND FILE TECHNICAL REVISIONS OR AMENDMENT APPLICATIONS AS NECESSARY THROUGHOUT THE LIFE OF THE MINE.

JULIE MIKULAS, MARTIN MARIETTA MATERIALS, INC.  
11/10/2022

WEST UNDERDRAIN (INSTALLED)  
NORTH UNDERDRAIN (INSTALLED)  
NORTH EXTENSION TO THE EAST (NORTH OF G-I AS PROPOSED W/TR-06)

PROJ.: 117-8741002  
DESN: JJA  
DRWN: JJA  
CHKD: KKJ

F1

NOTE: SEE FIGURE F3 GENERAL PLAN FOR STAGE G PRELIMINARY DESIGN.

**A**

MARTIN MARIETTA  
HOME OFFICE  
LARIMER COUNTY, COLORADO  
RECLAMATION PLAN

The figure is a detailed engineering plan view of a mine site. It includes various boundary and feature lines such as the Mine Permit Boundary, Easement, Existing Contours, Wetland Buffer, Parcel Lines, Fence, Road Edge, Overhead Electric Line, Access Road, Underdrain, and Surface Drainage Ditch. A legend defines symbols for Topsoil (6"-8" and seed), previously approved areas (Pre-1973 disturbance, historical use not re-affecting or reclaiming, and commercial/industrial areas historically used for non-reclaimable purposes), and unlined pre-81 by DWR. A note specifies that structures in Area 1.2 and Y remain. The plan also features a North Arrow pointing up, a Scale Bar indicating 1 inch equals 200 feet, and a Certification statement signed by Julie Mikulas on 11/10/2022. On the right side, there are three colored lines representing installed underdrains: West Underdrain (blue), North Underdrain (green), and North Extension to the East (red). Below these lines is a table with project details: PROJ: 117-8741002, DESN: JJA, DRWN: JJA, CHKD: KKJ. At the bottom right, a large 'F1' label is present, and a note refers to Figure F3 General Plan for Stage G Preliminary Design.

1900 S. SUNSET STREET, SUITE 1-E  
LONGMONT, COLORADO 80501  
TEL: 303.772.5282

MARK	DATE	DESCRIPTION	BY
	12/23/21	ORIGINAL SUBMITTAL	
	11/10/22	ADEQUACY REVIEW 1	
	06/28/23	TR-06 Identify underdrain names	

MARTIN MARIETTA  
HOME OFFICE  
LARIMER COUNTY, COLORADO  
RECLAMATION PLAN

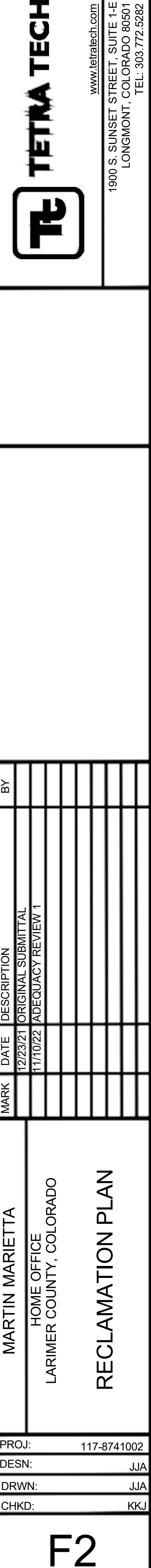
PROJ:	117-8741002
DESN:	JJA
DRWN:	JJA
CHKD:	KKJ

=1

Copyright: Tetra Tech



MATCHLINE SEE SHEET F1



Bar Measures 1 inch, otherwise drawing not to scale