

EXHIBIT G: WATER INFORMATION

Martin Marietta is amending the existing 112 Reclamation Permit No. M-1977-439 to change the final reclamation for Stage G of the Home Office site from one open water lake to two sealed water storage reservoirs using compacted clay embankment liners.

1.0 INTRODUCTION AND BACKGROUND

Martin Marietta owns properties known as the “Home Office” site in Larimer County, Colorado. The properties are located on the west and east sides of North Taft Hill Road, approximately ½ mile south of Larimer County Road 54G, in Sections 33 and 34 of Township 8 North, Range 69 West of the 6th Principal Meridian and Sections 3 and 4 of Township 7 North, Range 69 West of the 6th Principal Meridian.

This Groundwater Monitoring and Mitigation Plan presents the methods for monitoring groundwater during mining and reclamation, and for mitigating any potential groundwater impacts associated with permitted mining at the site. Martin Marietta is applying to the Colorado Division of Reclamation, Mining and Safety (DRMS) for an Amendment to the existing 112 Reclamation Permit No. N-1977-439 to change the final reclamation for Stage G of this site from one open water lake to two sealed water storage reservoirs using a compacted clay embankment liner.

Exhibit B shows the location of the Affected Area and Stage G. Exhibits F1 and F2 show all the Affected Area in the permit. Stage G, which is located in the northern portion of the Affected Area, is detailed in Exhibit F3. The changes within the Affected Area are limited to Stage G; consequently, this discussion is limited to potential changes in the hydrologic balance as a result of the installation of compacted clay embankment liners in Mine Phase I and Mine Phase II of Stage G. Figure G-1, enclosed, shows the Affected Area; Stage G; adjacent parcels to Stage G and property owners; and conceptual groundwater flows before and after the installation of the compacted clay liners.

1.1 HISTORIC USE

Stage G mining and associated dewatering began in Spring 2016 and is currently underway. Upon completion of mining, compacted clay liners will be installed sequentially, in Mine Phase I and Mine Phase II.

Figure G-1 shows the adjacent properties to Stage G and irrigation ditches in the vicinity of the Affected Area. Agricultural land uses are located north and east of Stage G. Loveland Ready Mix owns properties to the north and east of Stage G. Irrigation ditches in the area include the New Mercer Canal, the Larimer County Canal No. 2 Ditch, the Arthur Canal, and Taylor & Gill Lateral (owned by Martin Marietta).

Loveland Ready Mix irrigates fields north and east of Stage G outside of the permit area. Irrigation field tiles are reported to have been installed in the properties owned by Constance A Fredman located southeast of Stage G of the Affected Area. After reports of poor drainage, the field tiles were repaired by Loveland Ready Mix.

Flooding was reported to Martin Marietta on the PKR Farm LLC property located east of the Affected Area as part of the field tile issue. In response, Martin Marietta worked with Loveland Ready Mix and PKR Farm LLC and installed drainage ditches between Loveland Ready Mix and PKR Farms LLC and along the east side of Stage G, Mine Phase I. The drainage ditches convey irrigation runoff from the area east of the Affected Area to the south to the Cache La Poudre River, similar to the historic drainage patterns. Since the installation of the ditches, there have not been further reports of flooding.

Based on discussions with Seaworth Properties LLC, water is rising on the east side of a parcel owned by Seaworth Properties LLC, on the west side of Stage G, Mine Phase I during the irrigation season. Martin Marietta is working with Seaworth Properties LLC and has plans to install a groundwater perimeter drain before this next

irrigation season to address the groundwater rise and irrigation return flow to the river. (See Section 2.1 Mining Plan, below)

1.2 EXISTING WELLS

1.2.1 Monitoring Wells

Martin Marietta installed wells in 2005 to establish groundwater baselines to monitor the groundwater conditions before, during, and after mining per the 2005 Well Monitoring Interim Report. Through the well monitoring program, pre-mining groundwater levels near the project area and seasonable fluctuations were documented. Six new monitoring wells were installed outside the limits of proposed mining, allowing for groundwater monitoring to occur during and after mining. Locations of the wells are shown on Exhibit F3, dated August 2021, and Figure G-3.

Monitoring well HO-1 was installed in the northwest corner of Stage G, Mine Phase I. Monitoring well HO-6 was installed in the southeast corner of Stage G, Mine Phase II. Both HO-1 and HO-6 were installed in 2018. Monthly groundwater monitoring for wells HO-1 and HO-6 began in May 2018.

The following monitoring wells were installed in Stage G in 2021:

- HO-11, in the northeast corner of Mine Phase I
- HO-12, near the southern portion of Mine Phase I, and near the northeast corner of Mine Phase II
- HO-13, near the northwest corner of Mine Phase II
- HO-14, near the southwest corner of Mine Phase II

Monthly groundwater monitoring for wells HO-11, HO-12, HO-13, and HO-14 began in May 2021.

Water level measurements for HO-1 and HO-6 are shown in Chart 1. Water level measurements for HO-11, HO-12, HO-13, and HO-14 are shown in Chart 2.

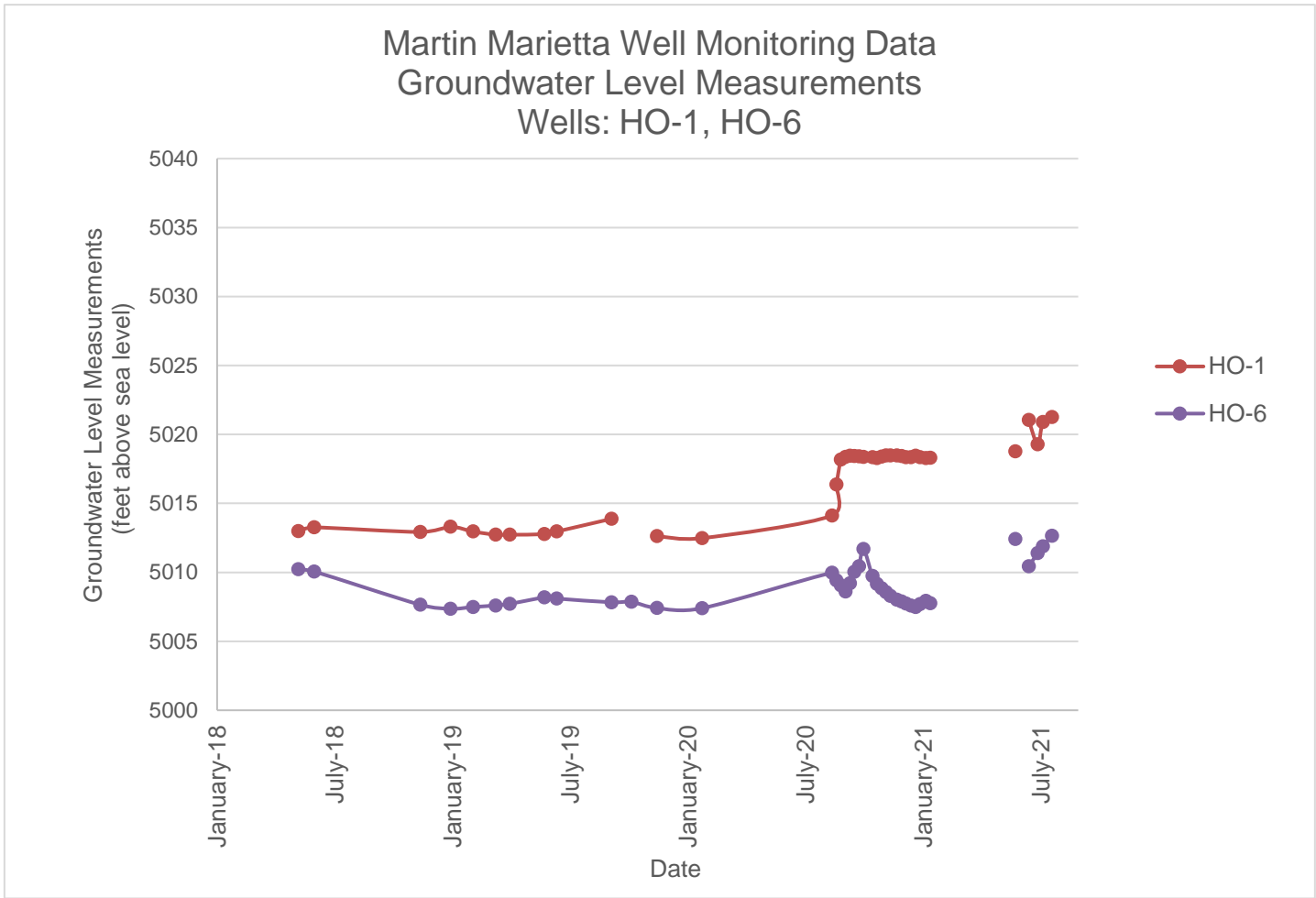


Chart 1: Martin Marietta Monitoring Data (HO-1 and HO-6)

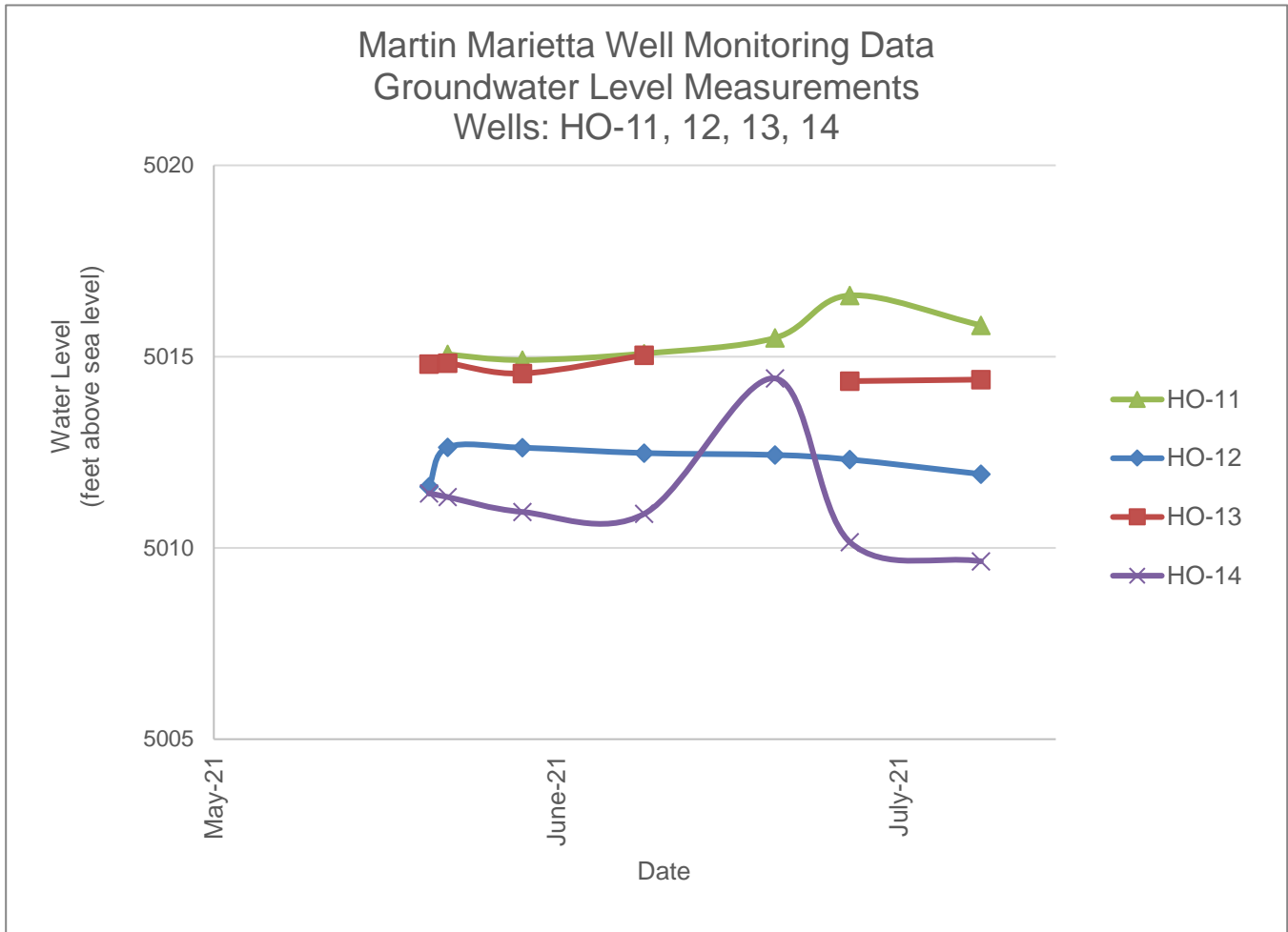


Chart 2: Well Monitoring Data (HO-11, 12, 13, 14)

1.2.2 Nearby Wells

Well owners, David L and Virginia S Slatten's property is located west of Mine Phase I at the northernmost portion of Mine Phase I (Figure G-1). Well Owners, Albert R and Sharon E Koonce's property is located west of Mine Phase I, just north of Mine Phase II. A well owned by Martin Marietta, referred to as "MM near KOA" is located east of Mine Phase II and south of Mine Phase I. Groundwater monitoring for the Slatten, Koonce and MM near KOA wells began in April 2007. Groundwater levels fluctuate throughout the seasons. The range of water level measurements for the Slatten well is 6.6 feet. The range of water level measurements for the Koonce well is 8.5 feet. The range of water level measurements for the MM near KOA well is 7.7 feet. Mining and associated dewatering began in Spring 2016. A shift in water level measurements is shown in Chart 3, which presents historical well monitoring data from the Slatten, Koonce and MM near KOA wells. Well locations are shown on Figure G-3.

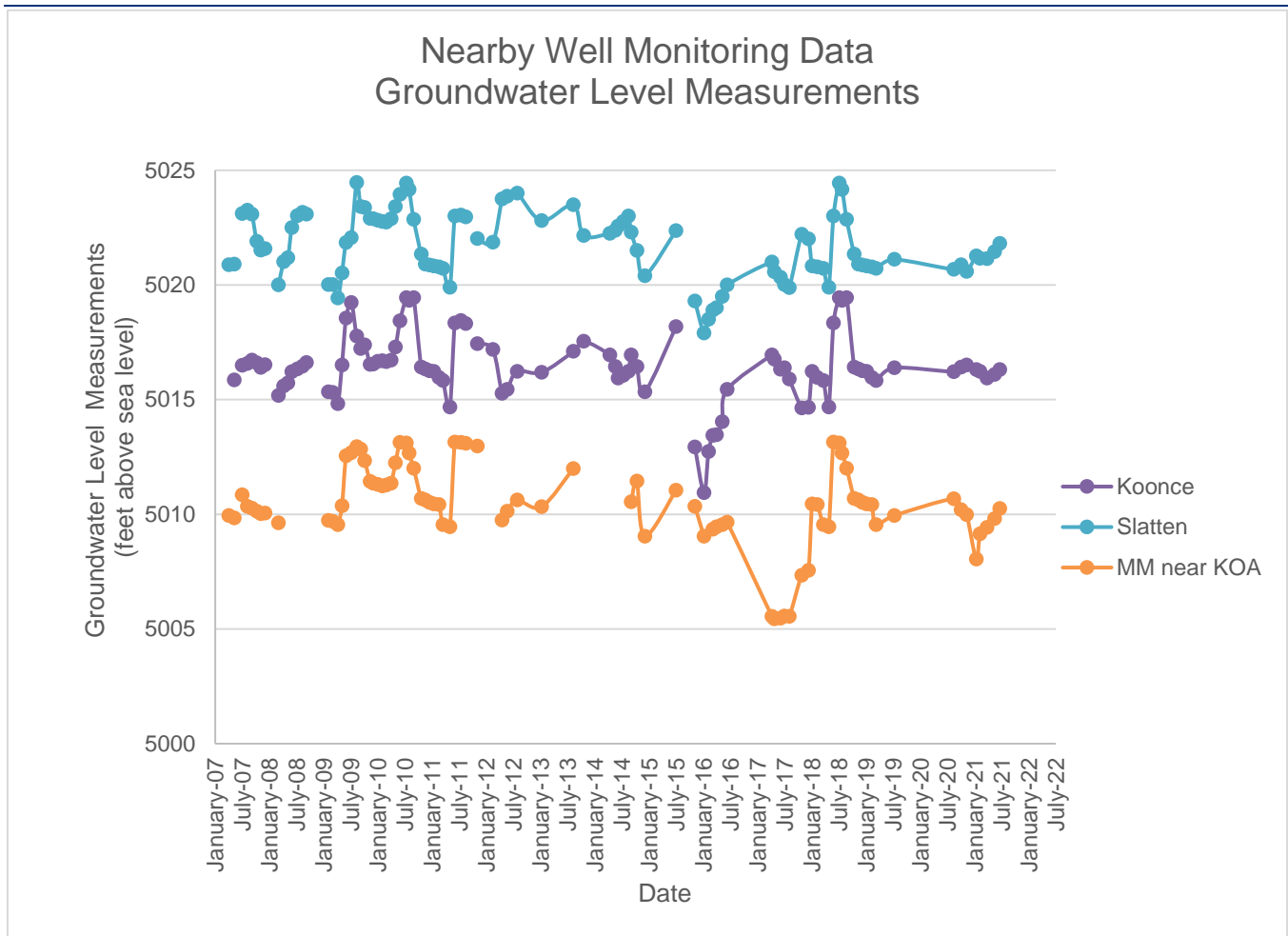


Chart 3: Nearby Well Monitoring Data

1.3 WELL INVENTORY

In December 2021, a well inventory of the Affected Area and adjacent areas was conducted to identify domestic wells near the project site. The inventory involved a review of constructed well records on file with the Colorado Division of Water Resources, located within $\frac{1}{2}$ mile plus 200 feet of the Affected Area. The well inventory identified 98 constructed wells within $\frac{1}{2}$ mile plus 200 feet, of the Affected Area. Figure G-2 enclosed shows the Affected Area and the constructed well locations on file with the [Colorado Division of Water Resources](#).

2.0 MONITORING AND MANAGEMENT

2.1 MINING PLAN

The Reclamation Plan has been designed to reduce potential groundwater impacts to adjacent properties. A perimeter drain is being designed by Deere and Ault to mitigate groundwater rise I and to allow irrigation return flow off of the properties being irrigated west of Phase I. The perimeter drain is proposed along the west Mine Phase I and north side of Mine Phase II. The drain will discharge through the berm between Phase I and II to an unlined pond that is tributary to the Cache la Poudre River.

2.2 MONITORING

2.2.1 Martin Marietta Monitoring Wells

Water level monitoring at HO-1, HO-6, HO-11, HO-12, HO-13 and HO-14 will continue on a monthly basis during mining. When mining is complete, water level monitoring at HO-1, HO-6, HO-11, HO-12, HO-13 and HO-14 will continue on a quarterly basis until reclamation is complete and the DRMS releases the financial warranty bond.

2.2.2 Domestic Water Wells

Water level monitoring at the Slatten and Koonce wells will continue on a monthly basis during mining. When mining is complete, water level monitoring at the Slatten and Koonce wells will continue on a quarterly basis until reclamation is complete and the DRMS releases the financial warranty bond.

2.3 MITIGATION

The available monitoring well data will be used to identify changes in alluvial groundwater flow associated with mining and reclamation activities. Baseline data collected from the monitoring program will provide a range of relative water levels associated with pre-mining groundwater conditions. These data will be utilized to evaluate the nature and extent of the change to the prevailing hydrologic balance and if necessary, provide for the development of corrective actions.

In the event of a well owner complaint within 600 feet of the Affected Area, Martin Marietta will review the available monitoring information and submit a report to the DRMS within 30 days. The report will include discussions with any well owner who has contacted Martin Marietta regarding a concern and a review of baseline data from the well and vicinity to evaluate whether changes may be due to seasonal variations, climate, mining or other factors. The report will identify the extent of potential or actual impacts associated with the changes. If the extent of groundwater changes due to mining or reclamation activities is determined to be a significant contributing factor that has or may create adverse impacts, the mining associated impacts will be addressed to the satisfaction of the DRMS.

If the DRMS determines that the impact on a well for which temporary mitigation has been initiated is not a result of Martin Marietta's activities, or is not solely a result of Martin Marietta's activities, Martin Marietta will reduce or cease mitigation accordingly.

If a well goes dry due to mining or reclamation activities, Martin Marietta will implement mitigation measures within 7 days. Mitigation measures would include providing a temporary alternative water supply that meets the documented historic well production, or need, until further investigation can be conducted to determine if the well condition is due to the mining operation.

Martin Marietta will begin to implement one or more mitigation measures if mining or reclamation activity is determined to be a significant contributing factor to groundwater changes requiring mitigation.

Temporary mitigation measures may include, but are not limited to:

- Compensation for well owners to use their existing treated water system to replace the well production loss.
- Provide a water tank and deliver water as necessary to meet documented historic well production or need.
- Other means acceptable to both the well owner and Martin Marietta.

Long-term mitigation measures may include, but are not limited to:




- Cleaning a well to improve efficiency.
- Providing an alternative source of water or purchasing additional water to support historic well use with respect to water quantity and quality. If needed, water quality parameters will be checked in affected wells to ensure alternative sources support the historic use.
- Modifying a well to operate under lower groundwater conditions. This could include deepening existing wells or lowering the pumps. All work would be done at Martin Marietta's expense with the exception of replacing equipment that was non-functional prior to mining.
- If existing wells cannot be retrofitted or repaired, replacing the impacted well with a new replacement well.
- Design and installation of a cistern.



If a groundwater mitigation action is required, Martin Marietta will notify the DRMS of the condition, action taken and report the results and present a plan for monitoring the mitigation.

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Parcel ID	Name	Parcel ID	Name
1	LOVELAND READY-MIX CONCRETE INC	19	City of Greeley, Tri-Districts
2	LOVELAND READY-MIX CONCRETE INC	20	City of Greeley, Tri-Districts
3	SLATTEN DAVID L & VIRGINIA S	21	City of Greeley, Tri-Districts
4	RONNY AND BILLY LLC	22	City of Greeley, Tri-Districts
5	RONNY AND BILLY LLC	23	City of Greeley, Tri-Districts
6	SEAWORTH AUGMENTATION LLC	24	City of Greeley, Tri-Districts
7	SEAWORTH PAULETTE M/WILLIAM O	25	HOPKINS KENNETH C & KATHLEEN M
8	SEAWORTH PROPERTIES LLC	26	CITY OF FORT COLLINS
9	SEAWORTH WILLIAM O & PAULETTE M	27	CITY OF FORT COLLINS
10	SEAWORTH WILLIAM O/PAULETTE M	28	CITY OF FORT COLLINS
11	KEEGAN MIKE D/TRACY J	29	ZIGRAY RYAN
12	KEEGAN TRACY J/MICHAEL D	30	GLASS JOHN F JR/SUSAN E
13	KUHLMAN STEVEN R	31	CONNELL RESOURCES INC
14	ANIMAL FRIENDS ALLIANCE	32	LARIMER AND WELD IRRIGATION CO
15	KATZ BIANCA & BRASKICH MIKE L	33	KAMPGROUNDS OF AMERICA
16	KOONCE ALBERT R/SHARON E	34	FREDMAN CONSTANCE A
17	City of Greeley, Tri-Districts	35	PKR FARM LLC
18	City of Greeley, Tri-Districts	36	MARTIN MARIETTA

Legend

-  Affected Area
-  Stage G
-  Larimer County Parcel Data

-  Pre-Mining Groundwater Flow
-  Post-Mining Groundwater Flow



TETRA TECH

www.tetrattech.com

1900 S. Sunset Street, Ste. 1-E
Longmont, Colorado 80501
PHONE: (303) 772-5282 FAX: (303) 772-7039

MARTIN MARIETTA

Taft Home Office Amendment Exhibit G

GROUNDWATER FLOW MAP

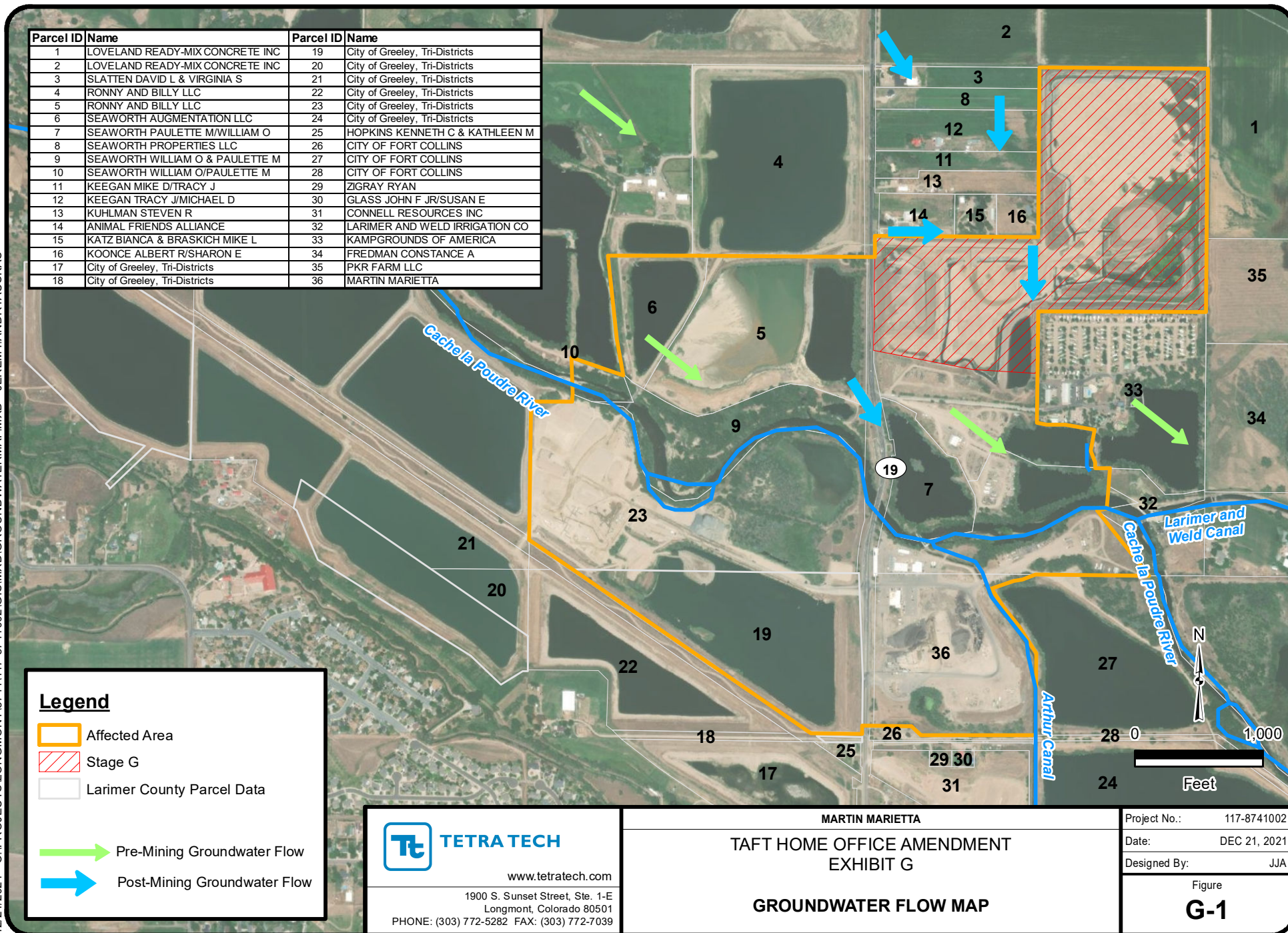
Project No.: 117-8741002

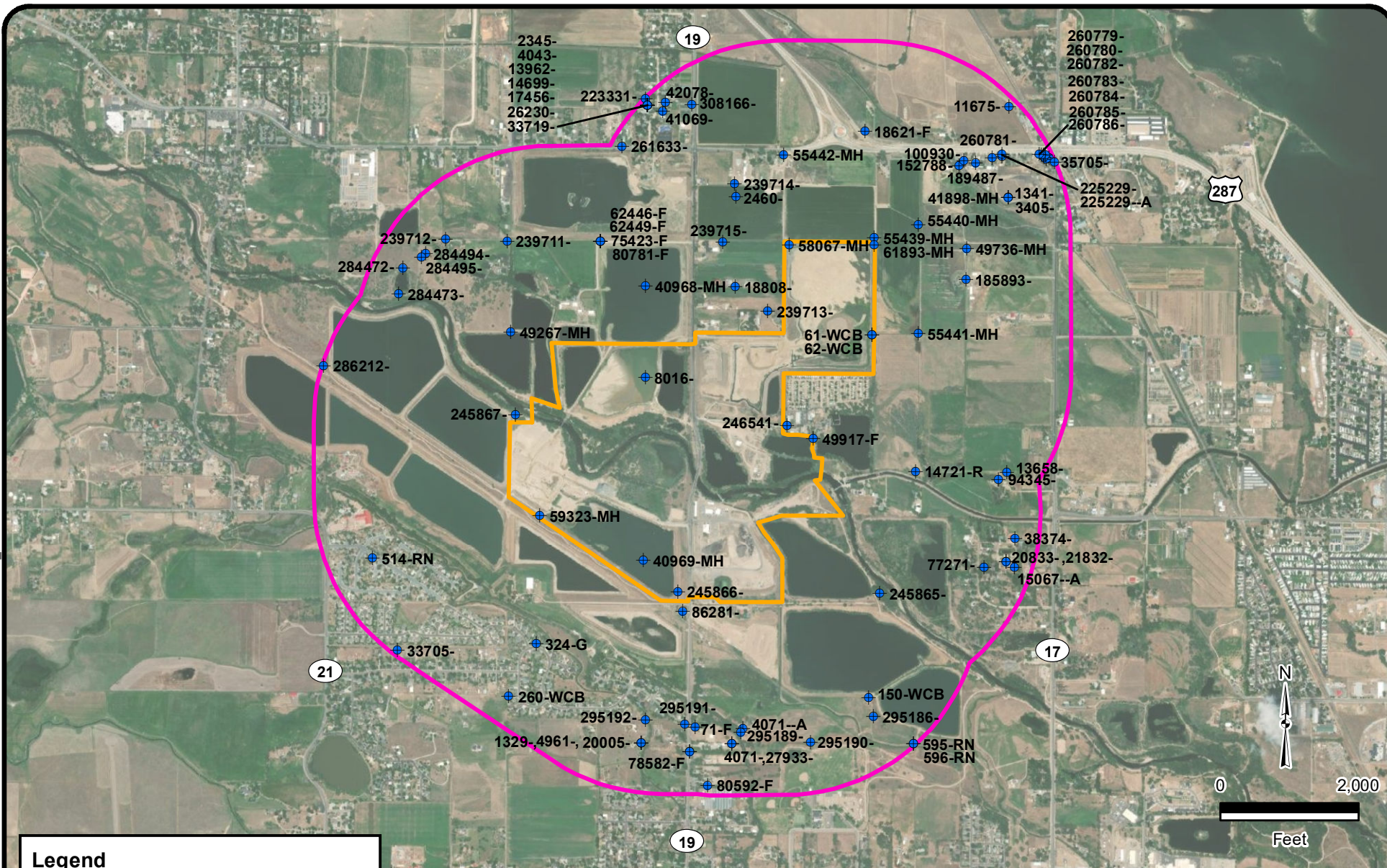
Date: DEC 21, 2021

Designed By: JJA

Figure

G-1





Legend

- Constructed Well Location with Permit No.
- Affected Area
- Affected Area Offset (1/2 Mile Plus 200 Feet)

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www.tetrattech.com

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Longmont, Colorado 80501
PHONE: (303) 772-5282 FAX: (303) 772-7039

MARTIN MARIETTA

Taft Home Office Amendment
EXHIBIT G

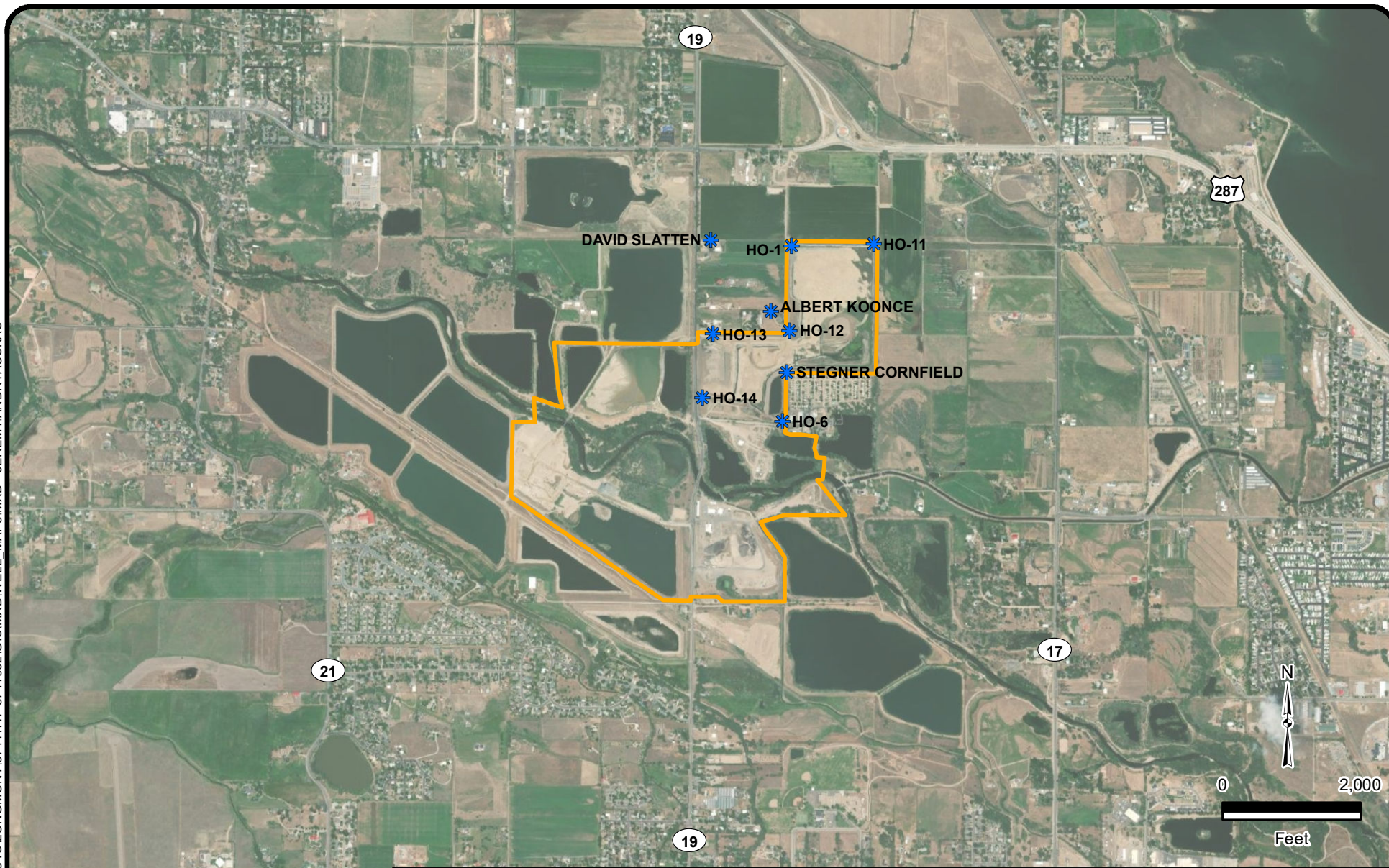
**DWR WELL SEARCH RESULTS (DEC 20, 2021)
CONSTRUCTED WELL APPROXIMATE LOCATION
WITHIN 1/2 MILE OF AFFECTED AREA**

Project No.: 117-8741002

Date: DEC 21, 2021

Designed By: JJA

Figure
G-2



Legend

- Estimated Well Location
- Affected Area

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www.tetratech.com
 1900 S. Sunset Street, Ste. 1-E
 Longmont, Colorado 80501
 PHONE: (303) 772-5282 FAX: (303) 772-7039

MARTIN MARIETTA
 TAFT HOME OFFICE AMENDMENT
 EXHIBIT G

ESTIMATED WELL LOCATIONS

Project No.:	117-8741002
Date:	DEC 21, 2021
Designed By:	JJA
Figure G-3	