



GORDON SERVICES – KEENE PIT ACID MINE DRAINAGE MONITORING PROGRAM



**57 Route 9, Keene, New Hampshire
City of Keene Tax Map 215 Block 7
Town of Sullivan Tax Map 583 Lot 46 & 46-1**

Prepared For:

**Gordon Services
250 North Street
Jaffrey, New Hampshire 03452**

Prepared By:

**FRONTIER GEOSERVICES
127 OLD WARNER ROAD
BRADFORD, NEW HAMPSHIRE 03221**

Joel Banaszak, P.G.
(603) 748-3715
Jbanaszak@frontiergeoservices.com

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Frontier Project No. 2024012**

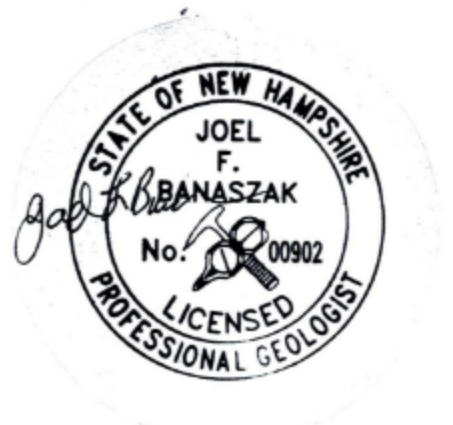




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ACID MINE DRAINAGE MONITORING PROGRAM
KEENE, NEW HAMPSHIRE

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- 1 Proposed Water Quality Monitoring Location Map

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- A Monitoring Program Summary Table

1.0 INTRODUCTION

A comprehensive groundwater and surface water monitoring program will be implemented at the Site to evaluate potential impacts from acid mine drainage (AMD). Monitoring will include quarterly sampling at five groundwater wells (BRW-7, BRW-8, BRW-9, BRW-12, and proposed well BRW-13) and at surface water infiltration features, including a downgradient discharge station and an upgradient background station. pH will also be measured monthly at all monitoring wells and drainage basins to provide early detection of AMD.

Baseline conditions will be established through two pre-excavation sampling rounds, and quarterly monitoring will continue in January, April, July, and October. If four consecutive quarters of results confirm that AMD is not being generated, the monitoring frequency may be reduced to biannual sampling in April and October.

All samples will be analyzed for key field parameters (pH, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity) and dissolved/total metals (arsenic, copper, iron, manganese, nickel, and lead). Results will be compared to NHDES Ambient Groundwater Quality Standards (AGQS) and Env-Wq 1700 Surface Water Quality Regulations. The determination of AMD will be based on trends of decreasing pH and increasing dissolved metals, not isolated exceedances. Monitoring results will be submitted to the City of Keene Community Development Department within forty-five (45) days of collection.

2.0 ACID MINE DRAINAGE DEFINITION

Acid mine drainage is defined by highly acidic water (pH < 6 standard units) that is enriched in dissolved heavy metals, including arsenic, copper, iron, manganese, nickel, and lead.

The identification of AMD under this program will be based on:

- Consistent relationships between low pH values and elevated concentrations of dissolved heavy metals, rather than individual exceedances of standards in isolation.
- Observed trends over time indicating a decrease in pH in conjunction with an increase in dissolved metals concentrations, which together are diagnostic of AMD formation.

3.0 GROUNDWATER MONITORING

Groundwater samples will be collected on a quarterly basis in January, April, July, and October from the following monitoring wells:

- BRW-7
- BRW-8
- BRW-9
- BRW-12
- BRW-13 (proposed; to be installed downgradient of the entire site between the mining operation and Route 9)

Following four (4) consecutive quarters of analytical results demonstrating that AMD is not being produced, the monitoring frequency may be reduced to a biannual schedule in April and October.

Please refer to **Figure 1** for a **Monitoring Well Location Map**.

4.0 SURFACE WATER AND INFILTRATION FEATURES

All surface water generated from excavation activities will be directed into infiltration basins. Monitoring of these features will include:

- The infiltration feature currently located in the western portion of Period 8.
- Newly constructed infiltration features, which will be incorporated into the program on an iterative basis as the project progresses.
- A downgradient surface water station located at the primary discharge point of the infiltration system.
- An upgradient background surface water station, SWS-6, to provide baseline comparison data.

5.0 SAMPLING PARAMETERS

At each quarterly monitoring location (groundwater wells and surface water stations), the following parameters will be measured:

- Field parameters: pH, specific conductance, oxidation-reduction potential, dissolved oxygen, and turbidity.
- Laboratory analyses: dissolved and total metals, including arsenic, copper, iron, manganese, nickel, and lead via EPA Method 200.8 ICP-MS.

6.0 BASELINE MONITORING

Prior to initiation of excavation activities, two (2) rounds of baseline samples will be collected from all identified monitoring locations. Sampling events will be conducted a minimum of fourteen (14) calendar days apart.

7.0 MONTHLY PH MONITORING

In addition to the quarterly monitoring described above, pH will be measured on a monthly basis at:

- All surface water drainage basins, including newly constructed infiltration features.
- All groundwater monitoring wells (BRW-7, BRW-8, BRW-9, BRW-12, and BRW-13).

This supplemental monitoring provides an early-warning mechanism to identify AMD generation between comprehensive quarterly sampling events.

8.0 APPLICABLE REGULATORY STANDARDS

Applicable standards for the monitoring program are established under two regulatory frameworks:

- Groundwater: NHDES Env-Or 600 Contaminated Site Management, Table 600-1 Ambient Groundwater Quality Standards (AGQS).
- Surface Water: NHDES Env-Wq 1700 Surface Water Quality Regulations.

For groundwater, standards for heavy metals are applied to dissolved concentrations, which are considered the most representative measure of bioavailability. Some heavy metals may naturally occur at concentrations exceeding applicable standards. In such cases, baseline sampling will be used to establish background concentrations. The determination that AMD is contributing to elevated

metals will be based on the observance of increasing dissolved metal concentrations coupled with decreasing pH values, rather than on single exceedances.

Groundwater Quality Standards (Env-Or 600, Table 600-1 AGQS)

Specific Conductance: No Standard
Oxidation Reduction Potential (ORP): No Standard
Dissolved Oxygen: No Numeric Standard (field indicator)
Turbidity: 10 NTU above natural background
pH: No Numeric Standard (field indicator)
Arsenic: 5 µg/L
Copper: 1,300 µg/L
Iron: 300 µg/L
Manganese: 300 µg/L
Nickel: 100 µg/L
Lead: 15 µg/L

Surface Water Quality Standards (Env-Wq 1700)

Specific Conductance: No Standard
Oxidation Reduction Potential (ORP): No Standard
Dissolved Oxygen: Narrative Criterion (generally $\geq 75\%$ saturation or 5 mg/L to support aquatic life)
Turbidity: 10 NTU above natural background
pH: Narrative Criterion (generally 6.5–8.0 SU; not below 6.0 SU)
Arsenic: 150 µg/L (a,b)
Copper: 2.3 µg/L (b,c)
Iron: 1,000 µg/L
Manganese: No Numeric Standard
Nickel: 13.3 µg/L (a,c)
Lead: 0.41 µg/L (a,c)

Footnotes (from Env-Wq 1700):

(a) Metals criteria expressed as a function of the Water Effect Ratio (WER). Values shown correspond to WER = 1.0; site-specific criteria shall be determined per EPA (1994) guidance.

(b) Values for aquatic life protection are expressed as dissolved metals and, for hardness-dependent metals, are based on hardness of 20 mg/L. Conversion between dissolved and total recoverable metals must use the equations and tables in Env-Wq 1703.23.

(c) Hardness-dependent metals criteria vary with water hardness (mg/L as CaCO₃). The values shown correspond to hardness of 20 mg/L. Criteria for other hardness values shall be calculated using Env-Wq 1703.23 and Env-Wq 1703.24.

9.0 DATA REVIEW AND REPORTING

All analytical results, including quarterly sampling data and monthly pH monitoring results, will be reviewed against the applicable groundwater and surface water quality standards described in Section 8.0.

The determination of AMD will be based on observed trends of decreasing pH and increasing concentrations of dissolved heavy metals, in accordance with the definition provided in Section 2.0.

Results will be submitted to the City of Keene Community Development Department within forty-five (45) days of sample collection.

FIGURES

Figure 1

Proposed Water Quality Monitoring Plan

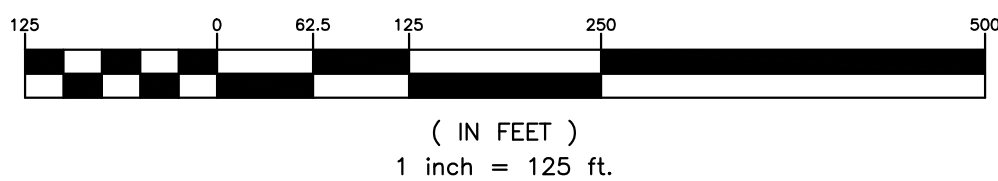
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LEGEND

- ABUTTER LINE
- PROPERTY LINE
- EXCAVATION SETBACK LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- WETLANDS BOUNDARY
- PROPOSED EDGE OF GRAVEL
- EX.TREELINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. GRADE LINE
- TEST PIT
- MONITORING WELL
- SURFACE WATER SAMPLE LOCATION

GRAPHIC SCALE



WATER LEVEL MONITORING	
MONITORING LOCATION	FREQUENCY
MW-2	MONTHLY
MW-4	MONTHLY
BR-7	MONTHLY
BR-8	MONTHLY
BR-9	MONTHLY
BR-12	MONTHLY
BR-13	MONTHLY
SWS-6	MONTHLY
SWS-7	MONTHLY
SWS-8	MONTHLY
SWS-9	MONTHLY
SWS-10	MONTHLY
SWS-11	MONTHLY

AMD FORMATION STANDARDS	
ANALYTE	STANDARD
SPECIFIC CONDUCTANCE	NO STANDARD
OXIDATION REDUCTION POTENTIAL	NO STANDARD
DISSOLVED OXYGEN	75%/5 mg/L
TURBIDITY	10 NTU (BEYOND NATURALLY OCCURRING CONDITIONS)
pH	6.0 SU
ARSENIC	5 µg/L
COPPER	1,300 µg/L
IRON	300 µg/L
MANGANESE	300 µg/L
NICKEL	100 µg/L
LEAD	15 µg/L

TEST PITS

ID	EXISTING GRADE	LEDGE	GROUNDWATER	E.S.H.W.T.
TP-1	986.0	3.1'	NONE FOUND	NONE FOUND
TP-2	926.0	NONE	NONE FOUND	20"
TP-3	1180.0	NONE	NONE FOUND	NONE FOUND
TP-4	1158.0	NONE	NONE FOUND	32"
TP-5	1190.0	0.5'	NONE FOUND	NONE FOUND
TP-6	887.0	873.0	NONE FOUND	NONE FOUND

OVERBURDEN WELLS

WELL	EXISTING GRADE	LEDGE	GROUNDWATER
MW-1	950.0	3.3'	NONE FOUND
MW-2	944.0	12'	NONE FOUND
M3-3	1052.0	14.2'	NONE FOUND
MW-4	1103.0	3.1'	NONE FOUND
MW-5	1112.0	5'	NONE FOUND
MW-6	1192.0	0.9'	NONE FOUND
MW-7	1178.0	1.9'	NONE FOUND
MW-8	1182.0	1.1'	NONE FOUND
MW-9	884.38	XX	XX

BEDROCK WELLS

Well	Ground Elevation (ft AMSL)	Bedrock Depth (feet)	Depth/Bottom Elevation (feet/ AMSL)	Proposed Floor Elevation (ft AMSL)	Pit Groundwater Elevation (ft AMSL)
BRW-1	950	3	54/896	950	DRY
BRW-2	944	12	62/882	940	DRY
BRW-3	1052	14	51/1081	1050	DRY
BRW-4	1103	3	81/1022	1098	DRY
BRW-5	1112	3	141/971	1098	DRY
BRW-6	1192	1	142/1050	1098	DRY
BRW-7	1178	1.9	141/1087	1098*	1177.04
BRW-8	1182	1	141/1041	1098*	1179.16

*Well is located outside of project area. The pit floor elevation that is noted is the proposed elevation of the nearest excavation.

WELL	EXISTING GRADE	TOP OF WELL	DEPTH	GROUNDWATER
BRW-9	884.31	886.81	50'	877.91
BRW-10	879.94	884.34	85'	854.44
BRW-11	881.39	885.19	85'	839.96
BRW-12	882.74	886.74	90'	830.92

ON-SITE WATER QUALITY MONITORING NOTES (ARD MONITORING)

- PH, SPECIFIC CONDUCTANCE, OXIDATION, REDUCTION POTENTIAL, DISSOLVED OXYGEN AND TURBIDITY AND LABORATORY ANALYSIS OF DISSOLVED AND TOTAL METALS INCLUDING: ARSENIC, COPPER, IRON, MAGNESE, NICKEL AND LEAD WILL BE TESTED AT EACH LOCATION

INITIAL RESPONSE ACTION -- AMD DETECTION

- IF A SURFACE AND/OR GROUNDWATER SAMPLING LOCATION PRESENTS RESULTS THAT ARE INDICATIVE OF THE FORMATION OF ACID MINE DRAINAGE, NHDES AND THE CITY OF KEENE WILL BE NOTIFIED IMMEDIATELY. FURTHERMORE, THE FOLLOWING IMMEDIATE INITIAL RESPONSE ACTIONS WILL BE IMPLEMENTED.
- ALL ACTIVE QUARRYING/MINING OPERATIONS OCCURRING IN THE AFFECTED AREA WILL CEASE AND EXPOSED BEDROCK SURFACES SHALL BE EXPEDITIOUSLY RESTORED TO HAVE A MINIMUM THICKNESS OF 3- FEET OF COVER MATERIAL OF 30% CLAY CONTENT, CRUSHED, LIMESTONE GRAVEL. COVER MATERIAL SHALL BE COMPACTED IN 1-FOOT LIFTS. THE INTENT OF THE CLAY CONTENT AND COMPACTION IS TO LIMIT AIR AND SURFACE WATER CONTACT WITH THE SOURCE OF THE ACID MINE DRAINAGE.
 - ANY DOWNSLOPE AFFECTED DRAINAGES WHICH MAY BE CONTRIBUTING/CONVEYING ACID MINE DRAINAGE SHALL BE ARMORED WITH 1-FOOT OF 3- INCH MINUS, CRUSHED, LIMESTONE GRAVEL.
 - ALL SURFACE WATER WITHIN 1/4-MILE DOWNGRADIENT OF THE DETECTED ACID MINE DRAINAGE SHALL BE SAMPLED WITHIN 2-WEEKS OF THE INITIAL DETECTION AND BE INCLUDED IN THE SURFACE WATER MONITORING PROGRAM.
 - SAMPLING OF ALL DOMESTIC WATER SUPPLY WELLS WITHIN 1/4-MILE OF THE AFFECTED AREA FOR ACID MINE DRAINAGE PARAMETERS WILL OCCUR WITHIN 2-WEEKS OF THE INITIAL DETECTION AND CONTINUE TO BE SAMPLED ON A QUARTERLY BASIS.
 - IF ACID MINE DRAINAGE IS DETECTED IN A DOMESTIC WATER SUPPLY WELL THE HOMEOWNER SHALL BE OFFERED TO HAVE A 'POINT-OF-USE' WATER TREATMENT SYSTEM INSTALLED AND MAINTAINED WHILE A NEW, UNIMPACTED, DOMESTIC WATER SUPPLY IS MADE AVAILABLE AT NO COST TO THE HOMEOWNER.
 - A GROUNDWATER QUALITY ASSESSMENT IN THE AREAS ADJACENT TO THE DETECTED ACID MINE DRAINAGE WILL BE INITIATED.
 - THE GROUNDWATER QUALITY ASSESSMENT SHALL INCLUDE THE INSTALLATION OF A MINIMUM OF THREE (3) MONITORING WELLS; ONE UPGRADIENT OF THE AFFECTED SURFACE WATER, AND TWO DOWN-GRADIENT OF THE AFFECTED SURFACE WATER. ADDITIONAL MONITORING WELLS MAY BE REQUIRED TO DETERMINE THE HORIZONTAL AND VERTICAL DISTRIBUTION OF THE GROUNDWATER IMPACTS.
 - GROUNDWATER SAMPLES WILL BE COLLECTED WITHIN 2 WEEKS OF INSTALLATION AND ANALYZED FOR ACID MINE DRAINAGE PARAMETERS LISTED ABOVE. A SECOND, CONFIRMATORY ROUND OF SAMPLING WILL OCCUR 2-WEEKS AFTER THE INITIAL SAMPLING ROUND. MONITORING WELLS WILL BE SAMPLED ON A QUARTERLY BASIS IF ACID MINE DRAINAGE IMPACTS ARE DETECTED.

OFF-SITE WATER QUALITY MONITORING NOTES

- LAND OWNERS WITHIN 1/4 MILE OF THE EXCAVATION SITE WILL BE OFFERED GROUNDWATER QUALITY MONITORING.
- NOTIFICATIONS WILL BE MADE TO LANDOWNERS WITH THE OPTION TO ALLOW OR DECLINE MONITORING.
- TWO ROUNDS OF SAMPLING WILL OCCUR A MINIMUM OF 14 CALENDAR DAYS APART.
 - SAMPLES WILL BE ANALYZED FOR VOLATILE ORGANIC COMPOUNDS AND NITRATE.
 - RESULTS WILL BE SENT TO THE LAND OWNER, THE CITY OF KEENE, & TOWN OF SULLIVAN.
- BI-ANNUAL BASIS OF WELLS DURING THE TERM OF THE PERMIT.
- BI-ANNUAL BASIS OF WELLS TWO (2) YEARS FOLLOWING THE CEASE OF OPERATIONS AT THE SITE AND RECLAMATION.
- SAMPLES WILL BE ANALYZED FOR VOLATILE ORGANIC COMPOUNDS AND NITRATE.
- RESULTS WILL BE SENT TO THE LAND OWNER, THE CITY OF KEENE, & TOWN OF SULLIVAN.
- ADVERSE IMPACTS
 - DRINKING WATER RESULTS WILL BE COMPARED TO THE NHDES AMBIENT GROUNDWATER QUALITY STANDARDS (AGQS).
 - IF ADVERSE IMPACTS ARE NOTED, THE APPLICANT WILL IMMEDIATELY BE NOTIFIED TO CEASE BEDROCK EXCAVATION.
 - NHDES, THE CITY OF KEENE, AND TOWN OF SULLIVAN WILL BE NOTIFIED.
 - IF MONITORING INDICATES THE EXCAVATION ACTIVITIES CAUSED THE IDENTIFIED CONTAMINATION, A LICENSED NH WELL CONTRACTOR WILL BE IMMEDIATELY RETAINED FOR INSTALLATION OF A NEW WATER SUPPLY WELL IN AN AREA THAT HAS NOT BEEN IMPACTED BY CONTAMINATION.
 - COST OF WELL WILL BE THE SOLE RESPONSIBILITY OF THE APPLICANT.

BEST MANAGEMENT PRACTICES FOR BLASTING

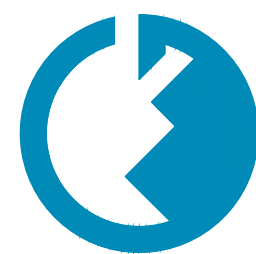
- ALL ACTIVITIES RELATED TO BLASTING SHALL FOLLOW BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT CONTAMINATION OF GROUNDWATER INCLUDING PREPARING, REVIEWING AND FOLLOWING AN APPROVED BLASTING PLAN; PROPER DRILLING, EXPLOSIVE HANDLING AND LOADING PROCEDURES; OBSERVING THE ENTIRE BLASTING PROCEDURES; EVALUATING BLASTING PERFORMANCE;AND HANDLING AND STORAGE OF BLASTED ROCK.
- LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
 - DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS. IF A FRACTURE OR WATER BEARING ZONE IS ENCOUNTERED IN A BOREHOLE, NO BLASTING SHALL OCCUR AT THAT LOCATION.
 - EXPLOSIVE PRODUCTS SHALL BE MANAGED ON SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL.
 - SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL.
 - LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED.
 - LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT.
 - EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
- EXPLOSIVE SELECTION. THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
 - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION.
 - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER.
- PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES
 - MUCK PILE MANAGEMENT. MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
 - REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE.
 - MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
 - SPILL PREVENTION MEASURES AND SPILL MITIGATION. SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:
 - THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE
 - STORE REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE.
 - SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY.
 - LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY.
 - INSPECT STORAGE AREAS WEEKLY.
 - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS.
 - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS.
 - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED
 - THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
 - EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED.
 - PLACE DRIP PANS UNDER SPILTS, VALVES, AND PUMPS.
 - HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS.
 - USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES.
 - PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
 - THE TRAINING OF ON-SITE EMPLOYEES AND THE ON SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OR RELEASE.
 - FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT WILL COMPLY WITH THE REGULATIONS OF NHDES [NOTE THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6: 'BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT' OR ITS SUCCESSOR DOCUMENT.]

AMD MONITORING

Location	Type	Frequency	Parameters	Applicable Standards
BRW-7	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-8	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-9	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-12	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-13 (proposed)	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
Period 8 infiltration basin	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
Additional infiltration basins (as constructed)	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
Downgradient discharge station	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
SWS-6	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700

Notes:

- SC = Specific Conductance; ORP = Oxidation-Reduction Potential; DO = Dissolved Oxygen.
- Baseline monitoring will consist of two (2) rounds, 214 days apart, prior to excavation.
- Transition to biannual monitoring (April, October) may occur after four consecutive quarters demonstrate no evidence of AMD.
- pH and DO are evaluated as field indicators, not numeric standards, except where narrative criteria apply in surface water.



**GRANITE
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REVIEWS		BY	DATE	COMMENTS
PROJECT SUBMITTAL		JD	12/20/24	
REVISED PER CITY COMMENTS		JD	2/5/25	
REVISED PER CITY COMMENTS		JD	5/9/25	
REVISED PER CITY COMMENTS		JD	7/9/25	
ADDITIONAL WELL LOCATIONS		JD	7/24/25	
REVISED PER CITY COMMENTS		JD	8/11/25	
REVISED PER CITY COMMENTS		JD	8/22/25	

OWNER/APPLICANT:
C2 HOLDINGS, LLC
250 NORTH STREET
JAFFREY, NH 03452

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150 Dow Street, Tower 2, Suite 424
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STAMP:



LOCATION:

KEENE TAX MAP 215 LOTS 7 & 8
SULLIVAN TAX MAP 5 LOTS 46 & 46-1
57 ROUTE 5
KEENE & SULLIVAN, NEW HAMPSHIRE
CHESHIRE COUNTY

PROJECT:

**GORDON SERVICES
KEENE**

TITLE:

MONITORING PLAN

PROJECT No. / DATE:

23-0201-1 / MAY 9, 2025

SHEET:

17 OF 23

SCALE:

HORIZ.
1"=125'

APPENDICES

APPENDIX A
MONITORING PROGRAM
SUMMARY TABLE

Location	Type	Frequency	Parameters	Applicable Standards
BRW-7	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-8	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-9	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-12	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
BRW-13 (proposed)	Groundwater	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Or 600 AGQS
Period 8 infiltration basin	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
Additional infiltration basins (as constructed)	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
Downgradient discharge station	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700
SWS-6	Surface water	Quarterly (Jan, Apr, Jul, Oct); pH monthly	Field + Metals suite	Env-Wq 1700

Notes:

- SC = Specific Conductance; ORP = Oxidation-Reduction Potential; DO = Dissolved Oxygen.
- Baseline monitoring will consist of two (2) rounds, ≥ 14 days apart, prior to excavation.
- Transition to biannual monitoring (April, October) may occur after four consecutive quarters demonstrate no evidence of AMD.
- pH and DO are evaluated as field indicators, not numeric standards, except where narrative criteria apply in surface water.