

MARBLEMOUNT QUARRY

DETAILED PROJECT DESCRIPTION

Mining Special Use Permit Application
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Kiewit

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NOTE: This document is an attachment to the Marblemount Quarry Special Use Permit Application and SEPA checklist.

1 BACKGROUND

1.1 Project Summary

The Proposed Project includes the following activities: site clearing, site grading, road building, boundary line adjustments, quarry operations, and reclamation of a bedrock quarry on Rockport Cascade Road approximately one mile south of Marblemount, WA (**Figure 1**). The Proposed Project will involve development activities on what is today six parcels (P45543, P128574, P120304, P45550, and parts of P45548 and P45541).

KIC has a lease agreement with the owner of P45543. The owner of P45543 has retained the right to crush, process and bring to market the undersized jetty stone that does not meet USACE size requirements. This material can provide the local area with riprap for river projects, crushed rock for construction, and satisfy other local market needs for rock material for a long time into the future. At the time permits are issued and quarry operations begin, KIC will own the rest of the parcels. KIC is the Applicant and main manager for the entire Proposed Project; however, the owner of P45543 will operate their gravel crushing business (Cunningham Crushing) on P45543 concurrently with KIC operations. While size of the parcels involved in the Proposed Project are several hundred acres, the actual project limits are approximately 120 acres. This number accounts for the entirety of the mining and land disturbing activities (**Figure 2**). The rest of the affected parcels (primarily P45541 and P45548) will not have mining activity. See **Figure 3** for overall Proposed Project elements.

1.2 Project Purpose

The purpose of the proposed Marblemount Quarry project (Proposed Project) is to 1) supply jetty stone for several major projects on the west coast including the emergency repair on the Mouth of the Columbia River, and 2) provide a source of local quarry stone and crushed rock. The applicant is Kiewit Infrastructure Company (KIC). The Columbia River jetty repair project is anticipated to need material in summer 2019. KIC has identified the Marblemount Quarry as one of the very few sources of ready-to-permit jetty rock on the west coast.

1.3 Why Marblemount Quarry for Jetty Stone

Jetty stone requires unique physical properties that few available quarry sources along the west coast of the United States can provide. The previous primary source of jetty stone was the Beaver Lake Quarry in Mt. Vernon, WA which is now nearly depleted. There are extremely limited sources of suitable rock in high enough quantities that can be permitted in the necessary time frame to be viable. The rock at the Marblemount Quarry site meets USACE jetty stone density requirements and has enough volume of rock for several anticipated jetty repair projects which is why this site was selected.

1.4 Historic Permits

The Marblemount Quarry is an existing small-scale rock quarry on parcel P45543 owned by Cunningham Trust. A Conditional Use Permit was granted in 1982 for quarry rock removal at this site. The Proposed Project will expand the scale of the existing quarry and necessitate new permit approvals, including a new Mining Special Use Permit (SUP) and Department of Natural Resources

(DNR) Reclamation Plan. In all, over a dozen local and state regulatory permits are needed for the modified quarry project.

1.5 Existing Site Conditions

The overall project site is primarily forested with an existing residential use on P128574. The residential use will be discontinued as part of this project. All structures, including the domestic well, will be removed. The Jordan Creek Fire burned portions of the project site in 1998. The properties have historically been used for forestry and mining. No homes immediately border the project area and residential density in the adjacent surrounding area is low. Forestry land use and vegetative cover dominate the area surrounding the project site. The Rockport Cascade Road is a rural road with low traffic volumes.

2 PROPOSED PROJECT AND STEPS

The Proposed Project would occur in four steps:

1. Site clearing, grading, preparation, and building access roads and stormwater systems;
2. Mining within the existing Mineral Resource Overlay (MRO) Area;
3. Possible future quarry expansion (contingent on an MRO boundary change*), and;
4. Quarry reclamation.

*Note that the Proposed Project is **not** contingent upon Step 3. If the MRO boundary is not expanded, the rest of the project can still proceed and be commercially viable.

Reference the **Engineering Site Plans** (Exhibit A) and **Marblemount Quarry Reclamation Plans (Skagit Co. SUP)** (Exhibit B) for Proposed Project details.

2.1 Step 1 – Site Clearing, Preparation, Building Access Roads and Stormwater Systems

Step 1 will include clearing, timber harvest, stump removal, site grading, road construction, stormwater systems installation, and boundary line adjustments. Activities will occur on what is currently parcels P45543, P45550, P120304, P128574, and parts of P45548 and P45541. Marketable timber will be removed from the site. An approximately 6,700-foot gravel access road would be built to access the top and eastern portions of the project site. Details of the access road are provided in Exhibit A of the SEPA Checklist: **Engineering Site Plans**. Wood mulch and topsoil would be stockpiled on site for future reclamation. Access to the site would include building two new access driveways on Rockport Cascade Road and decommissioning the two existing access points. Details of the site access are provided in Exhibit A of the SEPA Checklist: **Engineering Site Plans**. Grading and roadways for quarry operations and stormwater management will be constructed on the western portion of the project limits. The road providing access to the eastern portion of the site would be designed to meet or exceed Skagit County standards, Washington Department of Natural Resources (DNR) Forest Practice and Mining standards, and any other standards appropriate for its use. Following site clearing and preparation, the road would be used to access the top of the quarry and for hauling rocks to the bottom for processing.

Step 1 will also include performing boundary line adjustments on parcels to consolidate the project footprint onto fewer parcels and to enable the potential for future phase quarry expansion (see Step 3 below). The Proposed Project would take place on two parcels following boundary line adjustments rather than the six parcels currently affected by the Proposed Project. The boundary line adjustments are not necessary for the permitting process or operation of the Proposed Project, but will ultimately result in simpler land ownership and management.

KIC will obtain SUP, Forest Practice Conversion, Grading, Road Access, Building, and Fire Permits from Skagit County and DNR as appropriate for the Step 1 activities.

2.2 Step 2 – Mining within the Existing MRO Area (In MRO)

Step 2 includes establishing the quarry within the current MRO boundary per Exhibit B of the SEPA Checklist: **Marblemount Quarry Reclamation Plans (Skagit Co. SUP)**. Step 2 also includes the creation of mining operation areas, establishing support facilities, and mining operations implementation. Support facilities include portable offices/storage structures, a truck loadout scale, a heavy equipment and employee parking area, a fueling station, maintenance shops, and storage facilities for blasting equipment. An undersized rock stockpile area would be established within the existing MRO area on P128574. Rock mining would be conducted using a “top down” approach and transported to the stockpile or staging areas by truck. Surface mining would occur in phases as described in the Reclamation Plan. The land use to the south, east, and west of the project limits is secondary and industrial forestry and the land use to the north is rural residential. A minimum 100-foot setback would be maintained along adjacent property lines or bordering quarry activities. A 50-foot vegetative buffer would be maintained on Rockport Cascade Road.

A summary of project elements of Step 2 would include:

Onsite Activities

- Providing for an approximately 5-acre armor stone staging area in the western portion of P45543;
- Constructing a gravel area with 35 parking spaces;
- Providing a scale control shed and a 70-ton portable scale;
- Providing a maintenance facility, a lubrication storage unit, a spill response Connex, a tool storage facility;
- Providing three ANFO and emulsion trailers and two high explosive magazine storage buildings;
- Providing an off-road diesel tank, a highway diesel tank, and a gasoline tank;
- Providing an office structure;
- Providing an approximately 13-acre undersized rock stockpile area within the existing MRO area on P128574;
- Implementing rock quarrying within the existing MRO using a “top down” approach such that rock would not be cast off the cliff face;
- Transporting quarry rock on-site to the stockpile or staging areas by truck;
- Hours of Operation for quarrying and hauling operations would occur between 6:00 AM and 6:00 PM Monday through Saturday; however, occasional operation outside of these hours may occur during limited, short-duration time periods. Other supportive and normal activities, such as equipment maintenance, may occur after the stated work hours;
- Operations management will include Noise and Vibration Management, Stormwater Management, and Fugitive Dust Management. See Operations Proposal for details.

Off-site Activities

- Off-site hauling: The Proposed Project would have a *maximum* of 75 loaded trucks per day leaving the site during full quarry operations. Up to 50 trips would be flatbed trucks

hauling jetty stone. Up to 25 trucks would be dump trucks hauling non-jetty stone rock material. These are maximum values and it is anticipated that there will be periods where little to no hauling of materials occurs.

- Truck Loads: Trucks will be legal loads of up to 105,500 pounds. If loads exceed this weight limit, appropriate permits will be obtained. Maximum over-load hauls would be less than 10 percent of total hauls.
- Haul Routes: The haul route identified is via Rockport Cascade Road to Rockport and west on SR-20 to I-5.

KIC will obtain Surface Mining Permits from Skagit County and DNR for Step 2 activities as appropriate.

2.3 Step 3 – Possible Future Quarry Expansion (Future Phase)

Step 3 would enable the possibility of future quarry expansion to meet anticipated future demand for jetty stone (**Figure 3** in Attachment 1: **Detailed Project Description**). Step 3 is optional; Steps 1, 2 and 4 do not rely on MRO and quarry expansion. This potential step is referenced as the “future phase” throughout the SEPA checklist. KIC understands that future phase quarry expansion requires an expansion of the existing MRO through a Comprehensive Plan Amendment. The Proposed Project includes this potential future phase expansion for full disclosure. Technical assessments conducted for SEPA review considered the maximum project potential, including the future phase, for impact analysis.

If Step 3 is completed, the mining footprint would increase by approximately 10 acres and the undersized stockpile footprint would increase by approximately 15 acres. Approximately 18 acres of the expansion area would be vegetation retention areas, the existing road, and buffers. The total MRO expansion area would be approximately 43 acres. While the Proposed Project within the existing MRO can operate and meet the immediate demand, expanding the quarry would enable meeting anticipated future demand and increase the total potential quarry rock yield by approximately 150 percent. This would allow KIC to fulfill all anticipated supply needs with the least impact, as establishing a new quarry in another location would result in greater overall impacts.

The total proposed MRO expansion area would be approximately 31 acres, or about a 75 percent increase of the current MRO zone that includes the Marblemount Quarry. Skagit County has designated over 61,682 acres of land in Skagit County as MRO. The addition of 31 acres would increase the total MRO area in Skagit County by 0.05 percent.

KIC will work with Skagit County to obtain a Comprehensive Plan Amendment as appropriate to support Step 3 activities. Surface Mine Permit/Special Use Permits for Step 3 activities will either be integrated into permitted conditions (preferred) contingent upon MRO expansion, or modifications to existing permits will be necessary following successful MRO expansion.

2.4 Step 4 – Quarry Reclamation

Step 4 would include full reclamation of all the affected parcels following decommissioning of the quarry, roads, and supporting mining operations. The full lifespan of the quarry would be up to 100 years or whenever the source of rock is exhausted. The Mining Reclamation Plan is consistent with DNR surface quarry reclamation regulations. The land will be restored to forestry land use following mine reclamation.

3 DETAILED DESCRIPTION OF SITE PLAN ELEMENTS

3.1 Overview

This section includes detailed descriptions of the site plan elements. A summary of approximate quantities for project elements is found in Table 1. Reference Exhibit A: **Engineering Site Plans** and Exhibit B: **Marblemount Quarry Reclamation Plan (Skagit Co. SUP)** for actual quantities and details.

Site Plan Element	Steps 1 & 2 - In MRO Phase (approximate values)	Step 3 - Future Phase (approximate values)	Total at Full Buildout (approximate values)
Project Limits	120 acres	—	120 acres
Site/Timber Clearing	90 acres	—	90 acres
Vegetation Retained	30 acres	—	30 acres
Quarry Footprint	20 acres	10 acres	30 acres
Undeveloped MRO Area	—	18 acres	18 acres
Rock Volume Estimate	3.8 million cubic yards	5.8 million cubic yards	9.6 million cubic yards
Entrance Road Loop	40 feet wide	—	40 feet wide
Gravel Area	4 acres	—	4 acres
Gravel Access Road	6,700 linear feet	—	6,700 linear feet
Parking Area	35 spaces	—	35 spaces
Crushing and Processing Station	2 acres	—	2 acres
Armor Stone Stockpile Area	5 acres	—	5 acres
Undersized Rock Stockpile Area	13 acres	15 acres	28 acres
Topsoil Stockpile Area	2 acres	—	2 acres
Scale Control Shed	8' x 20' (160 sf)	—	8' x 20' (160 sf)
70 Ton Portable Scale	70' x 105' (1,260 sf)	—	70' x 105' (1,260 sf)
Maintenance Facility	54' x 40' (2,160 sf)	—	54' x 40' (2,160 sf)
Lubrication Storage Unit	8' x 20' (160 sf)	—	8' x 20' (160 sf)
Spill Response Connex	8' x 20' (160 sf)	—	8' x 20' (160 sf)
Tool Storage Facility	8' x 20' (160 sf)	—	8' x 20' (160 sf)
ANFO & Emulsion Trailers	8' x 40' (320 sf)	—	8' x 40' (320 sf)
High Explosive Magazine Storage Building	8' x 40' (320 sf)	—	8' x 40' (320 sf)
Off-Road Diesel Tank	10,000 gallons	—	10,000 gallons
Highway Diesel Tank	3,000 gallons	—	3,000 gallons
Gasoline Tank	1,500 gallons	—	1,500 gallons
Impervious Surfaces	542,330 square feet	—	542,330 square feet
Access Road Cut	235,200 cubic yards	—	235,200 cubic yards
Access Road Fill	550,400 cubic yards	—	550,400 cubic yards
Onsite Structures Cut	32,000 cubic yards	—	32,000 cubic yards
Onsite Structures Fill	5,800 cubic yards	—	5,800 cubic yards
Stormwater Detention Pond A	2 acres	—	2 acres
Stormwater Detention Pond B	2 acres	—	2 acres

3.2 Entrance Road Loop

The project site will be accessed from Rockport Cascade Road. There are two existing site access points: one to the north and one to the south. The existing access points will be decommissioned and replaced with two new access points (see Exhibit A: **Engineering Site Plans**). The access road was designed to meet Skagit County standards. Trucks will access the site from the northern entrance and will exit the site through the southern exit. The entrance road loop will be constructed from crushed gravel.

3.3 Gravel Area

A gravel area and road will be constructed. It will extend from the beginning at the entrance road loop. It will continue south to access the shop/fueling/parking areas, undersized stockpile area, soil stockpile area and will terminate at the ANFO & emulsion trailers. It will be compacted gravel. Stormwater runoff from this surface will be managed to meet Skagit County standards and fully infiltrated on site (see Exhibit A: **Engineering Site Plans** and Appendix J: **Engineering Analysis and Drainage Plan and Stormwater Pollution Prevention Plan**).

3.4 Access Road

An approximately 6,700-foot gravel access road would be built to access the top and eastern portion of the project area for timber harvesting (see Exhibit A: **Engineering Site Plans**). In addition to standard construction equipment, 4-6 small blasts per day would be needed for access road construction. The access road is designed to meet or exceed Skagit County Grading Permit standards, DNR Forest Practice and Mining standards, fire code standards, and other standards appropriate for its use. The road will start at the northwestern corner of the site, traverse southward across the slope, switchback in the southeastern corner of the project area, then continue north until its terminus at the top of the slope. It will be a minimum of 20 feet wide and will have a maximum 12.5 percent grade. The proposed gravel access road will cross two non-fishbearing watercourses and will use culverts at road watercourse crossings. All stormwater from this site will be managed per Skagit County standards and will be fully infiltrated on site.

3.5 Topsoil Stockpile Area

An approximately 2-acre topsoil stockpile area will be established in the southwest portion of the project site, directly to the east of Stormwater Detention Pond B and adjacent to the proposed gravel road that accesses the maintenance facilities and ANFO trailers. This area will be filled with topsoil reclaimed from site grading. It will be stored in this area and used during the quarry's reclamation phase. The topsoil stockpile will be stabilized with vegetation and wood mulch to manage erosion.

3.6 Structures

The following structures and their planned dimensions will be installed at the site (see Exhibit A: **Engineering Site Plans** for locations):

- Scale Control Shed: 8 ft x 20 ft (160 sf);
- 70 Ton Portable Scale: 70 ft x 105 ft (1,260 sf);
- Portable Office Trailer: 12 ft x 60 ft (720 sf);

- Maintenance Facility: 54 ft x 40 ft (2,160 sf);
- Lubrication Storage Unit: 8 ft x 20 ft (160 sf);
- Spill Response Connex: 8 ft x 20 ft (160 sf);
- Tool Storage Facility: 8 ft x 20 ft (160 sf);
- Three (3) ANFO & Emulsion Trailers: 8 ft x 40 ft (320 sf). A 15-foot-high topsoil barrier will be constructed around the north, west, and south sides of the ANFO & Emulsion Trailers per ATF barrier requirements; and
- Two (2) High Explosive Magazine Storage Buildings: 8 ft x 40 ft (320 sf).

3.7 Fueling Stations

The following fueling stations will be installed on the site (see Exhibit A: **Engineering Site Plans** for details):

- Off-road Diesel Tank: double-walled, 10,000 gal;
- Highway Diesel Tank: double-walled, 3,000 gal; and
- Gasoline Tank: 1,500 gal.

All fuel tanks will be double-walled and have secondary containment and would comply with regulatory standards.

3.8 Quarry Operations (Step 2 - In MRO)

The initial step in quarry development (Step 2) is to establish a benched, 20-acre jetty rock quarry on P45543. The quarry will be constructed from the top down. Benches will be blasted approximately 20 feet horizontally and no more than 40 vertical feet and follow Mine Safety and Health Administration (MSHA) requirements. Up to two blasts per day are proposed. Once blasts have occurred, excavating and sorting will occur to sort 4 to 28-ton jetty stone out of the blast area and haul it to the jetty stone stockpile area near the loadout area at the bottom of the quarry. Undersized rocks will also be sorted and hauled to the undersized rock stockpile area for further screening and crushing by Cunningham Crushing. Once all the material has been removed from the bench, a new bench will be blasted below the preceding one and the process will be repeated. For details on quarry operations, see **Appendix L Operations Proposal** in the **SEPA Checklist**.

3.9 Quarry Operations (Step 3 - Future Phase)

The quarry operations described in Step 2 will be the same as in Step 3. The quarry will be expanded eastward approximately 10 acres and additional stockpile area would be created (approximately 15 acres).

3.10 Armor Stone Stockpile Area

The Proposed Project includes a 5-acre armor stone stockpile area where armor stone will be stockpiled prior to loading and transport to the local destination. The armor stone stockpile area is located adjacent to the truck loading and scale area.

3.11 Undersized Rock Stockpile Area (In MRO)

An approximately 13-acre undersized rock stockpile area will be established on the northwestern portion of P128574 and will extend west onto a small portion of P45548. This stockpile area is

fully within existing MRO. The undersized rock stockpile area will be used for rocks that do not meet the size and/or weight requirements for armor stone. Those rocks will be crushed, screened, and processed into marketable gravel products by the property owners and transported to market.

3.12 Undersized Rock Stockpile Area (Future Phase)

Once an expanded MRO is approved and the quarry footprint is expanded, the undersized rock stockpile area will extend onto the southern portion of P128574 and northern portion of P45548. The material will be stockpiled and processed the same as stated above.

3.13 Quarry Reclamation

Reclamation of all the affected areas (the quarry, roads, and supporting mining operations) will include the following project elements:

- Stabilizing unstable slopes and exposed soils using vegetation and wood mulch;
- Providing talus and bald features in quarry area for habitat restoration;
- Modifying impervious surfaces (ripping, tilling, scraping, etc.) to restore natural infiltration characteristics;
- Restoring topsoil and vegetation to developed areas;
- Decommissioning of roads and removal of culverts; and
- Restoring all disturbed areas with native vegetation.

The goal of the reclamation plan and process is to restore the site and land use to forestry following mine reclamation and to make a more natural looking and functioning landscape.