PERKINSCOIE

1120 NW Couch Street
10th Floor
Portland, OR 97209-4128

+1.503.727.2000
+1.503.727.2222
PerkinsCoie.com

August 18, 2021

Steven L. Pfeiffer
SPfeiffer@perkinscoie.com
D. +1.503.727.2261
F. +1.503.346.2261

VIA OVERNIGHT DELIVERY

Becky Crockett
Curry County Planning Director
94235 Moore Street, Suite 13
Gold Beach, OR 97444

Re: Stone Butte Quarry Conditional Use Authorization (AD-1413)
Application for Modification

Dear Ms. Crockett:

Per our recent discussion, please see the attached hard copy of the above-referenced Conditional Use Modification application and required filing fee in the amount of $2000.00. In addition, we have forwarded an electronic copy under separate cover via e-mail.

Thank you for your on-going assistance regarding this submittal, and we look forward to the review proceedings before the Planning Commission.

Sincerely,

Steven L. Pfeiffer

SLP:rsr
Enclosures
cc: Stone Butte Rock, LLC
J.E. McAmis
Kuper Consulting, LLC"

CURRY COUNTY COMMUNITY DEVELOPMENT
94235 MOORE STREET, SUITE 113
GOLD BEACH, OREGON 97444

Becky Crockett
Planning Director

Phone (541) 247-3228
FAX (541) 247-4579

File #_____ Fee $_____ Receipt #_____ Accepted by_____

LAND USE DECISION APPLICATION FORM

Application Type (Check One)

☐ Comp Plan/Zone Change ☑ Conditional Use ☐ Variance ☐ Partition ☐ Subdivision ☐ Development Permit

Application Date:_____ Hearing / Decision Date:_____

APPLICANT: Please complete all parts of this form. The attached application checklist will be marked by staff to reflect the information and supporting items required for this request. Please return this prepared checklist, the completed application form and required fee at the time of submission. Please note that your application cannot be reviewed or processed until all the required items have been provided.

1. **PROPERTY OWNER OF RECORD**

Name Madelyn Jackson, et al
Mailing Address: 949 Highway 42 S.
City, State, ZIP: Coquille, Oregon 97423
Telephone #: (541) 396-5116 E-Mail MJackson@1791.com

2. **APPLICANT**

Name Stone Butte Rock, LLC
Mailing Address: 949 Highway 42 S.
City, State, ZIP: Coquille, Oregon 97423
Telephone #: (541) 396-5116 E-Mail MJackson@1791.com

3. **AGENT** (If Any)

Name: J.E. McAmis c/o Steven L. Pfeiffer, Perkins Coie LLP
Mailing Address: 1120 NW Couch Street, Tenth Floor
City, State, ZIP: Portland, Oregon 97209
Telephone # 503-727-2261 E-Mail SPfeiffer@perkinscoie.com

4. **BASIC PROPOSAL** (Briefly describe your proposed land use)

Proposed modification of existing Conditional Use Approval (AD-1413) issued on October 23, 2014 to expand approved operating area and quarry site boundaries. See attached application narrative.

5. **PROPERTY INFORMATION**

Assessor Map # 31S 15W Tax Lot (s) 2302
Zoning: Forestry-Grazing (FG) Total Acreage 701.59

6. **PROPERTY LOCATION**

Address (if property has a situs address) _____

Description of how to locate the property The site lies approximately 2.6 miles east of Highway 101. Access from Highway 101 via a private haul road is located at Mile Point 291.7.

7. **EXISTING LAND USE** (briefly describe the present land use of the property)

☐ Vacant ☑ Developed; Describe existing development

Quarry excavation, processing, and stockpile activities authorized under AD-1413, Conditional Use.

8. **SURROUNDING LAND USES** (Briefly describe the land uses on adjacent property)

Forestry and grazing.

9. **SERVICE AND FACILITIES AVAILABLE TO THE PROPERTY**

Please indicate what services and facilities are available to the property. If on-site sewage disposal and/or water source is proposed, a copy of the approved site evaluation or septic system permit and a copy of any water rights or well construction permit must be submitted with this application.

Water Source None

Sewage Disposal None

Electrical Power Local distribution

Telephone Service None

Fire Department/District Coos Forest Protection Association

School District N/A

10. **ROAD INFORMATION**

Nearest Public Road Highway 101

Private Roads Serving the Property Easement at Mile Point 291.7/101

Road Condition Commercial hauling with concrete apron at 101

Legal Status Private

Ownership: I own the road ☑ Easement on others property ☑ Joint Owner ☐

Please submit record of ownership (i.e. deeds, easement, plat dedication, etc)

Proposed New Roads/Driveways (Briefly describe any new road construction related to this application

None

11. PHYSICAL DESCRIPTION OF THE SUBJECT PROPERTY

Topography (Briefly describe the general slope and terrain of the property)

Rolling hillside with pasture and forest cover. Proposed activity at approximately 1100-1400' msl.

Vegetation (Briefly describe the vegetation on the property)

Pasture and forest cover.

12. FINDINGS OF FACT

Oregon Statute and the zoning ordinance requires that land use decisions be supported by factual findings. The burden of proof is on the proponent therefore it is required that the application provide findings to support the request in this application. The standards and criteria that are relevant to this application will be provided by the staff and are considered to be a part of this application form. Please read the standards and criteria carefully and provide factual responses and evidence to address each standard. These findings must be sufficiently specific to allow the decision maker to determine whether your request meets the relevant standard. Please attach your written findings and supporting evidence to this application.
FAILURE TO PROVIDE THE REQUIRED FINDINGS WILL PREVENT THE APPLICATION FROM BEING PROCESSED AND IT WILL BE RETURNED AS BEING INCOMPLETE.

13. APPLICANT'S SIGNATURE AND STATEMENT OF UNDERSTANDING

(Please read the statement below *before* signing the signature blank)

I (We)_____;

_____;

_____;

_____; have filed this application for

_____

With the Curry County Department of Community Development-Planning Division to be reviewed and processed according to State of Oregon and county ordinance requirements. My (our) signature (s) below affirms that I (we) have discussed the application with the staff, and that I (we) acknowledge the following disclosures:

(a) I (we are stating all information and documentation submitted with this application is true and correct to the best of my (our) knowledge.

(b) I (we) understand that if false information and documentation has been submitted and the decision is based on that evidence, the decision may be nullified and the county may seek all legal means to have the action reversed.

(c) I (We) understand any representations, conclusions or opinions expressed by the staff in pre-application review of this request do not constitute final authority or approval, and I (we) am (are) not entitled to rely on such expressions in lieu of formal approval of my (our) request.

(d) I (We) understand that I (we) may ask questions and receive input from staff, but acknowledge that I (we) am (are) ultimately responsible for all information or documentation submitted with

this application. I (We) further understand staff cannot legally bind the county to any fact or circumstance which conflicts with State of Oregon or local ordinance, and in event a conflict occurs, the statement or agreement is null and void.

(e) I (We) understand that I (we) have the burden of proving that this request meets statutory and Ordinance requirements, and I (we) must address all of the criteria that may apply to the decision being made. The criteria for approving or denying this request have been provided to me (us) as a part of the application form.

(f) I (We) understand the staff is entitled to request additional information or documentation any time after the submission of this application if it is determined as such information is needed for review and approval.

(g) I (We) understand this application will be reviewed by the Oregon Department of Land Conservation & Development (DLCD) and possibly other state agencies as part of the statewide land use coordination process. I (We) understand that agencies that participate in the review process have the legal right to appeal the approval of the request.

(h) I (We) understand that it is my (our) responsibility, and not the county's, to respond to any appeal and to prepare the legal defense of the county's approval of my (our) request. I (We) further realize it is not the county's function to argue the case at any appeal hearing.

(i) I (We) understand that I (we) am (are) entitled to have a lawyer or land use consultant represent me (us) regarding my application and to appear with me (or for me) at any appointment, conference or hearing relating to it. In light of the complexity and technical nature of most land use decisions, I (we) understand that it may be in my best interests to seek professional assistance in preparation of this application.

(j) The undersigned are the owner (s) of record for the property described as:

Assessor Map(s) 31S 15W (3115-00-02300-00)

and Tax Lot(s) 2302

in the records of Curry County.

This application MUST BE SIGNED BY ALL PROPERTY OWNERS OF RECORD, or you must submit a notarized document signed by each owner of record who has not signed the application form, stating that the owner has authorized this application.

(1) Signature Marla J Hedman

Print Name Marla J Hedman

(2) Signature Madelyn Jackson

Print Name Madelyn Jackson

(3) Signature Mary Torres

Print Name Mary Torres

(4) Signature _____

Print Name _____

this application. I (We) further understand staff cannot legally bind the county to any fact or circumstance which conflicts with State of Oregon or local ordinance, and in event a conflict occurs, the statement or agreement is null and void.

(e) I (We) understand that I (we) have the burden of proving that this request meets statutory and Ordinance requirements, and I (we) must address all of the criteria that may apply to the decision being made. The criteria for approving or denying this request have been provided to me (us) as a part of the application form.

(f) I (We) understand the staff is entitled to request additional information or documentation any time after the submission of this application if it is determined as such information is needed for review and approval.

(g) I (We) understand this application will be reviewed by the Oregon Department of Land Conservation & Development (DLCD) and possibly other state agencies as part of the statewide land use coordination process. I (We) understand that agencies that participate in the review process have the legal right to appeal the approval of the request.

(h) I (We) understand that it is my (our) responsibility, and not the county's, to respond to any appeal and to prepare the legal defense of the county's approval of my (our) request. I (We) further realize it is not the county's function to argue the case at any appeal hearing.

(i) I (We) understand that I (we) am (are) entitled to have a lawyer or land use consultant represent me (us) regarding my application and to appear with me (or for me) at any appointment, conference or hearing relating to it. In light of the complexity and technical nature of most land use decisions, I (we) understand that it may be in my best interests to seek professional assistance in preparation of this application.

(j) The undersigned are the owner (s) of record for the property described as:

Assessor Map(s) 31S 15W (3115-00-02300-00)

and Tax Lot(s) 2302

in the records of Curry County.

This application MUST BE SIGNED BY ALL PROPERTY OWNERS OF RECORD, or you must submit a notarized document signed by each owner of record who has not signed the application form, stating that the owner has authorized this application.

(1) Signature Floyd B. Foster

Print Name Floyd B Foster

(2) Signature Carl W Foster

Print Name Carl W Foster

(3) Signature _____

Print Name _____

(4) Signature _____

Print Name _____

ADDITIONAL NOTES:

All fees must be paid at the time your application is filed. Staff will examine the application when filed to check for completeness and will not accept it if required items are missing. A final completeness check will be made prior to doing public notice regarding the pending decision. If it is determined to be incomplete or the findings are insufficient you will be notified and you must provide the required information in a timely manner to avoid denial of the request.

ORS 215.427 required the county to take final action on a land use application (except for plan/zone changes) including all local appeals within 120 days if inside an Urban Growth Boundary (UGB) or 150 days if outside a UGB once the application is deemed complete.

PLOT PLANS:

All applications require that a plot plan of the subject property be included with the application form. The plot plan is an understandable may of your property and its relationship to adjacent properties. The plot plan must show certain essential information that is needed for the staff and the decision makers in the evaluation of your request. The plot plan is also incorporated into the public notice sent to adjacent property owners and affected agencies. The plot plan should be prepared on a single sheet of paper (preferable 8 ½ x 11") so copies can easily be reproduced for review.

An example plot plan is attached to this form to give you an idea of what information should be included on your plan and how it should be drawn. The plot plan <u>does not</u> have to be prepared by a surveyor or engineer, and can generally be prepared by the applicant from the Assessor map of the property. The dimensional information included on the plot plan must be accurate and drawn to scale so that the plot plan reasonably represents the subject property and any development therein. If your application is for a land partition or subdivision Oregon Statute required that plat maps must be prepared by a surveyor licensed by the state.

APPLICATION CHECKLIST
Please bring this form with your completed application

SPECIFIC TYPE OF APPLICATION :_____

If the item is checked or circled on the left you are required to provide that information.
All applications require the following information:

- [x] Completed application form and fee
- [ ] Current deed of the subject parcel(s)
- [x] Vicinity map and detailed plot plan drawn to scale (see example) **if your plot plan is not adequate it will delay processing of your application**
- [ ] Service letter from agencies
  Please provide letters from the following agencies regarding your application:

- [ ] Fire District
- [ ] Electric Service
- [ ] OTHER:_____
- [ ] Water District (if located within a district)
- [ ] Sewer District (if located within a district)

- [ ] Proposed source of water if not in district: _____
- [ ] Sanitation coordination form (if not in a sewer district)
- [ ] Erosion prevention and sediment control plan
- [ ] Storm and surface water management plan
- [ ] Documentation of proposed or existing access to parcel (county, state, federal or private road, or easement)
- [ ] **MOST IMPORTANT: FINDINGS. Depending on your application you will be required to provide specific facts and findings to support your application. Please provide the following:** See attached application narrative.

FOR STRUCTURES IN NATURAL HAZARD AREAS:

- [ ] Geohazard report prepared by a licensed geologist
- [ ] Elevation certificate and/or other flood ordinance requirements

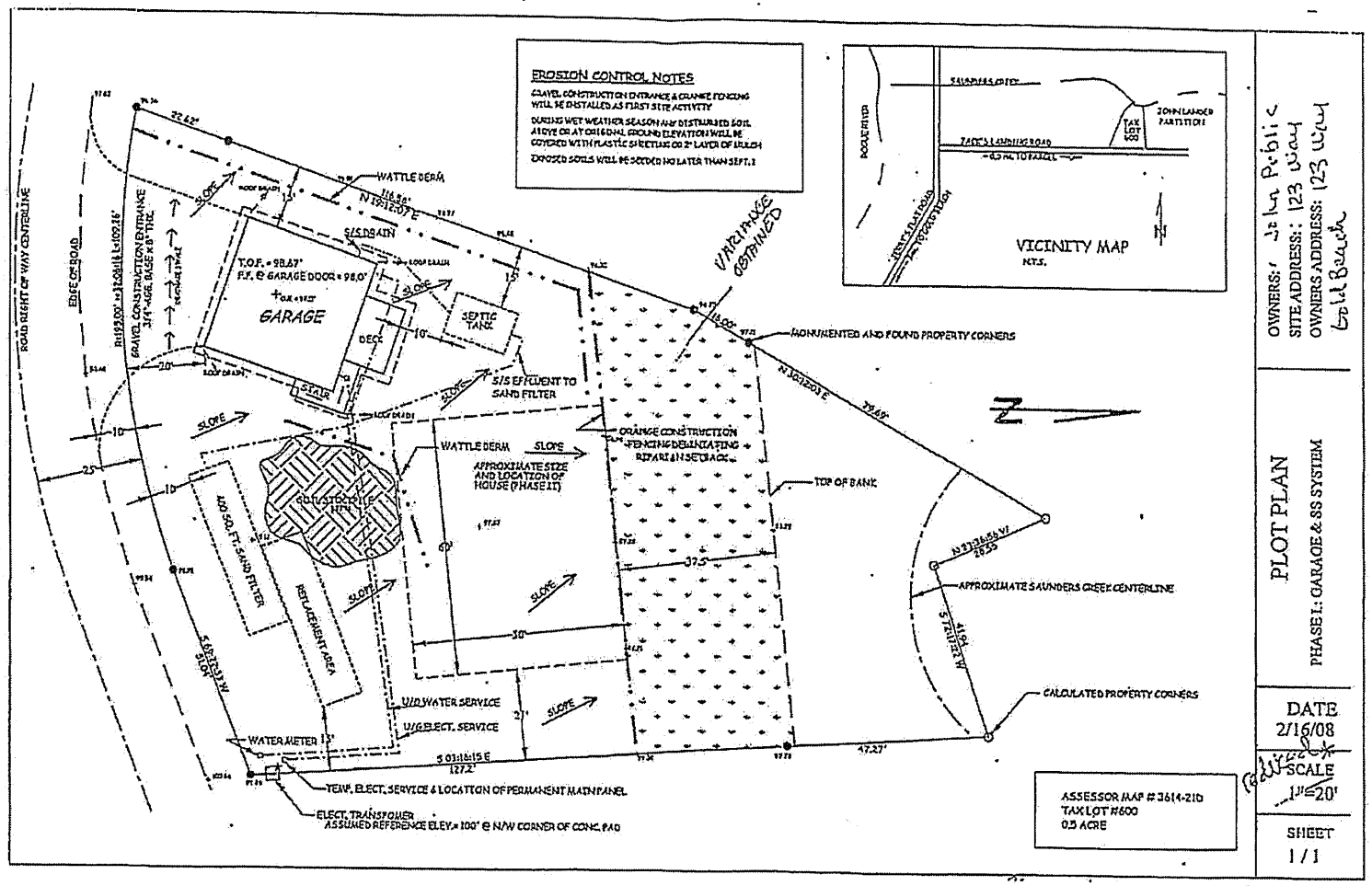
OTHER REQUIRED ITEMS: _____

FOR PARTITIONS AND SUBDIVISIONS:

You must provide a plat or map of survey prepared by a licensed surveyor with your application. Partitions and subdivisions require an erosion prevention and sediment control plan as well as a storm and surface water management plan.

MINIMUM SITE PLAN REQUIREMENTS

Property owner(s) name(s)	North arrow	Assessor Map and tax lot number
Exterior property lines	Existing easements and their purpose	Shorelines, water features, streams, rivers, drainages
Existing structures	Proposed structures	Property setback lines (check with planning if you are unsure)
Driveways or accessways	Septic system and drainfields	Well or other domestic water source
Streets, roads, highways adjacent to property	Physical address if one has been assigned	



NOTICE

CHARGES FOR PRIVATE PROFESSIONAL SERVICES

The Curry County Planning Division staff does not have technical expertise in some areas that are critical to the analysis of applications. When necessary, in the judgment of the Planning Director, Curry County Planning Division will contract with such specialists to assure that applications receive the proper review. These services include engineers, geologists, and hydrologists among others.

The County will be judicious in its decision to seek outside services. However, the cost of such services is the responsibility of the applicant. In such cases, the County will inform the applicant that the services of an appropriate consulting professional will be secured. The County will pay the invoices presented by the consultants and then invoice the applicant in turn for the cost incurred, plus 10% Administrative Fee **(Curry County Resolution and Order No. 12372).**

Failure of an applicant to honor the County's invoice within the 30 day period will delay the issuance of the permit or other entitlement which is being sought by the application.

For further information regarding this policy, you may contact Dave Pratt, Curry County Planning Director at 541-247-3304.

March 5, 2007

BEFORE THE PLANNING COMMISSION

FOR CURRY COUNTY, OREGON

In the Matter of a Request for Modification of an Existing Conditional Use Permit for Stone Butte Quarry (County Order AD-1413) to Authorize Expansion of Excavation Area and Mining and Processing Operating Area, Together with Modification of Condition #8	**SUPPLEMENTAL NARRATIVE IN SUPPORT OF CONDITIONAL USE MODIFICATION REQUEST**

I. INTRODUCTION AND REQUEST

This office represents J.E. McAmis, a marine construction firm and current operator/lessee of the Stone Butte Quarry (the "Quarry"). J.E. McAmis is the authorized agent for Stone Butte Rock, LLC, for purposes of this submittal. Stone Butte Rock, LLC is an entity owned jointly by the owners of the underlying real property comprised of the Quarry and adjacent lands. Stone Butte Rock, LLC is owned jointly by the five individuals identified in the executed application form.

The purpose of this application is to request a modification of the above-referenced conditional use authorization for the Quarry (County Order AD-1413) issued by Curry County to Stone Butte Rock, LLC in 2014. A copy of the final order issued by Planning Commission on October 23. 2014 is attached as Exhibit A. The conditional use authorization issued by the County in 2014 authorized mining and processing activities within an Operating Area of 72.77 acres with excavation activity confined to a 5.7 acre subarea within the Operating Area.

Based on increased demand for jetty reconstruction material at various locations on the Oregon Coast, Stone Butte Rock, LLC seeks to modify the current conditional use authorization in the following manner:

1. Expansion of the Operating Area to include an additional 14.4 acres for stock-piling of excavated stone material, which, in turn, will expand the Operating Area boundary to approximately 88 acres;

2. Expansion of the existing Quarry excavation subarea from 5.7 acres to a total of approximately 27.6 acres. See AD-1413. This proposed expansion is located entirely with the current CU Operating Area Boundary. See Exhibit B; and

3. Modification of condition of approval 8(a) to require issuance of an ODOT Approach Road Permit at Mile Point 291.62 rather than at the current required location of 290.58 to ensure access authorization at the existing location of the Quarry access road at Highway 101.

For reference purposes, proposed modifications #1 and #2 are depicted in the proposed Conditional Use Site Plan attached as Exhibit B. This proposed modification application is submitted pursuant to Article II and Sections 3.052 and 7.010 of the Curry County Zoning Ordinance relating to modification of an existing conditional use.

II. BACKGROUND

The Quarry site lies approximately four miles south of Langlois and 3 miles east of Highway 101 at Section 24, T31S, R15W and at an elevation of 1100 feet to 1400 feet above sea level[1]. The Quarry comprises approximately of 73 acres currently authorized for mining activity by the County and DOGAMI and is included within a larger area comprising of approximately 704 acres under the common ownership of the five individuals identified in the application. The Quarry site, as well as adjacent lands under common ownership, carry the Forest Grazing (FG) zone map designation. The Quarry site also is included within the Natural Hazard (NH) overlay designation. The subject site is estimated to contain not less than million tons of commercial rock material including a substantial volume of uniquely dense and abrasion-resistant rock which is suitable for jetty construction under the direction and authority of the US Army Corps of Engineers ("USACE").

Commercial quarry activity, including excavation, processing, stockpiling and hauling of rock material for commercial purposes commenced at the site following conditional use approval in 2014, and J.E. McAmis has been quarrying and transporting stone from the site for jetty reconstruction projects at various locations since early 2019. The site also is the subject of MLRR Operating Permit #08-0064 issued by the Oregon Department of Geology and Mineral Industries on March 2, 2018. A copy of the current Operating Permit is attached as Exhibit C.

A. Quarry Rock and Mining Operations

[1] The Quarry site is identified as Curry County Assessor Map Number 31-15-00; Tax Lots 2300 and 2302.

The proposed permit area generally consists of a substantial rock outcropping, i.e., Stone Butte, surrounded by open meadow, forested areas and moderate to steep hillsides. Elevations within the proposed permit boundary range from approximately 1,000 to more than 1,400 feet above sea level. Stone Butte is located at the summit of a ridge which separates Willow Creek from Crystal Creek. While the surrounding properties are primarily forested with a variety of tree species or maintained for regrowth following commercial harvesting, open spaces are present and currently used as pasture. Vegetation within the proposed permit area is typical of the region and generally consists of fir, alder, cedar, spruce, hemlock, salal, fern, and huckleberry. Two cell towers owned by Frontier Communications and U.S. Cellular are located on top of the southwest edge of Stone Butte. There is also a radio tower owned by Coos Curry Electric at the cell tower location. The cell and radio towers are located on the side of the butte opposite of the current mining location and the proposed operating area expansion. These facilities will be removed by October, 2021.

The existing Quarry consists of a rock highwall with stockpile areas for the overburden, mined jetty stone and undersized jetty stone rock held in stockpiles for future processing for commercial purposes. In addition, the current Operating Boundary includes areas utilized for the processing the mined material, a scale house and equipment staging/maintenance areas, haul roads and a fire and dust suppression pond. Mining at this site has been primarily for the generation of commercial aggregate and more recently for jetty stone. Commercial aggregate is produced for a variety of uses including base rock for stabilizing roads, for asphalt and concrete roads, as well as for bridges and structures. Jetty stone is used to shore up older jetty structures as well as construction of new jetties. This site has the unique capability of producing both types of aggregate. Previous to J.E. Mc Amis mining at the site, commercial aggregate was produced. Since 2018, J. E. Mc Amis has been producing jetty rock for upgrades to the Columbia River jetty and temporarily stockpiling the undersized jetty stone rock which can produce commercial aggregate.

Mining at the site encompasses the same type of equipment for either type of aggregate production. There is equipment to move the soil/overburden (weathered rock) to stockpile it on the site for future reclamation. There are drill rigs to drill and place explosives within the rock for blasting purposes. There are excavators and loaders to move the rock on site, as well as trucks and low-boys to move the rock offsite. When needed there is a portable crusher to process the rock into specific sizes.

Large "Volkswagen" sized rock (jetty stone) is required by the Corps of Engineers for jetties. This quarry has the ability to produce jetty stone hence the need for the expansion of the Conditional Use for both excavating this rock as well as stockpiling the commercial aggregate for future use.

The basalt bedrock encountered at the Quarry is strong, very dense, and, due to the low fracture frequency, has a high potential to produce high quality jetty stone size rock. See Exhibit D, Kuper Consulting LLC, 2021. The rock is unique in that it meets the strict stringent USACE specifications for jetty stone and, as Kuper Consulting notes, Stone Butte is the only quarry in the state of Oregon currently permitted and producing the jetty stone resource needed to support the USACE jetty rehabilitation projects.

Upon approval, the proposed expansion of the excavation area will allow for removal of the additional overburden (soil, sediments and weathered rock) located in the 21.9 acres of expanded excavation area and stockpiling of this material for future reclamation purposes. Following excavation, the exposed hard rock will be removed, sorted and placed in stockpiles located in the area proposed for expansion of the current Operating Area according to size and characteristics of the rock. The excavation will continue to move southerly from the authorized 5.7 acre excavation area to the proposed excavation area over time. In addition to County authorization, these mining activities will be subject to DOGAMI approval of a modified Operating Permit including associated conditions of approval and additional reclamation requirements.

As described in the Stormwater Pollution Control Plan prepared by Westlake Consultants, Inc. dated July , 2021 and attached as Exhibit E, both stormwater and erosion control will be conducted in accordance with established DEQ requirements and DOGAMI Best Management Practices for reclaiming surface mines. Stormwater generated on site in disturbed areas will be managed by routing through grass lined ditches and detention ponds prior to exiting off site. Where there are springs on the site, the flow from these springs will be separated from any storm water generated in disturbed areas and will continue to flow offsite.

From an operations standpoint, the existing mining operations undertaken pursuant to and consistent with current County and DOGAMI authorizations will continue with the exception of the expansion of (1) current excavation activities onto the proposed 21 acre expansion area and (2) new stockpiling activity onto the 14.4 acre Operating Area expansion. As such, the frequency of daily inbound and outbound truck trips at the intersection of the existing haul road with Highway 101 are anticipated to remain the same if the proposed modifications are approved. Further, any mining activity within the proposed expansion areas and related mining activities will require final authorization from DOGAMI and DEQ relating to mining operations, reclamation, dust and stormwater management and the like prior to any new mining activity in these areas following County approval, and these additional state authorizations must be consistent with both existing agency authorizations and any CU modifications approved by the County.

B. Mine Reclamation

Post-mining reclamation of a quarry is required by the Department of Geology and Mineral Industries ("DOGAMI") and typically includes the stabilization of mining high walls, slopes, and land disturbances by surface mining and accompanying activities. Reclamation of mined areas authorized by DOGAMI in 2018 is required under the terms of the existing DOGAMI Operating Permit at Exhibit C.

Under the current DOGAMI permit, Reclamation is scheduled to be conducted concurrently with mining operations and will include the establishment of benches as excavation operations proceed. As specified in the approved Operating and Reclamation Plan for the existing Quarry and per Permit Conditions #12 and #13, Stone Butte will establish all final excavated sloping configurations at 1½H:1V or flatter and all final fill slopes at 2H:1V or flatter. All compacted areas including stockpiling and processing areas will be scarified and/or ripped with earth moving equipment to decompact the upper surface to a depth of 12 inches prior to spreading growth medium. The permittee will replace a minimum of 12 inches of growth medium on all areas to be reclaimed (Permit Condition #15) and all areas receiving soil materials will be seeded and planted. All oversized rock will be sold offsite or reduced for product. In addition to overburden and crusher rejects, imported fill materials may be utilized to supplement the soil therefore per Permit Condition #16.

In order to stabilize the understory and open areas, the current DOGAMI authorization requires Stone Butte to revegetate all areas receiving growth medium utilizing an all-purpose, weed-free pasture grass seed mix at a rate of 30 lbs. per acre (Permit Condition #17). Seeding will be conducted either in the spring or fall via a broadcast seeding method. In all areas to be reclaimed to forestry, Douglas fir trees will be planted on 10 or 12 foot centers either in the late winter or early spring (Permit Condition #18). Fertilizers and lime will only be used if necessary, to establish vegetation. Noxious invasive plants and weeds are required to be controlled onsite as needed by spot spraying or other means (Permit Condition #19). With the exception of access roads, culverts, and berms left in place for post-mining Forestry use, all mining structures, and equipment will be removed from the site upon the completion of reclamation operations. Stormwater runoff will either continue to be contained onsite via internal infiltration or will resume into the natural swales or drainages.

As noted above, reclamation of the expanded excavation and stockpile areas proposed in this application will be subject to concurrent modification of the existing DOGAMI Operating Permit including the anticipated requirement for similar reclamation of the proposed CU expansion areas, as depicted in the Stone Butte Quarry Mining Operations and Reclamation Plan Set prepared by Kuper Consulting LLC for submission to DOGAMI.

See Exhibit F. The new reclamation plan is an expanded version of the original and is similar, albeit more detailed, in design. Concurrent reclamation, where appropriate, will continue in order to leave a stable site in accordance with DOGAMI requirements and Best Management Practices. Specifically, disturbed areas will be reclaimed by reforestation on the quarry benches with native trees, revegetation with native plants and grasses and contouring the mine site to reduce the potential of erosion.

III. RESPONSE TO APPLICABLE REVIEW CRITERIA

A. Section 3.050 - Forest Grazing Zone (FG)

Land-based exploration for mineral and aggregate resources as defined in ORS Chapter 517 are permitted outright in the Forest Grazing district under Section 3.050(9). Mining and processing of aggregate and mineral resources as defined under ORS Chapter 517 exclusive of facilities for offshore oil, gas and marine mineral activities are permitted under Section 3.052(24) as a conditional use subject to the requirements of Section 7.040(1), (10) and (17).[2] The proposed CU modifications do not involve facilities for offshore oil, gas or mineral activities, and the requirements of Section 7.040(1), (10) and (17) are the subject of this application and subsequent Planning Commission review.

B. Section 3.250 - Natural Hazards Overlay Zone

The proposed Quarry expansion areas are located in the County's acknowledged Natural Hazards Overlay Zone, which implements adopted Natural Hazard Inventory maps. Pursuant to Section 3.252 of the Curry County Zoning Ordinance, a Supplemental Geological Hazard Assessment report has been prepared by SHN Consultants dated June, 2021. See Exhibit G. This SHN report serves as a supplement to an earlier geologic hazard assessment report prepared by SHN dated June, 2014 in support of the initial conditional use application for the Quarry in 2014.

The SHN analysis confirms that recent DOGAMI SLIDO inventories indicate that the site is located in "moderate" to "very high" landslide hazard zones. Field work performed by SHN also indicates, however, that no geologic features were observed that are indicative of recent or incipient slope movements in the existing quarry or proposed expansion areas. Therefore, their conclusion, based on the evidence and analysis presented in the report, is that the expansion of the excavation and stockpile areas can be "undertaken such that they will not be subject to unreasonable risk of damage from active land sliding within the project site boundaries or on adjacent and contiguous lands." See

[2] Note Code text errata at Section 3.052(24) referring erroneously to Section 7.040(9) rather than Section 7.040(10).

page 2 of referenced SHN report. Based on this expert analysis and testimony in the record, the requirements of Section 3.252 can be found to be met.

C. Section 7.040 - Standards Governing Conditional Uses

1. Conditional uses generally

a) Set-backs and building height. The County may require property line set-backs or building height restrictions other than those specified in this surrounding land uses.

The required setbacks for development uses in the F-G district is 10' from lot lines bordering an existing roads and not less than 35 feet from the center line of an existing right of way or easement, whichever is greater. The existing gravel roads located (1) within the current authorized Operating Area under CU AD/1413 and (2) within and adjacent to the proposed stock-piling expansion area are internal accessways utilized solely for mining purposes or for on-going grazing and timber harvesting on the underlying 704 acre tract owned by the applicants. Neither roadway is a "public road" or "private road" providing access to an abutting property, as defined in Section 1.030. The adjacent lands are used exclusively for grazing and timber production, and the nearest residence is located 4800' from the proposed expansion areas. No building on the Quarry site exceeds 35' in height and no buildings are proposed within the proposed expansion areas.

For the above reasons, base setback and building height requirements are met and the use of surrounding lands in the applicants' common ownership for resource uses indicates that additional setbacks are not warranted.

b) Off-street parking, additional lot area and buffering. The County may require access to the property, off-street parking, additional lot area, or buffering requirements other than those specified in in this Ordinance to render the proposed conditional or permitted use compatible with surrounding land uses.

Private access to the proposed expansion areas will continue to be provided by the existing private access road serving the existing Quarry site. This 2.25 mile haul road lies entirely on land owned by the applicants and intersects with state Highway 101 approximately four miles south of the community of Langlois at Milepost 291.62. This access location is the subject of Approach Permit No. 56908 issued by Oregon Department of Transportation. See Exhibit H. Given the adequate area available within the current CU Operating Area for maneuvering, servicing and parking of mining

equipment including haul vehicles, there is no need for designated parking or buffering areas.

> *c) More restrictive construction standards. The County may require that the development be constructed to standards more restrictive than the Uniform Building Code or the general codes in order to comply with the Comprehensive Plan and specific standards established and conditions imposed in granting the Conditional Use Permit for the proposed use.*

No permanent buildings are proposed for construction. Therefore, this standard does not apply.

> *d) Utility statement requirements. If the proposed conditional or permitted use involves development that will use utility services, the applicant shall provide statements from the affected utilities that they have reviewed the applicants' proposed plans. These statements shall explicitly set forth the utilities' requirements, terms and conditions for providing or expanding service to the proposed development and shall be adopted by the Commission or Director as part of the Conditional or Permitted Use Permit.*

The proposed excavation and stock-piling expansion areas lie outside utility provider service areas with the exception of the Coos Curry Forest Protection District. Consequently, the proposed development will not rely upon utility providers for services and will rely upon the following for necessary utilities:

Water - potable water will continue to be imported.

Sewage Disposal - Portable sanitation facilities are provided.

Electrical Power - Power for site operations will be provided by electrical generator.

Telephone - Intermittent cell service is available.

Fire - The Coos Curry Forest Protection District provides service to the current mining operation and will provide similar service to the proposed expansion areas. The fire protection service provider has been notified of this application and a provider letter has been requested.

f) Raw water supply flow monitoring device. If the proposed conditional or permitted use involves the development or expansion of a community or noncommunity public water system, the applicant shall install a raw water supply flow monitoring device (flow meter) on the water system and shall record the quantity of water used in the system on a monthly basis. The monthly record of water usage shall be reported to the Curry County Community Development Department and the Oregon Department of Environmental Quality and Curry Community Health on an annual basis.

The proposed excavation and stock-pile area expansion does not require the development or expansion of a community or non-community public water system. Therefore, this criterion is not applicable.

g) Service area requirements. If the proposed conditional or permitted use included the development or expansion of a community or non-community public water system and the use is located within the service area of a city or special district water system the applicant shall utilize the city or special district water system rather than developing an independent public water system. An independent community or non-community public water system can be developed for the use if the applicant can prove that it would be physically or economically not feasible to connect to the city or special district water system. The city or special district must concur in the conclusion that connection of the proposed use is not feasible.

The proposed mining expansion areas do not require the development or expansion of a community or non-community public water system. Therefore, this criterion does not apply.

2. Mining, quarrying, or other extractive activity.

a. Plans and specifications submitted to the Commission for approval must contain sufficient information to allow the Commission to review and set siting standards related to the following standards:

(1) Impact of the proposed use on surrounding land uses in terms of Department of Environmental Quality standards for noise, dust, or other environmental factors;

The proposed development consists of an expansion of an existing operating quarry which is the subject of prior authorization by the County, DOGAMI and DEQ including extensive operational requirements and obligations. The proposed expansion of the current authorized excavation area from 5.7 acres to a total of 27.6 acres is located entirely within the current approved CU Operating Boundary, while the proposed stock-pile expansion area of 14.4 acres represents a contiguous expansion of this Boundary. Upon County approval, both proposed expansion areas will be subject to existing CU conditions of approval imposed on the Quarry by the County in 2014 as well as with any additional conditions imposed by the Planning Commission. These existing conditions include the following addressing potential off-site impacts:

"2. All permits and licenses from other agencies including but not limited to DEQ, ODMV, and DOGAMI that are necessary for the operations approved herein, and the equipment used in these operations, shall be obtained prior to initiating any activity approved herein and shall be kept current as necessary. Copies of all current permits and licenses shall be submitted to the Planning Division prior to commencement of operations and/or expiration. All operations approved herein shall be conducted as required by these permits.

3. All mining equipment and machinery shall be surrounded by a 130-foot firebreak pursuant to CCZO Section 3.055 (2). The Applicant shall follow all fire season rules, including cessation of operations during periods of extreme fire danger, unless specifically authorized by the Oregon Department of Forestry to continue operations during those periods of extreme fire danger.

4. All access roads to the mining/processing site will be maintained to reduce dust and noise caused by the equipment and vehicles. Turnouts will be constructed and maintained to County Standards.

5. All equipment shall be located at least 500 feet from any residential or commercial uses on adjacent parcels.

6. Operations shall be limited to daylight hours and no operations will be permitted on Sundays or holidays (Thanksgiving, Christmas, New Year's, Memorial Day, 4th of July, Labor Day)."

Further, all mining activity within the proposed expansion areas will be the subject of and contingent upon review and authorization by DOGAMI and DEQ under their respective regulatory programs for consistency with applicable criteria addressing, among other considerations, mitigation of potential impacts on adjacent lands.

In addition to representing the limited relocation of existing mining activities at the Quarry, the location of the proposed expanded mining area is remote and largely devoid of uses which are sensitive to noise, dust and other potential environmental impacts. As noted, the quarry site comprises a sub-area with a larger 704 acre parcel under the control and ownership of the applicants which is utilized exclusively for grazing a commercial timber production. The nearest structure is located approximately 4800' from the proposed expansion areas, which provided substantial buffering for the nearest noise-sensitive use under applicable DEQ noise regulations. The mine access road is paved and Stone Butte LLC is proposing conditions of approval requiring the use of a water truck on site and the maintenance of vegetative ground cover on all overburden storage areas and berms for operational dust control. See Proposed Conditions at Exhibit K. Finally, stormwater management and erosion control practices within the expansion areas to mitigate any potential off-site impacts will be incorporated into revised stormwater management plans requiring approval by DOGAMI and DEQ.

These mandatory measures coupled with the exclusive use of surrounding lands for resource activities with no residential or other non-resources uses or improvements in proximity serve to ensure that any off-site environmental impacts on surrounding land uses will be less than minimal.

(2) The impact of the proposed use on water quality, water flow, or fish habitat on affected rivers or streams;

Stone Butte LLC has retained the environmental consulting firm Terra Science, Inc ("TSI") to (1) assess existing vegetation, wildlife and fish habitat within the site and within 250' of the proposed expansion areas, (2) evaluate potential impacts to such resource areas and features and (3) recommend mitigation measures intended to minimize such potential impacts. The TSI assessment methodology, analysis and recommended mitigation measures are set forth in the final TSI Impact Assessment report dated July 2021. See Exhibit J. In addition, TSI has prepared an independent wetland mapping and delineation report assessing the location and nature of wetland features within the two

proposed expansion areas and a small intervening 5 acres area located with the existing Operating Area Boundary. See Exhibit I. The latter delineation report is confined to the identification and mapping of wetland features within the study area, while the concurrent Impact Mitigation report addresses potential impacts to water quality and on/off-site fish habitat and related impact mitigation measures. See Exhibit J at Sections G and H.

The TSI Impact Assessment report documents the finding that "…no fish habitat exists within the limits of the study area." and that habitat does occur off-site within Willow Creek lying approximately 1,500 feet downslope to the north and North Fork Crystal Creek lying 3,980 feet downslope to the south. See Exhibit J at pp.19. However, the TSI assessment also includes the following findings and related conclusion at pp. 19-20 of Exhibit E:

> *"The only potential impacts to fish habitat that could result from expansion of the proposed quarry operations would be from sedimentation and/or runoff leaving the project area, entering a waterway such as a creek or stream, and being transported to downstream areas where fish may occur. However, no such creeks or streams occur within the limits of the project area and all wetlands will be avoided through establishment of 50-foot riparian corridor buffers (as required by Curry County). Other recommended mitigation measures to minimize sedimentation and/or runoff are included as part of the proposed stormwater pollution control plan by Westlake Consultants. These include but are not limited to minimizing vegetation removal; back sloping quarried benches toward the highwall; utilizing water bars, check dams, and ditches to divert natural runoff around the site where possible; constructing conveyance ditches and settling ponds to collect runoff and remove sediment; and seeding and/or mulching disturbed areas to minimize erosion potential. These mitigation measures will minimize the generation of sedimentation and runoff from the project area and minimize the potential volume of any sedimentation and runoff that could leave the project area. As such, impacts to offsite fish habitat from quarry operations would be immeasurable given these proposed mitigation measures."*

Taken together with the required implementation the referenced Stormwater Pollution Control Plan prepared by Westlake Consultants, Inc, this analysis and evidentiary support provided by TSI supports a finding of compliance with this criterion.

> *(3) The impact of the proposed use on overall land stability, vegetation, wildlife habitat and land or soil erosion;*

The assessment of and proposed mitigation for adverse impacts to the stability of soil and vegetation and wildlife habitat on surrounding lands, and particularly within 250' of the proposed expansions areas, is addressed in significant detail in the Impact Assessment report prepared by TSI at Exhibit J. TSI's summary conclusion is set forth at pp.23:

> *"With the mitigation measures in place through existing County ordinances and existing conditions for the current mining operation, coupled with the mitigation measures proposed in the mining operation plan, stormwater pollution control plan, and reclamation plan to be implemented as conditions of County conditional use approval, it is TSI's conclusion and best professional judgment that the anticipated impacts and their effects to vegetation, wildlife habitat, and wildlife use within the study area (which includes the 250-foot offset outside of the project expansion areas) would be minimal. While physical displacement and/or removal of some vegetation and habitat will occur, sensitive areas (particularly wetlands and their associated 50-foot riparian corridor buffers) will be avoided entirely. Impacts from noise, vibration, dust, sediment, runoff, and/or other factors described herein will be minimal and mitigated through the implementation of the mitigation measures proposed in Section I. (above) and detailed further in the specific mining operation and stormwater pollution control plans. Reclamation measures detailed in the reclamation plan will eventually re-establish vegetation and restore the bulk of the impacted habitats back to their forestry and grazing use within the limits of the proposed quarry operations area."*

This expert conclusion expressly relies upon the implementation of a wide range of identified site-specific mitigation measures developed by TSI, all of which are proposed

by Stone Butte LLC to be imposed as binding conditions of approval to ensure that such measures are established and maintained during operations. See Exhibit K.

In addition, the Geologic Hazard Assessment report prepared by SHN Consultants at Exhibit G addresses potential impacts to land stability and include the following expert conclusion based on such assessment at pp. 6:

> *"Based on our geologic hazard assessment, it is SHN's professional opinion that the project site is suitable for the proposed quarry expansion. The proposed excavation and stockpile areas can be developed without the need for additional measures to mitigate or control the risk of geologic hazards to the subject property or to adjacent and contiguous properties.*
>
> *Furthermore, we judge that the site can be developed as intended, such that it will not result in the diversion or alteration of natural stormwater runoff patterns in the surrounding tributary drainages or contribute to increased erosion or runoff provided that the existing and proposed erosion and stormwater control measures are maintained throughout the life of quarry operations. Stormwater discharge from the undisturbed portions of the site will not be discharged at a defined discharge point. This is deemed acceptable given that undisturbed portions of the site are forested. All stormwater runoff over disturbed ground will be directed to settling ponds and will not commingle with stormwater on undisturbed portions of the site."*

Finally, consideration of potential impacts to land stability could include an assessment of potential impacts to existing domestic well and the associated water table. As noted in the Stone Butte Quarry Mining DOGAMI Operation Permit Application prepared by Kuper Consulting LLC for submission to DOGAMI, there are no documented wells located within 1500' of the proposed expansion areas and the depth of excavation will not extend to or below the established groundwater table. Consequently, available evidence indicates that there is little or no risk of potential adverse impacts to existing wells and groundwater withdrawals. See Exhibit F at pp. 7, Section 3 b.

Based on the analysis and related evidentiary support set forth in these expert reports, this criterion can be found to be met.

(4) The adequacy of protection for people residing or working in the area from the proposed mining activity through fencing of the site;

As described in the TSI Impact Assessment Report, the surrounding lands are both under the applicant's ownership and are utilized exclusively for current operation of the Quarry, grazing and commercial timber production. Consequently, there are no residents in the area and the only people working in the area are the employees of the existing Quarry operation who do not require fencing for protection from the expanding quarry operations footprint. Therefore, there is no need to provide protective fencing in conjunction with the proposed Quarry expansion.

(5) The rehabilitation of the land upon termination of the mining activity. The proposed rehabilitation must at least meet the requirements of state surface mining or gravel removal permits;

As noted, the existing Quarry operation is the subject of extensive reclamation obligations imposed by DOGAMI under a current Operating Permit issued in 2018. For purposes of the proposed expansion areas, reclamation of the expanded excavation and stockpile areas proposed in this application will be subject to concurrent modification of the existing DOGAMI Operating Permit including the anticipated requirement for similar reclamation of the proposed CU expansion areas, as depicted in the Stone Butte Quarry Mining Operations and Reclamation Plan Set prepared by Kuper Consulting LLC for submission to DOGAMI. See Exhibit F. Disturbed areas will be reclaimed by reforestation on the quarry benches with native trees, revegetation with native plants and grasses and contouring the mine site to reduce the potential of erosion.

Condition #2 of the existing CU authorization for the Quarry, which the applicant assumes will be equally applicable to any authorization of the proposed expansions areas, requires compliance with such DOGAMI reclamation requirements as depicted in Exhibit F or as may be modified by final agency approval.

(6) If the proposed extractive activity involves the removal of rock, gravel, or sediment from a river or stream, the proposal shall be reviewed by the Oregon Department of Fish and Wildlife and it may provide a written statement to the county regarding the possible impact on fish habitat associated with the affected river or stream.

The proposed CU modifications do not propose the removal of rock, gravel or sediment from a stream. To the contrary, all wetland and swale/drainage areas within the proposed expansion areas have been identified and mapped, and these areas will be the subject of a condition of approval requiring the implementation and maintenance of a 50' buffer adjacent to such aquatic areas.

Therefore, this criterion is met.

> *(7) The County will define an area around the specific removal site which includes all lands within 250 feet of the site, based on the site map for a state mining or gravel permit. The applicant shall provide findings which identify the existing uses on those lands included within this area. The Commission shall evaluate the applicant's findings with regard to the potentially conflicting uses identified in the area based on the factors below:*
>
> *i) If the mining activity can be sited on an alternate site; and*
>
> *ii) where conflicting uses are identified the economic, social environmental and energy consequences of the conflicting uses shall be determined and methods developed to resolve the conflict.*

The study area addressed in the TSI Impact Assessment report at Exhibit J includes the two proposed expansion areas and adjacent lands lying within 250' of these areas. See Exhibit J at Figure 5. For purposes of the proposed excavation expansion area, the adjacent 250' study area boundary is located entirely within the current authorized Operating Area approved by the County in 2014, while the 250' study area for the stock-pile expansion lies primarily outside the current Operating Area boundary.

As discussed under sub-sections 2 and 3 above, the assessment undertaken by TSI provides written findings and evidentiary support addressing potential conflicts with existing uses in the study area, together with recommended impact mitigation measures and the conclusion that all potential impacts or conflicts to such existing uses will be "….minimal and mitigated". See Exhibit J at pp. 23. In addition, the analysis provided by Kuper Consultants LLC regarding the unique USACE requirements for stone material associated with jetty rehabilitation and the status of Stone Butte as the sole available source of such material for commercial extraction demonstrates that there is no alternate site for the proposed excavation and stock-piling activity necessary to achieve this project purpose.

For these reasons, this criterion can be found to be met.

> *(8) A rock crusher, washer or sorter shall not be located closer than 500 feet to any residential or commercial use. Surface mining equipment and necessary access roads shall be constructed, maintained, and operated in such a manner as to eliminate, as far as is practicable, noise, vibration, or dust which are injurious or substantially annoying to persons living in the vicinity.*

Although rock crushers and related processing equipment are allowed uses within the Operating area under the current CU authorization as well as within the two proposed expansion areas, there are no residential or commercial uses located within 500 feet of the current approved Operating Area boundary or the Boundary as proposed to be modified for the stock-piling area expansion. Nor are such uses and activities allowed to be developed under the current F-G zone map designations applicable to adjacent lands.

Regarding the potential for noise, dust or vibration impacts associated with equipment operating within the proposed expansion areas, the nearest residence is located approximately 4800 feet from the proposed expansion areas as and, accordingly, there are no "…persons living in the vicinity". In addition, see response above to sub-criterion 10(a)(1) above regarding the absence of additional incremental impacts of this nature due to the existing quarry operations, the remote location and related mitigation measures.

> *(9) No uses are permitted relating to offshore oil, gas or marine mineral exploration or development.*

The proposed CU modifications do not include and would not allow uses related to offshore oil, gas, or marine mineral exploration or development.

3. Shoreland Overlay.

a. The following criteria and conditions are applied to specific uses and activities in the Shoreland Overlay (SO) zone.

The subject site does not lie within the Shoreland Overlay zone. This criterion is not applicable.

4. Uses on resource land.

a) The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agricultural or forest land.

The remaining 616 aces of the applicants' ownership at this location is utilized exclusively for commercial timber production and grazing. These activities currently are undertaken on these adjacent lands in conjunction with the existing authorized Quarry activity at the site with no apparent or identified constrain on these farm and forest practices. In fact, the TSI Impact assessment report documents the current and on-going co-existence of these concurrent uses including the impacts associated with grazing activity within the current approved Operating Area. The sole constraint of these on-going farm and forest activities on these surrounding lands is the proposed imposition of a condition of approval requiring the establishment of fenced buffers adjacent to identified wetland areas comprising approximately 2 acres, which the applicants accept and acknowledge as not resulting in a significant change in or increase in the cost of their current grazing practices.

b) The proposed use will not significantly increase fire suppression costs or significantly increase the risks to fire suppression personnel.

The proposed expansion of areas currently utilized for excavation and stock-piling in conjunction with the existing Quarry operations will not significantly increase the current risk, if any, of increased fire suppression costs or increased risk to fire-fighting personnel. To the contrary, these areas will be increasingly devoid of vegetative fuel which otherwise could increase fire risk, and the unique availability of heavy equipment at the operating Quarry site including a water truck and trained operators will provide enhanced fire-fighting resources.

This criterion can be found to be met.

c) Uses listed authorized in Section 3.041 or Section 3.051 are also subject to this section, A written statement be recorded with the deed or written contract with the County or its equivalent shall be obtained from the landowner which recognizes the rights of adjacent and nearby landowners to conduct forest operations consistent with the Oregon Forest Practices Act and related Oregon Administrative Rules.

Upon approval, the applicants will record the required statement.

IV. PROPOSED MODIFICATION OF CONDITION OF APPROVAL #8 (AD 1413)

In 2014, the County Planning Commission issued Final Order AD -1413 granting conditional use approval to Stone Butte Rock, LLC for the Stone Butte Quarry. This authorization included Condition #8, which provides:

> *a. Provide proof of a valid ODOT Road Approach for the change of use of the existing 17 foot wide gravel road approach connecting to US 101 at Mile Point 290.58 (Latitude: 42.88788487, Longitude: 124.46273641).*
>
> *b. Remove vegetation to improve sight distance at the private road approach connecting to US 101. Vegetation shall be removed and maintained to ODOT standards.*
>
> *c. Pace the private road approach apron connecting to US 101, including turning radii, a minimum 30 feet from US 101's edge of pavement or right of way line whichever is greater.*
>
> *d. File a designated haul route with ODOT's District 7 office for clean-up of any gravel or debris resulting from the mining and processing of aggregate operation.*

The applicants continue to support the purpose and implementation of this condition of approval and have maintained compliance with the same. Specifically, Stone Butte Rock LLC has constructed and is utilizing a new gated haul road connecting with Highway 101 via a complying paved road approach apron at Mile Point 291.62. Further a valid Road Approach authorization has been issued by ODOT for this connection at this specific Mile Point location. See Exhibit H.

However, a review of the earlier condition of approval #8 in conjunction with this submittal revealed an incorrect Mile Point reference in the existing language of the adopted Commission order. Consequently, the applicants request modification of condition of approval 8(a) in Final Order AD-1413 only to require issuance of an ODOT Approach Road Permit at Mile Point 291.62 rather than at the stated location of 290.58 to ensure consistency with the current ODOT authorization and the existing location of the Quarry access road at Highway 101.

V. PROPOSED CONDITIONS OF APPROVAL

To ensure on-going compliance with the Applicant's proposed operation and conflict mitigation measures and to maintain operational consistency with applicable state agency authorizations for the proposed mining operation in the expansion areas, the following conditions of approval are proposed:

1. Excavation shall be limited to the areas identified for such activity on the applicants proposed site plan entitled "Conditional Use Site Plan."

2. The applicant shall follow all fire season rules, including cessation of operations during periods of extreme fire danger, unless specifically authorized by ODF to continue operations during those periods of extreme fire danger. A water truck shall be on site and available for fire suppression.

3. All access routes (roads) shall be maintained to reduce dust and noise caused by equipment and vehicles. A water truck shall be on site and available for dust suppression.

4. Any surface waters used or impacted by the operations shall be managed in accordance with stormwater requirements related to the Department of Environmental Quality (DEQ) and the DOGAMI Operating Permit associated with the proposed expansion areas and the NPDES 1200 A Permit.

5. The applicant/owner must comply with the Stormwater Pollution Control Plan prepared by Westlake Consultants, dated July 2021 and as modified by DOGAMI and/or DEQ.

6. In the event that buried cultural deposits are encountered during the project activities, the applicant/owner must comply with ORS 97.740-760 and ORS 358.905-961.

7. Quarry operations shall be limited to daylight hours and no operations will be permitted on Sundays or holidays (Thanksgiving, Memorial Day, Fourth of July, Labor Day). Equipment maintenance and similar activities can continue after operation hours.

8. The access road to the quarry operations shall be gated and locked when not in use.

9. Mining, processing, and vegetative disturbance on site must not occur within 50 feet of the wetland areas and stream swales/drainages depicted in the wetland delineation report prepared by Terra Science, Inc. dated July 2021.

10. The applicant/owner must not place fill, or excavate within wetlands on the site until obtaining appropriate permits from the Oregon Department of State Lands and the Corps of Engineers.

11. The applicant/owner must maintain vegetative ground cover on overburden storage areas to reduce dust.

12. The applicant/owner shall sprinkle interior roads with a water truck to reduce dust.

13. The applicant/owner must implement DOGAMI's Best Management Practices ("BMP's") dated December 1997 for aggregate mining to suppress dust emissions.

14. The applicant shall be responsible for obtaining any necessary water use authorization from the Oregon Water Resources Department.

15. The rock produced at the site shall not be used for any offshore oil, gas or marine mineral exploration or development projects.

16. The Planning Commission may institute an immediate re-hearing of this matter if a violation of the conditions of approval is found to be valid.

17. The applicant/owner must salvage, stockpile and retain all available soil and overburden material for final reclamation. Soil and overburden stockpiles and berms must be seeded in a cover crop to reduce erosion.

18. Final perimeter slope inclinations in overburden must not exceed an average slope of–2:1 (horizontal to vertical) and final perimeter slopes in rock must not exceed 1 ½:1 (horizontal to vertical) within the excavation, unless approved by DOGAMI.

19. To control dust emissions from drilling, the operator shall utilize dust collection systems on rock drills.

20. Mine operations shall comply with recommended mitigation measures identified in Section H of the TSI Impact Assessment report dated July, 2021.

EXHIBIT LIST

Exhibit A	CU AD-1413-Final Order and Findings of Fact dated October 23rd, 2014
Exhibit B	Proposed Condition Use Site Plan
Exhibit C	Current DOGAMI Permit
Exhibit D	Uniqueness of Stone Butte Quarry prepared by Kuper Consultants
Exhibit E	Stormwater Pollution Control Plan prepared by Westlake Consultants, Inc.
Exhibit F	DOGAMI Operating Permit Application--Stone Butte Quarry Mining Operations and Reclamation Plan Set
Exhibit G	Supplemental Geological Hazard Assessment report prepared by SHN Consultants
Exhibit H	ODOT Road Approach Authorization
Exhibit I	Wetland Delineation Report prepared by Terra Science, Inc.
Exhibit J	Vegetation, Wildlife and Fish Habitat Assessment Report prepared by Terra Science, Inc.
Exhibit K	Proposed Conditions of Approval

BEFORE THE PLANNING COMMISSION
CURRY COUNTY, OREGON

In the matter of a conditional use request (AD-1413) to authorize land-based aggregate mining and processing in a Forestry Grazing (FG) zone on property identified as Curry County Assessor's Map No. 31-15-00; Tax Lots 2300 and 2302 filed by Crystal Shoji, AICP, Representative Planner, on behalf of Stone Butte Rock, LLC, Property Owner/Applicant	)	FINAL ORDER and Findings of Fact

ORDER in the **APPROVAL** of a conditional use request (AD-1413) to obtain a conditional use permit for land-based aggregate mining and processing on the subject property filed by Crystal Shoje, AICP, Representative Planner, on behalf of Stone Butte Rock, LLC, Property Owner/Applicant. The subject property is located in the Forestry Grazing (FG) zone, and identified as Curry County Assessor Map Number 31-15-00; Tax Lots 2300 and 2302, Curry County, Oregon

WHEREAS:
This matter came before the Curry County Planning Commission as a request (AD -1413) for a conditional use authorizing land-based aggregate mining and processing. The subject property is located east of Highway 101 and south of Langlois in Northern Curry County

A hearing on the request was held before the Planning Commission on October 23, 2014, as a matter duly set upon the agenda of its regular meeting after giving public notice to adjacent property owners, as required by law, and publication in a local newspaper.

At the October 23, 2014, public hearing on said request, evidence and testimony was presented by the Planning Director in the form of Findings of Fact, Conclusions, and exhibits. The hearing was conducted according to the rules of procedure and conduct of hearings on land use matters as set forth in Section 2.140(2) of the Curry County Zoning Ordinance. The Planning Commission received oral and written evidence concerning this application.

After receiving public testimony on October 23, 2014, the hearing portion of the proceedings was closed and the Planning Commission proceeded with deliberations based on evidence submitted into the record. Upon a motion duly made and seconded, the Planning Commission voted to **APPROVE** the request for conditional use permit AD-1413 for land-based aggregate mining and processing.

FINDINGS OF FACT:

The Planning Commission adopts the findings in Staff Report and attachments dated October 23, 2014, (Exhibit 1) and both written and oral testimony submitted into the public hearing record as the basis for this decision.

CONCLUSIONS OF LAW

1. The burden of proof is upon the Applicant in proving that the proposal fully complies with applicable ordinance criteria, Oregon State Statues and Oregon Administrative Rules as set forth in Section 2.100(1) (a).

ATTACHMENT 2

2. The Planning Commission finds that Exhibit 1, Findings of Fact and Conclusions and evidence and testimony presented at the public hearing addresses and complies with the relevant comprehensive plan policies, standards of the zoning ordinance, and Oregon State Statutes and Administrative Rules sufficiently to support the burden of proof needed to approve the requested authorization for land-based aggregate mining and processing.

3. The Planning Commission finds that the applicant has met the burden of proof to support approval of the proposed application with conditions.

NOW THEREFORE LET IT HEREBY BE ORDERED that AD-1413, a request for a conditional use permit for land-based aggregate mining and processing on property located in the Forestry Grazing (FG) zone, and identified as Assessor Map Number 31-15-00; Tax Lots 2300 and 2302, Curry County, Oregon, filed by Crystal Shoje, AICP, Representative Planner, on behalf of Stone Butte Rock, LLC, Property Owner/Applicant, be **APPROVED** subject to meeting the following conditions:

1. The aggregate mining and processing site shall be limited to the portion of the subject property, consisting of approximately 72.77 acres for the Operating Area and approximately 5.7 acres for the quarry site that is within the Operating Area, as delineated on the "Stone Butte Quarry Site" map as found in the *Stone Butte Rock LLC, Conditional Use Permit Application* (Exhibit 1, Attachment B).

2. All permits and licenses from other agencies including but not limited to DEQ, ODMV, and DOGAMI that are necessary for the operations approved herein, and the equipment used in these operations, shall be obtained prior to initiating any activity approved herein and shall be kept current as necessary. Copies of all current permits and licenses shall be submitted to the Planning Division prior to commencement of operations and/or expiration. All operations approved herein shall be conducted as required by these permits.

3. All mining equipment and machinery shall be surrounded by a 130-foot firebreak pursuant to CCZO Section 3.055 (2). The Applicant shall follow all fire season rules, including cessation of operations during periods of extreme fire danger, unless specifically authorized by the Oregon Department of Forestry to continue operations during those periods of extreme fire danger.

4. All access roads to the mining/processing site will be maintained to reduce dust and noise caused by the equipment and vehicles. Turnouts will be constructed and maintained to County Standards.

5. All equipment shall be located at least 500 feet from any residential or commercial uses on adjacent parcels.

6. Operations shall be limited to daylight hours and no operations will be permitted on Sundays or holidays (Thanksgiving, Christmas, New Years, Memorial Day, 4th of July, Labor Day)

7. The Applicant shall not use the rock produced at the site for any offshore oil, gas or marine mineral exploration or development projects.

8. Prior to County authorization of mining and processing of aggregate operations, the applicant shall:

   a. Provide proof of a valid ODOT Road Approach for the change of use of the existing 17 foot wide gravel road approach connecting to US 101 at Mile Point 290.58 (Latitude: 42.88788487, Longitude:-124.46273641).

   b. Remove vegetation to improve sight distance at the private road approach connecting to US 101. Vegetation shall be removed and maintained to ODOT standards.

   c. Pave the private road approach apron connecting to US 101, including turning radii, a minimum 30 feet from US 101's edge of pavement or right of way line whichever is greater.

   d. File a designated haul route with ODOT'S District 7 office for clean-up of any gravel or debris resulting from the mining and processing of aggregate operation.

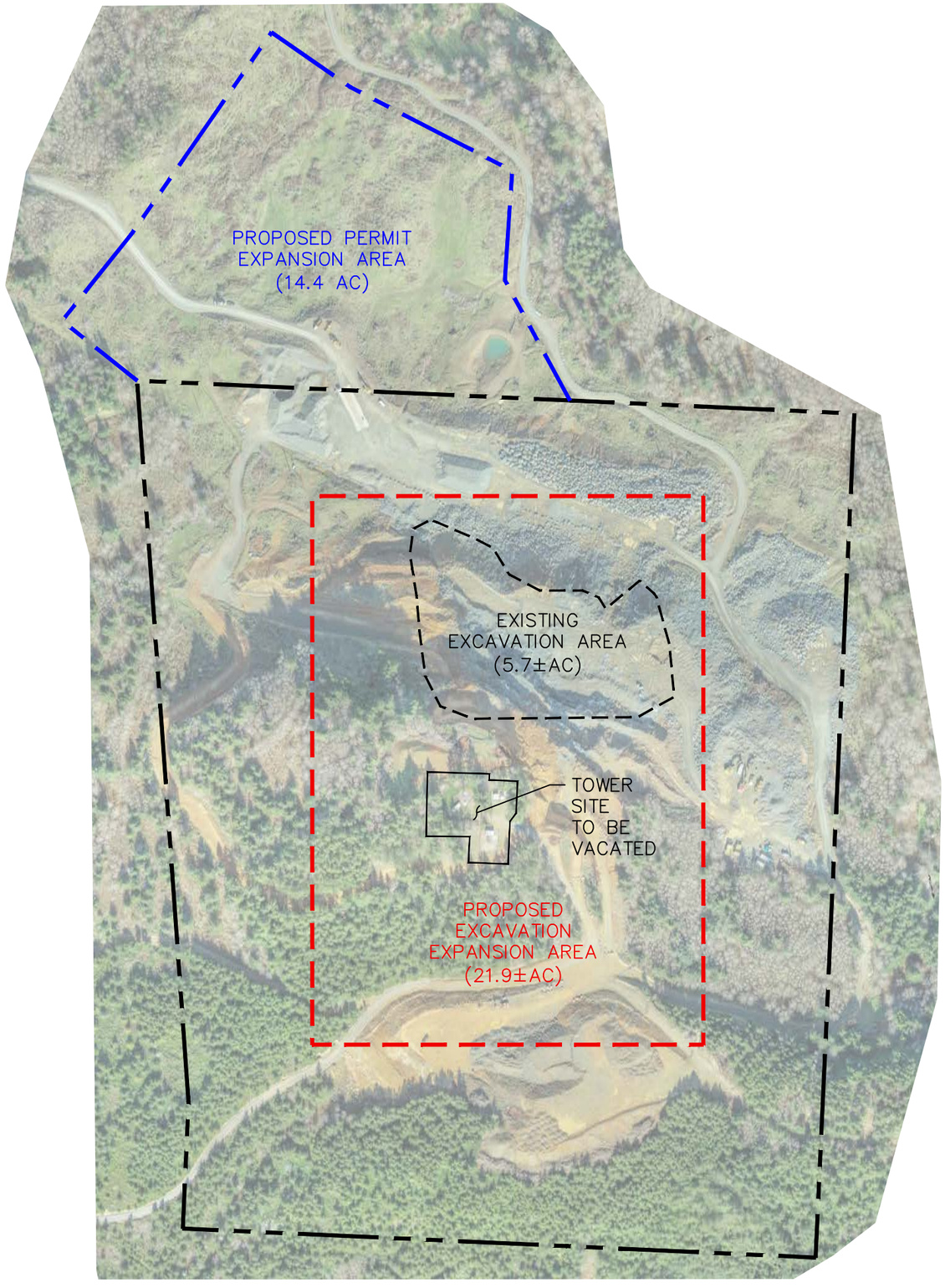
9. Failure to comply with all conditions of approval, or violations concerning the use approved herein, may result in nullification of this approval by County, after the applicants/property owners have been given due process. The Planning Director is authorized to investigate and determine if the conditions of approval are met, and to promptly report his findings to the Planning Commission. The Planning Commission may institute an immediate re-hearing of this matter if a violation of the conditions of approval is found to be valid.

This order in **APPROVAL** of Application AD-1413 was reviewed and approved by the Planning Commission on this 23rd day of October, 2014.

CURRY COUNTY PLANNING COMMISSION

Lyn Boniface, Chairperson
Planning Commission

David J. Pratt, AICP
Interim Planning Director



0 150' 300'

SCALE: 1"=300'

LEGEND:

- EXISTING CONDITIONAL USE (AD-1413) BOUNDARY (72.77 AC)
- PROPOSED 14.4 AC STOCKPILE EXPANSION AREA (TOTAL REVISED CONDITIONAL USE BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- PROPOSED 21.9 AC EXCAVATION EXPANSION AREA (TOTAL EXCAVATION AREA = 27.6± AC)
- EXISTING APPROVED EXCAVATION AREA (5.7± AC)

Exhibit B
Page 1 of 1

WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY
46513 US HIGHWAY 101
LANGLOIS, OR 97450

PROPOSED CONDITIONAL USE EXPANSION SITE PLAN

DATE	07/2021
REVISION	0
DRAWN BY	JRA
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-07-27 PROPOSED CONDITIONAL USE EXPANSION SITE PLAN\PROPOSED CONDITIONAL USE EXPANSION SITE PLAN.DWG 2021/07/28 - 03:23PM - JRA

Oregon Dept. of Geology & Mineral Industries
Mineral Land Regulation & Reclamation Program
229 Broadalbin St. SW
Albany OR 97321-2246
(541) 967-2039

OPERATING PERMIT -- New
ISSUED SUBJECT TO ANY LISTED CONDITIONS

Stone Butte Rock, LLC
94912 Hwy 42 S
Coquille OR 97423

ID No.:	08-0064
County:	Curry
Section:	23 24
Twp:	31S
Range:	15W
Site Name:	Stone Butte Quarry

This permit shall be in effect, unless revoked or suspended for cause, from the date of issuance and shall remain in effect so long thereafter as the Permittee pays the annual fee to renew the permit, complies with the provisions of ORS 517.750 through 517.955 as applicable, the Rules as promulgated to administer the Oregon Mined Land Reclamation Act, the approved reclamation plan, and any conditions attached to this permit, and maintains a performance bond as required by the Act.

Issuance of this permit is not a finding of compliance with state-wide planning goals or the acknowledged comprehensive plan. The applicant must receive land-use approval from local government before using this permit.

NOTE: Reclamation plans may be modified per ORS 517.831 and OAR 632-(030) and (035)-0035.

CONDITIONS: *(Conditions may be appealed per OAR 632-030-0056. If an appeal is made, this permit is invalid until the condition(s) appealed is/are resolved and the permit reissued.)*

The Permittee must:

1. not allow mining operations to physically disturb any area outside of the permit boundary.
2. not conduct any excavation operations outside of the 5.7 acre excavation area without first completing an amendment.
3. agree that if evidence of instability is observed or reported, all surface mining operations will cease until such time that DOGAMI can conduct a site visit to determine if a geotechnical evaluation by an Oregon Certified Engineering Geologist or Geotechnical Engineer is necessary to resume operations.
4. not conduct dewatering activities without first amending the Operating Permit.
5. obtain and maintain compliance with the appropriate DEQ Permit prior to the generation, storage, and/or disposal of any process water onsite.
6. maintain a 25 foot minimum undisturbed buffer between all surface mining operations and all identified springs and drainages.

SEE PAGE TWO FOR ADDITIONAL CONDITIONS

Issued March 2, 2018

Ian Madin
Deputy Director

RENEWAL IS REQUIRED BY MARCH 31, 2019

c: Curry County Planning Department
Mary Torres Coquille
Marla Hedman Post Falls
Floyd Foster Coquille
Carl Foster Coquille

The Permittee must:

7. maintain a minimum 25 foot setback between all processing and stockpiling operations and the towers until such time that all of the towers and associated power line(s) are removed.
8. salvage, store, and stabilize adequate quantities of soil and overburden materials onsite for final reclamation.
9. stabilize all barren soil and overburden stockpiles and berms prior to October 30 of each year or as needed to reduce compaction and prevent water and wind erosion.
10. obtain and maintain compliance under a DEQ NPDES 1200-A General Permit or a DEQ Individual NPDES Permit prior to discharging any stormwater runoff from the mining operation into waters of the state.
11. follow the "Inadvertent Discovery Plan for Cultural Resources" in the event of an inadvertent discovery of possible cultural materials.
12. establish all final excavated sloping configurations at 1½H:1V or flatter.
13. establish all final fill slopes at 2H:1V or flatter.
14. rip and/or scarify all compacted areas including the stockpiling and processing areas with earth moving equipment to decompact the upper surface to a depth of 12 inches prior to spreading growth medium.
15. replace a minimum of 12 inches of growth medium on all areas to be reclaimed.
16. ensure all imported material meets the DEQ clean fill standard or the use must be specifically allowed by the Department of Environmental Quality by rule, permit, or other written authorization.
17. revegetate all areas receiving growth medium utilizing an all-purpose, weed-free, pasture grass seed mix at a rate of 30 lbs. per acre.
18. plant Douglas fir trees on 10 or 12 foot centers in all areas to be reclaimed to forestry.
19. control noxious invasive plants and weeds onsite as needed by spot spraying or other means.
20. notify the Oregon Department of Forestry (ODF) via ODF's e-notification system at http://www.oregon.gov/ODF/working/pages/ENotification.aspx, or at ODF's office in Coos Bay, Oregon, phone 541-267-4136 of their plans to harvest timber and convert forestland to a non-forest use.

Mary Torres
95115 Hwy 42S
Coquille OR 97423
Marla Hedman
3430 E. Seltice Way
Post Falls ID 83854
Floyd Foster
57742 Geo Clausen Rd.
Coquille OR 97423
Carl Foster
95134 Hwy 42S
Coquille OR 97423

June 15, 2021
KC Project No. 21-314T

Mr. Scott Vandergrift
J.E. McAmis
VIA Email

SUBJECT: THE UNIQUENESS OF STONE BUTTE QUARRY AS A JETTY STONE RESOURCE,
DOGAMI ID # 08-0064,
LANGLOIS AREA, CURRY COUNTY, OREGON

Dear Mr. Vandergrift,

In accordance with the request of Mr. Steven Pfeiffer with Perkins Coie, we have completed an evaluation of the Stone Butte Quarry site addressing the composition and uniqueness of the jetty stone resource in conjunction with a Conditional Use modification application pending before the Curry County Planning Commission. Kuper Consulting LLC (KC) is pleased to provide this letter providing our opinion on the uniqueness of the excavated material at the subject site for use as a jetty stone resource and the need for the proposed stockpile and excavation area expansion.

Site Background

The Stone Butte Quarry site (DOGAMI # 08-0064) consists of approximately 72.77 acres which is the subject of an approved DOGAMI Operating Permit with a 5.7 acre Excavation area in the northern portion of the permit boundary. The site received conditional use approval from Curry County in 2014 for land-based aggregate mining and processing within the same permitted boundary (Order AD-1413). The quarry is accessed by an improved forest road east of Highway 101, south of Langlois, Oregon. Due to the volume of jetty stone rock needed on various Oregon jetty rehabilitation projects on the Oregon and Washington coast, Stone Butte Rock, LLC is requesting modification of the current conditional use authorization to allow an additional 14.4 acres for stockpiling of undersize jetty stone rock and expansion of the excavation area from 5.7 acres to approximately 27.6 acres.

Regional and Site Geology

The SHN Report (2014) described the regional geology as being located within the Coast Range's geomorphic province of Southern Oregon and Stone Butte and the vicinity underlain by a regional thrust sheet containing Franciscan Complex of Jurassic and Cretaceous age rocks. Bedrock exposures indicate that the bedrock consist of coarse grained igneous rock composed chiefly of mafic minerals typically referred to as basalt.

It has been our experience that coarse grained mafic rock such as the basalt bedrock encountered at Stone Butte is strong, very dense, and, due to the low fracture frequency, has a high potential to produce high quality jetty stone size rock. Because of the geology in this area, Stone Butte is the only permitted quarry in Oregon south of Astoria and west of Madras that can produce this unique jetty stone rock resource.

Jetty Stone Resource Requirements

As discussed earlier in this letter, the Stone Butte Quarry has produced and has the potential to continue to produce high quality jetty stone meeting technical specifications (also referred to as armor stone) required by the U.S. Army Corps of Engineers (USACE) on their jetty rehabilitation projects in Oregon and in Washington. Jetty rehabilitation is an on-going mission for the USACE, which recently announced funding of $34.65 million for repairs to Coos Bay North Jetty. Based on USACE analysis, the North Jetty has been losing as much as 20 feet per year to erosion, which has resulted in a total linear loss of about 900 feet of jetty since initial construction in 1929.

The USACE has very rigorous specifications and an inspection program that the quarries and quarry operators need to meet to have their jetty stone size (gradation) rock (typically 5 to 50 ton size) qualify for the jetty rehabilitation projects. Specifications include weight, size, shape, and quality tests including specific gravity, absorption, abrasion, accelerated expansion, and magnesium sulfate soundness. The jetty stone, once extracted from the quarry face and stockpiled onsite must also pass a rigorous onsite inspection by USACE personnel. We have attached the USACE specifications for rehabilitation of the Columbia River south jetty as an example of the rigorous specifications that are required and, in particular, Part 2 of the specifications, for the Quarry.

The jetty stone rock is blasted out of the rock mass outcrop; however only about 10 to 15 percent of the blasted rock material meet jetty stone size requirements following blasting. The remaining undersize jetty stone size rock material must be stockpiled on site within the permitted mining area for future crushing and use as commercial aggregate. The proposed expansion area is required to accommodate stockpiling of the undersize material and the additional excavation area is required to provide jetty stone for current and future USACE jetty reconstruction projects.

Stone Butte is an important source for jetty stone for numerous jetty rehab projects such as the **Port Orford Jetty, Coos Bay Jetty, Tillamook Bay Jetty, and both the Columbia River's MCR North and South Jetty** rehabilitation projects. These jetties have benefitted from and still require a large volume of this unique rock for their rehabilitation. It is our understanding that Stone Butte is the only quarry in the state of Oregon currently permitted and currently producing the high-quality jetty stone needed to supply the jetty stone for these USACE jetty rehabilitation projects. No other permitted quarries within Oregon are able to produce this high quality jetty stone rock, in the gradation and quantities required for these massive projects. While there are other permitted quarries in Oregon that pass the tests required by the USACE, Stone Butte is the only viable source that has the needed rock volumes, space to stockpile the jetty stone and undersize jetty stone rock, and the high quality rock composition (to facilitate breaking large

stones out of the basalt bedrock) to produce the large dimensional stones needed to satisfy USACE projects.

Closure

In summary, Stone Butte Quarry is a unique quarry in Oregon in that it has the ability to produce high quality jetty stone rock approved by the U.S. Army Corps of Engineers for use in their Jetty Rehabilitation projects in Oregon and Washington. Stone Butte quarry is in proximity to the Port Orford and Coos Bay projects and is within economical reach of Tillamook, and Columbia River's MCR South and North Jetty projects as well. Due to the volume of jetty stone rock needed on various Oregon jetty rehab projects on the Oregon and Washington coast, the Stone Butte Rock, LLC site represents the only permitted and geologically appropriate location for extraction and delivery of this unique stone resource. To provide an adequate and deliverable supply of this resource to meet the USACE rehabilitation work program over the coming years, the referenced DOGAMI and County permit modifications noted above will be required.

Thank you for the opportunity to work with you on this project. If you have any questions, please give us a call.

Sincerely,
KUPER CONSULTING LLC

H. Tom Kuper, C.E.G.
Certified Engineering Geologist

CERTIFIED OREGON H TOM KUPER HTK 9/30/2021 E854 ENGINEERING GEOLOGIST

Dorian E. Kuper

Dorian E. Kuper, C.E.G.
Certified Engineering Geologist

CERTIFIED OREGON DORIAN E. KUPER DEK 7/21/2021 E1152 ENGINEERING GEOLOGIST

References Cited:

Geologic Hazard Assessment, Stone Butte Rock Quarry, Curry County, Oregon, prepared by SHN Consulting Engineers & Geologists, and dated June, 2014

Attachments:

U.S. Army Corps of Engineers (USACE) Specifications, Mouth of the Columbia River (MCR) South Jetty Rehabilitation

Stormwater Pollution Control Plan

Site Name:	*Stone Butte Quarry*
Site Owner:	*Stone Butte Rock LLC in care of*
	Jackson, Madelyn D, Et Al.
Tel:	*541-396-5116*
E-mail:	*mjackson@1791.com*
Site Operator:	*Scott Vandegrift*
Tel:	*530-891-5061*
E-mail:	*scott@jemcamis.com*
SWPCP preparer:	*Bernard R Smith, PE, PLS*
	Westlake Consultants, Inc.
DEQ file number	*Pending*
DOGAMI permit number	*08-0064*
Facility Contact	*Scott Vandegrift*
Tel:	*530-891-5061*
E-Mail:	*scott@jemcamis.com*
Physical Address:	*46513 U.S. Highway 101, near Milepost 292*
	Langlois, OR 97450
County:	*Curry*
Mailing address:	*620 County Drive,*
	Chico, CA 95928
Date of SWPCP:	*July 2021*

Note: The following is a new SWPCP for a 1200-A permit application and all of the narrative and direction is intended to describe the ongoing/future activities to handle potential stormwater discharges.

1.0 CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed:_____

The above signature is made in accordance with 40 CFR, 122.22 as a responsible corporate officer of J.E. McAmis.

2.0 DESCRIPTION OF THE OPERATION AND PROCESSING ACTIVITIES

Stone Butte Quarry is located approximately 3.75 miles south of Langlois, OR, east of Oregon Coast Highway 101. The site is accessed via a gated, 2-mile gravel road. The access road to Stone Butte Quarry is a steep, one lane travel way used daily to haul heavy jetty stones; therefore, before visiting the site, please contact the quarry operator to coordinate access road use.

Stone Butte Quarry is centered on a rocky butte, contained by a 72.77-acre DOGAMI mining boundary. The main quarry entrance is located on the north side of the site and leads into the processing area. The processing area houses a scale shack, parking, and several stockpiles. Drilling, blasting, and mining of jetty stone occurs on the north side of the butte within the 5.7-acre mining excavation boundary. A radio tower and a large overburden stockpile are situated south of the existing mining area.

Ongoing activities for the site include delivery of raw materials and chemicals by truck, crushing, sorting, and mixing of rock aggregates, fueling of vehicles on site, and activities such as loading trucks and truck maintenance.

A 14.4-acre proposed DOGAMI mining boundary expansion area is located northwest of the existing mining boundary. The proposed mining boundary expansion area is currently an undisturbed hillside cattle pasture dominated by non-native grasses and forbs. An expansion of the mining excavation boundary is also proposed. An additional 21.9 acres of excavation area is proposed, which would bring the total excavation area up to approximately 27.6 acres.

Note: The proposed expansion areas do not include any additional impervious area such as buildings, paved or permanently compacted areas. No increase in material area that is considered impervious cover that reduces and prevents absorption of storm water into previously undeveloped land is proposed. Based on the nature of the proposed expansion area which is to be used as storage of natural rock jetty stone pieces with no buildings or paved areas, the impervious area is expected to be less than 500 s.f. and the applicability of Section 3.400 of Curry County Zoning Ordinance has not been incorporated. Please note that multiple water quality, quantity and erosion control measures are proposed to be implemented to meet DOGAMI and DEQ requirements for this SWPCP as detailed in the following pages of this plan.

(Please see the Appendix for Location Map and Site Maps)

3.0 DESCRIPTION OF MATERIALS STORED, HANDLED, TRANSPORTED OR USED ONSITE

Crushed Rock

Clean Undersized Jetty Stone

Petroleum Products and Related Items:

a. *Diesel Fuel*
b. *Motor Oil*
c. *Hydraulic Oil*
d. *Gear Oil*
e. *Antifreeze*
f. *Solvent*
g. *Diesel Exhaust Fluid*
h. *Brake Fluid*
i. *Wiper Fluid*

Petroleum products and related items are stored in a Conex in the processing area.

4.0 DEVEGETATION AND IMPERVIOUS AREAS

Stone Butte Quarry land cover is predominantly rocky around the central butte, transitioning to gravel surface material around the work areas and haul roads. There is a scale shack in the processing area and a radio tower structure, both of which have metal roofs. On the periphery, the site is forested.

The site's current total disturbed area is approximately 33.5 acres. Please see the Existing Site Map for watershed delineations.

Approximate existing impervious/disturbed area percentages are the following:
WS-1: 28%
WS-2: 60%

In addition to the approximate 33.5 acres of existing disturbed area within the quarry site, there is a proposed additional 18 acres of disturbance. Additional disturbance will occur with the proposed expansions of the mining boundary and mining excavation boundary. Proposed work in the expansion areas includes mining pit development, settling pond construction, and the jetty stone stockpile establishment. Given the addition of proposed settling ponds and ditches, along with the enlargement of the project area, the watershed boundaries change. Please see the Proposed Site Map for watershed delineations.

Approximate proposed impervious/disturbed area percentages are the following:
WS-1: 42%
WS-2: 26%
WS-3: 89%
WS-4: 81%
WS-5: 24%

5.0 GENERAL TOPOGRAPHY AND LANDSCAPE OF THE SITE

The Stone Butte property is bounded by privately-owned forest lands. The site is centered on a rocky butte, and topography slopes to the north and south away from the butte summit. Generally, slopes across the site range from approximately 0%-100%. The processing area slopes are approximately 5-10%.

There were nine wetlands delineated onsite, making up approximately 2.23 acres of area. The delineated wetlands are concentrated in the northwest portion of the expanded mining boundary. Wetland varieties include seasonal hillside swales, vegetated swales, and spring-fed swales. See the Existing Site Map for wetland delineation.

Currently there is one existing settling pond located just south of the existing fire and dust suppression pond. In addition to the one existing settling pond, there are nine proposed settling ponds. Please see the Proposed Site Map for settling pond locations.

6.0 POTENTIAL POLLUTANTS

Potential pollutants onsite Stone Butte Quarry include:

Sediment
Petroleum products *(grease, diesel fuel, motor oil, hydraulic oil, diesel exhaust fluid, gear oil, brake fluid)*
Chemicals *(antifreeze, solvent, wiper fluid)*

7.0 STORMWATER BMP'S AND SITE CONTROLS

For this site, much of the debris that is produced is aggregate large enough and dense enough that it will not be carried away by stormwater runoff. The activities throughout the site do produce water suspended particles, dust, and other particulate material that could end up as sediment in stormwater runoff. The primary method of sediment control in use for the site are settling ponds and check dams within ditches and swales.

Settling ponds are strategically proposed throughout the site to collect and settle stormwater. Settling ponds 1-3 field stormwater runoff from the overburden stockpile. Settling pond 1 discharges to the natural drainageway labelled D001 on the Proposed Site Map. Ponds 2 and 3 discharge to another natural drainage point in the southwest, labelled D002. Ponds 4-6 handle the stormwater generated in the central portion of the site. Pond 4 is situated at the bottom of the mining pit. Stormwater collected in pond 4 is pumped north to settling pond 5, which is then conveyed via ditches to the pond 6 system. Ponds 4-6 ultimately discharge through D003. Settling pond 7 collects stormwater in the northern portion of the site, protecting the adjacent wetlands. Settling pond 7 discharges to D004. Settling pond 8 collects drainage flow from the temporary undersized jetty stone stockpile area and is in place for protection of the adjacent wetlands. Pond 8 discharges to north via a culvert at D005.

There is one proposed lined processed water pond (if needed) situated west of the processing area. Processed water collected within the lined process water pond will not be discharged from the site. The process water will be recycled for use in the processing area. The processed water pond shall be lined to prevent infiltration and impacts to the nearby wetlands.

All wetlands have a 50' setback, where no mining activity will occur.

Any proposed roads will be installed with conveyance ditches. Stormwater collected on the road surfaces will be directed to the nearest settling pond. Settling ponds and discharge points are designed to accommodate all disturbed "mining" areas within the proposed DOGAMI permit boundary. There are undisturbed "mining" portions of the site where stormwater will not be discharged via a defined discharge point. This was deemed acceptable since undisturbed portions of the site are forested and all stormwater runoff over disturbed ground will be directed to settling ponds; it will not commingle with stormwater on undisturbed portions of the site.

Additional sediment and erosion control measures will be implemented on the site in conjunction with the settling ponds. Outlet protected rip-rap pads or stilling basins are proposed at each culvert discharge point to reduce outflow velocity and prevent erosion from occurring at these locations. Rip rap pads are to be installed as 12.0'l x 7.5'w x 1.5'd class 50 over 3/4" minus rock over mirafi 500x geotextile or equal for each settling pond inflow and culvert outfall location. Emergency spillways to utilize class 50 over 3/4" minus rock over mirafi 500x geotextile or equal and to be configured accordingly for each respective settling pond. Rock check dams will be constructed and placed along all conveyance ditches as shown in the Proposed Site Map.

All erosion control measures will be actively maintained. See the appendix for details and specifications of optional erosion control measures that can be utilized at the site for best management practices (BMPs).

This Stormwater Pollution Control Plan is a living document, and as such stormwater BMP's and site controls should be updated as site conditions change. Any SWPCP revisions will be submitted to DOGAMI if they meet conditions of A.9.b.

Minimize exposure:
The site has a storage Conex in the processing area. Grading is utilized to divert stormwater away from contaminants.

There is one large tank holding diesel fuel near the processing area. The tank is "double walled" and bordered by barriers to prevent collisions by vehicles and soil contamination. Any small spills or leaks will be cleaned up immediately following the spill response plan and using nearby absorbent pads and spill kit materials.

Oil and Grease:
The primary potential sources of oil and grease contamination on the site are the storage areas for oil, grease, and diesel fuel. Normal operating procedures should produce less oil and grease than associated with secondary roads. The greatest potential for oil and grease contamination of stormwater is associated with potential accidental spills of these materials during storage and handling.

Employees are required to inspect equipment and vehicles on a regular basis. Repairs are performed as soon as possible and if the work is performed onsite, the work area is protected with a tarp or a tent depending on the weather. Multiple spill kits and absorbent pads are available onsite during operations in the event of a spill or leak. Oil-absorbent booms will be installed in settling ponds during wet weather season to help contain any potential oily leaks or spills.

Waste Chemicals and Material Disposal:
The waste chemicals produced on the site include waste oil and cleaning solvents. These are stored onsite within the Conex until there is sufficient volume for recycling. The solvents and waste oil are hauled offsite by a professional waste handler and recycled.

Debris Control:
The site will employ settling ponds to protect against debris being discharged offsite. In addition to this check dams are proposed in all conveyance ditches onsite. Rip rap pads are also proposed around the inflow section to settling ponds.

Housekeeping:
The site operations employ good housekeeping practices which include proper labeling and storage of all liquids, oils, greases, and petroleum products per MSHA regulations. The storage Conex is regularly swept and kept clean. Garbage cans are emptied, as necessary. The paved entrance to the quarry oh Highway 101 is routinely swept to limit track-out. When dry, all roadways in the quarry are sprayed with water multiple times throughout the day to suppress dust. Misters are placed at key intervals throughout crushing equipment to limit any dust from crushing activities.

Spill Prevention and Response Procedure:
The site has in place an Emergency Spill Response Plan with detailed instructions and procedures in case of a spill. Process and operational materials are labeled, covered or in proper storage locations and emergency spill kits are nearby.

In the event of a hazardous material spill call:

Oregon Emergency Response System
800-452-0311

Preventative Maintenance:
a. Monthly inspections: Settling ponds will be inspected monthly during the rainfall season and cleaned and repaired as needed. At a minimum, settling ponds will be cleaned and repaired on an annual basis if no action is required per the monthly inspections. Settling ponds will also have a gauge for monitoring and will be cleaned when ¾ full.
b. Facilities Maintenance: All chemical transfer, storage and handling equipment shall be maintained in the best condition practicable. Chemical spill equipment will be maintained in a condition suitable to contain any spills that are likely to occur.

Employee Education:
An employee awareness program will be implemented to inform the plant personnel of the components and goals of the stormwater pollution control plan (SWPCP), address spill response procedures, good housekeeping and materials management practices. The awareness program will be presented to all plant personnel annually and to new employees within 30 days of hire.

The employee awareness program will present and explain each item in the SWPCP and its importance to meeting the requirements of the NPDES permit and to improving surface water quality. Personnel will be provided an opportunity during the program to provide feedback to the superintendent on their observations of the success or lack of success, of each item in the SWPCP. Personnel input will be taken on each item in the plan in an effort to improve the plan. The Operations Manager will revise the SWPCP as necessary based on the comments gathered from plant personnel, as well as other sources of feedback that have been provided throughout the year. Training records shall be kept for 3 years and included with inspection records.

Non-Stormwater Discharges:
All non-stormwater discharges are uncontaminated spring water. There are two delineated spring-fed swales in the northeast corner of the site, as shown on the Proposed Site Map. One of the spring-fed drainages was previously converted into a fire and dust suppression pond, making it

permanently inundated. Pond water levels are stabilized with an outflow pipe that discharges to a culvert, labelled D006 on the Proposed Site Map. The other spring-fed swale discharges offsite via a culvert; this discharge location is labelled D007 on the Proposed Site Map. Both features have a 50-foot buffer zone in place. Mining activity will not affect this wetland feature due to surrounding stormwater conveyance, best management practices, and settling ponds. These measures will discharge treated stormwater to uplands that drain toward wetlands.

8.0 RECEIVING WATERS:

Treated stormwater discharge will be directed toward tributary swales and drainages that eventually feed into Willow Creek to the North and North Fork Crystal Creek to the South. Willow Creek is on the 303(d) list for temperature criteria. North Fork Crystal Creek ultimately flows to Crystal Creek which is on the 303(d) list for temperature and E.coli parameters.

See Proposed Site Map within the Appendix.

9.0 STORMWATER AND DEWATERING DISCHARGES

There are multiple watersheds onsite, stormwater for the predominant watersheds within the quarry will be mitigated via infiltration. Any stormwater that does not seep into the ground will be treated via a system of settling basins. The Proposed Site Map located within the Appendix identifies flow patterns that show how the overland flow moves within the site. Stormwater discharge from the site will ultimately convey to Willow Creek to the North and North Fork Crystal Creek to the South.

10.0 MONITORING POINT

The monitoring/sampling points are located at seven different culvert locations across the site. Discharge from the site will only occur during heavy rain events that cause the existing settling ponds to overflow and convey through a series of culverts and ditches. Rain events are monitored daily, and all sediment ponds are visually inspected before such an event occurs. Samples are taken at the existing culverts as shown in the Proposed Site Aerial Map. See Discharge Point Locations in appendix for latitude and longitude locations of each discharge point.

Discharges from D006 and D007 are monitored as an extra precaution. Stormwater discharged at these points will not be disturbed by any mining activities, but it will be sampled to monitor the health of the spring-fed drainages.

Monitoring procedures will be conducted in accordance with test procedures approved under 40 CFR 136.

11.0 PERIOD OF EXPECTED USE

The expected period of use is year-round. Stone Butte Quarry has a projected lifetime of 30-50 years.

12.0 OPERATIONS AND MAINTENANCE

No chemical treatment is proposed for the operation and current use.

13.0 INSPECTIONS

The following list of inspections and the frequency of the inspection will be followed for the site:

Area of the site	***Frequency***
Grading and excavation area.	*Daily when stormwater runoff, including runoff from snowmelt is occurring, unless site is inaccessible due to adverse weather conditions.*
Lined Process Water Pond (If needed)	*Daily when operating. Pond freeboard may be inspected on a weekly basis if the facility has an alarm system.*
Areas of the site where industrial Activities are exposed to stormwater Including locations of BMP's, material Storage and stockpiling areas, vehicle entrance and exit areas.	*Monthly*
Monitoring points.	*Monthly, when discharging, for the presence of floating solids (associated with mining), foam, visible oil sheen, and discoloration of the discharge.*
Stormwater control facilities and drainage systems.	*Annually before wet weather season (by October 1st).*

Documentation of the inspections and the record of the inspections are to be kept on site and submitted to DOGAMI upon request.

The records will include:

Description of adverse weather conditions, if site is inaccessible;
The inspection date, time and hours of operation;
Control measures needing cleaning, replacement, maintenance or reconditioning or repair; the condition of the drainage/conveyance system and maintenance need;
Previously unidentified sources of pollutants;
Monthly observations of stormwater with notation of floatable solids, foam, visible oil sheen and discoloration. If these pollutants were present, the report must include corrective action taken to remedy the problem. If no discharge occurred during the month, describe the reason in the report.

14.0 REPORTING AND RECORD KEEPING REQUIREMENTS

A DMR form will be submitted to DOGAMI by July 31st each year which will include the sampling results from an authorized testing laboratory. The reporting will include minimum detection level and analytical methods for the parameters analyzed. Non-detections will be reported as "ND" with the detection level in mg/l parentheses. (See Appendix for form copies)

For a three-year period, the following information will be recorded and kept onsite:

- *A copy of the SWPCP and any revisions, corrective action reports and inspection reports;*
- *Inspection, maintenance, repair, and education activities;*
- *Spills or leaks of significant materials that impacted or had the potential to impact stormwater or surface waters. The corrective actions to clean up the spill or leak and preventative measures to prevent future problems will be noted.*

APPENDIX

Location Map

Existing Site Map

Proposed Site Map – Overall

Proposed Site Map Index and Legend

Proposed Site Map Sheet 1 of 2

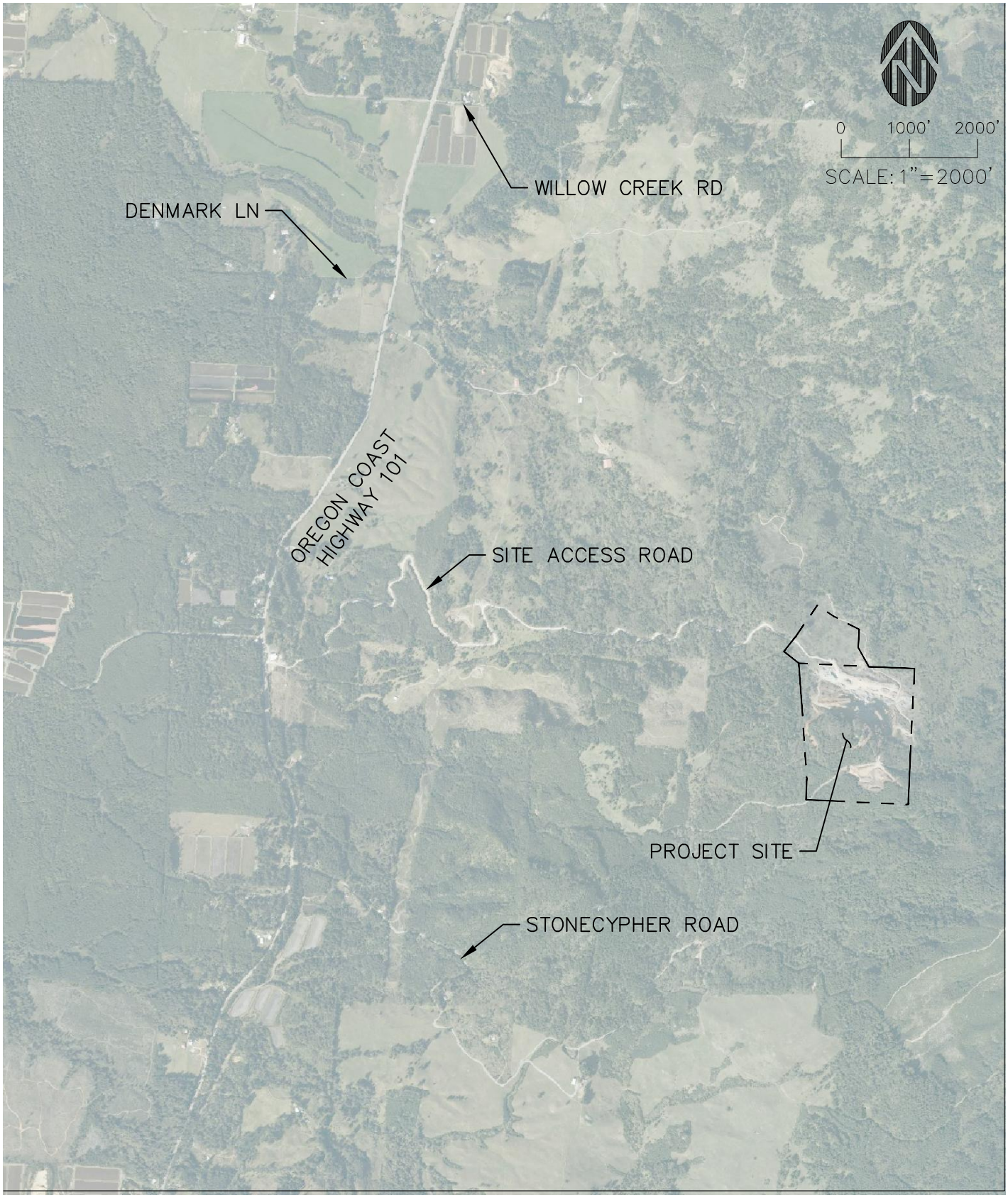
Proposed Site Map Sheet 2 of 2

Discharge Point Locations (Latitude and Longitude)

Erosion Control Details

Discharge Monitoring Report

NPDES 1200-A General Permit



DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\LOCATION MAP.DWG 2021/06/23 - 03:46PM - LFH

DATE	2021-06-23
REVISION	0
DRAWN BY	LFH
CHECKED BY	JRA
JOB NO.	2910-001

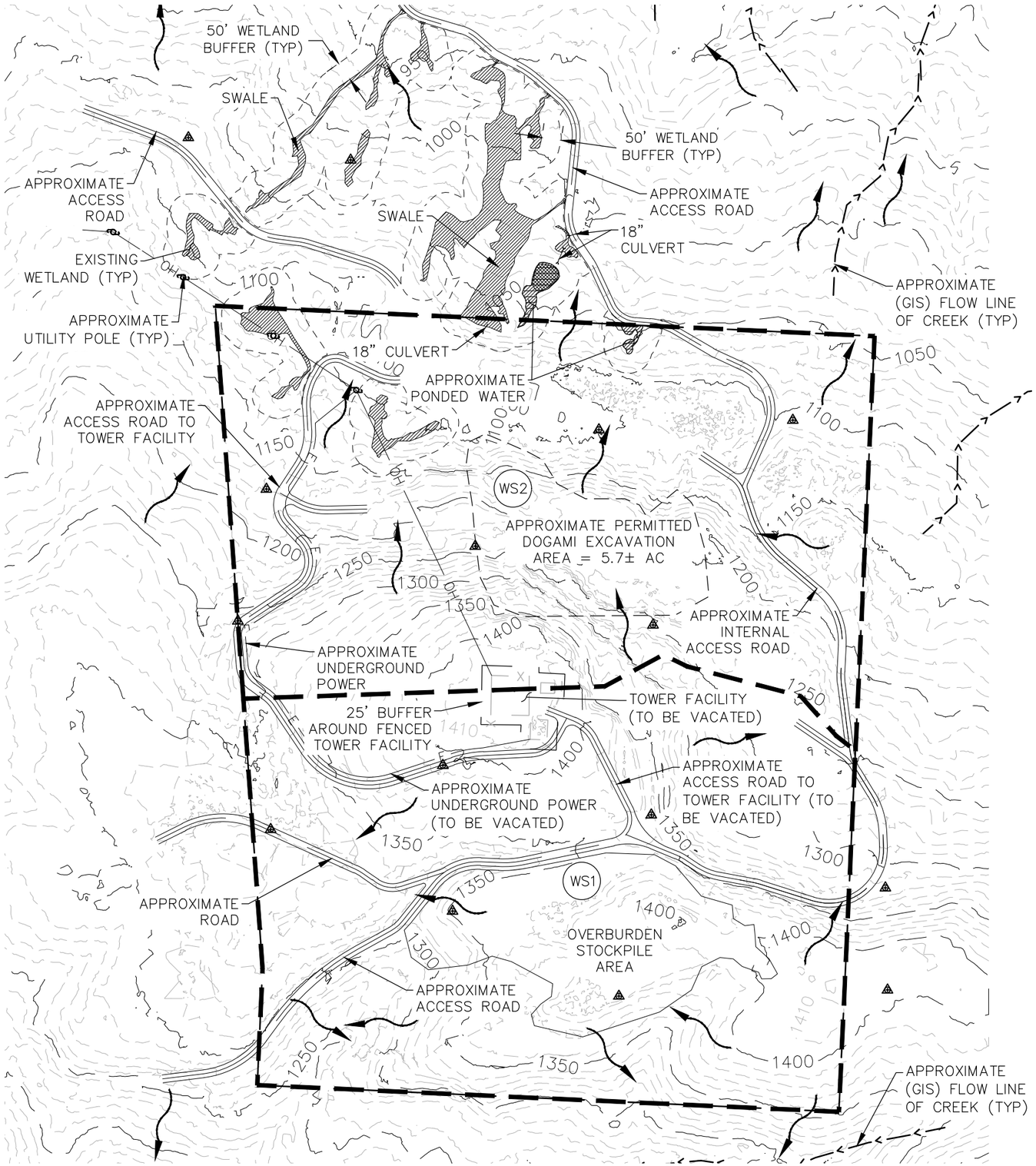
STONE BUTTE QUARRY

46513 U.S. HIGHWAY 101
LANGLOIS, OR 97450

LOCATION MAP

WESTLAKE CONSULTANTS

Planning | Engineering | Surveying



0 150' 300'

SCALE: 1"=300'

LEGEND:

- EXISTING WATERSHED BOUNDARY
- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- X X EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- CONTROL POINT
- STORMWATER FLOW DIRECTION BEFORE MINING
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- APPROXIMATE LOCATION OF SPRING FED SWALES
- WS# WATERSHED NUMBER

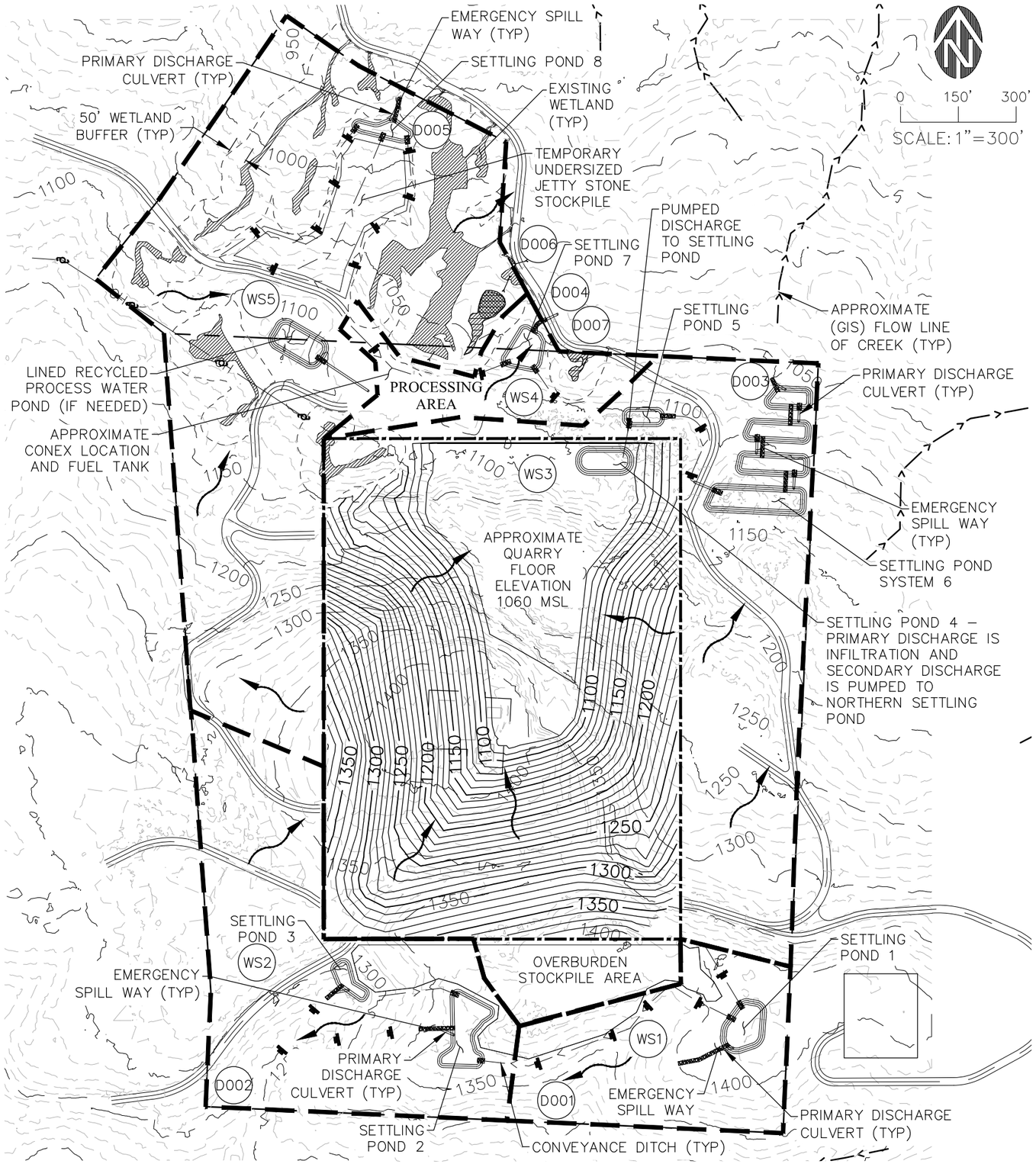
WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY
46153 U.S. HIGHWAY 101
LANGLOIS, OR 97450

EXISTING SITE MAP

DATE	2021-07-02
REVISION	0
DRAWN BY	LFH
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\EXISTING SITE AERIAL MAP.DWG 2021/08/11 - 03:18PM - JRA



LEGEND:

- PROPOSED WATERSHED BOUNDARY
- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 27.6± AC)
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- X X EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- CONTROL POINT
- STORMWATER FLOW DIRECTION
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- APPROXIMATE LOCATION OF SPRING FED SWALES
- WS# WATERSHED NUMBER
- D00# DISCHARGE LOCATION NUMBER
- PROPOSED SETTLING POND
- PROPOSED CULVERT
- PROPOSED CONVEYANCE DITCH
- PROPOSED RIP RAP PAD
- PROPOSED ROCK CHECK DAM

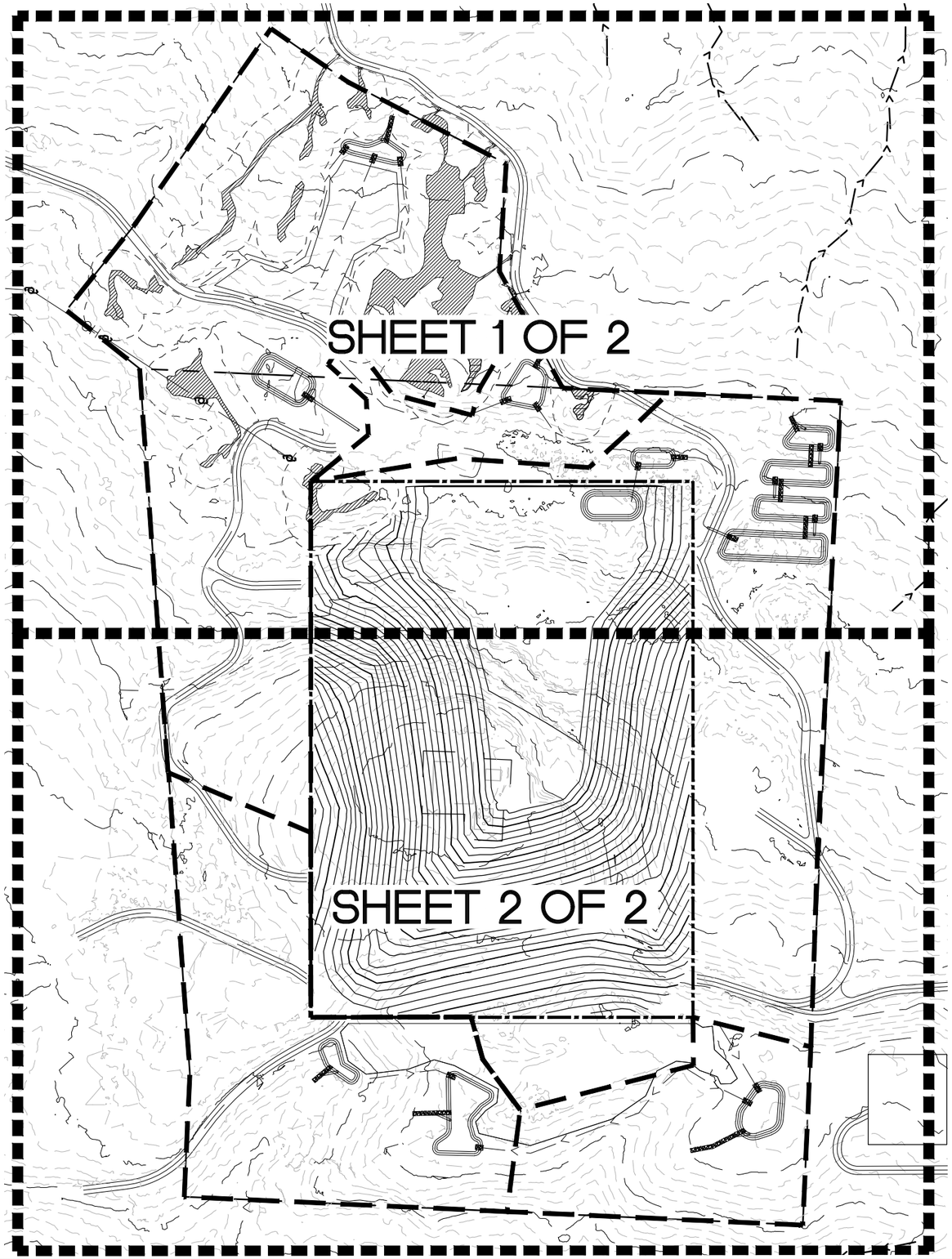
WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY
46513 US HIGHWAY 101
LANGLOIS, OR 97450

PROPOSED SITE MAP – OVERALL

DATE	2021-07-16
REVISION	0
DRAWN BY	LFH
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\PROPOSED SITE AERIAL MAP.DWG 2021/08/11 - 03:18PM - JRA



0 150' 300'
SCALE: 1"=300'

NOTE: LEGEND IS FOR PROPOSED SITE MAPS SHEET 1 AND 2

LEGEND:

- PROPOSED WATERSHED BOUNDARY
- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 27.6± AC)
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- X X EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- STORMWATER FLOW DIRECTION
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- APPROXIMATE LOCATION OF SPRING FED SWALES
- WS# WATERSHED NUMBER
- D00# DISCHARGE LOCATION NUMBER
- PROPOSED SETTLING POND
- PROPOSED CULVERT
- PROPOSED CONVEYANCE DITCH
- PROPOSED RIP RAP PAD
- PROPOSED ROCK CHECK DAM

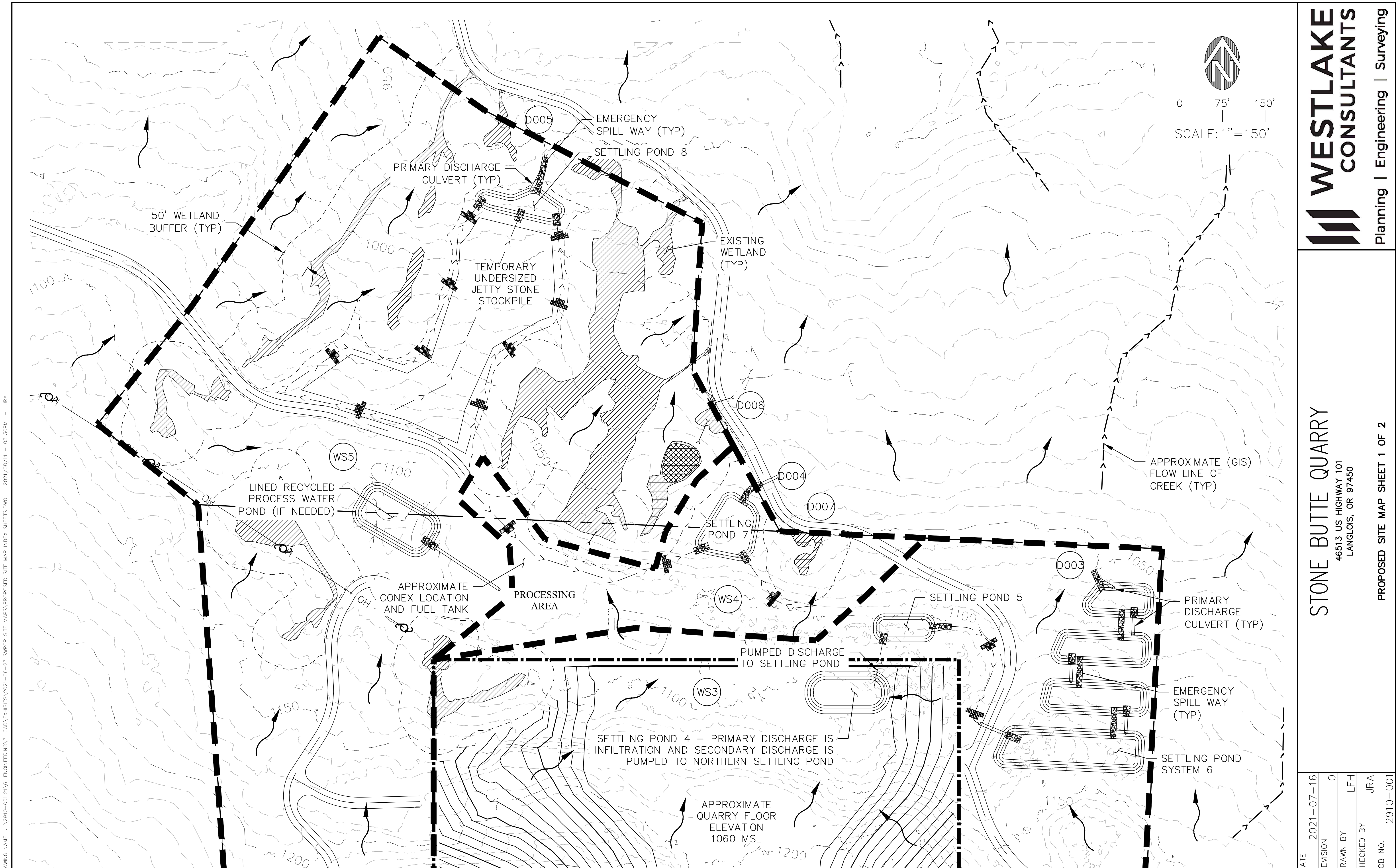
WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY
46513 US HIGHWAY 101
LANGLOIS, OR 97450

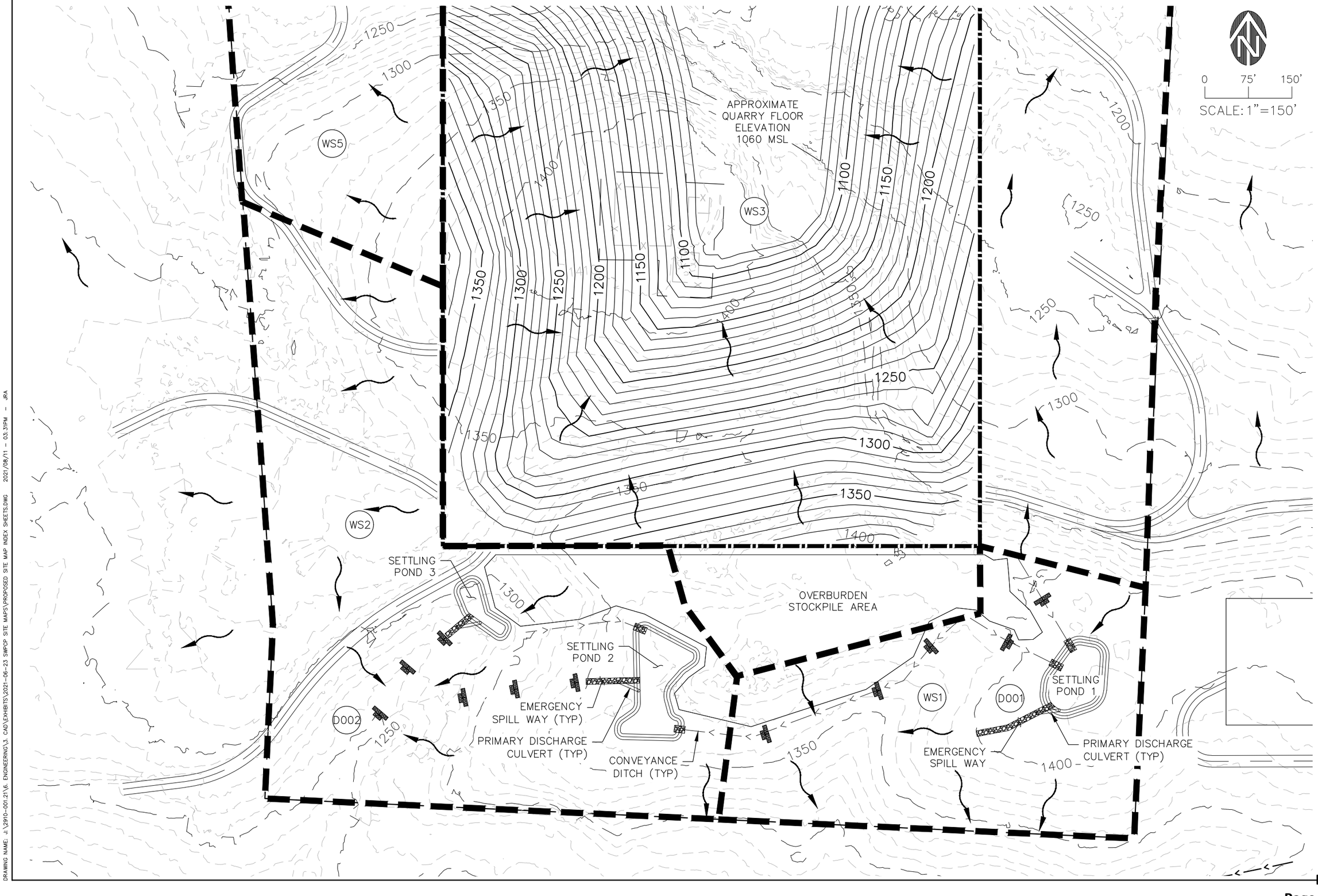
PROPOSED SITE MAP INDEX AND LEGEND

DATE	2021-07-16
REVISION	0
DRAWN BY	JRA
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPDP SITE MAPS\PROPOSED SITE MAP INDEX SHEETS.DWG 2021/08/11 - 03:30PM - JRA



EMERGENCY SPILL WAY (TYP)
SETTLING POND 8
PRIMARY DISCHARGE CULVERT (TYP)
D005
50' WETLAND BUFFER (TYP)
TEMPORARY UNDERSIZED JETTY STONE STOCKPILE
EXISTING WETLAND (TYP)
D006
D004
D007
WS5
LINED RECYCLED PROCESS WATER POND (IF NEEDED)
SETTLING POND 7
APPROXIMATE CONEX LOCATION AND FUEL TANK
PROCESSING AREA
WS4
D003
SETTLING POND 5
PRIMARY DISCHARGE CULVERT (TYP)
PUMPED DISCHARGE TO SETTLING POND
WS3
EMERGENCY SPILL WAY (TYP)
SETTLING POND 4 – PRIMARY DISCHARGE IS INFILTRATION AND SECONDARY DISCHARGE IS PUMPED TO NORTHERN SETTLING POND
SETTLING POND SYSTEM 6
APPROXIMATE QUARRY FLOOR ELEVATION 1060 MSL
APPROXIMATE (GIS) FLOW LINE OF CREEK (TYP)
950
1000
1050
1100
1150
1200
0 75' 150'
SCALE: 1"=150'
WESTLAKE CONSULTANTS
Planning | Engineering | Surveying
STONE BUTTE QUARRY
46513 US HIGHWAY 101
LANGLOIS, OR 97450
PROPOSED SITE MAP SHEET 1 OF 2
DATE 2021-07-16
REVISION 0
DRAWN BY LFH
CHECKED BY JRA
JOB NO. 2910-001



WESTLAKE CONSULTANTS

Planning | Engineering | Surveying

STONE BUTTE QUARRY

46513 US HIGHWAY 101
LANGLOIS, OR 97450

PROPOSED SITE MAP SHEET 2 OF 2

DATE	2021-07-16
REVISION	0
DRAWN BY	JRA
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\PROPOSED SITE MAP INDEX SHEETS.DWG 2021/08/11 - 03:31PM - JRA

DISCHARGE POINTS	LATITUDE	LONGITUDE
DISCHARGE POINT #1	42°52'12.08"N	124°26'00.21"W
DISCHARGE POINT #2	42°52'11.62"N	124°26'15.25"W
DISCHARGE POINT #3	42°52'29.24"N	124°25'59.31"W
DISCHARGE POINT #4	42°52'30.74"N	124°26'06.91"W
DISCHARGE POINT #5	42°52'35.87"N	124°26'12.85"W
DISCHARGE POINT #6	42°52'32.07"N	124°26'08.13"W
DISCHARGE POINT #7	42°52'30.03"N	124°26'06.21"W

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\PROPOSED SITE MAP INDEX SHEETS.DWG 2021/07/16 - 11:12AM - JRA

DATE	2021-07-16
REVISION	0
DRAWN BY	JRA
CHECKED BY	JRA
JOB NO.	2910-001

STONE BUTTE QUARRY

46513 U.S. HIGHWAY 101
LANGLOIS, OR 97450

DISCHARGE POINT LOCATIONS
(LATITUDE AND LONGITUDE)

WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

RIPRAP:

- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.
- ROUNDED ROCK WILL NOT BE ACCEPTED UNLESS APPROVED BY THE DISTRICT.

RIPRAP INSTALLATION:

- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

CLASS 50	CLASS 100	CLASS 200	CLASS 700	CLASS 2000	PERCENT (BY WEIGHT)
WEIGHT OF ROCK (LBS)					
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10

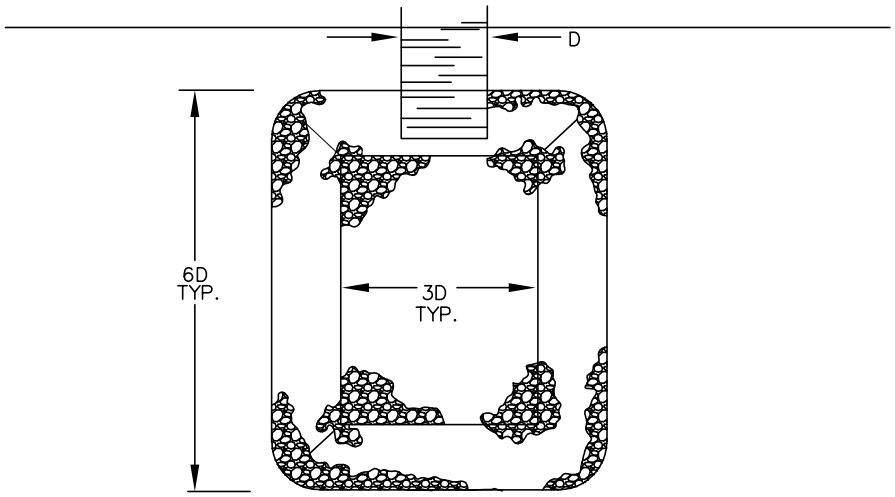
RIP RAP DETAILS

DRAWING NO. 790

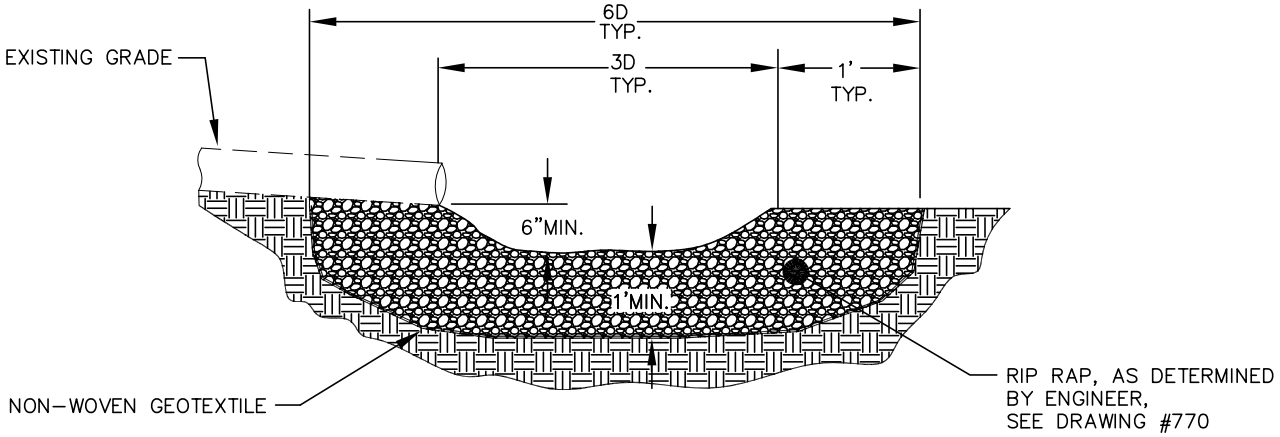
REVISED 10-31-19

Clean Water Services

FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.



PLAN VIEW



PROFILE

NOTE:

1. ADDITIONAL BMP'S ARE REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.

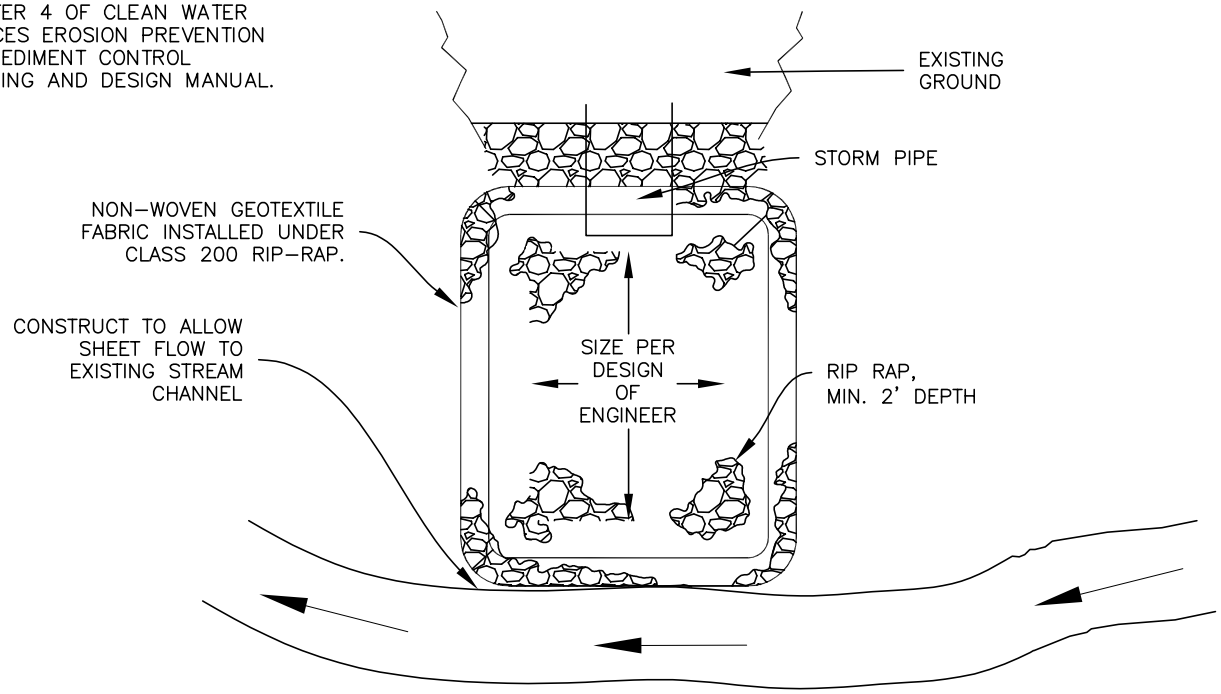
OUTLET PROTECTION
RIP RAP

DRAWING NO. 820

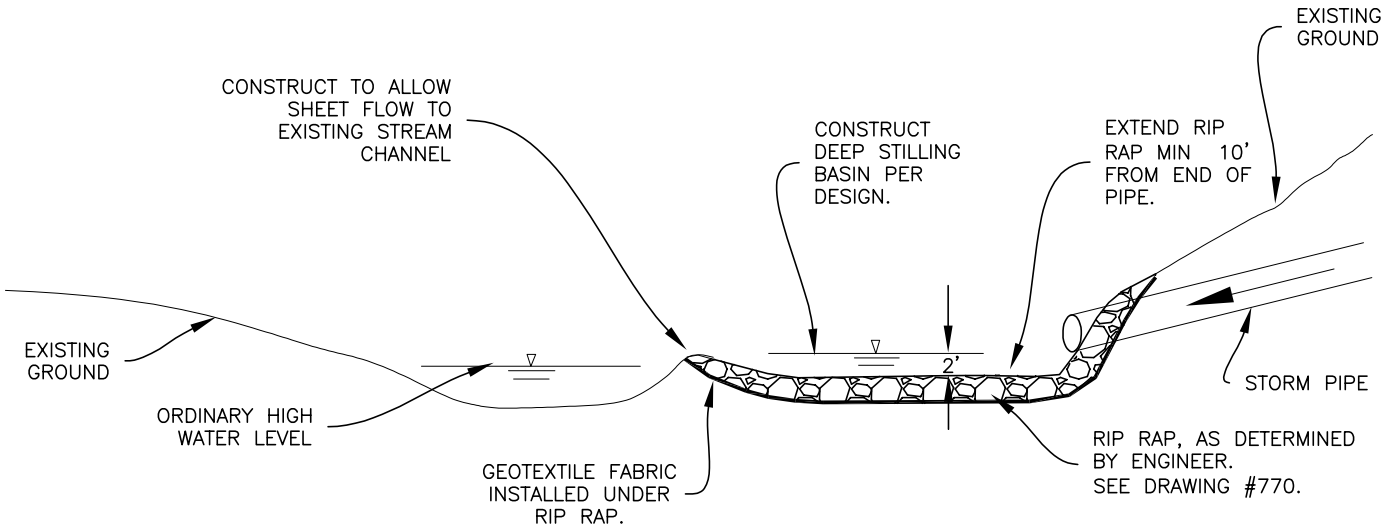
REVISED 10-31-19

Clean Water Services

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.



PLAN VIEW
NTS



PROFILE

NOTES:

1. ADDITIONAL BMP'S ARE REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.
2. CONTRACTOR TO COMPLY WITH CONDITIONS AND REQUIREMENT OF DSL AND CORPS PERMITS.

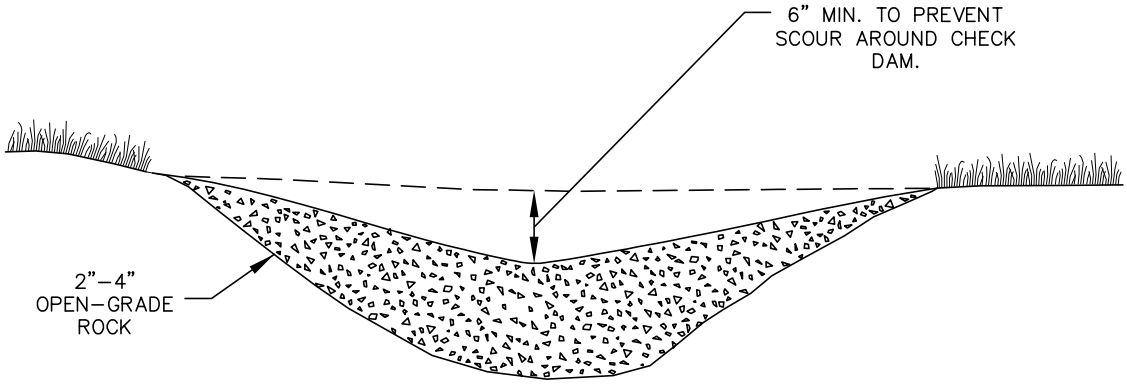
OUTLET PROTECTION STILLING BASIN

DRAWING NO. 825

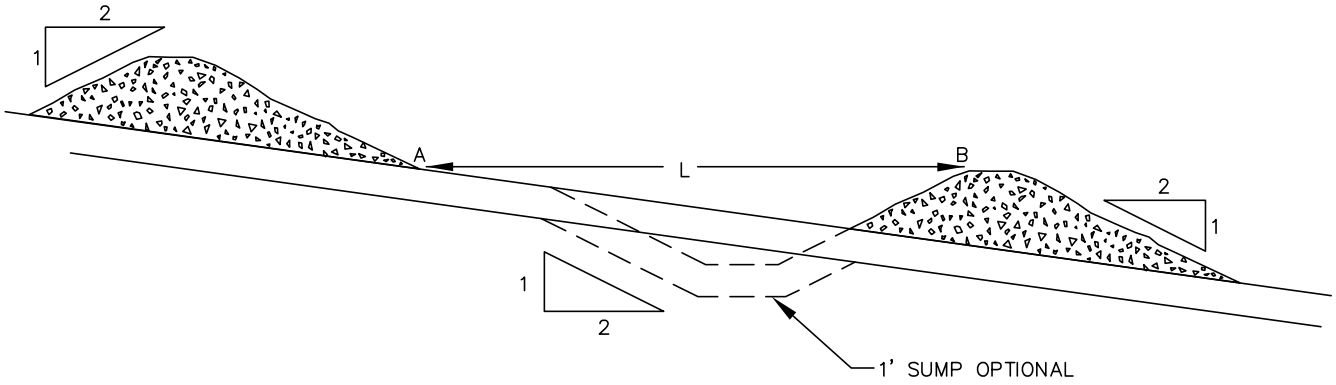
REVISED 10–31–19

Clean Water Services

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.



ROCK CHECK DAM



SPACING BETWEEN CHECK DAMS

NOTES:

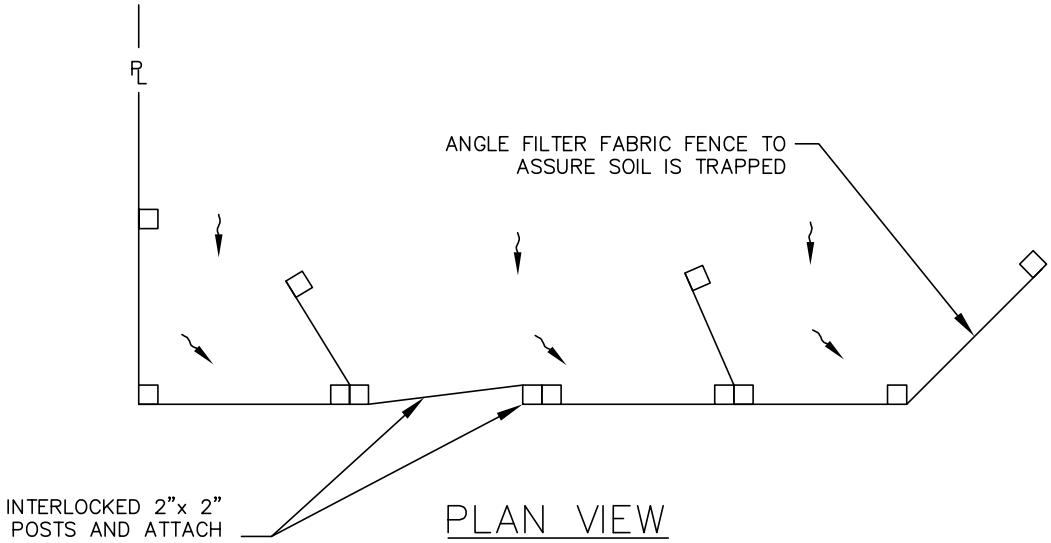
1. L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.
2. SEE DRAWING #940 FOR HEIGHT AND SPACING OF CHECK DAMS.

CHECK DAM ROCK

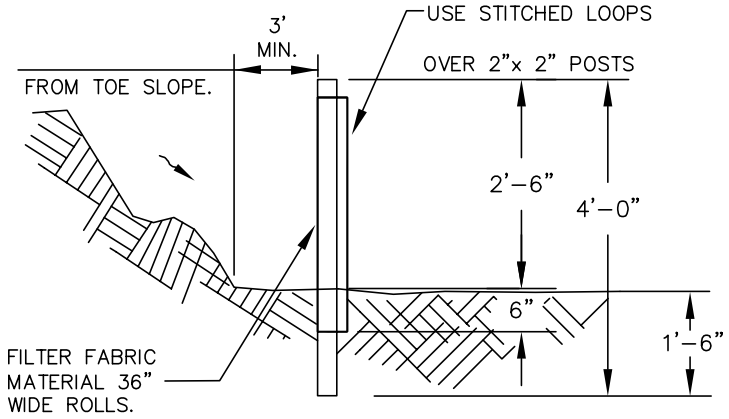
DRAWING NO. 840

REVISED 10–31–19

Clean Water Services



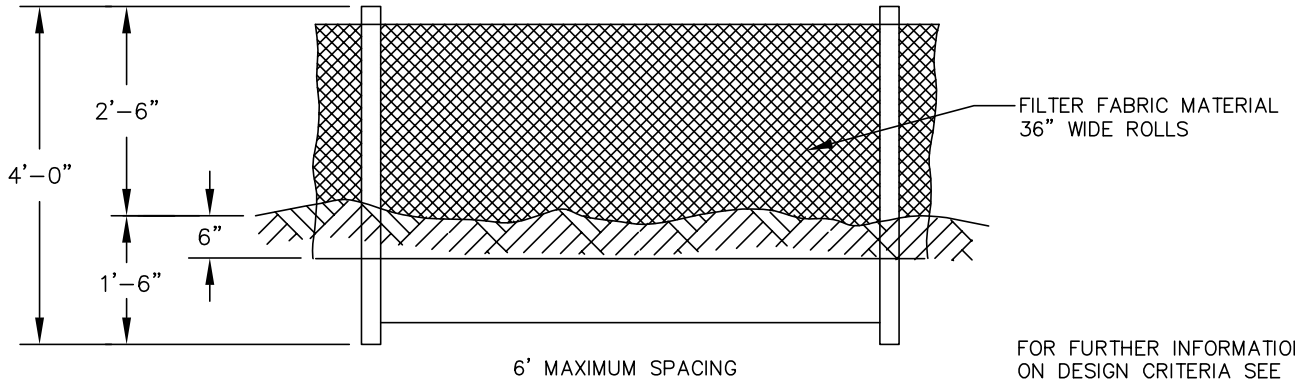
PLAN VIEW



PROFILE

NOTES:

1. SEDIMENT FENCE TO HAVE STITCHED LOOPS AROUND 2" x 2" POSTS.
2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
3. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
4. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
5. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
6. PANELS MUST BE PLACED ACCORDING TO SPACING ON DRAWING NO. 940.



FRONT VIEW

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

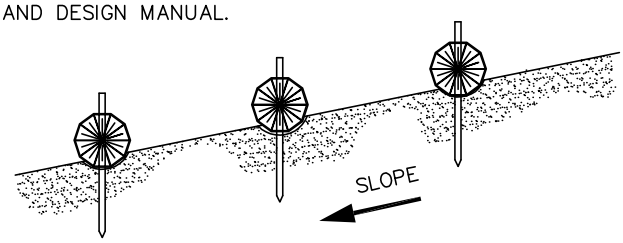
SEDIMENT FENCE

DRAWING NO. 875

REVISED 10-31-19

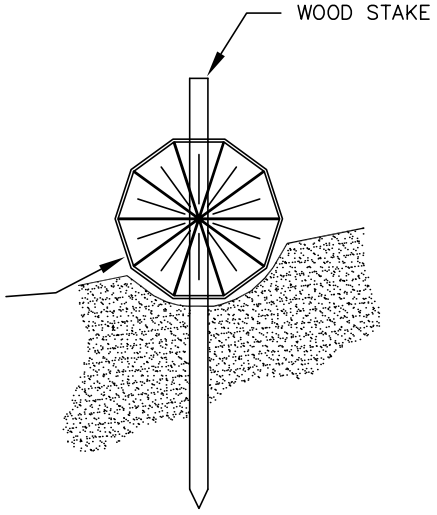
Clean Water Services

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

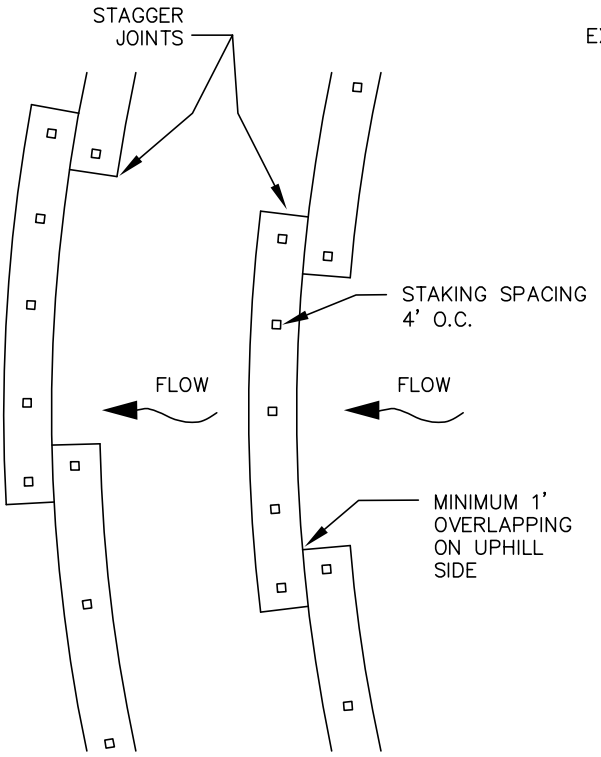


PLACE WATTLES ALONG SLOPE CONTOURS.

PROFILE



SECTION



PLAN VIEW

NOTES:

1. STAKING SPECIFICATIONS:
   a. 1"X2" WOODEN STAKES
   b. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES, ON STEEP SLOPE OR HIGHLY EROSIVE SOILS.
2. SPACING IN ACCORDANCE WITH DETAIL 940.
3. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED WATTLES WILL HAVE DIRECT CONTACT WITH THE SOIL.
4. INSTALL THE WATTLES IN A 2" DEEP TRENCH, INSURING THAT NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE WATTLE. THE ENDS OF ADJACENT WATTLES SHALL BE OVERLAPPED 1 FT. MINIMUM TO PREVENT SEDIMENT PASSING THROUGH THE FIELD JOINT.

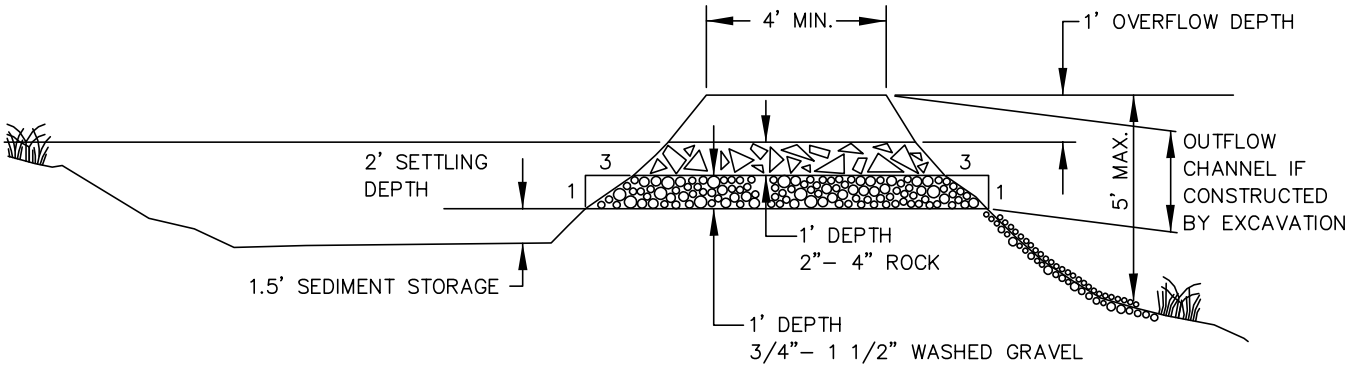
WATTLES

DRAWING NO. 880

REVISED 10-31-19

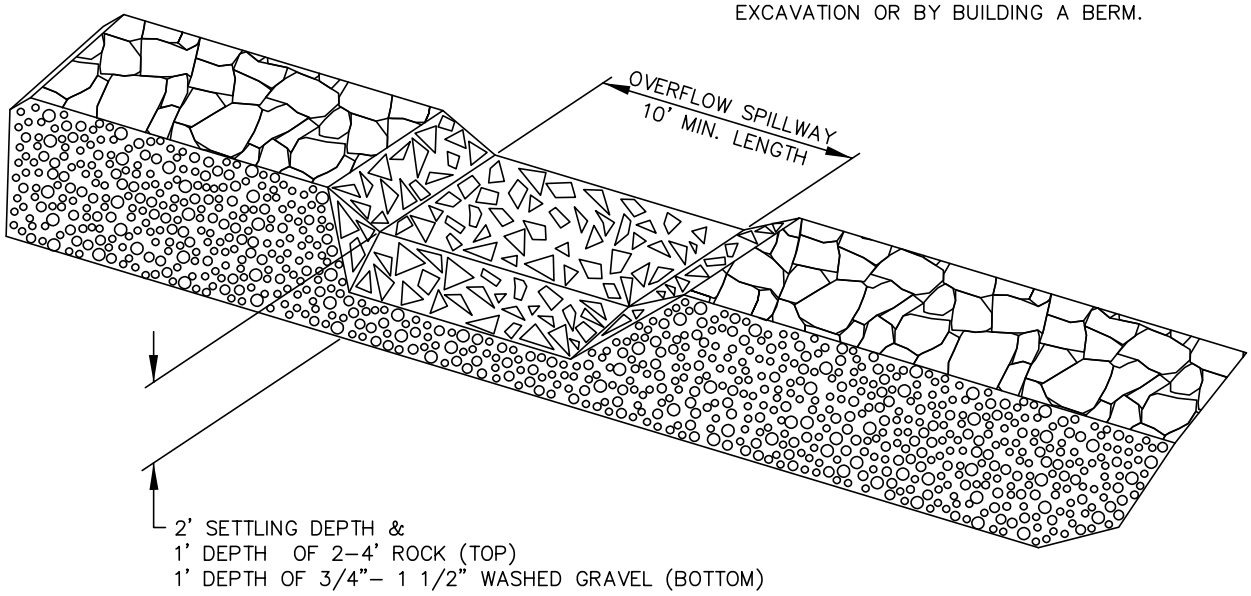
Clean Water Services

FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.



CROSS SECTION

NOTE: MAY BE CONSTRUCTED BY
EXCAVATION OR BY BUILDING A BERM.



SEDIMENT TRAP OUTLET

NOT TO SCALE

NOTE:

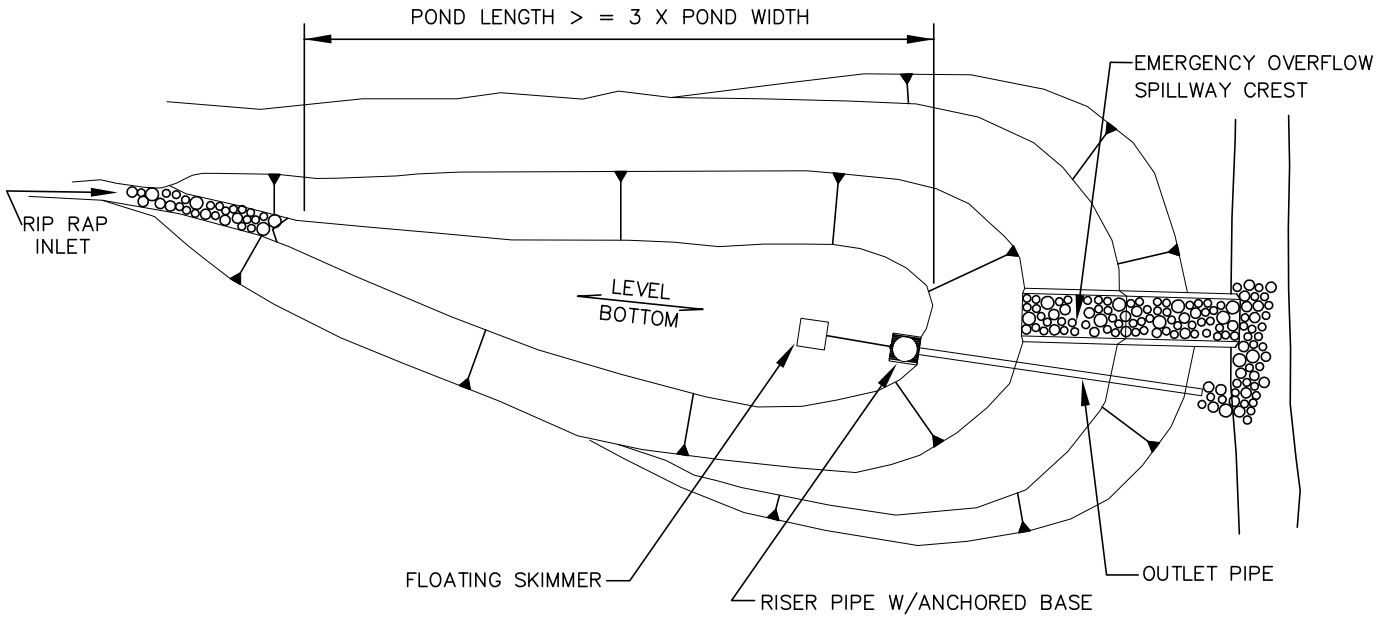
1. ADDITIONAL BMPS MAY BE REQUIRED TO FILTER RUNOFF FROM THE SEDIMENT TRAP PRIOR TO DISCHARGE FROM THE CONSTRUCTION SITE.

SEDIMENT TRAP

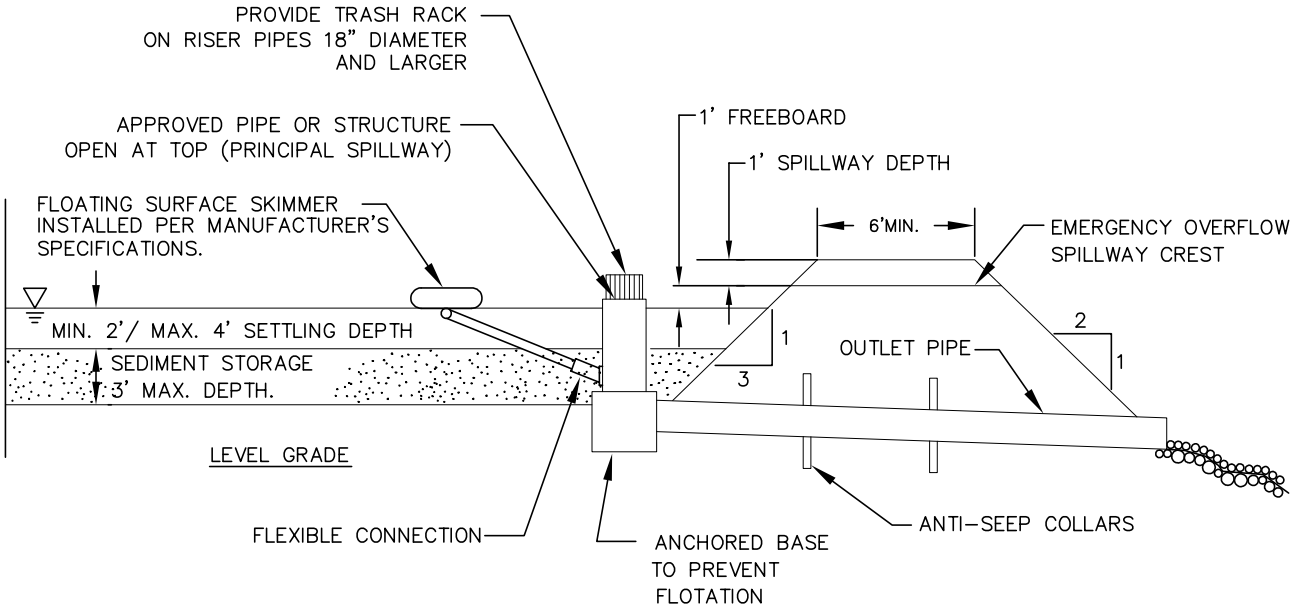
DRAWING NO. 930

REVISED 10–31–19

Clean Water Services



PLAN VIEW



PROFILE

NOTE:

1. 50' MINIMUM OF HIGHLY VEGETATED AREA AND/OR SEDIMENT FENCE IS REQUIRED PRIOR TO DISCHARGING TO STREAM OR WETLAND.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SEDIMENT BASIN

DRAWING NO. 935

REVISED 10-31-19

Clean Water Services

FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.

SPACING FOR CHECK DAMS

DITCH GRADE			
	6 INCH	12 INCH	18 INCH
6%	NOT ALLOWED	16 FT O.C.	26 FT O.C.
5%	NOT ALLOWED	20 FT	30 FT
4%	NOT ALLOWED	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	SLOPE H:V	MAXIMUM SPACING ON SLOPE
10% OR FLATTER	10:1 OR FLATTER	300 FT
>10% OR <15%	>10:1 OR <7.5:1	150 FT
>15% OR <20%	>7.5:1 OR <5:1	100 FT
>20% OR <30%	>5:1 OR <3.5:1	50 FT
>30% OR <50%	>3.5:1 OR <2:1	25 FT

NOTE:

1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

DRAWING NO. 940

REVISED 10-31-19

Clean Water Services

Industrial Stormwater Discharge Monitoring Report - 1200-A Permit

Permittee Legal Name:		*ODEQ File No./Facility ID:*		*DOGAMI ID#*	
Facility Common Name:		Reporting Period: July 1,		to June 30,	
Facility Location:		Laboratory Name:			
County:		Laboratory ORELAP #:			

DEQ
State of Oregon Department of Environmental Quality

Monitor for the following pollutants at sampling point(s) specified in your SWPCP and use the sampling point name or number from your SWPCP. Add more sheets if necessary (e.g., if more than 4 samples are collected per pollutant or facility has more than 4 sampling points). You MUST also attach a copy of laboratory results sheet(s).

Benchmark/Limit Sampling: 4 times per year, every year

Name or Number of Sampling Point(s) (group data per sampling point)	Sample Date	pH	Suspended Solids, Total	Oil and Grease, Total	Settleable Solids
		s.u.	mg/L	mg/L	mg/L
Geometric Mean (Note 4)					
Geometric Mean (Note 4)					
Geometric Mean (Note 4)					
Geometric Mean (Note 4)					
Permit Benchmark		**5.5 - 9.0**	**100**	**10**	**0.20**

Fill out only those rows and columns that apply to your specific site.

Note 1: Submit this report to the appropriate DEQ regional office or agent (see below) annually by July 31st. The report must contain the results of all stormwater monitoring conducted during the year. If you have a monitoring waiver for one or more of the pollutant(s), please report "W" in the column(s)-see permit-Schedule B.3.

Note 2: Non-detects must be reported as "ND" along with the applicable method detection limit or minimum quantification limit in parentheses - e.g. ND (0.001).

Note 3: If a stormwater sampling result exceeds any of the benchmark values, the permit registrant must, within 30 calendar days of receiving the sampling results, investigate the cause of the benchmark exceedance(s), review the SWPCP and sumarize the results and corrective actions. and revise the SWPCP as necessary.

Note 4: For the geometric mean value use the last 4 samples collected for each pollutant parameter, from each sampling point. If any of the 4 samples were not collected during this monitoring year, attach the past DMR form(s) that include the sample results. For non-detect sampling results, use 1/2 the detection limit to calculate the geometric mean. You are not required to report the geometric mean for pollutant(s) that have a monitoring waiver. The geometric mean value is automatically calculated if using the Excel version of the DMR form. Tier II Corrective Action requirements (permit section A.13) are based on results of geometric mean evaluation during the second year of permit coverage.

Note 5: If a sampling event is missed or a sampling parameter is not analyzed or sampled, enter "NS" in each applicable column for that row.

Note 6: If there was no discharge then state "No Discharge" in the row after the sampling date for any applicable sampling point.

Note 7: If you are required to conduct effluent limit sampling for pH or total suspended solids, you do not need to conduct benchmark sampling for those parameters.

Note 8: The permit registrant is not required to conduct monitoring for the remainder of the permit term if a site is inactive and has effective erosion and sediment control measures in exposed areas. Please provide documentation with the DMR form indicating that the site is temporarily inactive.

Name/Title Principal Executive Officer or Authorized Delegate

(Please Print)

Telephone: *Email:*

I certify, under penalty of law, that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Sign here: Date

Effluent Limit Sampling (Discharges of mine dewatering water only)

		4 Samples Per Year			4 Samples per Year
		Industrial Sand (SIC 1446)			Crushed Rock; Construction Sand and Gravel (SIC 1422, 1423, 1429, 1442)
Name or Number of Sampling Point(s) (group data per sampling point)	Sample Date	Suspended Solids, Total	pH		pH
		mg/L	s.u.		s.u.
Geometric Mean (Note 3)					
Geometric Mean (Note 3)					
Geometric Mean (Note 3)					
Geometric Mean (Note 3)					
Effluent Limit		45 (daily max) 25 (monthly avg.)	6.0 - 9.0		6.0 - 9.0

Fill out only those rows and columns that apply to your specific site.

Note 1: Operators do not have to conduct benchmark monitoring for any pollutants for which effluent limit sampling is required.

Note 2: If a stormwater sampling result exceeds any effluent limit values, the permit registrant must, within 30 calendar days of receiving the sampling results, investigate the cause of the benchmark exceedance(s), review the SWPCP and sumarize the results and corrective actions. and revise the SWPCP as necessary.

Note 3: For the geometric mean value use the last 4 samples collected for each pollutant parameter, from each sampling point. If any of the 4 samples were not collected during this monitoring year, attach the past DMR form(s) that include the sample results. For non-detect sampling results, use 1/2 the detection limit to calculate the geometric mean. You are not required to report the geometric mean for pollutant(s) that have a monitoring waiver. The geometric mean value is automatically calculated if using the Excel version of the DMR form. Tier II Corrective Action requirements (permit section A.13) are based on results of geometric mean evaluation during the second year of permit coverage.

Note 4: If a sampling event is missed or a sampling parameter is not analyzed or sampled, enter "NS" in each applicable column for that row.

Note 5: If there was no discharge then state "No Discharge" in the row after the sampling date for any applicable sampling .point.

For facilities whose permits are administered by the following entities, please submit one (1) copy of this report and laboratory results sheet(s) and QA/QC documentation to the local jurisdiction annually by July 31st:

Department of Geology and Mineral Industries
229 Broadalbin St SW Albany, OR 97321
(541) 967-2082

City of Portland
Industrial Stormwater Section
Water Pollution Control Lab
6543 N Burlington Ave.
Portland, OR 97203-5452
(503) 823-5320

For all other locations, please submit one (1) copy of this report and laboratory results sheet(s) and the QA/QC documentation to the appropriate DEQ regional office annually by July 31st:

DEQ Northwest Region Office
2020 SW 4th Ave. Suite 400
Portland, OR 97201
Phone: (503) 229-5263

DEQ Eastern Region Office
475 NE Bellevue Dr., Suite #110
Bend, OR 97701
Phone: (541) 388-6146

DEQ Western Region Office
165 East 7th Ave., Suite 100
Eugene, OR 97401
Phone: (541) 687-7326
Hours: 8 am - 5 pm

Additional Sampling: 2 times per year, every year

Impairment Sampling

Fill in only those pollutants for which impairment monitoring is required in your permit assignment letter.

Name or Number of Sampling Point(s) (group data per sampling point)	Sample Date	Aldrin	Arsenic, Total	Chlordane	Copper	DDT	DDT Metabolite (DDE)	Dieldrin	Heptachlor	Iron, Total	Lead, Total	Mercury, Total
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Last Year's Results*												
Current Year Results												
Geometric Mean												
Reference Concentration		0.00001	0.0021	0.0024	0.018	0.0011	0.00001	0.00024	0.00052	1.000	0.082	0.0024

Name or Number of Sampling Point(s) (group data per sampling point)	Sample Date	PCB **	Zinc	Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene 3,4	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Last Year's Results*												
Current Year Results												
Geometric Mean												
Reference Concentration		0.002	0.04100	0.095	2.900	0.001	0.001	0.001	0.0010	0.001	0.001	0.014

Name or Number of Sampling Point(s) (group data per sampling point)	Sample Date	Fluorene	Indeno(1,2,3-cd)pyrene	Pyrene	Temperature							
		mg/L	mg/L	mg/L	°C							
Last Year's Results*												
Current Year Results												
Geometric Mean												
Reference Concentration		0.390	0.001	0.290								

* **Previous year's results are included in order to calculate geometric mean. Leave blank if in the first year of permit coverage.**

** **0.002 mg/L (based on the sum of the following aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260)**

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORMWATER AND MINE DEWATERING DISCHARGE PERMIT

Department of Environmental Quality
811 S.W. Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

SOURCES THAT ARE REQUIRED TO OBTAIN COVERAGE UNDER THIS PERMIT

Facilities with primary Standard Industrial Classification code 14, Mining and Quarrying of Nonmetallic Minerals, Except Fuels, that may discharge stormwater or mine dewatering water from a point source to surface waters or conveyance systems that discharge to surface waters. Also, asphalt mix batch plants and concrete batch plants, including mobile operations of this type, are required to obtain coverage under the permit.

Issuance Date: Jan. 14, 2016

_____
Lydia Emer, Operations Administrator

PERMITTED ACTIVITIES

Until this permit expires, is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate stormwater treatment or control facilities, and to discharge stormwater, mine dewatering water, and non-stormwater discharges specifically authorized by the permit to waters of the state in conformance with all the requirements, limitations, and conditions set forth in the following schedules:

Unless specifically authorized by this permit, by regulation issued by EPA, by another NPDES permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharges to an underground injection control system.

Schedule F contains General Conditions that are included in all NPDES permits. Should conflicts arise between Schedule F and any other schedule of the permit, the requirements in Schedule F will not apply.

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1. New Discharger or New Source Discharging to Impaired Waters (see Schedule D.3, Definitions)

a. A new discharger or a new source discharging to an impaired waterbody without a Total Maximum Daily Load (TMDL) issued for the impairment pollutant must meet one of the following conditions to obtain coverage under this permit:

i. Prevent any exposure to stormwater or mine dewatering water of the impairment pollutant and document in a Stormwater Pollution Control Plan (SWPCP) procedures taken to prevent exposure onsite.
ii. Document in SWPCP that the pollutant is not present at the site.
iii. If the pollutant is likely to be present at the site, provide data and other technical information that demonstrates that the discharge is not expected to cause or contribute to an exceedance of the water quality standard for the pollutant.

If one of the conditions cannot be met, the applicant must cease the discharge or apply for an individual permit.

b. A new discharger or a new source discharging to a water body subject to a TMDL may not be registered under this permit unless one of the following requirements is satisfied:

i. Discharges from industrial stormwater subject to the applicable general permit were determined not to be significant sources of the impairment pollutant.
ii. The TMDL established a waste load allocation for industrial stormwater and no additional permit requirements beyond those in the general permit are needed to comply with the waste load allocation.
iii. The TMDL does not establish a waste load allocation for industrial stormwater discharges allowed by the general permit or establishes additional limits or control measures or both that are required to comply with the TMDL and the permit or permit registration includes those limits or control measures or both.

c. The limitations to new dischargers and new sources in conditions 1.a and b above do not apply if the waterbody is impaired only for one or more of the following:

i. Biological criteria if no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment.
ii. Flow modification or habitat modification.
iii. Aquatic weeds or algae, or chlorophyll a.
iv. Temperature, unless the facility discharges uncommingled mine dewatering water.

2. New Application Requirements

a. Application Materials: The owner or operator must submit a complete application to DEQ or Agent (see Schedule D.4 for description of DOGAMI's and the City of Portland's Agent responsibilities) that includes the following:

i. DEQ-approved application form.
ii. A determination, on a DEQ-approved form, from the local government agency with land use jurisdiction that states the use is compatible with acknowledged local land use plans.
iii. One paper copy and one electronic PDF of the SWPCP.
iv. Applicable permit fees.

b. Deadline:

i. New facility – Submit the application materials at least 60 calendar days before the planned activity that requires permit coverage, unless a later date is approved by DEQ or Agent.
ii. Existing facility operating without coverage – Submit the application materials immediately or by the deadline established by DEQ or Agent.
iii. Existing facility whose stormwater or mine dewatering discharges are authorized by an individual NPDES permit and seeks coverage under this permit – Submit the application materials by the deadline established by DEQ or Agent.

c. Public Review Period and Notification of Permit Coverage

i. Prior to granting the applicant coverage under this permit, DEQ will provide a 30 calendar-day public review period. DEQ will respond in writing to public comments received during this permit on the applicant's SWPCP.
ii. DEQ or Agent will notify the applicant in writing when permit coverage is granted or denied.
iii. If permit coverage is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

3. Renewal Application Requirements for facilities that met benchmark(s) based on the 4th year benchmark evaluation of data collected by July 2012 pursuant to Schedule A.10 of 1200-A permit that expired on June 30, 2012.

a. Updated SWPCP: To ensure uninterrupted permit coverage for industrial stormwater or mine dewatering discharges, the permit registrant must submit to DEQ or Agent one paper copy and one electronic PDF of an updated SWPCP that meets the new requirements of this permit.
b. Deadline: The permit registrant must submit the updated SWPCP by March 15, 2013, unless a later date is approved in writing by DEQ or Agent.
c. Public Review Period and Notification of Permit Coverage:

i. Prior to granting the applicant coverage under this permit, DEQ will provide a 30 calendar-day public review period.
ii. DEQ or Agent will notify the applicant in writing when permit coverage is approved or denied.
iii. If permit coverage is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

4. Renewal Application Requirements for facilities that exceed benchmark(s) based on the 4th year benchmark evaluation of data collected by July 2012 pursuant to Schedule A.10 of 1200-A permit that expired on June 30, 2012.

a. Updated SWPCP:

i. To ensure uninterrupted permit coverage for industrial stormwater or mine dewatering discharges, the permit registrant must submit to DEQ or Agent one paper copy and one electronic PDF of an updated SWPCP that meets the new requirements of this permit.
ii. The permit registrant must identify in the updated SWPCP one or more of the following treatment measures that will be implemented with the goal of achieving benchmarks in Schedule A.10 and effluent limits in Schedule A.11 of the permit in future discharges:

1. Established vegetated buffers sized at 50 feet wide plus 25 feet wide per 5 degrees of slope.
2. Constructed wetlands or swales.

3. Treatment by electro-coagulation, chemical flocculation, or filtration. Include an operation and maintenance plan if implementing electro-coagulation or chemical flocculation treatment BMPs that meets the requirements in condition A.8.d.
4. Other treatment measure approved by DEQ or Agent. The permit registrant must include in the updated SWPCP the rationale for choosing the selected treatment measures and the projected pollutant reductions from implementing them.

iii. A licensed professional engineer or certified engineering geologist must design and stamp the portion of the SWPCP that addresses the treatment measures.
iv. A waiver from implementing the treatment measures may be requested if the permit registrant implements measures to reduce the volume of stormwater or mine dewatering water discharged from the site.

1. These measures must be designed to reduce the mass load of pollutants in the discharge below the mass equivalent of the benchmarks in condition A.10.
2. The updated SWPCP must include data and analysis to support this determination, including a description of the volume reduction measures, the mass load analysis and implementation schedule.

b. Deadline: The permit registrant must submit the updated SWPCP by March 15, 2013, unless a later date is approved in writing by DEQ or Agent.

c. Public Review Period and Notification of Permit Coverage

i. Prior to granting the applicant coverage under this permit, DEQ will provide a 30 calendar-day public review period. DEQ will respond in writing to any public comments received during this permit on the applicant's updated SWPCP.
ii. DEQ or Agent will notify the applicant in writing when permit coverage is approved or denied.
iii. If permit coverage is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit. If the applicant applies for an individual permit in accordance with OAR 340-045-0030, the applicant's coverage under this permit will continue until DEQ grants or denies the applicant's individual permit application.

d. Implementation Schedule- The permit registrant must:

i. Implement interim measures to control the pollutants in the discharge within 30 days of obtaining permit coverage unless a later date is approved in writing by DEQ or Agent. Implement these measures until the final treatment measures are installed.
ii. Implement final treatment measures identified in SWPCP within one year of obtaining permit coverage, unless a later date is approved in writing by DEQ or Agent.

e. After the final treatment measures are implemented, if sampling results continue to exceed the benchmarks, the permit registrant must within 30 days of obtaining the sample results, submit a report to DEQ or Agent that documents the following:

i. The results of the investigation, including the reasons for exceedance.
ii. Corrective actions taken or to be taken, including date corrective action completed or expected to be completed.
iii. Document whether SWPCP revisions are necessary. If permit registrant determines that SWPCP revisions are necessary based on the corrective action review, submit a revised SWPCP to DEQ or Agent with the report.

5. Name Change or Transfer of Permit Coverage

a. For a name change or transfer of permit coverage between legal entities, the owner or operator must submit the following information to DEQ or Agent within 30 calendar-days of the name change or planned transfer:

i. DEQ-approved Name Change or Permit Transfer application form.
ii. Submit one paper copy and one electronic PDF of the updated SWPCP.
iii. Applicable permit fees.

b. DEQ or Agent will notify the applicant in writing if the transfer is approved or denied. DEQ will transfer coverage under the permit after DEQ approves the application.

6. Authorized Non-Stormwater Discharges

a. Subject to the terms and conditions of the permit, the following non-stormwater discharges are authorized:

i. Discharges from fire-fighting activities.
ii. Fire hydrant flushings.
iii. Potable water, including water line flushings.
iv. Uncontaminated condensate from air conditioners, coolers and other compressors, and from outside storage of refrigerated gases and liquids.
v. Irrigation drainage.
vi. Landscape watering, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions.
vii. Pavement wash waters where no detergents or hot water are used, no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed), and surfaces are swept before washing.
viii. Vehicle washing that does not use detergents or hot water unless the 1700-A NPDES permit is required for the discharge.
ix. Routine external building washdown that does not use detergents or hot water.
x. Uncontaminated groundwater or spring water.
xi. Foundation or footing drains where flows are not contaminated with process materials.
xii. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

b. Piping and drainage systems for interior floor drains and process wastewater discharge points must be separated from the storm drainage system to prevent inadvertent discharge of pollutants to waters of the state, unless the process wastewater discharge is authorized by another NPDES permit that allows commingled outfalls. Discharge from floor drains to the stormwater drainage system is a violation of this permit.

c. Any other wastewater discharge or disposal, including stormwater mixed with wastewater, must be authorized by a separate permit, unless the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the sanitary sewer system operator.

7. Limitations on Coverage

a. Pursuant to OAR 340-045-0033(10), DEQ may deny permit coverage to an applicant or revoke a permit registrant's coverage under this permit and require the owner or operator to apply for and obtain an individual permit.

b. Coverage under this permit is not available under the following circumstances:

i. The discharges are regulated by an individual permit.
ii. The discharges were included in an individual permit that has been or is in the process of being denied, terminated or revoked unless the source is otherwise eligible for coverage under this permit and DEQ approves the source's application to register under it and simultaneously revokes coverage under the individual permit.
iii. New discharger to waters designated as Outstanding Resource Waters for antidegradation purposes under 40 CFR 131.13(a)(3) and OAR 340-041-0004.

SCHEDULE A

1. **Narrative Technology Based Effluent Limits for Stormwater and Mine Dewatering Discharges**

   a. Erosion and Sediment Control – The permit registrant must:

      i. Stabilize exposed areas and contain runoff using structural and nonstructural controls to minimize erosion of soil at the site and sedimentation.

         1. Employ erosion control methods such as diverting stormwater around exposed areas, using slopes or berms to contain and isolate stormwater, vegetating exposed areas, or graveling or paving to minimize soil erosion at the site.
         2. Employ sediment control methods such as detention facilities, vegetated filter strips, bioswales, rock check dams, gravel or compost berms, flow velocity dissipation devices or other effective control methods to minimize sediment loads in stormwater discharges.
         3. Annually evaluate exposed areas that can be revegetated to minimize the size of the disturbed areas. Until vegetation is established, use mulching or other interim erosion control practices such as soil tackifiers, compost blankets or erosion control blankets/mats to minimize erosion.

      ii. Implement one or more of the following BMPs to control sediment track-out onto public or private roads outside the mining site:

         1. Establish graveled (or paved) exits and parking areas prior to any land disturbing activities.
         2. Gravel all unpaved roads located onsite.
         3. Restrict truck traffic from entering mined and disturbed areas during the wet weather season.
         4. Use an exit wheel wash to remove loose dirt or other materials from vehicles exiting the site.

         If the BMPs implemented on site are not controlling track-out, DEQ or Agent may require the permit registrant use an exit wheel wash or other effective BMPs.

      iii. Prevent the removal and stockpiling of overburden and other materials that easily erode during wet weather.

      iv. Remove material accumulated in settling ponds, catch basins, and similar facilities at least annually, and store the material in a location that will prevent erosion or discharge to surface waters.

      v. For activities that involve land disturbance for construction purposes or cause sediment to enter public infrastructure, contact the local municipality to determine if there are other applicable requirements related to stormwater control.

   b. Minimize exposure – The permit registrant must:

      i. Cover manufacturing, treatment, storage, and disposal areas to prevent exposure of stormwater and mine dewatering water to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.

      ii. Use grading, berming, or curbing to divert stormwater away from fueling, manufacturing, treatment, storage, and disposal areas and prevent stormwater and mine dewatering water contamination.

      iii. Store all hazardous substances (see Schedule D.3, Definitions) within berms or other secondary containment devices to prevent leaks and spills from contaminating stormwater and mine dewatering water. If the use of berms or secondary containment devices is not

possible, then store hazardous substances in areas that do not drain to the stormwater or mine dewatering drainage or sewer system.

iv. Perform all cleaning operations indoors, under cover or in bermed areas that prevent runoff and run-on and captures overspray. Ensure that all washwater drains to a proper collection system such as a closed-loop system or sanitary sewer and not discharged to the stormwater or mine dewatering drainage system. This does not apply to using low pressure cold water without soaps to rinse mud off of vehicles and equipment provided the rinse water is routed to a sediment treatment measure before it is discharged off site.

v. Use drip pans or absorbents under or around leaking or leak-prone vehicles/equipment or store the vehicles/equipment indoors. Drain fluids from equipment and vehicles prior to on-site storage or disposal.

vi. Clean up spills or leaks promptly using absorbents or other effective methods to prevent discharge of pollutants.

vii. Store uncured concrete, and any type of concrete solids (except fully cured or recycled concrete), uncured asphalt paving materials, or cold mix asphalt in a bermed area.

viii. Minimize dust generation.

c. Oil and Grease – The permit registrant must employ oil/water separators, booms, skimmers or other methods to eliminate or minimize oil and grease contamination of stormwater and mine dewatering discharges.

d. Waste Chemicals and Material Disposal – The permit registrant must recycle or properly dispose of wastes to eliminate or minimize exposure of pollutants to stormwater and mine dewatering water. Cover all waste contained in bins or dumpsters where there is a potential for drainage of stormwater through the waste to prevent exposure of stormwater to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.

e. Debris Control – The permit registrant must employ screens, booms, settling ponds, or other methods to eliminate or minimize waste, garbage and floatable debris in stormwater and mine dewatering discharges and ensure that this debris is not discharged to receiving waters.

f. Housekeeping – The permit registrant must routinely clean all exposed areas that may contribute pollutants to stormwater and mine dewatering water using such measures as sweeping paved areas at regular intervals, litter pick-up, keeping materials orderly and labeled, prompt clean up of spills and leaks, proper maintenance of vehicles and stowing materials in appropriate containers.

g. Spill Prevention and Response Procedure – The permit registrant must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and mine dewatering water and develop plans that include methods for spill prevention and clean-up and notification procedures. At a minimum, the permit registrant must implement the following:

i. Procedures for plainly labeling containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides,” etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur.

ii. Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.

iii. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills and other releases. Make the methods and procedures available to appropriate personnel. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures. Have the necessary clean-up material on-site and readily available.

iv. Procedures for notification of appropriate facility personnel, emergency agencies, and regulatory agencies. Contact information must be in locations that are readily accessible and available.

h. Preventative Maintenance – The permit registrant must regularly inspect, clean, maintain, and repair all industrial equipment and systems and materials handling and storage areas that are exposed to stormwater to avoid situations that may result in leaks, spills, and other releases of pollutants discharged to receiving waters. Clean, maintain and repair all control measures, including stormwater and mine dewatering structures, catch basins, and treatment facilities to ensure effective operation and in a manner that prevents the discharge of pollution.

j. Employee Education – The permit registrant must develop and maintain an employee orientation and education program to inform personnel on the components and goals of the SWPCP. The registrant must train all employees who work in areas where industrial materials or activities are exposed to stormwater or mine dewatering water, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel). Training must cover both the specific control measures used to achieve the narrative technology based effluent limits (such as spill response procedures, good housekeeping practices, proper use of treatment chemicals, and disposal of residual solids),and the monitoring, inspection, reporting and documentation requirements in the permit. The education and training must occur within 30 calendar days of hiring an employee who works in areas where stormwater is exposed to industrial materials or activities or conducts duties related to the implementation of the SWPCP, and annually thereafter.

k. Non-Stormwater Discharges – The permit registrant must eliminate any non-stormwater discharges not authorized by this permit (see condition 6 of the Permit Coverage and Exclusion from Coverage section for a list of authorized non-stormwater discharges).

2. Control Measures for Technology Based Effluent Limits

a. The permit registrant must select, design, install, implement and maintain control measures to meet the narrative technology based effluent limits in Schedule A.1 and describe these measures in the SWPCP.
b. For technology based effluent limits that require the permit registrants to minimize pollutants in the discharge, the permit registrant must reduce or eliminate pollutants to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In selecting the appropriate control measures to meet these limits, the permit registrant may consider the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, the pollutant reductions likely to be achieved, any adverse environmental or energy effects of potential measures, and the costs of achieving pollutant reductions.
c. The permit registrant must select, design, install, implement and maintain the control measures in accordance with good engineering practices and manufacturer's specifications. If the permit registrant deviates from manufacturer's specifications, the registrant must provide justification for such deviation in the SWPCP.

3. Limitations for Process Wastewater, Mine Dewatering Activities, Settling Ponds, Spoils, and Sanitary Waste

a. The discharge of process wastewater (see Schedule D.3, Definitions) to surface waters is not allowed. Process wastewater must be adequately controlled by settling, recirculation, controlled seepage, irrigation or dust control. Process wastewater must not be used for dust control on roads that drain to surface waters.
b. Mine dewatering discharges composed entirely of stormwater or uncontaminated ground water seepage is not process wastewater and may be discharged in accordance with this permit.

c. Wastewater pond(s) must be maintained with a minimum freeboard of one (1) foot, as measured from the lowest elevation of the top of the pond containment dikes. In situations where the minimum freeboard requirement cannot be met, the permit registrant must cease the discharge of wastewater into that pond.
d. Settling pond spoils and other waste solids must be used or disposed of in a manner which will prevent their entry into waters of the state.
e. Concrete mixer washout must be controlled in a pond or other containment and may not be discharged to surface waters. The pH of wastewater in a concrete mixer washout pond must be kept between 6 and 9 (SU).
f. Activities that could adversely affect groundwater must not be conducted. If DEQ suspects that activities have resulted in adverse groundwater effects, DEQ may require the permit registrant to perform a groundwater investigation.
g. For facilities adjacent to surface waters, no visible turbidity increase is allowed in the surface water.

4. Water Quality Standards

a. The permit registrant must not cause or contribute to a violation of instream water quality standards as established in OAR 340-041.
b. If at any time the permit registrant, DEQ or DOGAMI determines, that the discharge causes or contributes to an exceedance of water quality standards, permit registrant must take the following corrective actions:

   i. Within 24 hours of discovering the violation:
      1. Investigate the conditions that triggered the violation.
      2. Review the SWPCP and the selection, design, installation and implementation of control measures to ensure compliance with the permit.

   ii. Within 30 days of the discovering the violation, submit a report to DEQ or Agent that documents the following:

      1. The results of the investigation, including the date the violation was discovered and a brief description of the conditions that triggered the violation.
      i. Corrective actions taken or to be taken, including the date the corrective action was completed or is expected to be completed.
      ii. Document whether SWPCP revisions are necessary. If permit registrant determines that SWPCP revisions are necessary, submit a revised SWPCP to DEQ or Agent with the report.

   iii. The permit registrant must implement the corrective actions before the next storm event if practicable or no later than 60 days from discovering the violation, unless a later date is approved by DEQ or Agent.

c. DEQ may impose additional water quality-based limitations on a site-specific basis, or require the permit registrant to obtain coverage under an individual permit, if information in the application, required reports, or from other sources indicates that the discharge may cause or contribute to a violation of water quality standards, either in the receiving waterbody or a downstream waterbody. If DEQ determines that additional site specific requirements are necessary, DEQ will require the permit registrant to revise the SWPCP. DEQ will hold a 30 calendar-day public review period on the revised SWPCP.

5. Discharges to Impaired Waters

a. The following conditions apply to a new discharger or a new source discharging to an impaired waterbody:

i. The permit registrant must meet conditions A.3 and B.1.b.
ii. The permit registrant must implement and maintain any control measures or conditions on the site that enabled the permit registrant to become eligible for permit coverage and modify such measures or conditions as necessary pursuant to corrective action requirements in the permit.

b. The following conditions apply to an existing discharger to an impaired waterbody with a TMDL for a pollutant:

i. The permit registrant must meet conditions A.3 and B.1.b.i.

ii. If the TMDL establishes a wasteload allocation or additional requirements for stormwater discharges, DEQ will inform the permit registrant if any additional limits or controls are necessary to be consistent with the TMDL or if coverage under an individual permit is necessary. If DEQ determines that additional site specific requirements are necessary, DEQ will require the permit registrant to revise the SWPCP to incorporate the requirements. DEQ will hold a 30 calendar-day public review period on the revised SWPCP.

c. The following conditions apply to an existing discharger to an impaired waterbody without a TMDL for a pollutant:

i. The permit registrant must meet conditions A.3 and B.1.b.ii.2.
ii. The permit registrant discharging to a impaired waterbody for sedimentation or turbidity must implement one or more of the following BMPs to control and treat sediment and turbidity and provide the rationale for choosing the selected BMPs in the SWPCP:

1. Established vegetated buffers sized at 50 feet plus 25 feet per 5 degrees of slope.
2. Constructed wetlands or swales.
3. Treatment by electro-coagulation, chemical flocculation or filtration. Include an operation and maintenance plan if implementing electro-coagulation or chemical flocculation treatment BMPs that meets the requirements in condition A.8.d.
4. Other substantially equivalent sediment or turbidity BMP approved by the DEQ or Agent.

6. Prevent Discharge of Significant Amounts of Sediment

a. The permit registrant must prevent the discharge of significant amounts of sediment to surface waters or conveyance systems leading to surface waters. Significant amounts of sediment result from the actions or inactions of the permit registrant at a site and result in visual indications that sediment has left or is likely to leave the site. Any of the following conditions describe significant amounts of sediment:

i. Earth slides or mud flows.
ii. Concentrated flows of stormwater such as rills, rivulets or channels that cause erosion when such flows are not filtered or settled to remove sediment.
iii. Sediment laden or turbid flows of stormwater or mine dewatering water that are not filtered or settled to remove sediments or turbidity.
iv. Deposits of sediment at the site in areas that drain to unprotected stormwater inlets or catch basins that discharge to surface waters. Inlets and catch basins with failing sediment controls due to lack of maintenance or inadequate design are considered unprotected.
v. Deposits of sediment from the site on any property (including public and private streets) outside of the permitted mining site.

b. If significant amounts of sediment or turbidity are visibly detected in: 1) the discharge to a conveyance system leading to surface waters; 2) the discharge to surface waters 50 feet downstream; or 3) the discharge in surface waters at any location where more than one-half of the width of the receiving surface waters is affected, the permit registrant must:

   i. Immediately, but no later than 24 hours after initial detection, take interim corrective actions to ensure that significant amounts of sediment or turbidity are no longer visually detected in the discharge.
   ii. Submit a written report to DEQ or Agent within 30 days of the incident. The report must include:
      1. The site common name and DEQ file number.
      2. Name(s) of personnel conducting the inspections.
      3. A description of the noncompliance and its cause, including outfalls that were out of compliance and period of noncompliance.
      4. Corrective actions taken or to be taken, including date corrective action completed or expected to be completed. Where the permit registrant determines that additional corrective actions are not necessary, provide the basis for this determination.
      5. Document whether SWPCP revisions are necessary. If permit registrant determines that SWPCP revisions are necessary, submit a revised SWPCP to DEQ or Agent with the report.
   iii. The permit registrant must implement all corrective actions no later than 60 days from discovering the violation, unless a later date is approved by DEQ or Agent.

STORMWATER POLLUTION CONTROL PLAN

7. Preparation and Implementation of SWPCP

a. If a permit registrant's DOGAMI operating permit and reclamation plan meets the requirements below and contains all the required SWPCP elements in condition A.7, then the DOGAMI plan may be substituted for the SWPCP.
b. The SWPCP must be prepared by a person knowledgeable in stormwater management and familiar with the facility.
c. The SWPCP must be signed and certified in accordance with 40 CFR §122.22.
d. The permit registrant must implement the SWPCP and any revisions to the plan. Failure to implement any of the control measures or practices described in the SWPCP is a violation of the permit.
e. The SWPCP must be kept current and updated as necessary to reflect any changes to the site. The SWPCP must be updated within 30 days of making any changes to the site.

8. Required Elements- The permit registrant must ensure that the SWPCP contains the following information:

a. Title Page
   i. Name of the site.
   ii. Name, telephone number, and e-mail address, if available, of the site operator or owner.
   iii. The name of the person(s) preparing the SWPCP.
   iv. DEQ file number as indicated on the permit and DOGAMI site number, if applicable.
   v. SWPCP contact person's name, telephone number, and email address, if available.
   vi. Physical address, including county, and mailing address if different.

b. Site Description

i. A general location map showing the location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features.

ii. A site map including the following:

1. drainage patterns.
2. drainage and discharge structures (piping, ditches, etc.).
3. outline of the drainage area for each stormwater outfall.
4. paved areas and buildings within each drainage area.
5. areas used for outdoor manufacturing, treatment, storage, or disposal of significant materials.
6. operating equipment areas, including any area where a concrete or asphalt batch plant may be located.
7. existing structural control measures for minimizing pollutants in stormwater runoff;
8. structural features that reduce flow or minimize impervious areas.
9. material handling and access areas.
10. hazardous waste treatment, storage and disposal facilities.
11. location of wells including waste injection wells, seepage pits, drywells, etc.
12. location of springs, wetlands and other surface waterbodies both on site and adjacent to the site.
13. location of groundwater wells.
14. location and description of authorized non-stormwater discharges.
15. location of monitoring points.
16. location of spill prevention and cleanup materials.
17. location of wheel washing activities.

iii. A description of the mining and processing activities to take place on site. Describe the material to be mined, mining method, types of on-site processing, and area to be affected. List any hazardous or significant materials (see condition D.3, Definitions) that are stored, used, treated or disposed of in a manner that allows exposure to stormwater or mine dewatering water, including the methods of storage, usage, treatment or disposal.

iv. For each area of the site where a reasonable potential exists for contributing pollutants to stormwater runoff or mine dewatering water, a description of the potential pollutant sources that could be present in stormwater or mine dewatering discharges.

v. A description of BMPs installed and implemented to meet the technology and water quality based requirements in conditions A.1–A.6. Include in the description how the BMPs address potential pollutant sources from industrial activities and significant materials on-site, spills and leaks and authorized non-stormwater discharges.

vi. Estimate the maximum amount of surface area that, within the next five years, will be stripped of vegetation and could contribute to stormwater discharges relative to the total area drained by each stormwater or mine dewatering outfall. Of the total area to be disturbed, estimate the percentage that will be impervious and will not absorb rainfall into the ground.

vii. The name of the receiving water for stormwater and mine dewatering drainage. If drainage is to a municipal storm sewer system, the name of the ultimate receiving waters and the name of the municipality.

viii. The identification of the discharge outfall(s) and the point(s) where monitoring will occur as required by condition B.2.c. If multiple discharge outfalls exist but will not all be monitored, include a description of the outfalls and data or analysis supporting that the outfalls are representative as described in condition B.2.c.ii.

ix. The period of expected use of the site. If the site is not operated on a year-round basis, identify actions to secure the site during prolonged periods of inactivity.

c. Procedures and Schedules to meet the technology based effluent limits in condition A.1:

   i. Spill Prevention and Response Procedure - Procedures for preventing and responding to spills and clean-up and notification procedures. Spills prevention plans required by other regulations may be substituted for this provision provided that stormwater management concerns are adequately addressed and the plan is kept onsite and included with the SWPCP. The location of clean-up materials must either be shown on the site drawings or indicated in the text of the SWPCP.
   ii. Preventative Maintenance - Preventative maintenance procedures for conducting inspections, maintenance and repairs to prevent leaks, spills, and other releases and a schedule for regular pickup and disposal of waste materials, and inspections for leaks and conditions of drums, tanks and containers.
   iii. Employee Education – Schedule for employee training.

d. An operation and maintenance plan if using a chemical treatment system for removing sediment or other pollutants.

   i. Describe the following information in the plan:

      1. Chemicals used, the material safety data sheet and the application rate.
      2. A system schematic, location of system, location of inlet, location of discharge, and discharge dispersion device design.
      3. A plan for disposal of residues from chemical treatment.
      4. A sampling plan for treated stormwater or mine dewatering water to test for chemical treatment additives or soil stabilization polymers and sampling frequency.

   ii. The treatment system must be operated and maintained according to manufacturer's specifications.
   iii. Chemical treatment additives must be used at a dosing rate that results in no discharge of toxic substances to waters of the state in harmful amounts.
   iv. The discharge must be treated in a stormwater detention pond or other containment system.

9. SWPCP Revisions

a. The permit registrant must prepare SWPCP revisions in compliance with condition A.7 and clearly identify changes to activities on site and control measures.
b. Submission of all SWPCP revisions is not required. SWPCP revisions must be submitted only if they are made for any of the following reasons:

   i. Change in site contact.
   ii. In response to a corrective action or inspection.
   iii. Changes to the site or control measures that may significantly change the nature of pollutants present in stormwater or mine dewatering discharge; or significantly increase the pollutant(s) levels, discharge frequency, or discharge volume or flow rate.
   iv. Changes to the monitoring locations or outfalls.

c. If submission of SWPCP revisions is required, permit registrant must submit the revised pages of the SWPCP or site map to DEQ or Agent within 30 days of making the revisions.
d. Review of the revisions by DEQ or Agent prior to implementation is not required, except revision to location of monitoring locations. If the permit registrant does not receive a response to the revisions from DEQ or Agent within 30 days of submittal, the revisions are accepted.
e. DEQ or Agent may require the permit registrant revise the SWPCP at any time. The permit registrant must submit the revisions within 30 days, unless a later date is approved by DEQ or Agent.

f. SWPCP revisions are not subject to public notice and comment unless they are made in response to the water quality based requirements in conditions A.4 and A.5.

STORMWATER AND MINE DEWATERING DISCHARGE BENCHMARKS, REFERENCE CONCENTRATIONS, AND EFFLUENT LIMITS

10. Benchmarks and Reference Concentrations- Benchmarks and reference concentrations are guideline concentrations, not limitations. A benchmark or reference concentration exceedance is not a permit violation. Benchmarks and reference concentrations are designed to assist the permit registrant in determining whether site controls are effectively reducing pollutant concentrations in stormwater or mine dewatering water discharged from the site. DEQ or Agent will establish reference concentrations for applicable impairment pollutants for each facility. If impairment pollutants are present in a facility's discharge above the established reference concentration, the facility must meet Tier I corrective action requirements.

The benchmarks in Table 1 apply to each point source discharge associated with the industrial activity, with the following exceptions:

a. Uncommingled mine dewatering water from industrial sand facilities are not subject to TSS and pH benchmarks.

b. Uncommingled mine dewatering water from construction sand and gravel and crushed stone facilities are not subject to pH benchmarks.

Table 1. Statewide Benchmarks

Parameter	Benchmark
pH	5.5 – 9.0 SU
Total Suspended Solids	100 mg/L
Settleable Solids	0.20 ml/L
Total Oil & Grease	10 mg/L

11. Numeric Effluent Limits for Mine Dewatering Discharges – Numeric effluent limits are enforceable. Exceeding a numeric effluent limit is a violation of the permit. Numeric effluent limits also assist the permit registrant in determining if site controls are effectively controlling pollutants in mine dewatering water. The following effluent limits apply to discharges of uncommingled mine dewatering water:

Table 2. Effluent Limits for Uncommingled Mine Dewatering Discharges from Industrial Sand Facilities (SIC Code 1446)

Parameter	Effluent Limit	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	6.0 – 9.0 SU	n/a
Total Suspended Solids	45 mg/L	25 mg/L

Table 3. Effluent Limits for Uncommingled Mine Dewatering Discharges from Construction Sand and Gravel Facilities (SIC Code 1442) and Crushed Stone Facilities (SIC Codes 1422, 1423, and 1429)

Parameter	Effluent Limit
pH	6.0 – 9.0 SU

CORRECTIVE ACTIONS

12. Tier I corrective actions for exceedances of benchmarks, impairment pollutant reference concentrations and effluent limits:

a. If sampling results exceed any applicable benchmark (A.10), impairment pollutant reference concentration, or effluent limit (A.11), the permit registrant must within 30 calendar days of obtaining the monitoring results:

   i. Investigate the cause of the elevated pollutant levels.
   ii. Review the SWPCP and the selection, design, installation and implementation of BMPs to ensure compliance with the permit. If permit registrant determines that SWPCP revisions are necessary based on corrective action review, submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.
   iii. Summarize the following information in a report that is retained on site and submitted to DEQ or Agent upon request:

      1. The results of the investigation.
      2. Corrective actions taken or to be taken, including date corrective action completed or expected to be completed. Where the permit registrant determines that corrective action is not necessary, provide the basis for this determination.
      3. Document whether SWPCP revisions are necessary.

b. The permit registrant must implement the corrective actions before the next storm event if possible or as soon as practicable.
c. If controllable discharges, such as mine dewatering discharges, are causing or contributing to the exceedance, the permit registrant must cease such discharges until corrective actions have been put in place or it has been determined that such discharges do not contribute to the exceedance.
d. The permit registrant is exempt from the Tier I corrective action requirements for exceedances of benchmark parameters addressed by the Tier II corrective actions requirements in condition A.13.

13. Tier II corrective actions response based on 2nd year geometric mean evaluation:

a. Geometric Mean Evaluation

   i. The permit registrant must evaluate the sampling results collected during the 2nd year of permit coverage and determine if the geometric mean of the samples collected at each monitored outfall exceeds any applicable benchmark (A.10) or effluent limit (A.11). The permit registrant must report this information in DMR form for that monitoring year.
   ii. For the applicable pH benchmark or effluent limit, Tier II corrective action requirements are triggered if more than three samples collected during the first two years of permit coverage are outside of the applicable pH benchmark or effluent limit range.
   iii. This evaluation is not required if the permit registrant:
      1. Previously obtained a monitoring waiver from DEQ or Agent for the benchmark (see condition B.4), or
      2. Previously submitted a SWPCP that identified treatment measures to address the same benchmark (see condition 4 of the Permit Coverage and Exclusion section).

b. If the geometric mean of the sampling results for any outfall exceeds any benchmark or effluent limit, or if more than three samples for any outfall are outside of the applicable pH benchmark or effluent limit range, the permit registrant must implement one or more of the following treatment measures with the goal of achieving the benchmark (A.10) or effluent limit (A.11) in future discharges:

   i. Established vegetated buffers sized at 50 feet plus 25 feet per 5 degrees of slope.
   ii. Constructed wetlands or swales.
   iii. Treatment by electro-coagulation, chemical flocculation, or filtration. If implementing an electro-coagulation or chemical flocculation treatment BMP include an operation and maintenance plan that meets the requirements in condition A.8.d.
   iv. Other substantially equivalent treatment measure approved by DEQ or Agent.

   The permit registrant must inform DEQ or Agent of the rationale for choosing the selected measures and the projected pollutant reductions in the revised SWPCP.

c. A licensed professional engineer or certified engineering geologist must design and stamp the portion of the SWPCP that addresses the treatment measures.

d. A waiver from implementing treatment measures for benchmark pollutants may be requested if the permit registrant implements measures to reduce the volume of stormwater or mine dewatering water discharged from the site.

   i. These measures must be designed to reduce the mass load of pollutants in the discharge below the mass equivalent of the benchmarks in condition A.10.
   ii. The revised SWPCP must include data and analysis to support this determination, including the description of the measures, the date expected to be implemented and the mass load analysis.

e. Deadline(s): The permit registrant must:

   i. Submit the revised SWPCP to DEQ or Agent by December 31st of the third year of permit coverage. If the permit registrant does not receive a response from DEQ or Agent within 30 days of receipt, the proposed revisions are deemed accepted.
   ii. Implement interim measures before the wet season begins (October 1st).
   iii. Implement final treatment measures by June 30th of the fourth year of permit coverage, unless a later date is approved in writing by DEQ or Agent.

f. After the treatment measures are implemented, if sampling results continue to exceed any applicable benchmark, or effluent limit, the permit registrant must, within 30 days of obtaining the sample results, submit a report to DEQ or Agent that documents the following:

   i. The results of the investigation, including the reasons for exceedance.
   ii. Corrective actions taken or to be taken, including date corrective action completed or expected to be completed.
   iii. Document whether SWPCP revisions are necessary. If the permit registrant determines that SWPCP revisions are necessary based on the corrective action review, submit a revised SWPCP to DEQ or Agent with the report.

14. Permit Compliance

a. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act and state law. Failure to take a required corrective action constitutes an independent, additional violation of this permit and the Clean Water Act. Where corrective action is triggered by an event that does not itself constitute a violation, such as a benchmark or reference concentration exceedance, there is no permit violation provided that the permit registrant takes the corrective action within the deadlines identified in the permit.

b. A new permit registrant with a new facility (that begins operation after July 1, 2012) or an existing facility (that was in operation before July 1, 2012 without a stormwater discharge permit) must implement stormwater or mine dewatering water control measures to meet new technology and water quality based requirements in conditions A.1 – A.5 within 90 days of receiving permit coverage. Control measures that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP, but must be completed within two years of receiving permit coverage.

SCHEDULE B
MONITORING REQUIREMENTS

1. Pollutant Parameters

a. Benchmarks - The permit registrant must monitor for the benchmarks identified in condition A.10, except as provided for uncommingled mine dewatering water from industrial sand, construction sand and gravel, and broken stone industrial facilities.

b. Impairment Pollutants

i. The permit registrant is not required to monitor for a pollutant with a TMDL, unless the TMDL establishes a wasteload allocation and additional requirements for stormwater discharges.

ii. Discharges to an impaired waterbody without a TMDL:

1. New discharger or new source: The permit registrant must monitor for the impairment pollutants that are present at the site based on the analysis conducted to obtain coverage under the permit as required in condition 1.a.iii of the Permit Coverage and Exclusion from Coverage section of the permit.
2. Existing discharger: The permit registrant must monitor for any pollutant that meets all the following criteria:
   a. The pollutant is listed in Table 4, except as provided for batch plant operators and discharges that do not consist of uncommingled mine dewatering water.
   b. The waterbody to which the facility discharges is impaired for the pollutant, and
   c. The waterbody to which the facility discharges does not have a TMDL for the pollutant.

Table 4: Impairment Pollutants

Aldrin	Heptaclor
Arsenic	Iron
Arsenic (tri)	Lead
Chlordane	Mercury
Copper	PAHs
DDT	PCBs (Batch plant operators only)
DDT Metabolite (DDE)	Temperature (uncommingled mine dewatering discharges only)
Dieldrin	Zinc

c. Effluent Limits – Permit registrants in Industrial Classifications for Industrial Sand, Construction Sand and Gravel, and Broken Stone must monitor for the applicable effluent limits in condition A.11 if they discharge uncommingled mine dewatering water.

2. Sampling Procedures

a. Grab Sampling- For each outfall monitored, the permit registrant must collect a single grab sample of the discharge.

i. Grab composite or time or flow weighted composite samples may be used as an alternative, except when monitoring for pH and oil and grease. Composited samples must be collected from a single storm event.
ii. The permit registrants must use either electrometric measurement or an automated electrode to measure to measure pH.

b. Representative Sample – The permit registrant must collect a sample that is representative of the discharge or storm event. The sample must be taken at monitoring points specified in the SWPCP before the stormwater or mine dewatering water joins or is diluted by stormwater or mine dewatering water from a different drainage area of the facility or areas outside the facility; wastewater, or any other wastestream, body of water or substance unless:

i. Otherwise approved in writing by DEQ or Agent, or
ii. On-site stormwater or mine dewatering flows are combined to utilize a common treatment facility (for example, filter or settling pond). In this case, monitor the discharge from the treatment facility.

c. Multiple Point Source Discharges – The permit registrant must monitor each outfall unless:

i. Outfall serves an area with no exposure of stormwater or mine dewatering water to industrial activities.
ii. Outfall has effluent that is substantially similar to the effluent of a monitored outfall and the same BMPs are implemented and maintained at the similar outfalls or drainage areas that lead to the outfalls. Substantially similar effluents are discharges from drainage areas serving comparable activities where the discharges are expected to be similar in composition. The determination of substantially similar effluents must be based on past monitoring or an analysis of industrial activities and site characteristics. The data or analysis supporting that the outfalls are representative must be included in the SWPCP.

d. Timing –

i. Stormwater - The permit registrant must monitor the discharge during the first 12 hours of the discharge event, which is a measureable storm event resulting in an actual discharge from a site. If it is not practicable to collect the sample within this period, collect the sample as soon as practicable and provide documentation with the DMR form why it was not practicable to take samples within the period. The permit registrant is not required to sample outside of regular business hours or during unsafe conditions. Regular business hours are from 8 am to 5 pm on week days, unless the permit registrant specifies different hours in the SWPCP.

ii. Mine dewatering water – The permit registrant must monitor during times of discharge. The permit registrant is not required to sample outside of regular business hours or during unsafe conditions. Regular business hours are from 8 am to 5 pm on week days, unless the permit registrant specifies different hours in the SWPCP.

e. Monitoring Frequency

i. The permit registrant must monitor the discharge according to the frequency described in Table 5 below unless a monitoring variance or waiver is granted by DEQ or Agent.
ii. The monitoring year is from July 1st to June 30th.
iii. The permit registrant may collect more samples than the minimum frequency described below. The additional samples must be collected at least 14 days apart and reported in the DMR form. The additional samples must be included to establish a monitoring waiver in condition B.4 or to conduct the geometric mean evaluation in condition A.13.

Table 5: Monitoring Frequency

Pollutant Category	Minimum Frequency
Benchmarks	Four times per year at least 14 days apart. Two samples on or before Dec. 31 and two samples on or after Jan. 1.
Impairment Pollutants, if applicable	Two times per year at least 14 days apart One sample on or before Dec. 31 and one sample on or after Jan. 1.
Effluent Limits	Four times per year at least 14 days apart.

3. Monitoring Variance

a. Existing facilities that obtain permit coverage after April 1st are granted a monitoring variance for any applicable impairment pollutants or numeric effluent limits for the remainder of the monitoring year, which ends on June 30th. For new facilities that were not registered under the previous permit or existing facilities that obtained a monitoring waiver for benchmarks in the previous permit, this variance also applies to the benchmarks in Schedule A.10.

b. Permit registrants may request a monitoring variance for missed samples due to no discharge from the site if one of the following criteria is met:

   i. State or federal authorities declared the year a drought year.
   ii. Demonstrate that rainfall in the area where the permit registrant's facility is located was 20% or more below the three-year average rainfall for that area.
   iii. Demonstrate to the satisfaction of DEQ or Agent that discharge did not occur due to the following reasons:

      1. There were infrequent storm events of sufficient magnitude to produce run-off during normal business hours or under safe conditions.
      2. An on-site retention system or treatment system was used to prevent any discharge.
      3. Stormwater or mine dewatering discharge was controlled by pumps or valves and was contained on-site in ponds.

   For each missed sample due to the above reasons, report in the DMR form that no discharge occurred and include supporting data and analysis demonstrating why the monitoring did not occur.

4. Monitoring Waiver

a. The permit registrant may request a monitoring waiver under the following circumstances:

   i. If four consecutive sampling results are below the benchmark or reference concentration for an impairment pollutant, the permit registrant is not required to monitor for the pollutant for the remainder of the permit term. The permit registrant must submit to DEQ or Agent the analytical laboratory results from the four sampling events.

ii. If the exceedance is attributed solely to the presence of the pollutant in natural background and is not associated with industrial activities at the site, DEQ or Agent may consider these samples as being below the benchmark or reference concentration for an impairment pollutant. Permit registrant must submit a report to DEQ that describes the investigation and analysis to demonstrate that the exceedance is due to natural background conditions and includes data collected by the permit registrant or others (including literature studies) that describe the levels of natural background pollutants in the discharge.

iii. The permit registrant is not required to conduct monitoring for the remainder of the permit term if a site is inactive and has effective erosion and sediment control measures in exposed areas.

1. Permit registrant must provide documentation with the DMR form indicating that the site is temporarily inactive.
2. The statement must be signed and certified in accordance with Schedule F.

b. The permit registrant must submit to DEQ or Agent a request to exercise the monitoring waiver based on the conditions above and include the documentation to support the request. If DEQ or DOGAMI does not comment within 30 calendar-days, the monitoring waiver is deemed approved.

c. Revocation of Monitoring Waiver

i. Under the following circumstances DEQ may revoke a monitoring waiver and the permit registrant must reinstate monitoring if:

1. Prior monitoring efforts used to establish the monitoring waiver were improper or sampling results were incorrect.
2. Changes to site conditions are likely to affect discharge characteristics.
3. Additional monitoring occurs and the sampling results exceed benchmark(s) or reference concentration(s).
4. Additional inspections or documentation establish that benchmark(s) or reference concentration(s) were likely exceeded.
5. For temporarily inactive sites, the facility becomes active or the erosion and sediment controls are ineffective at controlling sediment runoff from the site.

ii. DEQ or Agent will notify the permit registrant in writing if the monitoring waiver is revoked.

5. Additional Monitoring- DEQ may notify the permit registrant in writing of additional discharge monitoring requirements. Any such notice will state the reasons for the monitoring, locations and pollutants to be monitored, frequency and period of monitoring, sample types and reporting requirements.

6. A New Permit Registrant Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River (For potential or existing dischargers that did not have a NPDES permit prior to January 28, 1994, and existing dischargers that have a NPDES stormwater discharge permit but request an increased load limitation.)

a. Not later than 180 calendar days after obtaining permit coverage, the permit registrant must submit to DEQ a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0350.
b. Within 30 calendar days of DEQ approval, the permit registrant must implement the monitoring and water quality evaluation program.

INSPECTIONS

7. The permit registrant must meet the following inspection requirements:

a. Active Sites: Inspections must be conducted in the following areas during regular business hours and according to the following frequency:

Table 6: Inspection Frequency

Area of site	Frequency
Dikes, containment system, and pond freeboard	Daily when operating, unless site is inaccessible due to adverse weather conditions. Pond freeboard may be inspected on a weekly basis if the facility has an alarm system or a float valve discharging to an overflow pond.
Mining clearing, grading, and excavation areas	Daily when stormwater runoff, including runoff from snow melt, is occurring, unless site is inaccessible due to adverse weather conditions. Monthly, if the entire site is temporarily stabilized or runoff is unlikely due to winter conditions (site is covered with snow, ice, or the ground is frozen) or seasonal arid periods.
Area of site	**Frequency**
All streams within 300 feet of an active seepage pond	Weekly, when operating, unless site is inaccessible due to adverse weather conditions.
Areas of the site where industrial activities are exposed to stormwater, including locations of BMPs, material storage and stockpiling areas, vehicle entrance and exit areas.	Monthly
Monitoring point(s)	Monthly, when discharging, for the presence of floating solids (associated with mining or batch plant activities), foam, visible oil sheen, and discoloration of the discharge.
Stormwater control facilities and drainage systems	Annually before wet weather season (by October 1st)

b. Temporarily Inactive Sites

i. Permit registrant must inspect the site once, prior to the site becoming inactive, to ensure that erosion and sediment control measures are in working order. Any necessary maintenance and repair must be made prior to leaving the site.

ii. Once the site becomes inactive, inspect the site every three months during the wet weather season (October 1 to April 30) unless the site is inaccessible due to adverse weather conditions.

iii. If the site becomes active, the permit registrant must immediately resume inspections according the frequency in Table 6 above.

c. Document the following in an inspection report that is retained on-site and submitted to DEQ or Agent upon request:

i. Description of adverse weather conditions, if site inaccessible.
ii. The inspection date, time and hours of operation.
iii. Control measures needing cleaning, replacement, maintenance, reconditioning or repair;
iv. The condition of the drainage/conveyance system and need for maintenance.
v. Previously unidentified sources of pollutants.
vi. Monthly observations of stormwater and mine dewatering discharges and whether the discharges contained floating solids (associated with industrial activity), foam, visible oil sheen, and was discolored. If these pollutants are present in the discharge, describe the corrective action(s) taken or that will be taken to remedy the problem. If no discharge occurred during the month, describe the reason in the report according to the requirements in condition B.3.b.

REPORTING AND RECORDKEEPING REQUIREMENTS

8. Reporting Monitoring Data

a. The permit registrant must submit a DMR form to DEQ or Agent by July 31st of each year that identifies the sampling results for the previous monitoring year and includes the laboratory results from the testing laboratory.
b. The permit registrant must report the minimum detection level and analytical methods for the parameters analyzed. Non-detections must be reported as "ND" with the detection level in mg/L parentheses, e.g., ND (0.005 mg/L). If the permit registrant uses an on-site Imhoff cone to analyze settleable solids, the detection level is 0.10 mg/L. In calculating the geometric mean, one-half of the detection level must be used for non-detections.

9. Record Keeping Procedures- Permit registrant must record and maintain at the facility the following information. All records must be retained by the permit registrant for at least 3 years and made available to DEQ or Agent upon request.

a. A copy of the SWPCP and any revisions, corrective actions reports, and inspection reports.
b. Inspection, maintenance, repair and education activities.
c. Spills or leaks of significant materials (see condition D.3, Definitions) that impacted or had the potential to impact stormwater or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

SCHEDULE D
SPECIAL CONDITIONS

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permit registrant of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.

2. **Availability of SWPCP and Monitoring Data.** The permit registrant must provide the SWPCP or monitoring data to government agencies responsible for stormwater management in the permit registrant's area upon request.

3. **Definitions**

   a. Active phase means the activities including the extraction, removal or recovery of minerals. For surface mines, this definition does not include any land where grading has returned the earth to a desired contour and reclamation has begun. This definition is derived from the definition of "active mining area" found at 40 CFR 440.132(a).
   b. Capital Improvements means the following improvements that require capital expenditures:
      i. Treatment best management practices including but not limited to settling basins, oil/water separation equipment, grassy swales, detention/retention basins, and media filtration devices.
      ii. Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
      iii. Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of stormwater to treatment systems.
      iv. Roofs and appropriate covers for manufacturing areas.
      v. Volume reduction measures, including low impact development control measures.
   b. Best Management Practices (BMPs**)** – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.
   c. Control Measure means any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.
   d. Existing Discharger means an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.
   e. Impairment Pollutant means a pollutant that is not meeting applicable state water quality standards in a receiving water, as identified by a state or EPA pursuant to Section 303(d) of the Clean Water act.
   f. Impaired Waters means those waters identified by a state or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable state water quality standards for one or more pollutants. This may include both waters with approved TMDLs, and those for which a TMDL has not yet been approved.
   g. Hazardous Substances as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
   h. Industrial Activity means the categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity" as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).
   i. Industrial Stormwater means stormwater runoff from industrial activity.

j. Material Handling Activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.
k. Mine dewatering water means any water that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. This term shall also include wet pit overflows caused solely by direct rainfall and ground water seepage.
l. Minimize means reduce or eliminate, or both, to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.
m. Natural background pollutants include substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the site, or pollutants in run-on from neighboring sources that are not naturally occurring.
n. New Discharger means a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, that is not a new source, and that has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.
o. New Source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants. The construction of the new source must commence after promulgation of standards of performance under section 306 of the CWA that are applicable to such source, or after proposal of standards of performance in accordance with section 306 of the CWA that are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.
p. Operator means any entity with a stormwater or mine dewatering discharge associated with industrial activity that meets either of the following two criteria:
    i. The entity has operational control over industrial activities, including the ability to modify those activities; or
    ii. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).
q. Outstanding Resource Waters means those waters designated by the commission where existing high quality waters constitute an outstanding state or national resource based on their extraordinary water quality or ecological values or where special water quality protection is needed to maintain critical habitat areas.
r. Point Source Discharge means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.
s. Primary industrial activity means any activities performed on-site that are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.
t. Process wastewater includes the following: process wastewater and waste solids from aggregate washing activities; wastewater and waste solids derived from air scrubber equipment; concrete mixer washout wastewater and waste solids; mine dewatering water that has been mixed with process or other wastewater; and storm water that has mixed with process or other wastewater.

u. Significant Materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges.

v. Stormwater Associated With Industrial Activity includes, but is not limited to, stormwater discharges from the following:

  i. Industrial plant yards;
  ii. Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
  iii. Material handling sites (Material handling activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.);
  iv. Refuse sites;
  v. Sites used for the application or disposal of process waste waters (as defined in 40 CFR § 401);
  vi. Sites used for storage or maintenance of material handling equipment;
  vii. Sites used for residual treatment, storage, or disposal; shipping and receiving areas;
  viii. Manufacturing buildings;
  ix. Storage areas (including tank farms) for raw materials, and intermediate and finished products;
  x. Areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. Significant materials includes, but are not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges; and
  xi. Stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.

w. Stormwater Conveyance means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.

x. Temporarily inactive site means a site or portion of a site where mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by DOGAMI.

y. Total Maximum Daily Load (TMDL) is the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background. See OAR 340-041-0002(65) and OAR 340-042-0030(15).

z. Treatment measures mean Best Management Practices that are intended to remove pollutants from stormwater. These measures include, but are not limited to: settling basins, oil/water separation equipment, detention/retention basins, media filtration devices, electrocoagulation, constructed wetlands and bioswales.

aa. Wasteload Allocation (WLA) means the portion of receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation. See OAR 340-041-0002(67).

4. **Public Agencies Acting as DEQ's Agent**

DEQ has authorized DOGAMI to act as its Agent in implementing this permit. DEQ also has authorized the City of Portland to act as its Agent in implementing this permit for facilities within Portland. DOGAMI and the City of Portland are authorized to conduct the following activities, including but not limited to: application and SWPCP review, corrective action review, inspections, monitoring data review, stormwater and wastewater monitoring and evaluate permit compliance. DEQ, DOGAMI, or the City of Portland will notify permit registrants where to submit reports, notifications or correspondence associated with this permit.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

   The permit registrant must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025, the Clean Water Act and 40 Code of Federal Regulations (CFR) §122.41(a), and is grounds for enforcement action; for permit termination, revocation and/or reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

   ORS 468.140 allows the Director to impose civil penalties up to $25,000 per day for violation of a term, condition, or requirement of a permit. ORS 468.943 creates the criminal offense of unlawful water pollution in the second degree, for the criminally negligent violation of ORS chapter 468B or any rule, standard, license, permit or order adopted or issued under ORS chapter 468B. Unlawful water pollution in the second degree is punishable by a fine of up to $25,000 or imprisonment for not more than one year, or both. In addition, OAR 468.946, creates the offense of unlawful water pollution of the first degree, which is a Class B felony.

3. Duty to Mitigate

   The permit registrant must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of the department, the permit registrant must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

4. Duty to Reapply

   If the permit registrant wishes to continue an activity regulated by this permit after the expiration date of this permit, the permit registrant must apply for and have the permit registration renewed. The application must be submitted at least 180 days before the expiration date of this permit. The department may grant written permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

   This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

   a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
   b. Failure to pay fees when they are due
   c. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
   d. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge

e. The permit registrant is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL)
f. New information or regulations
g. Modification of compliance schedules
h. Requirements of permit re-opener conditions
i. Correction of technical mistakes made in determining permit conditions
j. Determination that the permitted activity endangers human health or the environment
k. Other causes as specified in 40 CFR §§122.62, 122.64, and 124.5

DEQ will give permit registrant notice of the right to a contested case hearing in the event DEQ issues a Notice of Revocation, Suspension or Refusal to Renew the permit.

The filing of a request by the permit registrant for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permit registrant must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons of property or invasion of any other private rights, nor any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act and OAR 340-041-0033for toxic pollutants, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permit registrant must pay the fees required by OAR 340-045-0070 to 0075.
The permit registrant must pay annual compliance fees by the last day of the month prior to when the permit was issued. For example, if the permit was issued or last renewed in April, the due date will be March 31st. If the payment of annual fees is 30 days or more past due, the permit registrant must pay 9% interest per annum on the unpaid balance. Interest will accrue until the fees are paid in full. If DEQ does not receive payment of annual fees when they are due, DEQ will refer the account to the Department of Revenue or to a private collection agency for collection.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permit registrant must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permit registrant to

achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permit registrant only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permit registrant must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permit registrant in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

i. "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.

ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

(1) Bypass is prohibited unless:
(a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
(c) The permit registrant submitted notices and requests as required under General Condition B.3.c.

(2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permit registrant knows in advance of the need for a bypass, it must submit prior written notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permit registrant must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permit registrant. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permit registrant who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permit registrant can identify the causes(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permit registrant submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
(4) The permit registrant complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permit registrant seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter must be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.

(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permit registrant becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permit registrant must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the

measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permit registrant

If the permit registrant monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permit registrant's sewage sludge use and disposal activities, which must be retained for a period of at least five years (or longer as required by 40 CFR §503), the permit registrant must retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information must include:
a. The date, exact place, time and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

10. Inspection and Entry

The permit registrant must allow the Director, or an authorized representative upon the presentation of credentials to:
a. Enter upon the permit registrant's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permit registrant must comply with Oregon Administrative Rules (OAR) 340, Division 052, "Review of Plans and Specifications". Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers must be commenced until the plans and specifications are submitted to and approved by the Department. The permit registrant must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permit registrant must give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permit registrant provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit must be transferred to a third party without prior written approval from the Director. The permit registrant must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14

days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permit registrant must report any noncompliance which may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permit registrant becomes aware of the circumstances. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permit registrant becomes aware of the circumstances. If the permit registrant is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission must contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected;
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information which must be reported within 24 hours under this paragraph:

a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
b. Any upset which exceeds any effluent limitation in this permit.
c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permit registrant must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:
a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permit registrant must furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permit registrant must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permit registrant becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements

   All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Reports

   Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison.

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m^3/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.
18. Uncontaminated means free from the presence of pollutants attributable to industrial activity.

Oregon Department of Geology and Mineral Industries
Mineral Land Regulation and Reclamation Program
229 Broadalbin Street SW
Albany, OR 97321-2246
(541) 967-2039
Fax (541) 967-2075

Operating Permit Application Form Division 30 & Division 35*

*DOGAMI may require additional information for Division 35 applications.

Primary Point of Contact

To ensure effective communications and timely processing, a Primary Point of Contact (PPC) is recommended for this application. The PPC should be a representative of the applicant with signature authority or a designated agent. Documentation of signature authority and/or designated agent is required for all applicants registered to do business in the state of Oregon. DOGAMI specific Designated Agent and Signature Authority forms are available on our website.

Section 1: Contact Information

1a. Applicant / Proposed Permittee

Name of Applicant: **Stone Butte Rock, LLC**			
Mailing Address: **94912 Highway 42 S**	City: **Coquille**	State: **OR**	Zip: **97423**
Telephone: **541-404-8004**	Fax:	Email: **mjackson@1791.com**	
Preferred method of contact ☐ Telephone ☒ Email			

1b. Primary Contact for the Application

Name: **H. Tom Kuper**			
Mailing Address: **3575 Runnung Deer Rd**	City: **Helena**	State: **MT**	Zip: **59602**
Telephone: **503 680-3264**	Fax:	Email: **tom@kupercon.com**	
Preferred method of contact ☐ Telephone ☒ Email			

1c. Application Prepared By

Name: **H. Tom Kuper**			
Mailing Address: **3575 Running Deer Rd.**	City: **Helena**	State: **MT**	Zip: **59602**
Telephone: **406-475-3244**	Fax:	Email: **tom@kupercon.com**	
Preferred method of contact ☐ Telephone ☒ Email			

1d. Operator Information

Name: **JE McAmis**			
Mailing Address: **621 C ountry Drive**	City: **Chico**	State: **CA**	Zip: **95928**
Telephone: **530-891-5061**	Fax:	Email: **scott@jemcamis.com**	

1e. Contact Person for Field Visits

Name: **Scott Vandegrift**	Preferred method of contact ☐ Telephone ☒ Email		
Telephone: **530-891-5061**	Fax:	Email: **scott@jemcamis.com**	

1f. Landowner Information

Name of Landowner (1): **Madelyn Jackson et al**			
Mailing Address: **94912**	City: **Coquille**	State: **OR**	Zip: **97423**
Telephone: **541-326-5716**	Fax:	Email: **mjackson@1791.com**	
Name of Landowner (2):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	

1g. Mineral Estate Owner Information – If Split Estate

Name of Mineral Estate Owner (1):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	
Name of Mineral Estate Owner (2):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	

Section 2: Project Description

2a. Location Information

Address and/or highway and milepost of surface mine:

Highway 101, Milepost 291.62

Distance from the nearest named community: **1** mile(s) from **Denmark**

Directions to site (from the nearest town or major intersection):

From Denmark head south 3.5 miles, take left (east) on gravel road past KOA for about 2 1/2 miles.

Legal Description:

County: **Curry**

Township:	31S	Range:	15W	Section:	23	Tax Lot(s):	2302
Township:		Range:		Section:		Tax Lot(s):	
Township:		Range:		Section:		Tax Lot(s):	
Township:		Range:		Section:		Tax Lot(s):	

Latitude/Longitude: **42.874159 / -124.436031**

Site Name: **Stone Butte Quarry**

Does this site have a current DOGAMI Operating Permit, Exploration Permit, Exclusion Certificate, or Grant of Limited Exemption, or has it been permitted in the past? ☒ yes ☐ no

If yes: Specify DOGAMI ID# **08-0064**

Is there an approved Limited Exemption Closure Plan on file with DOGAMI? ☐ yes ☒ no

2b. Application Type

Please indicate the purpose of this application:

☐ New Operating Permit – skip to 2c.

☒ Amendment to a current Operating Permit

If you are applying for an Amendment to a current Operating Permit, please describe in detail the intended modifications:

Amendmend to expand Operating Permit area in north by 14.4 AC for stockpiling and expand Excavation area by 21.9 AC.

The Proposed Operating and Reclamation Plans in this Amendment will (check one):

☐ Replace the existing approved plan(s) on file with DOGAMI and apply to the entirety of the site upon completion of this Amendment.

☒ Pertain only to the Amendment area and are in addition to the existing approved plan(s) on file with DOGAMI.

2c. Third Party Permits and Approvals

Do you know of any state, federal or local government permits or approvals that will be required for this mining operation? ☒ yes ☐ no

If yes: Please list any state, federal or local government permits or approvals and describe the status:

Curry County Counditional Use Permit - in process of approval

NPDES 1200-A Discharge Permit - in process of approval

ODOT Approach Road Permit - in place

*Note: DOGAMI can only issue an Operating Permit if all required state, federal, and local government approvals have been obtained, otherwise a Provisional Operating Permit will be issued. POP's are not applicable to Operating Permit Amendment applications.

2d. Permit Acreage and Boundaries

Specify the approximate total number of acres to be covered under the Operating Permit **87** acres

Does the proposed permitted acreage coincide with the area approved by the local land use jurisdiction? ☐ yes ☒ no

If no: Explain: **Not approved by Curry County yet**

Have the boundaries of the proposed permit area been marked on the ground with temporary or permanent boundary markers? ☐ yes ☒ no

If yes: Describe boundary markers:

What is the total number of acres to be affected by mining related activities in the 12 months following permit issuance (include excavation, processing, stockpiling and land clearing)? **20** acres

2e. Site Conditions

General Topography in the vicinity of the permit area (check all that apply):

☒ mountains ☒ hills/buttes ☒ valleys ☐ plains ☐ badlands
☐ floodplain ☐ other: _____ ☐ other: _____

Site Specific Topography (describe the topography within the permit area):

Current Land Use(s) for all tax lots or parcels within the permit area (check all that apply):

☒ range/open space ☒ forestry ☐ industrial ☐ wildlife/wetland ☐ recreation
☐ residential ☐ commercial ☐ agriculture ☐ other: _____ ☐ other: _____

Structures, Facilities & Surface Disturbances:

☐ none ☐ residential ☐ farm/ranch
☒ industrial/commercial ☒ roads ☒ overhead power lines or facilities
☒ underground utilities (e.g. electrical, fiber optic, water, sewer, etc.) ☐ oil/gas structures or pipelines ☐ other: _____

Additional Description (optional):

Vegetation (general description of the dominant grasses, forbs, shrubs and trees located within the permit area):

pine trees, shrubs, & grasses

Listed sensitive, threatened or endangered fish and/or wildlife species (within the permit area and nearby water ways):

Surface Water Features within or near the permit area (includes features that may contain water at any time, including seasonal and stormwater runoff):

☐ none ☐ river _____ ☐ stream/creek _____ ☒ spring
☒ lake/pond ☐ irrigation ditch/canal ☐ ephemeral drainage ☒ wetlands*

***The DOGAMI Wetland Supplemental Form may be required to be submitted with this application package.**

2f. Surrounding Area Conditions

Land Use(s) within 1,500 feet of the permit area (check all that apply):

☒ range/open space ☒ forestry ☐ industrial ☐ wildlife/wetland ☐ recreation
☐ residential ☐ commercial ☐ agriculture ☐ other: _____ ☐ other: _____

Structures, Facilities & Surface Disturbances within 1,500 feet of the permit area (check all that apply):

☐ none	☐ residential	☐ farm
☒ industrial/commercial	☒ roads	☒ overhead power lines or facilities
☒ underground utilities (e.g. electrical, fiber optic, water, sewer, etc.)	☐ oil/gas structures or pipelines	☐ other: _____

What is the distance to the nearest structure not owned by the permittee? **4,500** feet

Surface Water Features within 1,500 feet of the permit area (check all that apply):

☐ none	☐ river _____	☐ stream/creek _____	☒ spring
☒ lake/pond	☐ irrigation ditch/canal	☐ ephemeral drainage	☒ wetlands*

***The DOGAMI Wetland Supplemental Form may be required to be submitted with this application package.**

Section 3: Proposed Operating Plan

3a. Development Plans & Equipment

What type of surface mine will be developed?

- ☐ single bench
- ☒ multiple bench
- ☒ sidehill cut
- ☒ hilltop removal
- ☒ open pit
- ☐ pond excavation
- ☐ other: _____
- ☐ other: _____

What is the primary commodity? (Select One)

- ☐ lava
- ☐ decomposed granite
- ☐ pumice
- ☐ topsoil
- ☐ borrow/fill
- ☐ diatomaceous earth
- ☐ sand and gravel
- ☐ bentonite
- ☐ cinder
- ☐ dredge tailings
- ☐ shale
- ☒ other: **Basalt**

What is the primary use? (Select One)

- ☐ asphalt aggregate
- ☐ concrete aggregate
- ☐ landscaping materials
- ☐ other: _____
- ☒ base rock aggregate
- ☐ construction fill
- ☒ rip rap

What is the general deposit type?

- ☒ bedrock
- ☐ river/floodplain (alluvial)*
- ☐ river channel terrace
- ☐ talus
- ☐ other: _____
- ☐ unknown

***The DOGAMI Floodplain Supplemental Form may be required to be submitted with this application package.**

Check all mining methods and on-site activities that apply:

- ☒ drilling and blasting
- ☒ ripping and loading
- ☒ crushing
- ☐ washing
- ☐ screening
- ☒ shovel/loader/scraper
- ☐ material recycling
- ☒ stockpiling
- ☐ other: _____
- ☐ other: _____

Equipment to be used for mining and processing includes (check all that apply):

- ☒ loaders
- ☒ dozers
- ☒ excavators
- ☒ trucks
- ☐ screeners
- ☒ crushers
- ☒ drilling equipment
- ☐ other: _____
- ☐ other: _____

Date to begin mining activities: Expected duration (in years):

3b. Water Management

Indicate the proposed use(s) of water (check all that apply):

- ☐ wash plant
- ☐ asphalt plant
- ☐ concrete batch plant
- ☒ dust control
- ☐ crusher
- ☐ other: _____

Note: A DEQ permit will be required for process water generated and stored on site.

If applicable: Is the water source within 300 feet of the permit area? ☒ yes ☐ no

If yes: Identify the source of water to be used and show its location on a map:

- ☐ irrigation ditch
- ☒ pond
- ☐ pit
- ☐ groundwater well
- ☒ other: **water truck**

Note: A water right may be required by the Oregon Water Resource Department.

Will water be stored on site? ☐ yes ☐ no

If yes: What will the water be stored in?

- ☐ detention/retention pond
- ☒ lined detention/retention pond
- ☐ water storage tank
- ☐ other: _____

What is the approximate depth that groundwater is first encountered? **50' below quarry floor** feet below ground surface

What source or method was used to determine depth to groundwater? **Air-track logs**

Have monitoring wells been constructed on site or are monitoring wells proposed? ☐ yes ☒ no

If yes: A DOGAMI Groundwater Supplemental Form must be submitted with this application.

Will excavation operations be conducted below groundwater level? ☐ yes ☒ no

Will dewatering be conducted at this site? ☐ yes ☒ no

If yes: A DOGAMI Groundwater Supplemental Form must be submitted with this application and a DEQ Permit may be

required.

Has a DEQ water quality permit been obtained for the site?

If yes: DEQ Permit #

3c. Designated Setbacks

Will surface mining operations require crossing external property lines? ☐ yes ☒ no

What will be the minimum undisturbed property line setback for:

Excavation operations: **0** feet wide

Processing operations: **0** feet wide

Stockpiling operations: **0** feet wide

If proposing disturbances within the setbacks (such as visual berms or roads), explain:

Specify the minimum undisturbed setback(s) between mining operations and:

Overhead utilities (poles or towers): _____ feet wide

Underground utilities (e.g. electrical, fiber optic, water, sewer, etc.): _____ feet wide

Right-of-Way/Easement Road: _____ feet wide

Other: **wetlands, ponds, streams, 50** feet wide

☐ not applicable (none of the above-listed items are present within the proposed permit area)

Are setbacks shown on the attached map(s)? ☒ yes ☐ no

If no: Explain:

Have setbacks been marked on the ground with permanent or temporary boundary markers? ☐ yes ☒ no

If no: Explain: **will be when plans approved**

3d. Designated Buffers

Does a naturally vegetated area (buffer) exist along a river, stream or natural drainage? ☐ not applicable ☒ yes ☐ no

If no or not applicable, skip to 3e.

What are the minimum undisturbed buffers for the following:

River (Ordinary High Water Line): _____ feet wide

Stream (Ordinary High Water Line): **50** feet wide

Natural drainage: **50** feet wide

Riparian Vegetation: **50** feet wide

Have the undisturbed buffers been marked on the ground with permanent or temporary boundary markers? ☒ yes ☐ no

Have conservation/protection buffers been established? ☐ not applicable ☒ yes ☐ no

If yes: check all that apply:

☐ unstable slopes ☒ wildlife habitat ☒ water quality ☐ other: _____

Describe the nature and configuration of the conservation buffer(s):

3e. Visual Screening

Does a natural landform or vegetative screen currently exist?

Along the **permit** boundary ☒ yes ☐ no

Within the **permit** boundary ☐ yes ☒ no

Along the **property** boundary ☐ yes ☒ no

Within the **property** boundary ☐ yes ☒ no

If yes to any of the above: Describe: **heavy timber growth**

Will a berm be constructed along the permit boundaries to develop a visual screen? ☐ yes ☒ no

If yes: The average height of the constructed screen/berm will be _____ feet tall and _____ feet wide.

Will a vegetative screen be established along the permit boundaries to develop a visual screen? ☐ yes ☒ no

If yes: If planting trees, what is the estimated height at maturity? _____ feet tall

Please describe (include species and planting densities):

Will a fence be installed along the permit boundary for safety or visual screening? ☐ yes ☒ no

Will the screening/fencing/berm be maintained for the life of the surface mine? ☒ not applicable ☐ yes ☒ no

If no: Explain: **not applicable since a remote site**

3f. Vegetation

Will vegetation be removed sequentially from areas to be mined to prevent unnecessary erosion? ☒ yes ☐ no

If no: Explain:

Will small trees and other transplantable vegetation be salvaged for use in revegetating other phases? ☐ yes ☒ no

Wood and other organic debris will be (check all that apply):

☐ recycled ☐ removed from site ☒ chipped ☒ burned ☐ buried

☒ piled and composted on site for growth medium or mulch ☐ other: _____ ☐ other: _____

Note: A DEQ permit is generally required for burial of debris and may be required for burning.

Will coarse wood (logs, stumps) and other large debris be salvaged for fish and wildlife habitat? ☐ not applicable ☐ yes ☒ no

3g. Soil and Overburden Salvage and Stabilization

Identify and characterize the type(s) of soil present within the site area per NRCS Web Soil Survey:

Sevensen-Reedsport complex, 15 to 30 percent slopes

Will growth medium and overburden materials be salvaged? ☒ yes ☐ no

Explain: **Soil & Overberden will be stockpiled onsite and used in quarry reclamation.**

Will growth medium and overburden materials be segregated and stored separately during stripping operations? ☐ yes ☒ no

Explain proposed stripping, handling, and storage of growth medium and overburden materials: **Overburden will be stripped and stockpiled as indicated on Mining Plan set.**

For the areas to be stripped:

Thickness of growth medium averages **2** ☐ inches ☒ feet

Thickness of overburden averages **48** ☐ inches ☒ feet

Depth to bedrock is approximately **50** ☐ inches ☒ feet (below ground surface).

Total volume of growth medium available within the permit area is **60,000** cubic yards.

Total volume of stored growth medium is **60,000** cubic yards and will require **1** acres for storage.

Total volume of stored overburden is **1.5 million** cubic yards and will require **20-30** acres for storage.

Will growth medium and overburden materials be moved directly to mined out portions of the site for concurrent reclamation? ☒ yes ☐ no

Will the storage areas be cleared of all vegetation and organic matter prior to stockpiling? ☐ yes ☒ no

If no: Explain: **Undersize jetty stone rock material will be temporarily stockpiled on grass covered slopes per mining plans.**

Will subsurface drainage for the storage area be established prior to material placement? ☐ yes ☒ no

Explain:

Will growth medium and overburden materials be stabilized with vegetation to prevent water and wind erosion if stored for more than one season? ☒ yes ☐ no

If no: Explain:

Are the storage areas delineated on the attached map(s)?	☒ yes ☐ no

3h. Surface Mine Excavations
What is the total number of acres to be affected by mining related activities (include excavation, processing, stockpiling and land clearing)? **87.1** acres
What is the maximum vertical depth to be mined below the existing topographic grade? **340** feet
What will be the lowest elevation of the excavated mine relative to mean sea level? **1,060** feet
What will be the highest elevation of the excavated mine relative to mean sea level? **1,400** feet
Will benches be developed as mining operations advance? ☒ yes ☐ no **If yes:** The average dimensions of the benches will be approximately: **40** foot vertical faces separated by **40** foot horizontal benches resulting in an interim sloping configuration of **1** H: **1**V (e.g. 1½H:1V, 2H:1V) **If no:** The interim sloping configuration of the excavation slopes will be: _____H: _____V (e.g. 1½H:1V, 2H:1V).
Will excavation operations result in the creation of ponds/water-filled excavation areas? ☐ yes ☒ no **If yes:** The interim sloping configuration of the in-water slopes will be _____H: _____V (e.g. 3H:1V).
Will oversize be generated on site? ☒ yes ☐ no **If yes:** Specify the location for storage: **jetty stone size rock will be stockpiled within the DOGAMI permit boundary**
Will any waste products such as tailings or crusher fines be generated during mining? ☒ yes ☐ no **If yes:** Specify the location for storage: **to be stockpiled within the DOGAMI permit boundary**
Are the storage/stockpile areas delineated on the attached map(s)? ☒ yes ☐ no

3i. Best Management Practices and Stormwater Controls		
Will all stormwater runoff be contained on site? ☒ yes ☒ no **If no: A DEQ (NPDES)Permit may be required.**		
Methods to control erosion and minimize sedimentation within the permit area include (check all that apply):		
☒ minimize the areas stripped	☒ divert natural runoff around the site	☒ graveled roads and working areas
☒ internal sloping	☒ conveyance ditches	☒ rock check dams
☒ water bars	☒ settling/infiltration ponds	☒ retention berms
☒ seeding and mulching	☒ other: **refer to stormwater plans**	☐ other: _____

Section 4: Reclamation Plan

4a. Post-Mining Land Use

Subsequent Land Use(s) of the permit area (check all that apply):

☐ range/open space ☒ forestry ☐ industrial ☐ wildlife/wetland ☐ recreation
☐ residential ☐ commercial ☐ agriculture ☐ other: _____ ☐ other: _____

If more than one post-mining land use is selected provide a map delineating where each use is applicable.

What will be the average elevation of the reclaimed mine floor relative to mean sea level? **1,200** feet

Is the proposed post-mining land use compatible with the existing local land use jurisdiction? ☒ yes ☐ no

If no: Explain:

Is the final local land use approval for surface mining attached? ☐ yes ☒ no

If no: Explain: **Curry Co CU approval in process**

4b. Reclamation Schedule

Will reclamation activities be conducted concurrently with mining? ☒ yes ☐ no

If no: How many days after mining is completed will reclamation operations begin?

If yes: Has the permit area been divided into cells/phases for sequential mining? ☒ yes ☐ no

4c. Final Excavation Slopes

Will final excavation slopes be constructed using the benching method? ☒ yes ☐ no

If yes: The average dimensions of the final benches will be approximately **40** foot vertical faces separated by **60** foot horizontal benches resulting in an interim sloping configuration of **1 1/2**H: **1**V (e.g. 1½H:1V, 2H:1V).

Will final slopes be constructed via a continuous slope? ☒ yes ☐ no

If yes: The completion of Section 4d is required.

Will reclamation blasting be used to reduce the entire highwall to a scree or rubble slope less than 2H:1V? ☐ yes ☒ no

If yes: Will access to benches be maintained for reclamation blasting? ☐ yes ☐ no

Will selective blasting will be used to remove benches and walls and to create chutes, buttresses, spurs, scree slopes, and rough cliff faces that appear natural or blend in with surrounding topography? ☐ yes ☒ no

Will final excavation slopes be steeper than 1½H:1V? ☐ yes ☒ no

If yes: The DOGAMI Slope Stability Supplemental Form must be submitted with this application.

Will small portions of benches or vertical faces be left to provide habitat for raptors and other cliff-dwelling birds? ☒ yes ☐ no

Will the final excavation slopes vary in steepness? ☐ yes ☒ no

If yes: Explain:

Are cross-sections of the final excavation slopes attached? (may be required) ☒ yes ☐ no

Will measures be taken to limit access to the top and bottom of hazardous slopes? ☐ yes ☒ no

Explain: **slope benches will be planted with trees per mining plan set**

4d. Final Fill Slopes

Will above-water final fill slopes be constructed on site? ☒ yes ☐ no

If no: Skip to 4e.

Will final fill slopes be steeper than 2H:1V or exceed 100 lineal feet in length? ☐ yes ☒ no

What will be the final sloping configuration of fill slopes? **2**H: **1**V (e.g. 2H:1V)

If yes: The DOGAMI Slope Stability Supplemental Form must be submitted with this application.

Will the final fill slopes vary in steepness? ☐ yes ☒ no

If yes: Explain:

Will fill slopes have a sinuous appearance in both profile and plan view? **If no:** Explain:	☒ yes ☐ no
Will the final grouser tracks of equipment be preserved and oriented to trap moisture, growth medium, and seeds, to encourage seed germination and inhibit erosion (track walking)?	☒ yes ☐ no

4e. Working Floors	
Will flat working areas be formed into gently rolling hills to blend in with the surrounding area? **If yes:** Give details:	☐ yes ☒ no
Will the working floor be gently graded into sinuous drainage channels to preclude sheet-wash erosion during heavy rain events? **If yes:** Give details:	☐ yes ☒ no
Will the working floor and other compacted areas be, plowed, ripped, or blasted to decompact the upper surface prior to spreading growth mediums to foster revegetation? Explain (If yes, include depth of decompaction):	☐ yes ☒ no

4f. Imported Fill	
Will imported materials be necessary to complete reclamation? **If no:** Skip to 4g. **If yes:** Give volumes needed to meet reclamation plan: _____	☐ yes ☒ no
Are the locations for fill stockpiling and permanent placement shown on the map(s)? How will the quality of imported fill be monitored to ensure it meets DEQ clean fill standards? _____	☐ yes ☐ no
Will the backfill materials be mixed or screened to ensure uniformity for compaction and stability?	☐ yes ☐ no

4g. Backfilling Operations	
Will an excavation area be located below natural grade requiring backfilling? **If no:** Skip to 4h	☐ yes ☒ no
What will be the total depth of backfilled materials? _____ feet.	
Will backfilling be conducted in lifts? **If yes:** Specify the average depth of the lifts: _____ feet.	☐ yes ☐ no
Will the backfilled slopes be compacted? Explain:	☐ yes ☐ no
Will compaction testing be conducted under supervision/direction of an Oregon Certified Engineering Geologist or Geotechnical Engineer to determine the compaction percentage? (may be required subject to post-mining land use)	☐ yes ☐ no
Will backfilling be completed utilizing on site overburden materials? **If yes:** Explain:	☐ yes ☐ no
Will you be backfilling into water? **If no:** Skip to 4h	☐ yes ☐ no
Will dewatering be necessary for the backfilling operations? **If yes: A DOGAMI Groundwater Supplemental Form is required to be submitted with this application and a DEQ NPDES Permit may be required.**	☐ yes ☐ no
Will backfilling be limited to the dry season or otherwise conducted under dry conditions? **If no: A DOGAMI Slope Stability Supplemental Form may be required.**	☐ yes ☐ no
Will the excavation pit/pond be *entirely* backfilled to natural ground surface elevation? **If no:** The completion of Section 4h is required for in-water sloping configurations.	☐ yes ☐ no

4h. Ponds and Wetlands

Will stormwater controls or excavation operations intersect the groundwater table resulting in the creation of ponds and/or wetlands? ☐ yes ☒ no

If no: Go to Section 4i.

Specify the construction method and dimensions for each settling/infiltration pond to remain on site:

Pond #1 will be approximately _____ acres in size and approximately _____ feet deep and constructed via:

☐ excavation ☐ retention berms ☐ combination of both

Pond #2 will be approximately _____ acres in size and approximately _____ feet deep and constructed via:

☐ excavation ☐ retention berms ☐ combination of both

All in-water sloping configurations will be constructed at _____ H: _____ V or flatter to a minimum depth of _____ feet below the low-water level of the ponds(s).

Per OAR 632-030-0027(5), all in-water sloping configurations must be established at 3H:1V or flatter from the ordinary high-water level to six feet below the ordinary low-water level for permanent water impoundments.

If not already present, will soils, silts, and clay-bearing materials be placed below water level to enhance revegetation for fish and wildlife habitat? ☐ yes ☐ no

If yes: Give details:

Will wetlands be constructed on site? ☐ yes ☐ no

If yes: Give details:

Will wildlife and fish habitat/enhancements be developed? ☐ yes ☐ no

If yes: Check all that apply:

☐ varied water depths ☐ islands ☐ peninsulas ☐ fish structures

☐ shallow areas (<18 inches deep) ☐ sinuous/irregular shorelines ☐ other: _____ ☐ other: _____

What species are the habitat/enhancements intended to benefit?

Will final pond(s) be utilized for agriculture, forestry or supply water (impoundment)? ☐ yes ☐ no

If no: Skip to 4i.

Has approval from other agencies with jurisdiction to regulate impoundment of water been obtained? ☐ yes ☐ no

If yes: Attach written approval.

What measures will be taken to prevent seepage from the site from adversely affecting the stability of impoundments and adjacent slopes? (check all that apply):

☐ monitoring ☐ relief drains ☐ weep holes

☐ compaction ☐ grouting ☐ installing upstream blanket

☐ none

Give details:

What measures have been taken to design impoundments to resist seismic hazards?

4i. Growth Medium Replacement

Will the importation of growth medium be required to complete reclamation? ☐ yes ☒ no

Explain (if yes, describe source):

Will growth medium materials be replaced on all above-water slopes and/or benches? ☐ yes ☒ no

If no: Explain: **growth medium mixed with overburden will be placed on quarry benches and floor per mining plan.**

Will growth medium be distributed evenly over the site? ☐ yes ☒ no

If no: Specify: **see explanation above**

Soil will be replaced on the mine floor to an approximate depth of **4** ☐ inches ☒ feet

Soil will be replaced on established benches to an approximate depth of **4** ☐ inches ☒ feet

If growth medium is in short supply, will it be strategically placed to conserve moisture and promote revegetation? **If no:** Explain:		☐ yes	☒ no
Will growth medium be moved when conditions are exceptionally wet or dry? **If yes:** Explain:	☒ not applicable	☐ yes	☐ no
If applicable: will clay/silt from settling ponds be used to supplement the growth medium materials?		☐ yes	☒ no
Will any additional materials be utilized as a growth medium substitute to complete revegetation (e.g. reject fines)? **If yes:** Explain:	☒ not applicable	☐ yes	☐ no
Will all growth medium be replaced with equipment that will minimize compaction, or will growth medium be plowed, disced, or ripped following placement? **If no:** Explain:		☐ yes	☒ no
Will all replaced growth medium be stabilized in a timely manner with vegetation and/or mulch to prevent loss by erosion, slumping, or crusting? **If no:** Explain:		☒ yes	☐ no

4j. Revegetation

The average precipitation on site is **70** inches per year.

Will the site be revegetated? ☒ yes ☐ no

If no: The site will not be revegetated because:

☐ Demonstration plots and areas will be used to show that active revegetation is not necessary.

☐ Revegetation is inappropriate for the approved subsequent use of this surface mine.

Will revegetation activities start during the first proper growing season (e.g. fall for grasses, fall or late winter for trees and shrubs) following restoration of slopes? ☒ yes ☐ no

If yes: Give details: **refer to mining plan** **If no:** Explain:

Will vegetation test plots be used to determine optimum vegetation plans? ☐ yes ☒ no

4k. Planting and/or Seeding Techniques and Specifications

Describe the method and time of year for planting and/or seeding: **refer to mining plan - Plate 4**

Give seeding details (lbs/acre of grass, legume, or forb mixture): **refer to mining plan**

Give planting details (stems/acre of trees and shrubs, size and type of plant stock): **refer to mining plan**

Additional planting/seeding techniques include:

☐ ripping, discing and/or tilling	☐ blasting to create permeability	☒ mulching
☐ irrigation	☐ fertilization	☒ planting dormant trees and shrubs
☐ importation of clay or organic-rich growth medium	☐ other growth medium conditioners or amendments	☒ seeds to be protected with growth medium or mulch

☐ other: _____

Describe the noxious weed and invasive plant control measures: **refer to mining plan**

4l. Drainage and Stormwater Controls

Will the reclaimed surface mine site be internally drained? ☒ yes ☐ no

Will natural runoff be directed to a natural drainage or safe outlet upon completion of reclamation? **If applicable:** Explain: **refer to mining plan**	☐ not applicable	☒ yes	☐ no
Will the construction of ditches and channels be necessary to limit erosion and siltation? **If applicable:** Explain: **refer to mining plan**		☒ yes	☐ no
Will conveyance ditches and channels be lined with vegetation or riprap? **If applicable:** Explain: **refer to mining plan**	☐ not applicable	☒ yes	☐ no
Will it be necessary to stabilize or rehabilitate stream channels or banks? **If yes:** Give details:		☐ yes	☒ no

4m. Site Cleanup			
Will all mining-related equipment be removed from the site? **If no:** Explain:		☒ yes	☐ no
Will all structures and buildings be removed from the site? **If no:** Explain:		☒ yes	☐ no
Will all visual and/or retention berms be removed from the site? **If no:** Explain:		☒ yes	☐ no
Will all debris, refuse, and/or hazardous material be removed from the site? **If no:** Explain:		☒ yes	☐ no
Will all stockpiles be sold, graded, and or removed from the site? **If no:** Explain:		☒ yes	☐ no
Will all oversize be sold, reduced, or removed from the site? **If no:** Explain:		☒ yes	☐ no

Signature Page

APPLICANT

I am applying for an Operating Permit under ORS 517.790. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

Madelyn Jackson	
Applicant's Printed Name	Applicant's Signature
Title	Date

PREPARED BY

I prepared this application for the applicant above. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

H. Tom Kuper	
Preparer's Printed Name	Preparer's Signature
Principal, Engineering Geologist	H. T. Kuper
Title	Date 6/17/2021

LANDOWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster	
Landowner (1) Printed Name	Landowner (1) Signature
Madelyn Jackson	Madelyn Jackson
Title landowner, member	Date 06-16-2021
Carl Foster, Mary Torres, Marla J. Hedman	
Landowner (2) Printed Name	Landowner (2) Signature
Carl Foster	Carl Foster
Title landowner, member	Date 06-16-2021

MINERAL ESTATE OWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster	
Mineral Estate Owner (1) Printed Name	Mineral Estate Owner (1) Signature
Madelyn Jackson	Madelyn Jackson
Title landowner, member	Date 06-16-2021
Carl Foster, Mary Torres, Marla J. Hedman	
Mineral Estate Owner (2) Printed Name	Mineral Estate Owner (2) Signature
CARL Foster	Carl Foster
Title landowner, member	Date 06-16-2021

Signature Page

APPLICANT

I am applying for an Operating Permit under ORS 517.790. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

Madelyn Jackson			
Applicant's Printed Name		Applicant's Signature	
Title		Date	

PREPARED BY

I prepared this application for the applicant above. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

H. Tom Kuper			
Preparer's Printed Name		Preparer's Signature	
Principal, Engineering Geologist			
Title		Date 6/17/21	

LANDOWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster			
Landowner (1) Printed Name		Landowner (1) Signature	
Title		Date	
Carl Foster, Mary Torres, Marla J. Hedman			
Landowner (2) Printed Name		Landowner (2) Signature	
Marla Hedman		Marla J. Hedman	
Title landowner, member		Date 6-21-2021	

MINERAL ESTATE OWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster			
Mineral Estate Owner (1) Printed Name		Mineral Estate Owner (1) Signature	
Title		Date	
Carl Foster, Mary Torres, Marla J. Hedman			
Mineral Estate Owner (2) Printed Name		Mineral Estate Owner (2) Signature	
Marla Hedman		Marla J. Hedman	
Title landowner, member		Date 6-21-2021	

Signature Page

APPLICANT

I am applying for an Operating Permit under ORS 517.790. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

Madelyn Jackson	
Applicant's Printed Name	Applicant's Signature
Madelyn Jackson	Madelyn Jackson
Title landowner, member	Date 06-16-2021

PREPARED BY

I prepared this application for the applicant above. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

H. Tom Kuper	
Preparer's Printed Name	Preparer's Signature
Principal, Engineering Geologist	
Title	Date 6/12/2021

LANDOWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster	
Landowner (1) Printed Name	Landowner (1) Signature
Floyd Foster	Floyd B. Foster
Title landowner, member	Date 06-16-2021
Carl Foster, Mary Torres, Marla J. Hedman	
Landowner (2) Printed Name	Landowner (2) Signature
Mary Torres	Mary E. Torres
Title landowner, member	Date 06-16-2021

MINERAL ESTATE OWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Madelyn Jackson, Floyd Foster	
Mineral Estate Owner (1) Printed Name	Mineral Estate Owner (1) Signature
Floyd Foster	Floyd B. Foster
Title landowner, member	Date 06-16-2021
Carl Foster, Mary Torres, Marla J. Hedman	
Mineral Estate Owner (2) Printed Name	Mineral Estate Owner (2) Signature
Mary Torres	Mary E. Torres
Title landowner, member	Date 06-16-2021

Oregon Department of Geology and Mineral Industries
Mineral Land Regulation and Reclamation Program
229 Broadalbin Street SW
Albany, OR 97321-2246
(541) 967-2039
Fax (541) 967-2075

Slope Stability Supplemental Form

DOGAMI has a statutory directive to avoid or minimize adverse impacts to air, water, land, and wildlife resources from surface mining operations. Slope stability is defined as the resistance of an inclined surface to withstand and undergo failure by sliding, falling, flowing or collapsing. Surface mine sites identified as having a high probability of failure include but are not limited to: sites located in an area with known geologic and/or geomorphic instability, sites proposing steeper than standard sloping configurations, constructed dams and berms, and sites proposing reclamation which includes deep water filled pits.

To ensure the protection of the adjoining properties and watercourses, it may be necessary for applicants to consider certain issues prior to conducting surface mining activities in high risk areas and to complete a slope stability investigation. The main objectives of a slope stability analysis are to inspect endangered areas for: potential failure mechanisms, slope sensitivity to triggering mechanisms, and designing optimal sloping configurations with regard to safety, reliability, economics, and stability. This form is to be used as a component of a DOGAMI Operating Permit or Amendment application for proposed surface mining operations which will involve proposed surface mining operations with potential slope stability concerns.

Section 1: Contact & Site Information

1a. Applicant / Proposed Permittee

Name: **Stone Butte Rock LLC**			
Mailing Address: **94912 Highway 42 S**	City: **Coquille**	State:**OR**	Zip: **97423**
Telephone: **541-404-8004**	Fax:	Email: **mjackson@1791.com**	
Preferred method of contact ☐ Telephone ☒ Email			

1c. Site Identifier

Legal Description

County: **Curry**			
Township: **31 S**	Range: **15 W**	Section: **23**	Tax Lot(s): **2302**
Township: _____	Range: _____	Section: _____	Tax Lot(s): _____
Site Name: **Stone Butte**			
DOGAMI ID# **08-0064**			

Section 2: Site Characteristics

Geomorphic and/or geologic evidence for potential slope instability on-site includes:

- ☒ ancient landslide features
- ☐ slope movement
- ☐ failure planes
- ☐ vegetation displacement
- ☐ tension cracks
- ☐ slumps
- ☐ displacement of fence line/posts
- ☐ hummocky terrain
- ☐ sag ponds
- ☐ adverse discontinuities in rock mass
- ☐ water or uplift pressures
- ☐ scarps
- ☐ other: _____
- ☐ none*

***This form is also to be used if proposing steeper than standard sloping configuration as per OAR 632-030-0027**

The following were referenced for mapped geomorphic and/or geological instability (Check all that apply):

- ☒ DOGAMI Statewide Landslide Information Database for Oregon (SLIDO)
- ☐ local jurisdiction overlay
- ☐ DOGAMI Interpretative Map Series (IMS)
- ☒ aerial photography
- ☒ lidar
- ☐ other: _____
- ☐ other: _____

Section 3: Studies, Reports and Analyses

Has a site-specific slope stability analysis been completed by an Oregon Certified Engineering Geologist or Geotechnical Engineer? ☒ yes ☐ no

If no: Is a site-specific slope stability analysis scheduled? ☐ yes ☐ no

If yes: When will the finalized analysis be available to DOGAMI? **SHN report attached as part of this submittal**

If a slope stability analysis has been completed; please attach report and check each item addressed in the study: ☐ not applicable

- ☒ pre-existing conditions
- ☒ evaluation area
- ☐ methods, assumptions, and data used for modeling
- ☐ geotechnical mitigation
- ☐ slope stability and inclinations
- ☒ aerial photography
- ☐ factor of safety
- ☐ stability analysis of slope performance
- ☐ monitoring plan
- ☐ other: _____

Section 4: Water Impoundments

Will water impoundments be created during excavation operations? ☒ yes ☐ no

If yes: What is the maximum depth of the impoundment? **approx 5 feet**

Will all in-water slopes be constructed at slopes of 3H:1V or flatter to six feet below ordinary low water level? ☐ unknown ☒ yes ☐ no

If yes: The slopes will be constructed via: ☒ excavation ☐ fill ☐ unknown

If no: The final sloping configuration of the in-water slopes will be _____H: _____V (e.g. 4H:1V).

Section 5: Mining Information

The maximum depth of proposed mining is: **340** feet ☐ relative to mean sea level ☒ below original ground surface ☐ unknown

What is the primary commodity?

- ☐ sand and gravel
- ☒ rock or stone
- ☐ bentonite
- ☐ diatomaceous earth
- ☐ soil
- ☐ combination of materials
- ☐ other: _____
- ☐ other: _____

Materials at the site are generally:

- ☐ unconsolidated
- ☐ poorly consolidated
- ☐ cemented/consolidated
- ☒ competent hard rock
- ☐ unknown
- ☐ other: _____
- ☐ other: _____

Will any interim or final excavation slopes exceed 1½H:1V sloping configurations?	☐ unknown	☒ yes	☐ no	
If yes: The final sloping configuration of the above-water excavation slopes will be **1 1/2**H: 1V (e.g. 1H:1V).				
Final excavation slopes steeper than 1½H:1V will:			☒ not applicable	
Blend into the adjacent terrain	☐ unknown	☐ yes	☐ no	
Match pre-mining sloping configurations	☐ unknown	☐ yes	☐ no	
Comply with the post-mining land use	☐ unknown	☐ yes	☐ no	
Will any fill slopes exceed 2H:1V sloping configurations?	☐ unknown	☐ yes	☒ no	
If yes: The final sloping configuration of the fill slopes will be _____H: _____V (e.g. 1H:1V).				
Will the length of slopes constructed in unconsolidated material exceed 100-lineal feet?	☐ not applicable	☒ yes	☐ no	

Loading or unloading operations are proposed to be conducted on:

- ☐ Slopes exceeding 1½H:1V where excavation cuts are in excess of 20 vertical feet
- ☐ Slopes exceeding 1½H:1V where fill, soil or overburden materials and/or stockpiles are deeper than 2-feet
- ☐ Slopes ranging from 3H:1V to 1½H:1V where excavation cuts are in excess of 100 vertical feet
- ☐ Slopes ranging from 6H:1V to 1½H:1V where fill, soil or overburden materials and/or stockpiles are deeper than 25-feet

Slope Stability Plan

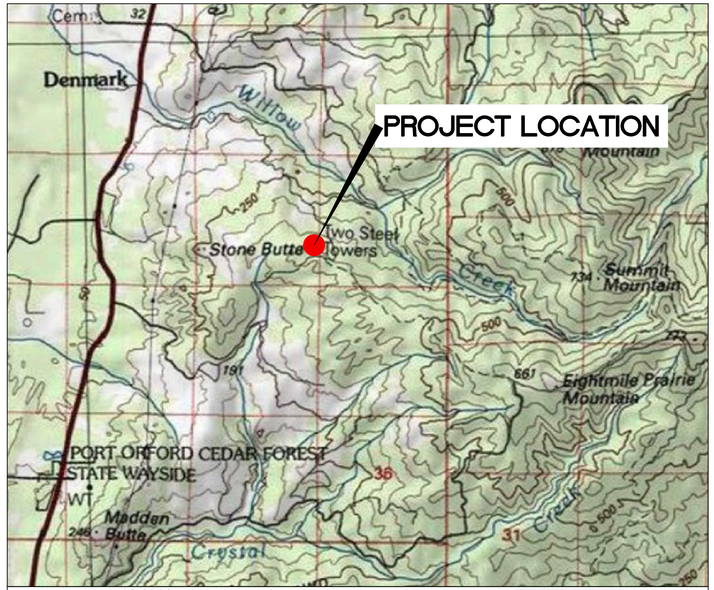
If the probability of slope failure is high or the proposed surface mining operations have the potential to impact the adjoining properties and watercourses via slope instability, additional information will be required. The scope of the required information will be based on site characteristics and project scale. Basic elements of a slope stability plan may include collection of baseline data and analysis, mine plan sequence, development and restrictions, slope stability modeling, on-site monitoring and/or mitigation that the planned activity will not adversely affect adjoining properties and watercourses. Information required may include:

1. A study and report detailing the pre-existing conditions including but not limited to ancient landslide features, scarps, scars, hummocky terrain, tension cracks, structural discontinuities in rock mass, springs and water or uplift pressures.
2. Geotechnical mitigation and method of stabilizing slopes.
3. A geotechnical investigation and design by a geotechnical engineer or engineering geologist. This may include onsite data collection to determine stability.
4. A slope stability monitoring plan.
5. A slope stability analysis that demonstrates an adequate Factor of Safety (FS). The slope stability analysis should discuss the methods, assumptions, and data used for modeling including but not limited to saturation, angle of friction, cohesion, slip surfaces, and geology. The analysis should also consider how the slope will perform under seismic conditions appropriate for the subsequent use considering standards provided in the International Building Code and predicted ground motion from the USGS.
6. A written monitoring and reporting program which includes regular depth soundings on an appropriately-sized grid to ensure that water-filled pits are dug and reclaimed as designed and approved.

STONE BUTTE QUARRY

AMENDMENT TO
MINING OPERATIONS AND RECLAMATION PLAN SET

DOGAMI ID 08–0064
CURRY COUNTY, OREGON
JULY 2021



DOGAMI ID#: 08-0064

			Acres
Permittee:	Stone Butte Rock, LLC	Current Permit Area:	72.8
Site Name:	Stone Butte Quarry	Disturbed:	38
Data Source:	PlanetScope 8/30/2020	Limited Exemption:	---
Prepared By:	E. Buchner 10/5/2020	Reclaimed:	---
		Dist. out of LE:	---
		Dist. out of Permit:	2.3

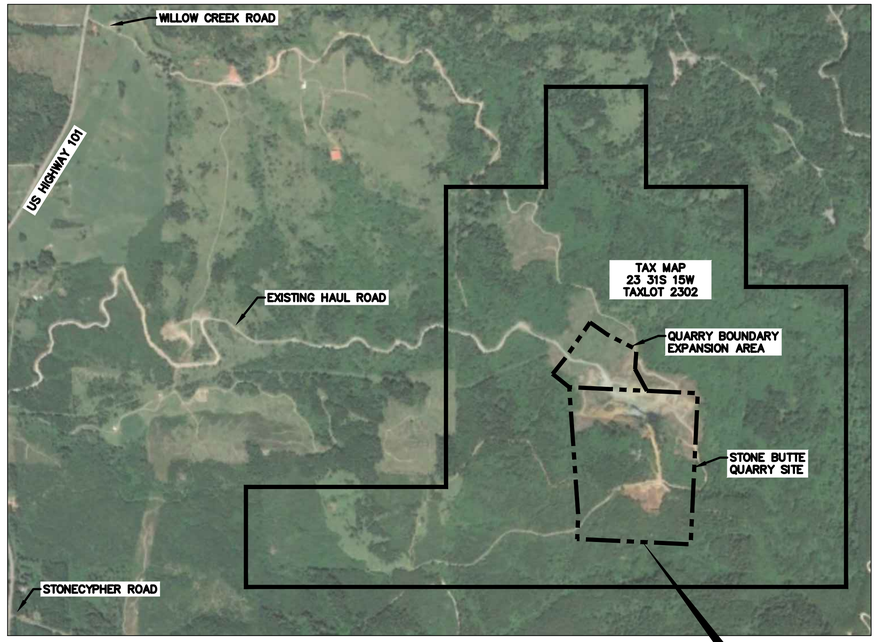
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the suitability of the information.

ArcGIS v10.7.1
Oregon Lambert Projection, NAD 1983 HARN (EPSG# 2994)
\\DGMALBWFS1\Sites\08Curry\08-0064\Maps\08-0064_20201005_GISAerial_2020.pdf

Latitude: 42.87248
Longitude: -124.4356

Oregon Dept. of Geology and Mineral Industries
Mineral Land Regulation and Reclamation Program
229 Broadalbin St. SW
Albany, OR 97321

VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

SHEET INDEX

NOTE:
DRAWING SCALES INDICATED APPLY TO 22"x34" DRAWING SHEETS. SCALE MAY NOT BE ACCURATE IF DRAWING PLOTS ARE LESS THAN THIS SIZE.

PERMITTEE/OPERATOR:
STONE BUTTE ROCK LLC
94912 HWY 42 SOUTH
COQUILLE, OR 97423

ENGINEERING GEOLOGIST:
KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
TIGARD, OREGON (503)638–9722
HELENA, MONTANA (406)475–3244

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684–0652
FAX (503) 624–0157

STONE BUTTE QUARRY
CURRY COUNTY, OREGON
DOGAMI
COVER SHEET & VICINITY MAP

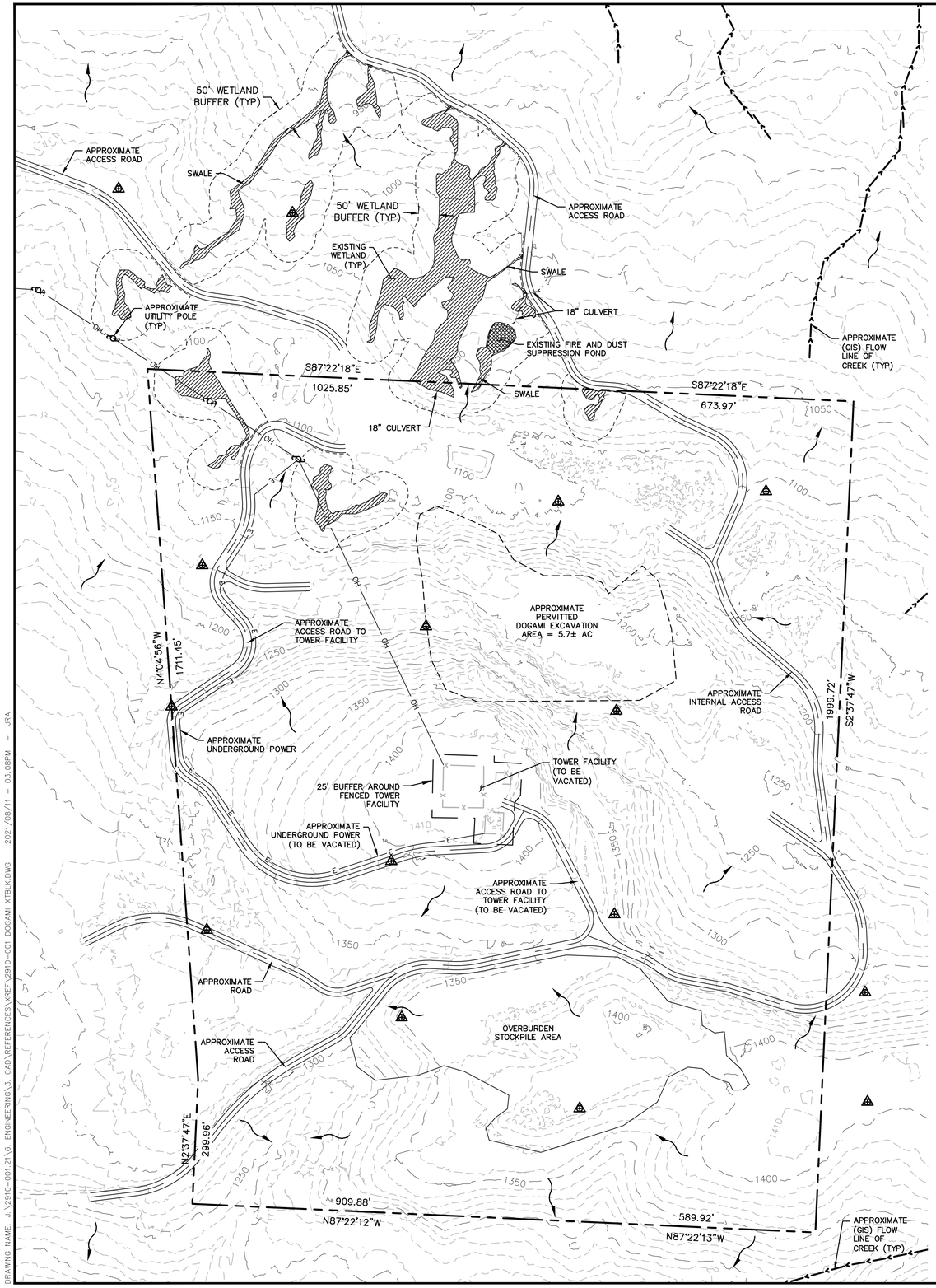
REVISIONS					DRAFT BY:	CHECK BY:
NO.	DATE	DESCRIPTION				
0	2021/08/11	INITIAL DOGOMI SUBMITTAL			JRA	JRA

PLATE
1

JOB NO.
2910–001

INITIAL DOGAMI SUBMITTAL

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\REFERENCES\XREF\2910-001 DOGAMI XTBLK.DWG 2021/08/11 – 03:08PM – JRA



150' 0 75' 150' 300'

SCALE: 1 INCH = 150 FEET

DATUMS AND DATA SOURCES:

TOPOGRAPHY

1. HORIZONTAL DATUM: NAD 83 (2011)
2. VERTICAL DATUM: NAVD88
3. COORDINATE SYSTEM: OREGON STATE PLANE: ZONE SOUTH
4. CONTOUR INTERVAL 10' MINOR 50' MAJOR
5. NOTE SOME TOPOGRAPHY DISPLAYED ON THIS PLATE WAS COLLECTED FROM THE MOST CURRENT DOGAMI LIDAR MAPPING

BASIS OF BEARING (HORIZONTAL DATUM):

OREGON STATE PLANE COORDINATE SYSTEM NAD 83 (2011), INTERNATIONAL FEET, BASED ON GPS OBSERVATION.

GENERAL NOTES:

PROPERTY LEGAL DESCRIPTION:
LOCATED IN NE 1/4 AND SE 1/4 OF SECTION 23, TOWNSHIP 31 SOUTH, RANGE 15 WEST W.M., TAX LOT 2302, CURRY COUNTY, OREGON.

ALL UTILITY EASEMENT LOCATIONS AND WIDTHS TO BE CONFIRMED (SURVEYED) IN THE FIELD IN COORDINATION WITH THE UTILITY COMPANIES PRIOR TO MINING.

SURVEY NOTES:

1. FIELD WORK WAS COMPLETED ON MARCH 02, 2021. WORK WAS COMPLETED BY S&F LAND SERVICES AND SUPPLEMENTED BY LIDAR TOPO AND AERIAL PHOTO INTERPERTATION.
2. PERMIT BOUNDARIES SHOWN HEREON COMPUTED FROM COMBINATION OF COORDINATES, DIMENSIONS AND MONUMENTATION AS SHOWN ON PERMIT BOUNDARY SURVEY EXHIBITS PROVIDED.
3. AERIAL IMAGERY COLLECTED ON FEBRUARY 28, 2021. PROCESSED BY A CERTIFIED PHOTOGRAMMETRIST (CONTROLLED BY TARGETS ESTABLISHED AND COMPUTED BY LICENSED LAND SURVEYOR)
4. TOPOGRAPHIC DATA SHOWN HEREON IS BASED ON AERIAL IMAGERY AS DESCRIBED ABOVE. MISSING OR INCOMPLETE AREAS OF TOPOGRAPHY ARE DUE TO TREE COVER AND OTHER OBSTACLES PREVENTING THE AERIAL IMAGERY FROM SEEING TRUE GROUND.

LEGEND:

- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- CONTROL POINT
- STORM WATER FLOW DIRECTION BEFORE MINING
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- EXISTING FIRE AND DUST SUPPRESSION POND

NOTE:
DRAWING SCALES INDICATED APPLY TO 22"x34" DRAWING SHEETS. SCALE MAY NOT BE ACCURATE IF DRAWING PLOTS ARE LESS THAN THIS SIZE. USE BAR SCALE FOR REFERENCE ON REDUCED SIZE SHEET.

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
TIGARD, OREGON (503)638-9722
HELENA, MONTANA (406)475-3244

PERMITTEE/OPERATOR:

STONE BUTTE ROCK LLC
94912 HWY 42 SOUTH
COQUILLE, OR 97423

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 924-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

DOGAMI
EXISTING CONDITIONS

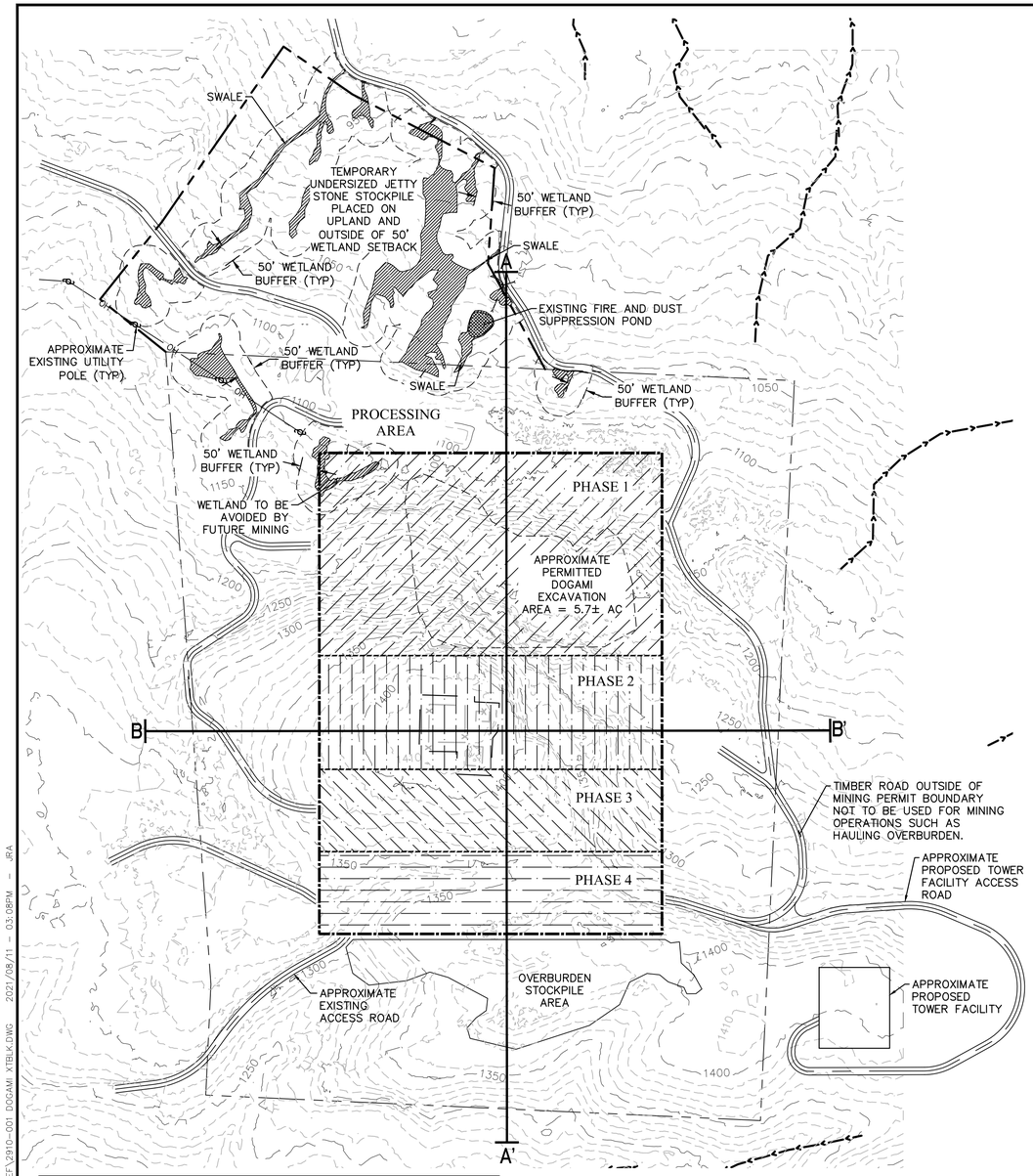
REVISIONS					
NO.	DATE	DESCRIPTION	DRAFT BY:	CHECK BY:
0	2021/08/11	INITIAL DOGOMI SUBMITTAL	JRA	JRA

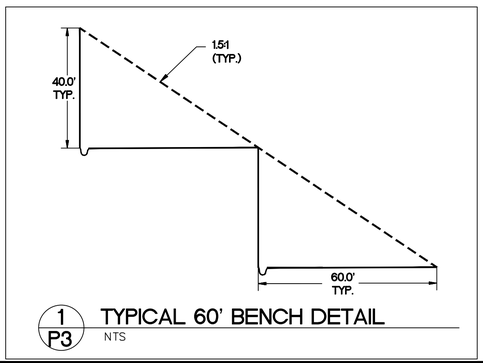
PLATE
2

JOB NO.
2910-001

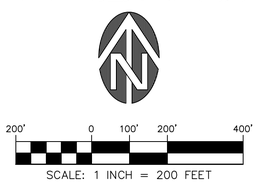
INITIAL DOGAMI SUBMITTAL

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\REFERENCES\WREF\2910-001 DOGAMI XTBLK.DWG 2021/08/11 - 03:08PM - JRA





1 P3 TYPICAL 60' BENCH DETAIL
NTS



NOTE:
DRAWING SCALES INDICATED APPLY TO 22"x34" DRAWING SHEETS. SCALE MAY NOT BE ACCURATE IF DRAWING PLOTS ARE LESS THAN THIS SIZE. USE BAR SCALE FOR REFERENCE ON REDUCED SIZE SHEET.

PERMITTEE/OPERATOR:

STONE BUTTE ROCK LLC
94912 HWY 42 SOUTH
COQUILLE, OR 97423

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
TIGARD, OREGON (503)638-9722
HELENA, MONTANA (406)475-3244

NOTES:

1) THE PROPOSED QUARRY IS IN CURRY COUNTY. THIS SITE IS ZONED FOREST-GRAZING (F-G).

2) THE OPERATIONAL LIFE OF THE MINE IS APPROXIMATELY 30-50 YEARS.

3) OPERATION SHALL BE LIMITED TO DAYLIGHT HOURS AND NO OPERATIONS WILL BE PERMITTED ON SUNDAYS OR HOLIDAYS (THANKSGIVING, CHRISTMAS, NEW YEARS, MEMORIAL DAY, 4TH OF JULY, LABOR DAY)

4) FINAL PERIMETER SLOPE INCLINATIONS AND CONFIGURATIONS TO BE EVALUATED BY A CERTIFIED ENGINEERING GEOLOGIST ONCE SLOPE MATERIALS ARE EXPOSED IN THE EXCAVATIONS.

5) REFER TO THE TERRA SCIENCE, INC. REPORT DATED JULY, 2021 FOR WETLANDS AND WILDLIFE EVALUATION.

6) REFER TO THE SHN ENGINEERS & GEOLOGISTS, INC. REPORT TITLED "SUPPLEMENTAL GEOLOGIC HAZARD ASSESSMENT, PROPOSED EXPANSION OF THE STONE BUTTE ROCK QUARRY, LANGLOIS, CURRY COUNTY, OREGON" AND DATED JULY, 2021 FOR GEOLOGIC HAZARDS EVALUATION.

7) THE APPLICANT SHALL FLAG OR OTHERWISE MARK THE BOUNDARIES OF THE REQUIRED EXCAVATION SETBACKS FROM PROPERTY BOUNDARIES BEFORE BEGINNING EXCAVATION AT THE AGGREGATE SITE.

MINE SITE STATISTICS:

AREAS:

EXISTING PERMITTED MINING BOUNDARY AREA	±72.77 AC
PROPOSED MINING BOUNDARY AREA	±14.4 AC
TOTAL =	±87.17 AC
EXISTING PERMITTED MINING EXCAVATION BOUNDARY AREA	±5.7 AC
PROPOSED MINING EXCAVATION BOUNDARY AREA	±21.9 AC
TOTAL =	±27.6 AC

AREAS USED IN REPORTS AND EXHIBITS

NOTES:

PROPERTY LEGAL DESCRIPTION:
LOCATED IN NE 1/4 AND SE 1/4 OF SECTION 23, TOWNSHIP 31 SOUTH, RANGE 15 WEST W.M. TAX LOT 2302, CURRY COUNTY, OREGON.

ALL UTILITY EASEMENT LOCATIONS AND WIDTHS TO BE CONFIRMED (SURVEYED) IN THE FIELD IN COORDINATION WITH THE UTILITY COMPANIES PRIOR TO MINING.

LEGEND:

- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 5.7 AC + 21.9 AC = 27.6± AC)
- MINING EXCAVATION BOUNDARY (PHASES 1-4)
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- EXISTING FIRE AND DUST SUPPRESSION POND
- A A' APPROXIMATE LOCATION OF CROSS SECTION PLATE 3A

NOTES (CON'T):

8) TAX LOT AND AERIAL DATA WAS PROVIDED BY S&F LAND SERVICES. TAX LOTS ARE APPROXIMATE ONLY AND ARE FOR ILLUSTRATIVE PURPOSE ONLY. NOT TO BE USED AS A SURVEYED LOCATION OF BOUNDARY/AREA.

9) MINING OPERATIONS TO BE IN ACCORDANCE WITH CURRY COUNTY DEVELOPMENT CODE INCLUDING COMPLIANCE WITH REQUIREMENTS OF CONDITIONAL USE AUTHORIZATION ISSUED IN 2014 (COUNTY #AD-1413) INCLUDING CONDITIONAL USE AUTHORIZATION FOR EXPANSION OF APPROVED EXCAVATION AND STOCKPILE AREAS. 50' BUFFERS WILL BE ESTABLISHED AND MAINTAINED ADJACENT TO ALL IDENTIFIED ON-SITE STREAM AND WETLANDS.

PHASING:

10) APPROXIMATE QUARRY FLOOR ELEVATION IS 1,060' MSL.

11) THE TIMING FOR MINING IS DEPENDENT ON MARKET CONDITIONS. THEREFORE, THE TIMING OF MINING EACH PHASE COULD VARY. MINING CAN OCCUR WITHIN THE PHASE 1 TO 3 AREAS AT ANY TIME DURING THE LIFE OF THE MINE AND MAY OCCUR ON MULTIPLE BENCHES.

12) MINE ROCK CRUSHING EQUIPMENT WILL BE LOCATED IN THE PROCESSING AREA. RECLAMATION TO BE PERFORMED DURING AND AFTER MINING OPERATIONS HAVE BEEN COMPLETED.

13) FUGITIVE DUST WILL BE CONTROLLED BY A WATER TRUCK AS NEEDED ON THE SITE ROADS. CRUSHERS AND SIMILAR PROCESSING EQUIPMENT WILL UTILIZE WATER SPRAY AS NECESSARY TO MINIMIZE DUST IN SUCH CONDITIONS.

14) AS MINING PROCEEDS ACROSS THE SITE, VEGETATION WILL BE HARVESTED AND REMOVED. THE OVERBURDEN WILL BE STRIPPED AND STOCKPILED FOR FUTURE USE.

15) ALL HAUL ROADS MOVING OVERBURDEN AROUND THE SITE WILL BE KEPT IN DOGAMI PERMIT BOUNDARY. ALL OVERBURDEN AND REJECT ARE TO BE STOCKPILED WITHIN THE MINING PERMIT BOUNDARY AREAS, PROCESSING, AND EQUIPMENT AREAS ON SITE OR USED IN QUARRY SLOPE RECLAMATION. THE OVERBURDEN STOCKPILE IS TO BE GRADED WITH 2:1 SIDE SLOPES. THE STOCKPILES ARE TO RECEIVE 6" OF TOPSOIL AND BE SEEDED. ESTIMATED TOTAL QUANTITY OF TOPSOIL/OVERBURDEN AVAILABLE = 1,500,000 CY. TOPSOILS/OVERBURDEN TO BE USED TO LEVEL STAGING AREA, BUILD BERMS, AND COVER QUARRY SLOPES AND FLOOR DURING SITE RECLAMATION.

16) PRODUCT AND UNDERSIZED JETTY STONE TO BE TEMPORARILY STOCKPILED WITHIN THE MINING AND PROCESSING AREAS AS INDICATED ON THESE PLANS.

STORMWATER:

17) STORMWATER FROM DISTURBED AREAS OF THE QUARRY MINING OPERATION TO BE CONTAINED AND TREATED WITHIN THE MINING BOUNDARY PRIOR TO DISCHARGE.

A) STORMWATER PLAN TO BE MODIFIED AS MINING PROGRESSES ACROSS THE SITE. STORMWATER FACILITIES REGULARLY INSPECTED AND REPAIRED AS NEEDED.

B) NATURAL RUNOFF FROM UNDISTURBED AREAS TO BE DIRECTED AROUND THE MINING AREA BY THE USE OF BERMS, SWALES, AND DITCHES AS APPROPRIATE FOR FIELD CONDITIONS, PER REFERENCE 1 ON THIS SHEET.

C) FIELD CONDITIONS SHALL BE VERIFIED PRIOR TO CONSTRUCTION OF ANY STORMWATER CONTROL FACILITIES.

D) STORMWATER AND EROSION CONTROL TO BE CONDUCTED IN ACCORDANCE WITH DOGAMI BEST MANAGEMENT PRACTICES FOR RECLAIMING SURFACE MINES IN OREGON.

E) MODIFICATIONS TO THE STORMWATER FACILITIES SHALL BE MADE TO BRING STORMWATER QUALITY INTO COMPLIANCE SHOULD IT NOT MEET THE PERMIT REQUIREMENTS.

F) QUARRY BENCHES SHALL BE SLOPED BACK TOWARDS THE HIGH WALL.

REFERENCES:

1) DOGAMI: BEST MANAGEMENT PRACTICES FOR RECLAIMING SURFACE MINES IN WASHINGTON AND OREGON, 1997

2) STORMWATER POLLUTION CONTROL PLAN FOR STONE BUTTE ROCK, LLC, CURRY COUNTY, OREGON, WESTLAKE CONSULTANTS, INC., JULY, 2021.

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 924-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

DOGAMI
MINING AND OPERATION PLAN

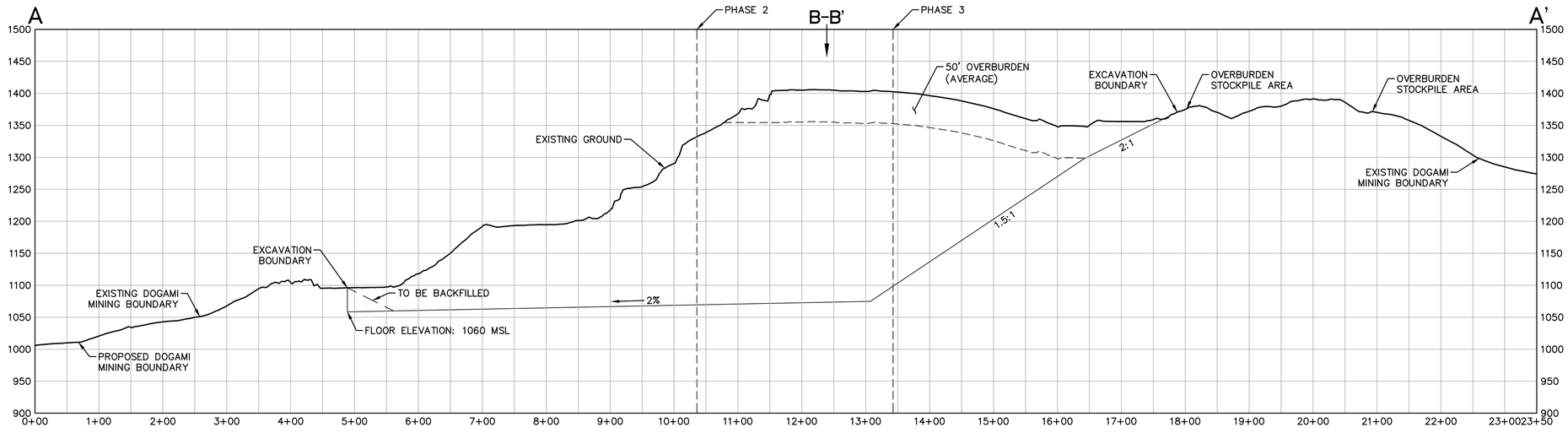
REVISIONS				DRAFT BY:	CHECK BY:
NO.	DATE	DESCRIPTION			
0	2021/08/11	INITIAL DOGOMI SUBMITTAL		JRA	JRA

PLATE
3

JOB NO.
2910-001

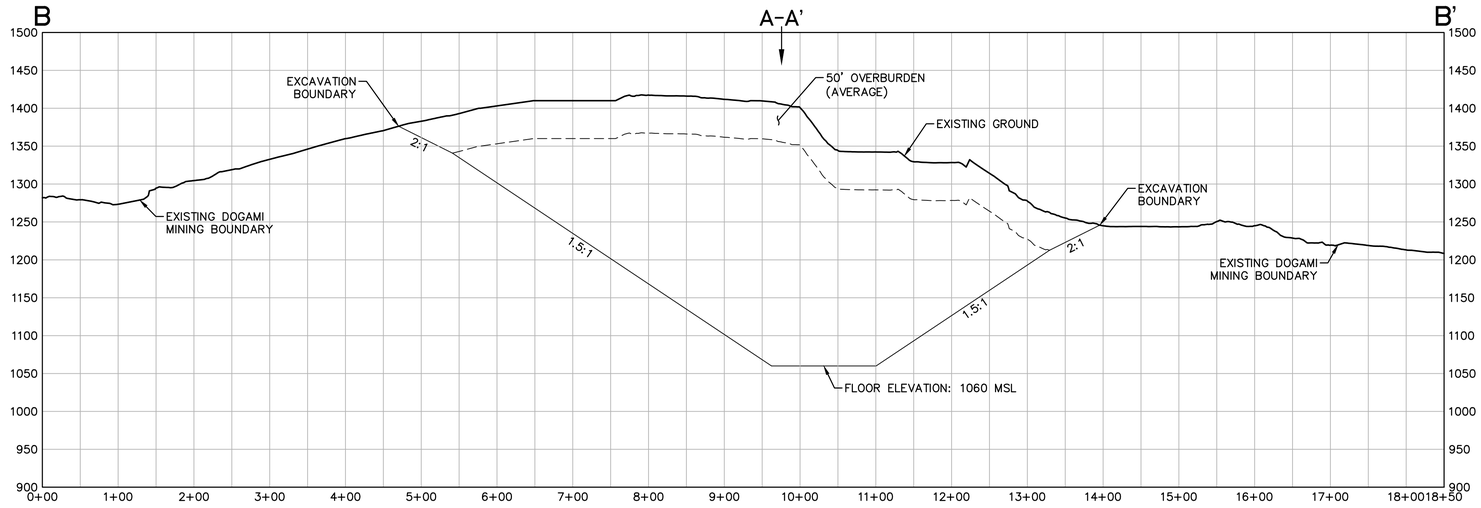
INITIAL DOGAMI SUBMITTAL

DRAWING NAME: s:\2910-001.21\6_ENGINEERING\3_CAD\REFERENCES\XREF\2910-001 DOGAMI XTBLK.DWG 2021/08/11 - 03:08PM - JRA



CROSS-SECTION A-A'

SCALE: HORIZONTAL 1" = 100'
VERTICAL 1" = 100'



CROSS-SECTION B-B'

SCALE: HORIZONTAL 1" = 100'
VERTICAL 1" = 100'

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 624-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

DOGAMI MINING AND OPERATIONS CROSS SECTIONS

NO.	DATE	DESCRIPTION	DRAFT BY:	CHECK BY:
0	2021/08/11	INITIAL DOGOMI SUBMITTAL	JRA	JRA

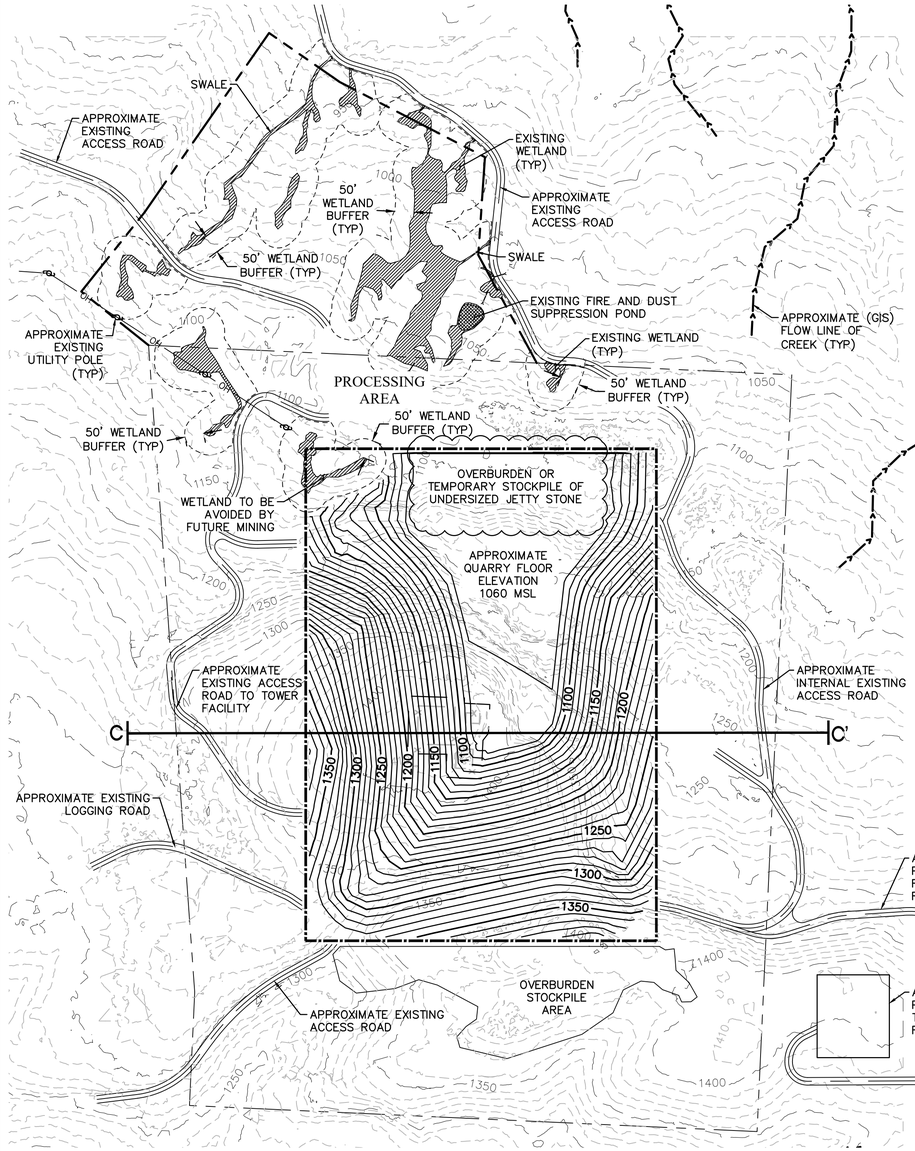
REVISIONS

PLATE
3A

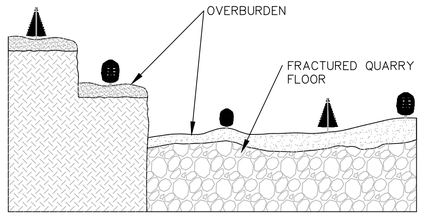
JOB NO.
2910-001

INITIAL DOGAMI SUBMITTAL

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\REFERENCES\XREF\2910-001 DOGAMI XTBLK.DWG 2021/08/11 - 03:08PM - JRA

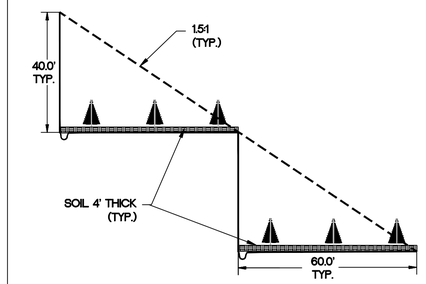


SCALE: 1 INCH = 200 FEET



NOTE: OVERBURDEN APPROXIMATE 4' THICK

(FROM "BEST MANAGEMENT PRACTICES FOR RECLAIMING SURFACE MINES IN OREGON", 1997, OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES.)



1 P4 TYPICAL 60' BENCH DETAIL

NTS

NOTES:

1. RECLAMATION TO BE PERFORMED CONCURRENT WITH, AND FOLLOWING COMPLETION, OF MINING OPERATIONS. QUARRY TO BE RECLAIMED TO ORIGINAL ZONED USE (ZONED FOREST–GRAZING [F–G]).

2. FINAL MINE RECLAMATION SLOPES TO DRAIN. SLOPES TO BE AS FOLLOWS:

   OVERBURDEN
   - CUT SLOPE
     2:1 (HORIZONTAL–VERTICAL) SLOPES

   BASALT SLOPES
   - MAX. INCLINATION
     1.5:1 (HORIZONTAL–VERTICAL) SLOPES

3. REFER TO DETAILS ON THIS SHEET AND NOTE 2 FOR FINAL RECLAIMED CONFIGURATION OF EXCAVATED SLOPES.

4. EXISTING GROUND CONTOUR INTERVAL=10'

5. FINISHED GRADES FOR RECLAIMED SLOPES WERE DERIVED FROM "BEST MANAGEMENT PRACTICES FOR RECLAIMING SURFACE MINES IN WASHINGTON AND OREGON", 1997, OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES.)

6. ALL DISTURBED AREAS WILL BE PLANTED FOR EROSION CONTROL PER DOGAMI BEST MANAGEMENT PRACTICES (BMP).

7. REPLANTING OF THE MINING AREA WILL CONSIST OF SEEDING FOR EROSION CONTROL.

   REVEGETATE ALL AREAS RECEIVING GROWTH MEDIUM UTILIZING AN ALL PURPOSE WEED FREE PASTURE GRASS SEED MIX AT A RATE OF 30 POUNDS PER ACRE. PLANT DOUGLAS FIR TREES ON 10' OR 12' CENTERS IN ALL AREAS TO BE RECLAIMED TO FORESTRY.

   NOXIOUS WEEDS TO BE CONTROLLED BY SPOT SPRAYING TO CONTROL BLACKBERRY, OTHER BROADLEAF WEEDS OR GRASSES COMPETING WITH PLANTATION. REPLANT AS NECESSARY TO INSURE THE SITE IS FULLY OCCUPIED. TWO YEARS TO 4 YEARS AFTER PLANTING, IMPLEMENT "PLANTATION RELEASE" TO CONTROL WEED SPECIES THAT MAY THREATEN THE SURVIVAL OR REDUCE GROWTH RATES OF DESIRABLE TREE SPECIES.

8. SITE PREPARATION:

   SOIL PLACED ON THE STEPPED BENCHES OF THE QUARRY SHOULD BE OF A QUALITY SUITABLE FOR GROWING NATIVE TREES SPECIES. FINAL GRADING SHOULD PROVIDE ADEQUATE POSITIVE DRAINAGE THAT AVOIDS STANDING WATER, BUT STILL ALLOWS WATER TO MOVE DOWN INTO THE SOIL. SLOPES OF 2% TO 5% TYPICAL.

LEGEND:

- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 27.6± AC)
- EXISTING 10' MINOR CONTOUR
- EXISTING 50' MAJOR CONTOUR
- PORPOSED 10' MINOR CONTOUR
- PROPOSED 50' MAJOR CONTOUR
- ACCESS ROAD
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- EXISTING FIRE AND DUST SUPPRESSION POND
- C C' APPROXIMATE LOCATION OF CROSS SECTION PLATE 4A

NOTE:
DRAWING SCALES INDICATED APPLY TO 22"x34" DRAWING SHEETS. SCALE MAY NOT BE ACCURATE IF DRAWING PLOTS ARE LESS THAN THIS SIZE. USE BAR SCALE FOR REFERENCE ON REDUCED SIZE SHEET.

PERMITTEE/OPERATOR:

STONE BUTTE ROCK LLC
94912 HWY 42 SOUTH
COQUILLE, OR 97423

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
TIGARD, OREGON (503)638–9722
HELENA, MONTANA (406)475–3244

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684–0652
FAX (503) 624–0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

CONCEPTUAL RECLAMATION PLAN

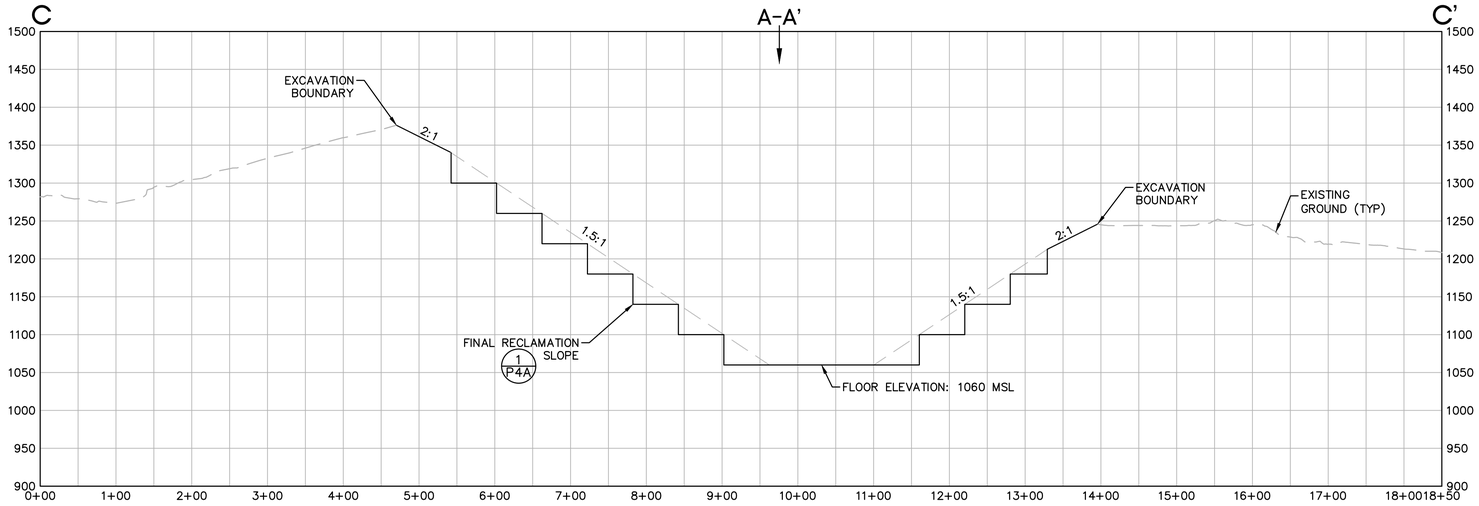
DOGAMI

REVISIONS				DRAFT BY:	CHECK BY:
NO.	DATE	DESCRIPTION			
0	2021/08/11	INITIAL DOGAMI SUBMITTAL		JRA	JRA

PLATE 4

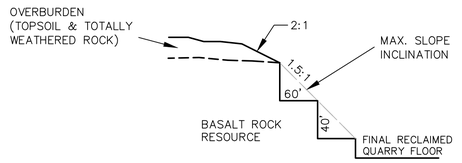
JOB NO. 2910–001

INITIAL DOGAMI SUBMITTAL



CROSS-SECTION C-C'

SCALE: HORIZONTAL 1" = 100'
VERTICAL 1" = 100'



1 FINISH RECLAIMED SLOPE

NOT TO SCALE

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 924-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

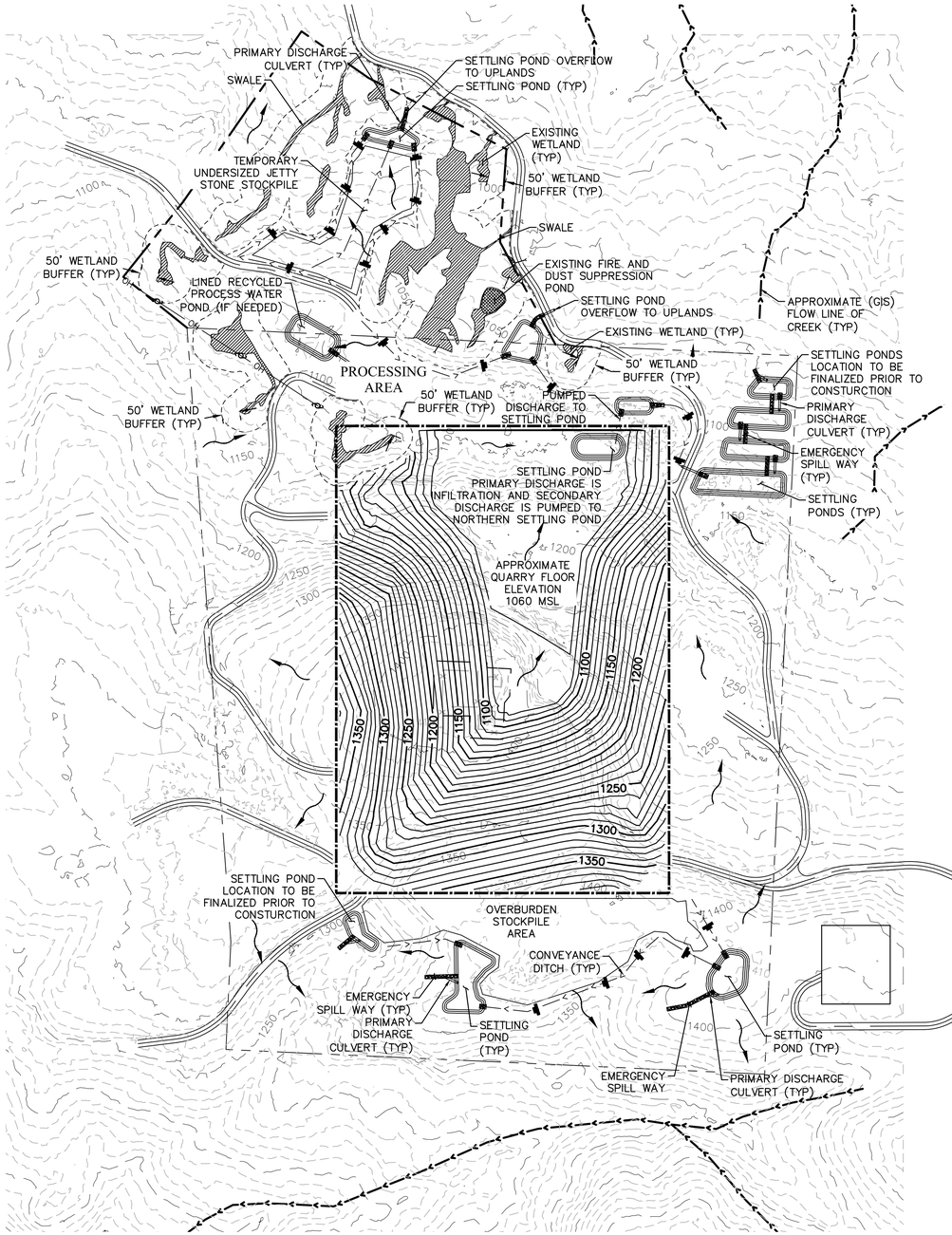
DOGAMI
CONCEPTUAL RECLAMATION CROSS SECTIONS

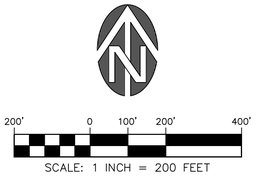
REVISIONS			
NO.	DATE	DESCRIPTION	DRAFT BY:	CHECK BY:
0	2021/08/11	INITIAL DOGAMI SUBMITTAL	JRA	JRA

PLATE
4A

JOB NO.
2910-001

INITIAL DOGAMI SUBMITTAL





LEGEND:

- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 27.6± AC)
- EXISTING 10' MINOR CONTOUR
- EXISTING 50' MAJOR CONTOUR
- PORPOSED 10' MINOR CONTOUR
- PROPOSED 50' MAJOR CONTOUR
- ACCESS ROAD
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- EXISTING FIRE AND DUST SUPPRESSION POND
- PROPOSED SETTLING POND
- PROPOSED CULVERT
- PROPOSED CONVEYANCE DITCH
- PROPOSED RIP RAP PAD
- PROPOSED ROCK CHECK DAM
- STORMWATER FLOW DIRECTION

NOTES:

1. AT A MINIMUM RIP RAP PADS ARE TO BE INSTALLED AS 12.0'L X 7.5'W X 1.5'D CLASS 50 OVER ¾" MINUS ROCK OVER MIRAFI 500X GEOTEXTILE OR EQUAL FOR EACH CULVERT OUTFALL LOCATION. EMERGENCY SPILLWAYS TO UTILIZE CLASS 50 OVER ¾" MINUS ROCK OVER MIRAFI 500X GEOTEXTILE OR EQUAL AND TO BE CONFIGURED ACCORDINGLY FOR EACH RESPECTIVE SETTLING POND.
2. THIS STORMWATER PLAN AND THE STORMWATER POLLUTION CONTROL PLAN ARE LIVING DOCUMENTS, AND AS SUCH STORMWATER BMP'S AND SITE CONTROL SHOULD BE UPDATED AS SITE CONDITIONS CHANGE.

PERMITTEE/OPERATOR:

STONE BUTTE ROCK LLC
94912 HWY 42 SOUTH
COQUILLE, OR 97423

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
TIGARD, OREGON (503)638-9722
HELENA, MONTANA (406)475-3244

NOTE:
DRAWING SCALES INDICATED APPLY TO 22"x34" DRAWING SHEETS. SCALE MAY NOT BE ACCURATE IF DRAWING PLOTS ARE LESS THAN THIS SIZE. USE BAR SCALE FOR REFERENCE ON REDUCED SIZE SHEET.

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 624-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

DOGAMI
STORMWATER MANAGEMENT PLAN

REVISIONS				
NO.	DATE	DESCRIPTION	DRAFT BY:	CHECK BY:
0	2021/08/11	INITIAL DOGOMI SUBMITTAL	JRA	JRA

PLATE
5

JOB NO.
2910-001

INITIAL DOGAMI SUBMITTAL

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\REFERENCES\WREF\2910-001 DOGAMI XTBLK.DWG 2021/08/11 - 03:08PM - JRA

Phone: (541) 266-9890 Email: info@shn-engr.com Web: shn-engr.com
275 Market Avenue, Coos Bay, OR 97420-2228

Reference: 621047

July 23, 2021

Scott Vandergrift
J.E. McAmis
621 Country Drive
Chico, CA 95928

Subject: **Supplemental Geologic Hazard Assessment, Proposed Expansion of the Stone Butte Rock Quarry, Langlois, Curry County, Oregon**

1.0 Introduction

1.1 General

This report presents the results of SHN's supplemental geologic hazard assessment conducted for the proposed expansion of Stone Butte Quarry located near the town of Langlois in northern Curry County. Please refer to the Vicinity Map provided in Appendix 1 depicting the site location in relation to nearby features. SHN previously conducted a geologic hazard assessment of the site as part of the initial permitting effort for quarry development. The findings of that investigation were provided in a report entitled "Geologic Hazard Assessment, Stone Butte Rock Quarry, Curry County, Oregon" dated June 2014.

The primary purpose of SHN's current investigation is to evaluate the presence of slope stability hazards, if any, located within and in proximity to the areas of proposed quarry expansion. The site evaluation was performed as a condition of permit approval on the behalf of the current operator, J.E. McAmis, and in accordance with Section 3.252 of the Curry County Land Zoning Ordinance. The intent of our investigation is to identify site-specific geologic hazards, if any, associated levels of risk, and the suitability of the site for the proposed expansion in view of these hazards. This report also includes an assessment of the risk of geologic hazards posed to adjacent lands due to quarry expansion and the potential for increasing stormwater runoff and any diversion or alteration of natural stormwater.

1.2 Proposed Project

The Stone Butte Quarry is currently in operation and consists of a rock highwall, rock and overburden stockpile areas, processing areas, scale house, and equipment staging area. SHN understands that the rock material currently being extracted from the site is being used for the reconstruction of the Columbia River's south jetty.

Operation of the quarry is subject to a Conditional Use Permit (CUP) granted in 2014 by Curry County which allows quarry activities to occur on approximately 73 acres. The original operational plan incorporated into the CUP stipulates that the excavation areas would be limited to 5.7

acres and that the remaining area would be used for processing, stockpiling, a scale house, and staging areas. The current operator J.E. McAmis, is proposing to increase both the excavation area and stockpile area by an additional 21.9 acres and 14.4 acres, respectively, as shown in Appendix 2.

The permittee/operator is therefore proposing a modification of the CUP issued in 2014 to 1) to expand the current excavation area from 5.7 acres to a total of approximately 27.6 acres and 2) authorize an additional 14.4 acres of new stockpile area. A topographic map depicting existing site features relative to the current permitted operational boundary is provided in Appendix 3. The locations of the proposed excavation and stockpile areas, and new settling ponds are as depicted in the "Proposed Site Map" provided in Appendix 4.

1.3 Executive Summary

Based on our current and previous site evaluations, it is SHN's professional engineering geologic opinion that the proposed expansion of the rock extraction and stockpile areas can be undertaken such that they will not be subject to unreasonable risk of damage from active landsliding; nor will they increase the risk of landsliding within the project site boundaries or on adjacent and contiguous lands. Based on a review of the stormwater pollution control plan and the amendment to mining operations and reclamation plan set prepared by Westlake Consultants (2021), the proposed quarry expansion will not divert or alter natural stormwater runoff patterns in the surrounding tributary drainages or contribute to increased erosion or stormwater runoff, provided that the proposed stormwater plan and mining operations plan are implemented. The proposed mining activities are not expected to produce water-suspended particles, dust, and other particulate material that could end up as sediment in stormwater runoff. Therefore, the proposed methods of sediment control for the site, including the use of settling ponds and check dams, are deemed appropriate and considered adequate for site conditions.

2.0 Site Description

The subject property on which Stone Butte Quarry is located contains approximately 702 acres. The quarry site is situated on a northwest-trending drainage divide that separates the tributary drainages of Willow Creek to the north and Crystal Creek to the south. The drainage divide descends to the northwest where it merges with the broad, gently sloping coastal plain that forms the geomorphic surface between U.S. Highway 101 and the Pacific Ocean. Most of the subject parcel is used for cattle grazing and timber production. Vegetation is typical of the region and is dominated by fir, cedar, spruce, alder, hemlock, salal, fern, and huckleberry.

Topography within the subject property varies from gently sloping to moderately steep with smooth and rounded hillsides that support dense stands of timber. Digital elevation models indicate the slope gradients to be generally less than about 32 degrees except for the Stone Butte rock mass. Unvegetated prairies are present in the northern portions of the parcel on southwest facing slopes that descend to Willow Creek.

3.0 Scope of Work

SHN's scope of services conducted for the current investigation include a) reviewing published geologic mapping and aerial imagery, b) conducting a geologic field reconnaissance of the project site and vicinity, and c) preparation of this report. Our geologic hazard evaluation has been conducted in general accordance with accepted engineering geologic standards related to qualitative slope stability assessments.

3.1 Field Investigation

An SHN Oregon-Certified Engineering Geologist conducted a field visit to the project site on April 21, 2021, to observe conditions in the existing permitted excavation and stockpile areas, along the main haul road, and in the areas encompassed by the proposed quarry expansion. During our field visit, we also performed reconnaissance level geologic mapping throughout the accessible areas of the subject parcel to assess any existing and/or incipient areas of landsliding.

Our geologic hazard assessment focused on the potential risk of landslides hazards to the project site, and to contiguous and adjacent lands that may be at risk from, or pose a risk to, the proposed quarry expansion. A desktop review of the property and adjacent areas were conducted with the aid of aerial imagery and bare earth LiDAR hillshade maps to assess the presence of active or dormant landslides with the intent of identifying adverse slope stability conditions that could affect the proposed project.

3.2 Geologic Conditions and Slope Stability Assessment

The regional bedrock geology consists of folded, faulted, and variably metamorphosed Mesozoic age tectonostratigraphic terranes that record a history of oceanic, volcanic arc, and continental margin sedimentation, magmatism, and terrane accretion during the Late Jurassic and Cretaceous (Wiley and others, 2014). Directly underlying the project site and site vicinity is the Sixes River terrane, which consists of intensely sheared broken formation composed of Tertiary, Upper Cretaceous, Lower Cretaceous, and Upper Jurassic sedimentary rocks and large areas of mudstone- and fine sandstone-matrix mélange. Mélange units within the terrane contain exotic tectonic blocks (knockers) including high-grade blueschist, garnet schist, and eclogite. These hard, erosion-resistant blocks comprise the protruding rock outcrops, and specifically Stone Butte, that dot the landscape throughout the Willow Creek drainage.

Surficial deposits within the project site reportedly consist of unconsolidated, chaotically mixed masses of rock and soil deposited by landslides (Wiley and others, 2014). Deposits consist of both localized slide masses and large complexes deposited by multiple generations of landslide activity. The landslide terrain throughout the Willow Creek drainage is characterized by sloping hummocky surfaces, locally marked by closed depressions, springs, and seeps, muted head-scarps and internal scarps, and occasional tilted trees. Locally, Quaternary landslide deposits are deeply incised by drainages that contain remobilized rock and debris deposited by sediment-gravity flows. Quaternary landslide complexes overlying the Sixes River Terrane range in size from small deposits to larger composite features covering areas up to 2,000 acres. Thickness of landslide deposits is reportedly highly varied but

may be more than several tens of meters in larger deposits. Large areas mapped as Quaternary landslide deposits typically include many discrete deposits of varying age that have not been differentiated.

According to the Oregon Statewide Geohazards Viewer and Statewide Landslide Information Layer (SLIDO) (DOGAMI, 2021), the current project site and proposed areas of expansion are identified as being in a "moderate" to "very high" landslide hazard zone, as shown in Appendix 5. The hazard rating appears to be based on the interpretation that the site and surrounding areas are situated on an existing landslide that is underlain by a landscape-scale landslide deposit identified as "Talus-Colluvium" in the attached map figure. The dimensions of the landslide deposit are reportedly about 0.8 miles long by 0.6 miles wide and encompass the north facing slopes between the working quarry face and Willow Creek to the north. In general, most of the Willow Creek drainage basin is reportedly underlain by laterally extensive landslide deposits as indicated by the SLIDO map. However, no interpretation of the age and activity status of the landslide features are provided. No historical landslide records, scarps, or head scarps are identified in the existing or proposed quarry expansion areas based on the SLIDO map.

During the course of SHN's field reconnaissance and desktop review, we did not observe the presence of head scarps, lateral scarps, bedrock fissures, or any other features (such as denuded bare soil areas or youthful landslide debris deposits) that are indicative of recent or incipient slope movements in the existing quarry or proposed expansions areas. We also note that the areas immediately adjacent to, and in proximity to, the boundaries of the proposed quarry expansion lack landslide features indicative of active or incipient slope failures. Active earthflows are present on the southwest-facing slopes to the north of the subject parcel. However, the slopes affected by the active earthflows are located to the north of Willow Creek opposite of the quarry location.

Our review of the available aerial imagery indicates the natural slopes within the proposed expansion areas and adjacent areas have remained unchanged and unaffected by slope movements dating back to the most recent large-scale timber harvesting operation that occurred in early 1994 or prior. Vegetation on the slopes in proximity to the proposed quarry expansion areas and throughout the subject parcel consists of dense stands of evergreens. The older mature trees and stumps were observed to be upright and straight standing, which we interpret to be reflective of the relatively stable slope configurations at the site and surrounding areas.

The sloping ground surfaces at the site and in the immediate vicinity display smooth and rolling topography, which we interpret to be a product of long-term slope stability. The vegetation is of the same age, type, and density as the adjacent terrain not included within a landslide hazard zone. When viewed in its entirety on the bare earth LiDAR hillshade map (Appendix 5; DOGAMI, 2021), the reported landslide deposit appears to be a relic of past landscape evolution as there appears to be no identifiable source area similar in composition to the material comprising the slide debris. The internal morphology displays smooth and undulating topography with a normal stream pattern where the tributaries extend onto the slide body. On this basis, we classify the activity status of the reported landslide feature underlying the subject parcel as being dormant-old and on the order of at least 10,000 years in age (Keaton and DeGraff,

1996). Our interpretation of the activity status is consistent with regional geologic mapping, which reports the landslide deposits to be relatively stable features of Pleistocene age on the basis of subdued geomorphic expression and incision by streams (Wiley and others, 2014).

4.0 Geologic Hazard Assessment Statement

SHN's interpretations and conclusions as to specific geologic hazards on the subject property, adjacent and contiguous properties, and to erosion and stormwater runoff are based on our site reconnaissance, a review of available geologic and landslide maps, and LiDAR and aerial imagery.

4.1 Geologic Hazards and Associated Levels of Risk

Based on the following, it is our professional opinion that the proposed quarry expansion will not adversely affect the subject property:

1. The potential for rock falls along the quarry working face poses the most significant hazard at the site. The risk of rock fall, however, can be mitigated by continuing to slope the rock face at its current slope angle and by continuing to construct mid-slope benches at regularly spaced intervals to catch falling rock debris.
2. The subject property is a large tract of timber and range land that contains an area of more than 700 acres. The proposed quarry expansion areas are located more than 1,000 feet from the nearest adjacent properties and are buffered by dense timberland in all directions. The potential for the proposed quarry expansion to adversely affect any contiguous and adjacent properties is, therefore, considered negligible.

4.2 Erosion and Stormwater Runoff

Based on the following observations and site conditions, it is our professional opinion that the proposed quarry expansion will not cause a significant increase in erosion or stormwater runoff beyond the limits of the proposed quarry working areas (quarry working face, staging and processing areas, haul roads, and stockpile areas), and will not divert or alter natural stormwater runoff patterns:

1. Expansion of the excavation area is to consist of further blasting of the rock face, cutting back of the rock face slope, benching, and the creation of additional stockpiles for rock riprap and soil overburden. Stormwater runoff from the rock highwall will be directed to and captured by the gently sloping quarry floor. Surface runoff from the quarry floor will be directed to a series of settling ponds prior to leaving the site where it will be discharged to the existing network of natural tributary drainages to the north of the site as shown in Appendix 4. Surface runoff from the overburden stockpile areas will also be directed to multiple settling ponds prior to being discharged to the existing network of natural tributary drainages south of the site.
2. Additional sediment and erosion control measures will be implemented on the site in conjunction with the settling ponds. Outlet-protected rip-rap pads or stilling basins are proposed at each culvert discharge point to reduce outflow velocity and prevent erosion from occurring at these locations. Rock check dams will be constructed and placed along all conveyance ditches.

3. Based on our understanding of the proposed quarry expansion plan, there is no plan to divert any natural drainage from the headwaters of any of the tributary drainages flowing to Willow Creek.
4. The need for additional road improvements to the existing haul road that provides ingress and egress to the site is not anticipated based on its current condition and well-maintained gravel surface. The existing haul road appears to have been constructed in such a manner that minimizes sediment-laden surface runoff. Standard forest road building techniques have been incorporated into the construction of the haul road that include the use of inboard ditches, rock check dams, road surface critical dips (rolling dips), out-sloping and in-sloping where appropriate, the placement of adequately sized culverts and energy dissipaters, and surfacing the road with durable rock.
5. Any additionally proposed roads will be installed with conveyance ditches. Stormwater collected on the road surfaces will be directed to the nearest settling pond. Settling ponds and discharge points are designed to accommodate all disturbed areas within the proposed DOGAMI permit boundary.

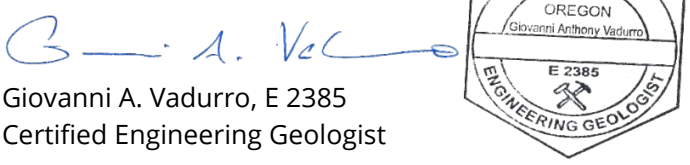
5.0 Conclusions

Based on our geologic hazard assessment, it is SHN's professional opinion that the project site is suitable for the proposed quarry expansion. The proposed excavation and stockpile areas can be developed without the need for additional measures to mitigate or control the risk of geologic hazards to the subject property or to adjacent and contiguous properties.

Furthermore, we judge that the site can be developed as intended, such that it will not result in the diversion or alteration of natural stormwater runoff patterns in the surrounding tributary drainages or contribute to increased erosion or runoff provided that the existing and proposed erosion and stormwater control measures are maintained throughout the life of quarry operations. Stormwater discharge from the undisturbed portions of the site will not be discharged at a defined discharge point. This is deemed acceptable given that undisturbed portions of the site are forested. All stormwater runoff over disturbed ground will be directed to settling ponds and will not commingle with stormwater on undisturbed portions of the site.

Please call me at (707) 441-8855 if you have any comments or concerns regarding this report.

SHN



Giovanni A. Vadurro, E 2385
Certified Engineering Geologist

Exp. 6/1/22

GAV:lam

Appendices:
1. Vicinity Map
2. Proposed Expansion Areas
3. Topographic Map with Existing Conditions
4. Proposed Site Map
5. Landslide Hazard Map
6. LiDAR Map

References Cited

Black, G.L., and I.P. Madin. (1995). "Geologic Map of the Coos Bay Quadrangle, Coos County, Oregon," State of Oregon, Department of Geology and Mineral Industries, GMS-97.

DOGAMI [Oregon Department of Geology and Mineral Industries]. (2021). "Statewide Geohazards Viewer." Accessed May 2021 at: http://www.oregongeology.org/hazvu/.

Keaton, J.R. and J.V. DeGraff. (1996). "Landslides: Investigation and Mitigation." A. Keith Turner and Robert L. Schuster, eds. *Transportation Research Board, National Research Council, Special Report 247*. Washington D.C.: National Academy Press.

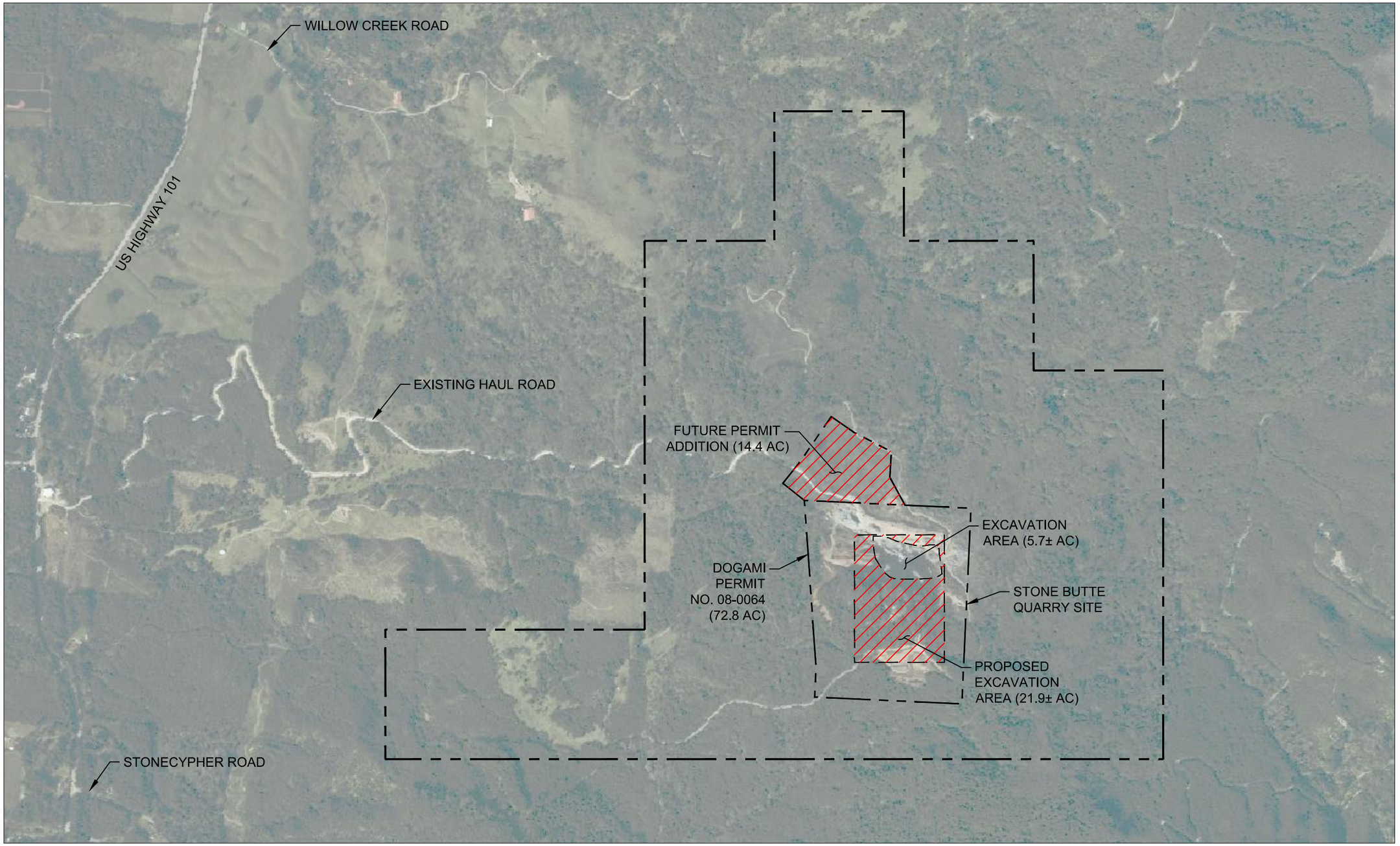
SLIDO [Statewide Landslide Information Layer for Oregon]. (2021). Oregon Department of Geology and Mineral Industries. Accessed May 2021 at: https://gis.dogami.oregon.gov/maps/slido/

Westlake Consultants. (2021). "Stormwater Pollution Control Plan, Stone Butte Quarry." WCI Project No. 2910-001. Westlake Consultants Inc., 15115 S.W. Sequoia Parkway, Tigard, Oregon.

--. (2021). "Stone Butte Quarry, Amendment to Mining Operation and Reclamation Plan Set." WCI Project No. 2910-001. Westlake Consultants Inc., 15115 S.W. Sequoia Parkway, Tigard, Oregon.

Wiley, T.J., J. D. McClaughry, L. Ma, K.A. Mickelson, C.A. Niewendorp, L.L. Stimely, H.H. Herinckx, and J. Rivas. (2014). "Geologic Map of the Southern Oregon Coast between Port Orford and Bandon, Curry and Coos Counties, Oregon." Open File Report O-14-01, Oregon Department of Geology and Mineral Industries, State of Oregon.

Vicinity Map 1



VICINITY MAP

0 500' 1000'

SCALE:1"=1000'

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
3575 RUNNING DEER DRIVE
HELENA, MT 59602
TIGARD, OREGON (503) 638-9722
HELENA, MONTANA (406) 475-3244

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 624-0157

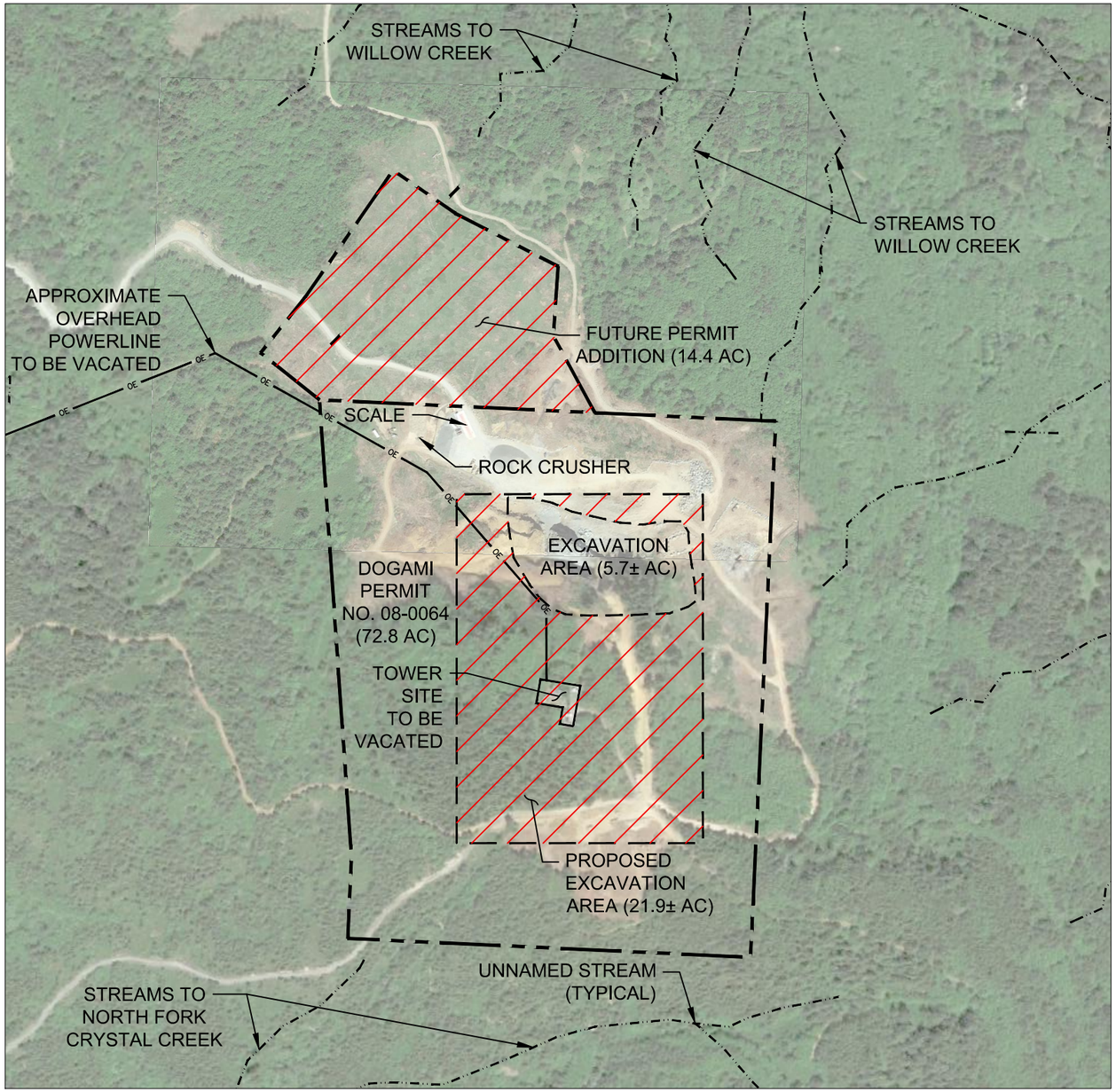
STONE BUTTE QUARRY
CURRY COUNTY, OREGON

FIGURE 1: VICINITY MAP
EXHIBITS

DATE	MARCH 31, 2021
REVISION	0
DRAWN BY	SDS
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-03-31 VICINITY & SITE MAP\VICINITY SITE EXHIBIT.DWG 2021/04/01 - 03:07PM - JRA

Proposed Expansion Area 2



SITE MAP

0 250' 500'

SCALE:1"=500'

ENGINEERING GEOLOGIST:

KUPER CONSULTING LLC
ENGINEERING GEOLOGY CONSULTANTS
3575 RUNNING DEER DRIVE
HELENA, MT 59602
TIGARD, OREGON (503) 638-9722
HELENA, MONTANA (406) 475-3244

WESTLAKE CONSULTANTS INC.
ENGINEERING ◆ SURVEYING ◆ PLANNING
PACIFIC CORPORATE CENTER
15115 S.W. SEQUOIA PARKWAY, SUITE 150
TIGARD, OREGON 97224
(503) 684-0652
FAX (503) 624-0157

STONE BUTTE QUARRY

CURRY COUNTY, OREGON

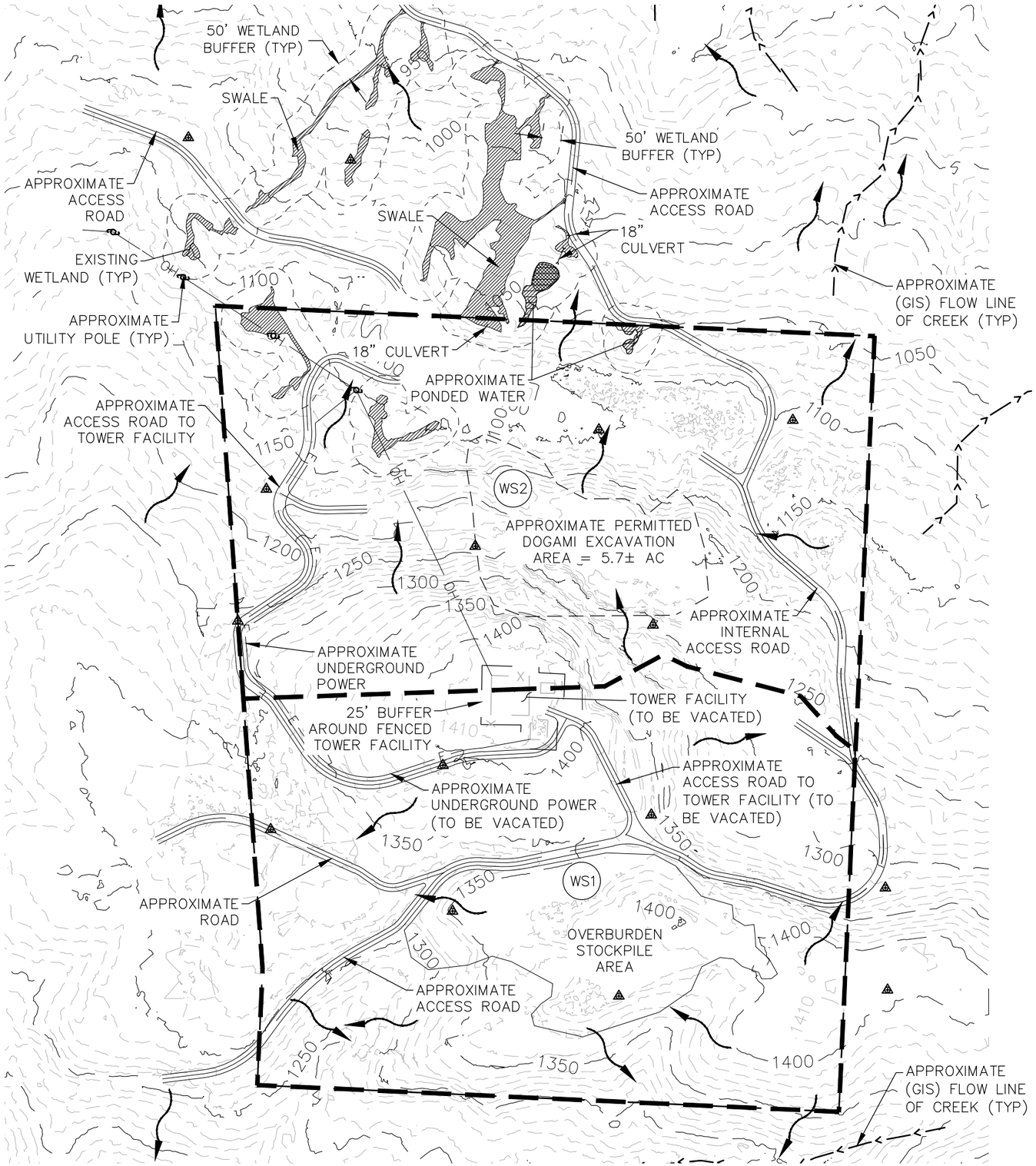
FIGURE 2: SITE MAP
EXHIBITS

DATE	MARCH 31, 2021
REVISION	0
DRAWN BY	SDS
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-03-31 VICINITY & SITE MAP\VICINITY SITE EXHIBIT.DWG 2021/04/01 - 03:08PM - JRA

Topographic Map with Existing Conditions

3



0 150' 300'

SCALE: 1"=300'

LEGEND:

- EXISTING WATERSHED BOUNDARY
- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- X EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- CONTROL POINT
- STORMWATER FLOW DIRECTION BEFORE MINING
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- APPROXIMATE LOCATION OF SPRING FED SWALES
- WS# WATERSHED NUMBER

WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY

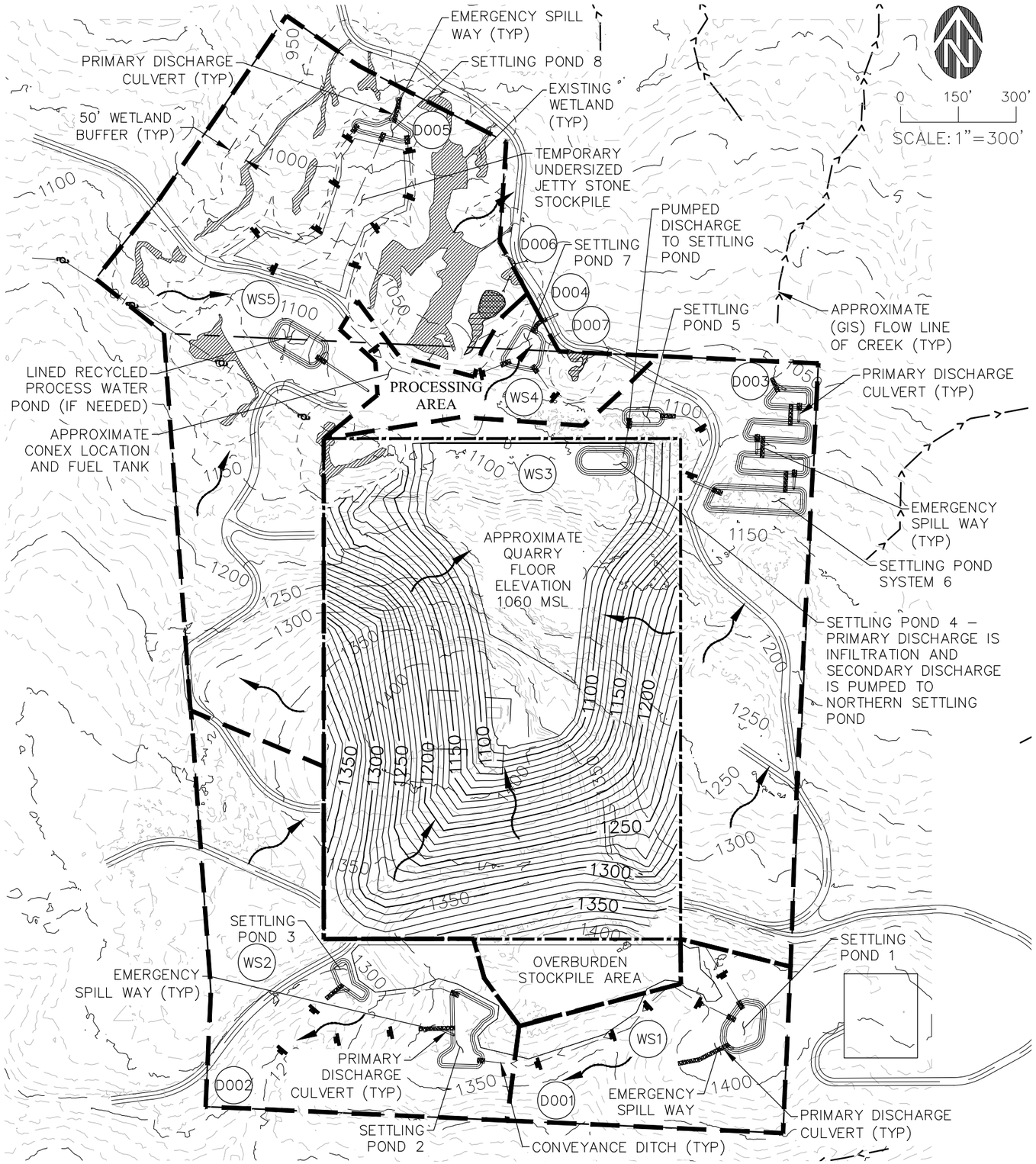
46153 U.S. HIGHWAY 101
LANGLOIS, OR 97450

EXISTING SITE MAP

DATE	2021-07-02
REVISION	0
DRAWN BY	LFH
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\EXISTING SITE AERIAL MAP.DWG 2021/07/16 - 11:31AM - JRA

Proposed Site Map 4



LEGEND:

- PROPOSED WATERSHED BOUNDARY
- EXISTING 72.77 AC DOGAMI MINING BOUNDARY
- PROPOSED 14.4 AC DOGAMI MINING BOUNDARY (TOTAL PERMITTED MINING BOUNDARY IS 72.77 AC + 14.4 AC =87.17 AC)
- APPROXIMATE PROPOSED MINING EXCAVATION BOUNDARY (TOTAL EXCAVATION AREA = 27.6± AC)
- APPROXIMATE PERMITTED DOGAMI EXCAVATION AREA =5.7± AC
- EXISTING 10' MINOR CONTOUR
- 1250 EXISTING 50' MAJOR CONTOUR
- EXISTING ROAD
- X X EXISTING FENCE
- OH APPROXIMATE EXISTING POWER/TELEPHONE LINE
- APPROXIMATE EXISTING OFFSITE CREEK FLOWLINE
- EXISTING CULVERT
- EXISTING POWER/TELEPHONE POLE
- CONTROL POINT
- STORMWATER FLOW DIRECTION
- TERRA SCIENCE DELINEATED WETLANDS (SUBMETER GPS MAPPING, AS PER STATE/FEDERAL PROTOCOLS)
- APPROXIMATE LOCATION OF SPRING FED SWALES
- WS# WATERSHED NUMBER
- D00# DISCHARGE LOCATION NUMBER
- PROPOSED SETTLING POND
- PROPOSED CULVERT
- PROPOSED CONVEYANCE DITCH
- PROPOSED RIP RAP PAD
- PROPOSED ROCK CHECK DAM

WESTLAKE CONSULTANTS
Planning | Engineering | Surveying

STONE BUTTE QUARRY

46513 US HIGHWAY 101
LANGLOIS, OR 97450

PROPOSED SITE MAP – OVERALL

DATE	2021-07-16
REVISION	0
DRAWN BY	LFH
CHECKED BY	JRA
JOB NO.	2910-001

DRAWING NAME: J:\2910-001.21\6. ENGINEERING\3. CAD\EXHIBITS\2021-06-23 SWPCP SITE MAPS\PROPOSED SITE AERIAL MAP.DWG 2021/07/16 - 10:26AM - JRA

Landslide Hazard Map 5

Stone Butte Quarry

April 20, 2021

Landslide Hazard

- Low - Landsliding Unlikely
- Moderate - Landsliding Possible
- High - Landsliding Likely
- Very High - Existing Landslide
- Scarp
- Head Scarp

Deposits

- Talus-Colluvium

1:8,400

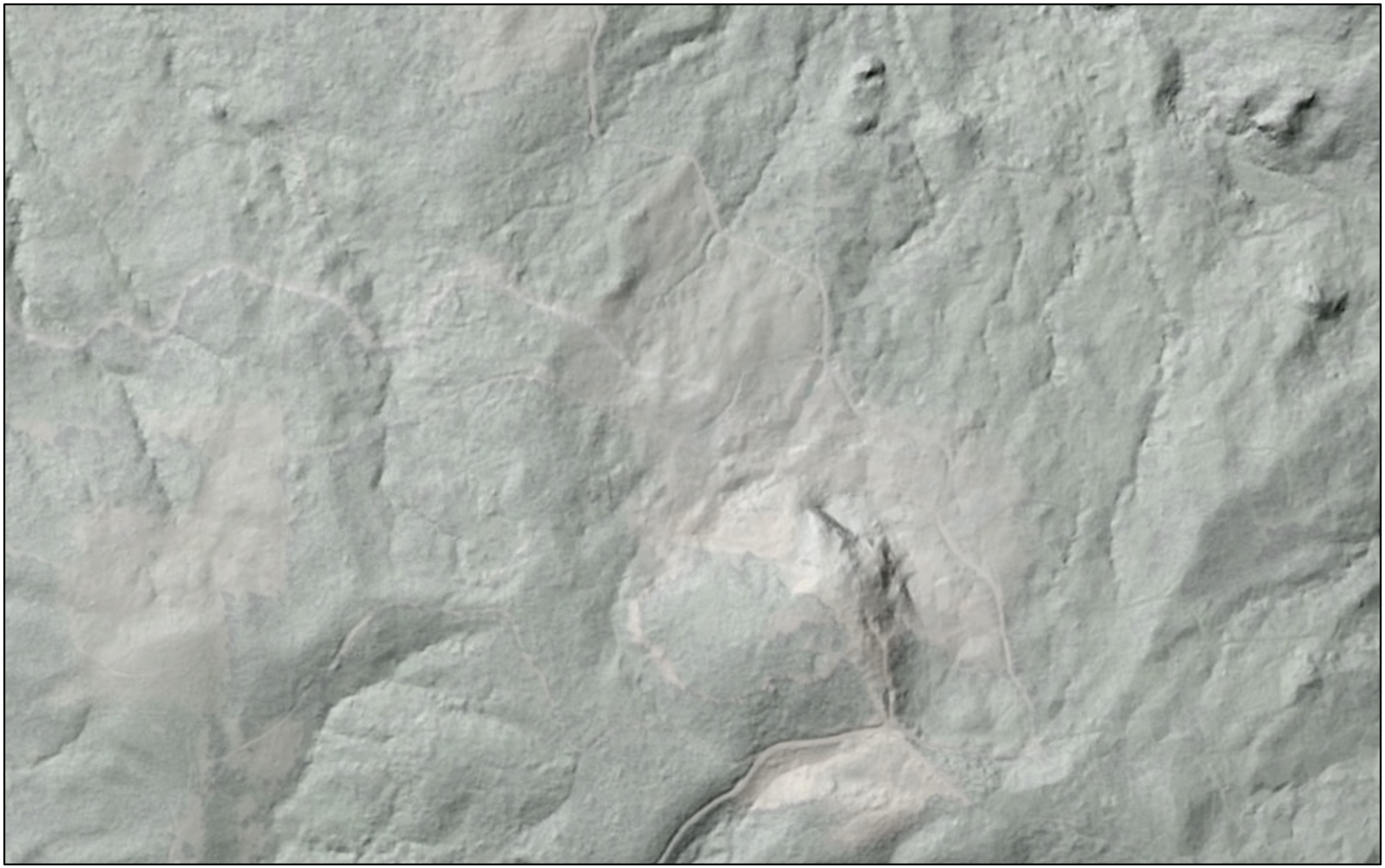
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

State of Oregon, State of Oregon GEO, Esri, HERE, Garmin, iPC, Maxar

LiDAR Map 6

Stone Butte Quarry



April 20, 2021

Bare Earth Lidar Hillshade

High : 11243

Low : -22

1:9,600

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

State of Oregon, State of Oregon GEO, Esri, HERE, Garmin, iPC, Maxar

Oregon
Kate Brown, Governor

Department of Transportation
ODOT District 7
307 Hwy 42E
Coquille, OR 97423-1854
(541) 396-1151
Fax: (541) 396-5321
jeff.s.waddington@odot.state.or.us

File Code: PMT 4-23

November 02, 2017

Paul A./ Madelyn D. Jackson
Stone Butte Rock, LLC
94912 Highway 42S
Coquille, OR 97423

Subject: **Transmittal of *Permit to Operate, Maintain and Use a State Highway Approach***
Highway Number 009, (Oregon Coast),
at Mile Point 291.30
Application Number 16834

The Oregon Department of Transportation (ODOT) has determined that the conditions required to issue a new road approach permit at the location identified in the subject line above have been satisfied. Thus, a ***Permit to Operate, Maintain and Use a State Highway Approach*** is enclosed. The approach may now be operated in compliance with the terms of the permit.

The effective period of the *Permit to Operate, Maintain and Use an Approach* is set forth in OAR 734-051-5100, as follows:

734-051-5100

Effective Period of Permit to Operate, Maintain and Use an Approach

(1) General Provisions. A permit to operate, maintain and use ("permit to operate") an approach runs with the land. Except as otherwise provided, a permit to operate is effective until:

(a) Revoked by mutual consent;

(b) Revoked for failure to abide by the terms and conditions;

(c) The approach is subject to a change of use as set forth in OAR 734-051-3020;

(d) The development of safety or operational concerns as set forth in OAR 734-051-4020(3);

(e) The approach is modified, mitigated, or removed in accordance with OAR 734-051-5120 Project Delivery; or

(f) By other operation of law.

(2) Successors and Assignees. The permit to operate is binding on successors and assignees including successors in interest to the property being served by the approach.

If you have any questions regarding the operation, maintenance or use of your new highway approach, please do not hesitate to contact me at (541) 396-1151.

Sincerely,

Jeff Waddington, Permit Specialist
ODOT District 7, Maintenance Office

Attachment: *Permit(s) to Operate, Maintain and Use a State Highway Approach*

PERMIT NO: 56908

Appl No: 15834

PERMIT TO OPERATE, MAINTAIN AND USE A STATE HIGHWAY APPROACH

Reason for Request: Presumed Permit

Site ADT:

Permittee Information

Paul A./ Madelyn D. Jackson
Stone Butte Rock, LLC
94912 Highway 42S
Coquille, OR 97423

(541) 396-5116 ( ) -

Property Information

46513 Highway 101 South
Langlois OR 97450

Curry 07

Oregon Coast 009 US101

291.300 657+10 L Public

residence

Plan View

Effective Period

(1) General Provisions: A permit to operate, maintain and use ("permit to operate") an approach runs with the land. Except as otherwise provided, a permit to operate is effective until:
(a) Revoked by mutual consent;
(b) Revoked for failure to abide by the terms and conditions;
(c) The approach is subject to a change of use as set forth in OAR 734-051-3020;
(d) The development of safety or operational concerns as set forth in OAR 734-051-5120 Project Delivery; or
(e) By other operation of law.
(2) Successors and Assignees: The permit to operate is binding on successors and assignees including successors in interest to the property being served by the approach.
The Permit is issued subject to the provisions of Oregon Administrative Rules 734-051.

Specification

32.00ft		90
20.00ft		20.00ft
24.00ft	6.00ft	20.00ft
Blank		
Paved		4.00in

Land Use

Land Use Description	Units of Measure	
Industrial/Agricultural By Acres	2.00	Acres

Tax Lot

Township	Range	Section	Tax Lot
31s	15w	22	802

This permit is not valid until signed by a duly authorized representative of the Oregon Department of Transportation.

Dan L Nevard 11/3/17

PERMIT NO: 56908

PROVISIONS FOR ENCROACHMENT, CONSTRUCTION ON OR USE OF STATE HIGHWAY PROVISIONS

Application Id: 16834 Highway Number: 009 MilePoint 291.300 Reason for Request: Presumed Permit

Applicant: Paul A./ Madelyn D. Jackson Company: Stone Butte Rock, LLC

Maintenance of Approach

Prior to performing any maintenance work on the approach, which will interfere with or interrupt traffic upon or along the highway, the applicant shall obtain approval and necessary permits from the District Office. In all cases where traffic signals have been required, signal maintenance will be performed by the Oregon Department of Transportation or as assigned by a Cooperative Cost Agreement. The Permittee is responsible for maintenance of the approach in accordance with ORS 374.315

101.001 The complete text for the 2015 Oregon Standard Specifications for Construction (OSSC) can be found online at: http://www.oregon.gov/ODOT/HWY/SPECS/Pages/Standard_Specifications.aspx To purchase the book, visit the Lynx Group, Inc. book sales website by following the link: https://5207--62.myuplinxstore.com/franchise/index.htm
The following OSSC sections apply:

140.901 00140.90 (2015 OSSC) Final Trimming and Clean Up

150.502 00150.50 (2015 OSSC) Cooperation with Utilities

180.503 Complete all work to be done under this construction permit before the specified completion date. Any time extension agreement will require that the insurance policy expire beyond the newly agreed upon completion date.

140.301 Construction Plans are approved in general only. The District Manager or representative may require field changes. When revisions are made in the field, as-constructed drawings must be submitted to the District.

150.101 The permit and all specifications, details, typical drawings, provisions and standard drawings attached to the permit shall take precedence over all plans, drawings and specifications produced by the Architect or Engineer representing the Applicant or Contractor.

150.411 Applicant (or agent) shall have on the job site, at all times, a copy of the permit and all attachments. The permit shall be readily available for inspection.

150.703 Remove all dirt and debris from the highway at the end of each work shift or more frequently if a hazard to the traveling public exists or as directed by the District Manager.

Oregon
Kate Brown, Governor

Department of Transportation
District 7 Maintenance
307 HWY 42 E.
Coquille, OR 97423
Phone: (541) 396-3707
Fax: (541) 396-5321

May 3, 2021

ADDENDUM TO
Permit # 56908

This permit is hereby modified from its original to include the following.

a. Correction of mileposts from 291.30 to 291.62.
b. All permit language will remain the same as per original permit.

APPLICANT:

X Carl Scott DATE: 5-3-21

The applicant declares that he/she is the owner or lessee of the real property or original applicant for whom the above permit is issued and has the legal authority to and hereby does accept the terms and conditions of this addendum.

DISTRICT MANAGER OR ODOT REPRESENTATIVE:

X [signature] DATE: 5/3/21

WETLAND DELINEATION REPORT FOR PORTION OF TAX LOT 2302, T. 31S., R. 15W., NE1/4 & SE1/4 SEC. 23 LANGLOIS, CURRY COUNTY, OREGON

Prepared for

STONE BUTTE ROCK, LLC
621 Country Drive
Chico, CA. 95928

Prepared by

TERRA SCIENCE, INC.
4710 S.W. Kelly Avenue, Suite 100
Portland, Oregon 97239

TSI Project No. 2020-0604

JULY 2021

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

TABLE OF CONTENTS

LIST OF FIGURES AND APPENDICES

FIGURES

APPENDICES

WETLAND DELINEATION REPORT FOR PORTION OF TAX LOT 2302, T. 31S., R. 15W., NE1/4 & SE1/4 SEC. 23 LANGLOIS, CURRY COUNTY, OREGON

A. Landscape Setting and Land Use

At the request of Stone Butte Rock LLC (Scott Vandegrift, Agent), Terra Science, Inc. has prepared this wetland mapping and delineation report for the proposed expansion of the Stone Butte quarry. This location is situated east of 46513 U.S. Highway 101 (near milepost 292), between Langlois and Sixes, Oregon (Figure 1, Appendix A). More specifically, this location is 2 miles east of the above-referenced address, at the end of a gated, one-lane gravel road that ascends approximately 950 feet. The 47.3-acre study area is a portion of Tax Lot 2302 on Curry County Assessor's map Township 31S, Range 15W, Section 23 Willamette Meridian (Figure 2). The surrounding land uses are forestry and grazing in all directions. The centroid of the study area is approximated at Latitude 42.874491°North and Longitude -124.436499°West.

Elevations within the study area range from 940 feet above mean sea level (msl) in the northwest corner to 1415 feet above MSL at the peak of Stone Butte (from S & F Land Services, Inc. topographic survey, March, 2021). The south side of the butte drains toward Crystal Creek, located beyond the study area and eventually terminates at the Sixes River at a distance of approximately 4.5 miles downstream. Northwest of the butte, there is a hillside pasture with several swales, including two spring-fed swales. All of the swales slope to the north and extend beyond the study area. The hillside pasture is part of the proposed mining expansion area. The swales eventually consolidate offsite to the north and become tributaries to Willow Creek. Willow Creek flows northwesterly, terminates at Flores Creek that terminates shortly at the Pacific Ocean. Willow Creek, Crystal Creek and several tributaries are identified on the National Wetlands Inventory (NWI) map (Figure 3); however, these creeks are situated more than 1000 feet from proposed mining expansion area.

IMPORTANT NOTE: The access road into the subject property is traveled daily by large, low-boy trucks and trailers hauling 8- to 20-ton jetty stones. Visitors in single passenger cars and trucks are strongly advised to pre-arrange meeting times, then get escorted up the access road. While the access road is well constructed, downward moving truck carrying jetty stones are difficult to stop and maneuver when encountering opposing vehicles driving up to the quarry site.

4710 S.W. Kelly Avenue, Suite 100/ Portland, Oregon 97239 / 503-274-2100

The soils mapped by Natural Resources Conservation Service (NRCS) indicate the likely presence of Colepoint-Brave-Cassiday complex soils on the steep slopes of Stone Butte (mapping unit 62F on Figure 4). The soils to the south and west of the butte are mapped Skookumhouse-Hazelcamp complex (mapping unit 237E) and Burnthill loam (mapping unit 44E), respectively. These are all steep, hillside soils (typically greater than 20 percent, some greater than 50 percent) and lack any hydric soil inclusions. The less-steep hillside area northwest of the butte is mapped as Svensen-Reedsport complex (mapping unit 254E), which is a loamy soil that formed from colluvium and residuum (same as the other soil types). Field observations support the presence of the Svensen soil type, which is less gravelly and has Inceptisol characteristics (instead of Ultisol that are more weathered).

While the plant community is likely second or third regenerated forest, the native trees include red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), Douglas-fir (*Psuedotsuga menziesii*), western hemlock (*Tsuga heterphylla*), buckthorn cascara (*Frangula purshiana*), salmonberry (*Rubus spectabilis*), thimbleberry (*Rubus parvifolius*), huckleberry (*Vaccinium* spp.), sword-fern (*Polystichum munitum*), sedges (*Carex* spp.), Douglas iris (*Iris douglasiana*), and other herbaceous species. In hillside swales, wetlands often occur. The native wetland community (where present) is dominated by red alder, Oregon ash (*Fraxinus latifolia*), Sitka spruce (*Picea sitchensis*), salmonberry, skunk cabbage (*Lysichiton americanus),* sedges, rushes *(Juncus spp.),* water parsley *(Oenanthe sarmentosa)* and similar herbaceous hydrophytes. Where cleared by past logging and/or subject to ongoing grazing, the native plant community vegetation is mostly displaced by pasture grasses *(Alopecurus sp., Lolium sp., Poa sp., Festuca sp.,* particularly common velvetgrass *(Holcus lanatus)* and sweet vernalgrass *(Anthoxanthum odoratum),* Himalayan blackberry *(Rubus armeniacus),* field daisy *(Bellis perennis),* thistles (*Cirsium ssp.*), common mullein (*Verbascum thapsus*), narrowleaf plantain (*Plantago lanceolata*), creeping buttercup (*Ranunculus repens*), and other introduced forbs.

B. Site Alterations

The site is an active quarry operating under Curry County Conditional Use (CU) approval dated 2014 and a Department of Geology and Mineral Industries (DOGAMI) Operating Permit approved in 2017 for a total operating area of approximately 73 acres. These authorizations include a 5.7-acre excavation area with related mining activities allowed throughout the approved operating area. This includes a 5-acre excavation area and stockpile areas for overburden and undersized rock. This delineation report addresses the expansion areas proposed for the existing CU and DOGAMI permits. Specifically, these proposed expansion areas include (1) an additional 14.4 acres on the northern part of the site (for more additional stockpiles), and (2) as well as additional active mining and stockpile excavation area, land that totals 21.9 acres, together with an intervening 5 acres area currently authorized for mining (Figures 6, 6.1 and 6.2). Upon County and DOGAMI approval the revised operating area will include approximately 88 acres. The study area is somewhat centered on a rocky butte, with steep slopes on all sides. The north side of the butte currently is actively mined for jetty stone, so it has several, wide cut-terraces used for rock blasting, cutting, processing and storage. The remaining sides of the butte are mostly forested, except for gravel access roads and former logging roads. The mining activity has a very large stockpile on the south side of the butte, which consists of undersized rock and overburden that is placed in accordance with DOGAMI

permit 08-0064 (Stone Butte Quarry). Along the perimeter of the excavation area, processed boulders are staged for future truck loading and transport offsite. The processing area contains smaller stockpiles of crushed rock, weigh scale, truck storage, job shack and related infrastructure.

The entire study area was historically altered for timber harvesting, as evident by the lack of old growth timber. Where currently timbered, the dominant trees are red alder and bigleaf maple, with lesser amounts of Douglas-fir and Sitka spruce. This composition of tree species infers the current forest conditions commensurate with third-growth forest, where deciduous trees predominate. Prior to 2011, land use of study area consisted only of forest management and harvesting (predominant), limited cattle grazing, and access roads to telecommunication towers on the summit of Stone Butte. See Table 1 on following page, as well as Figures 5.1 to 5.4 for historic and current aerial photographs. Commencement of mining began circa 2014, which resulted in minor excavation and rock processing, but otherwise no significant changes to forest and pasture. As the mining activity expanded in subsequent years -- as visible in the 2016 Google Earth aerial photograph -- more road improvements were made, as well as creating a larger rock processing areas. Between 2017 and 2019, the mining area was substantially enlarged and rock processing proportionally increased. The pasture area was expanded by approximately 11 acres with the removal of deciduous forest west and northwest of the mining area. Additional forest was removed for a 2-acre stockpile for overburden and undersized rock, plus expansion of access roads (Figure 7).

It is presumed the existing road culverts observed during the field study were installed during the expanded work area (between 2016 and 2018). The culverts do not appear to have substantially altered the hydrology of the wetlands. In contrast, removal of the forest on this hillside has likely increased runoff and potentially increased wetness within wetland swales. That is, post-forest clearing frequently results in wetter ground conditions in low areas, due to loss of tree interception of precipitation and evapotranspiration. The consultant team did not observe sediment accumulation in the wetland swales (originating from gravel roads and other excavated surfaces). In contrast, cattle and wildlife grazing increased substantially after forest removal, which has prevent regeneration of tree and shrubs habitat that provides ground cover, wildlife habitat and water quality benefits. Between 2016 and 2019, the former mining operator constructed an for fire protection and dust abatement pond in the vicinity of a spring-fed swale. The pond is sustained by spring water and water levels are controlled by an outflow pipe.

For this wetland delineation, the changes in land use, vegetative cover and culvert installation occurred prior to the current mining operator's custody of the study area. Such changes have relative permanence; thus the consultant team considers these existing conditions as having normal circumstances. Resultantly, the consultant team examined field conditions on an 'as is' basis, since such alterations occurred prior to the current mining operator's use of this property. Contemporary hydrology indicators (FAC-neutral test, geomorphic position, etc.) were considered reliable; however, usually low precedent precipitation made presence/absence of a shallow water table unreliable for many of the sample plot locations. Ultimately, the delineated wetland boundary was heavily based on presence/absence of hydric soil indicators and subtle slope changes – neither factor was affected by forest removal or disturbance area expansion that occurred between 2016 and 2019.

TABLE 1. Land use and vegetative cover changes from 2007 to 2019 for Stone Butte quarry site, near Langlois, Curry County, Oregon.

Google Earth Aerial Year	Site Composition (approx. sizes based on 47 ac. study area).	Additional Observations/Interpretations
May-1994 to June-2007	Pasture/Non-Forest – 4 ac. Forest – 41.5 ac. Access Roads – 1.5 ac.	Pre-mining condition. Predominantly forested site with minor portion as pasture. Access road for communications towers.
Nov.-2011	Mining/Processing Area – 1 ac. Pasture/Non-Forest – 4 ac. Forest – 40 ac. Access Roads – 2 ac.	Early stage mining condition – minimal clearing on north side of Stone Butte. Slight increase in access roads near butte. Pasture/Non-Forest areas unchanged.
May-2016	Processing Area – 2 ac. Mining Area – 2 ac. Pasture/Non-Forest – 4 ac. Forest – 37 ac. Access Roads – 2 ac.	Mining area increased and previously mined areas now used for rock processing. Pasture/Non-Forest areas unchanged.
May-2019	Processing Area – 10 ac. Mining Area – 5 ac. Pasture/Non-Forest – 15 ac. Forest – 12.5 ac. South Stockpile -- 2 ac. Access Roads – 2.5 ac.	Mining area increased, as well as rock processing area. Stockpile for overburden and undersized rock added. Minor increase in access road area, roads repaired. Approx. 11 acres of forest cleared to convert to pasture. Fire protection/ dust abatement pond created in vicinity of spring-fed swale.

C. Precipitation Data and Analysis

Precipitation data was obtained from the Port Orford Weather Station "5 E", which is located approximately 9.3 miles the Stone Butte quarry site. This location was selected since it had a complete record of precipitation, including 2021; whereas, the closer-located Langlois weather station had numerous missing precipitation records in recent years. The Port Orford weather station is also 6 miles closer than the weather stations in Bandon, Oregon. From the http://agacis.rcc-acis.org web portal, the WETS Table indicates the growing season for the Port Orford area is typically January 18 to January 5 in most years (352 days). Five percent of the growing season equates to 17.6 days.

Table 2A (following page) compares observed and tabulated averaged precipitation levels for the beginning of the water year (October 2020) through the field study period (May 11, 2021) for the Port Orford weather station "5 E". Table 2B (next page) outlines precipitation levels for one- and two-week intervals preceding and including the May 11, 2021 site visit.

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

TABLE 2A. Rainfall summary for Water Year October 01, 2020 through May 11, 2021 at Port Orford Weather Station "5 E"; Curry County, Oregon (from the NOAA Regional Climate Centers; http://agacis.rcc-acis.org).

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May °	Total
Observed Precipitation (in.)	3.78	13.58	18.50	17.02	11.01	1.97	2.29	0.62 °	68.77
Average Precipitation (in.)*	7.22	15.06	20.43	18.30	13.74	15.75	10.49	1.93 °	102.78
Percent of Average	52%	90%	90%	93%	80%	13%	22%	32% °	67%
Normal Range (in.)	3.63-9.41	11.79-20.58	13.07-24.13	12.63-22.33	11.34-19.58	11.84-18.29	6.49-11.32	1.36-2.68 °	72.15-128.32

* Average precipitation based on observations between 2000 and 2021, while WETS values based on observations between 1971 and 2000 at the Port Orford Weather Station "5 E", Curry County, Oreg.
° May precipitation pro-rated to reflect May 01 through May 11, 2021.

TABLE 2B. Rainfall summary for 1- and 2-weeks preceding water table observations at Port Orford weather station "5 E"; Curry County, Oregon (from the NOAA Regional Climate Centers; http://agacis.rcc-acis.org).

Field Study Date	7-Day Interval Preceding Field Visit			14-Day Interval Preceding Field Visit		
	Observed Precipitation	Average Precipitation*	Percent of Average	Observed Precipitation	Average Precipitation*	Percent of Average
May 11, 2021	0.47 in.	1.23 in.	38%	0.47 in.	2.98 in.	16%

* Average precipitation based on observations between 2000 and 2021 at the Port Orford Weather Station "5 E", Curry County, Oregon.

For two months prior to the field study, the Port Orford area received an unusually low amount of rainfall that resulted in some wetlands lacking a water table during the field study. Some wetlands lacked any indication flowing water (such as flattened vegetation, sediment accumulation), such as observed in the upper part of Wetland 1A. The consultant team considered the absence of a water table alone was insufficient evidence to disqualify an area as wetland. While the upland plots and solitary sample plots did not have saturation or water table within the hand-dug soil pits, they also lacked hydric soils. The field study was conducted on May 11 to 13, which is significantly past the onset of the growing season (mid-January in most years). On the field study date, plant observations of 2021 growth (as per 2010

4710 S.W. Kelly Avenue, Suite 100/ Portland, Oregon 97239 / 503-274-2100

Regional Supplement) found most plants had already flowered and some seed heads deteriorating. The field team was able to complete sufficient plant identification to conduct the Dominance Test for the hydrophytic plant parameter.

D. Methods

The study area was evaluated using methodology outlined within the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0), with guidance from the Oregon Department of State Lands, U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. Prior to field work, the field team reviewed the U.S.G.S. topographic map, NRCS soil survey map, then analyzed current and historical aerial photography. The team also examined the National Wetland Inventory map, March 2021 LiDAR topographic imagery (custom for this project), and S & F topographic survey map.

Soils and hydrology were evaluated at each sample location using a tile spade (Montana sharpshooter) to examine the upper part of the soil profile and observe water levels. A tape measure and Munsell color charts were used to describe layer depths, matrix colors (moist only), and redoximorphic colors. Soil characteristics for potential hydric soil were analyzed using NTCHS *Field Indicators of Hydric Soils in the United States* (Version 8.2). All field observations were recorded on data sheets, and included as Appendix B, while ground-level photographs compose Appendix C.

The field study was conducted on May 11, 12 and 13, 2021 by soil scientist Phil Scoles. Nine transects were established to document the boundaries for nine wetlands. In addition, five solitary sample plots were positioned in locations having low topographic setting and/or higher percentage of hydrophytes but lacked hydric soils. For each sample location, the routine intermediate-level (level 2) delineation methodology (dominance test) was used to visually estimate percent cover for herbaceous and woody species. Dominant species were selected and evaluated using the 50/20 rule and wetness indicator status assigned using the *2018 The National Wetland Plant List* (Oregon list). The sampling configuration of each plot consisted of a 5-foot by 10-foot rectangular plot for herb species, and larger rectangular plots for shrubs and trees to avoid overlap with the closely positioned opposing plot. That is, the rectangular plots generally aligned with the linear nature of the subject wetlands, which sometimes consisted a narrow swales.

The hillside pasture portion of the study area consists of blackberry brambles, grazed grasses and weeds. The study area immediately east, west and south consists of second or third growth forest (except where actively part of the mining and stockpiling activity) that lacks wetland features due to the elevated topographic setting of the butte. Active mining areas have ongoing disturbance, namely rock blasting, excavation, crushing, hauling, dumping, and related land grading. Such areas were assessed with Sample Plot SP-C, which is a red alder-dominated forest that lacks sufficient wetness to qualify as wetland. Transect 9 documented wetland conditions within a swale composed of old fill material. This swale occurs on edge of the mining excavation area, and it has sufficient wetness, hydric soils and hydrophytic vegetation to qualify as wetland.

E. Description of All Wetlands and Other Non-Wetland Waters

The study area contains two types of wetland – seasonal hillside swales and spring-fed swales (Figure 6. 6A and 6B). All of the swales meet the positive indicator requirements for hydrophytic vegetation, hydric soils and wetland hydrology specified in the 2010 Western Mountains, Valley and Coast regional supplement. The seasonal hillside swales compose the majority of the wetland features, while the spring-fed swales are clustered in the northeast corner of the study area. Many of the swales extend offsite, get intercepted by the north access road, then extend offsite. These features eventually become intermittent tributaries to Willow Creek, a perennial stream about 1700 feet to the north. Willow Creek winds to the west, then northwest and merges with Flores Creek on the west side of U.S. Highway 101.

All of the wetlands in the study area lack trees and have relatively few shrubs due to past logging (circa 2018) and ongoing grazing (cattle and wildlife). Such grazing has allowed non-native grasses and forbs to dominate the herbaceous plant communities. The only open water feature is a fire protection/ dust abatement pond that is fed by spring water and water levels maintained by a permanently fixed outlet pipe. In this instance, the Ordinary High Water line for the pond is the same as the wetland boundary for approximately two-thirds of the pond rim. The deep water portion of the pond is surrounded by a wetland rim, so there are no non-wetland waters within the study area.

Hydrology: The seasonal hillside swales (Wetlands 1A, 1B, 2, 3, 4, 5 and 9) are sustained by a combination of direct rainfall and infiltrated rainfall (not deep groundwater sustained). For these swales, runoff was observed only in lowest reach of Wetland 1A and the east edge of Wetland 5. The field team noted that the unusually low rainfall in March and April likely caused the seasonal hillside swales to become dry weeks or months earlier than normal. Regardless, these swales lack defined channels (no bed or bank) and do not have year-round saturation. In addition, the forest removal (circa 2018) did not appear to create erosion rills nor cause bank-widening due to higher runoff rates (due to tree/shrub removal).

In contrast, the spring-fed swales have an added hydrologic source of year-round spring discharge (deep groundwater). These spring-fed swales (Wetlands 6, 7 and 8) have measurable flows (1 to 20 gallon per minute, visual estimate). Surface flow for the spring-fed swales begin at the base of rock apron created by a former mining operator. For Wetlands 1A, 6, 7 and 8, inundation observed at the time of the field study (hydrology indicator A1). Water table and saturation within 12 inches of the surface (hydro indicators A2 and A3) were observed at Wetlands 1A, 1B, 3, 6, 7, 8 and 9. The remaining wetlands typically had two secondary hydrology indicators of wetland hydrology, namely geomorphic position (D2) and FAC-neutral test (D5). In contrast, the adjacent uplands typically lacked all of these hydrology indicators.

Landform and Soils: The hillside swales are situated on the north side of an east-west trending ridge and below a steep butte. The soil series vary depending upon the aspect and landscape position, but they all are residuum soils (formed directly from bedrock). The lower positioned soils may also have a surface layer that has material that eroded from a higher elevation (colluvium). The soils are generally silt loam in the upper part and silty clay loam below 8 to 12 inches. These textures are typical for residuum soils derived from sedimentary and

metamorphic rocks, where there is abundant rainfall and mild climate. The moderately clayey textures are not easily eroded and revegetate quickly after disturbance. Such disturbance includes former logging roads and grading associated with mine activity beginning circa 2011. While more recent road cuts are partially vegetated, they do not appear highly eroded despite steep slopes. There are also small areas of fill material in the vicinity of the fire protection/ dust abatement pond and Wetland 9 (adjacent to mining slope).

In terms of hydric soil characteristics, the majority of wetland plots qualified having distinct and/or prominent redoximorphic soft masses or pore linings in the upper part of the soil (aka F6-Redox Dark Surface). This is a common hydric soil indicator in Oregon and it is often associated with seasonally wet situations. Where the soils are saturated or inundated by springs or seepages, the soils can form a depleted matrix (gray soil) with or without a dark surface (hence F3 and/or A11 indicator). The wetland plot just above the pond has aerated water, so it lacked typical discoloring, but had sufficient accumulated organics to meet the F1 hydric soil indicator (Mineral Modified Mucky texture). In contrast, the adjacent upland soils lacked these wetness characteristics in the upper part; thus, they did not qualify as hydric soil. Given the grazed condition of most of the plots, along with early season drought conditions, the soil parameter become the primary basis for deciding the wetland boundary. The soils in the active mining area could not be evaluated for the reasons noted above (recently excavated, filled or graded).

Vegetation: The hillside swales are mostly dominated by hydrophytic grasses and forbs, with lesser amounts of Himalayan blackberry (*Rubus ameniacus*, FAC). The grazed condition of many of the plots resulted in variable plant distribution, but generally composed of the following species: Common velvetgrass (*Holcus lanatus,* FAC), meadow foxtail (*Alopecurus pratensis*, FAC), tall fescue (*Schedonorus arundinaceus,* FAC), bentgrass (*Agrostis* spp.), narrow-leaved plantain (*Plantago lanceolata*, FAC) and creeping buttercup (*Ranunuculus repens*, FAC). In the spring-fed swales and flatter sections of the hillside swales, slightly wetter-adapted species dominate, such as soft rush (*Juncus effusus*, FACW), toad rush (*Juncus bufonius* FACW), spikerush (*Eleocharis* sp.), pennyroyal (*Mentha pulegium*, OBL), and an occasional skunk cabbage (*Lysichiton americanus*, OBL). There are a few scattered willows (*Salix sp.)*; however, they are severely grazed by deer.

The transition to adjacent uplands is generally clear and corresponds to a slight change in topography (i.e. slope and elevation). These adjacent uplands are dominated by common velvetgrass (FAC), sweet vernalgrass (*Anthoxanthum odoratum,* FACU), bentgrass (FAC), common orchardgrass (*Dactylis glomerata,* FACU), field daisy (*Bellis pernnis,* UPL), narrow-leaved plantain (FAC), common mullein *(Verbascum thapsus,* FACU), Douglas iris (*Iris douglasiana*, UPL), catsear (*Hypochaeris radicata,* FACU) and a few scattered sword-fern (*Polystichum munitum*). Due to the prevalence of FAC-dominated pasture grasses, the uplands often pass the hydrophytic Dominance Test, but fail the Prevalence Test. While the upland plant community is visually different from the wetlands, the boundary was refined using the hydric soil characteristics and change in topographic setting.

Fire Suppression / Dust Abatement Pond: This pond (aka Wetland 7) was created circa 2018 by the previous mining operator. The pond was mostly excavated from upland, but there was a natural spring and wetland in this vicinity. The upper (south) edge of the pond has a steep cut slope that has some groundwater seepage, while the lower (north) edge is a steep fill

embankment (no apparent seepage). Since the pond is spring-fed, it is permanent open water in the center and emergent fringe along the shoreline. The pond outlet is controlled by an overflow pipe, which discharges to Wetland 6. In turn, Wetland 6 drains into a culvert that crosses under the north access road and then offsite. Generally well vegetated on the fringe, the pond margin does have some sparsely vegetated areas due to compacted fill material and/or cattle disturbance. This fringe contains a mixture of toad rush, soft rush, dagger leaf rush, spikerush, mannagrass, and non-native grasses/forbs (velvetgrass, plantain, pennyroyal, etc.). The emergent fringe has a width of 2 to 5 feet, of which 50 percent is seasonally or permanently inundated. Near the center, the depth of the pond appears to be approximately 10 feet (visual estimate).

Access Road Ditches: The study area contains two ditches – Ditch #1 on the southside of the main access road, and a short segment of Ditch #2 on the south side of the north access road (connecting to Wetland 6). These ditches are sustained by a combination of gravel road runoff and groundwater seepage (cut slope next to each access road). Flow in the ditches is most ephemeral, but intermittent where the topography is mostly flat. Saturation at the surface was visible for approximately 70 percent of the ditch lengths in the study area. Portions of the ditches are either lined with rock or excavated to the top of bedrock – such reaches are mostly unvegetated. Where the ditches have a soil bottom, they typically support toad rush, soft rush, spreading rush, and non-native grasses/forbs (velvetgrass, meadow foxtail, plantain, pennyroyal, etc.). The ditches have a width of 2 to 3 feet and excavated depth of 1 to 2 feet. While these ditches have defined channels (created by excavation), they are not re-aligned creeks. Except where the ditches intersect Wetland 1B and Wetland 6, these ditches were created from upland and are exempt from regulation.

F. Deviation from LWI or NWl

The field team documented and classified most of the seasonal hillside swales as Cowardin palustrine, emergent, seasonally flooded / saturated (PEME). The wetland swales best fit the Cowardin Classification for palustrine, emergent, saturated/semi-permanently/ seasonally flooded (PEMY). The two spring-fed wetlands have mostly year-round flow, so they classify as Cowardin palustrine, emergent, semi-permanently flooded (PEMF). The fire and dust suppression pond fed by the larger spring was excavated to sufficient depth that it is considered palustrine, open water, permanently flooded (POWHx). And lastly, selected segments of created roadside ditches are sustained by seasonal wetness that is consistent with Cowardin palustrine, emergent, seasonally flooded / saturated, excavated (PEMEx). For hydrogeomorphic classification, the springs are is best characterized as Riverine Flow-Through type wetland (HGM-RFT). In contrast, the hillside swales have HGM classification that best fits HGM-Slope category.

National Wetland Inventory (NWI, Figure 3) mapping by the U.S. Fish and Wildlife Service's (USFWS) shows only riverine, intermittent, streambed, seasonally flooded (R4SBC) type wetland in the approximate alignment of Wetlands 1A, 5, 6 and 7. The NWI mapping also shows a similar R4SBC wetland extending upslope into the east part of the mining area and another R4SBC wetland extending into the south part of the study area. Neither wetland feature was not observed, but both are visible beyond the study area. The NWI mapping in the

east mining area currently consists of fill material, equipment staging and rock stockpiles. The consultant team established Sample Plot SP-C in the same vicinity (where not previously mined or filled) and found only non-hydric soils and no wetland hydrology indicators. The NWI mapping in the south part coincides with the large overburden stockpile, which was constructed prior to the current mining operator's activity on this property. The NWI mapping did not identify the five additional wetlands documented by this field study. The delineation findings are more precise than the NWI mapping and subsequently supersede the NWI mapping.

G. Mapping Method

The ten transects, five solitary sample plots and the delineated wetland boundaries were mapped by the field team, who utilized a Juniper Geode Global Navigation Satellite System (GNSS) GPS receiver and hand-held Mesa 3 rugged tablet. The tablet utilized ArcPad Version 10.0 software for data plot and wetland boundary line collection. GPS measurements were exported as real-time processed ArcPad shape files into AutoCAD compatible files using ArcMap 10.2. The GPS delineation file, along with georeferenced tax lot boundaries, NRCS Web Soil Survey mapping units, and 2021 S&F topographic survey were inserted into AutoCAD LT drafting software to generate project maps. Site and wetland acreage calculations were executed within the AutoCAD program. All files are presented in the NAD 1983 / 2011 State Plane Oregon South basis of bearings. The sample plots and wetland boundaries presented on Figures 6, 6.1 and 6.2 are accurate to <1.0 meter horizontal accuracy.

H. Additional Information

Most of the wetland swales merge with other swales offsite (to the north), that it turn eventually connect to Willow Creek over 1000 feet to the north (offsite). Willow Creek flows northwest (descending about 800 feet in elevation), then merges with Flores Creek, southwest of Langlois, Oregon. Flores Creek terminates at the Pacific Ocean, just north of Flores Lake. Table 3 on the following page summarizes the hydrologic connectivity for each swale and ditch occurring in the study area. The ditching along North Access Road forces several swale to merge, then a culvert conveys runoff to offsite sections of Wetlands 1A and 6. Wetland 3 is a natural swale that likely has near-surface saturation, but no surface connection to nearby Wetland 1A. Wetlands 4 and 9 terminate at culverts that likely convey runoff to Wetland 5. Runoff in the swales is intermittent, generally flowing from November to May, in most years. The two spring-fed swales have almost year-round flow. The wetland swales are regulated (jurisdictional) by State of Oregon via Oregon Department of State Lands administrative rules; however, the ditches are exempt from regulation. The Corps of Engineers currently relies upon the 2020 Clean Water Rule for regulation of tributary drainages. Until determined otherwise, the spring-fed swales should be considered within Corps' jurisdiction.

TABLE 3. Hydrologic Connectivity for Wetland Swales and Ditches.

Feature	Hydrologic Connectivity To Onsite Wetlands or Offsite Wetlands/Waters
Wetland 1A (lower swale)	Slopes offsite 1600 feet to Willow Creek
Wetland 1B (upper swale)	Merges with Wetland 1A
Wetland 2 (swale)	Merges with Wetland 1A via North Access Rd. ditch
Wetland 3 (swale)	No surface connection to other swales
Wetland 4 (swale)	Likely merges with Wetland 9 via culvert [1]
Wetland 5 (swale)	Merges with Wetland 1A 300 feet below North Access Rd.
Wetland 6 (swale)	Slopes offsite 1200 feet to Willow Creek
Wetland 7 (swale)	Merges with Wetland 6 above North Access Rd.
Wetland 8 (swale)	Merges with Wetland 6 about 450 feet below North Access Rd.
Wetland 9 (swale)	Likely merges with Wetland 5 via culvert [1]
Main Access Rd. (ditches)	Merges with Wetland 1A
North Access Rd. (ditches)	Merges with Wetland 6

[1] Culvert installed beneath processing area prior to current operator's use of this rock mine. Culvert observed at upper end of Wetland 5.

Figure 7 shows the disturbance areas associated with the ongoing mining operations. As per interviews with the current mining operator (Stone Butte Rock LLC), the footprint of the disturbance was created by a former mining operator. While Stone Butte Rock LLC has improved the access road leading up to the mining area, their excavation and grading has been limited to rock mining areas and stockpiling areas for overburden and undersized rock. The staging of processed rock (to be transported offsite) corresponds to areas previously filled and/or graded.

I. Results and Conclusions

Utilizing routine intermediate-level (level 2) delineation methodology outlined in the 1987 Manual, 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0), Terra Science identified nine wetland swales (Figures 6, 6.1 and 6.2). Three swales have spring-fed flow, while six swales have only intermittent wetland hydrology (some are only saturated at surface and lack flowing waters). The swales support hydrophyte-dominated plant communities – such communities also extend into uplands. These wetlands have sufficient wetness (duration) in winter and spring months to result in the formation of redoximorphic features (hydric soil characteristics). Several artificially created roadside drainage ditches sustained by road runoff and/or groundwater seepage were also mapped as potential wetland features (DSL regulatory status uncertain). As documented by the field study, these wetland features (Table 4) have the following Cowardin and HGM classifications, DSL and Corps jurisdiction, and acreage.

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

TABLE 4. Cowardin and HGM Classifications for Wetland Swales and Ditches.

Feature	Field Cowardin Classific.	Field HGM Classification	DSL Juris-dictional	Corps Juris-dictional	Acreage
Wetland 1A (lower swale)	PEME	RFT	Yes	No *	0.24
Wetland 1B (upper swale)	PEMY	Slope	Yes	No *	0.10
Wetland 2 (swale)	PEMY	Slope	Yes	No*	0.04
Wetland 3 (swale)	PEMY	Slope	Yes	No *	0.06
Wetland 4 (swale)	PEMY	Slope	Yes	No *	0.19
Wetland 5 (swale)	PEME	Slope	Yes	Yes °	1.23
Wetland 6 (swale)	PEME	RFT	Yes	Yes °	0.03
Wetland 7 (swale)	POWHx PEMF	RFT	Yes	Yes °	0.14
Wetland 8 (swale)	PEMF	RFT	Yes	Yes °	0.02
Wetland 9 (swale)	PEMY	Slope	Yes	No *	0.13
Main Access Rd. (ditches)	PEMEx	Slope	No	No *	0.04
North Access Rd. (ditches)	PEMEx	Slope	No	No *	0.01
DSL and Corps Regulated Wetland					**2.23 ac.**

PEME: Palustrine, Emergent, Seasonally Flooded / Saturated wetland.
PEMEx: Palustrine, Emergent, Seasonally Flooded / Saturated wetland, excavated.
PEMF: Palustrine, Emergent, Semi-Permanently Flooded
PEMY: Palustrine, Emergenet, Saturated/Semi-Permanently/ Seasonally Flooded
POWHx: Palustrine, Open Water, Permanently Flooded, excavated.
RTF: HGM Riverine Flow-Through type wetland
Slope: HGM Slope type wetland

*: USACE jurisdictional status estimated; subject to revision.
°: Spring-fed swales anticipated USACE jurisdictional due to perennial connectivity to offsite Willow Ck.

4710 S.W. Kelly Avenue, Suite 100/ Portland, Oregon 97239 / 503-274-2100

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

J. Disclaimer

As required by the Oregon Department of State Lands, the following statement must be included as part of this document:

"This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best on my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055."

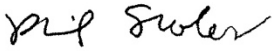
Limitations of this Report

Terra Science, Inc. did not investigate or define wetland conditions beyond the immediate vicinity of the selected portion of Tax lot 2302 on Curry County Assessor's map no. 31-15-23 (Township 31S, Range 15W, Section 2-A & D, W.M.) between Langlois and Sixes, Oregon. This report makes no claim or conclusions about those conditions beyond the specified study area.

The data presented in this report were collected, analyzed and interpreted using standards of skill, care, and diligence ordinarily provided by a qualified professional using the 1987 Corps of Engineers Wetlands Delineation Manual and 2010 Regional Supplement: Western Mountains, Valleys and Coast (Version 2.0). The report findings are based on incidental information from the current mining operator, project geologist, the observations of the project team, and limitations of the wetland delineation methodology. The report findings and their significance should not be extrapolated beyond the immediate area of the study. Terra Science, Inc. shall not be liable beyond the fees paid for its services for errors and omissions.

This report was generated for the express use of Scott Vandegrift (Agent), Stone Butte Rock, LLC, and their designates. These parties shall not interpret the report findings or conclusions any differently than stated without prior discussion with Terra Science, Inc.

Respectfully submitted,

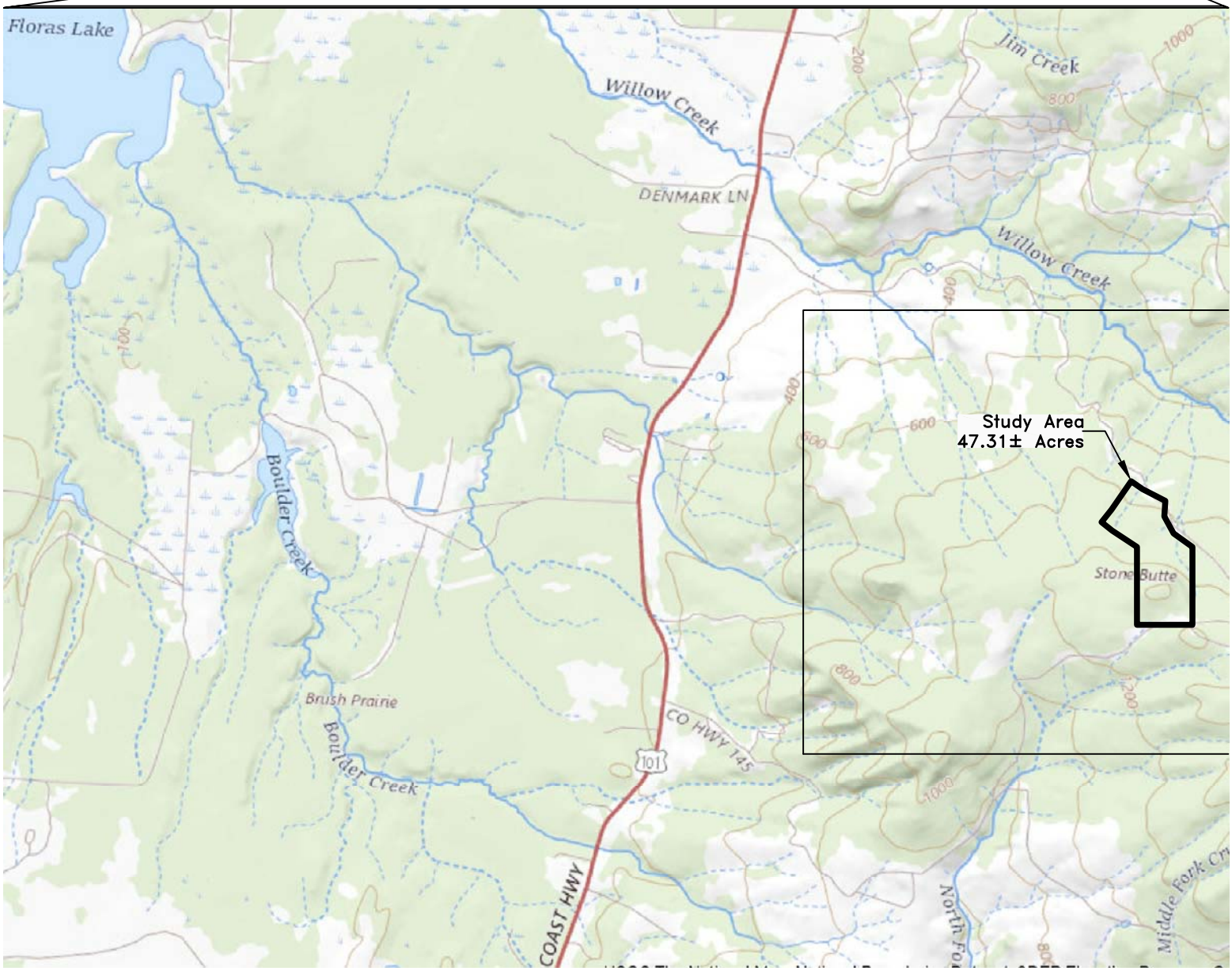


Phil Scoles
Soil and Water Scientist

4710 S.W. Kelly Avenue, Suite 100/ Portland, Oregon 97239 / 503-274-2100

APPENDIX A

REPORT FIGURES



DIRECTIONS: From Salem / Eugene travel Interstate I–5 south to Oregon Highway 42 (Exit 119). Proceed west on Highway 42 to Bandon and merge south onto U.S. Highway 101. Travel approximately 18.2 miles to 46513 U.S. Highway 101. Private gravel single–lane road extends 2 miles east to study area. Access road and site access must be coordinated with mine operator in accordance with safety protocol.

Centroid of the study area is approximated at 42.874416° north and –124.436522° west.

Source: Adapted from U.S. Geological Survey National Map.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 1250 2500 5000
(IN FEET)

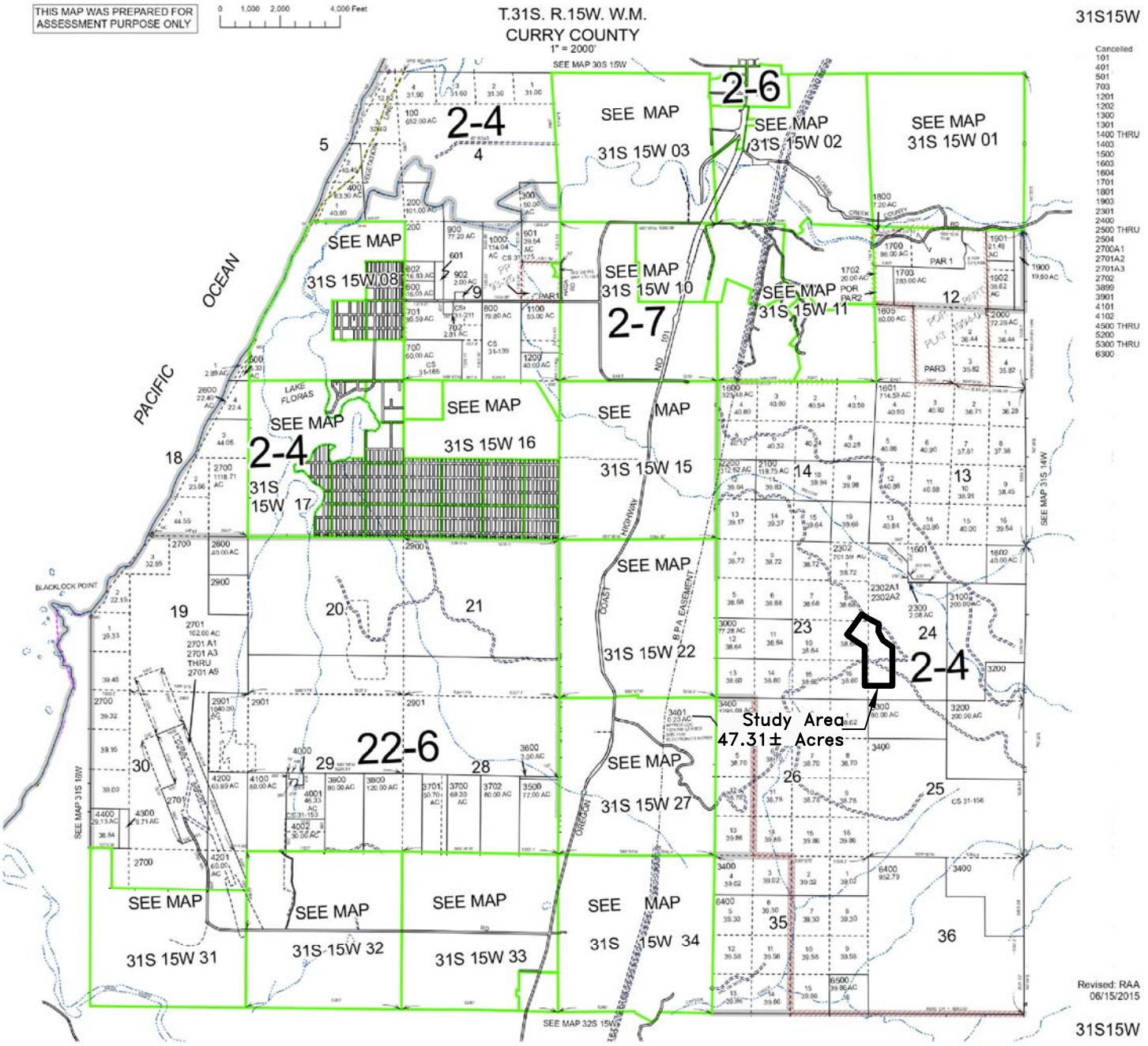
WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

VICINITY MAP

July 2021

FIGURE 1

NOTE: The 47.31± acre study area is situated within identified portions of Tax lot 2302 on Curry County Assessor map Township 31 South, Range 15 West, Willamette Meridian. Curry County designates the study area and surrounding area as Forestry Grazing (FG).



Source: Adapted from Curry County Assessor map T. 31S, R. 15W, W.M.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 2500 5000 10000
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

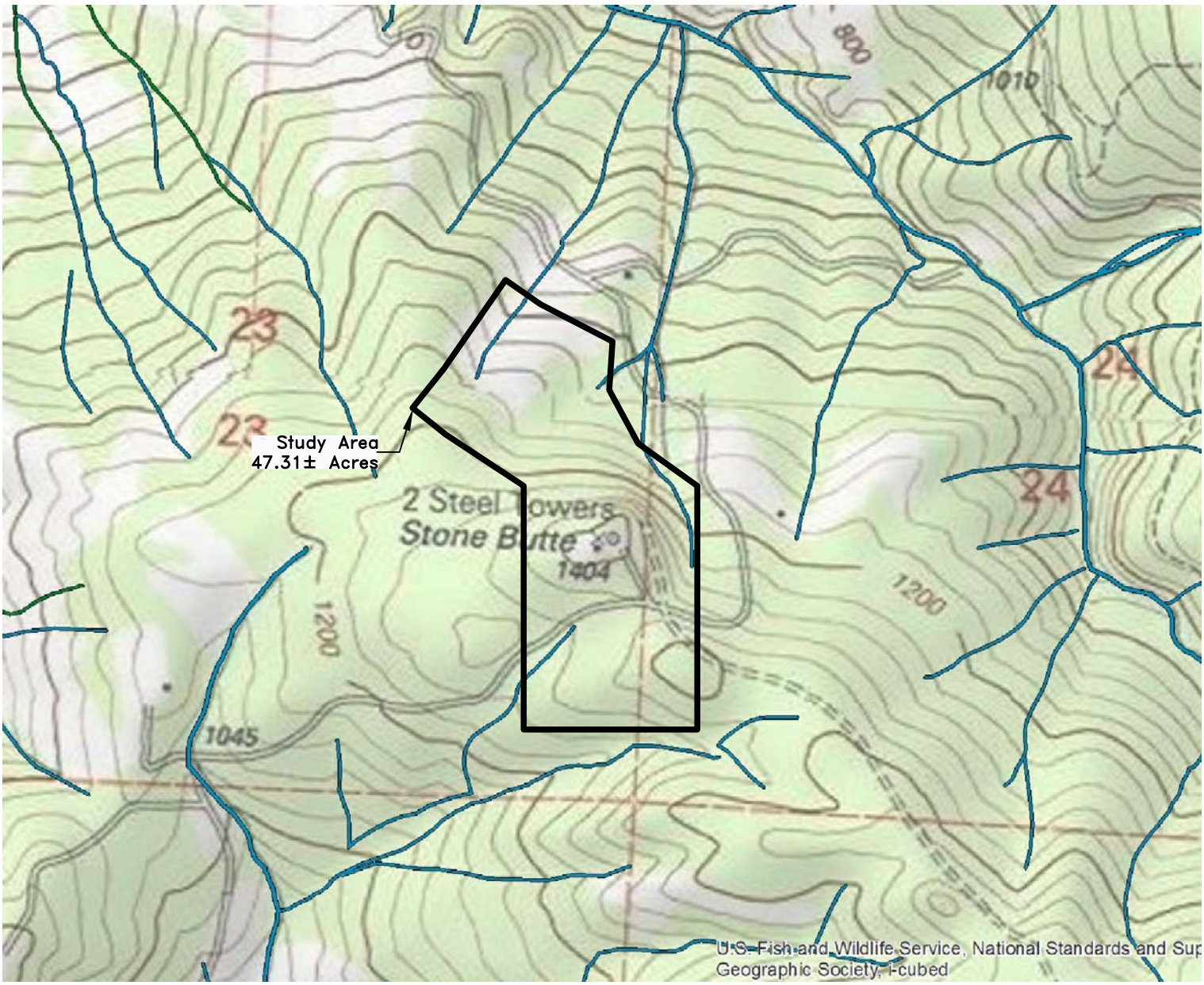
CURRY COUNTY
TAX ASSESSOR MAP

July 2021

FIGURE 2

LEGEND

Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC)



NOTE: National Wetland Inventory (NWI) mapping is accessed using U.S. Fish and Wildlife Service (USFWS) Wetland Mapper application and shapefiles provided by the interactive National Wetlands Inventory–V2 program. NWI mapping identified the Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) tributaries of Willow Creek in the northern portion and q R4SBC tributary of North Fork Crystal Creek extending into the southern portion of the study area. No local wetland inventory for the subject vicinity.

Source: Adapted from U.S. Fish and Wildlife Service NWI shapefiles.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 400 800 1600
(IN FEET)

WETLAND DELINEATION FOR THE
STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

NATIONAL WETLAND
INVENTORY MAP

July 2021

FIGURE 3

LEGEND

44E	Burnthill loam, 15–30% slopes	254E	Svensen–Reedsport complex, 15–30% slopes
62F	Colepoint–Bravo–Cassiday complex, cool, 30–60% slopes	273F	Whaleshead–Reedsport–Millicoma complex, 30–60% north slopes
237E	Skookumhouse–Hazelcamp complex, cool, 0–30% slopes		

Source: Adapted from Natural Resource Conservation Service shapefiles.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

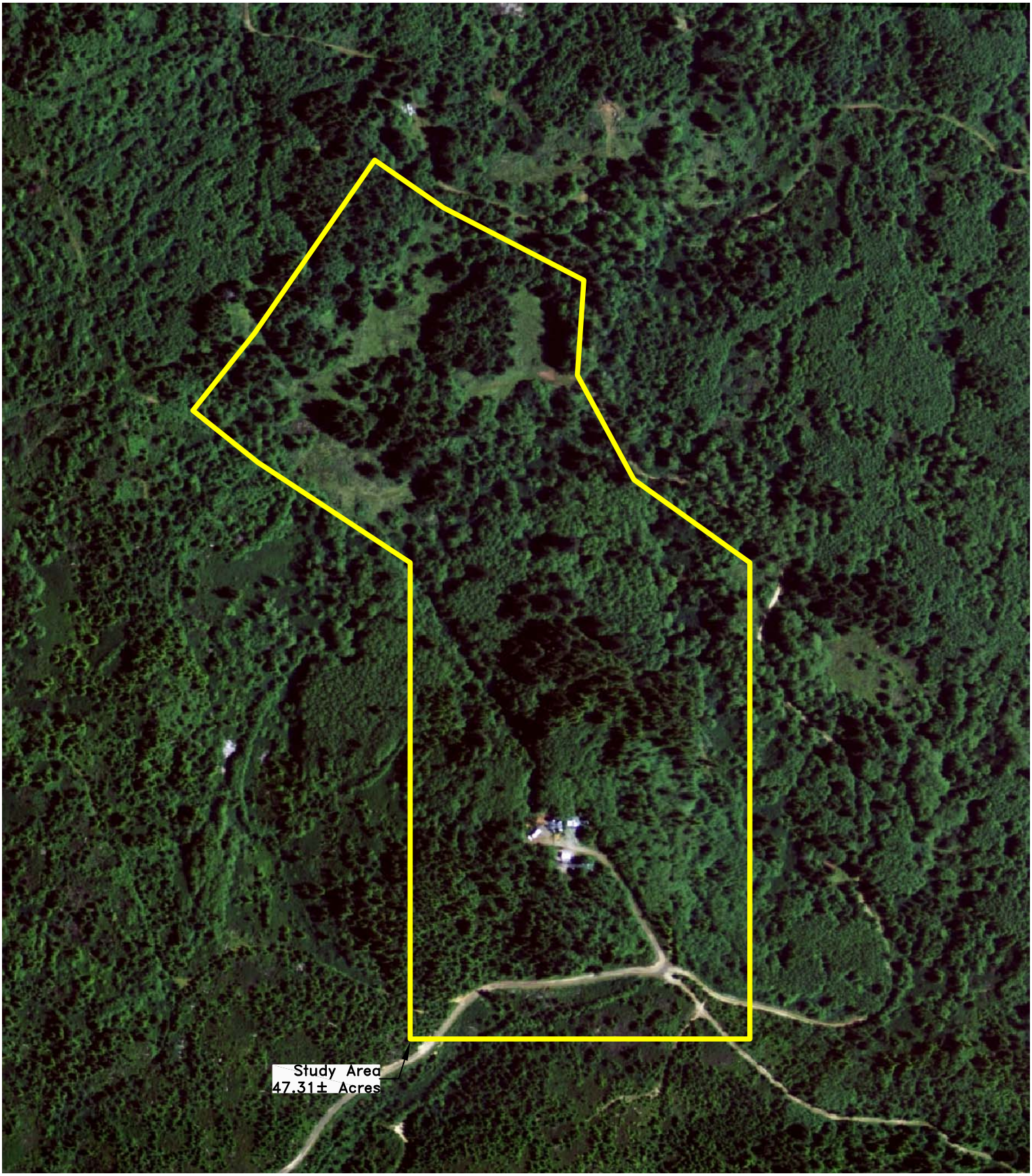
GRAPHIC SCALE
0 250 500 1000
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

SOIL MAPPING UNITS

July 2021

FIGURE 4



Source: Adapted from U.S. Department of Agriculture NAIP aerial photograph.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350 700
(IN FEET)

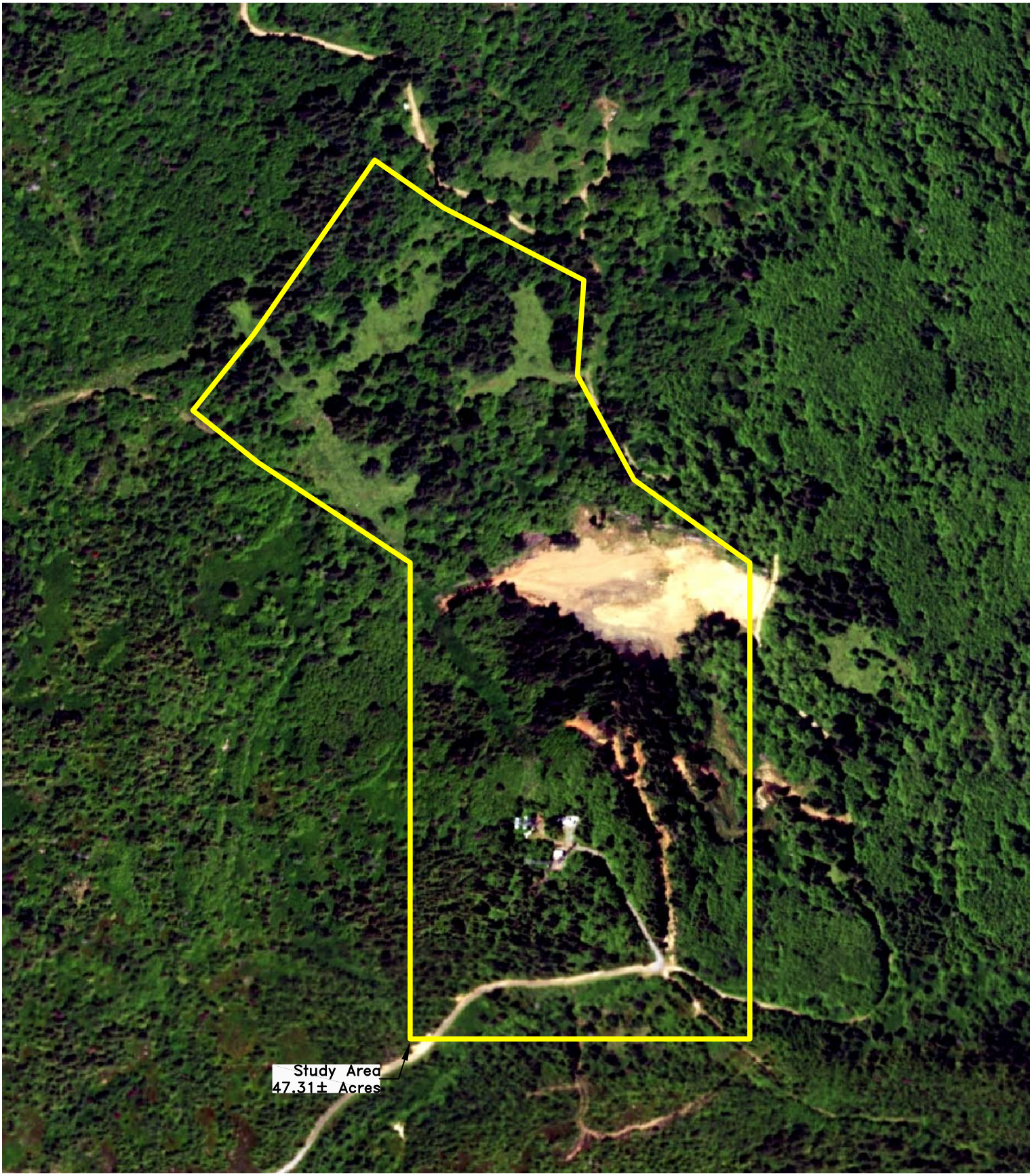
WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

2009 AERIAL PHOTOGRAPH

July 2021

Exhibit I
Page 21 of 52

FIGURE 5.1



Source: Adapted from U.S. Department of Agriculture NAIP aerial photograph.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350 700
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

2014 AERIAL PHOTOGRAPH

July 2021

Exhibit I
Page 22 of 52

FIGURE 5.2

Source: Adapted from Oregon State Imagery Program aerial photograph.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350 700
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

2018 AERIAL PHOTOGRAPH

July 2021

FIGURE 5.3

Source: Adapted from Oregon State Imagery Program aerial photograph.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

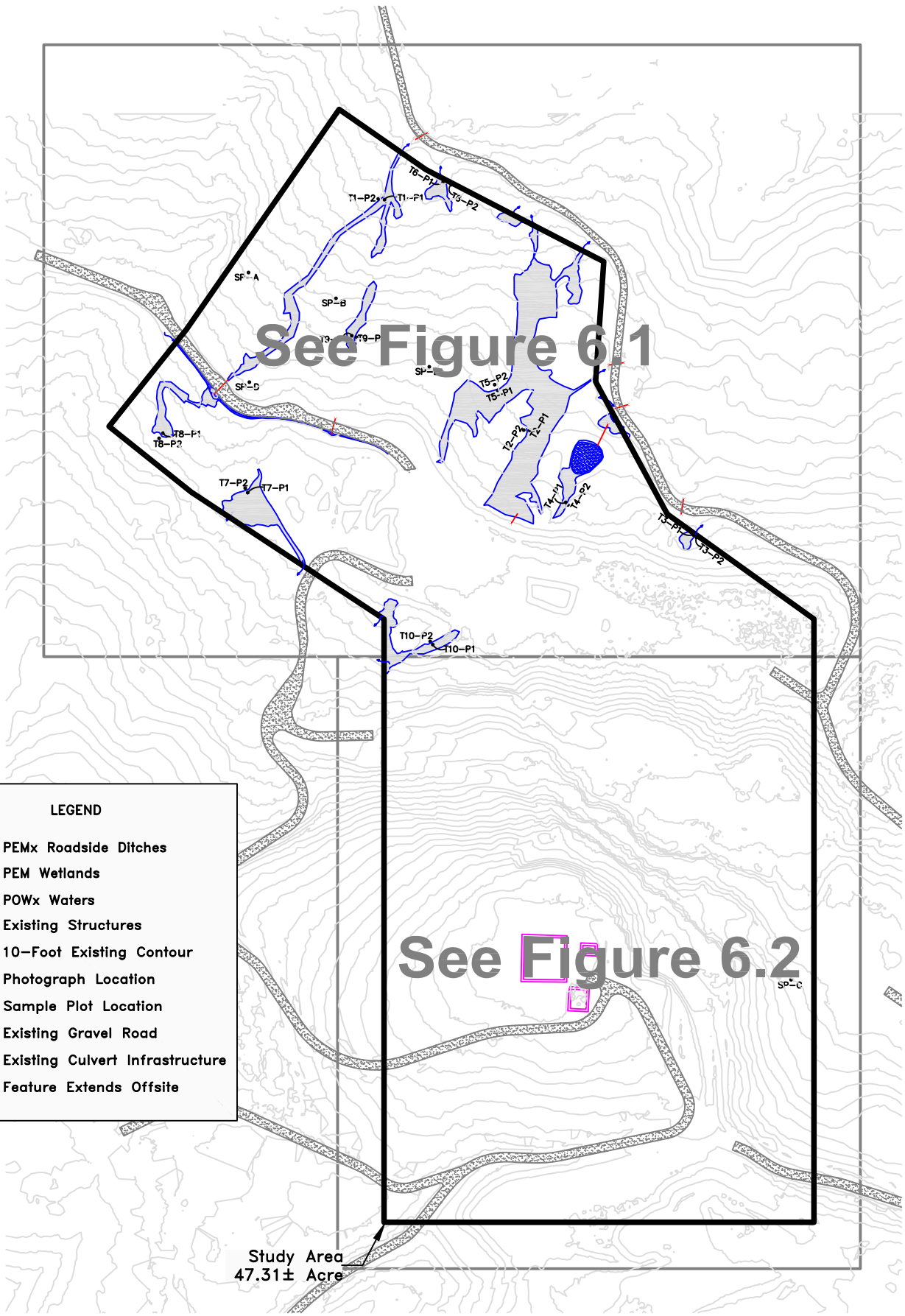
GRAPHIC SCALE
0 175 350 700
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

2019 AERIAL PHOTOGRAPH

July 2021

FIGURE 5.4



LEGEND

- PEMx Roadside Ditches
- PEM Wetlands
- POWx Waters
- Existing Structures
- 10–Foot Existing Contour
- Photograph Location
- SP–X Sample Plot Location
- Existing Gravel Road
- Existing Culvert Infrastructure
- Feature Extends Offsite

Source: Adapted from Westlake Consultants, S & F Land Services, and TSI shape files.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

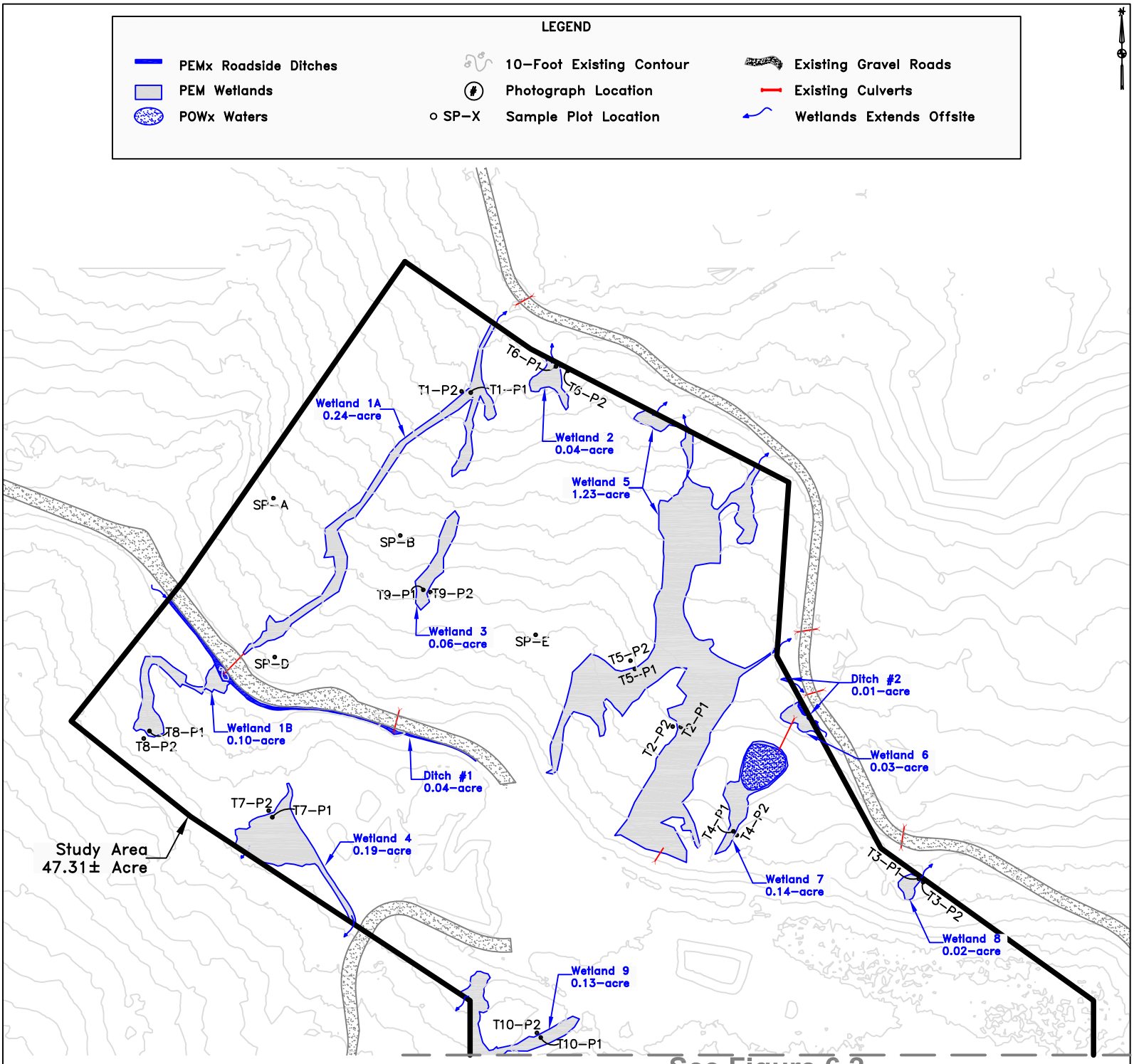
GRAPHIC SCALE
0 150 300 600
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

EXISTING CONDITIONS, INDEX

July 2021

FIGURE 6



NOTE: Delineation conducted using methodology outlined in the USACE 1987 Manual and Western Mountains, Valleys, and Coast Regional Supplement (Version 2.0). Sample plots, photograph points, and wetland boundaries mapped using Juniper Geode GNSS receiver and Mesa Tablet using ArcPad Version 10.0 software. Feature boundaries and sample plot locations have 1.0± foot accuracy. All files are presented in the NAD 1983 / 2011 State Plane Oregon South basis of bearings.

Source: Adapted from Westlake Consultants, S & F Land Services, and TSI shape files.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 100 200 400
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

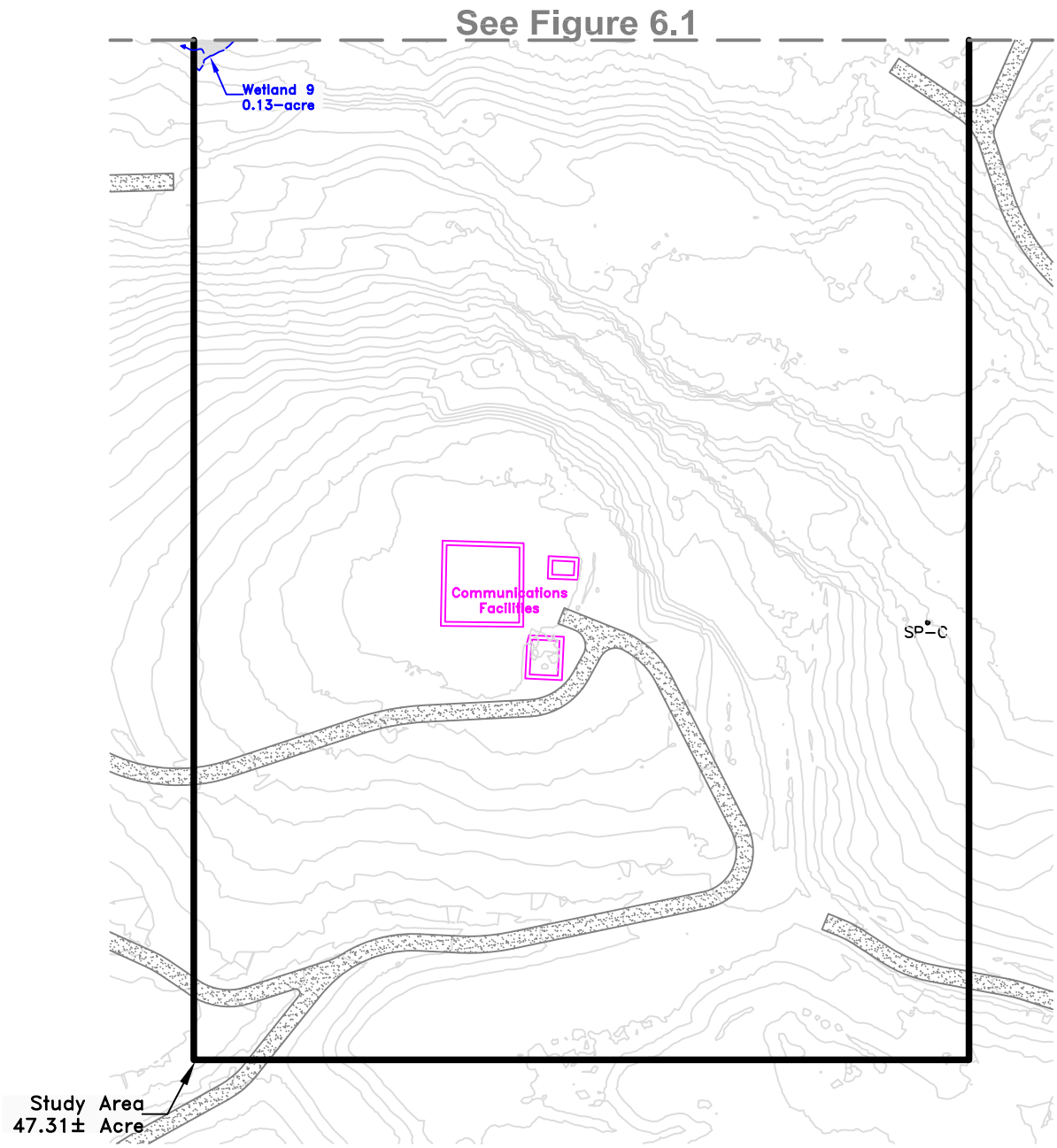
EXISTING CONDITIONS,
NORTH PORTION

July 2021

FIGURE 6.1

LEGEND

PEM Wetlands
Existing Structures
10–Foot Existing Contour
Photograph Location
SP–X Sample Plot Location
Existing Gravel Road
Wetland Extends Offsite



NOTE: Delineation conducted using methodology outlined in the USACE 1987 Manual and Western Mountains, Valleys, and Coast Regional Supplement (Version 2.0). Sample plots, photograph points, and wetland boundaries mapped using Juniper Geode GNSS receiver and Mesa Tablet using ArcPad Version 10.0 software. Feature boundaries and sample plot locations have 1.0± foot accuracy. All files are presented in the NAD 1983 / 2011 State Plane Oregon South basis of bearings.

Source: Adapted from Westlake Consultants, S & F Land Services, and TSI shape files.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 100 200 400
(IN FEET)

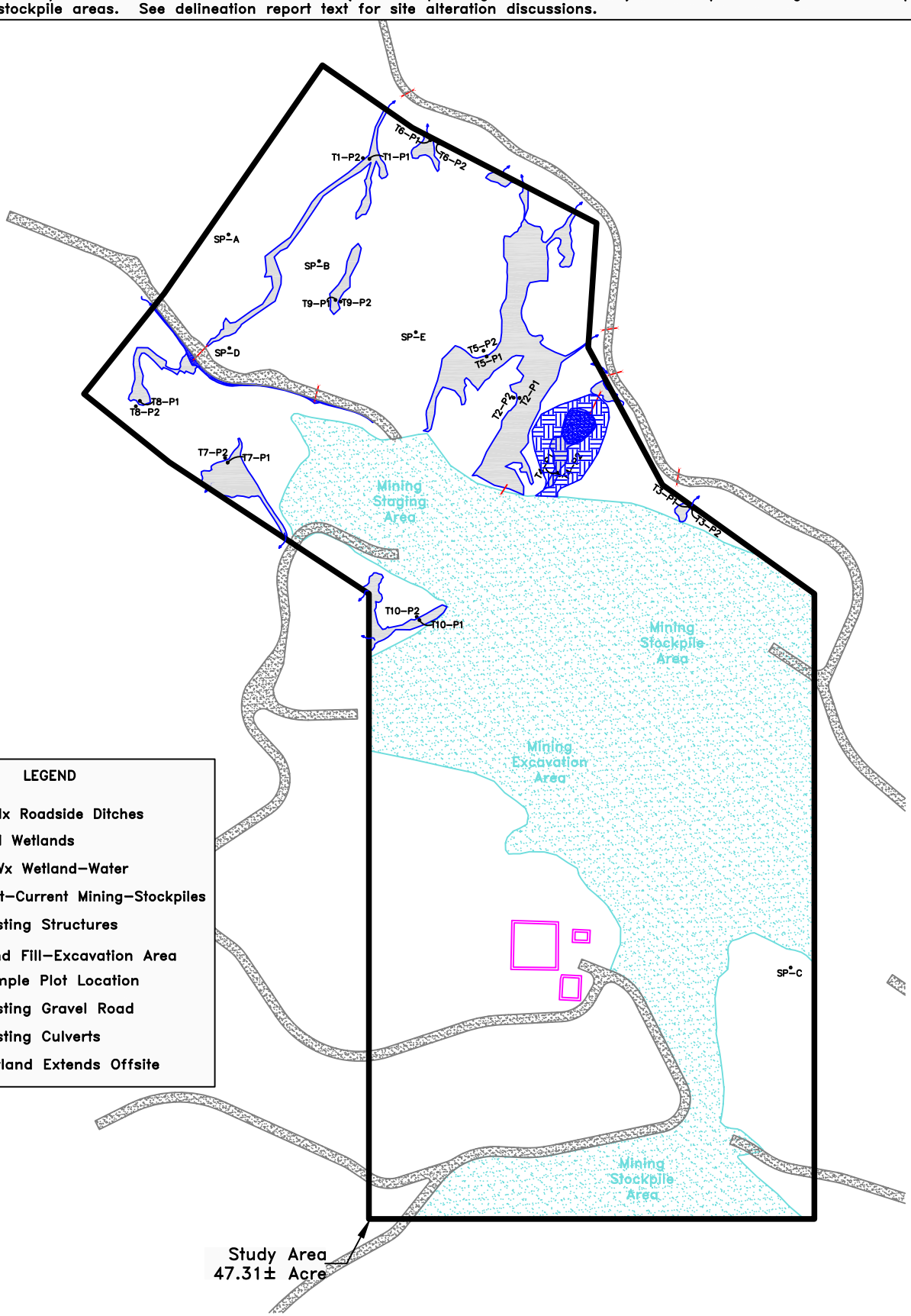
WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

EXISTING CONDITIONS,
SOUTH PORTION

July 2021

FIGURE 6.2

NOTE: The summit of Stone Butte has housed communication facilities for greater than twenty years. The gravel roads were constructed for past mining activity, which was authorized circa 2011 (DOGAMI Operating Permit 08–0064). Those past mining activities expanded the excavation and stockpile areas. See delineation report text for site alteration discussions.



LEGEND

- PEMx Roadside Ditches
- PEM Wetlands
- POWx Wetland–Water
- Past–Current Mining–Stockpiles
- Existing Structures
- Pond Fill–Excavation Area
- SP–X Sample Plot Location
- Existing Gravel Road
- Existing Culverts
- Wetland Extends Offsite

Source: Adapted from Westlake Consultants, S & F Land Services, and TSI shape files.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 150 300 400
(IN FEET)

WETLAND DELINEATION REPORT FOR
THE STONE BUTTE QUARRY EXPANSION
(Near) Langlois, Curry County, Oregon

KNOWN DISTURBANCES

July 2021

FIGURE 7

APPENDIX B

WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM—Western Mountains, Valleys, and Coast Region

Project/Site: STONE BUTTE QUARRY	City/County: LANGLOIS / CURRY	Sampling Date: 05-13-2021	
Applicant/Owner: STONE BUTTE ROCK, LLC	State: OR	Sampling Point: SP-A	
Investigator(s): P. SCOLES	Section, Township, Range: T.31S, R.15W, SEC. 23 (A+D)		
Landform: HILLSIDE SWALE (POSSIBLE SEEP)	Local Relief: CONVEX	Slope (%): 30% N	
Subregion: LRR A - NORTHWEST FOREST & COAST	Lat: 42.874491° [1]	Long: -124.436499° [1]	Datum: NAD 83
Soil Map Unit Name: 254E– SVENSEN-REEDSPORT COMPLEX, 15-30% SL. (NON-HYDRIC)		NWI Classification: NONE	

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No √ (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes √ No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes √	No	**Is the Sampled Area Within a Wetland?** **Yes** **No √**
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes	No √	

Remarks: STUDY AREA IS SMALL PORTION OF TL 2302. PLOT LOCATED IN WEST-CENTER OF STUDY AREA; BELOW SMALL LOGGING STAGING AREA. WITHIN AREA OF PREVIOUSLY CLEARED FOREST (CIRCA 2018). PLOT SITUATED ON SLOPE THAT HAS SCATTERED SO RUSH PLANTS. BELOW AVERAGE PRECEDENT RAINFALL, SO ABSENCE OF WATER TABLE OR SATURATION WAS NOT EVIDENCE OF UPLAND CONDITIONS. VEGETATION AND SOIL PARAMETERS CONSIDERED VERY RELIABLE.

VEGETATION

	Absolute % Cover	Dominate Species?	Indicator Status
Tree Stratum (30 ft. radius)			
1. NONE			
2.			
3.			
Total Cover:	0		
Sapling / Shrub Stratum (30 ft. radius)			
1. RUBUS SPECTABILIS	15	√	FAC
2. FRANGULA PURSHIANA	1		FAC
3.			
4.			
5.			
6.			
Total Cover:	16		
Herb Stratum (5 ft. radius)			
1. JUNCUS EFFUSUS	20	√	FACW
2. POLYSTICHUM MUNITUM	15	√	FACU
3. AGROSTIS SP.	10	√	FAC
4. BELLIS PERENNIS	10	√	UPL
5. RUBUS URSINUS	5		FACU
6. HYPOCHAERIS RADICATA	5		FACU
7. CIRSIUM ARVENSE	3		FAC
8. TRIFOLIUM SP.	3		FAC*
9. HOLCUS LANATUS	2		FAC
Total Cover:	73		
Woody Vine Stratum (15 ft. radius)			
1. RUBUS ARMENIACUS	10	√	FAC
2.			
Total Cover:	10		
% Bare Ground in Herb Stratum	0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species:	x1=
FACW Species:	x2=
FAC Species:	x3=
FACU Species:	x4=
UPL Species:	x5=
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
√ 2. Dominance Test >50%
3. Prevalence Index is ≤3.0[1]
4. Morphological Adaptations[1] (Provide supporting data in Remarks)
5. Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes √ No**

Remarks: *ESTIMATED INDICATOR STATUS. PLOT ALSO INCLUDES SMALL AMOUNTS OF IRIS DOUGLASIANA (UPL), EQUISETUM ARVENSE, GERANIUM DISSECTUM AND 4% UNIDENTIFIABLE FORBS/GRASSES. PLOT LOCATION IS LIGHTLY GRAZED, SO PLANT IDENTIFICATION WAS GOOD. PLOT DOES NOT PASS FAC-NEUTRAL TEST FOR SUBDOMINANTS.

1 Longitude and Latitude for centroid of study area.

SOIL Sampling Poin **SP-A**

Profile Description

Depth (Inches)	Matrix Color (moist)	Redox Features %	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	**7.5YR 2.5/1**	**100**	**NONE**				**SILT LOAM**	
9-13	**10YR 3/2**	**99**	**10YR 4/4**	**1**	**C**	**M**	**SILTY CLAY LOAM**	
13-17	**2.5YR 3/2**	**98**	**10YR 4/6**	**2**	**C**	**M**	**SILTY CLAY LOAM**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: **NONE**
Depth (inches):

Hydric Soil Present? Yes No √

Remarks: **SOIL LACKS SUFFICIENT REDOX ABUNDANCE TO QUALIFY FOR ANY HYDRIC SOIL INDICATORS.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visable on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **(except MLRA 1,2,4A and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Live Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) **(MLRA 1, 2, 4A and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visable on Aerial Imagery (C9)
- √ Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	No	√	Depth:	**NONE**
Water Table Present?	Yes	No	√	Depth:	**>17 IN.**
Saturation Present?	Yes	No	√	Depth:	**>17 IN.**

Wetland Hydrology Present? Yes No √

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **GOOGLE EARTH HISTORICAL AERIALS SHOW CONIFER AND DECIDUOUS FOREST PRIOR TO 2019 (NO WET TONES APPARENT). AFTER FOREST CLEARING (CIRCA 2018 PLOT VICINITY HAS REDDISH BROWN COLOR (LIKE OTHER UPLAND), WHILE NEARBY WETLANDS HAVE DARK GREEN TONE.**

Remarks: **PLOT LACKS ANY PRIMARY HYDROLOGY INDICATORS, AND HAS ONLY 1 SECONDARY INDICATOR. DUE TO DRIER THAN AVERAGE PRECEDENT RAINFALL, LACK OF WATER TABLE AND/OR SATURATION NOT APPLICABLE FOR SEASONAL WETNESS. PLOT LAC HYDRIC SOIL INDICATORS, SO NO FOLLOW-UP VISIT NEEDED EVALUATE WATER TABLE**

WETLAND DETERMINATION DATA FORM—Western Mountains, Valleys, and Coast Region

Project/Site: STONE BUTTE QUARRY	City/County: LANGLOIS / CURRY	Sampling Date: 05-11-2021	
Applicant/Owner: STONE BUTTE ROCK, LLC	State: OR	Sampling Point: SP-B	
Investigator(s): P. SCOLES	Section, Township, Range: T.31S, R.15W, SEC. 23 (A+D)		
Landform: HILLSIDE SWALE	Local Relief: CONCAVE	Slope (%): 15% NE	
Subregion: LRR A - NORTHWEST FOREST & COAST	Lat: 42.874491° [1]	Long: -124.436499° [1]	Datum: NAD 83
Soil Map Unit Name: 254E– SVENSEN-REEDSPORT COMPLEX, 15-30% SL. (NON-HYDRIC)		NWI Classification: NONE	

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No √ (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes √ No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes	No √	**Is the Sampled Area Within a Wetland?** **Yes No √**
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes	No √	

Remarks: STUDY AREA IS SMALL PORTION OF TL 2302. PLOT LOCATED IN NORTHWEST PART OF STUDY AREA AND BETWEEN WEST SWALE AND SMALL LINEAR WETLAND. PLOT PREVIOUSLY CONTAINED MEADOW, CONIFER AND DECIDUOUS TREES (CLEARED CIRCA 2018). BELOW AVERAGE PRECEDENT RAINFALL, SO ABSENCE OF WATER TABLE OR SATURATION WAS NOT EVIDENCE OF UPLAND CONDITIONS. VEGETATION AND SOIL PARAMETERS CONSIDERED VERY RELIABLE.

VEGETATION

	Absolute % Cover	Dominate Species?	Indicator Status
Tree Stratum (20 x 60 ft.)			
1. NONE			
2.			
3.			
Total Cover:	0		
Sapling / Shrub Stratum (10 x 40 ft.)			
1. NONE			
2.			
3.			
4.			
5.			
6.			
Total Cover:	0		
Herb Stratum (5 x 10 ft.)			
1. ANTHOXANTHUM ODORATUM	40	√	FACU
2. BELLIS PERENNIS	20	√	UPL
3. POA SP.	20	√	FAC*
4. ALOPECURUS PRATENSIS	10		FAC
5. PLANTAGO LANCEOLATA	7		FACU
6. RUMEX ACETOSELLA	2		FACU
7. UNIDENTIFIABLE FORBS/GRASSES	1		N/A
8.			
9.			
Total Cover:	100		
Woody Vine Stratum (15 x 30 ft.)			
1. NONE			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum	0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x1=	
FACW Species:	x2=	
FAC Species:	x3=	
FACU Species:	x4=	
UPL Species:	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test >50%
3. Prevalence Index is ≤3.0[1]
4. Morphological Adaptations[1] (Provide supporting data in Remarks)
5. Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes No √**

Remarks: *ESTIMATED INDICATOR STATUS. PLOT LOCATION IS LIGHTLY GRAZED, SO PLANT IDENTIFICATION WAS GOOD. NEARBY PLANTS AT SAME ELEVATION INCLUDE RUBUS ARMENIACUS (FAC), PTERIDIUM AQUILINUM (FACU), AND IRIS DOUGLASIANA (UPL). PLOT DOES NOT PASS FAC-NEUTRAL TEST FOR SUBDOMINANTS.

1 Longitude and Latitude for centroid of study area.

SOIL

Sampling Poin **SP-B**

Profile Description

Depth (Inches)	Matrix Color (moist)	Redox Features %	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3.5	**10YR 2.5/2**	**100**	**NONE**				**SILT LOAM**	**ROOT ZONE**
3.5-13	**10YR 3/1**	**100**	**NONE**				**GR. SILT LOAM**	
13-18	**10YR 3/1**	**100**	**NONE**				**V.GR. SILTY LOAM**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: **NONE**
Depth (inches):

Hydric Soil Present? Yes No √

Remarks: **SOIL LACKS REDOX FEATURES IN UPPER PART, SO PROFILE DOES NOT QUALIFY FOR ANY HYDRIC SOIL INDICATORS. LAYER FROM 3.5-13 HAS WOOD FRAGMENT THAT HAVE COLORS OF 5YR 3/2 AND 7.5YR 2.5/3. THESE ARE NOT REDOX.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visable on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **(except MLRA 1,2,4A and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Live Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) **(MLRA 1, 2, 4A and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visable on Aerial Imagery (C9)
- √ Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	No	√	Depth:	**NONE**
Water Table Present?	Yes	No	√	Depth:	**>18 IN.**
Saturation Present?	Yes	No	√	Depth:	**>18 IN.**

Wetland Hydrology Present? Yes No √

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **GOOGLE EARTH HISTORICAL AERIALS SHOW MEADOW WITH CONIFER AND DECIDUOUS TREES PRIOR TO 2019, WITH MEDIUM GREEN TONES AT PLOT. AFTER TREE & SHRUB CLEARING (CIRCA 2018), PLOT HAS SAME MEDIUM GREEN COLOR (NOT AS DARK GREEN AS NEARBY WETLANDS).**

Remarks: **PLOT LACKS ANY PRIMARY HYDROLOGY INDICATORS, AND HAS ONLY 1 SECONDARY INDICATOR. DUE TO DRIER THAN AVERAGE PRECEDENT RAINFALL, LACK OF WATER TABLE AND/OR SATURATION NOT APPLICABLE FOR SEASONAL WETNESS. PLOT LAC HYDRIC SOIL INDICATORS, SO NO FOLLOW-UP VISIT NEEDED EVALUATE WATER TABLE**

WETLAND DETERMINATION DATA FORM—Western Mountains, Valleys, and Coast Region

Project/Site: STONE BUTTE QUARRY	City/County: LANGLOIS / CURRY	Sampling Date: 05-11-2021	
Applicant/Owner: STONE BUTTE ROCK, LLC	State: OR	Sampling Point: SP-C	
Investigator(s): P. SCOLES	Section, Township, Range: T.31S, R.15W, SEC. 23 (A+D)		
Landform: HILLSIDE SWALE	Local Relief: CONCAVE	Slope (%): 20% NE	
Subregion: LRR A - NORTHWEST FOREST & COAST	Lat: 42.874491° [1]	Long: -124.436499° [1]	Datum: NAD 83
Soil Map Unit Name: 237E– SKOOKUMHOUSE-HAZELCAMP COMPLEX SL. (NON-HYDRIC)		NWI Classification: R4SBC	

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No √ (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes √ No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes √	No	**Is the Sampled Area Within a Wetland?** Yes No √
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes	No √	

Remarks: STUDY AREA IS SMALL PORTION OF TL 2302. PLOT LOCATED IN SOUTHEAST PART OF STUDY AREA; JUST SOUTH OF EXCAVATED TERRACE AND STAGING AREA. PLOT SITUATED IN SUSPECT LOW SPOT. BELOW AVERAGE PRECEDENT RAINFALL, SO ABSENCE OF WATER TABLE OR SATURATION WAS NOT EVIDENCE OF UPLAND CONDITIONS. VEGETATION AND SOIL PARAMETERS CONSIDERED VERY RELIABLE.

VEGETATION

		Absolute % Cover	Dominate Species?	Indicator Status
Tree Stratum (20 x 60 ft.)				
1.	ALNUS RUBRA	90	√	FAC
2.				
3.				
	Total Cover:	90		
Sapling / Shrub Stratum (10 x 40 ft.)				
1.	RUBUS SPECTABILIS	80	√	FAC
2.	ALNUS RUBRA	5		FAC
3.	MAHONIA AQUIFOLIUM	5		FACU
4.				
5.				
6.				
	Total Cover:	90		
Herb Stratum (5 x 10 ft.)				
1.	OXALIS SP.	5	√	FACU*
2.	HYDROPHYLLUM TENUIPES	2		FAC
3.	TARAXACUM OFFICINALE	2		FACU
4.	RUBUS URSINUS	2		FACU
5.	CAREX SP.	1		FAC*
6.	MOSS	15		N/A
7.				
8.				
9.				
	Total Cover:	27		
Woody Vine Stratum (15 x 30 ft.)				
1.	NONE			
2.				
	Total Cover:	0		

% Bare Ground in Herb Stratum 70

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x1=	
FACW Species:	x2=	
FAC Species:	x3=	
FACU Species:	x4=	
UPL Species:	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
√ 2. Dominance Test >50%
3. Prevalence Index is ≤3.0[1]
4. Morphological Adaptations[1] (Provide supporting data in Remarks)
5. Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes √ No

Remarks: *ESTIMATED INDICATOR STATUS. PLOT LOCATION IS HEAVILY SHADED, SO FEW PLANTS UNDER TREE AND SHRUB CANOPY. LEAVES, TWIGS, BARE GROUND WHERE NOT VEGETATED. POLYSTICHUM MUNITUM (FACU) LOCATED NEARBY. PLOT DOES NOT PASS FAC-NEUTRAL TEST FOR SUBDOMINANTS.

1 Longitude and Latitude for centroid of study area.

SOIL Sampling Poin **SP-C**

Profile Description

Depth	Matrix	Redox Features						
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**7.5YR 2.5/1**	**100**	**NONE**				**SILT LOAM**	
10-16.5	**7.5YR 2.5/2**	**100**	**NONE**				**GR. SILT LOAM**	
>16.5	**ROCK REFUSAI**							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: **NONE**
Depth (inches):

Hydric Soil Present? Yes No √

Remarks: **SOIL LACKS REDOX FEATURES IN UPPER PART, SO PROFILE DOES NOT QUALIFY FOR ANY HYDRIC SOIL INDICATORS. DARK COLOR TOPSOIL DUE TO PREVIOUS FOREST CONDITION, NOT INDICATION OF REDUCING CONDITIONS.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visable on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **(except MLRA 1,2,4A and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Live Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) **(MLRA 1, 2, 4A and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visable on Aerial Imagery (C9)
- √ Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	No	√	Depth:	**NONE**
Water Table Present?	Yes	No	√	Depth:	**>17 IN.**
Saturation Present?	Yes	No	√	Depth:	**>17 IN.**

Wetland Hydrology Present? Yes No √

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **GOOGLE EARTH HISTORICAL AERIALS SHOW DECIDUOUS TREES AT PLOT. TONAL PATTERN IS AMBIGUOUS; HOWEVER, 2016 AERIAL SHOWS A SUBTLE WETNESS PATTERN AND SMALL POND DOWNGRADIENT (NORTH) OF PLOT. SUCH AREA WAS CONVERTED TO STAGING AREA CIRCA 2018.**

Remarks: **PLOT LACKS ANY PRIMARY HYDROLOGY INDICATORS, AND HAS ONLY 1 SECONDARY INDICATOR. DUE TO DRIER THAN AVERAGE PRECEDENT RAINFALL, LACK OF WATER TABLE AND/OR SATURATION NOT APPLICABLE FOR SEASONAL WETNESS. PLOT LAC HYDRIC SOIL INDICATORS, SO NO FOLLOW-UP VISIT NEEDED EVALUATE WATER TABLE**

WETLAND DETERMINATION DATA FORM—Western Mountains, Valleys, and Coast Region

Project/Site: STONE BUTTE QUARRY	City/County: LANGLOIS / CURRY	Sampling Date: 05-11-2021	
Applicant/Owner: STONE BUTTE ROCK, LLC	State: OR	Sampling Point: SP-D	
Investigator(s): P. SCOLES	Section, Township, Range: T.31S, R.15W, SEC. 23 (A+D)		
Landform: HILLSIDE SWALE	Local Relief: CONCAVE	Slope (%): 5% N	
Subregion: LRR A - NORTHWEST FOREST & COAST	Lat: 42.874491° [1]	Long: -124.436499° [1]	Datum: NAD 83
Soil Map Unit Name: 254E– SVENSEN-REEDSPORT COMPLEX, 15-30% SL. (NON-HYDRIC)		NWI Classification: R4SBC	

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No √ (If no, explain in Remarks.)

Are Vegetation Soil √ or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes √ No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes	No √	**Is the Sampled Area Within a Wetland?** **Yes No √**
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes	No √	

Remarks: STUDY AREA IS SMALL PORTION OF TL 2302. PLOT LOCATED IN WEST PART OF STUDY AREA AND BELOW ACCESS ROAD SUSPECT LOW AREA EAST OF WEST SWALE (WETLAND). PLOT PREVIOUSLY CONTAINED MEADOW, CONIFER AND DECIDUOUS TREES (CLEARED CIRCA 2018). BELOW AVERAGE PRECEDENT RAINFALL, SO ABSENCE OF WATER TABLE OR SATURATION WAS NOT EVIDENC OF UPLAND CONDITIONS. VEGETATION AND SOIL PARAMETERS CONSIDERED VERY RELIABLE.

VEGETATION

	Absolute % Cover	Dominate Species?	Indicator Status
Tree Stratum (20 x 60 ft.)			
1. NONE			
2.			
3.			
Total Cover:	0		
Sapling / Shrub Stratum (10 x 40 ft.)			
1. ALNUS RUBRA	TRACE		FAC
2.			
3.			
4.			
5.			
6.			
Total Cover:	TRACE		
Herb Stratum (5 x 10 ft.)			
1. ALOPECURUS PRATENSIS	20	√	FAC
2. ANTHOXANTHUM ODORATUM	15	√	FACU
3. BELLIS PERENNIS	15	√	UPL
4. POA SP.	15	√	FAC*
5. HYPOCHAERIS RADICATA	15	√	FACU
6. RUBUS URSINUS	5		FACU
7. LOLIUM PERENNE	5		FAC
8. HOLCUS LANATUS	3		FAC
9. CIRSIUM ARVENSE	1		FAC
Total Cover:	94		
Woody Vine Stratum (15 x 30 ft.)			
1. RUBUS ARMENIACUS	5	√	FAC
2.			
Total Cover:	5		
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x1=	
FACW Species:	x2=	
FAC Species:	x3=	
FACU Species:	x4=	
UPL Species:	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test >50%
3. Prevalence Index is ≤3.0[1]
4. Morphological Adaptations[1] (Provide supporting data in Remarks)
5. Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes √ No

Remarks: *ESTIMATED INDICATOR STATUS. HERBACEOUS STRATUM ALSO HAS 4% UNIDENTIFIABLE FORBS/GRASSES. PLOT DOES NO PASS FAC-NEUTRAL TEST FOR SUBDOMINANTS.

1 Longitude and Latitude for centroid of study area.

SOIL Sampling Poin **SP-D**

Profile Description

Depth (Inches)	Matrix Color (moist)	Redox Features %	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3.5	**2.5Y 3/2**	**98**	**7.5YR 3/ 4**	**2**	**C**	**M**	**V.GR. CLAY LAOM**	**FILL MATERIAL**
3.5-7	**10YR 2/1**	**100**	**NONE**				**GR. SILT LOAM**	**BURIED TOPSOIL**
7-13	**10YR 3/2**	**97**	**7.5YR 2.5/3**	**3**	**C**	**M**	**GR. SILT LOAM**	**V.SMALL REDOX**
13-17	**10YR 3/2**	**99**	**7.5YR 3/ 4**	**1**	**C**	**M**	**GR. SILT LOAM**	**SEE REMARKS**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: **NONE**
Depth (inches):

Hydric Soil Present? Yes No √

Remarks: **FILL MATERIAL LIKELY ERODED MATERIAL FROM PAST CONSTRUCTION OF ACCESS ROAD (20 FT. ABOVE). NATIVE SOIL UNI FILL MATERIAL LACKS SUFFICIENT REDOX FEATURES ABUNDANCE TO QUALIFY FOR ANY HYDRIC SOIL INDICATORS. REDOX MAY BE RELICT DUE TO UPGRADIENT CONSTRUCTION OF ACCESS ROAD THAT DIVERTS RUNOFF TO WEST. LAYER 13-17 IN. HAS SMALL FRAGMENTS OF DECAYED ROCK (NOT REDOX).**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visable on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **(except MLRA 1,2,4A and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Live Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) **(MLRA 1, 2, 4A and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visable on Aerial Imagery (C9)
- √ Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	No	√	Depth:	**NONE**
Water Table Present?	Yes	No	√	Depth:	**>17 IN.**
Saturation Present?	Yes	No	√	Depth:	**>17 IN.**

Wetland Hydrology Present? Yes No √

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **GOOGLE EARTH HISTORICAL AERIALS SHOW MEADOW WITH CONIFER AND DECIDUOUS TREES PRIOR TO 2019, WITH MEDIUM GREEN TONES AT PLOT. AFTER TREE & SHRUB CLEARING (CIRCA 2018), PLOT HAS SAME MEDIUM GREEN COLOR (NOT AS DARK GREEN AS WETLANDS TO NORTH).**

Remarks: **PLOT LACKS ANY PRIMARY HYDROLOGY INDICATORS, AND HAS ONLY 1 SECONDARY INDICATOR. DUE TO DRIER THAN AVERAGE PRECEDENT RAINFALL, LACK OF WATER TABLE AND/OR SATURATION NOT APPLICABLE FOR SEASONAL WETNESS. PLOT LAC HYDRIC SOIL INDICATORS, SO NO FOLLOW-UP VISIT NEEDED EVALUATE WATER TABLE**

WETLAND DETERMINATION DATA FORM—Western Mountains, Valleys, and Coast Region

Project/Site: STONE BUTTE QUARRY	City/County: LANGLOIS / CURRY	Sampling Date: 05-13-2021	
Applicant/Owner: STONE BUTTE ROCK, LLC	State: OR	Sampling Point: SP-E	
Investigator(s): P. SCOLES	Section, Township, Range: T.31S, R.15W, SEC. 23 (A+D)		
Landform: HILLSIDE SWALE	Local Relief: CONVEX	Slope (%): 10% N	
Subregion: LRR A - NORTHWEST FOREST & COAST	Lat: 42.874491° [1]	Long: -124.436499° [1]	Datum: NAD 83
Soil Map Unit Name: 254E– SVENSEN-REEDSPORT COMPLEX, 15-30% SL. (NON-HYDRIC)		NWI Classification: NONE	

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No √ (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes √ No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes √	No	**Is the Sampled Area Within a Wetland?** Yes No √
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes	No √	

Remarks: STUDY AREA IS SMALL PORTION OF TL 2302. PLOT LOCATED IN NORTH-CENTER OF STUDY AREA; ON RIDGE PREVIOUSLY CLEARED FOREST (CIRCA 2018). PLOT SITUATED IN SUSPECT AREA WHERE TIRE RUTS PRESENT. BELOW AVERAGE PRECEDENT RAINFALL, SO ABSENCE OF WATER TABLE OR SATURATION WAS NOT EVIDENCE OF UPLAND CONDITIONS. VEGETATION AND SOIL PARAMETERS CONSIDERED VERY RELIABLE.

VEGETATION

	Absolute % Cover	Dominate Species?	Indicator Status
Tree Stratum (30 ft. radius)			
1. NONE			
2.			
3.			
Total Cover:	0		
Sapling / Shrub Stratum (30 ft. radius)			
1. RUBUS SPECTABILIS	5	√	FAC
2. ALNUS RUBRA	TRACE		FAC
3.			
4.			
5.			
6.			
Total Cover:	5		
Herb Stratum (5 ft. radius)			
1. ANTHOXANTHUM ODORATUM	50	√	FACU
2. HOLCUS LANATUS	15	√	FAC
3. IRIS DOUGLASIANA	8		UPL
4. RUBUS URSINUS	5		FACU
5. ANTHEMIS COTULA	5		FACU
6. BELLIS PERENNIS	4		UPL
7. VERBASCUM THAPSUS	3		FACU
8. JUNCUS EFFUSUS	2		FACW
9. HYPERICUM PERFORATUM	2		FACU
Total Cover:	94		
Woody Vine Stratum (15 ft. radius)			
1. RUBUS ARMENIACUS	10	√	FAC
2.			
Total Cover:	10		
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x1=	
FACW Species:	x2=	
FAC Species:	x3=	
FACU Species:	x4=	
UPL Species:	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
√ 2. Dominance Test >50%
3. Prevalence Index is ≤3.0[1]
4. Morphological Adaptations[1] (Provide supporting data in Remarks)
5. Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes √ No

Remarks: *ESTIMATED INDICATOR STATUS. PLOT ALSO INCLUDES SMALL AMOUNTS OF RUMEX ACETOSELLA (FACU), POLYSTICHUM MUNITUM AND 5% UNIDENTIFIABLE FORBS/GRASSES. PLOT LOCATION IS LIGHTLY GRAZED, SO PLANT IDENTIFICATION WAS GOOD. PLOT DOES NOT PASS FAC-NEUTRAL TEST FOR SUBDOMINANTS.

1 Longitude and Latitude for centroid of study area.

SOIL Sampling Poin **SP-E**

Profile Description

Depth (Inches)	Matrix Color (moist)	Redox Features %	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	**10YR 2/1**	**100**	**NONE**				**SILTY CLAY LOAM**	**ROOT ZONE**
5-10.5	**10YR 2/2**	**100**	**NONE**				**SILTY CLAY LOAM**	
10.5-16	**10YR 3/2**	**100**	**NONE**				**SILTY CLAY LOAM**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: **NONE**
Depth (inches):

Hydric Soil Present? Yes No √

Remarks: **SOIL LACKS REDOX FEATURES IN UPPER PART, SO PROFILE DOES NOT QUALIFY FOR ANY HYDRIC SOIL INDICATORS.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visable on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **(except MLRA 1,2,4A and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Live Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Stained Leaves (B9) **(MLRA 1, 2, 4A and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visable on Aerial Imagery (C9)
- √ Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	No	√	Depth:	**NONE**
Water Table Present?	Yes	No	√	Depth:	**>16 IN.**
Saturation Present?	Yes	No	√	Depth:	**>16 IN.**

Wetland Hydrology Present? Yes No √

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **GOOGLE EARTH HISTORICAL AERIALS SHOW CONIFER AND DECIDUOUS FOREST PRIOR TO 2019 (NO WET TONES APPARENT). AFTER FOREST CLEARING (CIRCA 2018 PLOT VICINITY HAS SAME MED. GREEN AND REDDISH BROWN COLOR APPARENT ON SURROUNDING UPLANDS.**

Remarks: **PLOT LACKS ANY PRIMARY HYDROLOGY INDICATORS, AND HAS ONLY 1 SECONDARY INDICATOR. DUE TO DRIER THAN AVERAGE PRECEDENT RAINFALL, LACK OF WATER TABLE AND/OR SATURATION NOT APPLICABLE FOR SEASONAL WETNESS. PLOT LAC HYDRIC SOIL INDICATORS, SO NO FOLLOW-UP VISIT NEEDED EVALUATE WATER TABLE**

APPENDIX C

GROUND-LEVEL PHOTOGRAPHS

APPENDIX C – SITE PHOTOGRAPHS

Photo 1 – View E by SE at area proposed for mining and stockpile storage. Except for knoll, forest areas along perimeter outside of study area.

Photo 2 -- View north toward west part of field study, which was logged circa 2018. This area is currently grazed by cattle and wildlife.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 3 -- View southwest at Wetland 1A. Swale is enclosed by blackberry brambles; foreground also part of wetland.

Photo 4 -- View south by SW along axis of Wetland 1A. Flagging indicates wetland and upland sample plots.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 5 -- View east by SE at Wetland 2, which is grazed and drains to north access road ditch. Blackberries along edge.

Photo 6 -- View east by NE toward Wetland 5. Pink flagging on center is grazed wetland swale; left pink flag in upland.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 7 -- View south toward plots T2-P1 (right) and T2-P1 (left). Wetland 5 extends downslope and intercepted by north access road.

Photo 8 – View east at upper part of Wetland 5, which originates at base of slope. Fire suppression pond visible in center background.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 9 – View northwest toward fire suppression and dust abatement pond. Pond is fed by spring at base of slope.

Photo 10A (left) – View east at upper part of Wetland 7. Photo 10B (right) – View south at pond embankment and Wetland 6.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 11 – View west toward Wetland 8. Wetland is dominated by rushes, and fed by spring at base of slope.

Photo 12 (left) – View W to N toward rock crushing stockpile. Wetland 4 at far left, Wetland 9 below rock crusher (right)

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photos 13A (left), 13B (right) -- View south at plot SP-C adj. excavation area. Soil lacked redox features and depleted matrix.

Photos 14A (left), 14B (right) – View of excavation and processing terraces. Finished rock stockpiled near processing area.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 15 -- View west toward Wetland 1B (low area in center-right of photo). Main access road at far right.

Photo 16 – View northwest at Wetland 4. Ditch at right is 3 to 4 feet deep; swale area to left of ditch.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

Photo 17 -- View southwest at lower portion of Wetland 9, situated at base of excavated/disturbed slope.

Photos 18A and 18B (left & center) – View W at main access road ditch. Photo 18C (right) – View NW at north access road ditch.

4710 S.W. Kelly Avenue, Ste. 100 / Post Office Box 2100 / Portland, OR 97208-2100 / 503-274-2100 / Fax: 503-274-2101

APPENDIX D

LITERATURE CITATIONS

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

Adamus, P.R. 2001. Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites: Statewide Classification and Profiles. Oregon Division of State Lands, Salem, Oregon.

Autodesk, Inc. 2008. AutoCAD LT.

Cowardin, Lewis M. et al., 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Washington, DC, 131 pp.

Curry County Assessor's Office. 2021. Map for Township 31S, Range 25W, Section 23A and 23D. Curry County, Oregon. Available at: http://www.ormap.net.

Environmental Laboratory, 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss., 100 pp. plus appendices.

ESRI, 2014. ArcGIS for Desktop, Version 10.2.2. Redlands, California: Environmental Systems Research Institute.

ESRI, 2011. ArcPad, Version 10.0. Redlands, California: Environmental Systems Research Institute.

Google Earth Pro 7.3.3. 2021. Online aerial imagery from 1994 to 2019 (multiple sources).

Westlake Consultants. 2021. Tax Lot and site landmarks shapefiles. Tigard, Oregon.

Lichvar, R.W., D.L. Banks, W.N. Kirchner and N.C. Melvin. State of Oregon 2018 Wetland Plant List. The National Wetland Plant List: 2018 wetland ratings. 23 pp.

Munsell Color. 2019 (production year). 2009 Revised Munsell Soil-Color Charts. Grand Rapids, Michigan.

Natural Resource Conservation Service. U.S. Department of Agriculture. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.html.

National Oceanic and Atmospheric Administration (NOAA) Regional Climate Center. Monthly and Daily Climate Data and WETS Tables for Port Orford Weather Station "5 E" for water year October 2020 Through May 11, 2021. Available at: http:// http://agacis.rcc-acis.org/?fips=41015

Oregon Department of State Lands. Division 85 -- Administrative Rules Governing the Issuance and Enforcement of Removal-Fill Authorizations Within Waters of Oregon Including Wetlands; and Division 90 -- Administrative Rules for Wetland Delineation Report Requirements for Jurisdictional Determinations for the Purpose of Regulating Fill and Removal within Waters of the State. Filed through April 15, 2021.

S and F Land Services. Topography Survey for Stone Butte Quarry Site, T. 31S, R. 15W, Sec. 23 (NE ¼ and SE ¼). Digital map.

Wetland Delineation Report for Portion of Tax Lot 2303, T. 31S, R. 15W, Sec. 23A & 23D
Milepost 292 on U.S. Highway 1010, between Langlois and Sixes, Curry County, Oregon

U.S. Army Corps of Engineers, Department of Defense; and Environmental Protection Agency (EPA). 2020. Navigable Waters Protection Rule. 85 FR 22250.

U.S. Army Engineer Research and Development Center, Environmental Laboratory. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). ed. J. S. Wakely, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U. S. Army Engineer Research and Development Center. 141 pp.

U. S. Department of Agriculture, Farm Service Agency. National Agriculture Imagery Program (NAIP) Aerial Photography.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2019. Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.) USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

U.S. Department of Agriculture, Natural Resources Conservation Service. PLANTS Profile Database. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey (online GIS database). Available at: http://plants.usda.gov/java/.

U.S. Fish and Wildlife Service. Wetlands Mapper. Branch of Resource and Mapping Support. Available at: http://www.fws.gov/wetlands/Data/Mapper.html.

U.S. Geological Service. 1996. Sixes 7.5 minute Quadrangle, Curry County, Oregon. Accessed via U.S.G.S. Online Store. https://store.usgs.gov/map-locator

Watershed Sciences, Inc. 2008. LiDAR Remote Sensing Data Collection – Oregon Department of Geology and Mineral Industries: Southwest Oregon. Portland, Oregon.

VEGETATION, WILDLIFE, AND FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W CURRY COUNTY, OREGON

Prepared for

STONE BUTTE ROCK, LLC
94912 Highway 42 S
Coquille, OR 97423

Prepared by

TERRA SCIENCE, INC.
4710 Southwest Kelly Avenue, Suite 100
Portland, Oregon 97239

TSI Project No. 2021-0510

July 2021

This page intentionally left blank.

Vegetation, Wildlife, & Fish Habitat Assessment and Impact Assessment Report for the Stone Butte Quarry Expansion on Portion of Tax Lot 2302, T. 31S R. 14W, Curry County, Oregon

Table of Contents **Page**

List of Appendices

This page intentionally left blank.

Vegetation, Wildlife, & Fish Habitat Assessment and Impact Assessment Report for the Stone Butte Quarry Expansion on Portion of Tax Lot 2302, T. 31S R. 14W, Curry County, Oregon

Section A. Introduction and Project Location

On behalf of Stone Butte Rock, LLC (Applicant), Terra Science, Inc. (TSI) prepared the following report to assess the existing vegetation, wildlife, and fish habitat as it relates to proposed stockpile and excavation expansion at the Stone Butte Quarry in Curry County, Oregon, evaluate potential impacts to said habitat, and provides mitigation recommendations intended to minimize these potential impacts.

The Applicant is proposing to expand upon the existing and approved 72.77-acre quarry operating area (Oregon Department of Geology and Mineral Industries (DOGAMI) permit no. 08-0064 and Curry County Conditional Use permit no. AD-1413) to ±87.17-acres by expanding the original authorized 5.7-acre excavation area to ±27.6-acres total (±21.9-acres additional excavation area) and by adding 14.4-acres along the northwest edge of the existing the quarry operation area for the purposes of stockpiling and other accessory uses (Figure 4, Appendix A). Curry County's Zoning Ordinance (CZO) conditional use requirements (Article VII, Section 7.040.10 Mining, quarrying, or other extractive activity) requires an assessment of existing vegetation, wildlife, and fish habitat, along with an assessment and consideration of potential impacts to this habitat.

The existing quarry operation and proposed expansion area lies approximately four miles south of Langlois and 2.25-miles east of Highway 101 off a private haul road located at 46513 U.S. 101 (near milepost 292). The haul road is 0.15-miles south of the KOA campground located at 46612 U.S. 101 South, Langlois, Oregon (Figure 1, Appendix A). The study area consists of a portion of tax lot 2302 (on Curry County Assessor's Map no. 31S 14W (Township 31 South, Range 14 West, Section 23, Willamette Meridian), Figure 2, Appendix A). The approximate centroid of the study area is 42.874000° N and -124.436000° W.

Section B. Vegetation, Wildlife, and Fish Habitat Assessment Methodology

Vegetation, wildlife, and fish habitat were assessed through office analysis; research of available background information pertinent to the study area location; and through onsite field investigation and verification. For the purposes of this report, the study area refers to two proposed expansion areas plus the adjacent 250-foot offset of these areas proposed for conditional use authorization per conditional use requirements by Curry County's Zoning Ordinance (CZO) Article VII, Section 7.040.10 Mining, quarrying, or other extractive activity.

Section B.1 Background Research

The background research for the vegetation, wildlife, and fish habitat assessment prior to the field investigation involved review of existing and available data to preliminarily identify potential vegetation types, habitat types, and wildlife and/or fish resources that could be found

within the study area. As it relates to potential impacts and mitigation measures, mining operations plans, stormwater pollution plans, and mining reclamation plans that were prepared by other consulting resource professionals were also reviewed. This information included, but was not necessarily limited to:

- Personal communication with local Oregon Department of Fish & Wildlife (ODFW) staff (Steve Mazur, District Biologist and Laura Green, Assistant District Fish Biologist).
- Wetland Delineation Report for the Stone Butte Quarry Expansion conducted by Terra Science, Inc. (July 2021).
- Statewide and National Wetland Inventory maps (see Wetland Delineation Report).
- Recent aerial / satellite photographs (Figures 3.1 - 3.10, Appendix A).
- Existing topographical conditions (Figure 4, Appendix A).
- Plant community and association classifications for Coast Range ecoregion.
- Oregon Biological Information Center (ORBIC) sensitive species location data.
- Oregon Department of Fish & Wildlife's Oregon Conservation Strategy website.
- Westlake Consultants Mining Operations and Reclamation Plan (2021).
- Westlake Consultants Stormwater Pollution Control Plan (2021).
- Kuper Consulting DOGAMI Operating Permit Application (2021).
- Stone Butte LLC DOGAMI Operating Permit no. 08-0064 (2017).

Section B.2 Field Verification

TSI staff (Jason Clinch, Biologist) conducted the on-site field investigation of vegetation, wildlife, and fish habitat on May 17 and 18, 2021 to document existing conditions within the study area and evaluate potential impacts associated with the proposed excavation and stockpile expansions to said vegetation and habitat. Information and data collected during the field study included:

- A vascular plant inventory of identifiable native, invasive, and naturalized non-native species occurring within the limits of the study area (Appendix C) and their relative abundance.
- Identification of broader plant communities / habitats (i.e., upland conifer forest, disturbed meadow, etc.) and any uncommon or rare plant associations found in the vicinity of the study area.
- Birds and wildlife observed during the on-site field investigations (Appendix C).
- Notes on the presence/absence and abundance of other habitat features such as downed wood / coarse woody debris, stumps, standing snags, and significant sized trees (≥36" diameter at breast height (DBH) for native conifers, ≥24" DBH for native deciduous).
- Notes on the presence/absence of water-related habitat features such as seeps, springs, drainages, wetlands, and/or ponds and their vegetation and wildlife habitat characteristics.

- Photographs of typical habitat, plant communities, and habitat features (Appendix B).

Section C. Project Site Description, Landscape Setting, and Use

The ±91.32-acre study area (Figure 2, Appendix A) comprises only a portion of a larger (±704-acres) rural undeveloped parcel lot (Tax Lot 2302). An improved gravel haul road accesses the study area from Highway 101, approximately 2.25-miles to the west. The main haul road enters the existing quarry operations area (crushing and sorting area) where it diverges into several other haul roads and former logging roads that access various parts of the quarry operating area including active mining areas and areas used for stockpiling rock and overburden or that provide access to areas outside of the operating area. One of these roads also accesses the existing communication tower facility located at the high point of Stone Butte which the existing quarry site is generally centered upon. A powerline transmission corridor dissects through the northwest part of study area to power the communication tower facility.

The north side of the butte is actively mined for jetty stone and has several, man-made benches used for rock blasting, cutting, processing, and storage. Located just south of the butte is a large stockpile of overburden soil and undersized jetty stone. The remainder of the study area, as well as the adjacent lands, is mostly forested hillsides. Several large areas of open meadow and cattle pasture occur northwest of the active quarry operation. These meadows have several seasonal wetlands and springs that drain to the north and northeast. The forested areas range from a closed to nearly closed canopy of conifers and/or hardwoods to more open forest with a dense canopy of overstory trees and often dense canopy of understory shrubs to areas of dense shrubland with little to no overstory trees. Several swales dissect the forested areas, all of which drain away from the butte. Section D. of this report more specifically describes the vegetation communities and wildlife habitat conditions within the study area.

Topographic contours (Figure 4, Appendix A) indicate elevations range from ±890 feet above mean sea level (msl) in the lowest part of the study area in the northwest corner to ±1410 feet msl in the highest part of the study area at the summit of Stone Butte. Areas outside of the near vertical walls of the active quarry zone slope approximately 20% to 80% from the summit in all compass directions for several hundred vertical feet before becoming less steep below the existing quarry operation. Soils across the study area are described in more detail in the wetland delineation report but are generally loamy in texture and formed from accumulated colluvium or directly from the bedrock.

The study area is located on the westward foothills of the Coast Range which are dissected by a number of watersheds. More specifically, the study area is mostly located in the Willow Creek watershed, a sub-watershed of the Floras Creek (HUC 12) watershed which enters the Pacific Ocean to the northwest. The slopes southwest of the summit of the butte drain into the Crystal Creek watershed, a sub-watershed of the lower Sixes River (HUC 12) watershed which also

drains to the Pacific Ocean to the southwest. Historically, pre-settlement (pre-1851) vegetation of this area was dominated by Douglas fir (*Pseudotsuga menziesii*) – Western hemlock (*Tsuga heterophylla*) forest which was extensively logged post-settlement. Annual precipitation is approximately 70 inches, the majority of which falls between October and May. This precipitation pattern is typical for warm summer-mild winter mediterranean climates.

The entirety of the study area, as well as the larger parcel, carries a Forestry Grazing (FG) zoning map designation. All adjacent properties also carry this designation. Outside of the ongoing quarry operation and communications tower facilities, the land use for this property and the surrounding properties is and has been forestry / timber harvest and ranching / cattle grazing. Much of the surrounding area is mixed age plantation forest or natural reproduction forest interspersed with hillside meadows used as pasture. Historically, the study area and surrounding properties have been used for these purposes for decades as indicated by the general lack of mature trees and abundance of early successional hardwood species such as red alder (*Alnus rubra*).

Outside of structures related to the quarry operation (scales and storage sheds / containers), the only other structures within the limits of the study area are those associated with the communication towers on the summit of the butte. The nearest structure outside of the study area is located at an approximate distance of 3,600 feet from the quarry operation area while the nearest residence is located at an approximate distance of 4,800 feet from said area.

More recently, portions of the study area were converted to mining operations through clearing of trees and vegetation and minor quarrying for onsite use between 2011 and 2013. With County and updated DOGAMI authorizations in 2014 and 2017, respectively, the haul access road was constructed (between 2015 and 2017). Upon completion of the haul road, the footprint of the mining and processing areas has steadily increased to the current extent of the quarrying, stockpiling, and processing areas. Most recently (circa 2019), the existing areas of pasture were increased significantly with the clearing of approximately 11-acres of forest in the northwest part of the study area. Additionally, two ponds were constructed within the quarry operation. The larger pond, located due north of the excavation area, was built by a prior mining operator as a water source for fire and dust suppression.

Section D. Description of Vegetation and Wildlife Habitats

The study area is located in the Coast Range (Level 3 Ecoregion) and more specifically, the Southern Oregon Coastal Mountains (Level 4 Ecoregion). Historically (pre-settlement), the study area was mixed conifer forest (Douglas fir – Western hemlock) with scattered areas of mixed hardwoods mainly confined to seasonal drainages. Wetter areas, as well as several small open meadows in the northwest part of the study area, were dominated by grasses and forbs. Post-settlement, the study area and vicinity began its conversion to managed forestry and

grazing lands through harvest and/or clearing of the conifer and hardwood trees. Some areas were re-planted into plantation style forest dominated by Douglas fir, whereas most areas were naturally regenerated. Based on the overall size of the trees within the study area and the relative abundance of hardwood species over conifer species, this cycle has likely been repeated several times, although no specific harvesting or forestry records were investigated. Available grazing land has increased significantly as more areas were cleared and converted to pasture. The presence of cattle in these areas has prevented and/or limited the natural regeneration of trees and shrubs. Such grazing has introduced many non-native and/or invasive vegetative species into the study area and vicinity. Outside of the habitat described as *Active Quarry Lands* (below), the habitats found within the limits of the study area are neither unique nor unusual and occur in relative abundance within the study area vicinity, northern Curry County, and the Southern Oregon Coastal Mountains.

Within the Oregon Conservation Strategy report (Appendix D), ODFW identifies potential strategy habitats, which generally are considered to be those of conservation concern for the vicinity of the study area. These include Late Successional Mixed Conifer Forests and Flowing Water and Riparian Habitats. As a result of past land management activities, the study area entirely lacks any Late Successional Mixed Conifer Forest habitat. Flowing Water and Riparian Habitats are present and described in more detail (along with descriptions of wetlands present onsite) in the wetland delineation report. These aquatic habitats overlap with and are relatively minor components of the vegetation and wildlife habitats described herein. Potential impacts to aquatic habitats are also detailed in Section G. (below). The vegetation and wildlife habitats occurring within the study area are a mosaic of vegetated and non-vegetated areas that provide some level of habitat for various wildlife species and are described in detail below:

Active Quarry Surfaces: This vegetation and wildlife habitat category includes all areas of active mining, stockpiling, and processing as well as the haul roads and logging roads located throughout the study area. Substrates include areas of sand, gravel, and coarse rock; areas where larger boulders are stockpiled; overburden stockpiles; and places of exposed rock and/or cliff faces. These areas generally lack vegetation cover except for occasional weeds in the more stabilized areas. Most of these areas provide little in terms of wildlife habitat as they are actively being worked, moved, or added to through the course of quarry operations. Nonetheless, less dynamic areas of boulder and rock may provide some structure for perching/roosting as well as temporary cover/shelter for rodents, reptiles, terrestrial amphibians, and small birds. Other uses would be incidental in nature such as providing corridors for local migration or providing foraging opportunities for species that hunt in open (non-forested) areas.

Grazed / Disturbed Meadow: This vegetation and wildlife habitat category is mostly confined to the northwest part of the study area and includes those areas devoid of tree canopy and having only minimal shrub cover. This includes the open areas around several of the wetland swales

that are actively used for cattle grazing as well as those areas recently cleared for additional pasture. The substrate is generally soil of a loamy nature with little organic matter accumulation. Vegetation is dominated by herbaceous forbs, grasses, sedges, and rushes but may include scattered small pockets of shrub cover and/or widely-scattered tree saplings.

Dominant species in this habitat include non-native pasture grasses including velvetgrass (*Holcus lanatus*), sweet vernal grass (*Anthoxanthum odoratum*), several bentgrass (*Agrostis* sp.) and bluegrass (*Poa* sp.) species, fescues (*Festuca* sp.), and non-native forbs including creeping buttercup (*Ranunculus repens*), lance-leaved plantain (*Plantago lanceolata*), foxglove (*Digitalis purpurea*), mullein (*Verbascum thapsus*), English daisy (*Bellis perennis*), hairy cats-ear (*Hypochaeris radicata*), and both Canadian and bull thistle (*Cirsium arvense* and *Cirsium vulgare*). Other dominant herbaceous species include Douglas iris (*Iris douglasii*) and scattered sword fern (*Polystichum munitum*) in sloping uplands with water foxtail (*Alopecurus geniculatus*), soft rush (*Juncus effusus*), toad rush (*Juncus bufonius*), spikerush (*Eleocharis* sp.) and pennyroyal (*Mentha pulegium*) and scattered skunk cabbage (*Lysichiton americanus*) in wetland swales. Himalayan blackberry (*Rubus armeniacus*) occurs sporadically within this habitat but becomes more prevalent where this transitions to scrub-shrub woodland (described below).

While no official plant associations exist for areas dominated by non-native and/or invasive species, these areas could be characterized as mesic – wet grasslands which is quite common in the Coast Range where areas are frequently grazed. Overall plant diversity is considered moderate.

Structurally, this habitat alone has low complexity due to the general lack of a multi-story canopy of taller trees and shrubs. While some younger live trees, stumps, and downed logs remain in place after the recent clearing for additional pasture, they are few and widely scattered. However, due to the mosaic pattern of *Scrub/Shrub Woodland* habitat (described below) and the *Grazed / Disturbed Meadow* habitat, overall structural complexity of these combined habitats is considered moderate. These areas combined provide both open forage and/or feeding areas as well as areas for perching/roosting, nesting, and/or shelter/cover for small mammals/rodents, deer, elk, black bear, snakes, amphibians, ground nesting/foraging birds, and insects.

<u>*Scrub/Shrub Woodland:*</u> This vegetation and wildlife habitat category is the least abundant habitat within the study area. It is scattered mostly along the periphery of the *Grazed / Disturbed Meadow* habitat; along and within several of the wetland swales; and in some areas that have been historically or recently cleared where cattle are unable to access (due to steep slopes or quarry operations). The substrate in these areas is also generally loamy in nature but organic matter accumulation is greater due to lack of cattle grazing. Vegetation is characterized by a dominance of woody shrub species with occasional young trees scattered throughout.

Dominant shrub species in this habitat include Himalayan blackberry (in uplands) or salmonberry (*Rubus spectabilis*) (in wetlands) often with lesser amounts of cascara (*Rhamnus purshiana*), willow (*Salix* sp.), thimbleberry (*Rubus parviflorus*), red elderberry (*Sambucus racemose*), and evergreen huckleberry (*Vaccinium ovatum*). Sword fern is the dominant herbaceous species as much of this habitat is too dense for other herbaceous species to establish. Occasional red alder saplings / young trees also occur both in the shrub/understory and as occasional overstory.

In the wetland areas, the closest plant association that characterize this habitat category is the salmonberry / sword fern (*Rubus spectabilis* / *Polystichum munitum*) which is fairly common in the Coast Range and western Oregon (per ORBIC, 2019). In upland areas, while no official plant associations exist for areas dominated by non-native and/or invasive species, it could be characterized as invasive dominated Himalayan blackberry / sword fern (*Rubus armeniacus* / *Polystichum munitum*). Overall plant diversity is considered moderate.

Much like the grazed meadow habitat, this habitat alone is less structurally complex due the general lack of a multi-storied canopy of taller trees and little herbaceous vegetation. The abundance of snags, stumps, and downed logs is also generally low with those that are present being widely scattered. As mentioned previously, due to the mosaic pattern of *Scrub/Shrub Woodland* habitat (described below) and the *Grazed / Disturbed Meadow* habitat, overall structural complexity of these combined habitats is considered moderate. These areas combined provide both open forage and/or feeding areas as well as areas for perching/roosting, nesting, and/or shelter/cover for small mammals/rodents, deer, elk, black bear, snakes, amphibians, ground nesting/foraging birds, and insects.

Mixed Hardwood Forest: This vegetation and wildlife habitat category is scattered throughout the study area but is mostly limited to the more northly-facing slopes. It is also associated with areas that were historically harvested for timber and not specifically replanted with conifer species thus allowing natural regeneration to occur. As a result, semi-mature to mature early successional hardwood species dominate the overstory (typically, red alder). However, young conifers occasionally occur in both the understory and overstory and are more frequently found on the drier slopes away from wetland areas. The substrate is loamy soil with a higher accumulation of organic matter in the form of fallen trees, branches, and leaf litter.

This habitat is characterized by the dominance of young to mature red alder in the overstory and salmonberry in the shrub/understory layer. Himalayan blackberry is also dominant in some areas where it has invaded into and from recently cleared lands. Other subdominants include cascara, red elderberry, thimbleberry, and willow in the shrub/understory. Sword fern, foxglove, bracken fern (*Pteridium aquilinum*), miner's lettuce (*Claytonia siberica* and *Claytonia perfoliata*) and velvetgrass dominate the herbaceous layer. Douglas fir are also present and scattered in both the shrub/understory and overstory.

The closest plant associations that characterize this habitat category are the red alder / sword fern (*Alnus rubra / Polystichum munitum*) and the red alder / salmonberry forest (*Alnus rubra / Rubus spectabilis*), both of which are quite common in the Coast Range and western Oregon (per ORBIC, 2019). Overall plant diversity is considered moderate to moderately high.

While the overall complexity of this habitat ranges from moderately low to moderately high, this is the most structurally complex of habitats found within the study area. While some areas include stands of fairly uniform species and age-classification (namely red alder), overall age-classifications for this habitat are fairly broad ranging from saplings to mature trees. Older fully mature to ancient trees (>24" DBH) are lacking. Additionally, due to the deciduous nature of the dominant tree canopy species, a much more diverse suite of tree and shrub species is able to establish and create a multi-height understory that is often dense and brushy. Also, the number of standing snags and amount of downed wood is generally greater in this habitat category, likely a result of varying age-classification and shorter-lived nature of the species present. As such, the overall species diversity and the sum of these factors creates an overall higher structural diversity and thus complexity of habitat for wildlife. Foraging/feeding, perching/roosting, nesting, and shelter/cover habitats are all present for a wide variety of species including small mammals/rodents, deer, elk, black bear, a variety of forest-dwelling birds, and insects.

<u>*Mixed Conifer Forest*</u>: This vegetation and wildlife habitat category is most abundant in the south part of the study area on the more southerly-facing slopes and those areas that are well-drained and further away from wetland areas in the north part of the study area. These areas have been historically harvested for timber (likely two or more times) and some areas may or may not have been replanted with preferred commercial species (Douglas fir). Very few areas exhibit the typical monoculture overstory associated with these types of timber plantations. Instead, most of the conifer forest present is a mix of conifer species. The substrate in these areas is also loamy soil with a lesser accumulation of organic matter than in the hardwood dominated areas.

Dominant overstory species include Douglas fir and western hemlock (*Tsuga heterophylla*) with Sitka spruce (*Picea sitchensis*) and western red cedar (*Thuja plicata*) also occurring in the overstory. These species are also dominant to subdominant as understory species in some areas that are not plantation monocultures of Douglas fir. Other dominant to subdominant understory/shrub species include evergreen huckleberry, salal, and low Oregon grape (*Berberis nervosa*). Dominant herbaceous species include sword fern and trailing blackberry (*Rubus ursinus*) with subdominants including darkwoods violet (*Viola orbiculata*), rattlesnake plantain (*Goodyera oblongifolia*), and Oregon wood sorrel (*Oxalis oregana*).

The closest plant association that characterizes this habitat category is the Douglas fir – western hemlock / sword fern forest (*Pseudotsuga menziesii – Tsuga heterophylla / Polystichum munitum*), which is fairly common in the Coast Range and western Oregon (per ORBIC, 2019). Overall plant diversity is considered low in dense plantation areas and moderately low where natural reproduction areas both of which are typical of what occurs under denser evergreen canopy cover.

Structurally, this habitat is low to moderately complex due to the often-uniform age of the species present. Some areas are dominated by dense stands of younger trees with very few to no overstory trees present whereas other areas are slightly older but are lacking in the presence and/or abundance of understory species. No fully mature to ancient trees (>36" DBH) were observed. The herbaceous stratum is often sparse due the dense canopy cover that allows an insufficient amount of light needed for many species to germinate and grow. As for other habitat / structural features, there are very few standing snags or trees with much structural complexity (i.e., complex branching and/or multiple leaders) generally suitable for bird and wildlife resting, foraging, and nesting habitat. Some downed logs and stumps in various stages of decay are present and scattered across the site which can provide suitable habitat for terrestrial wildlife and pollinators but those are not considered abundant. Brush piles or areas of brushy vegetation are present along the perimeters of this habitat category as well as within the much denser young stands.

Section E. Wildlife and Fish Species and Potential Use

The vegetation and wildlife habitats described in Section D. are not unique or rare and reflect a past and often repeated history of clearing, harvesting, grazing, and quarrying activities and subsequent regeneration whether naturally or through replanting. Outside of quarrying activities, this cycle appears to have been repeated two or more times since initial settlement resulting in habitats that are generally fairly early in their succession and include a high proportion of non-native and/or invasive plant species. As such, wildlife species with narrow habitat requirements or those requiring highly unusual or unique habitats are not likely to inhabit or utilize any portion of the study area or immediate environs outside of potential incidental use (such as migration between their preferred habitats). Even then, those species are likely limited to only those capable of longer migrations between preferred habitats (i.e., birds, mammals). Fish habitat does not exist within the limits of the study area as there are no streams, creeks, and/or rivers.

For the purposes of this assessment, TSI did not evaluate habitat for all species that could potentially be present within the limits of the study area but focused on those species of economic importance (namely fish, game, and/or fur-bearing/trapping species) and those species considered "sensitive" that could occur within the limits of the study area. This assessment uses the definition of "sensitive species" from ODFW which refers to "naturally-

reproducing fish and wildlife species, subspecies, or populations which are facing one or more threats to their populations and/or habitats". Sensitive species include those species listed as threatened or endangered, those species proposed for listing, candidate species for listing, and species of concern by ODFW and/or U.S. Fish & Wildlife Service (USFWS). They also include those species considered rare by the Oregon Biological Information Center (ORBIC) which tracks natural heritage and rare species information in the State of Oregon.

A database search of ORBIC's records was used to identify if any documented locations of sensitive species are known to occur within a 2-mile radius centered on the study area (as defined in Section B., above). Of note and at ORBIC's request, this data is not to be distributed and is not included in this report due to the sensitivity of data. Additionally, the Oregon Conservation Strategy report (included in Appendix D) includes a narrowed down list of strategy species (those of conservation concern) that have been documented and/or observed within the HUC-12 watershed(s) in which the study area occurs (but not necessarily within the study area). This report also includes those species of conservation concern that have the potential for occurrence within the vicinity of the study area based on habitat modeling of "fair to good" habitat presence but which have not been documented and/or observed in the area modeled. The following table summarizes these findings:

Table 1. Wildlife Species, Occurrence and/or Potential Use Within the Study Area

Mammals	Occurrence and/or Potential Use
Columbia black-tailed deer	Species observed directly within limits of study area. Foraging and sheltering/cover habitat present in grazed/disturbed meadow, scrub-shrub woodland, and mixed hardwood forest.
Elk	Species observed indirectly within limits of study area (tracks & scat). Foraging and sheltering/cover habitat present in grazed/disturbed meadow, scrub-shrub woodland, and mixed hardwood forest.
Black bear	Species observed indirectly within limits of study area (scat). Foraging habitat present in grazed/disturbed meadow, scrub-shrub woodland, mixed hardwood forest, and mixed conifer forest. No obvious den sites observed and few opportunities for them due younger forest with little downed wood, stumps, and windthrow. This species typically avoids areas when humans are present.
Mountain lion / Cougar	Species not observed within limits of study area but incidental use could potentially occur due to presence of prey species (deer, elk, & cattle) and/or use as a migration corridor.
Coyote	Species observed indirectly within limits of study area (scat). Sheltering/cover habitat present in grazed/disturbed meadow and scrub-shrub woodland but no obvious den sites observed. This species is adaptable, wide ranging, and omnivorous and could utilize most of the study area for hunting prey (anything they can catch) or foraging on grass

	and/or berries. This species typically avoids areas when humans are present.
Fur-bearing species (beaver, bobcat, marten, mink, muskrat, river otter, raccoon, red or gray fox)	None of these species were observed within the limits of the study area. There is no aquatic/semi-aquatic habitat for beaver, mink, muskrat, and/or river otter which generally inhabit larger perennial waters which are not present within the study area. Foraging/feeding habitat present for bobcat, marten, and fox due to presence of prey species (birds and rodents) but less so for raccoons (some fruits, berries, nuts, and seeds, some snakes). Except for raccoons, these species typically avoid areas where humans are present and use of any part of the study area would likely be incidental for feeding and/or use as a migration corridor.
Red tree vole[1]	Species not observed within limits of study area and not likely to occur due to lack of suitable habitat (late successional conifer forest). Red tree voles are sometimes found in younger forest but are unlikely to persist in these areas which also act as barriers to their migration.
Bat species (Townsend's big-eared[1,2], California[1], fringed[1], & long-legged[1] myotis, hoary[1], and silver-haired[1])	None of these species were observed within the limits of the study area. Potential incidental foraging use by fringed, long-legged, hoary, and silver-haired bats could occur but roosting/nesting habitat (large/older trees, caves, abandon mines, cliffs) is lacking within the limits of the study area.
Fisher[1]	Species not observed within limits of study area and not likely to occur due to lack of suitable habitat (diverse structural stages within moderate to dense canopy cover), few prey species, and aversion to human disturbance.
Ringtail[1]	Species not observed within limits of study area and not likely to occur due to lack of suitable habitat (late successional forest) and high prey density, and aversion to human disturbance.
Birds	Occurrence and/or Potential Use
California quail & Mountain quail	Species not observed within limits of study area. Mountain quail not likely to occur within study area as they prefer forested mountainous areas above 1,600 ft. elevation. California quail could potentially use vicinity of study area for foraging/feeding, roosting, nesting, and shelter/cover as they prefer slightly open, mosaic habitats.
Ruffed grouse & Sooty grouse	Neither species observed within limits of study area but both species could potentially use vicinity of study area for foraging/feeding, roosting, nesting, and shelter/cover as they prefer slightly timber edges and meadows with sources of water.
Wild turkey	Species not observed within limits of study area but species could potentially use vicinity of study area for foraging/feeding, roosting, nesting, and shelter/cover as they occur in a diversity of habitats including meadows and timber edges.
Peregrine falcon[2]	Species not observed within limits of study area and not likely to occur due to a lack of suitable prey species and habitat for perching/roosting and nesting (cliffs, rock outcrops).

Harlequin duck[2]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (coastal rocky headlands or large, perennial streams).
Marbled murrelet[1,2]	Species not observed within limits of study area and not likely to occur due to a lack of suitable feeding/foraging habitat (coastal waters) or roosting/nesting habitat (late successional and old growth forests).
Northern spotted owl[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable feeding/foraging and roosting/nesting habitat (late successional and old growth forests).
Olive-sided flycatcher[1]	Species not observed within limits of study area but could potentially use vicinity of study area for foraging/feeding, perching/roosting, and nesting as they prefer forest openings and edges.
Purple martin[1]	Species not observed within limits of study area and not likely to occur due a lack of suitable feeding/foraging habitat (open areas in proximity to water) and a lack of nesting habitat (abundant cavities for colonial nesting).
Amphibians	Occurrence and/or Potential Use
Foothill yellow-legged frog[1,2]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (unimpounded streams with coarse gravel bars, bedrock substrate, or low-flow backwater).
Clouded salamander[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (large decaying logs and/or talus).
Coastal tailed frog[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (cold, clear, fast-flowing perennial streams).
Del Norte salamander[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (moist talus and rock and/or decaying bark and/or logs in closed canopy forest).
Southern torrent salamander[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (cold mountain streams, springs, and seeps with loose gravel substrate).
Western toad[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (sunny shallow ponds/lakes for breeding and rearing tadpoles).
Reptiles	Occurrence and/or Potential Use
Western pond turtle	Species not observed within limits of study area with no potential to occur due to a lack of suitable habitat (marshes, streams, rivers, ponds, and lakes for breeding, feeding, and basking).
Fish	Occurrence and/or Potential Use
Western brook lamprey[2]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (perennial streams and/or rivers with fine gravel beds for spawning).
Coho salmon[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (perennial streams and/or rivers with clean gravel beds for spawning/rearing).

Steelhead[1]	Species not observed within limits of study area and not likely to occur due to a lack of suitable habitat (perennial streams and/or rivers with clean gravel beds for spawning/rearing).

[1]Potential fair to good habitat present based on ODFW modeled wildlife habitat within vicinity of study area. However, these species have not necessarily been documented / observed within the areas modeled (or within the study area).
[2]These species have been documented / observed within the HUC-12 watershed(s) that the study area occurs in but not necessarily within the study area.

Section F. Potential Impacts to Vegetation, Wildlife, and Fish Habitat and Use and Potential Mitigation Measures to Minimize Impacts

Curry County's Zoning Ordinance (CZO) conditional use requirements under Article VII, Section 7.040.10 Mining, quarrying, or other extractive activity require applicants to assess potential impacts to vegetation, wildlife, and fish habitat and existing uses within 250-feet of the proposed conditional use modification site which in this case is the proposed ±87.17-acre operating boundary. For this assessment, potential impacts are those associated directly and/or indirectly with the quarry expansion and operations. These are described in more detail below along with how they may or may not affect wildlife and offsite downstream fish habitat and existing uses and proposed mitigation measures to minimize potential conflicts and/or impacts.

It is important to note that preparations for future quarry operations initially began between 2011 and 2013 with clearing and leveling of a small landing on the northeast side of the butte. Between 2015 and 2017, the haul access road into the site was constructed with subsequent mining activities beginning in 2017 which were confined to the previously approved initial ±5.7-acre excavation area and the ±72.77-acre operating area. With the initiation of these activities, the bulk of any perceived conflicts or impacts to wildlife and their habitat began. Specifically, the effects from these activities described below began to affect wildlife within the vicinity of the operation nearly 10 years ago and wildlife has been habituating to these effects since then. When commercial mining activities began in 2017 after County and DOGAMI approval, wildlife began to further habituate to the new conditions. It is assumed that any wildlife that may been using the habitats described herein at that time that was intolerant to these effects would have migrated away to other nearby similar habitats that are relatively abundant in this part of Curry County.

Noise and Vibrations: Noise and vibration sources related to quarry operations include that from heavy equipment and haul truck operation / traffic, rock hammer operation, rock crusher and sorter operation, blasting, and/or dumping rock. These sources can be divided into two general categories that include temporal / intermittent noise and vibration and ongoing/extended noise and vibration. Temporal / intermittent noise or vibration is that which lasts for a short period of time (<1 minute) and which occurs at irregular or infrequent intervals. Examples of temporal / intermittent noise or vibration sources include that from blasting and dumping rock, whereas,

examples of ongoing / extended noise or vibration sources include those from heavy equipment and haul truck operation / traffic and rock hammer, crusher, and sorter operation.

Wildlife responds differently to different sources and frequencies of noise and vibration. While some wildlife species can habitualize to ongoing sources, frequent and/or extended periods of noise and/or vibrations can increase anxiety levels; interfere with courting behaviors; and interfere with detection of both predator and prey species. Sudden loud temporal noises or strong vibrations can initiate fight or flight responses which increase anxiety and can force resting wildlife into periods of hyperactivity and increased energy consumption. Nesting species may leave their eggs or young resulting in nesting failure, lower overall reproduction rates, and potential for increased predation. Wildlife will typically respond to new or increased noise and/or vibration sources by vacating the vicinity of the source if it interferes with their typical behavior patterns.

Given that some quarry preparation and related operations (i.e., road building and clearing) have been in effect for more than 10 years and the existing quarry has been operating for nearly 5 years, the greatest effects on wildlife would appear to have already occurred. Those species intolerant to the increased noise and vibration levels and sources have already vacated the vicinity of the study area. Other species may have altered their periods of use within the study area to times when operations are not occurring such as dawn, dusk, and at night. Still other species may be mostly unaffected due to their own nocturnal or crepuscular activity cycles that do not put them in conflict with noise or vibrations from the quarry operation. No new sources of noise or vibration are proposed, but existing levels and/or frequency may increase, decrease, or otherwise fluctuate depending on demand for rock resources and activity of quarry operations required to meet those demands (i.e., increases/decreases in truck traffic, blasting frequency, and/or other operations related to rock extraction, sorting, and hauling, etc.). The overall footprint of noise and vibration impacts on wildlife habitat may increase slightly but noise transmission and level are more dependent on the surrounding topography and the presence of trees and other vegetation that dampen the effects and/or reduce the distance it will travel.

Some active/ongoing mitigation activities that limit the noise and vibrations from quarry operations are already being implemented including the limited hours of operation in effect under the current conditional use permit conditions. At this time, operations are limited to daylight hours Monday through Saturday with no operations occurring on Sundays or holidays (Thanksgiving, Christmas, New Years, Memorial Day, 4th of July and Labor Day). Additionally, there are pre-scheduled periods for certain activities such as hauling, blasting, and crusher/sorter operation within these hours of operation. Lastly, noise reduction devices (mufflers, etc.) on heavy equipment and haul trucks are in use.

Recommended mitigation opportunities to further reduce the effects of noise impacts on wildlife habitat and wildlife use include tree and vegetation retention within avoided wetlands and their 50-foot riparian corridor buffers around them; areas within the proposed expansion areas where no authorized quarry-related activities are undertaken; and within the 250-foot offset outside the proposed expansion areas.

Dust / Air Quality: Dust and other sources that may reduce air quality include heavy equipment and haul truck operation, haul road traffic, rock crusher and sorter operation, rock hammer operation, blasting, and the dumping of rock in stockpile areas. More specifically, dust impacts are a result of particulates being kicked into the air and deposited on other substrates whereas air quality impacts are generally a result of fuel consumption by heavy equipment, trucks, generators, rock crushers, and sorters (i.e., exhaust). Dust may also reduce air quality when it is of sufficient abundance and persistence in the air.

The effects of dust and reduced air quality on wildlife is mostly as a nuisance to respiratory function. Species that rely heavily on their olfactory senses for detection of predators, prey, food sources, mates, and/or territorial markings may avoid or vacate the vicinity of the dust or reduced air quality source when it surpasses their tolerance level. An important effect from dust specifically is that it can reduce photosynthetic efficiency of plants and vegetation that it covers and make vegetation less palatable to foraging species if allowed to accumulate. A secondary effect described in more detail under *Sediment / Runoff* is that dust that may enter aquatic resources (i.e., wetlands, drainages, ditches, settling ponds) directly through deposition or indirectly through runoff and can reduce the water quality within those aquatic resources. Poor air quality from exhaust pollution can affect the diversity and abundance of certain lichen species which are sometimes a source of food and nesting materials for various wildlife and birds.

As it relates to this project, dust impacts on wildlife and habitat from current and ongoing quarry operations appear to be minimal since significant or even noticeable amounts of dust were not observed in the air, deposited on plants, vegetation, or other substrates, nor as fine sediment deposited in and/or adjacent to aquatic resources. Dust impacts on air quality from existing quarry operations related to blasting, rock hammer operation, and dumping are very localized and temporal. For those operations associated with rock crushing and sorting, more dust is generated overall as this equipment often operates for extended periods of time but is also very localized and can be mitigated through water spray application during unusually dusty conditions. Dust generated from heavy equipment traffic and haul trucks on haul roads and within areas of operation can be fairly frequent but is of generally low volume and again can be minimized through the use of water spray trucks as mitigation during dry conditions. As for air quality, impacts from exhaust are negligible as this source is low in volume, very localized, and dissipation occurs quickly. As the scale of quarry operations increases, it is anticipated that the potential for dust accumulation and reduced air quality increases.

However, the effect and/or impact on wildlife and habitat would not appear to rise to the level of concern due to existing dust mitigation measures being implemented and those proposed as part of the mining operations plan (described in Section H. below).

Likely overlooked, an ongoing and passive mitigation measure that would appear to significantly reduce and/or minimize dust and its impacts to wildlife habitat is related to the general climate of the Southern Oregon Coast Mountains. The generally cool, moist weather, higher humidity, and the frequency of rainfall all temper the production and accumulation of dust within the vicinity of the project site and study area. Rather soil and dust particles stay bonded under these circumstances and naturally incorporated into the soil profile. Furthermore, tree and vegetation retention within the avoided areas within the proposed ±87.17-acre operating boundary, the 250-foot offset surrounding these areas, and areas beyond will minimize and/or reduce the distance dust and particulates may travel by intercepting dust or reducing wind that could carry it away. It is recommended that during drier weather, mitigation measures that reduce dust continue to be used, including the use of water spray trucks for the watering of haul roads and work areas where traffic occurs as well the use of water spray mitigation around rock crushers and sorters when this equipment is in use.

Sediment / Runoff: Sediment and runoff related to quarry operations can be associated with accumulated dust potentially washing off surfaces within the project into nearby aquatic resources such as wetlands, ditches, and/or settling ponds. Other potential sources of sediment and runoff include the erosion of soils and other substrates that are barren of vegetation and/or lack organic matter accumulation such as overburden and rock stockpiles, cut and/or fill slopes, road surfaces, and those surfaces associated with processing of rock. While unrelated to quarry operations, the perpetuation of cattle grazing within the project area (and particularly those areas in and around the wetlands in the northwest part of the study area) is an additional and existing source of sediment and runoff. Through grazing, these animals reduce vegetation cover which provides natural sediment retention and filtration and reduces runoff flow velocities. Furthermore, cattle churn wetter areas into mud and bare earth which results in more erosion. These potential sources alone and/or in sum can result in incremental and/or cumulative impacts to areas downslope without mitigation to prevent and/or minimize these impacts.

Potential secondary effects of sediment and runoff on wildlife and offsite downstream fish habitat are mostly restricted to those habitats associated with aquatic resources including wetlands, ditches, and existing settling ponds as well as offsite downstream drainages. That is, fine sediment can reduce water quality in those resources, while coarser sediments, can directly accumulate as deposited material and change the overall characteristics of that habitat. Increased and/or new discharges of runoff from the project site can potentially increase erosion within these habitats as well as reduce water quality and increase deposition of material. Reduced water quality can have a negative effect on species that directly require aquatic

habitats for all or part of their life cycles including fish, amphibians, and many invertebrates including insects and aquatic mollusks. Fine sediments can abrade gills and/or decrease respiratory function in aquatic species by increasing water temperatures. Accumulation and/or deposition of fine sediments can decrease the quality of spawning and rearing habitat of fish and amphibian species, decrease availability and quality of invertebrate habitat, and/or even change the characteristics of the habitat sufficiently that a different suite of species begins to inhabit the resource thus displacing its original inhabitants.

As it relates to this project, sediment and erosion impacts on wildlife and fish habitat from existing quarry operations appear to be minimal as sedimentation, deposition, and/or significant erosion of surfaces were not observed within the existing operating area nor within the 250-foot offset to the proposed operating area during field investigation for this report. Runoff from quarry operations appears adequately treated by existing sediment traps and ponds as water leaving the site through wetlands or roadside ditches was not sediment laden nor was their evidence of sediment deposition and/or accumulation in areas downslope. As the scale of disturbed areas increases, sediment and runoff may increase, hence a need for additional sediment traps and ponds is anticipated. Cattle grazing in aquatic resources remains an existing concern as overgrazing and compaction can lead to further erosion and downstream sedimentation. Cattle excrement may also reduce water quality through nutrient loading.

Recommended mitigation opportunities to reduce the potential water quality impacts to aquatic resources include establishment of 50-foot riparian corridor buffers around these resources within the expansion areas. With the exception for continued use of established roads and similar existing improvement, no quarry operations can occur, no machinery can operate, nor can any quarried material and/or overburden be placed and/or stockpiled within these areas. Vegetation should be retained and enhanced within these wetlands and buffers. Adding bark or mulch wattles along disturbance perimeters, revegetating wetlands, buffers, and avoided areas would increase sediment retention, filtration, and reduce runoff flow velocities. Seeding and/or revegetating disturbed areas and overburden stockpiles, as required under the proposed DOGAMI reclamation plan, can further reduce erosion as can exclusion of cattle from the limits of the 50-foot riparian corridor buffers. More intensive mitigation opportunities include backsloping quarry benches toward the high wall where possible; construction of rip-rap pads and stilling basins at culvert discharge points; and construction of conveyance ditches with rock check dams and settling ponds around the perimeter of the expanded project area to capture any sediment and/or eroded material before it leaves the project area. Designs with settling ponds in series are more effective.

Habitat Modification / Removal: The most obvious effect on vegetation and wildlife resulting from expansion of the existing quarry operations would be the removal of physical habitat. Expanding the quarry floor, processing area, and stockpiles of rock and overburden, along with creation of any new roads, settling ponds or other sediment and runoff treatment features

would remove trees, vegetation, downed wood, and other organic matter as well as the topsoil in these areas. The removal of the physical habitat would occur incrementally over the period of operation resulting in the conversion of the existing wildlife habitats and vegetation into low functioning active quarry surface habitat (described above in Section D).

Generally, the loss of trees and vegetation results in the displacement of wildlife species that utilize the habitats removed. While larger and/or more mobile wildlife species (mammals and birds) will simply move away to other habitats outside of the project area, less mobile species (invertebrates, insects, some reptiles and/or terrestrial amphibians) could potentially be taken. Other potential effects associated with habitat removal could include the alteration of local migration corridors used by terrestrial wildlife.

As it relates to this project, much of the habitat within the study area has already been significantly altered as a result of past timber harvesting, cattle grazing, road building, disturbances related to the communication tower facility and powerlines, and ongoing quarry operations. As such, much of the wildlife/fish that could use the habitats within the study area has already moved away and/or habitualized to the existing condition. Further, the expansion of quarry operations (from ±72.77-acres to ±87.17-acres) and the associated loss and/or conversion of wildlife habitat and vegetation is insignificant in the context of how abundant similar habitats and vegetation communities are nearby and in the northern part of Curry County. Furthermore, no habitats and/or vegetation to be removed and/or impacted are particularly unique, unusual, or of conservation concern since all wetland habitats are to be avoided entirely.

Nonetheless, mitigation recommendations to conserve existing habitat and vegetation within the limits of the project area include avoidance and vegetation retention within wetlands onsite, within the 50-foot riparian corridor buffers around them, and within other areas within the quarry expansion and operations area where no quarry operations are undertaken. Within these avoided areas, no machinery should operate, nor should any quarried material and/or overburden be placed and/or stockpiled. Adding supplemental tree plantings to wetlands and to the 50-foot riparian corridor buffers will improve existing wildlife habitat and mitigate for some of that which is removed. Supplemental tree plantings to areas outside of the proposed ±87.17-acre operating boundary and within the 250-foot offset currently lacking tree cover would further mitigate for habitat that is removed. Incremental expansion of the work area itself (i.e., phasing) will have some mitigatory effect on wildlife by providing time to migrate away as work areas expand closer to their occupied habitat. After quarry operations have ceased, the bulk of the quarry operating area, processing areas, and rock and overburden stockpile areas should be reclaimed and revegetated with conifer seedlings to begin the process of succession and longer-term habitat restoration. Wildlife would habituate to the new existing habitat condition which, over time, would likely return to something similar as to what it is now.

Section G. Potential Impacts to Aquatic Habitats and Potential Mitigation Measures to Minimize Impacts

Curry County's Zoning Ordinance (CZO) conditional use requirements under Article VII, Section 7.040.10 Mining, quarrying, or other extractive activity require applicants to assess the potential impacts of the proposed use on water quality and water flow as is relates to fish habitat on affected rivers or streams. Based on the findings of the wetland delineation report and field investigation of the study area that includes the proposed ±87.17-acre operating boundary and the 250-foot offset outside of the proposed operating area, no fish habitat exists within the limits of the study area. Per ODFW, fish habitat does occur offsite within Willow Creek to the north and North Fork Crystal Creek to the south. At its closest proximity, Willow Creek is ±1,050-feet downslope of the project operating area, whereas the North Fork Crystal Creek is ±3,980-feet downslope.

The only potential impacts to fish habitat that could result from expansion of the proposed quarry operations would be from sedimentation and/or runoff leaving the project area, entering a waterway such as a creek or stream, and being transported to downstream areas where fish may occur. However, no such creeks or streams occur within the limits of the project area and all wetlands will be avoided through establishment of 50-foot riparian corridor buffers. Other recommended mitigation measures to minimize sedimentation and/or runoff are included as part of the proposed stormwater pollution control plan by Westlake Consultants. These include but are not limited to minimizing vegetation removal; back sloping quarried benches toward the highwall; utilizing check dams and ditches to slow and divert natural runoff around the site where possible; constructing conveyance ditches and settling ponds to collect runoff and remove sediment; and seeding and/or mulching overburden storage areas and disturbed areas upon reclamation per DOGAMI requirements to minimize erosion potential. Lastly, while not related to any of the proposed quarry operations, exclusion of cattle from wetlands and the 50-foot riparian corridor buffers is recommended. These mitigation measures will minimize the generation of sedimentation and runoff from the project area and minimize the potential volume of any sedimentation and runoff that could leave the project area. As such, impacts to offsite fish habitat from quarry operations would be immeasurable given these proposed mitigation measures.

Section H. Summary of Mitigation Measures to be Implemented

For each potential impact described in Section F. (above), the recommended mitigation measures described below should be implemented to minimize the impacts to vegetation, wildlife habitat, and wildlife use within the limits of the proposed expansion areas outside of where mining activity is proposed and within the 250-foot offset where mining is not authorized (nor proposed). These measures would also minimize impacts to wetlands and

riparian areas within the limits of the proposed operating boundary, as well as similar aquatic resources within the 250-foot offset to this boundary and to those further downslope / downstream (offsite) of the project site. Some of these mitigation measures are passive, requiring little effort to implement, while other measures are more active and require planning / design, construction, and/or maintenance to fully implement. This section summarizes the specific passive and active mitigation measures to be implemented and where such measures are included in separate regulatory submittals such as mining operation plans, stormwater pollution control plans, and reclamation plans prepared by other project consultants and/or subject experts and/or required by other regulatory entities (i.e., DOGAMI, DEQ, and/or Curry County).

1. Vegetation Retention. Retain trees and vegetation within those portions of the proposed ±87.17-acre operating boundary that are not utilized for mining as well as those areas within the 250-foot offset to the proposed operating boundary that are outside of the existing authorized operations boundary. These areas would include the wetlands to be avoided along with their designated 50-foot riparian corridor buffers and any other areas within the proposed operating boundary not utilized for quarry-related operations (i.e., active mining areas, stockpiling areas, processing and sorting areas, and haul and/or access road locations). Tree and vegetation retention will reduce noise impacts to wildlife within the vicinity of the project, intercept and reduce dust and particulates, intercept and reduce sedimentation and runoff from existing surfaces, and provide pockets of habitat for wildlife use.

2. Aquatic Resource Buffers. Wetlands within the limits of the project area shall be avoided via establishment and enhancement of 50-foot riparian corridor buffers . Except for continued use of established roads and similar existing improvements within these buffers, no quarry operations can occur, no machinery can operate, nor can any quarried material and/or overburden be placed and/or stockpiled. Furthermore, stormwater treatment facilities or structures shall not be located with these buffers and these buffers shall be enhanced with appropriate vegetation (as described in 4. Forest Restoration, below). Designated riparian corridor buffers where no disturbances may occur provide and protect existing habitat for wildlife use. Riparian corridor buffers also minimize the potential impacts of sediment and runoff by providing natural pervious infiltration areas; providing vegetative filtration and retention of sediment within the buffers; decreasing runoff velocity and erosion potential; and increasing the distance operations runoff must travel before it could potentially enter and impact the buffered aquatic resource, the sum of which minimize the potential for impacts to offsite downstream wildlife and fish habitats.

3. Cattle Exclusion. To minimize impacts to wetlands onsite and to their associated 50-foot riparian corridor buffers (as described in 2. Aquatic Resource Buffers, above), where practicable, cattle will be excluded from these areas within the proposed ±87.17-acre operating boundary (as depicted on Figure 5, Appendix A). Exclusion of cattle from these areas would aid in retention

of existing vegetation and wildlife habitat in these areas and would further minimize any potential detrimental effects to downstream offsite resources such as creeks, streams, and/or rivers including offsite fish habitat associated with Willow Creek and Crystal Creek.

4. Forest Restoration. To mitigate for the loss of forest habitats associated with the proposed quarry expansion, the 50-foot riparian corridor buffers within the proposed ±87.17-acre operating boundary shall be revegetated with trees appropriate to the habitat avoided (i.e., red alder in wetlands, Douglas fir in uplands/buffers). Forest restoration will occur during the next planting season following commencement of mining activities in the proposed expansion areas. Restoration of these areas will immediately begin the process of early vegetation succession and toward providing forest habitats for wildlife to use. As trees mature, more diverse habitats will take form drawing a greater diversity of wildlife use. Additional trees will have the secondary effect of buffering some of the noise and dust from existing and proposed quarry operations and provide some limited visual screening.

5. Limited Hours of Operation. Per Curry County conditions for the exiting mining operation, the hours of operation shall be limited to daylight hours on Monday through Saturday with no operations occurring on Sundays or holidays (Thanksgiving, Christmas, New Years, Memorial Day, 4th of July and Labor Day). Restricting the hours that noise and vibrations may occur as a result of quarry operations allows wildlife a respite from the effects that may interfere with their use of the available habitat. Wildlife may migrate through the property in the early morning, early evening, and/or at night when some species are more active or may use portions of the project site and/or vicinity for other activities such as foraging, feeding, roosting, resting, and/or sheltering.

6. Dust Mitigation. To minimize the generation and accumulation of dust within the vicinity of the project area, Westlake Consultants has specified measures within the mining operation plan that are consistent with DOGAMI and DEQ requirements for mining operations. Water spray trucks shall be used for dust control during dry conditions on haul roads and surfaces more prone to dust generation (i.e., processing areas). Water spray mitigation shall be used on processing equipment (i.e., rock crusher and sorter) to control dust generated by this equipment should it be used. Additionally, overburden (soil) stockpiles and disturbed areas of soil outside of active work areas barren of vegetation shall be vegetated to minimize dust generated by wind. Implementation of these mitigation measures will improve air quality for wildlife, improve growing conditions for vegetation, and reduce the potential for transport of accumulated dust into downslope wetlands and other aquatic features.

7. Stormwater Management. To minimize sedimentation and runoff, Westlake Consultants has developed a detailed stormwater pollution control plan to be implemented that is consistent with DOGAMI and DEQ requirements for mining operations. This plan will minimize vegetation removal; utilize check dams and ditches to intercept and divert natural runoff

around the site where possible; construct conveyance ditches and settling ponds to collect runoff and remove sediment; and seed and/or mulch disturbed areas to minimize erosion potential. Implementation of the mitigation measures detailed in the stormwater pollution control plan will minimize the generation of sedimentation and runoff and maximize opportunities to capture any generated sediment and runoff near their sources. These measures will prevent the effects of sedimentation and runoff from impacting downslope lands and habitats including onsite and offsite aquatic resources such as wetlands, creeks or streams, their associated riparian areas that are used by wildlife, and any potential fish habitat located further downstream and offsite.

8. Phasing of Quarry Expansion. To give time for and allow most wildlife to migrate away from work areas, Kuper Consulting has developed a mining plan that includes a sequential phasing of quarry operations as it relates to clearing, removal of overburden, and quarrying activities. This plan proposes four phases to be implemented over the life of the mine (approximately 30-50 years) which may vary based on market conditions. Implementation of this mitigation measure will minimize potential impacts to wildlife utilizing the habitats that occur within areas to be cleared and excavated / quarried as some wildlife will migrate out of the phased work areas as they approach any occupied habitat.

9. Reclamation Revegetation. To revegetate the project area to forestry and grazing use and re-establish many of the functions associated with wildlife habitat and its use, Kuper Consulting has developed a long-term detailed reclamation plan that will be implemented concurrently or upon completion of quarrying operations that is consistent with DOGAMI requirements. The reclamation plan specifies that overburden and soil will be placed over rock benches and floor and seeded with a weed-free pasture grass mix. Douglas fir trees will be planted over all areas to be reclaimed to forestry and noxious weeds will be treated. Revegetation associated with the proposed reclamation will provide more complex habitat, vegetation, and structure for wildlife use as maturity and vegetation succession occurs and mitigate for that habitat and vegetation impacted through proposed mining activities. Reclamation will also have beneficial effects to downslope lands and habitats including aquatic resources and their associated riparian areas as natural processes are restored that reduce the potential for dust and particulates, sedimentation and runoff, and thus improved water quality functions.

Section I. Conclusions

As mentioned previously, degradation and/or detrimental effects to vegetation, wildlife habitat, and wildlife use began years before the currently proposed expansions to the quarry operating areas. The impacts and the effects on vegetation, wildlife habitat, and wildlife use within the vicinity of the project area began during prior uses of the project site and surrounding area and still exist to this day. These impacts and effects are associated with past and more recent forestry practices that include road building and multiple generations of timber harvests, cattle

grazing, communication tower construction and operation, and past and current authorized mining. More recently, with the current mining activities that were approved by Curry County (and DOGAMI) and which began in 2017, ongoing quarry operations have further impacted vegetation, wildlife habitat, and wildlife use through additional habitat removal, increased noise and vibrations, increased dust and/or impacts to air quality, and increased impacts from sediment and/or runoff. Since then, some wildlife has been habituating to these effects and continues to use the habitat that is present within the vicinity of the study area, whereas, other wildlife that may have been intolerant or less tolerant to these effects has migrated to nearby similar habitats, or began using available habitat at times outside of quarry operations (dawn, dusk, and/or at night). These habitats are not particularly unique or unusual and are relatively abundant within the general vicinity of the study area and the northern part of Curry County. None of the sensitive species that ODFW modeled as having habitat within the vicinity of the project area nor any of the species within known occurrences within the HUC-12 watershed would utilize the habitat that is present within the limits of the project area except incidentally, if at all.

With the mitigation measures in place through existing State and County regulatory requirements and existing operating and reclamation requirements imposed on the current mining operation, coupled with the mitigation measures proposed in the mining operation plan, stormwater pollution control plan, and reclamation plan to be implemented as conditions of County conditional use approval, it is TSI's conclusion and best professional judgment that the anticipated impacts and their effects to vegetation, wildlife habitat, and wildlife use within the study area (which includes the 250-foot offset outside of the proposed operating boundary) would be minimal. While physical displacement and/or removal of some vegetation and habitat will occur, sensitive areas (particularly wetlands and their associated 50-foot riparian corridor buffers) will be avoided entirely. Impacts from noise, vibration, dust, sediment, runoff, and/or other factors described herein will be minimal and mitigated through the implementation of the mitigation measures proposed in Section I. (above) and detailed further in the specific mining operation and stormwater pollution control plans. Cattle will be excluded from grazing the most sensitive wetland areas and their 50-foot riparian corridor buffers. Outside of the vegetation retention and restoration measures proposed, reclamation measures detailed in the reclamation plan will eventually re-establish vegetation and restore the bulk of the impacted habitats back to their forestry and grazing use within the limits of the proposed quarry operations area.

Specific to conclusions regarding potential impacts to fish habitat on affected rivers or streams and any necessary mitigation measures, TSI prepared a separate wetland delineation which identifies existing wetland areas within the limits of the proposed ±87.17-acre operating boundary. That report and field reconnaissance of the study area identified in this report confirmed that the delineated wetlands onsite eventually drain to offsite creeks and/or streams that are tributaries to creeks and/or streams with identified fish habitat. While this fish habitat

does not occur within the limits of the proposed operating boundary (nor within the 250-foot offset outside of the proposed operating boundary), it does occur downslope and offsite within Willow Creek (to the north) and Crystal Creek (to the southwest). To avoid any potential impacts and/or effects to these downstream resources, all delineated wetlands within the proposed ±87.17-acre operating boundary will be avoided and 50-foot riparian corridor buffers around them shall be established where no disturbances may occur. Furthermore, aquatic resources outside of the wetland delineation study area but within the 250-offset of the proposed operating boundary will also be avoided. Lastly, cattle will be excluded from the most sensitive areas of wetland and their 50-foot riparian corridor buffers. Combined with the other mitigation measures identified in this report and stormwater management measures identified in the proposed stormwater pollution control plan prepared by Westlake Consultants, Inc., impacts and/or effects to offsite fish habitat from quarry operations would be immeasurable.

LIMITATIONS OF THIS REPORT

This report does not define or specifically assess conditions beyond the identified study area located in unincorporated Curry County, Oregon and as depicted in the habitat assessment figures (Appendix A). This report makes no claim or conclusions about the conditions beyond the specified study area footprint.

The data presented in this report were collected, analyzed, and interpreted using standards of skill, care, and diligence ordinarily provided by the qualified professionals of Terra Science, Inc. The report findings are based on information from the landowner, quarry operator, project geologists, the observations of the project team, and the limitations of the methodologies identified in this report. The report findings and their significance should not be extrapolated beyond the immediate study area. Terra Science, Inc. shall not be liable beyond the fees paid for its services for errors and omissions.

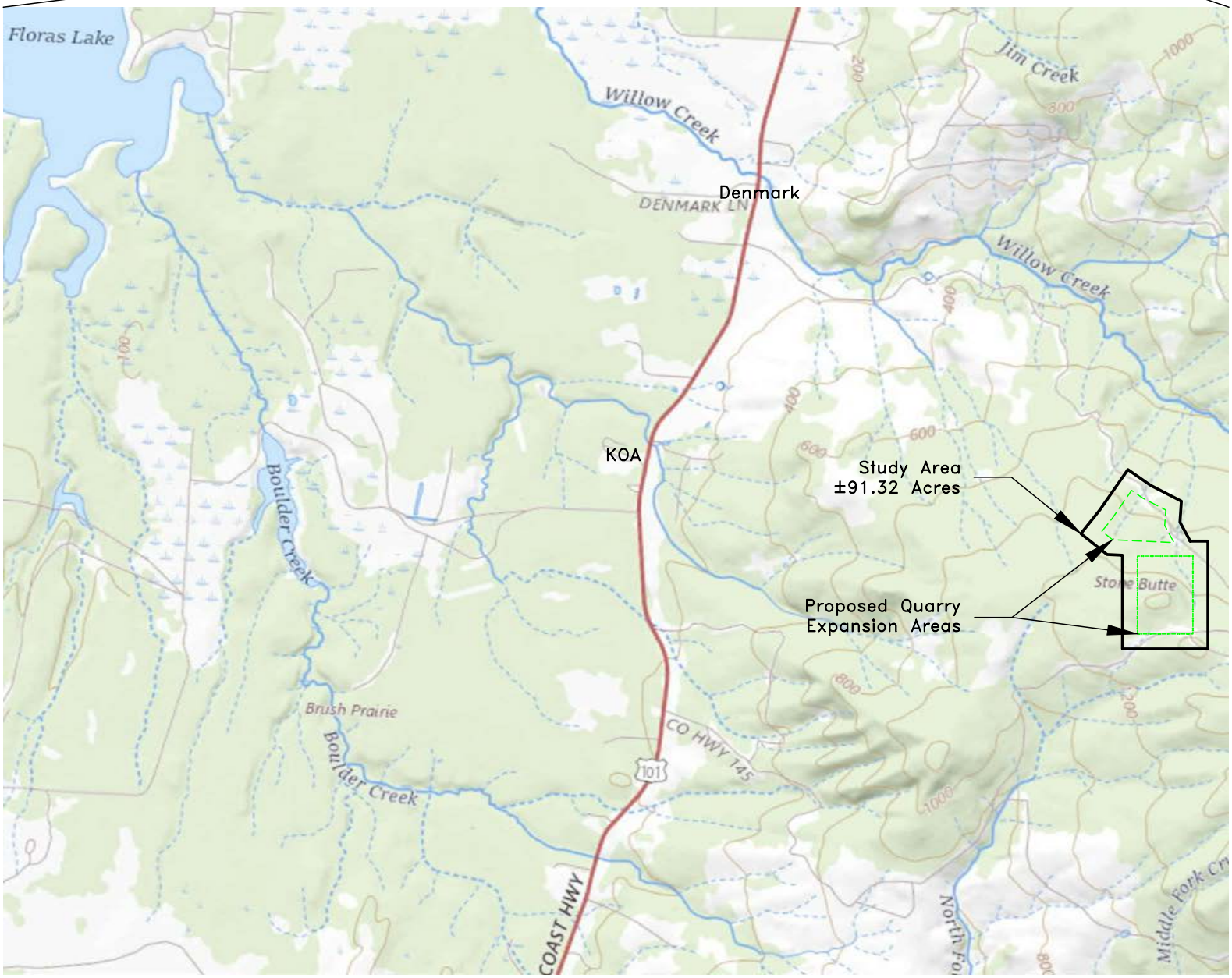
This report was generated for the express use of Stone Butte Rock LLC and their designates. These parties shall not interpret the report findings or conclusions any differently than stated without prior discussion with or consent from Terra Science, Inc.

Respectfully submitted,

Jason Clinch
Project Manager / Biologist

APPENDIX A

HABITAT ASSESSMENT FIGURES



DIRECTIONS: The existing quarry operation and proposed expansion areas lie approximately four miles south of Langlois and 2.25-miles east of Highway 101 (near milepost 292). The haul road is 0.15-miles south of the KOA campground located at 46612 U.S. 101 South, Langlois, Oregon. All road and site access must be coordinated with Applicant in accordance with safety protocol.

Centroid of the study area is approximated at 42.874000°N and −124.436000°W.

Source: U.S. Geological Survey National Map. 2021. Accessed at: <https://apps.nationalmap.gov/viewer/>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

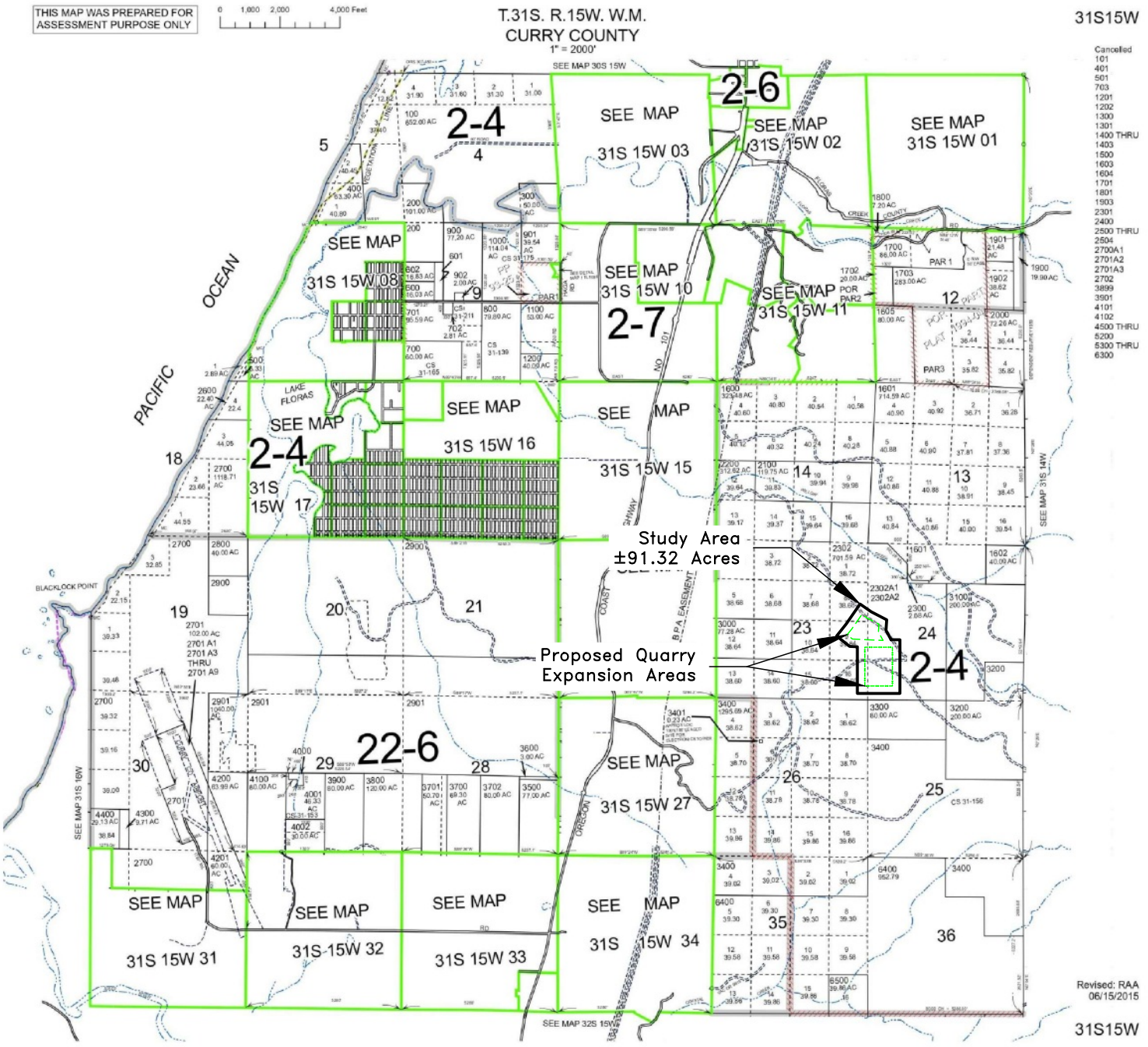
GRAPHIC SCALE
0 1,250 2,500
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

VICINITY MAP

FIGURE 1



Source: ORMAP website, Curry County Assessor's map no. 31S15W. 2021. Accessed at: <https://ormap.net/gis/index.html>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 2,500 5,000
(IN FEET)

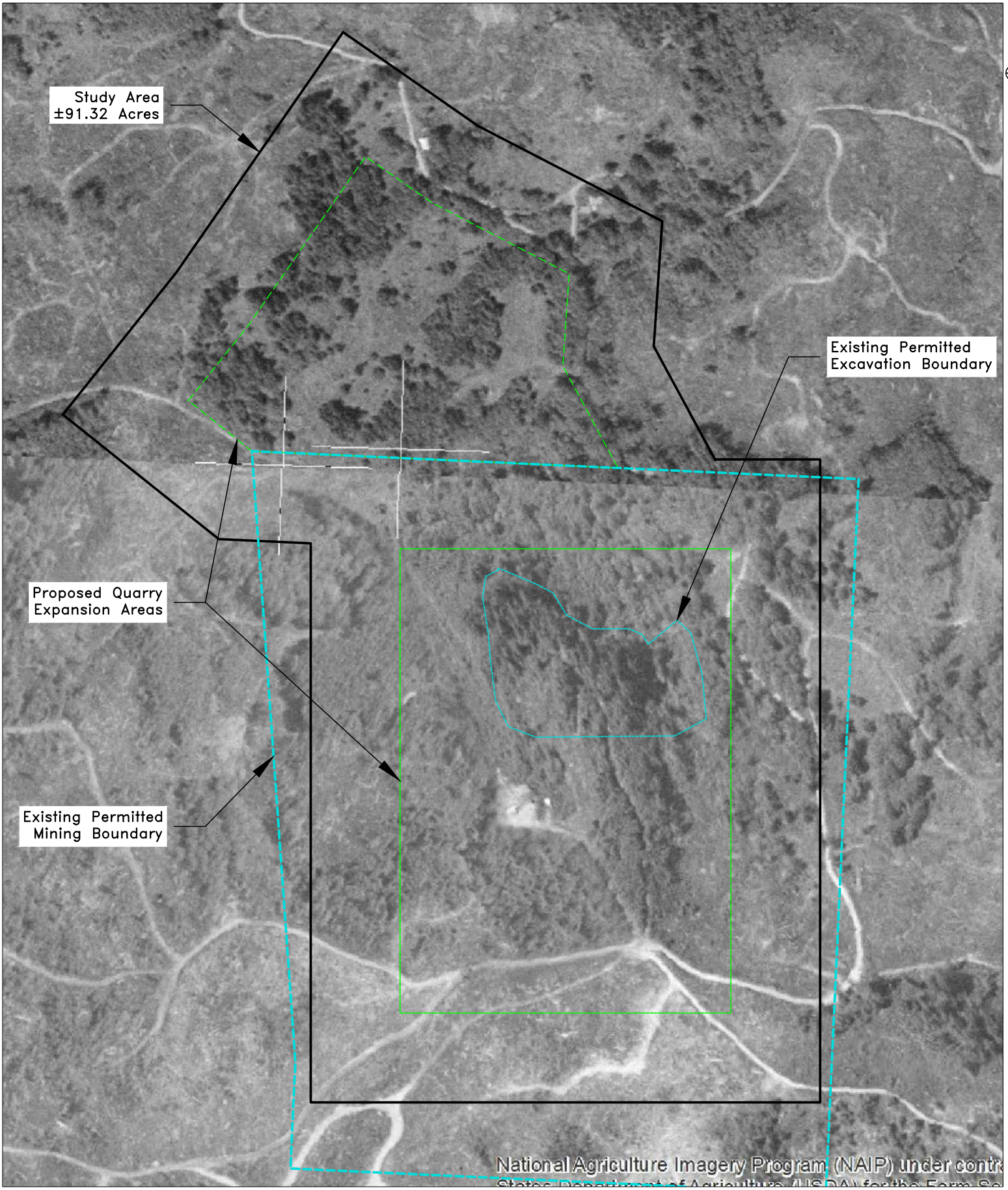
VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

TAX LOT MAP
31S 15W

Exhibit J
Page 31 of 60

FIGURE 2



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

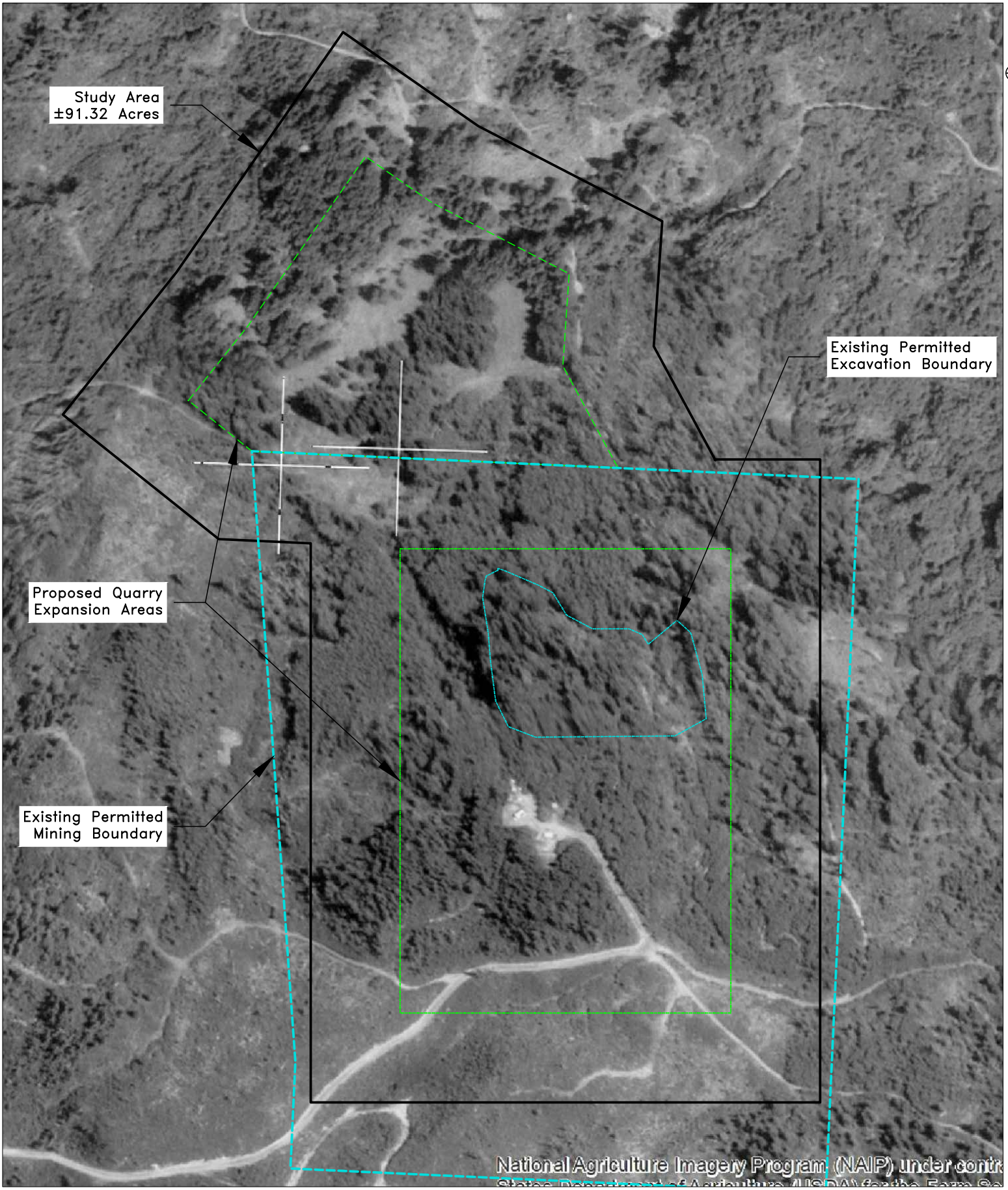
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

1995 AERIAL PHOTO

FIGURE 3.1



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

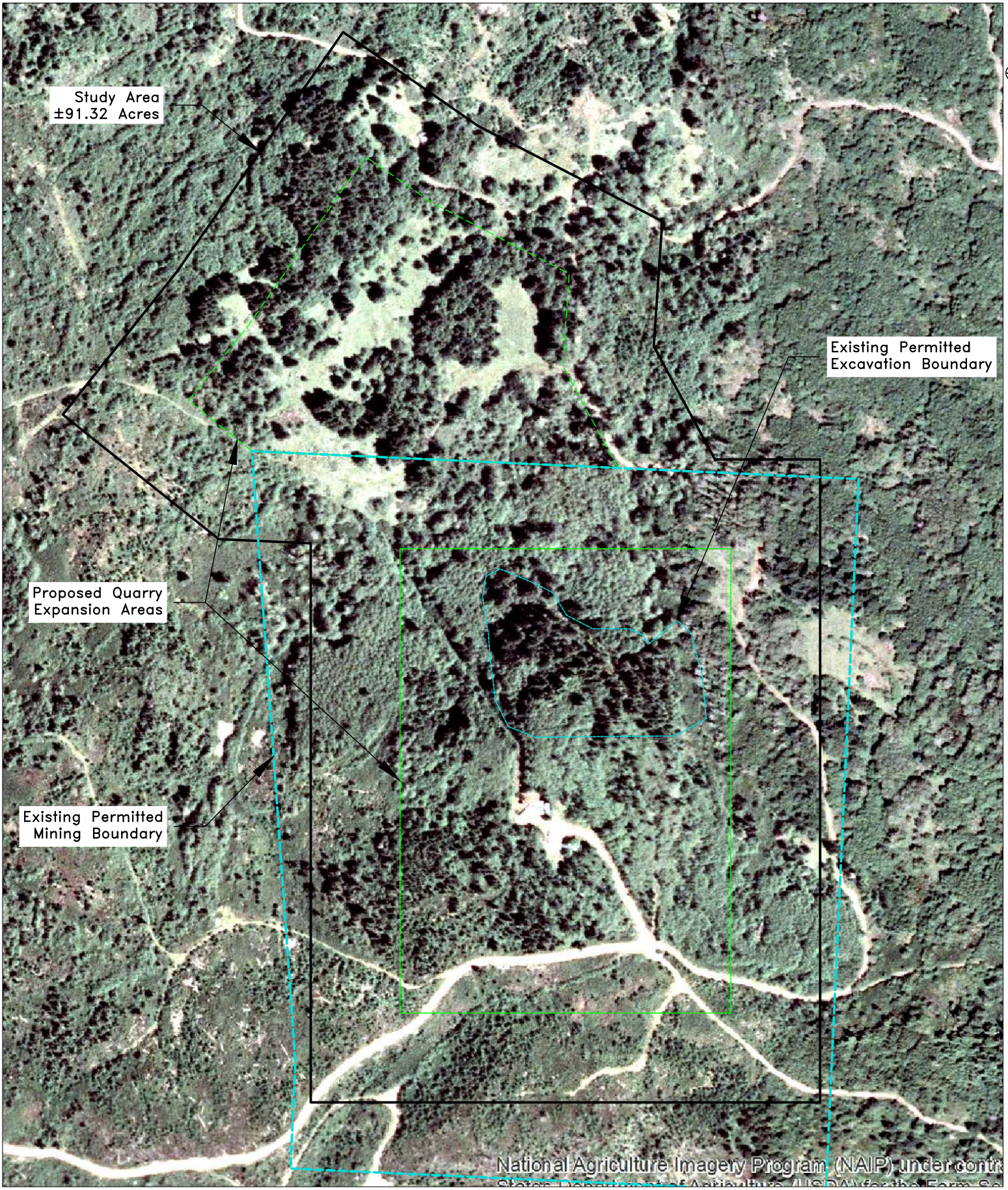
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2000 AERIAL PHOTO

FIGURE 3.2



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

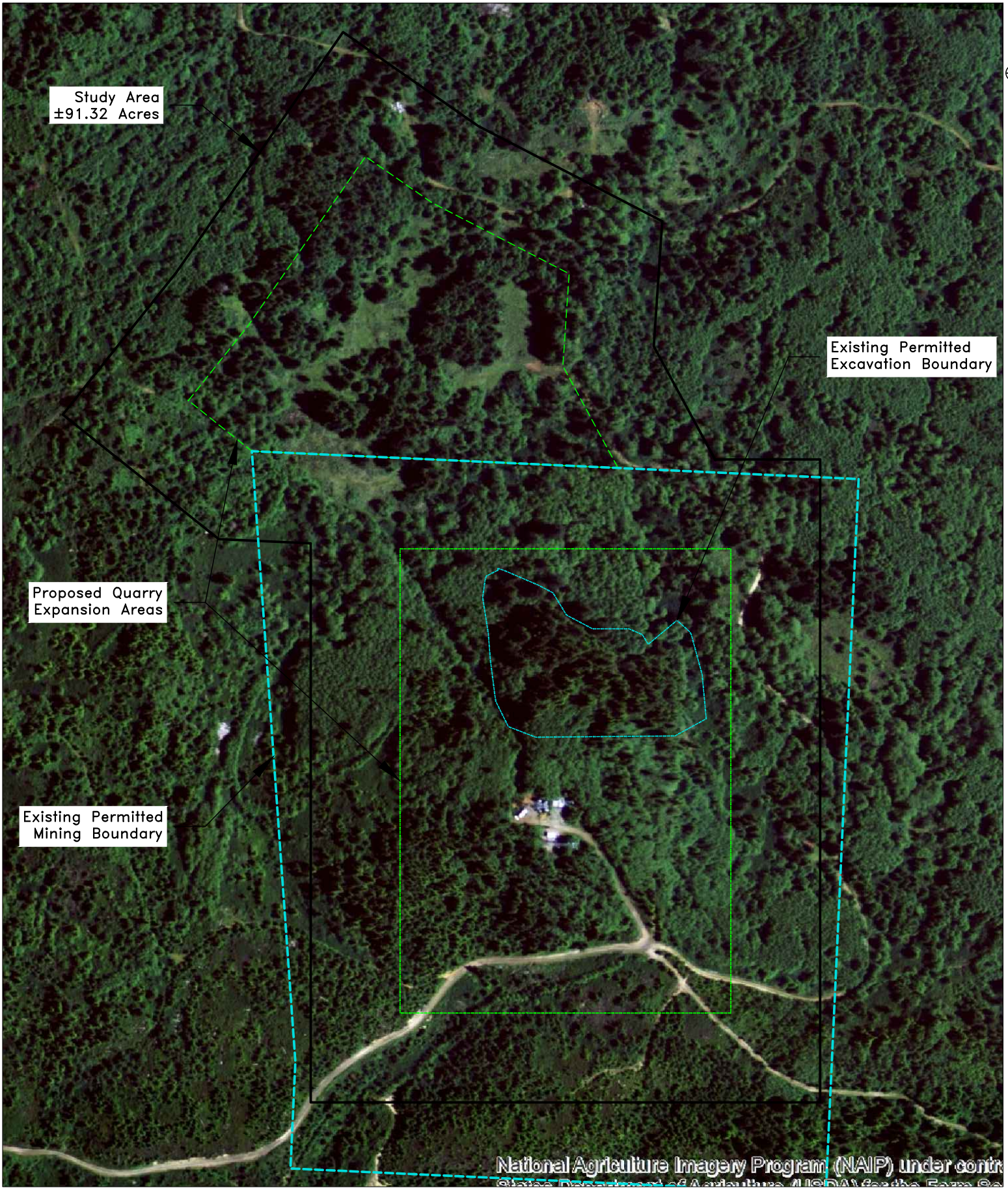
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2005 AERIAL PHOTO

FIGURE 3.3



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

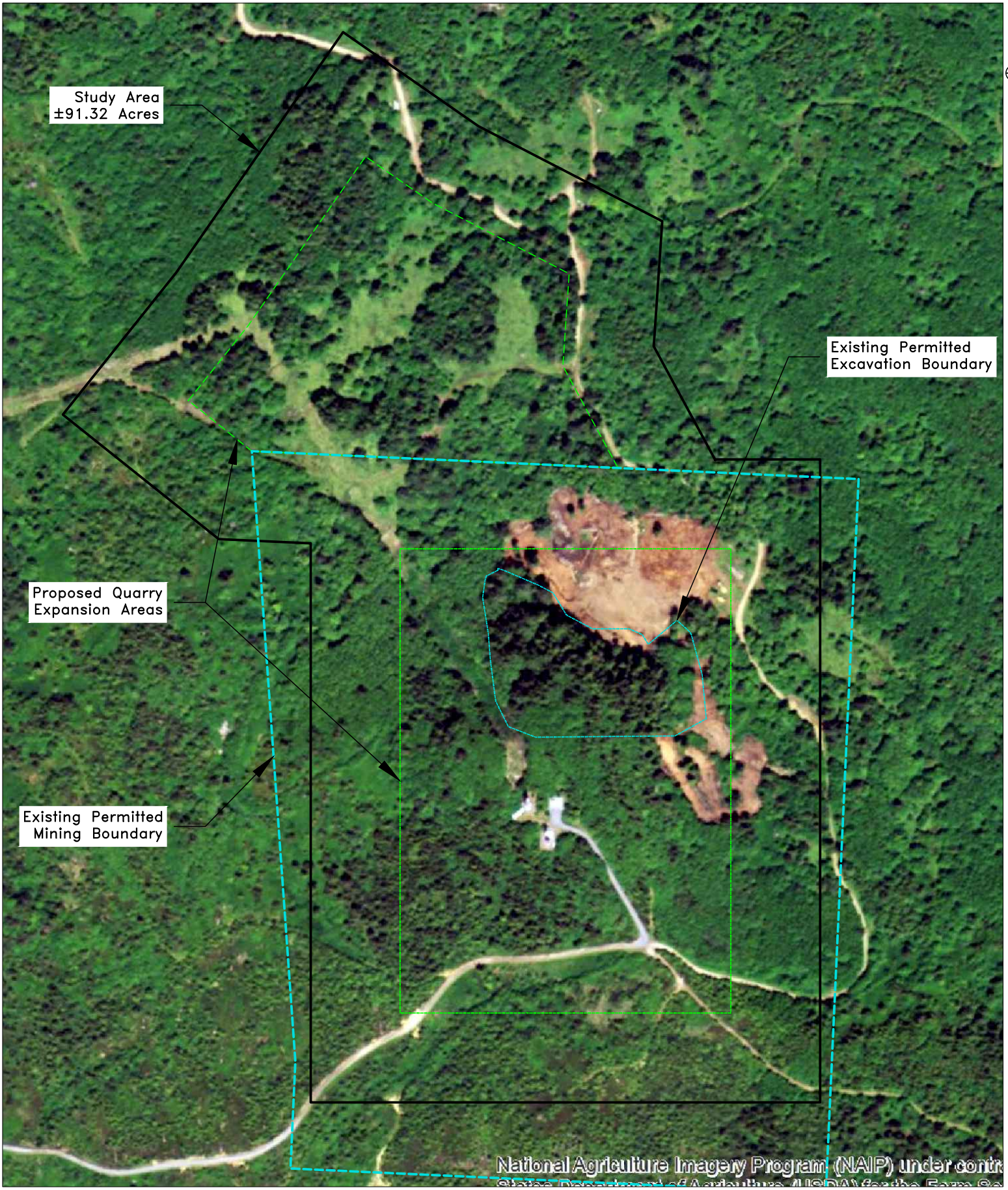
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2009 AERIAL PHOTO

FIGURE 3.4



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

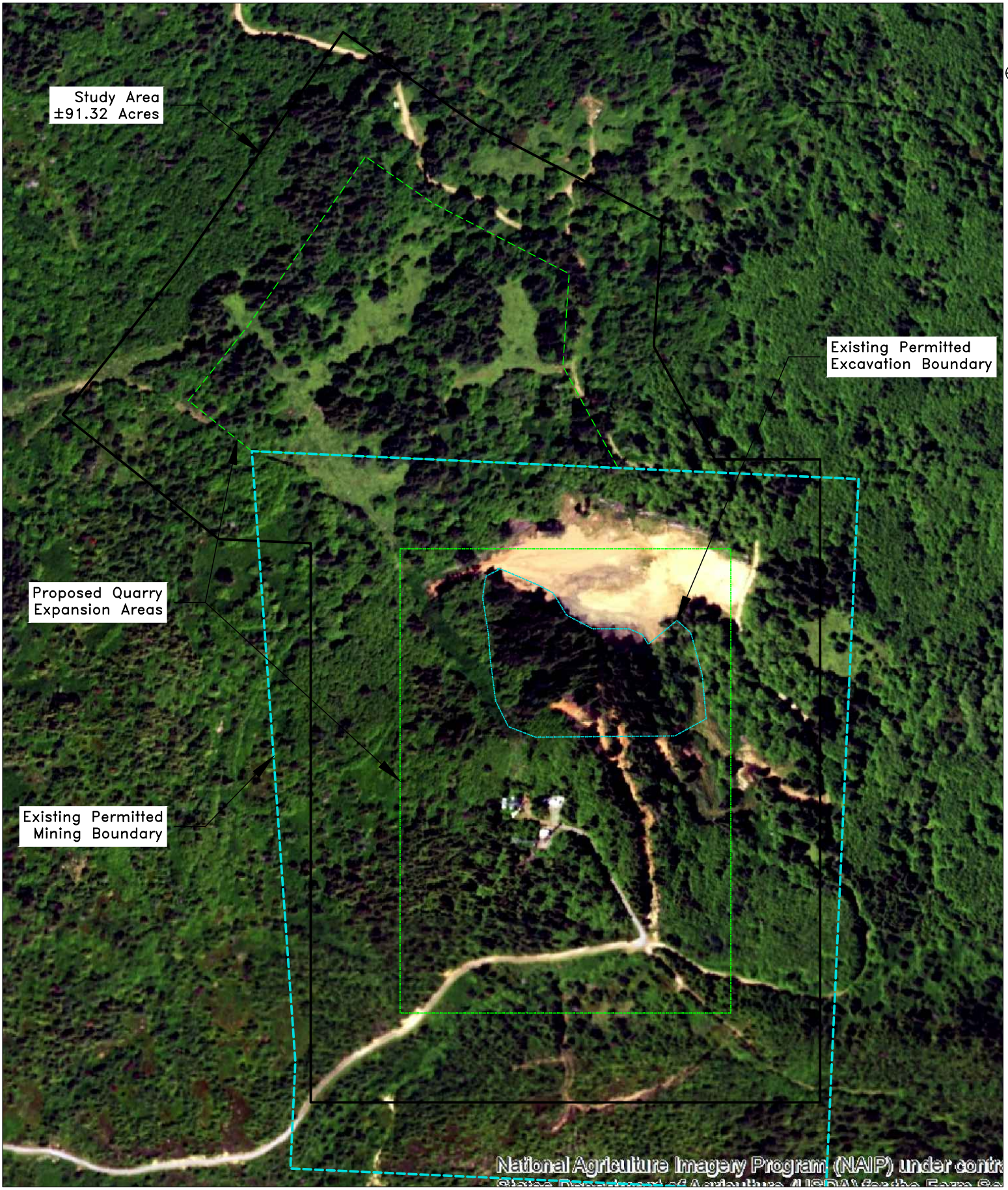
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2012 AERIAL PHOTO

FIGURE 3.5



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

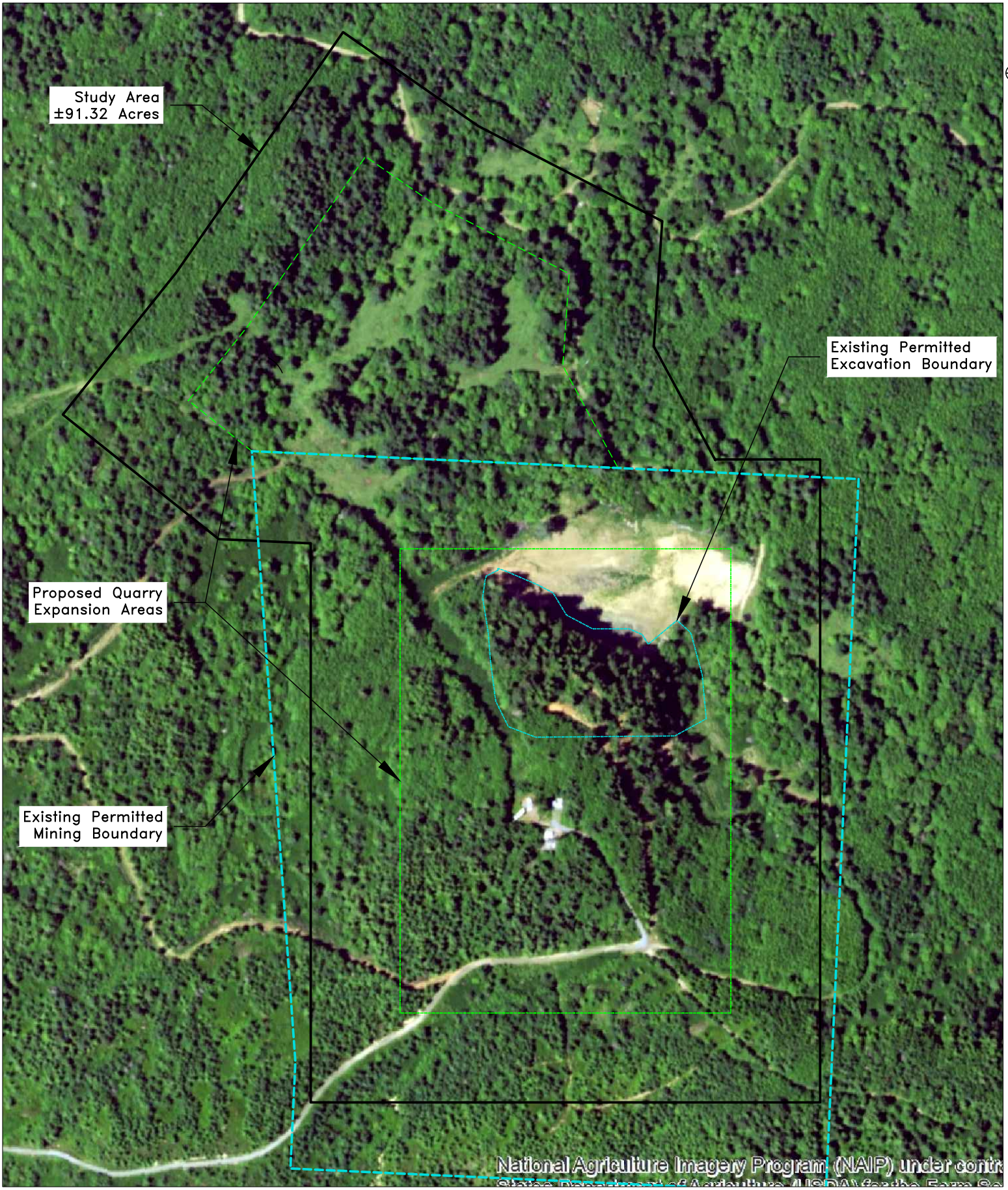
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2014 AERIAL PHOTO

FIGURE 3.6



Source: U.S. Department of Agriculture, Farm Service Agency, NAIP Imagery website, 2021. Accessed at: <https://gis.apfo.usda.gov/arcgis/rest/services>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2016 AERIAL PHOTO

FIGURE 3.7

Source: Oregon Statewide Imagery Program website, 2021. Accessed at: <https://www.oregon.gov/geo/Pages/imagery.aspx>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2018 AERIAL PHOTO

FIGURE 3.8

Source: Oregon Statewide Imagery Program website, 2021. Accessed at: <https://www.oregon.gov/geo/Pages/imagery.aspx>

Terra Science, Inc.
Soil, Water, & Wetland Consultants

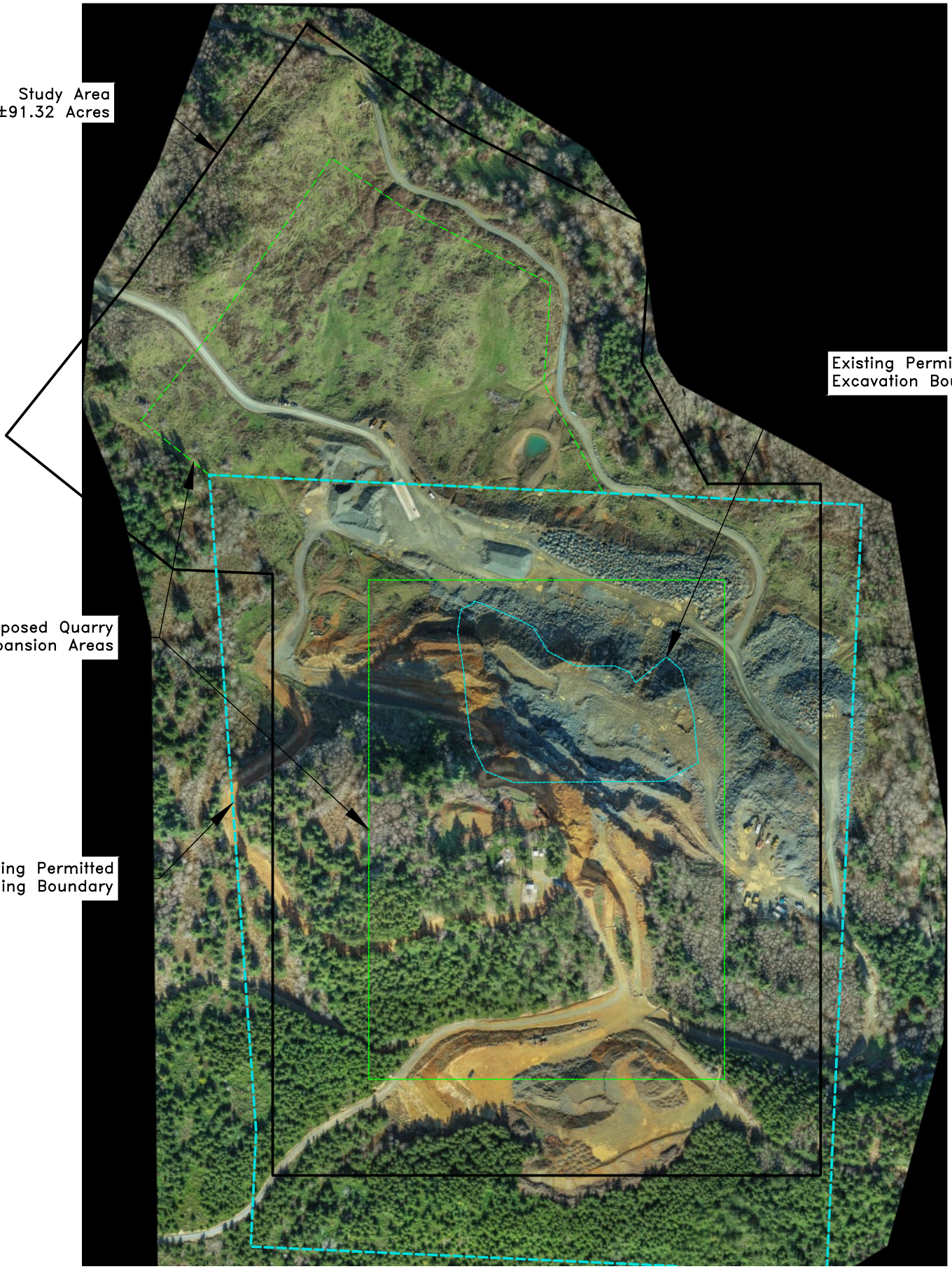
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2019 AERIAL PHOTO

FIGURE 3.9



Source: SFLands Aerial Flight Imagery, February 2021.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

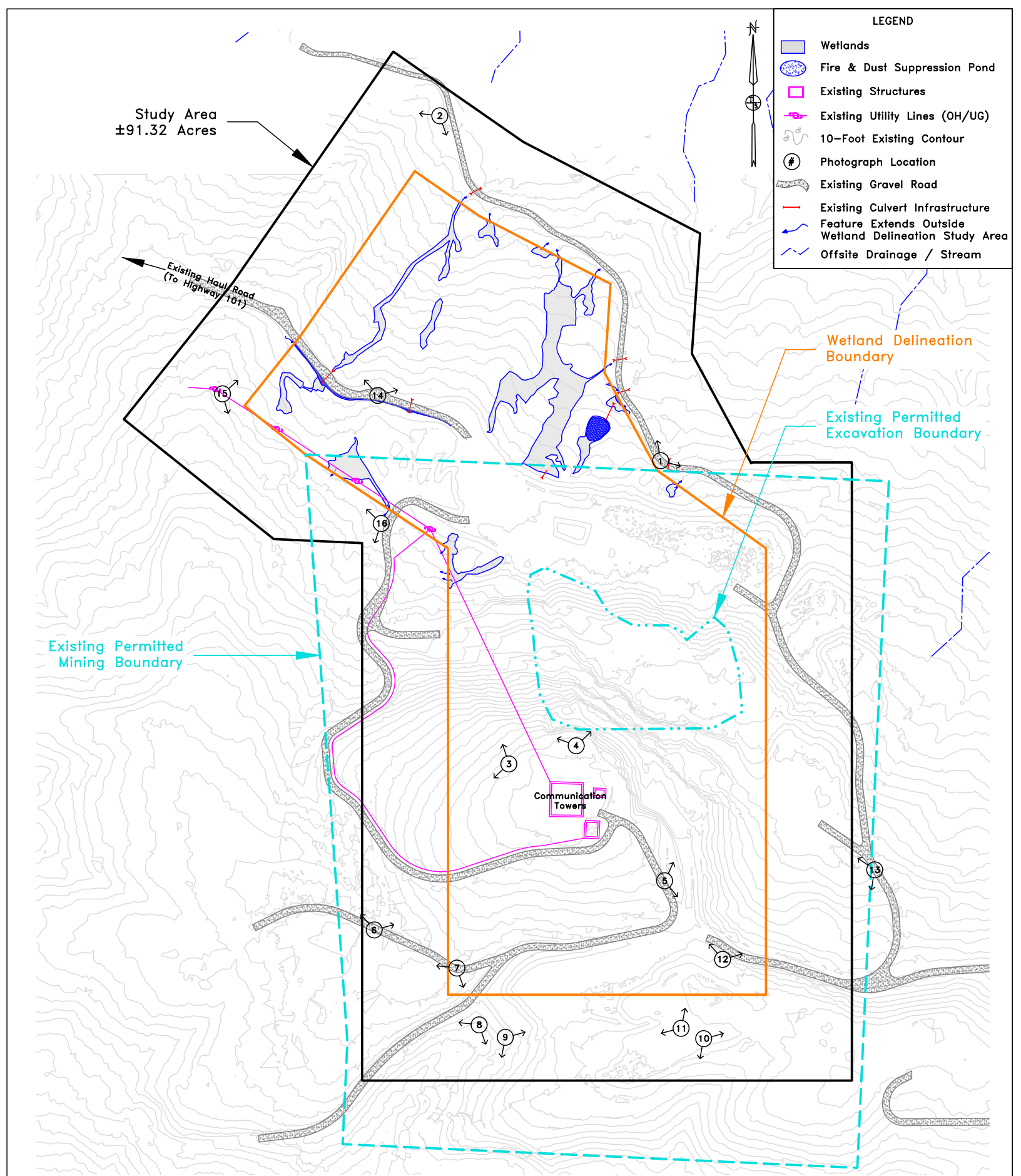
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

2021 AERIAL PHOTO

FIGURE 3.10



Source: Terra Science, Inc. Wetland Delineation Report for the Stone Butte Quarry Expansion. 2021.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

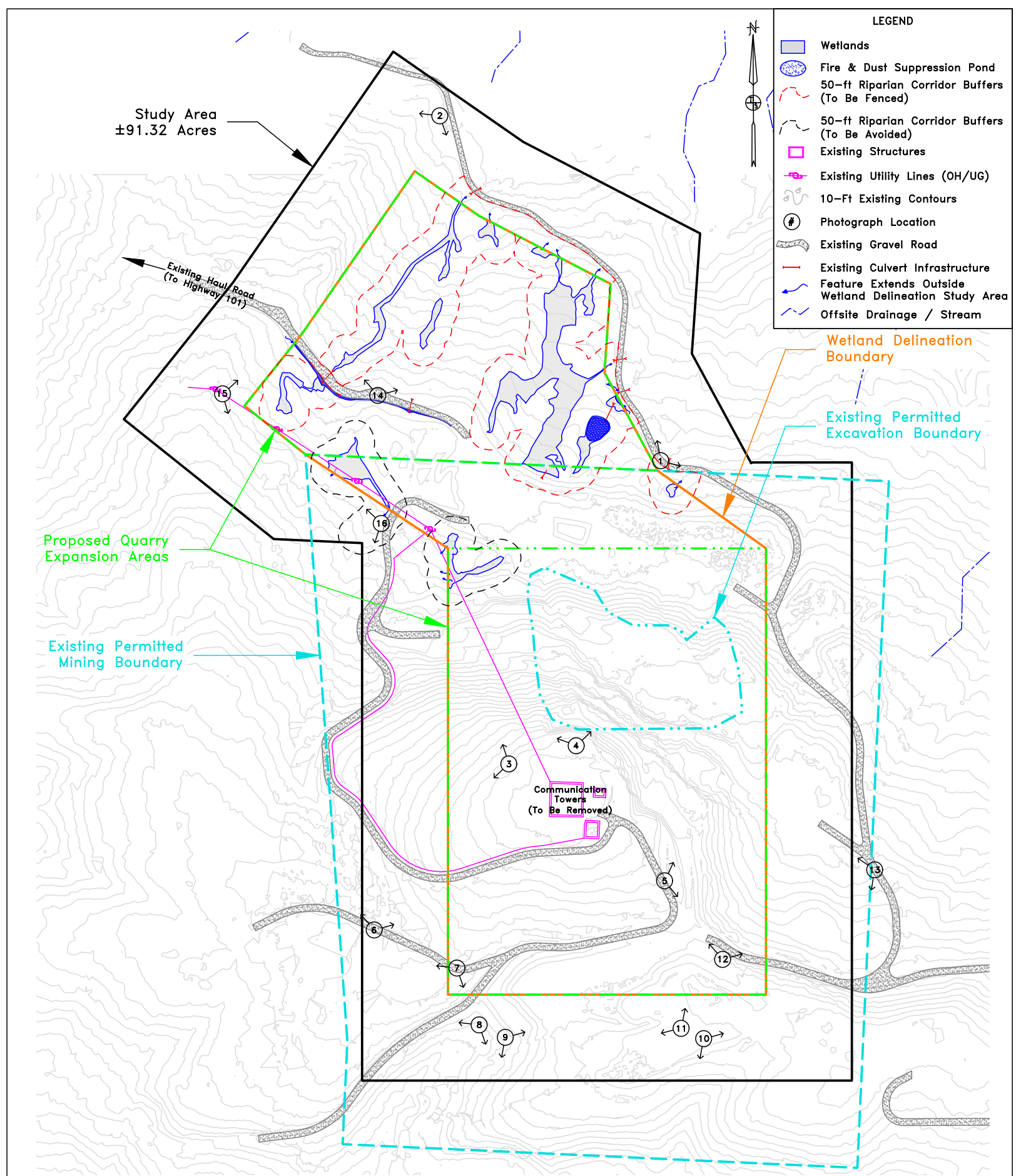
GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

EXISTING CONDITIONS

FIGURE 4



Source: Terra Science, Inc. Wetland Delineation Report for the Stone Butte Quarry Expansion. 2021.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

GRAPHIC SCALE
0 175 350
(IN FEET)

VEGETATION, WILDLIFE, & FISH HABITAT ASSESSMENT AND IMPACT ASSESSMENT REPORT FOR THE STONE BUTTE QUARRY EXPANSION ON PORTION OF TAX LOT 2302, T. 31S R. 15W
Curry County, Oregon

July 2021

PROPOSED CONDITIONS

FIGURE 5

APPENDIX B

GROUND LEVEL COLOR PHOTOGRAPHS

Photo Point 1 (above): Northwest to southeast facing photo of northeast part of study area showing the mostly mixed hardwood forest habitat that occurs below the road. A few patches of mixed conifer forest habitat occur in this part of the site along with dense scrub-shrub woodland habitat dominated by Himalayan blackberry along the edges of forest.

Photo Point 2 (above): South to west facing view of northwest part of study area showing the mosaic of grazed/disturbed meadow habitat and scrub-shrub woodland habitat. This area was recently cut and cleared (in 2017) to expand grazing areas but Himalayan blackberry has quickly encroached into it.

Photo Point 3 (above): West to northwest facing view of upper slopes on the northwest side of Stone Butte showing areas of recent placed overburden in the foreground and areas of mixed hardwood forest habitat and mixed conifer forest habitat in the background. This area was cleared of vegetation in 2019 or 2020 to place overburden and in preparation of quarry expansion. The areas of recently placed overburden in this photo are transitioning from active quarry surface habitat to disturbed meadow habitat.

Photo Point 4 (above): Northwest to north facing view of upper slopes on the north side of Stone Butte in the foreground and recently cleared mosaic of grazed/disturbed meadow habitat and scrub-shrub woodland habitat between the roads around the quarry operations. This area was cleared of vegetation in 2019 or 2020 in preparation of quarry expansion and best meets disturbed meadow habitat category. Of note, similar habitats as what is found within the study area can be seen on the slopes in the background of the photo.

Photo Point 5 (above): East facing view of upper slopes on the east side of Stone Butte (beyond the road) which is mostly mixed hardwood forest habitat. Areas to the southeast (right background) are densely planted mixed conifer forest habitat typical of areas used for timber production.

Photo Point 6 (above): North facing view of lower slope on the west side of Stone Butte depicting dense scrub-shrub woodland habitat dominated by salmonberry (in foreground) and mixed hardwood forest habitat (in background).

Photo Point 7 (above): South facing view of lower slope on the southwest side of Stone Butte depicting area of densely planted mixed conifer forest habitat typical of areas used for timber production.

Photo Point 8 (above): Southwest facing view of mixed hardwood forest habitat in draw below overburden stockpile in southwest part of study area. Adjacent slopes are composed of densely planted mixed conifer forest habitat typical of areas used for timber production.

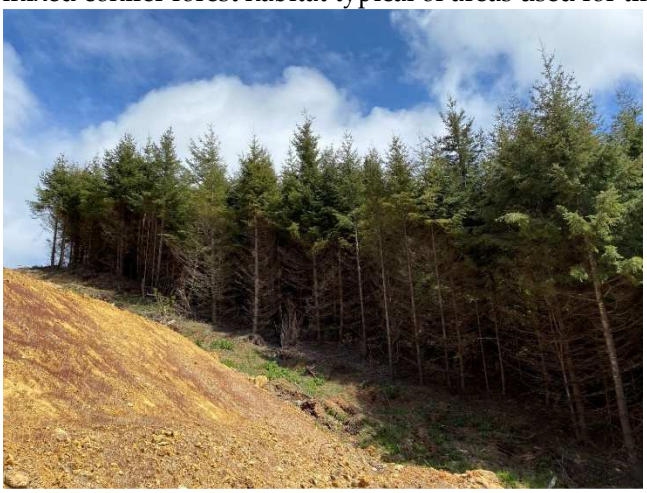


Photo Point 9 (above): East facing view of slopes south of Stone Butte in southern part of study area. Much of this area outside of active quarry surface habitat associated with overburden stockpiles is dominated by densely planted mixed conifer forest habitat typical of areas used for timber production.

Photo Point 10 (above): Southeast to southwest facing view of south and southeast part of study area showing active quarry surface habitat associated with overburden stockpiles and area of densely planted mixed conifer forest habitat.

Photo Point 11 (above): Southwest to north facing view of study area showing active quarry surface habitat associated with overburden stockpiles (in foreground) and upper souther slopes of Stone Butte dominated by mixed conifer forest habitat.

Photo Point 12 (above): Northwest to northeast facing view of southeastern part of study area showing a line of mixed conifer forest habitat above areas of mixed hardwood forest habitat. Active quarry surface habitat in foreground is associated with overburden stockpiles.

Photo Point 13 (above): West facing view of lower slopes in southeast part of study area that are dominated by mixed hardwood forest habitat.

Photo Point 14 (above): Northwest to east facing view of lower slopes in in the north part of study area that are a mosaic of disturbed/grazed meadow habitat and scrub-shrub woodland habitat. Much of the scrub-shrub woodland habitat is dominated by Himalayan blackberry.

Photo Point 15 (above): Southeast facing view of powerline corridor in west part of study area. Areas of disturbed/grazed meadow habitat and scrub-shrub woodland habitat occupy the corridor and adjacent areas along with mixed hardwood forest habiat (at right).

Photo Point 16 (above): Southwest to northwest facing view of west part of study area northwest of Stone Butte. The transition from active quarry surface habitat to disturbed/grazed meadow habitat then to mixed hardwood forest habitat can be seen in this photo.

APPENDIX C

VASCULAR PLANT AND WILDLIFE INVENTORY

Vascular Plants

Trees		
Common Name	*Scientific Name*	Nativity[1]
Red alder	*Alnus rubra*	N
Incense cedar	*Calocedrus decurrens*	N
Sitka spruce	*Picea sitchensis*	N
Douglas fir	*Pseudotsuga menziesii* var. *menziesii*	N
Western red cedar	*Thuja plicata*	N
Western hemlock	*Tsuga heterophylla*	N
Shrubs		
Common Name	*Scientific Name*	Nativity[1]
Pacific madrone	*Arbutus menziesii*	N
Cascade Oregon grape	*Berberis nervosa*	N
Salal	*Gaultheria shallon*	N
Oceanspray	*Holodiscus discolor*	N
Cherry	*Prunus* sp.	?
Cascara	*Rhamnus purshiana*	N
Pacific rhododendron	*Rhododendron macrophyllum*	N
Red-flowering currant	*Ribes sanguineum*	N
Baldhip rose	*Rosa gymnocarpa* var. *gymnocarpa*	N
Himalayan blackberry	*Rubus bifrons*	I
Thimbleberry	*Rubus nutkanus*	N
Salmonberry	*Rubus spectabilis*	N
Scouler's willow	*Salix scouleriana*	N
Pacific red elderberry	*Sambucus racemosa* var. *arborescens*	N
Evergreen huckleberry	*Vaccinium ovatum*	N
Red huckleberry	*Vaccinium parvifolium*	N
Forbs, Herbs, Ferns, Horsetails, & Clubmosses		
Common Name	*Scientific Name*	Nativity[1]
Small-flowered lotus	*Acmispon parviflorus*	N
Pearly everlasting	*Anaphilis margaritacea*	N
Littleleaf pussytoes	*Antennaria microphylla*	N
Long-tailed wild ginger	*Asarum caudatum*	N
Lady fern	*Athyrium felix-femina* var. *cyclosorum*	N
Yellow parentucellia	*Bellardia viscosa*	NN
English daisy	*Bellis perennis*	NN
Water star-wort	*Callitriche* sp.	N
Angle-leaved bittercress	*Cardamine angulata*	N
California toothwort	*Cardamine californica*	N
Few-seed bittercress	*Cardamine oligosperma*	N
Field chickweed	*Cerastium arvense* ssp. *strictum*	N
Fireweed	*Chamaenerion angustifolium*	N
Canada thistle	*Cirsium arvense*	I
Bull thistle	*Cirsium vulgare*	I
Miner's lettuce	*Claytonia perfoliata*	N
Candyflower	*Claytonia siberica*	N

Pacific bleeding heart	*Dicentra formosa* ssp. *formosa*	N
Foxglove	*Digitalis purpurea*	NN
Pacific willowherb	*Epilobium ciliatum* ssp. *watsonii*	N
Horsetail	*Equisetum* sp.	N
Common monkeyflower	*Erythranthe guttata*	N
Cleavers	*Galium aparine*	N
Cut-leaf geranium	*Geranium dissectum*	NN
Dovefoot geranium	*Geranium molle*	NN
Giant rattlesnake plantain	*Goodyera oblongifolia*	N
Rosy birds-foot trefoil	*Hosackia rosea*	N
Bog St. John's wort	*Hypericum anagalloides*	N
Common St. John's wort	*Hypericum perforatum*	I
Smooth cat's-ear	*Hypochaeris glabra*	NN
Hairy cat's-ear	*Hypochaeris radicata*	NN
Douglas iris	*Iris douglasiana*	N
Ox-eye daisy	*Leucanthemum vulgare*	NN
Narrow leaved flax	*Linum bienne*	NN
Common bird's-foot trefoil	*Lotus corniculatus*	NN
Riverbank lupine	*Lupinus rivularis*	N
Skunk cabbage	*Lysichiton americanus*	N
Western starflower	*Lysimachia latifolia*	N
Beadruby	*Maianthemum dilatatum*	N
Oregon bigroot	*Marah oregana*	N
Pennyroyal	*Mentha pulegium*	NN
Lineleaf Indian lettuce	*Montia linearis*	N
Water parsley	*Oenanthe sarmentosa*	N
Mountain sweet cicely	*Osmorhiza berteroi*	N
Oregon wood sorrel	*Oxalis oregana*	N
Great oxalis	*Oxalis trilliifolia*	N
Buckhorn plantain	*Plantago lanceolata*	NN
Common plantain	*Plantago major*	NN
Licorice fern	*Polypodium glycyrrhiza*	N
Sword fern	*Polystichum munitum*	N
Hooker's fairy bells	*Prosartes hookeri*	N
Common selfheal	*Prunella vulgaris* var. *lanceolata*	N
Bracken fern	*Pteridium aquilinum*	N
Double flowered creeping buttercup	*Ranunculus repens*	NN
Little buttercup	*Ranunculus uncinatus*	N
Trailing blackberry	*Rubus ursinus*	N
Sheep sorrel	*Rumex acetosella*	NN
Western dock	*Rumex occidentalis*	N
Pacific snakeroot	*Sanicula crassicaulis*	N
California figwort	*Scrophylaria californica*	N
Spikemoss	*Selaginella* sp.	N
Tansy ragwort	*Senecio jacobaea*	I
Wood groundsel	*Senecio sylvaticus*	NN

Great betony	*Stachys mexicana*	N
Fringecup	*Tellima grandiflora*	N
Diploid piggyback plant	*Tolmiea diplomenziesii*	N
Little hop clover	*Trifolium dubium*	NN
Alsike clover	*Trifolium hybridum*	NN
Dutch clover	*Trifolium repens*	NN
Subclover	*Trifolium subterraneum*	NN
Dwarf owl clover	*Triphysaria pusilla*	N
White inside-out flower	*Vancouveria hexandra*	N
Thyme-leaved speedwell	*Veronica serpyllifolia* var. *serpyllifolia*	N
Common vetch	*Vicia sativa*	NN
Pioneer violet	*Viola glabella*	N
Evergreen violet	*Viola sempervirens*	N
Monterey centaury	*Zeltnera muehlenbergii*	N
Grasses, Sedges, & Rushes		
Common Name	*Scientific Name*	Nativity[1]
Browntop	*Agrostis capillaris*	NN
Water foxtail	*Alopecurus geniculatus*	N
Sweet vernalgrass	*Anthoxanthum odoratum*	NN
Soft chess	*Bromus hordeaceus*	NN
Timber sedge	*Carex hendersonii*	N
Sedge	*Carex* sp.	N
Crested dogtail	*Cynosurus cristatus*	NN
Orchard grass	*Dactylis glomerata*	NN
Red fescue	*Festuca rubra* ssp. *rubra*	NN
Velvet grass	*Holcus lanatus*	NN
Toad rush	*Juncus bufonius* var. *bufonius*	N
Common rush	*Juncus effusus* ssp. *pacificus*	N
Dagger-leaved rush	*Juncus ensifolius*	N
Ryegrass	*Lolium* sp.	NN
Woodrush	*Luzula* sp.	N
Oniongrass	*Melica* sp.	N

[1]Nativity: N – Native NN – Non-Native I – Invasive[2]

[2]Invasive: Oregon Department of Agriculture's 'A', 'B,' and 'T,' listed weeds for the state of Oregon.

Wildlife Observations

Birds	
Common Name	*Scientific Name*
Red-tailed hawk	*Buteo jamaicensis*
Anna's hummingbird	*Calypte anna*
American goldfinch	*Carduelis tristis*
Turkey vulture	*Cathartes aura*
Hermit thrush	*Catharus guttatus*
Swainson's thrush	*Catharus ustulatus*
Northern flicker	*Colaptes auratus*
American crow	*Corvus brachyrhynchos*

Steller's jay	*Cyanocitta stelleri*
Pileated woodpecker	*Dryocopus pileatus*
Common yellowthroat	*Geothlypis trichas*
Yellow-breasted chat	*Icteria virens*
Dark-eyed junco	*Junco hyemalis*
Song sparrow	*Melospiza melodia*
Band-tailed pigeon	*Patagioenas fasciata*
Spotted towhee	*Pipilo maculatus*
Black-capped chickadee	*Poecile atricapillus*
Rufous hummingbird	*Selasphorus rufus*
Red-breasted nuthatch	*Sitta canadensis*
Tree swallow	*Tachycineta bicolor*
Violet-green swallow	*Tachycineta thalassina*
Bewick's wren	*Thryomanes bewickii*
American robin	*Turdus migratorius*
White-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
Cow (tracks and scat)	*Bos taurus*
Coyote (scat)	*Canis latrans*
Elk (tracks and scat)	*Cervus elaphus*
Columbian black-tailed deer	*Odocoileus hemionus columbianus*
Brush rabbit	*Sylvilagus bachmani*
Black bear (scat)	*Ursus americanus*
Reptiles	
Western terrestrial garter snake	*Thamnophis elegans vagrans*
Common garter snake	*Thamnophis sirtalis*

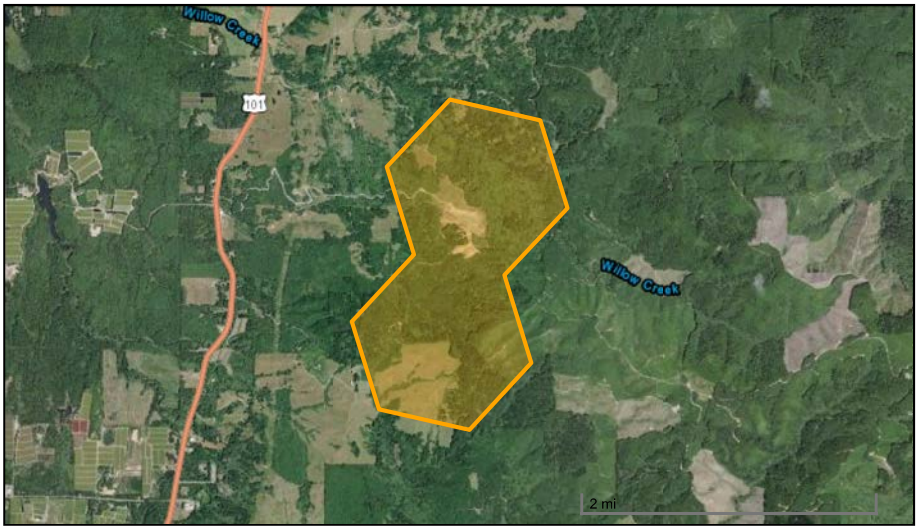
APPENDIX D

OREGON CONSERVATION STRATEGY REPORT

ODFW Compass
Oregon Conservation Strategy Report

Stone Butte

Jun 18, 2021



Leaflet | Sources: ESRI, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, and the GIS User Community

Area mi^2: 2

Ecoregions:
- Coast Range

Conservation Opportunity Areas:
- None

Strategy Habitats:
- Late Successional Mixed Conifer Forests
- Flowing Water and Riparian Habitats

Documented Strategy Fish:
- Western Brook Lamprey

Observed Strategy Wildlife:
- Peregrine Falcon (American)
- Foothill Yellow-legged Frog
- Harlequin Duck
- Marbled Murrelet
- Townsend's Big-eared Bat
- Western Lily

Modeled Strategy Wildlife Habitat:
- California Myotis
- Clouded Salamander
- Coastal Tailed Frog
- Del Norte Salamander
- Fisher
- Foothill Yellow-legged Frog
- Fringed Myotis
- Hoary Bat
- Long-legged Myotis
- Marbled Murrelet
- Northern Spotted Owl
- Olive-sided Flycatcher
- Red Tree Vole
- Ringtail
- Silver-haired Bat
- Southern Torrent Salamander
- Townsend's Big-eared Bat
- Western Pond Turtle
- Purple Martin
- Western Toad

For information on data sources see http://dfw.state.or.us/maps/compass/reportingtool.asp

APPENDIX E

LITERATURE CITATIONS

Autodesk, Inc. 2021. AutoCAD LT 2021.

Curry County Assessor. 2021. Assessor Map T. 31S, R. 014W, W.M. Curry County, Oregon.

Curry County, Oregon. 2021. Community Development Code, Article IV – Development Standards / 422 – Significant Natural Resources. Available at: https://library.municode.com/or/washington_county/codes/community_development_code?nodeId=ARTIVDEST_422SINARE

Federal Geographic Data Committee, Vegetation Subcommittee. 2019. United States National Vegetation Classification. United States National Vegetation Classification Database, V2.03. Accessed at: https://usnvc.org.

Google Earth Pro 7.3.2. 2021. Various Dates.

James S. Kagan, Rachel L. Brunner, and John A. Christy. 2019. Classification of the Native Vegetation of Oregon. Oregon Biodiversity Information Center, Portland, OR, USA. 109 pp.

Kuper Consulting. 2021. Oregon Department of Geology and Mineral Industries Operating Permit Application Form, Division 30 & Division 35 for Stone Butte Rock, LLC.

Oregon Biodiversity Information Center. 2021. Search results for rare, threatened, and endangered plants, animals, and fungi in the vicinity of Curry County at 42.873627 N and 124.435850 W. Institute for Natural Resources, Portland State University, Portland, Oregon

Oregon Department of Fish and Wildlife. 2021. Oregon Conservation Strategy website. Accessed at: https://oregonconservationstrategy.org

Oregon Department of State Lands. Statewide Wetlands Inventory, 2021. Accessed at: https://maps.dsl.state.or.us/swi/

Oregon Department of Geology and Mineral Industries. 2019. Operating Permit (ID No.: 08-0064) for Stone Butte Quarry, Curry County, Oregon.

Terra Science, Inc. 2021. Wetland Delineation Report for Portion of Tax Lot 2302, T. 31S, R. 15W, NE 1/4 & SE1/4 Sec. 23, Langlois, Curry County, Oregon.

U. S. Department of Agriculture, Farm Service Agency. National Agriculture Imagery Program (NAIP) Aerial Photography. Various Dates.

U. S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey, 2021. Accessed at: https://websoilsurvey.sc.egov.usda.gov/.

U.S. Fish and Wildlife Service. Wetlands Mapper. Branch of Resource and Mapping Support. Available at: http://www.fws.gov/wetlands/Data/Mapper.html.

U. S. Geological Survey. 2021. National Map. Available at: https://apps.nationalmap.gov/viewer/

U.S. Geological Service. 1996. Sixes 7.5 minute Quadrangle, Curry County, Oregon. Accessed via U.S.G.S. Online Store. https://store.usgs.gov/map-locator

Westlake Consultants, Inc. 2021. Stone Butte Quarry Amendment to Mining Operations and Reclamation Plan Set (DOGAMI ID 08-0064)

Westlake Consultants, Inc. 2021. Stormwater Pollution Control Plan for Stone Butte Quarry

PROPOSED CONDITIONS OF APPROVAL

1. Excavation shall be limited to the areas identified for such activity on the applicants proposed site plan entitled "Conditional Use Site Plan."

2. The applicant shall follow all fire season rules, including cessation of operations during periods of extreme fire danger, unless specifically authorized by ODF to continue operations during those periods of extreme fire danger. A water truck shall be on site and available for fire suppression.

3. All access routes (roads) shall be maintained to reduce dust and noise caused by equipment and vehicles. A water truck shall be on site and available for dust suppression.

4. Any surface waters used or impacted by the operations shall be managed in accordance with stormwater requirements related to the Department of Environmental Quality (DEQ) and the DOGAMI Operating Permit associated with the proposed expansion areas and the NPDES 1200 A Permit.

5. The applicant/owner must comply with the Stormwater Pollution Control Plan prepared by Westlake Consultants, dated July 2021 and as modified by DOGAMI and/or DEQ.

6. In the event that buried cultural deposits are encountered during the project activities, the applicant/owner must comply with ORS 97.740-760 and ORS 358.905-961.

7. Quarry operations shall be limited to daylight hours and no operations will be permitted on Sundays or holidays (Thanksgiving, Memorial Day, Fourth of July, Labor Day). Equipment maintenance and similar activities can continue after operation hours.

8. The access road to the quarry operations shall be gated and locked when not in use.

9. Mining, processing, and vegetative disturbance on site must not occur within 50 feet of the wetland areas and stream swales/drainages depicted in the wetland delineation report prepared by Terra Science, Inc. dated July 2021.

10. The applicant/owner must not place fill, or excavate within wetlands on the site until obtaining appropriate permits from the Oregon Department of State Lands and the Corps of Engineers.

11. The applicant/owner must maintain vegetative ground cover on overburden storage areas to reduce dust.

12. The applicant/owner shall sprinkle interior roads with a water truck to reduce dust.

13. The applicant/owner must implement DOGAMI's Best Management Practices ("BMP's") dated December 1997 for aggregate mining to suppress dust emissions.

14. The applicant shall be responsible for obtaining any necessary water use authorization from the Oregon Water Resources Department.

15. The rock produced at the site shall not be used for any offshore oil, gas or marine mineral exploration or development projects.

16. The Planning Commission may institute an immediate re-hearing of this matter if a violation of the conditions of approval is found to be valid.

17. The applicant/owner must salvage, stockpile and retain all available soil and overburden material for final reclamation. Soil and overburden stockpiles and berms must be seeded in a cover crop to reduce erosion.

18. Final perimeter slope inclinations in overburden must not exceed an average slope of–2:1 (horizontal to vertical) and final perimeter slopes in rock must not exceed 1 ½:1 (horizontal to vertical) within the excavation, unless approved by DOGAMI.

19. To control dust emissions from drilling, the operator shall utilize dust collection systems on rock drills.

20. Mine operations shall comply with recommended mitigation measures identified in Section H of the TSI Impact Assessment report dated July, 2021.