Short Project Description for Rural Road District #3 Quarry.

Proposed Use:
Applicant requests a conditional use permit for an aggregate mine and processing operation to provide crushed rock for the use of Rural Road District #3 on the roads within the District. Mining activities will include excavation, crushing, and stockpiling as needed for the District's roads. Applicants will continue to keep the portions of the lot not being mined in farm use raising alfalfa, and continue to keep the residence on the lot in use as a house.

Structures:
None.

Dimension and Location:
A portion of the 77.9 acre parcel at T17S R47E Sec. 19 Tax Lot 1500. The mine and processing operation are to be located on the SE corner of the lot, in a 13.4 acre rectangle that extends 1,300' north and south by 650' east and west, (845,000 sq. ft.) as depicted in the attached maps and photos. In the future the District will reclaim this portion of the lot and expects to apply for additional conditional use permits to mine other parts of the lot as needed.

Access to the mining area:
Widen an existing 20' wide farm road running east and west 1,400 ft from Community Road to the mining area and improve the access point at Community Road. Access running North and South from the mining area to Ontario Heights Road from the mining area. (See drawings and approach permit for more details on access)

Table of Contents

1. Land Use Application form

2. Operations Plan

3. Site Plan drawings and Reclamation plan EXHIBIT # 2

4. Applicable County Comprehensive Plan Provisions

5. Most recent deed, White

6. Pre-1974 deed

7. Irrigation District letter and information EXHIBIT # 5D

8. Gravel Quantity and Quality reports EXHIBIT # 3

MALHEUR COUNTY PLANNING DEPARTMENT

251 B Street West, #12 Vale, Oregon 97918 Phone (541)473-5185 Fax (541)473-5140

LAND USE APPLICATION COVERPAGE

Date Received: **Planner Initials:** **Date Complete:** **Planner Initials:**

APPLICANT INFORMATION

Name: Rural Road District # 3

Address: 230 N. Oregon Street

City/State/Zip: Ontario, OR 97914

Phone: 208-739-8761

Email: ruralroad3@gmail.com

OWNER INFORMATION

Name: Larry and Judy White Trust

Address: 533 Ontario Heights Road

City/State/Zip: Ontario, OR 97914

Phone: 541-889-6835

Email:

PROPERTY INFORMATION

Township/Range/Section/Tax Lot(s)	Acct #	Acres	Zoning
T17S R37E Sec.19 TL 1500	6954	77.9	CA-1

Property address (or location): 594 Ontario Heights Rd

Zoning Designation: CA-1 Exclusive Farm Use

Proposed Use: Aggregate Mining and processing **Permitted Subject to Section:** 6-3A-3 and 4

Water source: Well **Sewage disposal method:** septic tank

Are there wetlands/waterways on your property? ❑ NO X YES (description) Wetland along North Boundary of Property

Name of road providing access: Ontario Heights Road and Community Road

Current use of property: Farm and Residential **Use of surrounding properties:** Residential, farming, Aggregate mining and processing **Do you own neighboring property?** NO X YES (description) 533 Ontario Heights Road

DETAILED PROJECT DESCRIPTION (proposed use, structures, dimensions, etc.): See attached Operations Plan and drawings. Applicant also requests the addition of the tax lot to the County inventory of Significant Goal 5 Aggregate Resources based upon the 3 attached reports from Materials Testing and Inspection, and the mitigation of impacts on surrounding uses as described in this application.

X Additional description/maps/pictures attached

LEGAL PARCEL STATUS
Partition, Subdivision, OR
Most Recent Pre-9/4/1974 Deed #:14128 12/3/1973 Date Filed: 3-3-1976

Current Deed #:2015-151 Date Filed: 4/29/15

The deed and a map showing the property described in the deed(s) must accompany this application.

SIGNATURES

Applicant(s): [signature] Date: 1/14/2020

[signature] Date: _____

Property Owner(s): _____ Date: _____

[signature] Date: 1/14/20

[signature] Date: 1/14/20

PLEASE NOTE: Before this application will be processed, you **must** supply all requested information and forms, and address **all listed or referenced criteria**. Pursuant to ORS 215.428, this office will review the application for completeness and notify Applicant of any deficiencies within 30 days of submission. By signing this form, the property owner or property owner's agent is granting permission for Planning Staff to conduct site inspections on the property.

ALL LAND USE APPLICATIONS MUST INCLUDE:

- ❑ Application Fee – Cash or Check (credit cards now accepted with additional fee)
- ❑ Site Plan
- ❑ Elevation Drawing
- ❑ Fire Safety Self-Certification
- ❑ Other applicable information/application(s):
  - ❑ _____
  - ❑ _____

SHADED AREA TO BE COMPLETED BY PLANNING DEPARTMENT

Legal Parcel NO YES
Deed/Land Use Action: _____

Previous Map and Tax Lot: _____

Past Land Use Actions: If yes, list file #(s) _____ (NO) YES

_____

Subject to previous conditions? (NO) YES

Assessor Property Class: FARM USE

Zoning: C-A1 (EXCLUSIVE FARM USE)

Water Resources
Are there bodies of water or wetlands (seasonal or permanent) on property or adjacent properties? (NO) YES
Describe (include setback distances): _____
Fish bearing Non fish bearing Seasonal Creek
Irrigation ditch Wetland Pond/Lake Not identified
(Note: Check buffers. Different zones have different setback requirements that may require a more extensive permitting process.)

Access:
County or ODOT approach permit on file? (NO) YES, # _____

Address: NO (YES)
Address exists and has been verified to be correct? (NO) YES
Address needs to be assigned after approval?

Fire District: ONTARIO RURAL FIRE DISTRICT

Fees (List Review Type and Cost): _____

MALHEUR COUNTY PLANNING DEPARTMENT

251 B Street West, #12 Vale, Oregon 97918 Phone (541)473-5185 Fax (541)473-5140

FILE NUMBER: 2019-12-010
FEE: $200
RCT: 100128

CONDITIONAL USE PERMIT

DETAILED SPECIFIC WRITTEN REQUEST

Applicant requests a conditional use permit for an aggregate mine and processing operation to provide crushed rock for the District's use on the roads within the District. Activities will include excavation, crushing, and stockpiling as needed for the District's roads.

Structures: None.

Dimension and Location:

A portion of the 77.9 acre parcel at T17S R47E Sec. 19 Tax Lot 1500. The mine and processing operation are to be located on the SE corner of the lot, in a 13.4 acre rectangle that extends 1,300' north and south by 650' east and west, (845,000 sq. ft.) as depicted in the attached maps and photos.

Access to the mining area:

A 20' wide driveway running east and west 1,400 ft. from Community Road to the mining area.

(Attach additional pages if necessary)

DETAILED STRUCTURAL INFORMATION

PROPOSED IMPROVEMENTS				
Structure/Development	**Length**	**Width**	**Height**	**Square Footage**
Dwelling				**None**
Driveway				**None**
Accessory Structure				**None**
Agricultural Structure				**None**
EXISTING				
Existing Dwelling unchanged				

CONDITIONAL USE CRITERIA – Malheur County Code (MCC) CHAPTER 6

1. **The proposal must be consistent with the goals and objectives of the Comprehensive Plan and MCC.**

In order to comply with the County Comprehensive Plan, applicant is contemporaneously filing a request to modify the County's Goal 5 Aggregate Resources inventory to include the site as a Significant Goal 5 Resource. Final approval of this conditional use permit application will be contingent upon approval of the addition to the Goal 5 Inventory. The rock on the site meets the ODOT standards for base rock and the quantity exceeds 500,000 tons (Test reports attached).

The lot has not been identified as Sage Grouse habitat and there are no inventoried Goal 5 resources where the mining and processing will take place. There is a wetland in the Northern edge of the lot, but the mining activity area and access roads are set back substantially more than 100 feet from the wetland to avoid impacting it. There will be no fill or alteration of the wetland. See attachment for further discussion of The County Comprehensive Plan Goals and Policies.

2. **Taking into account location, size, design and operational characteristics of the proposed use, describe how your proposal is compatible with the surrounding area and development of abutting properties by outright permitted uses:**

The adjacent uses to the North and East are primarily existing Aggregate operations that present no compatibility challenges. Compatibility with the residential and farm uses to the north, west, and south will be achieved through **1. Distance.** Because of setbacks and residence locations, the 4 closest residences (not counting the residence on the property) will be over 250 ft.; 900 ft; 1,400 ft and 2,500 ft from the mining area; **2. Terrain and berms.** The rock on the mining site is under approximately 10 feet of overburden. The overburden will have to be pushed aside to form a berm of 10 feet or more to the West and South. The effect of the berm and elevation difference will be that the sight, sound and dust of the mining and crushing will be screened from the residences; **3. Staged Mining with Continued Agricultural Use.** The mining will be performed in stages, and as a particular part of the property is mined, it will be reclaimed by replacing the overburden back on top of the mined area, reseeding the land, and placing the land back into agricultural use. See attached operations plan for more detail.

Describe the operational characteristics (hours of operation, equipment used, etc.) of the proposed use:
The equipment will generally operate it irregular days for about 3 months per year between 7:30 am and 5:00 pm. Equipment will be a rock crusher and standard earth moving equipment such as caterpillars, loaders, and dump trucks. No blasting will be necessary. See attached operations plan for more detail.

Describe the number of people/employees/customers associated with the proposed use:
All of the rock will be for use on the Road District #3 projects, so it is the only customer. The number of employees and contractors on site mining the rock will depend upon the season and demand for a particular job, but when operating, the number at the quarry will be between 6 and 8.

3. **The proposed use cannot exceed or significantly burden public facilities and services available to the area. Please describe the impact the proposed use will have on the following public facilities and services and provide letters from the appropriate entities:**

Roads:

The existing roads are adequate and traffic on roads is light. Impact from hauling from the quarry will be minimal. See section 4 below and operations plan for number of trips expected.

Fire & Police Protection:

No added Fire and Police resources are expected to be needed. Since there will be no buildings on site, and there is no reason to expect criminal activity.

Sewer & Water:

None. Water on site is available from a well and sewer at the house will continue to be a septic tank. The mining site itself will have no buildings and the workers will use portable toilets.

Electrical & Telephone:

No additional electrical or telephone lines are needed.

Solid Waste Disposal:

No significant impact is expected. The mining and crushing itself will not generate any need for solid waste disposal.

4. **The proposed use will not unduly impair traffic flow or safety in the area. Does the subject property have a road approach permit from Public Works on file for the use? NO X YES**, Permit# _____

Describe the number of trips per day that will be generated by the proposed use: During the months of April and May there may be as many as 18 truck trips per day spread out between 7:30 am and 5:00 pm plus one round trip for each employee on site. In the month of June when the District is laying chip seal there may be as many as 55 to 60 truck trips per day spread out between 7:30 and 5:00. For other 9 months of the year there will be only minimal occasional traffic to and from the mine, approximately 20 to 30 trucks per month, no more than a few each day, between 7:30 and 5:00PM

5. **How will you minimize the effects of noise, dust and odor on adjoining properties during development and operation?**

1. **Distance.** Because of setbacks and residence locations, the 4 closest residences (not counting the residence on the property) will be across a road and over 100 ft.; 900 ft; 1,400 ft and 2,500 ft from the mining area; **2. Terrain and berms** The rock on the mining site is under approximately 20 feet of overburden. The overburden will have to be pushed aside to form a berm of 10 feet or more to the West and South. The berm will be seeded to control dust while it is in place. The effect of that berm will be that the sight, sound and dust of the mining and crushing will be obscured from the residences by the 20 ft. difference in elevation and by the berms. The Districts water truck will haul water to the site and sprinkle it for dust control; **3.Staged Mining with Continued Agricultural Use.** The mining will be performed in stages, and each part of the property is mined, it will be reclaimed by regularly replacing the overburden from the berm back on top of the mined area, revegetating the land, and placing the land back into agricultural use. The operations will have no special or obnoxious odors.

6. **How will the proposed use affect sensitive wildlife habitat and riparian vegetation along streambanks? How will soil erosion be avoided? You may need to contact the Oregon Department of Fish & Wildlife.**

The lot has not been identified as Sage Grouse habitat and the area where the mining and processing will take place is currently farmed. There is a wetland in the Northern edge of the tax lot, but the mining activity area and access road are set back substantially more than 100 feet from the wetland (see site plan drawing) so there will be no impact on wildlife habitat or riparian vegetation. There will be no fill or alteration of the wetland. Silt fences will be installed as needed to prevent erosion.

7. **The proposed use will not adversely affect the air, water, or land resource quality of the area.**

The operational controls and staged reclamation of the property as it is mined as described in this application will prevent any significant impact on air, water, and land resources by controlling dust, preventing erosion, and avoiding disturbance of riparian and wetland, as described in prior answers. The mine area will remain above the water table to avoid adverse impacts on the water resources.

8. **The location and design of the site and structures for the proposed use will not significantly detract from**

the visual character of the area. This may be done though siting, new vegetation, colors, materials or other.

There will be no significant visual impact because the mining will take place out of sight behind berms and in the mining area itself which will be 10 feet and more below the surface elevation after the overburden is removed.

9. **The proposal will preserve areas of historic value, natural or cultural significance, including archaeological sites, or assets of particular interest to the community.**

There are no known or inventoried areas of historic value, natural or cultural significance, including archaeological sites, or other special areas of particular interest to the community.

10. The proposed use will not significantly increase the cost of, or force a significant change to, accepted farm or forest practices on surrounding lands devoted to or available for farm and forest use.

Describe the agricultural uses (orchards, wheat, grazing, etc.) that are within 0.25 miles of the proposed development. How will the proposed development interact with surrounding agriculture uses?

Primarily alfalfa, some wheat and there may be some grazing. No impact is expected because of the berms, low traffic counts, no impact on the water table, and dust control measures described earlier.

Operations Plan

General Description of Mining and Processing Activity

Applicant requests a conditional use permit for an aggregate mine and processing operation to provide crushed rock for the use of Rural Road District #3 on the roads within the District. Activities will consist of excavation, crushing, and stockpiling as needed for the District's roads only. Applicant is not requesting an asphalt batch plant at the site. Applicant expects to continue to keep the portions of the tax lot not being mined in farm use, raising alfalfa, and expects to continue to keep the house on the lot in use as a residence.

Structures: Applicant is not requesting any new structures on the property.

Dimensions and Location:

The mine and crushing operation will be located on a portion of the 77.9 acre tax lot designated as T17S R47E Sec. 19 Tax Lot 1500. The mine and processing operation are to be located on the southeast corner of the tax lot, within a 13.4 acre rectangle that runs 1,300' north and south by 650' east and west, (845,000 sq. ft.) (the "Permit Area") as depicted in the attached maps and photos application item #2 a. In the future, the District may seek County approval to mine additional portions of the tax lot after reclaiming the mined area and returning it to agricultural use.

Mining/Processing/Reclamation Sequencing

Activity will begin at the northern boundary of the Permit Area. Initially applicant will proceed by excavating approximately 10 feet of soil (overburden) that lies on top of the gravel to be mined. See attached drilling reports from Materials Testing and Inspection, application item #10. Beginning at the boundary of the Permit Area, the overburden will be excavated on a 2:1 slope from the boundaries of the mine down to the floor of the mine to create an initial excavation area, where the gravel can be mined and the rock crusher can be located. Overburden soil will be bermed around the Southern and Western boundaries of the mine.

The gravel will be mined from the floor of the pit down to a depth above the water table (about 25' or more below the surface according to the drilling reports from Materials Testing and Inspection, see application item #10), so the eventual floor of the Permit Area pit, after mining, will be approximately 25 feet below the surface elevation of the surrounding property. As this final depth of the mine is reached at the northern end of the site, the excavation activity will gradually move south. As the overburden immediately south of the initial excavation area is removed it will be added to the berm as needed or filled into the mined out pit to the north portion of the Permit Area, reclaiming that area as the mining proceeds, with the goal of returning it to agricultural production. As the overburden is removed it will expose more gravel to the south for mining. That process will continue over a period of years until the location of the gravel extraction reaches the point where a 2:1 slope that coming up from the floor of the mine to the surrounding surface is 20 horizontal feet from the southern property line (the 40 ft. minimum setback for the Permit Area). Because of the need for a 2:1 slope when removing the

overburden the gravel extraction mining activity will be approximately 60 feet North of the Northern edge of Ontario Heights Road.

The rock crusher will be stationed in the northern part of the Permit Area, and though it may be moved south over time, it will remain on the floor of the Permit Area, and will be kept more than 200 feet north of the northern edge of Ontario Heights Road, to insure compliance with the County requirement that processing activity take place no closer than 200 feet from commercial and residential uses. Crushed rock will be stockpiled on the floor of the pit in the Permit Area.

Haul roads to the Permit Area:

Applicant will use an existing farm road running east and west 1,400 ft. as a haul road to Community Road from the northwest corner of the Permit Area. The access point at Community Road will be improved to District Road Standards. Applicant will also create a haul road running North and South from the Permit Area to Ontario Heights Road along the western edge of the Permit Area. The haul roads will be 20 feet wide. (See drawings and approach permit in Application item 2 a for more details on access). Applicant will be hauling rock in both directions from the Ontario Heights Road and Community Road access points. The number of trips in each direction and the route taken will vary depending on the location of the road work, but the majority of the trips will probably travel east on Ontario Heights Road.

Noise and Visual screening

Noise and visual impact of the gravel extraction and crushing activity will be screened from neighboring properties to the north, west, and, south. The property to the west is another mining area. First, the activity will be screened because mining and crushing activity will be conducted in the mining pit in the Permit Area which, because the removal of the overburden, will be at an elevation 10 feet, or more, lower than the surrounding surface. Second, additional screening will be provided by the berms created using the overburden removed from the area being mined. The rock crusher will be located over 200 feet north of the Northern edge of Ontario Heights Road, The nearest residence is south of Ontario Heights road so it will be over 200 feet from the mining activity. The combination of the berms, low elevation of the mine and the distance to adjoining uses will mitigate any significant noise or visual impact.

Dust mitigation

The Applicant's water truck will haul water to the Permit Area and sprinkle it for dust control as needed. The berm areas will also be seeded to mitigate dust.

Traffic

For 9 months of the year there will be only minimal occasional traffic to and from the mine, approximately 20 to 30 trucks per month, no more than a few each day, between 7:30 and

5:00 pm. During the months of April and May there may be as many as 18 truck trips per day spread out between 7:30 am and 5:00 pm plus one round trip for each employee on site. In the month of June when the District is laying chip seal there may be as many as 55 to 60 truck trips per day spread out between 7:30 and 5:00.

Fencing.
The existing wire fence around the tax lot will continue to be maintained.

Stagnant Water.
Mining will take place above the water table and the strata under Permit Area itself is a porous mixture of rock and sand See reports from Materials Testing and Inspection, application item #10. So there should be no ponding or stagnant water in the mine.

=3=

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

Application Site Plan Map

Site Plan Map Requirements

The following items must be shown on all maps provided to DOGAMI:

- ☐ DOGAMI Site Number (if available)
- ☐ Permittee Name
- ☐ Map Name
- ☐ Date Drafted
- ☐ Scale
- ☐ North Arrow
- ☐ Legal Description (Township, Range, Section and tax lot)

The following features are delineated on the required Site Plan Map (check all that apply):

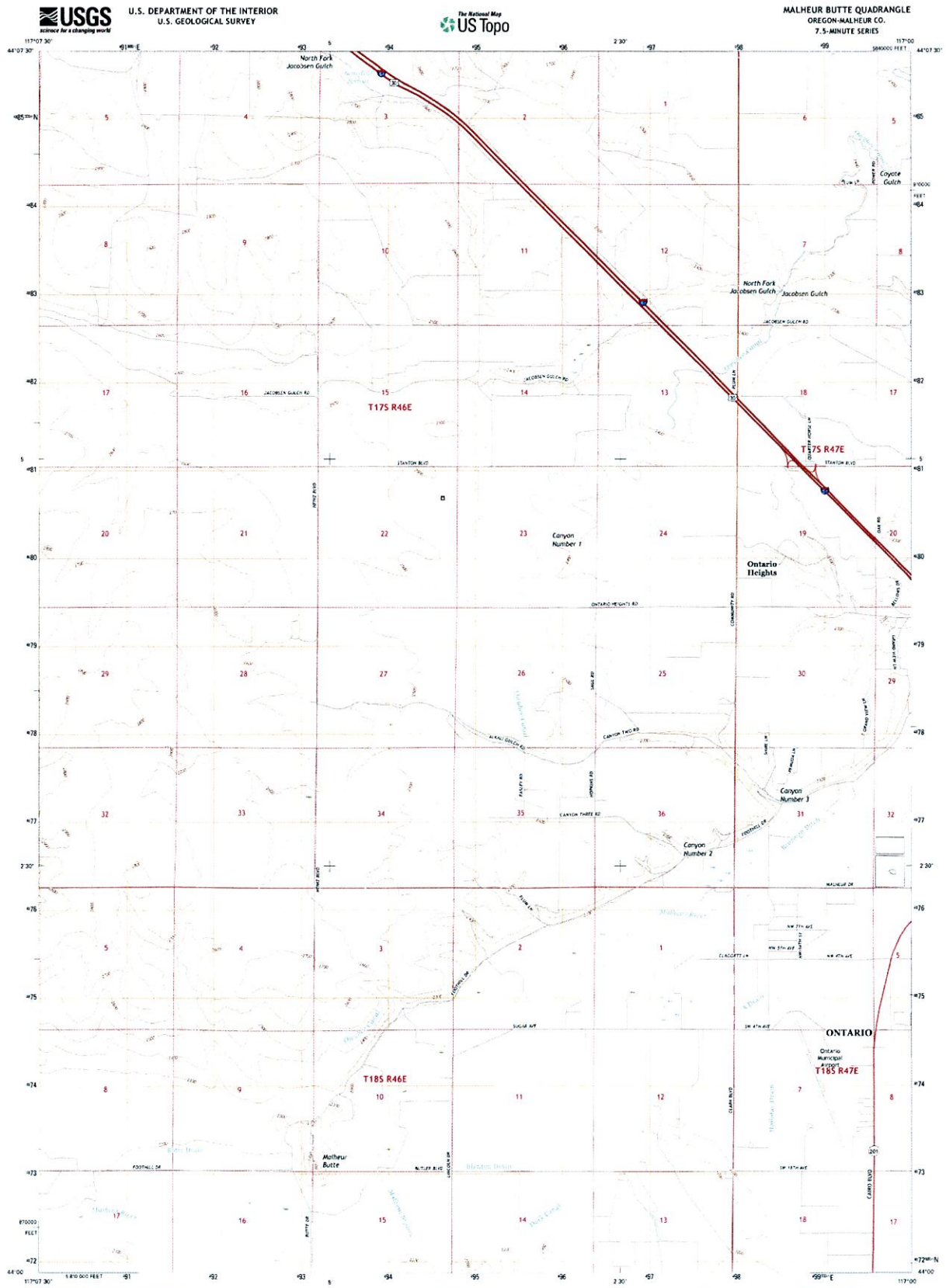
Proposed Operating Permit Boundary (required)	☒ yes	☐ no	
Topography (required) *e.g. LIDAR/DEM/USGS Topo 1:24,000 or better*	☐ yes	☐ no	
Stockpile Area(s)	☒ yes	☐ no	☐ not applicable
Processing Area(s)	☒ yes	☐ no	☐ not applicable
Asphalt or Concrete Plants	☐ yes	☒ no	☐ not applicable
Maintenance/Office Buildings	☐ yes	☒ no	☐ not applicable
Access and Haul Roads	☒ yes	☐ no	☐ not applicable
Easements	☐ yes	☐ no	☒ not applicable
Railroads	☐ yes	☒ no	☒ not applicable
Utilities (underground and overhead)	☐ yes	☒ no	☐ not applicable
Visual and Sound Barriers/Berms	☒ yes	☐ no	☐ not applicable
Surface Waters within 500-feet (including wetlands and springs)	☒ yes	☒ no	☐ not applicable
Irrigation Ditches	☒ yes	☐ no	☐ not applicable

EXHIBIT # 2

Existing and Proposed Ponds	yes	no	not applicable
Stormwater Controls	☐ yes	☒ no	☐ not applicable
Groundwater/Monitoring Wells within 1000 feet (if dewatering 1500 feet)	☐ yes	☒ no	☐ not applicable

Legends:

Legends are a useful tool to explain what the line types and symbols denoted on a map represent. If a legend is used, the applicant must display the line type or symbol that denotes a feature or features on the map with text explaining what the symbol or line type is. Text cannot be used in lieu of displaying the symbol in the legend.


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
The National Map
US Topo
MALHEUR BUTTE QUADRANGLE
OREGON-MALHEUR CO.
7.5-MINUTE SERIES
North Fork Jacobsen Gulch
Coyote Gulch
Jacobsen Gulch
T17S R46E
T17S R47E
Canyon Number 1
Ontario Heights
Canyon Number 3
Canyon Number 2
ONTARIO
T18S R46E
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Malheur Butte
Produced by the United States Geological Survey
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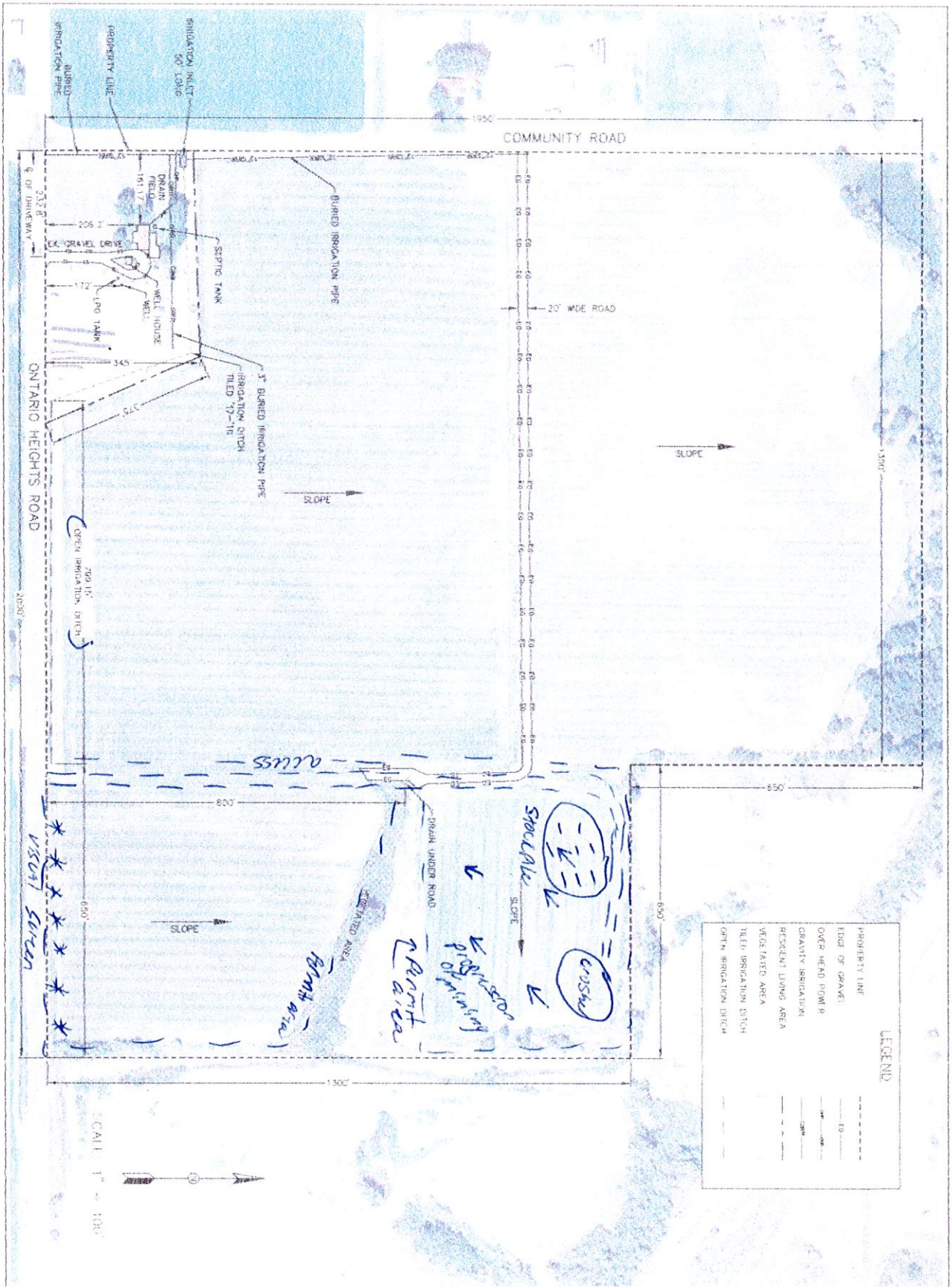
ROAD CLASSIFICATION
MALHEUR BUTTE, OR
2017



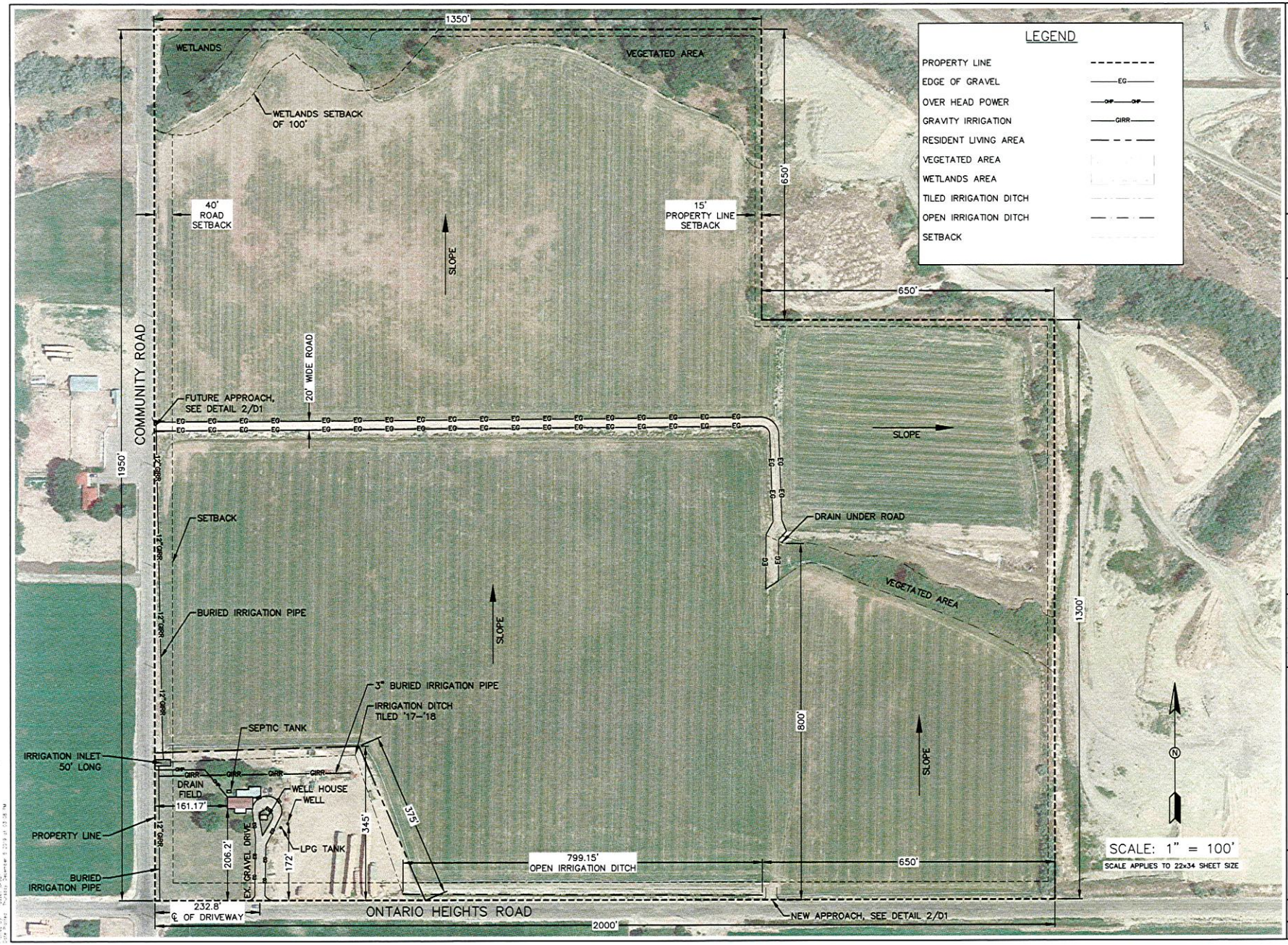
DRAFT

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGHTS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

HECO ENGINEERS

REVISIONS
NO. DATE BY DESCRIPTION



HECO ENGINEERS

NO.	DATE	BY	DESCRIPTION
REVISIONS			

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGTHS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

PROJECT NO.:	PR19-0364
DESIGNED BY:	
DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

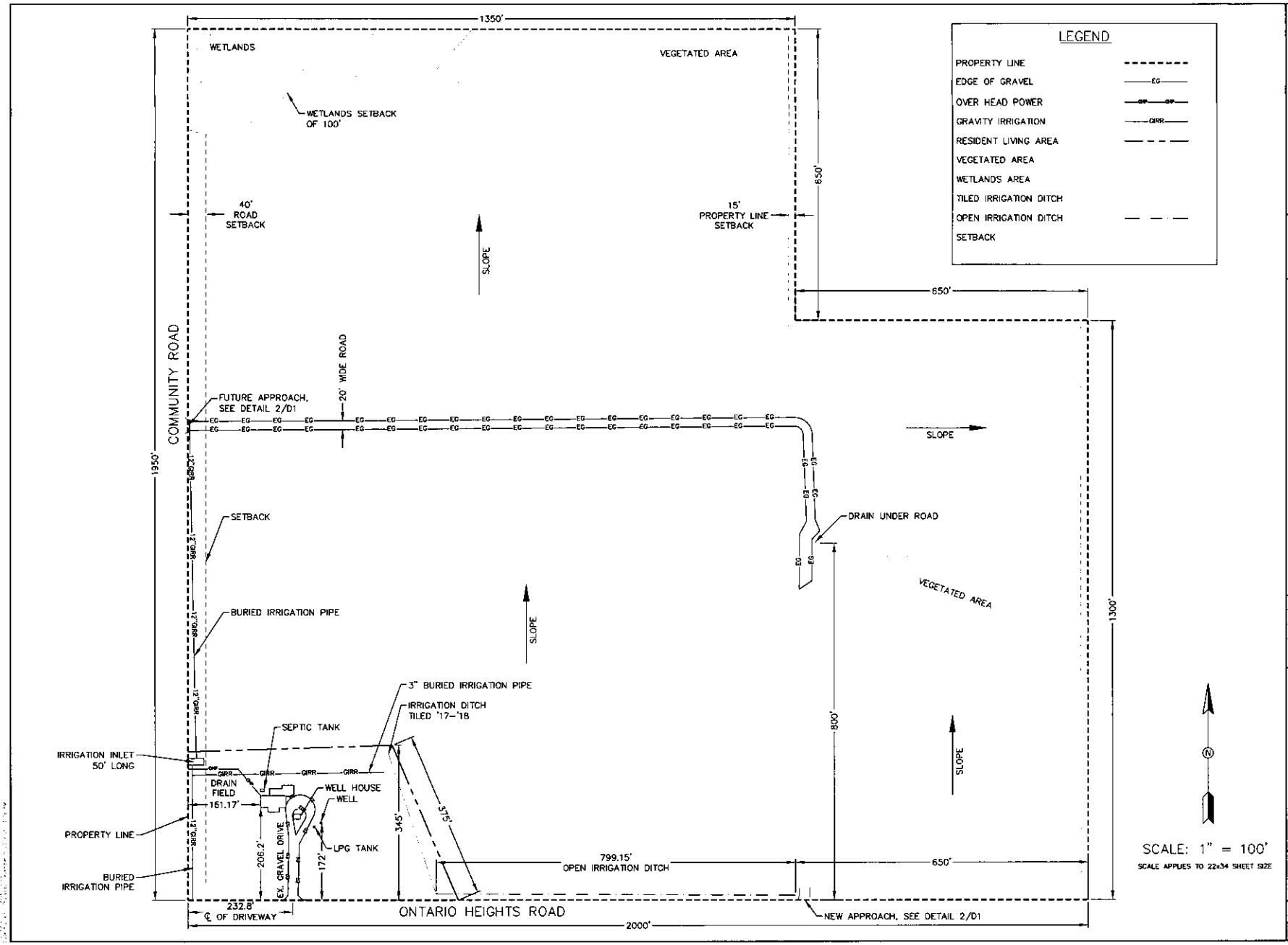
DRAFT

FIGURE

SITE MAP

FIGURE 1.0

SHEET 1 OF 3



HECO ENGINEERS

REVISIONS

NO.	DATE	BY	DESCRIPTION

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGTHS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

PROJECT NO.:	PR19-0364
DESIGNED BY:	
DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

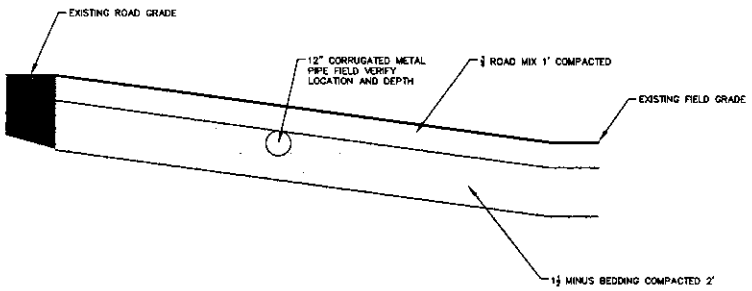
DRAFT

FIGURE

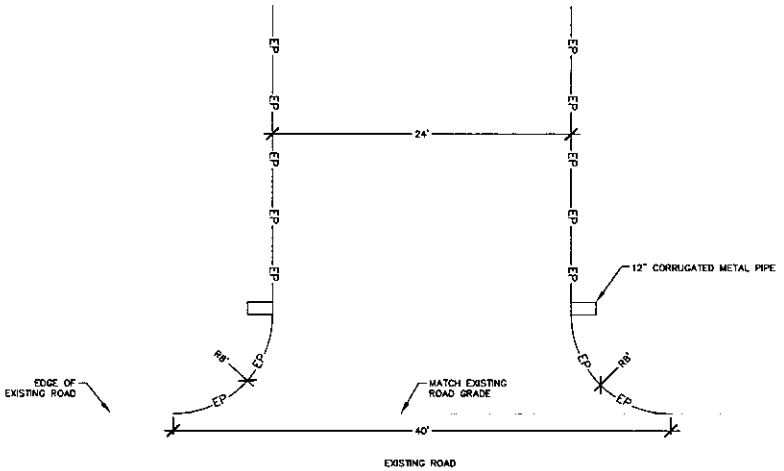
SITE MAP

FIGURE 1.1

SHEET 2 OF 3



1 TYPICAL SECTION: APPROACH



2 TYPICAL APPROACH

HECO ENGINEERS

REVISIONS

NO.	DATE	BY	DESCRIPTION

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGTHS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

PROJECT NO.:	PR19-0364
DESIGNED BY:	
DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

DRAFT

DETAILS

DETAILS

D1.0

SHEET 3 OF 3

HECO ENGINEERS

NO	DATE	BY	REVISIONS DESCRIPTION

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGTHS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

PROJECT NO.:	PR19-0364
DESIGNED BY:	
DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

DRAFT

FIGURE

SITE MAP

FIGURE 1.0

SHEET 1 OF 3

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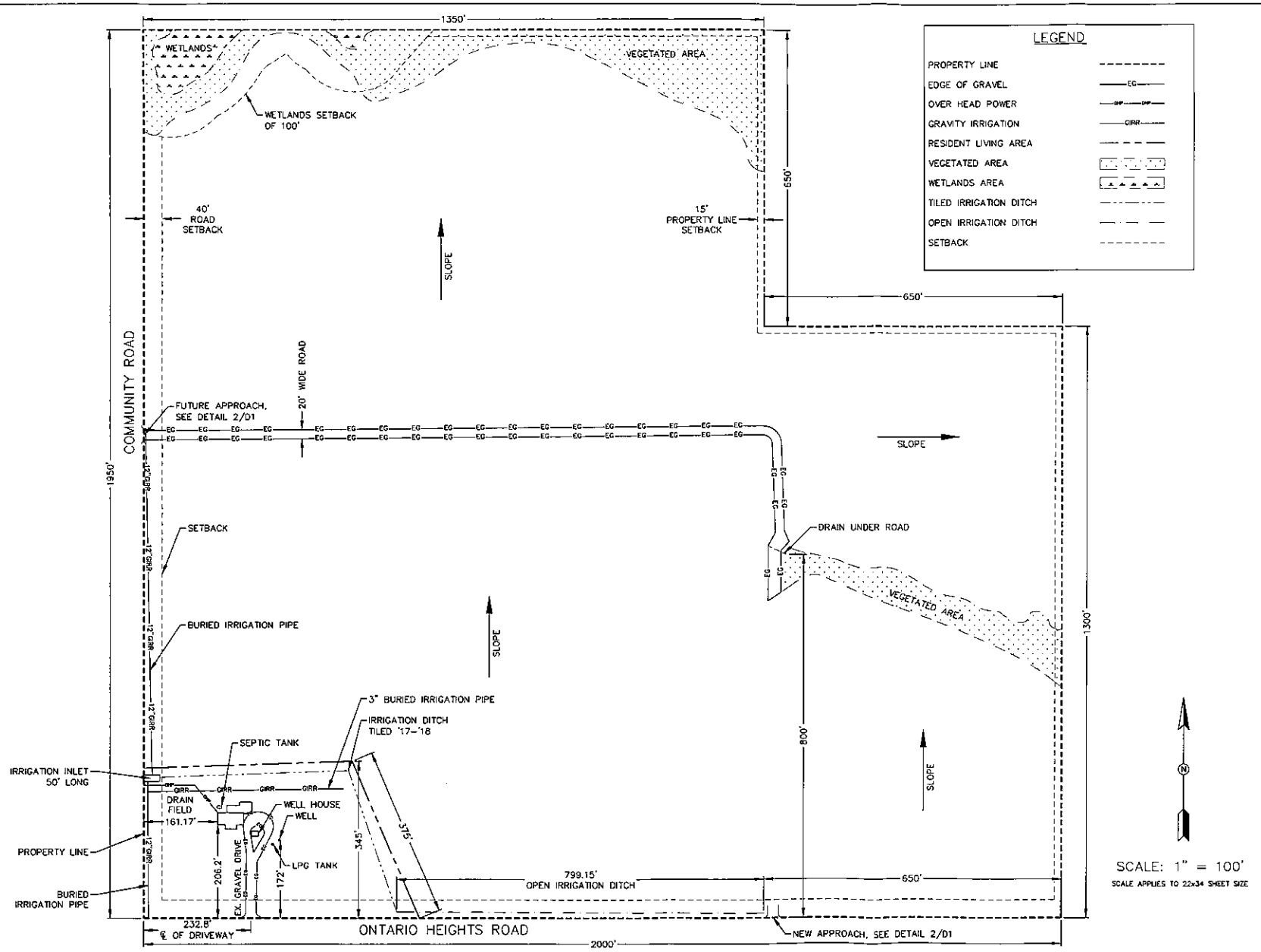
Plotted By: Dale Parfitt
Thursday, December 5, 2019 at 03:08 PM



HECO ENGINEERS

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PROPOSED GRAVEL PIT

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DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

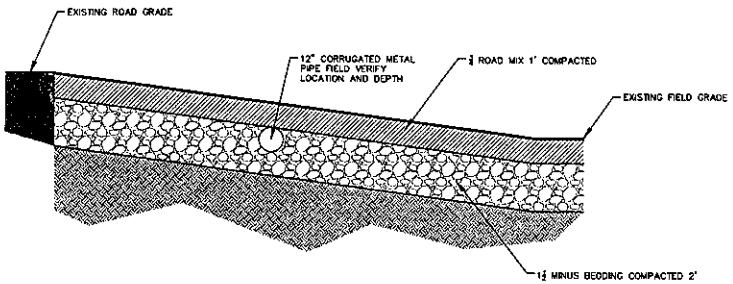
DRAFT

FIGURE

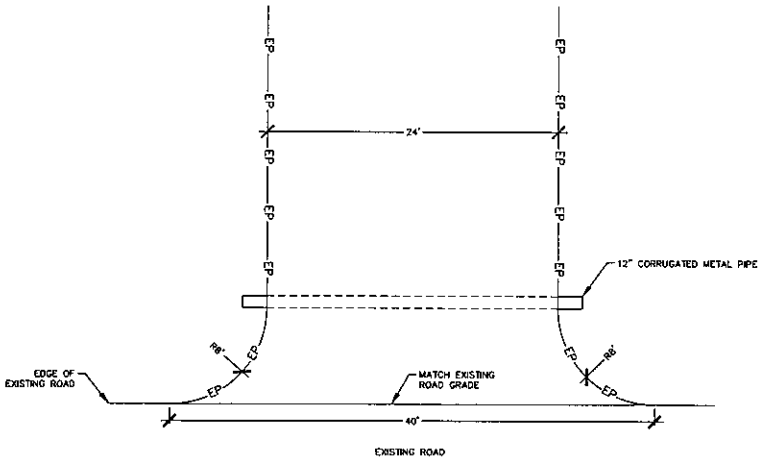
SITE MAP

FIGURE 1.1

SHEET 2 OF 3



1 TYPICAL SECTION: APPROACH
SCALE: NTS



2 TYPICAL APPROACH
SCALE: NTS

HECO ENGINEERS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

PROPOSED GRAVEL PIT

LARRY & JUDY WHITE TRUST
533 ONTARIO HEIGTHS RD.
(541) 889-6835
MAP # 17S4719
TAX LOT # 1500

PROJECT NO.:	PR19-0364
DESIGNED BY:	
DRAWN BY:	R. JORDAN
DWG CHECKED BY:	
QC BY:	P. BANDY

DRAFT

DETAILS

DETAILS

D1.0

SHEET 3 OF 3

=4=

Supplement to Application.

Malheur County Comprehensive Goals and Policies

Goal 1- Citizen Involvement and Goal 2 Land Use Planning
Met by the County hearings process on this application and prior hearings on the adoption of the County Plan and Zoning Ordinance.

Goal 3 Agricultural Lands

Met through a) continued use of the property for agricultural uses during and after mining; b) non-interference with surrounding agricultural uses; c) No part of the property is high value Farm Land Soils (types I through III) d) consultation with the applicable Irrigation District.

Goal 4 Forest Lands

Does not apply

Goal 5 Protection of Resources

Met through identification of high quality aggregate site and protection of that site for use. No inventoried Goal 5 resources conflict. Conflicts with other uses limited through means described in application

Goal 6 Air, Water, and Land Quality

Met through operational restrictions that eliminate impact on air, water and land quality.

Goal 7 Natural Disaster and Hazards

Met. No special Natural Disaster or Hazards identified.

Goal 8 Recreation

Met. No recreational opportunities on site and none significantly negatively impacted.

Goal 9 Economy

Met through development of natural resources, and the availability of the aggregate for road maintenance will assist in the maintenance of the transportation network.

Goal 10 Housing

Met through maintaining existing housing, and keeping road costs as low as is practical.

Goal 11 Public Facilities and Resources

Met through providing the Road District with a reliable, economic, and long term protected supply of high quality aggregate for road maintenance.

Goal 12 Transportation

Met through providing the Road District with a reliable economic, and long term protected supply of high quality aggregate for road maintenance.

Goal 13 Energy

Met through providing the Road District with a local reliable, economic, and long term protected supply of high quality aggregate for road maintenance without the energy impact of hauling for longer distances.

Goal 14 Urbanization

Does not apply.

-5-

174719
1500

MALHEUR COUNTY, OR 2015-1517
D&S DEED 04/29/2015 08:12 AM
Cnt=1 Pgs=2 Total:$57.00

00029578201600016170020025

I, Deborah R. DeLong, County Clerk for Malheur County, Oregon certify that the instrument identified herein was recorded in the Clerk records.
Deborah R. DeLong - County Clerk

BARGAIN AND SALE DEED

LARRY J. WHITE, Trustee of the Betty J. White Trust, U.A.D. 01/18/02, Grantor, grants, bargains, sells, and conveys to LARRY J. WHITE and JUDY G.WHITE, Trustees of the Larry and Judy White Trust, U.A.D. 01/18/02, Grantee, the following described real property, situated in Malheur County, Oregon to-wit:

SEE ATTACHED EXHIBIT A

Except easements, reservations, encumbrances, and restrictions of record and any fact which could be ascertained by a physical inspection or correct survey of the above described real property.

The true consideration for this conveyance is to trust.

Until a change is requested, all tax statements shall be sent to and after recording return to:

Larry and Judy White
533 Ontario Heights Road
Ontario, Oregon 97914

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

DATED: April 7, 2015.

Larry J. White, Trustee of the Betty J. White Trust, U.A.D. 01/18/02

STATE OF OREGON)
) ss.
County of Malheur)

Personally appeared before me this 7th day of April, 2015, the above-named Larry J. White and acknowledged the foregoing instrument to be his voluntary act and deed.

OFFICIAL SEAL
AMY L VEATER
NOTARY PUBLIC - OREGON
COMMISSION NO. 474604
MY COMMISSION EXPIRES JANUARY 15, 2017

Amy L. Veater
Notary Public for Oregon
My commission expires: 1/15/2017

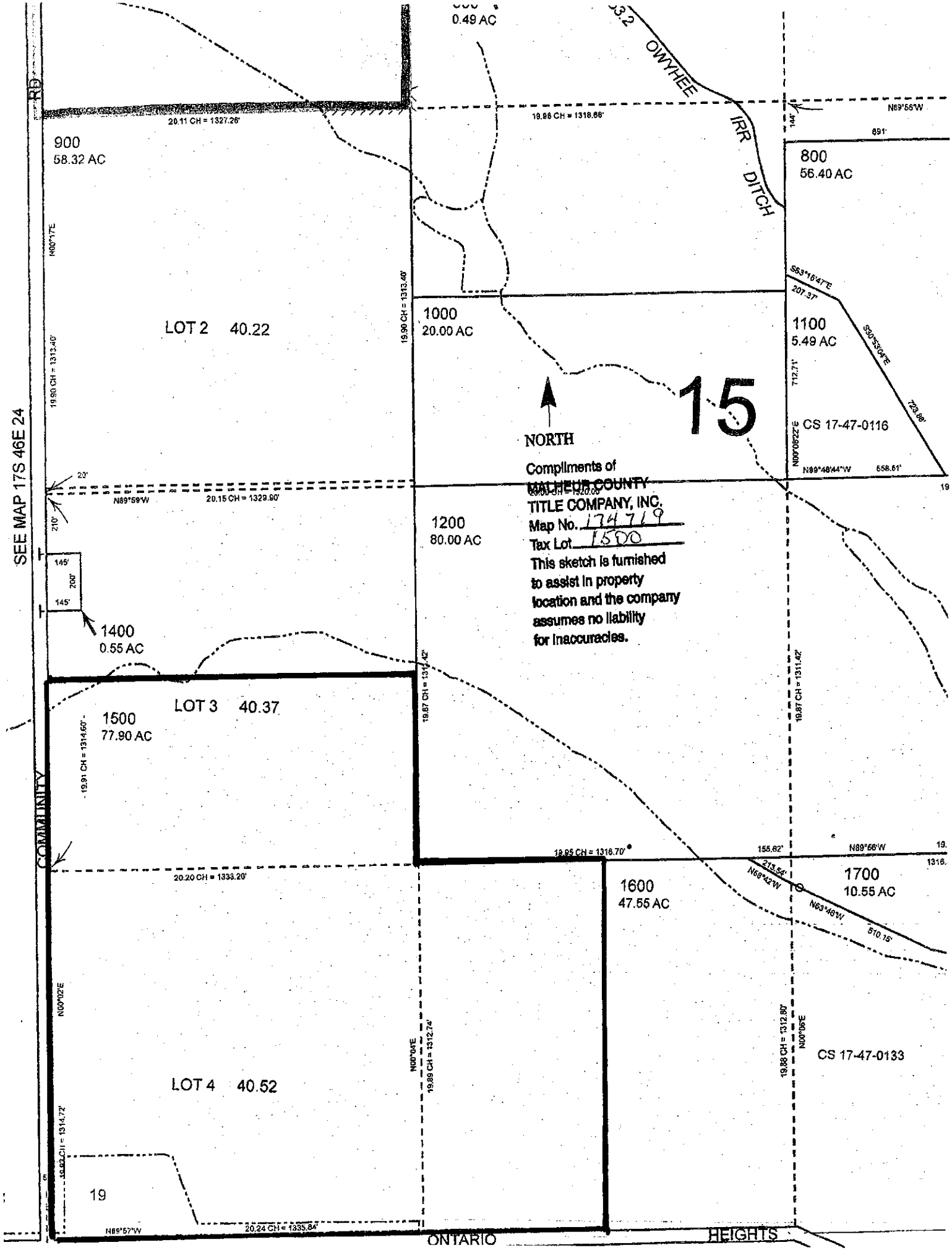

0.49 AC
OWYHEE IRR DITCH
900
58.32 AC
800
56.40 AC
LOT 2 40.22
1000
20.00 AC
1100
5.49 AC
15
NORTH
CS 17-47-0116
Compliments of
MALHEUR COUNTY
TITLE COMPANY, INC.
Map No. 174719
Tax Lot 1500
This sketch is furnished to assist in property location and the company assumes no liability for inaccuracies.
1200
80.00 AC
1400
0.55 AC
LOT 3 40.37
1500
77.90 AC
1600
47.55 AC
1700
10.55 AC
LOT 4 40.52
CS 17-47-0133
SEE MAP 17S 46E 24
COMMUNITY RD
ONTARIO HEIGHTS

EXHIBIT "A"

Land in Malheur County, Oregon, as follows:

In Twp. 17 S., R. 47 E.W.M.:
Sec. 19: The S1/2 of Government Lot 3, all of Government Lot 4 and the W1/2SE1/4SW1/4.

SUBJECT TO:

As disclosed by the tax roll the premises herein described have been zoned or classified for farm use. At any time that said land is disqualified for such use the property will be subject to additional taxes or penalties and interest.

CHARGES AND ASSESSMENTS of the Owyhee Irrigation District and any and all matters pertaining thereto.

RIGHTS of the Public in and to existing County road rights of way.

Notice: The information provided here is for convenience ONLY. The records located at Malheur County Assessor's office are the one and only legal instruments for assessment purposes. Although reasonable attempts are made to maintain this information as accurate as possible, these documents are being provided as an informational convenience ONLY. Malheur County is not, in any way, liable for any inaccuracies, inconsistencies, errors, ommissions, or other deviations in these documents from the original copies maintained and filed at the Malheur County Assessor's Office, Vale, Oregon.

Date Web Site was last updated 11/06/2019

Value and tax information for tax year 2019

Ref#:6954 Type of Property : REAL PROPERTY

MAP#	TAX LOT#	A NUM	CODE	PROPERTY CLASS/DESC	ZONE
17S4719	1500	0	15	559 FARM USE/ZONED/M H	C-A1

OWNER:	WHITE, LARRY & JUDY TRUST
CONTRACT:	
ETAL(s):	WHITE, LARRY J#
	WHITE, JUDY G#
MAILING ADDRESS:	
	533 ONTARIO HEIGHTS RD
CITY/ST:	ONTARIO, OR ,97914

PROPERTY ADDRESS: 594 ONTARIO HEIGHTS RD ONTARIO

NOTES:
***ZONED FARM USE-POTENTIAL ADD TAX**
PHOTO # 378-277L

	REAL MKT VALUE	ASSESSED(TAXABLE) VALUE
LAND	$344,630	
STRUCTURES	$2,400	
SUBTOT	$347,030	$63,195
TOTAL	$347,030	$63,195

PROPERTY TAX INFORMATION
Do not pay this amount! For current balance owing, contact our office.
Contact information may be found at this web page Tax Office

BASE TAX	$881.14
TOTAL BASE TAX & SPECIAL ASSESSMENTS	$881.14

STRUCTURES

#	BLDG CLASS	DESCRIPTION	MAIN SQ FT	UPPR SQ FT	BSMT SQ FT	YEAR BLT	YEAR APPR	MKT VALUE	RE-MDL
1	351	SITE IMPROVEMENT	0	0	0	0	2018	$0	0
2	314	MULTI-PURPOSE SHED&PUMP HOUSE	0	0	0	0	2018	$2,130	0
3	300	DRC BUILDING	0	0	0	0	2018	$270	0

LAND DESCRIPTIONS

LINE #	ACRES	LAND CODE	DESCRIPTION	DIMENSIONS	MARKET VALUE
1	0.00	FSD	FARM SITE DEV	-	$13,500
2	0.50	FHS	FARM HOME SITE	-	$17,200
3	68.50	04	CLASS 4	-	$308,250
4	6.00	06	CLASS 6	-	$5,100
5	2.90	07P	CLASS 7P	-	$580
TOTAL	77.90				

NEW SEARCH

=6=

INSTRUMENT N[o] 14128 RECORDING DATE MAR 3 1976

BARGAIN AND SALE DEED

JOHN R. WHITE and BETTY J. WHITE, husband and wife,

hereby convey (s) to LARRY J. WHITE and Judy G. ~~White, husband~~ and wife

whose address is Ontario, Oregon 97914, an undivided one-half interest in

the following described real property:

Land in Malheur County, Oregon, to wit:

The $S\frac{1}{2}$ of Lot 3 and all of Lot 4 and the $W\frac{1}{2}SE\frac{1}{4}SW\frac{1}{4}$ in Section 19, Twp. 17 S., R. 47 E., W.M., containing 80 acres, more or less.

15

The consideration for this transfer is: None.

Dated: December 3rd, 1973.

John R. White

Betty J. White

STATE OF OREGON, County of Malheur ss:
December , 19 73:
Personally appeared the above named

John R. White and Betty J. White

and acknowledged the foregoing instrument to be their voluntary act. Before me:

(SEAL) Notary Public for Oregon.
My Commission expires

PREPARED BY
YTURRI, O'KIEF, ROSE and BURNHAM
89 S. W. 3rd AVENUE TEL. 889 6308
ONTARIO, OREGON 97914

(FOR RECORDERS USE)

COMPARED AND INDEXED

STATE OF OREGON } ss
County of Malheur }

Inst. No. 14128 I certify that the within instrument of writing was received for record on the 3 day of March, 1976 at 8:51 o'clock A M.
ROBERT L. MOECOM,
County Clerk
By Kay Lueckhoener

RETURN TO
John R. White
Rt. 3, Box 648
Ontario, Oregon 97914

FORM NO. 115—WARRANTY DEED (Grantees as Tenants by Entirety)

INSTRUMENT NO. 14127

KNOW ALL MEN BY THESE PRESENTS, That DEWEY L. DAVISSON and ANNA DAVISSON, husband and wife

, grantors

in consideration of Ten and 00/100 - - - - - - - - - - - - - - - - Dollars,

to them paid by JOHN R. WHITE and BETTY J. WHITE, husband and wife

~~husband and wife~~, grantees,

do hereby grant, bargain, sell and convey unto the said grantees, as tenants by the entirety, their heirs and assigns, all the following real property, with the tenements, hereditaments and appurtenances, situated in the County of Malheur and State of Oregon, bounded and described as follows, to-wit:

The South half (S-1/2) of Lot Three (3) and all of Lot Four (4) and the West half (W-1/2) of the Southeast one-fourth (SE-1/4) of the Southwest one-fourth (SW-1/4) in Section Nineteen (19), Township Seventeen (17) South, Range Forty-seven (47) E.W.M., containing 80 acres, more or less.

To Have and to Hold the above described and granted premises unto the said grantees as tenants by the entirety, their heirs and assigns forever.

And they, the grantors, covenant that they are lawfully seized in fee simple of the above granted premises free from all incumbrances. Subject to the terms and conditions of the agreements between the United States of America and the Owyhee Irrigation District now of record,

and that they will and their heirs, executors and administrators, shall warrant and forever defend the above granted premises, and every part and parcel thereof, against the lawful claims and demands of all persons whomsoever.

Witness our hands and seals this ___ day of March, 1962

Dewey L. Davisson (SEAL)
Dewey L. Davisson

Anna Davisson (SEAL)
Anna Davisson

(SEAL)

(SEAL)

STATE OF OREGON,

County of Malheur } ss.

On this ___ day of March, 1962, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Dewey L. Davisson and Anna Davisson

who are known to me to be the identical individuals described in and who executed the within instrument, and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

[illegible signature]
Notary Public for Oregon.
My Commission expires 11/12/65.

WARRANTY DEED

TO

AFTER RECORDING RETURN TO

STATE OF OREGON,
County of Malheur } ss.

I certify that the within instrument was received for record on the 5 day of March, 1962, at 3 50 o'clock P M., and recorded in book ______ on page 14127, Record of Deeds of said County.

Witness my hand and seal of County affixed.

ROBERT L. MORCOM
County Clerk—Recorder.
By [signature]
Deputy.

=7=

Owyhee
Irrigation District & Hydro

January 20, 2020

To whom it may concern,

It has been brought to attention that Rural Road District #3 has an application for a conditional use permit for aggregate mining and processing on 13.4 acres in the SE corner of the 77.9-acre parcel at Township 17 S., Range 47 E., Sec. 19, Tax Lot 1500.

In response to Rural Road District #3's request for a letter to the Planning Department according to County Ordinance 6-6-5E, the Owyhee Irrigation District expresses its support for this conditional use permit for an aggregate mining and processing operation. This action may require water rights to be transferred off or moved to a different location as needed from time to time as the aggregate process expanse. This specific proposal will not adversely affect our District's responsibilities.

Jay Chamberlin

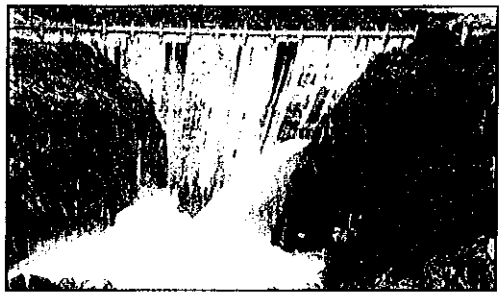
Project Manager

EXHIBIT # 5D

422 Thunderegg Blvd
~~17 South 1st Street~~ • Nyssa, Oregon 97913 • Phone: (541) 372-3540 • Fax: (541) 372-2437

Owyhee Irrigation District
~~17 South First Street~~
Nyssa, Oregon 97913

Phone: (541) 372-3540
Fax: (541) 372-2437



December 16, 2019

To whom it may concern,

The property owned by Larry and Judy White located at 594 Ontario Heights Road, more particularly described as, Township 17 South, Range 47 East, Section 19, Tax Lot 1500, has 73 irrigated acres.

Please contact me if you have any questions,

Brittany Valero

Brittany Valero
Owyhee Irrigation District
422 Thunderegg Blvd.
Nyssa, Oregon 97913
P: (541) 372-3540 Ext: 100
F: (541) 372-2437
brittanyvalero@live.com

OWYHEE IRRIGATION DISTRICT

17 South 1st Street - Nyssa, Oregon 97913 - (541) 372-3540

Spring Billing

White, Larry

533 Ontario Heights Road (Home Address)
594 Ontario Hts. Rd (Farm Address)
Ontario, Oregon 97914

Customer Id	67000
Date	1/24/2019
Bill #	51371

Billing Summary

Account Balance	
Past Due Total	$0.00
Payments/Credits	$0.00
New Charges	$4,860.00
Total Due	**$4,860.00**

Past Due Detail	
Construction	$0.00
O & M	$0.00
Interest	$0.00
Excess	$0.00
Small Acreage	$0.00

DUE BY 4/15/2019 OR BEFORE WATER DELIVERY
Delinquent on 4/15/2019 with 1.33% Interest Per Month

RRA Forms are required prior to water delivery.

PLEASE NOTICE: **If no error is reported to this office within 30 DAYS, this bill will be considered correct.**

Customer Id	Acres	Project	O & M	Excess	Small Acreage	Interest
67000	72.00	$108.00	$4,752.00	$0.00	$0.00	$0.00

PLEASE NOTE: *THERE ARE TWO CHARGES ON THIS BILL*. THE FEE BREAKDOWN IS AS FOLLOWS: $1.50 PER IRRIGATED ACRE FOR THE "PROJECT" ASSESSMENT GOING TOWARDS THE REPAIRS MADE ON THE MALHEUR SIPHON AND $66.00 PER IRRIGATED ACRE FOR THE STANDARD, ANNUAL "O&M" OR OPERATION AND MAINTENANCE FEE. **PLEASE PAY THE "TOTAL DUE" TO INSURE FULL PAYMENT IS RECEIVED.**

WE DO NOT ACCEPT DEBIT OR CREDIT CARDS AT THIS TIME.

White Map

12/16/2019, 4:05:47 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

MATERIALS TESTING & INSPECTION
AN ATLAS COMPANY

❑ Environmental Services ❑ Geotechnical Engineering ❑ Construction Materials Testing ❑ Special Inspections

Mr. Karl Shrum
Rural Road Assessment No. 3
44400 Baker Road
Ontario, OR 97914
208-739-8761

Re: Limited Borrow Source Investigation Report
White Property Gravel Quantity Assessment
533 Ontario Heights Road
Ontario, OR

Dear Mr. Shrum:

In compliance with your instructions, MTI has conducted a limited soils exploration and gravel quantity assessment for the above referenced development. Fieldwork for this investigation was conducted on 17 and 18 June 2019. The proposed development is northwest of the City of Ontario, Malheur County, OR, and occupies a portion of the S½SW¼ and NW¼SW¼ of Section 19, Township 17 South, Range 47 East, Willamette Meridian. The project will consist of a gravel borrow source roughly 77.9 acres in size. It is MTI's understanding that the maximum excavation depth for the proposed borrow source will be roughly 45 feet below existing ground surface. This investigation is limited to assessment of the quantity of gravel on the site. Quality assessment of the gravel for source approval is outside of MTI's scope of work. If source approval testing on the onsite gravel is needed, additional exploration and laboratory analysis will be required.

Authorization

Authorization to perform this exploration and analysis was given in the form of a written authorization to proceed from Mr. Karl Shrum of Rural Road Assessment No. 3 to Jacob Schlador of Materials Testing and Inspection (MTI), on 28 May 2019. Said authorization is subject to terms, conditions, and limitations described in the Professional Services Contract entered into between Rural Road Assessment No. 3 and MTI. Our scope of services for the proposed development has been provided in our proposal dated 16 May 2019 and repeated below.

Scope of Investigation

The scope of this investigation included review of geologic literature and existing available geotechnical studies of the area, visual site reconnaissance of the immediate site, subsurface exploration of the site, field and laboratory testing of materials collected, and assessment of gravel quantity on the site. Our scope of work did not include laboratory testing of material for suitability to Oregon Department of Transportation and/or other standards.

EXHIBIT # 3

Regional Geology

The subject site is located within the Western Snake River Flood Plain. Within this region, this geomorphological feature consists of a broad, deeply floored, thick sequence of alluvial silts, clays, sands and gravel. These sediments typically have been deposited on Miocene (24 to 5 million years ago) basalt flows and tuffaceous sediments of the eastern region of the Columbia Plateau. This thick sequence of generally fine-grained sediments, predominately derived from the Idaho Batholith, contains minor intercalated tuffs and basalt flows within the earliest deposits. Most of these sediments were placed during the latter part of the Miocene and are predominately of lacustrine origin. Lakes were created within this area as a result of basalt flow impoundments formed to the west along the ancestral Columbia River. Many of the fossil leaf forms uncovered in these lacustrine plain sediments indicate the presence of a wet tropical climate that prevailed at this time. Early Quaternary age (1.6 million years ago to present) sediments deposited on top of the lacustrine plain were apparently deposited during a time of extremely dry climatic conditions in which little water was present for removal, sorting, and deposition of the debris. With a gradual return to a wetter climate, the surrounding hills again began to erode to their present form. Locally within the City of Ontario, soils generally consist of interbedded clay, silt, sand and gravel. Geologic data for the area indicates bedrock may be encountered at depths of 750 feet or more beneath the soil surface.

General Site Characteristics

This proposed development consists of approximately 77.9 acres of gently sloping and hilly terrain. The site is bounded to the north by Canyon No 1. A gently east-west trending grade break is present in the northern portion of the site. On the north side of the grade break, the surface slopes gently downwards towards Canyon No 1. To the south of the grade break, the surface slopes gently downwards. In the central portion of the site there is an abrupt east-west trending grade break where the surface slopes downwards to the south at roughly 2 feet horizontal to 1 foot vertical (2:1). In the southern portion of the site, the surface slopes gently downwards to the north. Throughout the majority of the site, surficial soils consist of lean clays. Vegetation primarily consists of agricultural crops with some mature trees and brush along the northern and eastern perimeter.

Local drainage is north and east toward the Malheur and Snake Rivers via Canyon No 1. Stormwater drainage for the site is achieved by both sheet runoff and percolation through surficial soils. Runoff predominates for the steeper slopes while percolation prevails across the gently sloping and near level areas. The site is situated so that it is unlikely that it will receive any stormwater drainage from off-site sources. Stormwater drainage collection and retention systems are not in place on the project site and do not currently exist within the vicinity of the project site.

Exploration and Sampling Procedures

Field exploration conducted to determine engineering characteristics of subsurface materials included a reconnaissance of the project site and investigation by soil boring. Boring locations were selected by Mr. Karl Shrum of Rural Road Assessment No. 3 and provided to MTI via a site map. Actual borings were located in the field by means of a Global Positioning System (GPS) device and are reportedly accurate to within fifteen feet. Borings were advanced by means of a truck-mounted drilling rig equipped with continuous flight hollow-stem augers.

At specified depths, samples were obtained using a standard split-spoon sampler, and Standard Penetration Test (SPT) blow counts were recorded. Uncorrected SPT blow counts are provided on logs, which can be found in the **Appendix**. Delayed water level observations were made in open borings to evaluate groundwater levels. At completion of exploration, borings were backfilled with loose excavated materials and bentonite holeplug.

Samples have been visually classified in the field by professional staff, identified according to boring number and depth, placed in sealed containers, and transported to our laboratory for additional testing. Subsurface materials have been described in detail on logs provided in the **Enclosures** section. Results of field and laboratory tests are also presented in the **Enclosures** section. MTI recommends that these logs **not** be used to estimate fill material quantities.

Laboratory Testing Program

Along with our field investigation, a supplemental laboratory testing program was conducted to determine additional pertinent engineering characteristics of subsurface materials necessary in an analysis of anticipated behavior of the proposed structures. Laboratory tests were conducted in accordance with current applicable American Society for Testing and Materials (ASTM) specifications, and results of these tests are to be found on the accompanying logs located in the **Enclosures** section. The laboratory testing program for this report included: Atterberg Limits Testing – ASTM D4318 and Grain Size Analysis – ASTM C117/C136.

Soil and Sediment Profile

The profile below represents a generalized interpretation for the project site. Note that on site soils strata, encountered between boring locations, may vary from the individual soil profiles presented in the logs, which can be found in the **Enclosures** section.

Lean clay soils were found at ground surface. These soils were brown, dry to slightly moist, and soft to medium stiff. Silt soils were observed beneath lean clays. These soils were brown to light brown, dry to slightly moist, and very stiff to hard. Intermittent weak to strong calcium carbonate cementation was encountered within the lower portion of this horizon. Silty sand sediments were observed beneath silt soils in boring 5. These sediments were brown, slightly moist, and medium dense, with fine to medium-grained sand.

Poorly graded gravel with silt and sand sediments were found within the silt soils in boring 1 from 7 to 12.5 feet bgs and underlying silt/silty sand soils in borings 2 and 5. These sediments were grayish-light brown or brown, dry to slightly moist, and very dense, with fine to coarse-grained sand and fine to coarse gravel. Varying layers of poorly graded gravel with sand and poorly graded sand with gravel sediments were encountered beneath the silts/poorly graded gravels with silt and sand. These sediments were gray-brown, brown, or light brown, dry to saturated, and very dense, with fine to coarse-grained sand, fine to coarse gravel, and 5-inch-minus cobbles. A second layer of silt soils were encountered at depth in borings 1, 5, and 6. These soils were brown, saturated, and hard, with fine to medium-grained sand.

Boring sidewalls were generally stable. However, moisture contents will affect wall competency with saturated soils having a tendency to readily slough when under load and unsupported.

Groundwater

During this field investigation, groundwater was encountered in borings at depths ranging from 25.8 to 36.2 feet bgs. Soil moistures in the borings were generally dry to slightly moist within surficial soils. Within the poorly graded gravels with sand and poorly graded sands with gravel, soil moistures graded from dry to saturated as the water table was approached and penetrated. In the vicinity of the project site, groundwater levels are controlled in large part by agricultural irrigation activity and leakage from nearby canals. Maximum groundwater elevations likely occur during the later portion of the irrigation season. According to Oregon Department of Water Resources well reports within approximately ½-mile of the project site, groundwater was measured at depths ranging from 30 to 54 feet bgs.

Based on evidence of this investigation and background knowledge of the area, MTI estimates groundwater depths to remain greater than approximately 25 feet bgs throughout the year. This depth can be confirmed through long-term groundwater monitoring.

Gravel Quantity Assessment

MTI obtained surface elevations for the boring locations using Light Detection and Ranging (LiDAR) data from the Oregon Department of Geology and Mineral Industries. The depths where gravels were encountered was converted to elevations for analysis of the volume of gravel on the site. The subsurface soil data from the borings were imported into the Rockworks 17 software by Rockware to create a 3-dimensional model of the subsurface stratigraphy. Based on the model that was created, a bank volume of 1,984,930 cubic yards of gravel present on the site from existing ground surface to the maximum excavation depth of 45 feet bgs. However, approximately 908,200 cubic yards of the gravel present is below the groundwater elevation at the time of the borings. These volumes are estimates as variations within the subsurface soil layers may be present.

Warranty and Limiting Conditions

MTI warrants that findings and conclusions contained herein have been formulated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology only for the site and project described in this report. These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the site within the scope cited above and are necessarily limited to conditions observed at the time of the site visit and research. Field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above.

Exclusive Use

This report was prepared for exclusive use of the property owner(s), at the time of the report, and their retained design consultants ("Client"). Conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in this report together with the Contract for Professional Services between the Client and Materials Testing and Inspection ("Consultant"). Use or misuse of this report, or reliance upon findings hereof, by parties other than the Client is at their own risk. Neither Client nor Consultant make representation of warranty to such other parties as to accuracy or completeness of this report or suitability of its use by such other parties for purposes whatsoever, known or unknown, to Client or Consultant. Neither Client nor Consultant shall have liability to indemnify or hold harmless third parties for losses incurred by actual or purported use or misuse of this report. No other warranties are implied or expressed.

Report Recommendations are Limited and Subject to Misinterpretation

There is a distinct possibility that conditions may exist that could not be identified within the scope of the investigation or that were not apparent during our site investigation. Findings of this report are limited to data collected from noted explorations advanced and do not account for unidentified fill zones, unsuitable soil types or conditions, and variability in soil moisture and groundwater conditions. To avoid possible misinterpretations of findings, conclusions, and implications of this report, MTI should be retained to explain the report contents to other design professionals as well as construction professionals.

Since actual subsurface conditions on the site can only be verified by earthwork, note that construction recommendations are based on general assumptions from selective observations and selective field exploratory sampling. Upon commencement of construction, such conditions may be identified that require corrective actions, and these required corrective actions may impact the project budget. Therefore, construction recommendations in this report should be considered preliminary, and MTI should be retained to observe actual subsurface conditions during earthwork construction activities to provide additional construction recommendations as needed.

Since geotechnical reports are subject to misinterpretation, **do not** separate the soil logs from the report. Rather, provide a copy of, or authorize for their use, the complete report to other design professionals or contractors. Locations of exploratory sites referenced within this report should be considered approximate locations only. For more accurate locations, services of a professional land surveyor are recommended.

This report is also limited to information available at the time it was prepared. In the event additional information is provided to MTI following publication of our report, it will be forwarded to the client for evaluation in the form received.

Environmental Concerns

Comments in this report concerning either onsite conditions or observations, including soil appearances and odors, are provided as general information. These comments are not intended to describe, quantify, or evaluate environmental concerns or situations. Since personnel, skills, procedures, standards, and equipment differ, a geotechnical investigation report is not intended to substitute for a geoenvironmental investigation or a Phase II/III Environmental Site Assessment. If environmental services are needed, MTI can provide, via a separate contract, those personnel who are trained to investigate and delineate soil and water contamination.

MTI appreciates this opportunity to be of service to you and looks forward to working with you in the future. If you have questions, please call (208) 376-4748.

Respectfully Submitted,
Materials Testing & Inspection

Clint Wyllie, G.I.T.
Staff Geologist

Reviewed by: Elizabeth Brown, P.E.
Geotechnical Services Manager

Reviewed by: David O. Cram, P.E.
General Manager

REGISTERED PROFESSIONAL ENGINEER
OREGON
MAY 15, 1987
DAVID O. CRAM

7-3-19
12-31-19

Enclosures:
Geotechnical General Notes
Geotechnical Investigation Boring Logs
Vicinity Map
Site Map

GEOTECHNICAL GENERAL NOTES

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION			
Coarse-Grained Soils	**SPT Blow Counts (N)**	**Fine-Grained Soils**	**SPT Blow Counts (N)**
Very Loose:	< 4	Very Soft:	< 2
Loose:	4-10	Soft:	2-4
Medium Dense:	10-30	Medium Stiff:	4-8
Dense:	30-50	Stiff:	8-15
Very Dense:	>50	Very Stiff:	15-30
		Hard:	>30

Moisture Content	
Description	**Field Test**
Dry	Absence of moisture, dusty, dry to touch
Moist	Damp but not visible moisture
Wet	Visible free water, usually soil is below water table

Cementation	
Description	**Field Test**
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or beaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

PARTICLE SIZE					
Boulders:	>12 in.	Coarse-Grained Sand:	5 to 0.6 mm	Silts:	0.075 to 0.005 mm
Cobbles:	12 to 3 in.	Medium-Grained Sand:	0.6 to 0.2 mm	Clays:	<0.005 mm
Gravel:	3 in. to 5 mm	Fine-Grained Sand:	0.2 to 0.075 mm		

UNIFIED SOIL CLASSIFICATION SYSTEM			
Major Divisions		**Symbol**	**Soil Descriptions**
Coarse-Grained Soils <50% passes No.200 sieve	Gravel & Gravelly Soils <50% coarse fraction passes No.4 sieve	GW	Well-graded gravels; gravel/sand mixtures with little or no fines
		GP	Poorly-graded gravels; gravel/sand mixtures with little or no fines
		GM	Silty gravels; poorly-graded gravel/sand/silt mixtures
		GC	Clayey gravels; poorly-graded gravel/sand/clay mixtures
	Sand & Sandy Soils >50% coarse fraction passes No.4 sieve	SW	Well-graded sands; gravelly sands with little or no fines
		SP	Poorly-graded sands; gravelly sands with little or no fines
		SM	Silty sands; poorly-graded sand/gravel/silt mixtures
		SC	Clayey sands; poorly-graded sand/gravel/clay mixtures
Fine Grained Soils >50% passes No.200 sieve	Silts & Clays LL < 50	ML	Inorganic silts; sandy, gravelly or clayey silts
		CL	Lean clays; inorganic, gravelly, sandy, or silty, low to medium-plasticity clays
		OL	Organic, low-plasticity clays and silts
	Silts & Clays LL > 50	MH	Inorganic, elastic silts; sandy, gravelly or clayey elastic silts
		CH	Fat clays; high-plasticity, inorganic clays
		OH	Organic, medium to high-plasticity clays and silts
Highly Organic Soils		PT	Peat, humus, hydric soils with high organic content

MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-1

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Property Gravel Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	BI90984g
LOGGED BY:	Nick Stevens, G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	18 June 2019
LATITUDE/LONGITUDE:	44.07249, -117.02413

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS			BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, medium stiff.									
5		SILT (ML): Light brown, dry to slightly moist, hard. --Intermittent weak to moderate calcium carbonate cementation noted from 5.5 to 7.0 feet bgs.						6,15,39	0	30	60
10								17,40,31	0	30	60
15		POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM): Grayish-light brown, dry to slightly moist, very dense, with fine to coarse-grained sand and fine to coarse gravel.						10,50 for 5"	0	30	60
20		SILT (ML): Brown, slightly moist, hard.						20,43,46	0	30	60
25		POORLY GRADED GRAVEL WITH SAND (GP): Grayish-brown, dry to saturated, very dense, with fine to coarse-grained sand and fine to coarse gravel.	2.7	NP	52	5.7		15,40,50 for 2"	0	30	60
30								35,50 for 3"	0	30	60
▼		Groundwater encountered at 32.4 feet bgs.									
35								12,50 for 3"	0	30	60
40		SILT (ML): Brown, saturated, hard.						12,22,35	0	30	60
45								10,19,37	0	30	60

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MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-2

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Gravel Quantity Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	B190984g
LOGGED BY:	Maren Tanberg, E.I.T., G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	17 June 2016
LATITUDE/LONGITUDE:	44.071093, -117.018755

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS	BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, soft.						1, 2, 2	
								10, 16, 15	
5		SILT (ML): Brown, slightly moist, very stiff to hard. --Intermittent weak to moderate calcium carbonate cementation noted from 5.0 to 11.0 feet bgs.						7, 10, 11	0 30 60
								8, 10, 18	
10								18, 28, 50 for 4"	0 30 60
15		POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM): Brown, dry to moist, very dense, with fine to coarse-grained sand and fine to coarse gravel.						50 for 5.5"	0 30 60
20								50 for 5.5"	0 30 60
▼ 25		POORLY GRADED SAND WITH GRAVEL (SP): Brown, slightly moist to saturated, very dense, with fine to coarse-grained sand and fine to coarse gravel. Groundwater encountered at 25.8 feet bgs.						14, 38, 36	0 30 60
30								45, 50 for 2"	0 30 60
35								15, 50 for 4"	0 30 60
40								15, 34, 50 for 5"	0 30 60
45								48, 50 for 4"	0 30 60

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MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-3

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Property Gravel Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	BI90984g
LOGGED BY:	Nick Stevens, G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	18 June 2019
LATITUDE/LONGITUDE:	44.07241, -117.02109

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS	BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, medium stiff.							
5		SILT (ML): Light brown, dry to slightly moist, hard. --Intermittent weak calcium carbonate cementation noted from 6.2 to 10.0 feet bgs.					■	12,16,19	0 30 60
10							■	7,18,29	0 30 60
15		POORLY GRADED GRAVEL WITH SAND (GP): Grayish-brown, dry to saturated, very dense, with fine to coarse-grained sand and 5-inch minus cobbles.					■	24,50 for 5.5"	0 30 60
20							■	24,50 for 4"	0 30 60
25							■	50 for 5"	0 30 60
30							■	43,50 for 3"	0 30 60
▼ 35		Groundwater encountered at 34.6 feet bgs.					■	10,50 for 5"	0 30 60
40							■	25,50 for 5.5"	0 30 60
45		SILT (ML): Brown, saturated, hard.					■	12,27,50 for 5"	0 30 60

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MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-4

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Property Gravel Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	B190984g
LOGGED BY:	Nick Stevens, G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	18 June 2019
LATITUDE/LONGITUDE:	44.06981, -117.02416

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS	BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, soft.							
5		SILT (ML): Light brown, dry to slightly moist, stiff to hard. --Intermittent weak to strong calcium carbonate cementation noted from 5.0 to 9.5 feet bgs. --Some fine-grained sand noted from 21.0 to 22.5 feet bgs.						14,24,50 for 5.5"	0 30 60
10								8,16,12	0 30 60
15								4,5,7	0 30 60
20								6,7,11	0 30 60
25		POORLY GRADED GRAVEL WITH SAND (GP): Grayish-brown, dry to saturated, very dense, with fine to coarse-grained sand and 4-inch minus cobbles.						16,50 for 5.5"	0 30 60
30								12,45,50 for 3"	0 30 60
▼ 35		Groundwater encountered at 36.2 feet bgs.						28,50 for 4"	0 30 60
40								17,46,50 for 3"	0 30 60
45								6,18,42	0 30 60

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MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-5

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Property Gravel Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	BI90984g
LOGGED BY:	Maren Tanberg, E.I.T., G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	17 June 2016
LATITUDE/LONGITUDE:	44.069237, -117.021610

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS	BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, medium stiff.						3, 2, 3	
								10, 15, 18	
5		SILT (ML): Brown, dry to slighly moist, very stiff to hard. --Intermittent weak to moderate calcium carbonate cementation noted from 7.5 to 11.5 feet bgs.						7, 11, 14	0 30 60
								50 for 2.5"	
10								20, 13, 6	0 30 60
15		SILTY SAND (SM): Brown, slightly moist, medium dense, with fine to medium-grained sand.						10, 13, 14	0 30 60
20		POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM): Brown to gray-brown, dry to slightly moist, very dense, with fine to coarse-grained sand and fine to coarse gravel.						16, 42, 50 for 3.5"	0 30 60
25								20, 43, 50 for 3"	0 30 60
		POORLY GRADED GRAVEL WITH SAND (GP): Gray-brown, dry to saturated, very dense, with fine to coarse-grained sand and fine to coarse gravel.							
30								26, 50 for 5.5"	0 30 60
▼ 35		Groundwater encountered at 34.1 feet bgs.						13, 42, 50 for 5"	0 30 60
40		SILT (ML): Brown, saturated, hard, with fine to medium-grained sand.						15, 28, 50 for 4"	0 30 60
45								17, 31, 50	0 30 60

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MATERIALS TESTING & INSPECTION

FIELD BOREHOLE LOG

BOREHOLE NO.: B-6

TOTAL DEPTH: 46.5'

PROJECT INFORMATION

PROJECT:	White Property Gravel Assessment
LOCATION:	533 Ontario Heights Road
	Ontario, OR
JOB NO.:	B190984g
LOGGED BY:	Maren Tanberg, E.I.T., G.I.T.

DRILLING INFORMATION

DRILLING CO.:	Haztech Drilling, Inc.
METHOD OF DRILLING:	6" Hollow Stem Auger
SAMPLING METHODS:	Split Spoon
DATES DRILLED:	17 June 2016
LATITUDE/LONGITUDE:	44.068968, -117.018726

▼ Water level during drilling | Standard Split Spoon | Auger Sample | California Sampler

DEPTH	SOIL TYPE	DESCRIPTION	MOISTURE (%)	LL/PI	% < #4	% < #200	SAMPLE	BLOWS	BLOWS PER FOOT (N)
0		LEAN CLAY (CL): Brown, dry to slightly moist, medium stiff.						4, 4, 3	
								3, 8, 15	
5		SILT (ML): Brown, dry to slightly moist, very stiff to hard. --Intermittent weak calcium carbonate cementation noted from 7.5 to 15.0 feet bgs.						10, 12, 12	0 30 60
								14, 11, 8	
10								6, 7, 14	0 30 60
15		POORLY GRADED SAND WITH GRAVEL (SP): Brown, dry to slightly moist, very dense, with fine to medium-grained sand and fine to coarse gravel.						24, 35, 24	0 30 60
20								15, 32, 50 for 2"	0 30 60
25								38, 50 for 3"	0 30 60
30								43, 50 for 3"	0 30 60
▼									
35		POORLY GRADED GRAVEL WITH SAND (GP): Gray-brown to light brown, slightly moist to saturated, very dense, with fine to coarse-grained sand. Groundwater encountered at 32.8 feet bgs.						10, 24, 40	0 30 60
40								8, 50 for 4"	0 30 60
45		SILT (ML): Brown, slightly moist, hard, with fine to medium-grained sand.						17, 32, 50	0 30 60

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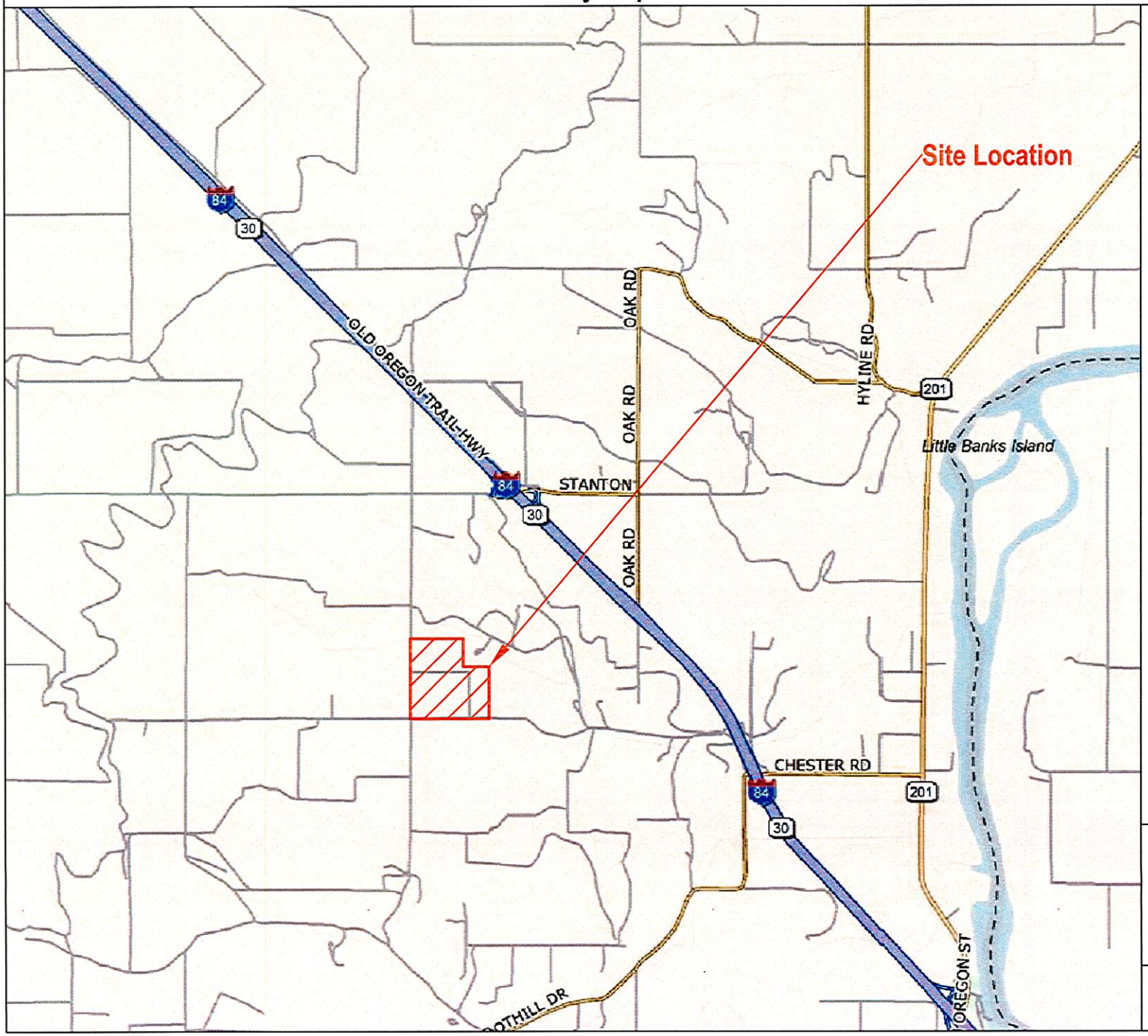
Vicinity Map

Plate 1



MAP NOTES:

- Delorme Street Atlas
- Not to Scale

LEGEND

Approximate Site Location

N

White Property Gravel Quantity Assessment

533 Ontario Heights Road
Ontario, OR

Modified from DeLorme by: CCW
1 July 2019
Drawing: B190984g

MATERIALS TESTING & INSPECTION

AN ATLAS COMPANY

2791 S. Victory View Way
Boise, ID 83709-2835

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E-mail: mti@mti-id.com

Site Map

Plate 2

NOTES:

- Not to Scale
- Photo by ESRI World Imagery Service

LEGEND

Approximate Site Boundary

Approximate MTI Boring Location

N

White Property Gravel Quantity Assessment

533 Ontario Heights Road
Ontario, OR

Modified by: CCW
1 July 2019
Drawing: B190984g

MATERIALS TESTING & INSPECTION

AN ATLAS COMPANY

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Mr. Karl Shrum
Rural Road Assessment No. 3
44400 Baker Road
Ontario, OR 97914
208-739-8761

Re: Addendum #1 – Additional Laboratory Testing
White Property Gravel Quantity Assessment
533 Ontario Heights Road
Ontario, OR

Dear Mr. Shrum:

This addendum report presents laboratory test results not requested at the time of the previously issued MTI Geotechnical Engineering Report (B190984g). Descriptions of general site characteristics and the proposed project are available in the previous report. Unless otherwise noted in this addendum, all initial recommendations, limitations, and warranties expressed in the previous report must be adhered to.

Additional Testing

It was requested by Mr. Karl Shrum that additional laboratory testing be conducted for the development of the project site as a gravel pit. The test samples were reportedly obtained by Mr. Karl Shrum from three different locations on the site. Samples were obtained from the vicinity of boring 1, boring 2, and boring 6, via test pits advanced 5 plus feet into the gravel deposits (see Site Map for boring locations). Laboratory tests were conducted in accordance with current applicable Oregon Department of Transportation (ODOT) and American Association of State Highway and Transportation Officials (AASHTO) specifications, and results of these tests are located in the **Enclosures** section of this report. The laboratory testing program for this report included: Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine Testing – AASHTO T 96, Soundness of Aggregate by Use of Sodium Sulfate – AASHTO T 104, and Oregon Air Aggregate Degradation – ODOT TM 208.

Based on the reported test pit/sample locations, the test samples can be expected to be generally representative of the aggregates at the overall site and associated subsurface conditions. Test results, included with this report, of the samples indicate that the materials appear to meet the requirements of Oregon Standard Specifications for Construction, 2018, Base Aggregate, 02630.1 (c) Durability section.

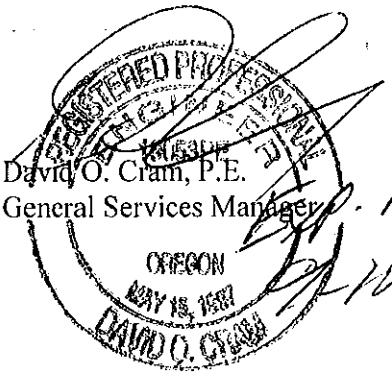
The findings, test data, and opinions within this report limited to the conditions described, samples submitted, and test results. Additional and/or alternate information may require revisions to this report, and therefore must be brought to the immediate attention of this engineer. At that time, revisions to this report may be required.

MTI appreciates this opportunity to be of service to you and looks forward to working with you in the future. If you have questions, please call (208) 376-4748.

Respectfully Submitted,
Materials Testing & Inspection

Jacob Schlador, P.E. (ID)
Geotechnical Engineer

Reviewed by: David O. Cram, P.E.
General Services Manager



12-31-19
12-10-19

Enclosures:
Abrasion Test Results – AASHTO T 96
Soundness Test Results – AASHTO T 108
Oregon Air Aggregate Degradation – ODOT TM 208

ABRASION TEST RESULTS – AASHTO T 96

Source:	Test Pit #1 – Vicinity of Boring 2								
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.								
Sample ID:	19-5241								
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X	
Test Standard:	ASTM C535:		AASHTO T96:	X					

Nominal Maximum Size of Aggregate	2.5"
Grading Designation	2
Loss by Abrasion (%)	24

Specification: 35% maximum

Source:	Test Pit #2 - Vicinity of Boring 6								
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.								
Sample ID:	19-5241								
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X	
Test Standard:	ASTM C535:		AASHTO T96:	X					

Nominal Maximum Size of Aggregate	2.5"
Grading Designation	2
Loss by Abrasion (%)	20

Specification: 35% maximum

Source:	Test Pit #3 - Vicinity of Boring 1								
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.								
Sample ID:	19-5241								
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X	
Test Standard:	ASTM C535:		AASHTO T96:	X					

Nominal Maximum Size of Aggregate	2.5"
Grading Designation	2
Loss by Abrasion (%)	24

Specification: 35% maximum

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #1 - Vicinity of Boring 2							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2842.7	0.3	0.1
2.0"	1.5"	1831.1		
1.5"	1.0"	966.0	1.0	0.3
1.0"	¾"	492.7		
¾"	½"	669.8	3.2	0.5
½"	3/8"	331.9		
3/8"	#4	300.8	5.5	0.6
			Total	1.5

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"	1	4.5							22
1.5"	¾"	1	2.7							37

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #2 - Vicinity of Boring 6							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2876.9	0.3	0.1
2.0"	1.5"	1848.0		
1.5"	1.0"	983.4	0.2	0.1
1.0"	¾"	500.3		
¾"	½"	670.2	2.6	0.5
½"	3/8"	330.7		
3/8"	#4	329.8	3.5	0.4
			Total	1.1

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"					2	10.5			19
1.5"	¾"									40

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #3 - Vicinity of Boring 1							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2943.9	0.5	0.3
2.0"	1.5"	1964.0		
1.5"	1.0"	970.1	2.8	0.8
1.0"	¾"	484.6		
¾"	½"	660.2	8.2	1.0
½"	3/8"	325.9		
3/8"	#4	299.4	8.0	0.8
			Total	2.9

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"	1	4.2							24
1.5"	¾"	2	4.9							41

OREGON AIR AGGREGATE DEGRADATION – ODOT TM 208

Source:	Test Pit #1 - Vicinity of Boring 2							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	2.9
Sand Equivalent	Sediment Height	0.2"

Specification: 30% maximum passing, and 3" maximum

Source:	Test Pit #2 - Vicinity of Boring 6							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	1.9
Sand Equivalent	Sediment Height	0.1"

Specification: 30% maximum passing, and 3" maximum

Source:	Test Pit #3 - Vicinity of Boring 1							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	2.1
Sand Equivalent	Sediment Height	0.2"

Specification: 30% maximum passing, and 3" maximum

Mr. Karl Shrum
Rural Road Assessment No. 3
44400 Baker Road
Ontario, OR 97914
208-739-8761

Re: Addendum #1 – Additional Laboratory Testing
White Property Gravel Quantity Assessment
533 Ontario Heights Road
Ontario, OR

Dear Mr. Shrum:

This addendum report presents laboratory test results not requested at the time of the previously issued MTI Geotechnical Engineering Report (B190984g). Descriptions of general site characteristics and the proposed project are available in the previous report. Unless otherwise noted in this addendum, all initial recommendations, limitations, and warranties expressed in the previous report must be adhered to.

Additional Testing

It was requested by Mr. Karl Shrum that additional laboratory testing be conducted for the development of the project site as a gravel pit. The test samples were reportedly obtained by Mr. Karl Shrum from three different locations on the site. Samples were obtained from the vicinity of boring 1, boring 2, and boring 6, via test pits advanced 5 plus feet into the gravel deposits (see Site Map for boring locations). Laboratory tests were conducted in accordance with current applicable Oregon Department of Transportation (ODOT) and American Association of State Highway and Transportation Officials (AASHTO) specifications, and results of these tests are located in the **Enclosures** section of this report. The laboratory testing program for this report included: Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine Testing – AASHTO T 96, Soundness of Aggregate by Use of Sodium Sulfate – AASHTO T 104, and Oregon Air Aggregate Degradation – ODOT TM 208.

Based on the reported test pit/sample locations, the test samples can be expected to be generally representative of the aggregates at the overall site and associated subsurface conditions. Test results, included with this report, of the samples indicate that the materials appear to meet the requirements of Oregon Standard Specifications for Construction, 2018, Base Aggregate, 02630.1 (c) Durability section.

Resized Aggregate Area

MTI was informed by Mr. Karl Shrum, that at this time a smaller area was planned on being mined for aggregate base. This area can be seen on the **Site Map** that can be seen in the **Enclosures** section of this report. MTI obtained surface elevations for the boring locations using Light Detection and Ranging (LiDAR) data from the Oregon Department of Geology and Mineral Industries. The subsurface soil data from the borings were imported into the Rockworks 17 software by Rockware to create a 3-dimensional model of the subsurface stratigraphy. Based on the model that was created, a bank volume of approximately 390,597 bank cubic yards of poorly graded gravel sediments are within this area to the maximum excavation depth of 45 feet bgs. Based on laboratory analysis on the poorly graded gravel sediments, MTI determined that this material had a unit weight of 121 pounds per cubic foot. Using this information, MTI was able to calculate that there was approximately 638,000 tons of poorly graded gravel sediments in the area of interest.

The findings, test data, and opinions within this report limited to the conditions described, samples submitted, and test results. Additional and/or alternate information may require revisions to this report, and therefore must be brought to the immediate attention of this engineer. At that time, revisions to this report may be required.

MTI appreciates this opportunity to be of service to you and looks forward to working with you in the future. If you have questions, please call (208) 376-4748.

Respectfully Submitted,
Materials Testing & Inspection

Jacob Schlador, P.E. (ID)
Geotechnical Engineer

Reviewed by: David O. Cram, P.E.
General Services Manager

REGISTERED PROFESSIONAL ENGINEER 19053PE OREGON MAY 15, 1997 DAVID O. CRAM

9-17-19
12-31-19

Enclosures:
Abrasion Test Results – AASHTO T 96
Soundness Test Results – AASHTO T 108
Oregon Air Aggregate Degradation – ODOT TM 208
Site Map

ABRASION TEST RESULTS – AASHTO T 96

Source:	Test Pit #1 – Vicinity of Boring 2							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C535:		AASHTO T96:	X				

Nominal Maximum Size of Aggregate	2.5”
Grading Designation	2
Loss by Abrasion (%)	24

Specification: 35% maximum

Source:	Test Pit #2 - Vicinity of Boring 6							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C535:		AASHTO T96:	X				

Nominal Maximum Size of Aggregate	2.5”
Grading Designation	2
Loss by Abrasion (%)	20

Specification: 35% maximum

Source:	Test Pit #3 - Vicinity of Boring 1							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C535:		AASHTO T96:	X				

Nominal Maximum Size of Aggregate	2.5”
Grading Designation	2
Loss by Abrasion (%)	24

Specification: 35% maximum

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #1 - Vicinity of Boring 2							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2842.7	0.3	0.1
2.0"	1.5"	1831.1		
1.5"	1.0"	966.0	1.0	0.3
1.0"	¾"	492.7		
¾"	½"	669.8	3.2	0.5
½"	3/8"	331.9		
3/8"	#4	300.8	5.5	0.6
			Total	1.5

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"	1	4.5							22
1.5"	¾"	1	2.7							37

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #2 - Vicinity of Boring 6							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2876.9	0.3	0.1
2.0"	1.5"	1848.0		
1.5"	1.0"	983.4	0.2	0.1
1.0"	¾"	500.3		
¾"	½"	670.2	2.6	0.5
½"	3/8"	330.7		
3/8"	#4	329.8	3.5	0.4
			Total	1.1

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"					2	10.5			19
1.5"	¾"									40

SOUNDNESS TEST RESULTS – AASHTO T 104

Source:	Test Pit #3 - Vicinity of Boring 1							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ASTM C88:		AASHTO T104:	X				
Solution:	Sodium:	X	Magnesium:		Fresh Prepared:	X	Previously Used:	

Coarse Aggregate

Sieve Size		Weight of Test Fraction Before Test	% Passing Designated Sieve After Test	Weighted % Loss
Passing	Retained			
2.5"	2.0"	2943.9	0.5	0.3
2.0"	1.5"	1964.0		
1.5"	1.0"	970.1	2.8	0.8
1.0"	¾"	484.6		
¾"	½"	660.2	8.2	1.0
½"	3/8"	325.9		
3/8"	#4	299.4	8.0	0.8
			Total	2.9

Specification: 12% maximum

Coarse Aggregate Examination

Sieve Size		Splitting		Crumbling		Cracking		Flaking		No. of Particles Before Test
Passing	Retained	No.	%	No.	%	No.	%	No.	%	
2.5"	1.5"	1	4.2							24
1.5"	¾"	2	4.9							41

OREGON AIR AGGREGATE DEGRADATION – ODOT TM 208

Source:	Test Pit #1 - Vicinity of Boring 2							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	2.9
Sand Equivalent	Sediment Height	0.2"

Specification: 30% maximum passing, and 3" maximum

Source:	Test Pit #2 - Vicinity of Boring 6							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	1.9
Sand Equivalent	Sediment Height	0.1"

Specification: 30% maximum passing, and 3" maximum

Source:	Test Pit #3 - Vicinity of Boring 1							
Date Obtained:	The Sample was Obtained and Delivered by the Client on July 31, 2019.							
Sample ID:	19-5241							
Sampling and Preparation:	ASTM D75:		AASHTO T2:		ASTM D421:		AASHTO T87:	X
Test Standard:	ODOT TM 208-15:	X						

No. 20 Sieve	Percent Passing	2.1
Sand Equivalent	Sediment Height	0.2"

Specification: 30% maximum passing, and 3" maximum

Site Map

Plate 2

NOTES:

- Not to Scale
- Photo by ESRI World Imagery Service

LEGEND

Approximate Site Boundary

Approximate Revised Boundary of Mining Operations

Approximate MTI Boring Location

N

White Property Gravel Quantity Assessment

533 Ontario Heights Road
Ontario, OR

Modified by: JBS
17 September 2019
Drawing: B190984g

MATERIALS TESTING & INSPECTION

AN ATLAS COMPANY

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