



**TYPE III – PLANNING COMMISSION PUBLIC HEARING
STAFF REPORT AND RECOMMENDATION**
STAFF REPORT ISSUANCE: July 1, 2016
PLANNING COMMISSION HEARING DATE: July 11, 2016

Submitted: 05/11/2016
Complete: 06/10/2016
120-Day: 10/10/2016

FILE NUMBER: US 16-02 / NR 16-04 / SP 16-04 / VR 16-01

OWNER: George Glass, Berryhill Equity LLC,
4004 Kruse Way Place, Lake Oswego, OR 97035

REPRESENTATIVE: David L. Higgins, CEG, LEG, Shannon & Wilson, Inc.,
3990 Collins Way, Ste. 100, Lake Oswego,, OR 97035

REQUEST: A 246-foot long X 12-foot high retaining wall is proposed on the Berryhill Park Apartments property to mitigate a landslide. The land use application includes applications for Geologic Hazards Review, Minor Site Plan & Design Review, Natural Resources Verification, and a Variance for wall height.

LOCATION: 13945 Beaver Creek Rd & 14155 Beaver Creek Rd, Oregon City, OR 97045
Clackamas County APN 3-2E-04C-00803 and 00807

REVIEWERS: Pete Walter, AICP, Planner
Wendy Marshall, PE, Development Projects Manager
Matt Palmer, EIT, Development Engineering Associate
Timothy J. Pfeiffer, PE, GE, Foundation Engineering, Inc.

RECOMMENDATION: Approval with Conditions.

PROCESS: Pursuant to OCMC 17.50. The decision of the Community Development Director is final unless appealed to the City Commission within fourteen (14) days following the mailing of this notice. Only persons who commented in writing to the Community Development Director may appeal this limited land use decision. The request for a hearing shall be in writing. The request for a hearing shall demonstrate how the party is aggrieved or how the proposal does not meet the applicable criteria. The application, decision (including specific conditions of approval), and supporting documents are available for inspection at the Oregon City Planning Division. Copies of these documents are available (for a fee) upon request. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to 17.50.290(C) must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

Conditions of Approval
Planning Files US 16-02 / NR 16-04 / SP 16-04 / VR 16-01

(P) = Verify that condition of approval has been met with the Planning Division.

(DS) = Verify that condition of approval has been met with the Development Services Division.

(B) = Verify that condition of approval has been met with the Building Division.

(F) = Verify that condition of approval has been met with Clackamas Fire Department.

1. *(P)* Since the site is on private property the applicant is responsible for maintenance of the site once the project is completed, including but not limited to continued maintenance and necessary for normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency. The applicant shall acknowledge this requirement and provide a statement attesting to this requirement prior to final inspection and approval of the completed project.
2. *(DS)* Grading and earthwork will be restricted to between May 1 and October 31.
3. *(B)* The applicant shall obtain the necessary building permits for construction of the retaining wall to assure compliance with the Oregon Structural Specialty Code.
4. *(P)* Any tree removal that may occur following approval of this application shall require documentation of the need for the removal by a certified arborist, forester or similarly qualified professional as well as mitigation and replanting of new trees in accordance with the applicable sections of Chapter 17.41 - Tree Protection. Prior to issuance of a grading permit or construction permit, the applicant shall provide a tree mitigation plan in accordance with the applicable provisions of OCMC 17.41 for any trees that may represent a potential conflict with the proposed location for construction of the retaining wall or which may be removed throughout the process. The mitigation plan shall include a report by a certified arborist or forester that describes the condition of the tree or trees that may be affected by the wall construction, the feasibility of saving the trees, and the proposed mitigation should preservation not be feasible. Mitigation shall be provided on site.
5. *(P)* Prior to final inspection the applicant shall provide a revised landscaping plan prepared by a registered landscape architect which includes the proposed number or amount, planting locations, and species of any grass seed mix, ground covers, shrubs and trees to be replanted on the slope. The plan shall be prepared in collaboration with the applicant's geotechnical engineer to ensure that the landscaping plan does not conflict with the recommendations for geotechnical remediation.

I. BACKGROUND:

The following is an excerpt from the applicant's revised narrative dated 6-9-2016.

The duplex and eightplex of the Berryhill Apartments, and the entirety of the neighboring Forest Edge Apartments, were built on an ancient landslide complex. A portion of the ancient landslide head scarp,

the uppermost boundary of the complex, is located along the short slope between the Berryhill duplex/eightplex structures and the parking lot to the west. The toe, or bottom, of the landslide is located below the Forest Edge Apartments, along Newell Creek.

On January 13, 2006, after a period of heavy precipitation, landslide movements occurred within the Forest Edge Apartments property, down-slope and northeast of the Berryhill Apartments. On January 26, 2006, several ground cracks were observed near the top of the hillside within approximately 10 feet of the Berryhill Apartments duplex and eightplex. Between 2006 and 2011, the vertical offset of the Berryhill Apartments ground cracks increased in size, and several small landslides occurred on the hillside below the cracks. By 2011, a major scarp had formed at the location where the Berryhill cracks were first observed in 2006, and several smaller ground cracks were apparent between the new scarp and the duplex/eightplex. Foundation cracks appeared in both the duplex and eightplex in January 2011.

Shannon & Wilson, Inc., first visited the site in February 2013, and performed initial geotechnical borings, inclinometer and groundwater instrumentation monitoring, and slope stability analysis between October 2014 and July 2015. Based upon our field explorations, our review of local geologic mapping, and our observations since 2013, we concluded that the landslide movements on the hillside below the Berryhill duplex/eightplex occurred due to movement of the larger, down-slope Forest Edge Apartments landslide blocks. Our slope stability analysis indicated that the landslide block immediately beneath the Berryhill duplex/eightplex is supported by the down-slope landslide blocks underlying the Forest Edge Apartments. As the Forest Edge Apartments landslide blocks continue to move, the upper slope will become increasingly unstable. We recommended a soldier pile wall with tiebacks be installed at the top of the upper slope, to stabilize the ground beneath the duplex and eightplex and to avoid possible future damage to these structures. The wall would also serve to mitigate expansion of the landslide further upslope behind the wall. If a retaining wall is not constructed, the landslide could expand further into the Berryhill Apartments complex and damage additional apartment buildings, as well as adjacent properties which are upslope of the proposed location of the retaining wall.

From March 2011 to December 2015, there was minor movement of the Forest Edge Apartments landslide and landslides on the upper slope below the Berryhill duplex/eightplex. The minor movement resulted in increased size of existing ground cracks and additional offset at the scarp immediately below the duplex/eightplex. Existing ground cracks and scarp offsets increased by several inches, and some by a few feet, but new ground cracks or head scarps were not observed. Around December 18, 2015, during the wettest December ever recorded, and after a period of particularly heavy precipitation, the Forest Edge Apartments landslide accelerated and new offsets occurred at the active scarp adjacent to the duplex/eightplex. On December 21, 2015, the Forest Edge Apartment units within the active portion of the landslide, as well as the Berryhill Apartments duplex/eightplex, were evacuated. We observed a slight increase in some of the existing foundation cracks. Based on observations made during our site visit on January 25, 2016, the ground cracks above the active Berryhill scarp and foundation cracking of the duplex/eightplex have not significantly changed since December 21, 2015. However, the slope below the active scarp has continued to move. There are new ground cracks with offsets several feet wide, a large slump has formed in the center of the hillside approximately 80 feet down-slope of the eightplex, and offsets at the scarp have increased by a few feet. In an inclinometer casing installed a few feet upslope of the scarp, in the area between the eightplex and duplex, we have recorded approximately 0.4 inches of movement from December 10, 2015 to January 25, 2016.

1. Existing Conditions

Description

In summary, the proposed retaining wall location currently consists of a steep, unstable soil slope that has been temporarily covered with plastic sheeting to prevent erosion, water infiltration, and further deterioration. The adjacent Berryhill duplex and eightplex have been evacuated and cannot be reoccupied until the proposed wall is constructed to stabilize the landslide block on which they are founded. In our opinion, the acceleration of the landslide this winter, the increase of landslide movement causing loss of support to upslope structures, evacuation of two Berryhill Apartment buildings, and risk of the landslide expanding further upslope beyond its current limits constitute an emergency. Construction of the proposed soldier pile and tieback retaining wall would stabilize the ground upslope of the scarp, preventing the landslide from increasing in size upslope of the wall and allowing the Berryhill Apartment buildings to be reoccupied. If the wall is not constructed prior to next winter, there is a significant risk that the landslide will permanently damage the duplex and eightplex and that it could increase in size, causing damage to upslope structures and properties.

For complete site plans and engineering drawings please refer to the application attached to this report.

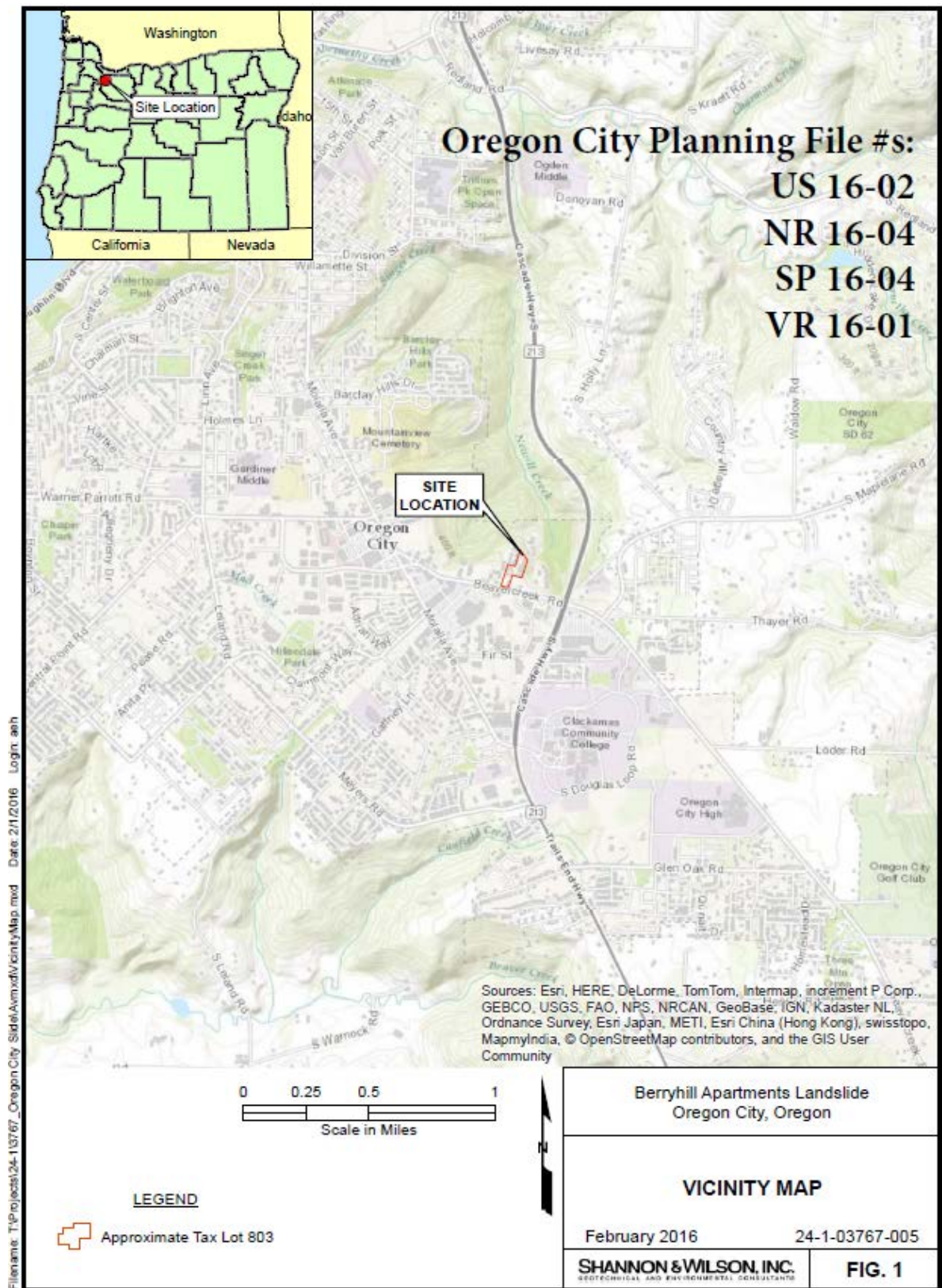


Figure 1. Vicinity Map

2. Project Description

This excerpt is from the applicant's project description:

The soldier pile and tieback retaining wall will be constructed on the downslope side of the duplex and eightplex, approximately 10 feet from the rear of the building. The wall will be approximately 250 feet long and extend a minimum distance of 15 feet beyond the ends of the duplex and eightplex, as shown on the retaining wall construction plans attached to this application. The soldier piles will consist of 50-foot long steel piles set into 30-inch diameter drilled boreholes. The soldier piles will be installed on approximately 6-foot centers and will be backfilled with concrete. Only the upper 12 feet of the wall will be exposed (12-foot apparent wall height, not including the cedar fence at the top). The remainder of the soldier piles will be embedded below ground. The exposed 12-foot high face of the wall will have wood lagging between the piles. Tiebacks, approximately 60 to 80 feet long, will be installed on a downward angle through the face of the wall. The tiebacks will be extended toward the upslope parking lot and will be completely buried below ground and below any utilities or structures. The tiebacks will be grouted, anchoring the soldier piles into the ground horizontally, which will help support the wall.

All existing utilities are upslope of the wall and will not be impacted. Site drainage and hydraulics will also not be altered. Surface drainage will flow over the wall and continue downslope, similar to the current condition. Construction access will be from the upslope parking lot between the duplex and eightplex. There is also a construction easement agreement in place with the owner of the Forest Edge Apartments and some materials may be brought in from the lower construction easement. If soil is removed from the site as part of retaining wall construction, soil removal may also occur through the lower construction easement. A construction access and erosion control plan is attached to this application.

The applicant understands that the proposed wall height of up to 12 feet (not including the fence) exceeds the maximum wall height of 8.5 feet set forth in the Oregon City Municipal Code. Justification for the proposed variance is provided below in responses to the Oregon City Municipal Code.

3. Municipal Code Standards and Requirements: The following sections of the Oregon City Municipal Code are applicable to this land use approval:

- 13.12 - Stormwater Management
- 15.48 - Grading, Filling and Excavating
- 17.61 – R-3.5 Dwelling District
- 17.18 – R-2 Multi-Family Dwelling District
- 17.41 – Tree Protection
- 17.47 - Erosion and Sediment Control
- 17.50 - Administration and Procedures
- 17.62 - Site Plan and Design Review
- 17.52 - Off Street Parking and Loading
- 17.54.100 – Fences
- 17.58 - Nonconforming Uses, Structures, and Lots

The City Code Book is available on-line at www.oregoncity.org.

4. Permits and Approvals: The applicant is responsible for obtaining approval and permits from each applicable governmental agency and department at Oregon City including but not limited to the Engineering and Building Divisions.

This applications consists of four concurrent applications:

Brief Description of Permits Sought

1. US 16-02: Geologic Hazards Review. This application is required to show compliance with the City's Geologic Hazard Overlay District standards. This application is primarily a technical, engineering review of the applicant's engineer's proposal which is then peer-reviewed by the City's consulting Geologic Engineer.

2. NR 16-04: Natural Resources Overlay District. This application is required to show compliance with the City's Natural Resource Overlay District. The applicant has provided evidence to show that the project is located outside of the NROD (verification) and will not impact the NROD.

3. SP 16-04: Minor Site Plan and Design Review. This application is required to show compliance with Chapter 17.62 for non-single family properties. While many of the site plan and design review criteria are not applicable to the retaining wall proposal (for example, off-street parking, multi-family architectural standards, etc.), the application is required to show compatibility with related applicable criteria such as building material compatibility, tree removal, landscaping, etc.

4. VR 16-01 – Variances. A variance is required from the development standards for cut and fill slopes within the Geologic Hazard Overlay District, which require that cut slopes that exceed 7' in height be terraced (See [OCMC 17.49.060.D](#)). The second part of the variance request is to exceed the combined maximum height of a fence on a retaining wall, which is 8 ½ feet per code (See [OCMC 17.54.100.B.4 – Exceptions](#)).

5. Public Notice and Comments: Public notice was provided in accordance with OCMC 17.50.

As of the date of this staff report, no public comments were received regarding this application.

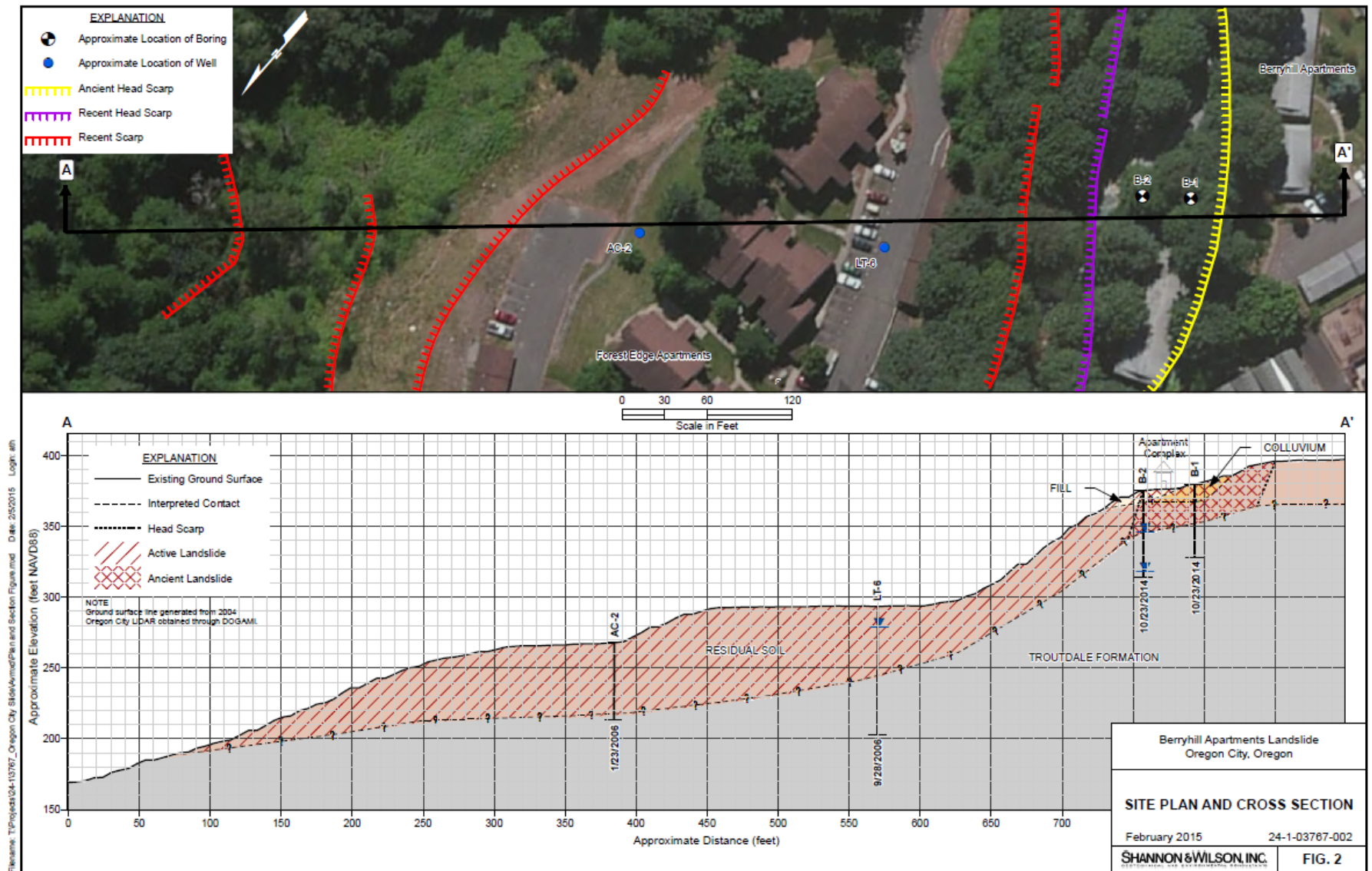


Figure 3: Proposed Site Plan and Cross Sections

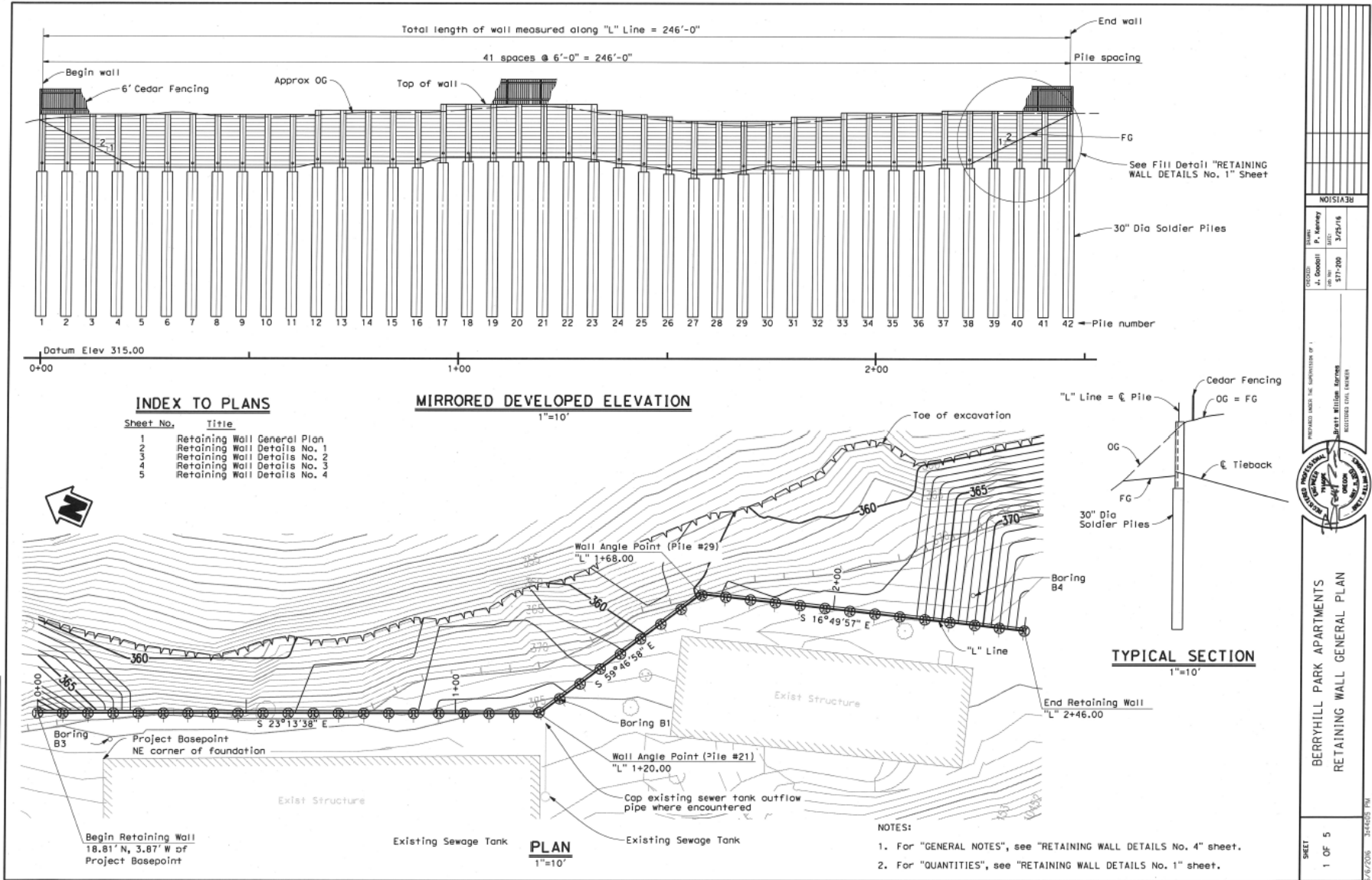


Figure 4: Proposed Elevations

II. ANALYSIS AND FINDINGS:

CHAPTER 17.16 – “R-3.5” DWELLING DISTRICT

17.16.040 Dimensional standards.

Dimensional standards in the R-3.5 district are:

A. Minimum Lot Areas.

1. Residential uses, three thousand five hundred square feet per unit.

2. Non-residential uses, zero minimum;

B. Minimum lot width, twenty-five feet;

C. Minimum lot depth, seventy feet;

D. Maximum building height, two and one-half stories, not to exceed thirty-five feet;

E. Minimum Required Setbacks:

1. Front yard, five feet minimum setback,

2. Front porch, zero feet minimum setback,

3. Interior side yard,

Detached unit, five feet minimum setback

Attached unit, seven feet minimum setback on the side that does not abut a common property line.

4. Corner side yard, ten-foot minimum setback,

5. Rear yard, fifteen-foot minimum setback,

6. Rear porch, ten-foot minimum setback.

Finding: Not applicable. Construction of the proposed wall will not alter lot dimensions or the spatial relationship between lot boundaries and existing dwellings.

CHAPTER 17.18 “R-2” MULTI-FAMILY DWELLING DISTRICT

17.18.040 - Dimensional standards.

Dimensional standards in the R-2 district are:

A. Minimum lot areas: Two thousand square feet per unit.

B. Minimum lot width, fifty feet;

C. Minimum lot depth, seventy-five feet;

D. Maximum building height, four stories, not to exceed fifty-five feet;

E. Minimum required setbacks:

1. Front yard, five feet minimum setback (May be reduced to zero through Site Plan and Design Review)

2. Side yard, five feet minimum setback,

3. Corner side yard, ten feet minimum setback,

4. Rear yard, ten feet minimum setback,

5. Buffer area. If a multi-family residential unit in this district abuts R-10, R-8, or R-6 use, there shall be required a landscaped yard of ten feet on the side abutting the adjacent zone in order to provide a buffer area and landscaping thereof shall be subject to site plan review. The community development director may waive any of the foregoing requirements if it is found that the requirement is unnecessary on a case-by-case basis.

Finding: Not applicable. Construction of the proposed wall will not alter lot dimensions or the spatial relationship between lot boundaries and existing dwellings.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 Modifications that will better meet design review requirements.

Finding: Not applicable. The applicant has not requested a modification through the Type II process.

17.62.035 - Minor site plan and design review.

This section provides for a minor site plan and design review process. Minor Site Plan Review is a Type II decision subject to administrative proceedings described in OCMC 17.50 section and may be utilized as the appropriate review process only when authorized by the community development director. The purpose of this type of review is to expedite design review standards for uses and activities that require only a minimal amount of review, typical of minor modifications and/or changes to existing uses or buildings.

A. Generally. Minor site plan and design review applies to the following uses and activities:

- 1. Modification of an office, commercial, industrial, institutional, public or multi-family structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space (for example covered walkways or entryways, addition of unoccupied features such as clock tower, etc.).*
- 2. Modification to parking lot layout and landscaping or the addition of up to 5 parking spaces.*
- 3. A maximum addition of up to one thousand square feet to a commercial, office, institutional, public, multi-family, or industrial building provided that the addition is not more than thirty-five percent of the original building square footage.*
- 4. Other land uses and activities may be added if the community development director makes written findings that the activity/use will not increase off-site impacts and is consistent with the type and/or scale of activities/uses listed above.*

Finding: Minor site plan and design review is appropriate for this project based on Part 4. Construction of the proposed wall will not increase off-site impacts and is consistent with the scale of activities/uses listed in Part 1 through Part 3. Construction of the wall may actually decrease off-site impacts by stabilizing the hillside above the wall and reducing debris cast downslope during landslide movements.

17.62.050 - Standards.

A. All development shall comply with the following standards:

- 1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.*
 - a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).*

- b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.*
- c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.*
- d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.*
- e. Landscaping shall be visible from public thoroughfares to the extent practicable.*
- f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.*

Finding: Complies with Conditions. The location of the proposed retaining wall is not currently landscaped. The site is not within the NROD as discussed in the findings under Chapter 17.49. The site consists of bare, steeply sloping, unstable soil that is temporarily covered in plastic sheeting to prevent erosion, infiltration, and further degradation of the slope. After construction of the retaining wall is complete, adjacent areas of exposed ground will be planted with grass seed and covered with an erosion control blanket as shown in the attached erosion control plan.

The retaining wall is intended to stabilize the apartment site above. The landslide below the retaining wall will continue to actively move. Additional landscaping with vertical and horizontal elements, including trees and shrubs, is required in order to comply with *OCMC 17.622.050.A.1. – Landscaping*. Therefore, landscaping materials must be selected which are appropriate to achieve the intent of the landscaping requirements, screening and visual relief, while achieving the goal of mitigating the landslide. The applicant indicated in an email to staff on June 29, 2016:

...keep in mind that the ground surface downslope of the wall will remain an active landslide and will continue to move as we have indicated in planning submittals. The proposed retaining wall only stabilizes the slope above the retaining wall and trees or shrubs planted below the wall will move with the ground surface. Typically it is not advisable to irrigate the surface of a moving landslide body which may be necessary to keep planted trees or shrubs alive. However, the landscape architect may be able to propose screening vegetation that does not require irrigation but they also may determine that is not feasible. All existing trees between the base of the wall and the downslope apartment complex (Forest Edge Apartments) will remain and the face of the wall will not be highly visible from below. The use of grass ground cover was proposed in our planning submittal, considering the lack of visibility of the wall face, continued moving ground below the wall, and to avoid the need to irrigate an active landslide.

Prior to final inspection the applicant shall provide a revised landscaping plan prepared by a registered landscape architect which includes the proposed number or amount, planting locations, and species of any grass seed mix, ground covers, shrubs and trees to be replanted on the slope. The plan shall be prepared in collaboration with the applicant's geotechnical engineer to ensure that the landscaping plan does not conflict with the recommendations for geotechnical remediation.

Staff finds that it is reasonable, feasible and likely that the applicant can meet this standard through compliance with the Conditions of Approval.

2. Vehicular Access and Connectivity.

- a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.*
- b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.*
- c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.*
- d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.*
- e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.*
- f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.*
- g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in [Chapter 12.04](#).*
- h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.*
- i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.*
- j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.*
- k. Parcels larger than three acres shall provide streets as required in [Chapter 12.04](#). The streets shall connect with existing or planned streets adjacent to the site.*
- l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.*
- m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.*

Finding: Not applicable. The proposed retaining wall is not in a location that impacts vehicular access or connectivity.

- 3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.*
- a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Construction (2006) to develop findings to show compliance with this section.*
 - b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs*

associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.

Finding: Complies with Condition. Exposed portions of the retaining wall will consist of steel piles and wood lagging. The wood lagging, which makes up the majority of the exposed wall surface area, will blend into the surrounding forest environment. The proposed wall location is in a relatively low-visibility area, partially screened by existing trees at the base of the slope. These trees will remain during construction.

Note: the applicant alerted staff on June 29, 2016 that the design would need modification (Exhibit) due to unavailable materials. In order to keep the project on schedule the design will be modified for structural integrity, to include additional structural members called a “waler” which would be affixed horizontally between the vertical piles. The applicant included photos of other projects where the walers have been used.

It appears that the addition of the waler could affect the overall aesthetic of the wall despite the location being in a low-visibility area and partially screened by existing trees. As described under the findings for landscaping, staff has recommended a flexible condition of approval to include additional vertical and horizontal elements in the landscaping plan to the extent practicable. Additional plantings would further mitigate the visual impact of the wall by screening it from view of below.

Prior to final inspection the applicant shall provide a revised landscaping plan prepared by a registered landscape architect which includes the proposed number or amount, planting locations, and species of any grass seed mix, ground covers, shrubs and trees to be replanted on the slope. The plan shall be prepared in collaboration with the applicant’s geotechnical engineer to ensure that the landscaping plan does not conflict with the recommendations for geotechnical remediation.

Staff finds that it is reasonable, feasible and likely that the applicant can meet this standard through compliance with the Conditions of Approval.

6. Drainage shall be provided in accordance with city's drainage master plan, [Chapter 13.12](#), and the public works stormwater and grading design standards.

Finding: Complies as Proposed. Please refer to Chapter 17.44 of this report and the submitted Geotechnical Report for further information regarding the retaining wall drainage system that is proposed.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:

- a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.*
- b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.*
- c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.*
- d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.*

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.
f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

Finding: Not applicable. This section does not apply to the project. The proposed retaining wall will not impact any existing pedestrian pathways and is not located in an area where pedestrian pathways are required.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

Finding: Complies as proposed. The applicant states that the proposed retaining wall is located in an unmaintained area that was generally wooded prior to recent landslide activity and that the project will not impact or disrupt access to any facilities. Since the site is on private property the applicant is responsible for maintenance of the site once the project is completed, including but not limited to continued maintenance and necessary for normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

Finding: Complies as proposed. According to the applicant, soldier piles and tiebacks will be drilled, not driven, and drilling generally produces less noise than pile driving. However, contractors may drive piles to create temporary scaffolding for equipment access. Driving of these temporary piles may be accomplished using a vibratory or pneumatic hammer. Apart from noise related to drilling and pile driving, and outdoor storage of materials such as piles and grout components, none of the other impacts listed above are anticipated (i.e., air quality, water quality, odor, heat, glare, etc.). Construction of the proposed retaining wall will likely take about 8 weeks to complete.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over

sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.

Finding: Not applicable. The proposed retaining wall will not alter usage of public water or sanitary sewer facilities.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.

Finding: Not applicable. The proposed retaining wall is not adjacent to any right-of-way and will not generate traffic of any kind.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.

Finding: Not applicable. The proposed retaining wall is not adjacent to any right-of-way and will not generate traffic of any kind.

17. All utility lines shall be placed underground.

Finding: Not applicable. There will be no utilities associated with the proposed retaining wall.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.

Finding: Not applicable. There are no existing access routes that will be impacted by the proposed retaining wall.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.

Finding: Not applicable. The proposed retaining wall will not alter the density of development on the subject parcel.

20. Screening of Mechanical Equipment:

Finding: Not applicable. The proposed retaining wall will not include mechanical equipment. Therefore, no screening of mechanical equipment will be necessary.

21. Building Materials.

a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:

i. Brick.

li. Basalt stone or basalt veneer.

iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.

iv. Board and baton siding.

v. Other materials subject to approval by the community development director.

vi. Plywood with battens or fiber/composite panels with concealed fasteners and contiguous aluminum sections at each joint that are either horizontally or vertically aligned.

vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.

i. Vinyl or plywood siding (including T-111 or similar plywood).

li. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.

iii. Corrugated fiberglass.

iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).

[v.] Crushed colored rock/crushed tumbled glass.

[vi.] Non-corrugated and highly reflective sheet metal.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:

1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.

2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).

3. Exterior Insulation and Finish System (EIFS) and similar troweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.

4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.

Finding: complies with condition. Exposed portions of the retaining wall will consist of steel piles and treated wood lagging. The wood lagging, which makes up the majority of the exposed wall surface area, will blend into the surrounding forest environment. The proposed wall location is in a relatively low-visibility area, partially screened by existing trees at the base of the slope. These trees will remain during construction.

Note: the applicant alerted staff on June 29, 2016 that the design would need modification (Exhibit) due to unavailable materials. In order to keep the project on schedule the design will be modified for structural integrity, to include additional structural members called a “waler” which would be affixed horizontally between the vertical piles. The applicant included photos of other projects where the walers have been used.

It appears that the addition of the waler could affect the overall aesthetic of the wall despite the location being in a low-visibility area and partially screened by existing trees. As described under the findings for landscaping, staff has recommended a condition of approval to include additional

vertical and horizontal elements in the landscaping plan to the extent practicable. Additional plantings would further mitigate the visual impact of the wall by screening it from view of below.

Prior to final inspection the applicant shall provide a revised landscaping plan prepared by a registered landscape architect which includes the proposed number or amount, planting locations, and species of any grass seed mix, ground covers, shrubs and trees to be replanted on the slope. The plan shall be prepared in collaboration with the applicant's geotechnical engineer to ensure that the landscaping plan does not conflict with the recommendations for geotechnical remediation.

Staff finds that it is reasonable, feasible and likely that the applicant can meet this standard through compliance with the Conditions of Approval.

17.62.055 - Institutional and commercial building standards.

Finding: Not applicable. This section does not apply to the project because it will be a low-visibility retaining wall, not an institutional or commercial building in constant view of the general public.

17.62.057 - Multi-family standards.

Finding: Not applicable. This section does not apply to the project because it will be a low-visibility retaining wall, not a multi-family residential development. While adjacent to multi-family residences, the wall face will not be in plain view.

17.62.065 - Outdoor lighting.

Finding: Not applicable. This section does not apply to the project. The project will not change the amount or effectiveness of outdoor lighting already in place at the site. The area where the project will be located is not currently intended for regular public use or traverse.

17.62.080 - Special development standards along transit streets.

Finding: Not applicable. This section does not apply to the project because the project is not along a transit street. The project will not inhibit pedestrian access to retail, office, or institutional buildings from public sidewalks or transit facilities because it will not be located between retail, office, or institutional buildings and public sidewalks or transit facilities.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

Finding: Not applicable. This section does not apply to the proposed project because the project will not be built in a location where it will impact any parking or loading areas. Due to evacuations of the apartments above and below the site, nearby parking areas will not be needed by residents during construction and may be occupied by construction equipment without conflict.

CHAPTER 13.12 - STORMWATER CONVEYANCE, QUANTITY AND QUALITY

13.12.050 Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.

13.12.050.A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. The conveyance facilities are located entirely on one privately owned parcel;
2. The conveyance facilities are privately maintained; and
3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Finding: Not Applicable. The proposed retaining wall will not create new impervious surfaces, or modify existing drainage conditions.

13.12.050.B. Stormwater Quantity Control. The stormwater quantity control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven-year period;
2. Activities that create more than two thousand square feet of impervious surface, cumulated over any given seven year period; or
3. Redevelopment of a commercial or industrial land use that will disturb more than five thousand square feet of existing impervious surface. This five thousand square foot measurement cumulates over any given seven year period;
4. An exemption to the stormwater quantity control requirements of this chapter will be granted in the following circumstances:
 - a. The development site discharges to a stormwater quantity control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater, or,
 - b. The development site discharges to one of the following receiving bodies of water: Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42

Finding: Not Applicable. The proposed retaining wall will not create new impervious surfaces, or modify existing drainage conditions.

13.12.050.C. Stormwater Quality Control. The stormwater quality control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. Category A. Activities subject to general water quality requirements of this chapter:
 - a. The construction of four or more single-family residences;
 - b. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven year period; or
 - c. Activities that create more than eight thousand square feet of new impervious surface for other than a single-family residential development. This eight thousand square foot measurement will be considered cumulative for any given seven year period;
 - d. An exemption to the stormwater quantity control requirements of this subsection will be granted if the development site discharges to a stormwater

quality control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater.

2. *Category B. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices as contained in the Public Works Stormwater and Grading Design Standards:*
 - a. *Fuel dispensing facilities;*
 - b. *Bulk petroleum storage in multiple stationary tanks;*
 - c. *Solid waste storage areas for commercial, industrial or multi-family uses;*
 - d. *Loading and unloading docks for commercial or industrial uses; or*
 - e. *Covered vehicle parking for commercial or industrial uses.*
3. *Category C. Clackamas River Watershed. In addition to any other applicable requirements of this chapter, any development that creates new waste discharges and whose stormwater runoff may directly or indirectly flow into the Clackamas River is subject to additional requirements associated with Oregon Administrative Rules (OAR) 340-41-470 (Thee Basin Rule).*

Finding: Not Applicable. The proposed retaining wall will not create new impervious surfaces, or modify existing drainage conditions.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

- A. The plan and report demonstrate how the proposed development and stormwater management facilities will accomplish the purpose statements of this chapter;*
- B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020*
- C. Unless otherwise exempted by Section 13.12.050(B), the plan and report includes adequate stormwater quantity control facilities, so that when the proposed land development activity takes place, peak rates and volumes of runoff:*
 - 1. Do not exceed the capacity of receiving drainage conveyance facilities;*
 - 2. Do not increase the potential for streambank erosion; and*
 - 3. Do not add volume to an off-site closed depression without providing for mitigation.*
- D. Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:*
 - 1. Adequate stormwater quality control facilities, so that when the proposed land development activity takes place, the temperature and overall pollution level of stormwater runoff is no greater than the water entering. When no water enters a project, then stormwater runoff shall be compared to rain samples; and*
 - 2. Stormwater quality control facilities which:*
 - a. Are in compliance with applicable National Pollutant Discharge Elimination System (NPDES) requirements;*
 - b. Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures; and*
 - c. Minimize any increase in nonpoint source pollution.*
- E. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.*
- F. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams. The postdevelopment peak stormwater discharge rate from a development site for the two year, twenty-four hour duration storm event shall not exceed fifty percent of the two year, twenty-four hour predevelopment peak runoff rate.*
- G. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.*

Finding: Not Applicable. The proposed retaining wall will not create new impervious surfaces, or modify existing drainage conditions. Therefore, no engineered drainage plans or drainage report are required.

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

Finding: Not applicable. This section does not apply to the project. The proposed retaining wall will not be located near or interface with a street, sidewalk, or public place.

Chapter 12.08 - PUBLIC AND STREET TREES^[2]

Finding: Not applicable. This section does not apply to the project. The proposed retaining wall will not be located near or interface with a street or sidewalk.

GEOLOGIC HAZARDS – CHAPTER 17.44

Compliance with this section has been determined through review of the applicant's plans by the City's geologic consulting engineer.

17.44.025 - *When required; regulated activities; permit and approval requirements.*

No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:

A. Installation or construction of an accessory structure greater than 500 square feet in area;

B. Development of land, construction, reconstruction, structural alteration, relocation or enlargement of any building or structure for which permission is required pursuant to the Oregon City Municipal Code;

C. Tree removal on slopes greater than 25 percent where canopy area removal exceeds 25 percent of the lot.

D. Excavation which exceeds two feet in depth, or which involves twenty-five or more cubic yards of volume;

The requirements of this chapter are in addition to other provisions of the Oregon City Municipal Code. Where the provisions of this chapter conflict with other provisions of the Oregon City Municipal Code, the provisions that are the more restrictive of regulated development activity shall govern.

Finding: Steep slopes and landslide hazards are identified within the project area. Therefore, the project is subject to the provisions for geologic hazards. This code is written to prevent issues associated with development and building new structures in geologically hazardous areas. The proposed project is designed to mitigate existing hazards to structures and previously developed properties already built in a geologically hazardous area.

17.44.030 - *Procedures.*

No building or site development permit or other authorization for development shall be issued until the plans and other documents required by this chapter have been reviewed and found by the review authority to comply with the requirements of this chapter.

A. Where the development is part of a land use permit application, review shall occur in the manner established in Chapter 17.50 for review of land use decisions.

B. Where the development is part of a limited land use permit application, review shall occur in the manner established in Chapter 17.50 for review of limited land use decisions.

C. Where the development is solely part of a grading permit or building permit, the city engineer may allow review to occur in the manner established in Title 15, Chapters 15.04 and 15.48 if the application meets Section 17.44.060 development standards.

D. For any other proposed development not otherwise subject to review as a land use or limited land use permit application, review shall occur in the manner established in Chapter 17.50 for limited land use decisions.

Finding: This application is for a land use permit under (A) above.

17.44.035 - Exemptions.

The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.

A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;

B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;

C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;

D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;

E. The removal or control of noxious vegetation;

F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.

Finding: The project is not exempt. It involves excavations and fills that exceed the specified thresholds of A and B above. The project is not an emergency action, however, expedience in processing this request is of utmost importance due to the need to stabilize the slope before winter rains begin. Proposed excavations below the wall, which will be necessary to install tieback anchors and reduce slope hazards, will exceed 25 cubic yards. The project, therefore, does not meet exemption criteria as defined in this section.

17.44.050 Development - Application Requirements and Review Procedures and Approvals.

Except as provided by subsection B of this section, the following requirements apply to all development proposals subject to this chapter:

A. A geological assessment and geotechnical report that specifically includes, but is not limited to:

- 1) Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:*

- a) *The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;*
- b) *Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);*
- c) *Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);*
- d) *DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);*
- e) *"Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);*
- 2) *Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;*
- 3) *Comprehensive information about site topography;*
- 4) *Opinion as to the adequacy of the proposed development from an engineering standpoint;*
- 5) *Opinion as to the extent that instability on adjacent properties may adversely affect the project;*
- 6) *Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;*
- 7) *Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;*
- 8) *Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;*
- 9) *Recommendations and types of considerations as appropriate for the type of proposed development:*
 - a. *General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,*
 - b. *Location of residence on lot,*
 - c. *Building setbacks from slopes,*
 - d. *Erosion control techniques applicable to the site,*
 - e. *Surface drainage control to mitigate existing and potential geologic hazards,*
 - f. *Subdrainage and/or management of groundwater seepage,*
 - g. *Foundations,*
 - h. *Embedded/retaining walls,*
 - i. *Management of surface water and irrigation water, and*
 - j. *Impact of the development on the slope stability of the lot and the adjacent properties.*
- 10) *Scaled drawings that describe topography and proposed site work, including:*
 - a. *Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six- inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;*
 - b. *All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.*
 - c. *A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.*
- 11) *For properties greater than 1 acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.*

Finding: Complies as proposed. Geotechnical reports that address sections 1, 2, 4, 5, 6, 7, 8, and 9, as applicable, have been prepared by Shannon & Wilson, Inc., and are attached to this application. Drawings that address sections 3 and 10 are also attached. The hydrology report, described in section 11, will not be required because the work area will be less than 1 acre, no new impervious surface will be created, and existing drainage conditions will not be modified. The City's geotechnical consultant reviewed the submittals and determined that the following documents were provided for the required geologic hazards and geotechnical engineering:

1. Land use application narrative by Shannon and Wilson, dated May 4, 2016.
2. Retaining Wall Design Letter - Berryhill Apartments Landslide by Shannon and Wilson, dated April 5, 2016
3. Response to Geohazards Completeness Review by Shannon and Wilson, dated June, 9 2016.

17.44.050.B. Review Procedures and Approvals require the following:

- 1) Examination to ensure that:
 - a) Required application requirements are completed;
 - b) Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and
 - c) All conclusions and recommendations are supported and reasonable.

Finding: Complies as proposed. The conditions and design requirements provided in the geohazard documents will be incorporated into the permit conditions.

17.44.050.B.2 *Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.*

Finding: Complies as proposed. The conditions and design requirements provided in the geohazard documents will be incorporated into the permit conditions.

17.44.050.B.3 *All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the City. The City will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.*

Finding: Complies as proposed. The applicant's reports and plans were reviewed by the City's geotechnical consultant in accordance with this section.

17.44.050.C. *The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.*

Finding: Not applicable. The City Engineer has not waived any of the foregoing requirements.

17.44.060 *Development Standards.*

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

17.44.060.A *All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.*

Finding: Complies as proposed. The proposed development is limited to a retaining wall designed to mitigate existing landslide. The location of the proposed wall is currently occupied by a steep, barren, unstable soil slope with exposed soil. No removal of trees or ground cover is anticipated. Construction of the wall will stabilize the slope above it. Excavation on the downslope side of the wall will be limited to the minimum necessary to the install tieback anchors, which are required for the wall to function and stabilize the hillside above the wall.

17.44.060B *All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The City Engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.*

Finding: Complies with conditions. The applicant indicated that construction of the proposed retaining wall will take approximately 8 weeks to complete. Construction will begin with installation of the steel soldier piles, which will improve slope stability even before the tiebacks and lagging are installed. Completion of the project by October 31, 2016 would be contingent on rapid approval of this application. If construction is delayed until 2017, heavy winter precipitation could further deteriorate the slope and potentially cause severe damage to structures that would have been otherwise usable with the wall in place. If the wall is not installed prior to next winter there is risk of additional damage to the subject property and neighboring adjacent properties up slope of the wall. If additional landslide movement occurs the retaining wall may no longer be feasible and mitigation of the landslide may not occur. **This standard can be met provided the applicant complies with the condition that grading and earthwork will be restricted to between May 1 and October 31.**

17.44.060.C *Designs shall minimize the number and size of cuts and fills.*

Finding: Complies as proposed. Some excavation will be required on the down-slope side of the wall in order to install tieback anchors which are required for the wall to function. The removed soil will not be replaced because the existing soil slopes along the base of the proposed wall are already over-steepened and unstable. Removal of soil at the base of the wall at the head of the landslide will further increase landslide stability by reducing driving force. Fill will be limited to minor granular backfill, used to fill voids behind the timber lagging in the wall.

17.44.060.D *Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.*

Finding: Complies with conditions. The existing slope at the site is not terraced, but is unstable and exceeds the height specified above. Wall construction will begin with installation of vertical steel soldier piles. These piles will temporarily support the slope while the front of the wall is excavated and lagging is installed down to the tieback elevation. The finished wall with tiebacks will support the slope above and will be about 12 feet in height. Due to the active landslide below the retaining wall fill cannot be replaced at the face of the wall over the landslide soils because it will decrease landslide stability. The proposed exposed wall height will exceed 7 feet and terracing of the proposed soldier pile and tieback retaining wall is not practical. The proposed wall faces the active landslide.

This standard can met provided that the applicant obtain a variance for the wall height. See section 17.40 variances for findings.

17.44.060.E Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.

Finding: Complies as proposed. No structural fill is proposed. Fill will be limited to minor granular backfill, used to fill voids behind the timber lagging in the wall.

17.44.060.F Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.

Finding: Complies with condition. The proposed retaining wall will be designed and constructed in accordance with the Oregon Structural Specialty Code. **The applicant shall obtain the necessary building permits for construction of the retaining wall to assure compliance with the Oregon Structural Specialty Code.**

17.44.060.G Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the City's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.

Finding: Not applicable. No new roads are planned as part of the project and construction of the proposed wall will not impact any existing roads.

17.44.060.H Density shall be determined as follows

- 1) For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;*
- 2) For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;*
- 3) For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I 4 of this section.*

Finding: Not applicable. This section does not apply to the project because the project will not impact the density of development on the subject parcel.

17.44.060.I For properties with slopes of twenty-five to thirty-five percent between grade breaks:

- 1) For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;
- 2) An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.
- 3) No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of 15 feet for the individual lot or parcel.
- 4) For those portions of the property with slopes over thirty-five percent between grade breaks:
 - a. Notwithstanding any other City land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable City requirements as well as any applicable State, Federal or other requirements;
 - b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.

Finding: Not applicable. This section does not apply to the project because it does not include construction of residential units, roads, utilities, or public facilities. The proposed retaining wall constitutes a geotechnical remediation. The existing site condition is predominantly bare disturbed ground, and no fill will be placed over the surface, so stripping of vegetation will not be necessary. Grading will be limited to that which is required for wall installation and will affect an area less than 4,000 square feet.

17.44.060.J *The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.*

Finding: Complies with Condition. Prior to the grading permit the geotechnical engineer provide documentation that they have reviewed the final site grading plan.

17.44.060.K *At the City's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the City. The applicant's geotechnical engineer shall respond to written comments provided by the City's peer reviewer prior to issuance of building permit.*

Finding: Complies as proposed. The applicant's Engineering Geologist, David Higgins, CEG, LEG, has submitted the application for review by the City's peer reviewer, Tim Pfeiffer, CEG, of Foundation Engineering Inc., and has been responsive to all written comments provided, both during the pre-application conference and the completeness review phases of the City's review process.

17.44.060.L *The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the City's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow*

development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.

Finding: Complies as proposed. The geotechnical engineering report provided by the applicant indicated the proposed retaining wall was designed to mitigate the portion of a landslide above the proposed retaining wall, and slopes below and adjacent to the wall will not be effected. **The City's geotechnical engineering consultant has recommended conditions of approval as needed.**

17.44.070 Access to Property.

- A. Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.
- B. Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.
- C. Points of access to arterials and collectors shall be minimized.
- D. The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.

Finding: Not applicable. The proposed retaining wall does not impact access to the property.

17.44.080 Utilities.

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.

Finding: Not applicable. This section does not apply to the project because the project does not include construction of new utilities.

17.44.090 Stormwater Drainage.

The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to City standards as set out in the City's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the City Commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.

Finding: Not applicable. No new impervious surfaces or drain outfalls are proposed. The proposed retaining wall will not create new impervious surfaces, or modify existing drainage conditions. Further, the proposed retaining wall design includes a wall drainage system that will capture any groundwater up-gradient of the proposed retaining wall location. Therefore, no stormwater control plan is required. Storm water and erosion during construction will be controlled using the methods described in the erosion control plan.

17.44.100. Construction Standards.

During construction on land subject to this chapter, the following standards shall be implemented by the developer:

17.44.100.A All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47 – Erosion and Sediment Control.

Finding: Complies with Condition. The applicant indicated that vegetation removal for the project will be minimal as the existing slope where the wall is to be located currently consists of bare, unstable soil that has been disturbed by recent landslide movements. An erosion control plan, prepared by AKS Engineering and Forestry, is attached to this application.

Clearing and removal of vegetation is limited to what is needed to construct the proposed retaining wall. **The applicant shall assure that no additional vegetation will be removed beyond the limits shown on the plans for the construction of the retaining wall.**

17.44.100.B No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.

Finding: Complies with Condition. The preliminary exploration is complete. **No grading shall commence prior to issuance of a grading permit.**

17.44.100.C Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).

Finding: The purpose of the project is to mitigate part of an existing landslide. An erosion control plan, prepared by AKS Engineering and Forestry, is attached to this application.

17.44.100.D All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.

Finding: Complies with Condition. The project area is located on a steep, bare, unstable soil slope. Upon completion of wall construction, bare ground will be seeded with grass seed. Prior to final inspection the applicant shall provide a revised landscaping plan which include the proposed number or amount, planting locations, and species of any grass seed mix, ground covers, shrubs and trees to be replanted on the slope. The plan shall be prepared by in collaboration with the applicant's geotechnical engineer to ensure that the landscaping plan does not conflict with the recommendations for geotechnical remediation.

Staff has determined that it is reasonable, feasible and likely that this standard can be met through the Conditions of Approval.

17.44.100.E Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the City.

Finding: Complies with conditions. The existing slope where the wall is to be located currently consists of bare, unstable soil that has been disturbed by recent landslide movements. No grading, compaction, or change in ground elevation, soil hydrology, or site drainage is planned within the drip line of trees designated for protection. Any tree removal that may occur following approval of this application shall require documentation of the need for

the removal by a certified arborist, forester or similarly qualified professional as well as mitigation and replanting of new trees in accordance with the applicable sections of *Chapter 17.41 - Tree Protection*.

Staff has determined that it is reasonable, feasible and likely that this standard can be met through the Conditions of Approval.

17.44.100.F *Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.*

Finding: Complies as proposed. There are no existing perennial or intermittent watercourses in the area of the proposed construction. The applicant submitted a request for verification of the absence of water resources and associated vegetated corridor within the project area (File NR 16-04). This application was reviewed and approved by the City's natural resources consultant, see section 17.49 for findings. Erosion control measures will prevent siltation and erosion impacts to offsite watercourses lower in the watershed. An erosion control plan, prepared by AKS Engineering and Forestry, is attached to this application.

17.44.100.G *All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.*

Finding: Complies as proposed. An erosion control plan, prepared by AKS Engineering and Forestry, is attached to this application.

17.44.100.H *All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of 35% or less.*

Finding: Not applicable. The project does not include lot creation.

17.44.100.I *The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.*

Finding: Complies as proposed. Shannon & Wilson, Inc. will provide observation at appropriate times during construction to confirm subsurface conditions and that assumptions made as part of the geotechnical evaluation are appropriate.

17.44.100.J *Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.*

Finding: Complies as proposed. The proposed retaining wall will require a final inspection by the City. The Geotechnical Engineer, Shannon & Wilson, Inc. agrees to provide the requisite summary letter prior to occupancy of the affected Berryhill duplex and eightplex structures.

17.44.110 *Approval of Development.*

The city engineer shall review the application and verify, based on the applicant's materials and the land use record, whether the proposed development constitutes a hazard to life, property, natural resources or public facilities. If, in the city engineer's opinion, a particular development poses such a hazard, the city engineer shall

recommend to the review authority permit conditions designed to reduce or eliminate the hazard. These conditions may include, but are not limited to, prohibitions on construction activities between November 1st and March 31st.

Finding: Complies as Proposed. The proposal does not constitute a hazard. In fact, the wall is proposed in order to mitigate hazards created by the recent landslide activity.

17.44.120 Liability.

Approval of an application for development on land subject to this chapter shall not imply any liability on the part of the city for any subsequent damage due to earth slides. Prior to the issuance of a building permit, a waiver of damages and an indemnity and hold harmless agreement shall be required which releases the City from all liability for any damages resulting from the development approved by the City's decision.

Finding: Complies with Condition. The city will require waiver of liability for all and any damages resulting from the development approved by the City's decision.

17.44.130 Compliance.

Nothing contained in this chapter shall relieve the developer of the duty to comply with any other provision of law. In the case of a conflict, the more restrictive regulation shall apply.

Finding: The applicant has acknowledged this requirement and submitted applications for other applicable permits.

17.44.140 Appeal.

The review authority's decision may be appealed in the manner set forth in Chapter 17.50.

Finding: The applicant has acknowledged that this decision may be appealed.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

Finding: Complies. An erosion control plan, prepared by AKS Engineering and Forestry, is attached to this application.

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT (NROD)

17.49.050 Emergencies

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

Finding: The city has not declared an emergency in this situation, although the weather window for construction is critical. The applicant must respond to this code section. The applicant submitted a request for verification that the site is not within the NROD. The City's Natural Resources Consultant, David Evans and Associates, has confirmed that the application complies with the standards for a Type I verification.

The City of Oregon City (the City) has contracted with David Evans and Associates, Inc. (DEA), to review permit applications located within the Natural Resource Overlay District (NROD) and mitigation plans, as applicable, to ensure they are complete and meet Oregon City Municipal Code, Title 17, Zoning, criteria. The following findings provides DEA's review related to the applicant's application. This review is based solely on the materials provided.

The applicant proposes to construct a retaining wall in order to mitigate a landslide at 14155 Beavercreek Road (3-2E-04C-00807). The City's NROD mapping shows a portion of the proposed location of the retaining wall as being within the NROD.

The applicant requests a Type I verification per 17.49.255.

DEA's review concurs with the natural resource assessment report prepared by AKS Engineering and Forestry, LLC (April 8, 2016) that determines that the subject site is not within an NROD area and therefore not subject to the standards of Section 17.49.100.

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

Finding: Not applicable. The applicant selected to make an application per 17.49.255 B., below.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

Finding: The applicant submitted a report by AKS Engineering and Forestry, LLC (April 8, 2016) that addresses B.1-6.

1. No soil, vegetation, hydrologic features have been disturbed;

Finding: Complies as proposed. The applicant's consultant examined the site and found no indication of disturbance of soil, vegetation or hydrologic features.

2. No hydrologic features have been changed;

Finding: Complies as proposed. No human-caused alteration of hydrologic features was identified.

3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.

Finding: Complies as proposed. The applicant's consultant examined the site and found no indication of streams, inundation, or man-made drainage features within 200 feet of the proposed project activity.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.

Finding: Complies as proposed. Neither the LWI and the flood management areas map nor the field verification by the applicant indicate wetlands or flood management areas within the property. A wetland delineation or determination was not performed, but mapped soils on the property do not include hydric soils and topographic maps do not suggest drainage ways or depressions.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.

Finding: Complies as proposed. The applicant's consultant has documented that no stream systems or water features occur on the property. An intermittent tributary to Newell Creek was identified north of the property and Newell Creek is located to the east. Both streams are outside of the property and project area.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.

Finding: Complies as proposed. The development of the Berryhill Apartments and Forest Edge Apartments were approved prior to the 2006 landslide.

There is an existing physical barrier between the site and a protected water feature, including:

a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.

b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.

Finding: Complies as proposed. There are no protected water features on the subject property. A physical barrier—Fir Street, a city-approved private roadway—is located between the subject property/project area and Newell Creek to the east. The access road to the BPA transmission towers curves along the west side of the site, and effectively separates the property from the intermittent tributary to the north.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.
2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.
3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.

Finding: Complies with Condition. The initial application indicated that no trees would be removed. Prior to completion of this staff report the applicant alerted staff that they have a potential tree conflict that they have been attempting to shift the wall to avoid. The tree is directly behind the duplex and is circled in red on the attached plan (Exhibit). The applicant hopes to avoid it but it appears possible that the contractor once hired may find they cannot install piles due to the tree conflict and need to take out the tree. The applicant wishes to include this change for the planning application rather than defer to the building permit process.

Prior to issuance of a grading permit or construction permit, the applicant shall provide a tree mitigation plan in accordance with the applicable provisions of OCMC 17.41 for any trees that may represent a potential conflict with the proposed location for construction of the retaining wall or which may be removed throughout the process. The mitigation plan shall include a report by a certified arborist or forester that describes the condition of the tree or trees that may be affected by the wall construction, the feasibility of saving the trees, and the proposed mitigation should preservation not be feasible. Mitigation shall be provided on site.

Staff has determined that it is likely, reasonable and feasible that this standard can be met through the Conditions of Approval.

Chapter 17.58 - LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

Finding: Not applicable. The proposed improvements do not exacerbate existing nonconforming site conditions.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.050 Preapplication Conference

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication

conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Finding: Complies. A Pre-Application Conference for the proposed project was held on March 10, 2016, and notes from the meeting are attached to this application.

17.50.055 Neighborhood Association Meeting

A. Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.

2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.

3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.

4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.

5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

Finding: Complies. Neighborhood association meetings was attended and documented as required. Shannon & Wilson, Inc. attended the Hillendale Neighborhood Association meeting on April 5, 2016 at the Living Hope Church, 19691 Meyers Road, Oregon City. A sign-in sheet, letter from the Hillendale Neighborhood Association, and summary letter describing the retaining wall presentation is attached to this application package.

17.50.060 Application Requirements.

A permit application may only be initiated by the record property owner or contract purchaser, the city commission or planning commission. If there is more than one record owner, then the city will not accept an application without signed authorization from all record owners. All permit applications must be submitted on the form

provided by the city, along with the appropriate fee and all necessary supporting documentation and information, sufficient to demonstrate compliance with all applicable approval criteria. The applicant has the burden of demonstrating, with evidence, that all applicable approval criteria are, or can be, met.

Finding: The owner of record has signed the land use application and their representative has submitted all necessary documents to process the application, which was deemed complete on June 10, 2016.

Staff has expedited the review of this application.

CHAPTER 17.54.100 - FENCES

Fence, Setback and Height Limitations.

A fence may be located on the property or in a yard setback area subject to the following:

A. Generally. Fence, hedge, or wall.

1. Fences and walls—Fences and walls over forty-two inches shall not be located in front of the front façade or within forty feet of the public right-of-way, whichever is less. All other fences (including fences along the side and rear of a property) shall not exceed six feet in total height unless as permitted [in] Section 17.54.100.B.

2. Hedges shall not be more than forty-two inches in the underlying front yard setback. Individual plants and trees taller than forty-two inches tall may be permitted provided there is at least one foot clearance between each plant.

3. Property owners shall ensure compliance with the traffic sight obstruction requirements in Chapter 10.32 of the Oregon City Municipal Code.

4. It is unlawful for any person to erect any electric fence or any fence constructed in whole or in part of barbed wire or to use barbed wire, except as erected in connection with security installations at a minimum height of six feet, providing further that prior written approval has been granted by the city manager.

B. Exception. Fence, hedge, wall, or other obstructing vegetation on retaining wall. When a fence, hedge, wall, or other obstructing vegetation is built on a retaining wall or an artificial berm that is not adjacent to or abutting a public right-of-way, the following standards shall apply:

1. When the retaining wall or artificial berm is thirty inches or less in height from the finished grade, the maximum fence or wall height on top of the retaining wall shall be six feet.

2. When the retaining wall or earth berm is greater than thirty inches in height, the combined height of the retaining wall and fence or, wall from finished grade shall not exceed eight and one-half feet.

3. Fences, hedges or walls located on top of retaining walls or earth berms in excess of eight and one-half feet in height shall be set back a minimum of two feet from the edge of the retaining wall or earth berm below and shall not exceed a combined height of eight and one-half feet.

4. An alternative height or location requirement may be approved within a land use process for all non-single-family and two-family residential properties. The fence, hedge or wall shall be compatible with the adjacent neighborhood and achieve the same intent of the zoning designation and applicable site plan and design review process. In no case may the fence, hedge or wall exceed eight feet in height without approval of a variance.

Finding: For safety, an approximately 6-foot tall cedar fence will be constructed along the top of the proposed retaining wall. The fence will be set back a distance of two feet from the face of the wall. The combined height of the wall and fence will exceed 8.5 feet, but this application include a request for this variance.

CHAPTER 17.60 - VARIANCE

17.60.030 – Variance - Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;

Finding: Complies as proposed. The proposed retaining wall is designed to mitigate potential landslide movements at the Berryhill Apartments duplex and eightplex. The project will, to some extent, *prevent* damage to the property down slope because it will support the duplex and eightplex, which at present could potentially slide down into the adjoining parcel. Some soil will also be removed at the top of the slide which in addition to the retaining wall will decrease driving force. The proposed improvements will not reduce existing light, air, safe access, or other desirable qualities of the area.

B. That the request is the minimum variance that would alleviate the hardship;

Finding: Complies as proposed. Based on geotechnical borings and inclinometer data, the landslide failure plane is approximately 33 feet below the existing ground surface at the location of the proposed wall. To adequately support the ground upslope, based on the landslide geometry and depths of the geologic units present, the steel soldier piles for the wall will have to extend to depths of 50 feet, the wall will need to be continuous below the duplex and eightplex, and tieback anchors will be required at depths of approximately 11 feet below the tops of the piles. The location and height of the wall is controlled by the geometry of the landslide and the existing topography. The proposed wall height of up to 12 feet (not including the fence at the top) is only as high as it needs to be to allow installation of the tieback anchors which are critical to the wall's performance. Fill cannot be placed back against the wall to lower its height after construction, because ground on the downhill side of the wall will continue to move as the Forest Edge Apartments landslide blocks continue to slide. Loading this unstable ground would only serve to exacerbate its ongoing movement.

C. Granting the variance will equal or exceed the purpose of the regulation to be modified.

Finding: Complies as proposed. The purpose of the wall height regulation is presumably to maintain safe wall heights and to prevent extensive areas of disrupted view that would block light, air flow, access, etc. The top of the proposed wall will be made safe by a cedar fence, installed at a 2-foot offset from the wall face. The finished topography, with the wall in place, will not substantially change the field of view from the top or bottom of the slope. Because it's on a steep slope, it will not affect significantly light, air flow, or access.

D. Any impacts resulting from the adjustment are mitigated.

Finding: Complies with conditions. The wall itself is designed to mitigate unsafe site conditions that currently exist. No negative impacts from the proposed improvements are anticipated. The wood lagging, which makes up the majority of the exposed wall surface area, will blend into the surrounding forest environment. The proposed wall location is in a relatively low-visibility area, partially screened by existing trees at the base of the slope. Some trees may be removed during construction. Staff has recommended conditions of approval to assure compliance with all applicable code sections.

E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance.

Finding: Complies as proposed. Alternatives to the proposed variance were given extensive consideration and no practical alternatives were

identified.

F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

Finding: Complies as proposed. The proposed wall height is only as high as it needs to be to allow installation of the tieback anchors which are critical to the wall's performance. Fill cannot be placed back against the wall to lower its height after construction, because ground on the downhill side of the wall will continue to move as the Forest Edge Apartments landslide blocks continue to slide. Loading this unstable ground would only serve to exacerbate its ongoing movement. Safety from falls will be maintained by a 6-foot tall cedar fence which will be constructed along the top of the wall, offset two feet from the wall face.

The proposed retaining wall complies with Comprehensive Plan *Goal 7.1 Natural Hazards – Protect life and reduce property loss from the destruction associated with natural hazards*. The retaining wall as designed with the proposed wall height will protect the upslope Berryhill Park Apartments property from destruction and protect the life of occupants of existing upslope buildings from the landslide hazard.

CHAPTER 17.58 LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

Finding: The proposed improvements do not exacerbate existing nonconforming site conditions.

CONCLUSION AND RECOMMENDATION

Based on the analysis and findings in this report, staff concludes that the proposed applications US 16-02, NR 16-04, SP 16-04, and VR 16-01, located at 13945 Beavercreek Rd & 14155 Beavercreek Rd, Oregon City, OR 97045, and identified as Clackamas County APN 3-2E-04C-00803 and 00807, can meet all of the applicable requirements of the Oregon City Municipal Code by complying with the recommended Conditions of Approval provided in this report. Therefore, the Community Development Director recommends that the Planning Commission approves files US 16-02, NR 16-04, SP 16-04 and VR 16-01 with conditions, based upon the applicant's proposal, findings and exhibits contained in this staff report.

EXHIBITS (On File):

1. Applicant's narrative and plans as initially submitted, dated May 11, 2016
 - a. Land Use Application Form
 - b. Landslide and Retaining Wall Summary
 - c. Narrative and Code Criteria Responses
 - d. Pre-Application Conference Notes
 - e. Hillendale Neighborhood Association Meeting Summary
 - f. Geotechnical Design Letter

- g. Retaining Wall Plans, dated 4.15.2016
 - h. Erosion Control Plans
 - i. Natural Resources Assessment letter, final
 - j. Title Reports
- 2. Completeness Reviews
 - a. City's Completeness Review Transmittal, dated May 18, 2016
 - b. Geologic Hazards application completeness review, Foundation Engineering, dated June 2, 2016.
 - c. NROD completeness review, David Evans and Associates, dated June 3, 2016.
- 3. Applicant's revised application narrative and plans in response to completeness review, dated June 9, 2016.
 - a. Revised retaining wall plans, dated June 7, 2016.
 - b. Geohazard completeness review response letter, dated June 9, 2016.
 - c. Narrative and Code Criteria Response, dated June 10, 2016.
- 4. Determination of Completeness, dated June 10, 2016
- 5. Public Notices
 - a. Mailed (June 21, 2016)
 - b. Newspaper (June 15, 2016)
 - c. Email (June 21, 2016)
 - d. Signs (posted June 16, 2016)
- 6. Applicant's email regarding tree removal, dated June 24, 2016.
- 7. David Evans and Associates substantive review findings, dated June 16, 2016.
- 8. Applicant's narrative and code responses, describing modifications to wall design, dated July 1, 2016.
- 9. Applicant's photographs of the site indicating existing screening of wall from below, dated July 1, 2016.
- 10. Vicinity Map

The complete record for this application is available for inspection at the Planning Division.