CITY OF MILWAUKIE

AGENDA

July 23, 2019

PLANNING COMMISSION

City Hall Council Chambers
10722 SE Main Street
www.milwaukieoregon.gov

1.0 Call to Order - Procedural Matters — 6:30 PM

2.0 Planning Commission Minutes — Motion Needed

2.1 November 13, 2018

2.2 May 28, 2019

3.0 Information Items

4.0 Audience Participation — This is an opportunity for the public to comment on any item not on the agenda

5.0 Public Hearings — Public hearings will follow the procedure listed on the reverse side

5.1 Summary: Elk Rock Estates (Continued from May 25, 2019)
Applicant/Owner: Matthew Gillis, Gillis Properties
Address: 12205/12225 SE 19th Ave
File: NR-2018-005, LC-2018-001, WG-2018-001, VR-2018-014, VR-2018-015
Staff: Vera Kolias, Associate Planner

5.2 Summary: Lake Rd & Kuehn Rd Public Right-of-Way Annexation
Applicant: City of Milwaukie
Location: SE Lake Rd and SE Kuehn Rd near 4900 SE Lake Rd
File: A-2019-002
Staff: Brett Kelver, Associate Planner

6.0 Worksession Items

7.0 Planning Department Other Business/Updates

7.1 Street Renaming – Keil Crossing Subdivision

8.0 Planning Commission Committee Updates and Discussion Items — This is an opportunity for comment or discussion for items not on the agenda.

9.0 Forecast for Future Meetings:

August 13, 2019	1. Public Hearing: VR-2019-004 Home Occupation Variance 2. Worksession: Hillside Master Plan 3. Worksession: Comp Plan Block 3 Policies
August 27, 2019	1. Public Hearing: Continuation of NR-2018-005 Elk Rock Estates (Tentative)
Sept. 10, 2019	1. Public Hearing: Code Amendments for Downtown Design Rev. (Target Date, Tentative) 2. Public Hearing: S-2018-003 Railroad Ave Subdivision

Milwaukie Planning Commission Statement

The Planning Commission serves as an advisory body to, and a resource for, the City Council in land use matters. In this capacity, the mission of the Planning Commission is to articulate the Community's values and commitment to socially and environmentally responsible uses of its resources as reflected in the Comprehensive Plan

1. **PROCEDURAL MATTERS.** If you wish to speak at this meeting, please fill out a yellow card and give to planning staff. Please turn off all personal communication devices during meeting. For background information on agenda items, call the Planning Department at 503-786-7600 or email planning@milwaukieoregon.gov. Thank you.
2. **PLANNING COMMISSION and CITY COUNCIL MINUTES.** City Council and Planning Commission minutes can be found on the City website at www.milwaukieoregon.gov/meetings.
3. **FORECAST FOR FUTURE MEETING.** These items are tentatively scheduled, but may be rescheduled prior to the meeting date. Please contact staff with any questions you may have.
4. **TIME LIMIT POLICY.** The Commission intends to end each meeting by 10:00pm. The Planning Commission will pause discussion of agenda items at 9:45pm to discuss whether to continue the agenda item to a future date or finish the agenda item.

Public Hearing Procedure

Those who wish to testify should come to the front podium, state his or her name and address for the record, and remain at the podium until the Chairperson has asked if there are any questions from the Commissioners.

1. **STAFF REPORT.** Each hearing starts with a brief review of the staff report by staff. The report lists the criteria for the land use action being considered, as well as a recommended decision with reasons for that recommendation.
2. **CORRESPONDENCE.** Staff will report any verbal or written correspondence that has been received since the Commission was presented with its meeting packet.
3. **APPLICANT'S PRESENTATION.**
4. **PUBLIC TESTIMONY IN SUPPORT.** Testimony from those in favor of the application.
5. **NEUTRAL PUBLIC TESTIMONY.** Comments or questions from interested persons who are neither in favor of nor opposed to the application.
6. **PUBLIC TESTIMONY IN OPPOSITION.** Testimony from those in opposition to the application.
7. **QUESTIONS FROM COMMISSIONERS.** The commission will have the opportunity to ask for clarification from staff, the applicant, or those who have already testified.
8. **REBUTTAL TESTIMONY FROM APPLICANT.** After all public testimony, the commission will take rebuttal testimony from the applicant.
9. **CLOSING OF PUBLIC HEARING.** The Chairperson will close the public portion of the hearing. The Commission will then enter into deliberation. From this point in the hearing the Commission will not receive any additional testimony from the audience, but may ask questions of anyone who has testified.
10. **COMMISSION DISCUSSION AND ACTION.** It is the Commission's intention to make a decision this evening on each issue on the agenda. Planning Commission decisions may be appealed to the City Council. If you wish to appeal a decision, please contact the Planning Department for information on the procedures and fees involved.
11. **MEETING CONTINUANCE.** Prior to the close of the first public hearing, *any person* may request an opportunity to present additional information at another time. If there is such a request, the Planning Commission will either continue the public hearing to a date certain, or leave the record open for at least seven days for additional written evidence, argument, or testimony. The Planning Commission may ask the applicant to consider granting an extension of the 120-day time period for making a decision if a delay in making a decision could impact the ability of the City to take final action on the application, including resolution of all local appeals.

The City of Milwaukie will make reasonable accommodation for people with disabilities. Please notify us no less than five (5) business days prior to the meeting.

Milwaukie Planning Commission:
Kim Travis, Chair
John Henry Burns, Vice Chair
Adam Argo
Joseph Edge
Greg Hemer
Lauren Loosveldt
Robert Massey

Planning Department Staff:
Denny Egner, Planning Director
David Levitan, Senior Planner
Brett Kelver, Associate Planner
Vera Kolias, Associate Planner
Mary Heberling, Assistant Planner
Dan Harris, Administrative Specialist II

CITY OF MILWAUKIE

PLANNING COMMISSION MINUTES

City Hall Council Chambers
10722 SE Main Street
www.milwaukieoregon.gov

NOVEMBER 13, 2018

Present:	Kim Travis, Chair John Henry Burns, Vice Chair Joseph Edge Sherry Grau Greg Hemer	**Staff**:	Denny Egner, Planning Director Vera Kolias, Associate Planner Tim Ramis, City Attorney
Absent:	Adam Argo Scott Jones		

1.0 Call to Order — Procedural Matters*

Chair Travis called the meeting to order at 6:30 p.m. and read the conduct of meeting format into the record. provide

Note*: The information presented constitutes summarized minutes only. The meeting video is available by clicking the Video link at http://www.milwaukieoregon.gov/meetings.*

2.0 Planning Commission Minutes – None

3.0 Information Items

Denny Egner, Planning Director, briefed the Commission on upcoming key meetings including the Housing Forum. A joint meeting with Council and the Comprehensive Plan Advisory Committee (CPAC) would be held to discuss housing-related issues and the Neighborhood Hub Project.

4.0 Audience Participation —This is an opportunity for the public to comment on any item not on the agenda. There was none.

5.0 Public Hearings – *This item was taken out of order.*

5.1 Summary: City Hall Council Chambers Remodel (continued from 10/23/18)
Applicant/Owner: City of Milwaukie
Address: 10722 SE Main St
File: HR-2018-001
Staff: Vera Kolias, Associate Planner

Chair Travis called the hearing to order and read the conduct of a quasi-judicial hearing format into the record. **Commissioner Hemer** and **Commissioner Edge** noted their ex parte contacts declared at the October 23rd meeting. No other declarations were made.

Vera Kolias, Associate Planner, presented the staff report via PowerPoint providing an overview of the proposed City Hall remodel. She reviewed the changes in the revised site plan and focused on the issues regarding replacement of seven windows. The State Historic Preservation Office (SHPO) believed the new proposed window replacement was a better option than the one submitted previously, but suggested restoration of the original windows as

an alternative. Staff recommended the City make a good-faith effort to restore the three windows on the south façade that were in good condition but recommended replacing those in poor condition with fiberglass-clad wood windows. Staff also recommended replacement of the other, non-original windows in the building with fiberglass-clad wood windows or similar.

Lauren Loosveldt and **Mary Neustradter, Design and Landmarks Committee (DLC) members,** said the DLC's preference was for the building's windows to be restored but that the appearance of any replacements should be very close to the existing windows. The DLC encouraged the applicant to research more window replacement options from SHPO's list, and to provide information on the cost of restoration. Regarding energy efficiency, SHPO said the windows could accommodate two panes of glass and if storm windows were installed, energy efficiency goals could be met or exceeded. The DLC also recommended that the fire pole remain in its original location and state as it was historically significant.

Chair Travis called for the applicant's testimony.

Damien Farwell, Milwaukie Fleet and Facilities Supervisor, stated two contractors from SHPO's list were willing to bid and both contractors confirmed the east end windows could be restored. Installing double-glazed windows in the original frames was not possible because the window was not deep enough. He reviewed the potential cost of restoration, and noted that the cost could be higher due to prevailing wage requirements set by the Bureau of Labor and Industries (BOLI). Restoring the best three windows would cost much less because of their good condition and he believed the windows could be restored in place. The spreadsheet in the packet contained pricing for a custom window which would better replicate the original wood window.

Tracy Orvis, Di Loreto Architecture, presented cross sections and gave a detailed explanation of the proposed window options, and added that the team wished to retain the original setback and proportions of the windows as much as possible.

Mr. Farwell noted modern wood windows did not last as long due to inferior wood. He explained that during restoration of the south windows, the frame would be left in place which would not allow addition of insulation, flashing, and weather seals, nor would it allow assessment of the frame's condition. It appeared water was infiltrating into the sills. No down side existed to restoring and maintaining the east windows because of their good condition. He further clarified that if the contractor was required to conduct an inspection, they would likely remove the windows and cause some damage or destroy the windows completely. He believed that the contractor would re-mill new wood to replace the damaged parts.

Chair Travis closed public testimony.

Planning Commission Deliberation

Commissioner Edge noted that City Hall was a historic landmark and therefore he was comfortable if work on the building costs more. He suggested that the fire pole should remain o-site but still allow the office space to function appropriately, and to include an interpretative plaque for the public

Commissioner Hemer noted the fiberglass windows in the diagrams matched the original windows better than the wood windows did. He believed the window replacements should have

a pre-World War II appearance. He recommended that fire pole stay onsite with an interpretative sign.

Mr. Egner said a recommendation to restore all replacement windows to a pre-World War II appearance should go back to the DLC and acknowledged that such a recommendation would not preclude him from seeking the advice of the DLC, nor would it prohibit an applicant from making any proposal they wished to. The Commission agreed to make a vote on future replacement windows separate from their vote on the application before them tonight.

Commissioner Burns supported the restoration of the south and east windows.

Chair Travis agreed that standards for City Hall should be higher because it was designated a historic building and added the Commission's decision could set a precedent for others to follow.

The Commission agreed to recommend locating the bollards near the sidewalk, to make them removable to allow access, and recommended only four holes for the bollards instead of eight.

Commissioner Hemer moved and Commissioner Edge seconded to approve application HR-2018-001, adopting the recommended Findings in Attachments 1 and 2 and Option 3 for the windows. The motion and recommendations passed unanimously.

Commissioner Hemer recommended that the fire pole stay on site with an interpretative sign, and further recommended electrical outlets on the dais for electronic devices for those who wished to go paperless.

5.2 Summary: Summary: Housekeeping 2018 Code Amendments Round 2
File: ZA-2018-004
Staff: Vera Kolias, Associate Planner

Chair Travis called the hearing to order and read the conduct of a legislative hearing format into the record.

Ms. Kolias presented the staff report, and noted the package included both simple housekeeping amendments and significant changes in policy which she summarized via PowerPoint.

Discussion on the amendments included the following key comments and clarifications:

- The new process for Temporary Uses would not apply to Special Events.
- Banners advertising apartments for lease, for example, would be exempt from the six-month time limit. The phrase "six-months" would be changed to "180 days" for consistency.
- The amendment to the Land Division Code regarding boundary changes within a subdivision required a replat and a phrase was added for clarification.
- Consideration needed to be given to specifying other public entities when defining "public park" and the issue may be brought to Council for their preference.
- The current Code considered commercial sale of eggs in a residential zone as an agricultural use.
- Live/work space could be separated by walls on the same story of a building and did not require separation by floors.
- Staff would work closely with the Tree Board to avoid conflicts between the Board's list of

acceptable trees, any Code amendments, and the City's list of nuisance trees to be avoided. **Commissioner Grau** believed the list of acceptable trees was overly prescriptive and believed strongly that any changes should not add to the burden of selecting the proper tree.
- Changes to planting standards for parking lots would apply to private developments as well.
- Regarding pedestrian connectivity between closed-end developments, the proposed amendments provided clarification.

- A key issue involved green building standards.
  - Staff proposed creating a new section in the Code and to revise the standards to qualify for the height bonus by allowing for a variance. The language for a green building certification suggested using LEED Silver or a higher standard. Concern has been expressed that Green Globes and Earth Advantage were not stringent enough to increase energy efficiency.
  - **Commissioner Grau** pointed out green building programs could add to the cost of a project and less-expensive options like Earth Advantage could allow a greater building height for affordable housing.
  - Three questions were received regarding the Measure 56 notice asking to clarify that the green building standards were not applicable unless a developer was requesting a height bonus. Staff recommended approval of the proposed green building standard changes and was tentatively scheduled to present the Commission's recommendation to Council on December 18th.

Chair Travis closed public testimony.

Planning Commission Deliberation

The Commission discussed building height variances, green building standards, and affordable housing in the Downtown Mixed Use (DMU) zone as follows:
- Receiving a variance to building heights downtown was a high bar to clear but the end result would be more consistent with policies in the Comprehensive Plan than what could be achieved without the variance.
- Green building standards should not be too prescriptive or expensive as it may discourage a developer from building affordable housing. Earth Advantage and International Living Future Institute (ILFI) standards should be an option.
- Allowing a height bonus for providing housing, then use of a green building standard or affordable housing for an additional floor bonus was suggested.
- Creating a second tier of green building standards when a proposed development met an applicable to-be-developed affordable housing standard was suggested as well.

Mr. Egner said staff would bring language including green building standards for affordable housing and a first cut on a definition for a level of affordable housing to the Commission's November 27th meeting.
Commissioner Edge moved and Commissioner Grau seconded to present the recommendations for ZA-2018-004 to City Council with the modification to 19.510 as discussed. The motion passed unanimously.

6.0 Worksession Items

6.1 Summary: Summary: Comprehensive Plan Update Project update – *This item was taken out of order.*
Staff: David Levitan, Senior Planner

Mr. Egner suggested to focus tonight on the policies being presented at the Comprehensive Plan Advisory Committee's (CPAC) December 3rd, noting priorities and solutions would need to be applied retroactively to the economic policies that had already been worked on by the Commission.

Discussion about the Comprehensive Plan updates included the following key comments:

- Education was needed in the small group discussion to address housing economics in order to present the pros and cons of development. Also noted was that more regulation could mean higher costs which may limit the amount of private development. **Mr. Egner** pointed noted that staff were aware of impacts on development cost.
- Some focus should be given now to key concepts that might impact other policies so as to not discover such relationships near the end of the project. For example, a goal related to climate change might impact transportation.
- All four policy areas should be viewed through the lens of Super Action 1 because it seemed like a lot of references have been limited to the energy and climate change section. The Community Rating System (CRS) of the Federal Emergency Management Agency (FEMA) Nation Flood Insurance Program (NFIP) could be leveraged to benefit flood insurance rate payers within the city which would ultimately benefit other policy areas like natural hazards and climate change, water quality, open space, and sufficient parks.

7.0 Planning Department Other Business/Updates

Mr. Egner would distribute consent forms to Commissioners Grau, Burns, and Edge.

8.0 Planning Commission Discussion Items

Mr. Egner noted the DLC met last week to discuss requirements for mid-block connections in the multifamily standard where the street frontage was more than 200 ft.

9.0 Forecast for Future Meetings:

November 27, 2018 1. TBD
December 11, 2018 1. TBD

Commissioner Edge said he would not be at the November 27, 2018 meeting and asked that materials be sent early so he had time to get responses back by email.

Meeting adjourned at approximately 9:00 p.m.

Respectfully submitted,

Alicia Martin, Administrative Specialist II

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Kim Travis, Chair

CITY OF MILWAUKIE

PLANNING COMMISSION MINUTES

City Hall Council Chambers
10722 SE Main Street
www.milwaukieoregon.gov

May 28, 2019

Present:	Kim Travis, Chair John Henry Burns, Vice Chair Adam Argo Joseph Edge Greg Hemer Lauren Loosveldt	**Staff:**	Denny Egner, Planning Director David Levitan, Senior Planner Vera Kolias, Associate Planner Justin Gericke, City Attorney
Absent:	Robert Massey		

1.0 Call to Order — Procedural Matters*
Chair Travis called the meeting to order at 6:30 p.m. and read the conduct of meeting format into the record.

***Note**: The information presented constitutes summarized minutes only. The meeting video is available by clicking the Video link at http://www.milwaukieoregon.gov/meetings.*

2.0 Planning Commission Minutes — None

3.0 Information Items

Denny Egner, Planning Director, noted updates to the Forecast for Future Meetings and added that the Elk Rock Estates public hearing was to be opened and continued to July 23, 2019. The joint session with the Design and Landmarks Committee would be scheduled for a later date.

4.0 Audience Participation —This is an opportunity for the public to comment on any item not on the agenda.

Jean Baker, 2607 SE Monroe St, stated that the Historic Milwaukie Neighborhood District Association (NDA) was not notified of the public hearing that was to follow regarding the Monroe Apartments and so asked for a postponement of the hearing to allow time for the NDA to review the application and to prepare any comments.

Mr. Egner explained that the presentation and testimony would go forward but the hearing would remain open and be continued to the June 25 meeting to allow for proper notice to the Historic Milwaukie NDA. He added that the materials were available on the City website for review.

5.0 Public Hearings
5.1 Summary: Monroe Apartments Building Height Variance
Applicant/Owner: Dean Masukawa, LRS Architects
Address: Monroe Street & 37th Avenue

File: VR-2019-003
Staff: Vera Kolias, Associate Planner

Chair Travis called the hearing to order and read the conduct of quasi-judicial hearing format into the record. She verified that the application was for a building height variance and not for the entire development. Public testimony should address the approval criteria for the height variance only.

Vera Kolias, Associate Planner, presented the staff report via PowerPoint. The overall project proposal was for a 234-unit multifamily development which would go through a two-part approval process. The application tonight was part one for a variance to the building height only, to allow for a fifth story to one of the proposed buildings. The second part of the approval process for the overall project would likely go through either a Type II or Type III review process. She reviewed the meetings held to-date on the project including preapplication conferences and meetings with the Hector Campbell and Ardenwald NDAs.

Ms. Kolias stated that the subject site was located in Central Milwaukie, an area that underwent an extensive public process to develop the Central Milwaukie Land Use and Transportation Plan which provided a framework for transportation and development, to create a cohesive vision, and to facilitate public and private investment. The subject site, known as the McFarland site, was identified as an opportunity site for redevelopment. She described the site and surrounding area that included residential, multifamily, and commercial uses. The site was zoned General Mixed Use and allowed multifamily residential by right. The site had a history of industrial uses and hazardous material contamination. Long-term remedial controls were in place and the Department of Environmental Quality (DEQ) would be involved with any development on the site.

The proposal was for a 234-unit multifamily development, including live-work units, in five buildings. Building 1 of the development was proposed to be five stories, using two height bonuses of residential use and green building which required Type III review. The minimum density for the site was 180 units and maximum was 361 units.

Ms. Kolias reviewed the approval criteria and how the proposal met the criteria as follows:

1. *Proposal avoids or minimizes impacts to surrounding properties:* Building 1 would be sited on the interior of the site, at a lower elevation, and 150 ft from Monroe St and 180 ft from 37th Ave. Distance and slope reduced the height appearance of the building from Monroe St and 37th Ave.
2. *Proposal was creative with exceptional design and materials and complemented nearby areas:* The proposal improved a vacant and contaminated site, included high-quality materials and design, was designed to blend with the surrounding neighborhoods, and the additional building height would allow for more space for landscaping and open space.
3. *Proposal would provide public benefit:* The building height would provide transition between a high commercial use area to multifamily and single-family residential areas; would allow for additional plantings to contribute to the tree canopy; and would include green building features to contribute to sustainability goals. A multiuse path was also included in the overall proposal.
4. *Proposal provides adequate transitions to adjacent neighborhoods*: The site itself was a transition point between commercial and residential areas. The site landscaping and building siting also mitigated the impacts to surrounding neighborhoods, and the additional building height used the site more efficiently and preserved open space.

The Design and Landmarks Committee (DLC) reviewed the proposal and recommended approval of the variance with a recommendation to reduce the massing of the gable ends which would reduce the overall height. Although the hearing would be continued, staff recommended approval and **Ms. Kolias** reviewed the decision-making options.

Ms. Kolias confirmed that the applicant was aware that 4-stories were allowed by right but wanted to maintain the design of the development with 3-story buildings along Monroe St and 37th Ave, and so elected to proceed with the Type III variance review process.

Chair Travis called for the applicant's presentation.

Tom Messervy, President, Johnson Development Associates, noted that the developers were committed to projects that complimented and benefitted the surrounding community. He verified that the height variance did not increase density as, by code, the development could include 50% more units than what was proposed. The design of the proposed development allowed for lower-height buildings along the street to reduce impact to the surrounding neighborhoods and allowed open space, landscaping, and parking to be maximized. The development would follow one of the green building certification programs as outlined in the code and would apply to all of the development's buildings.

Dean Masukawa, LRS Architects, reviewed the site constraints and how the proposed site plan was decided upon, specifically with regard to the 5-story building. He noted the brownfield portion that made up one-third of the site and did not allow for residential development. Parking options for the site were limited due to limited on-street parking along Monroe St and 37th Ave, and from the proposed multiuse path along the west site of the property. The intent of the building's design and massing was to reflect historic context and to keep instep with the neighboring residential areas. He showed a revised design that reduced gable height as recommended by the DLC, which reduced the building height by nearly 8 ft.

Chair Travis called for public testimony.

David Aschenbrenner, Hector Campbell NDA Chair, noted that a letter in support was submitted by the NDA and that the applicant's presentation at the NDA meeting was well-received. He supported the gable height change. He added that since this was a private development and 4-stories were allowed by right, the NDA was pleased that the developers were proposing 3-stories to allow better compatibility and transition into the surrounding neighborhoods. The site had sat vacant for decades, so this development would be a great improvement.

Bernie Stout, 4647 SE Ada Ln, asked if there would be opportunity for public comment on the overall project proposal.

Mr. Egner responded that the development application was anticipated to meet the Type II administrative review process criteria, which included public notice and allowed for public comment. The decision allowed for appeal to the Planning Commission.

Commissioner Hemer moved and Commissioner Edge seconded to continue the public hearing to a date certain of June 25, 2019, at 7:30 p.m. The motion passed unanimously.

5.2 Summary: Elk Rock Estates – *open and continue to July 23, 2019*
Applicant/Owner: Matthew Gillis, Gillis Properties

Address: 12205/12225 SE 19th Ave
File: NR-2018-005, LC-2018-001, WG-2018-001, VR-2018-014, VR-2018-015
Staff: Vera Kolias, Associate Planner

Chair Travis called the hearing to order and read the conduct of quasi-judicial hearing format into the record. The applicant requested that the public hearing be continued to July 23, 2019.

Commissioner Hemer moved and Commissioner Argo seconded to continue the public hearing to a date certain of July 23, 2019. The motion passed unanimously.

6.0 Worksession Items — None

7.0 Planning Department Other Business/Updates

8.0 Planning Commission Discussion Items

Commissioner Hemer asked if community members could provide direct feedback to the Planning Commission and City Council regarding the housing policies. The general feeling of feedback he had received from the community was that there was limited opportunity for input and that City Council had already decided on the policies.

Mr. Egner noted that the public and CPAC members were welcome to provide public comment. The Comprehensive Plan update project was on a tight schedule and the final block of policies were scheduled to be 'pinned down' at the July 16 City Council meeting. There would also be public hearings as part of the legislative process. The town halls held were the primary method of receiving public feedback and input for the update and policies.

Chair Travis suggested that the Commission meet directly with the land use committee chairs. As a CPAC member, she assured that policies were not decided at this point.

9.0 Forecast for Future Meetings:

June 11, 2019	1. Public Hearing: A-2016-006 Clackamas Community College Annexation 2. Public Hearing: WG-2019-002 Proposed Dock 3. Worksession: Comprehensive Plan Housing Policies
June 25, 2019	1. Public Hearing: NR-2018-005 Elk Rock Estates (tentative continued) 2. Worksession: Cottage Cluster/ADU Presentation & Discussion 3. Joint Session: Design Review Code with DLC *tentative*
July 9, 2019	1. Joint Session: Design Review Code with DLC *tentative*

Meeting adjourned at approximately 7:45 p.m.

Respectfully submitted,

Alicia Martin, Administrative Specialist II

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Kim Travis, Chair

CITY OF **MILWAUKIE**

To: Planning Commission

Through: Dennis Egner, Planning Director

From: Vera Kolias, Associate Planner
Dalton Vodden, Associate Engineer

Date: July 16, 2019, for July 23, 2019, continued Public Hearing

Subject: **File:** NR-2018-005 (master)

Applicant: Gillis Properties, LLC

Owner(s): Same

Address: 12205-12225 SE 19th Ave

Legal Description (Map & Tax Lot): 11E35DD 03200 & 03300

NDA: Island Station

ACTION REQUESTED

Based on the number of issues involved in this application, extensive public input to date, and a request from the applicant, staff recommends that the Commission open the public hearing and take testimony, close the public hearing but leave the written record open, and continue the hearing to August 27 for deliberation and a tentative decision.

BACKGROUND INFORMATION

As originally proposed, the staff report and findings for the initial public hearing recommended denial of the application due to deficiencies related to the floodplain and natural resources. The applicant requested that the hearing be continued to develop revisions and to provided additional materials to address the identified issues. These materials are the subject of this hearing.

Please review materials provided for the initial May 28, 2019 public hearing for materials submitted up to that date.

The applicant is proposing a natural resources cluster development with a total of 12 single family detached homes (10 new and 2 existing homes to be remodeled) on a site located between 19th St and the Willamette slough adjacent to Elk Rock Island and Spring Park. The site includes 100-yr floodplain, mapped natural resource areas, and the Willamette Greenway.

Variances are requested to a side yard setback, a front yard setback, building height for the homes facing the slough, and to allow garage doors to exceed 50% of the building width.

The application materials were reviewed and analyzed by ESA, the City's peer review natural resources consultant.

A. Site and Vicinity

The site is located at 12205-12225 SE 19th Ave. The site is made up of two tax lots and contains a total of 3.66 acres. There are two existing single-family home on the site, which would be remodeled and would be part of the proposed development. The surrounding area is zoned Residential R-5 and consists of detached single-family homes to the north and east, Elk Rock Island to the west, and Spring Park and the unimproved Sparrow St right-of-way to the south. See Figures 1-2.

The project site is bisected by the Willamette slough, effectively limiting the developable portion of the site to the eastern portion. The site includes Willamette Greenway over the entire site, Water Quality Resource Areas (WQR) along the slough and river, Habitat Conservation Areas (HCA), and the 100-yr floodplain over all of the site but the upland area along 19th Ave (See Figures 3, 4, and 5).

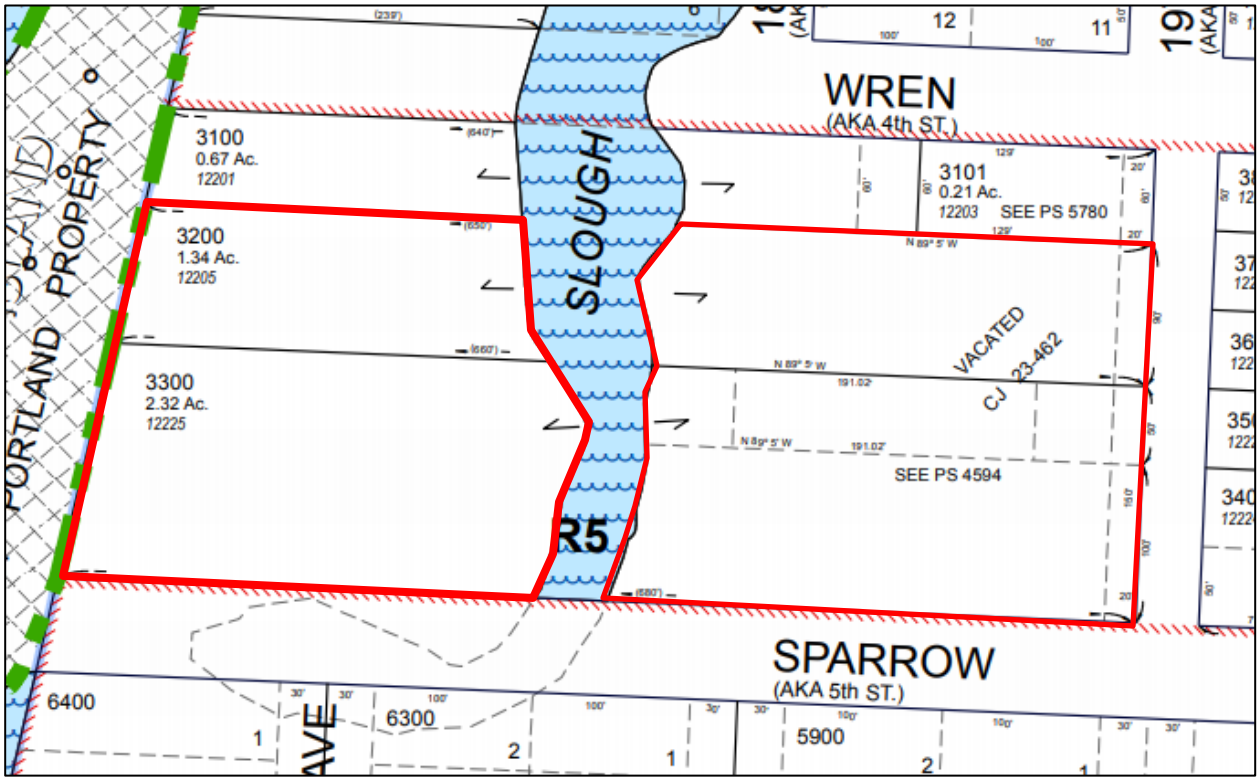

Figure 1. Tax Map with property outlined in red.

Figure 2. Site and Vicinity

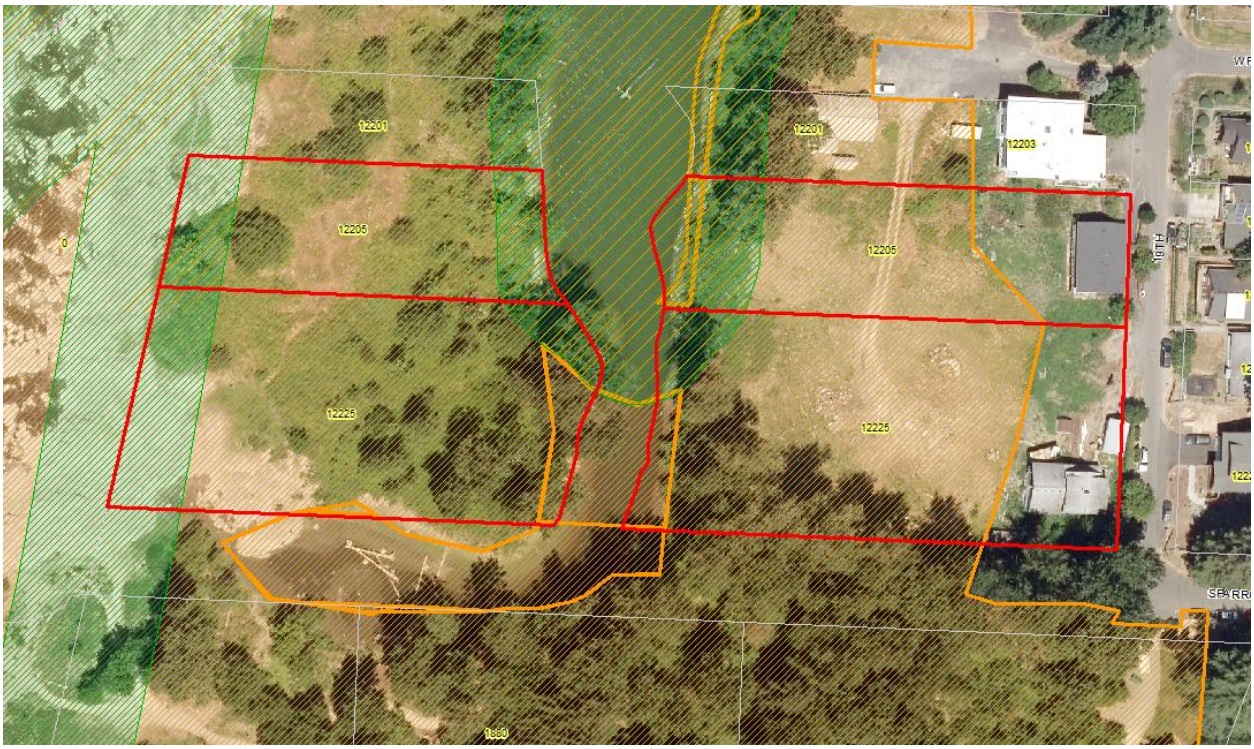

Figure 3. Natural Resource overlay zones: Water Quality Resource Area (green) and Habitat Conservation Area (orange)

Figure 4. FEMA Special Flood Hazard Area, Approximate Site Location Added in Red for Clarity (Unaltered Image in Attachment 6)

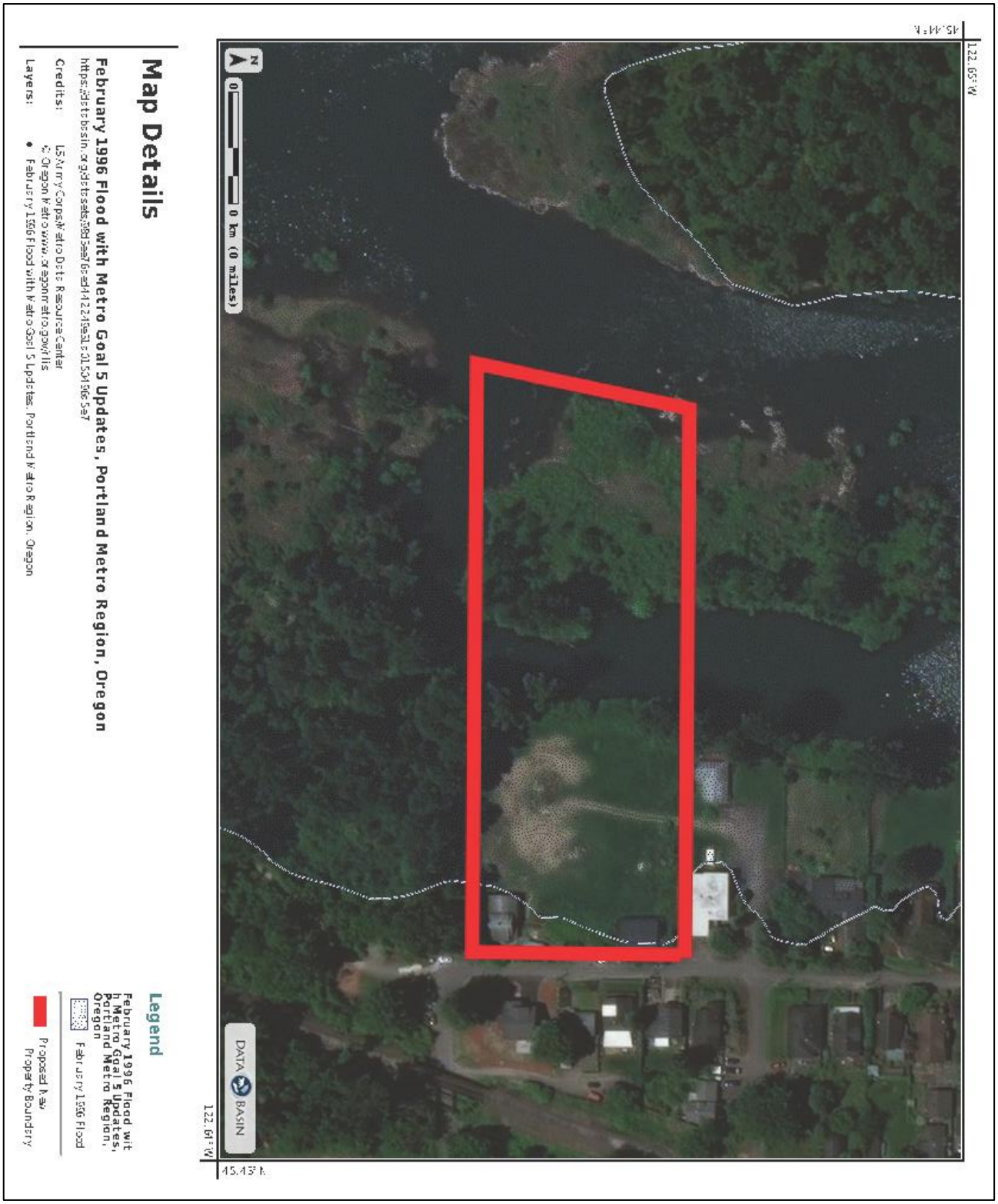

Figure 5. Metro Special Flood Hazard Area, 1996 flood limits is indicated by the white line. Approximate Site Location Added in Red for Clarity (Unaltered Image in Attachment 6)

B. Zoning Designation

Residential R-5

C. Comprehensive Plan Designation

Moderate Density MD

D. Land Use History

- City records indicate no previous land use actions for 12225 SE 19th Ave.
- **August 22, 1972:** Land Use File #C-72-10 was a request to convert the single-family home at 12205 SE 19th Ave to a duplex. Staff recommended denial of the application due to the presence of floodplain and the lack of public sewer service to the site. Public testimony in opposition to the proposal was presented at the public hearing. Upon hearing the opposition, the applicant withdrew the application.

E. Proposal Summary

The applicant is seeking land use approvals for construction of a natural resources cluster development (see Figure 5) for 10 new single-family homes and 2 remodeled existing homes. The project includes a new pedestrian path and repair of an existing dock extending into the slough, and enhancements of natural resources to the west of the slough.

The project requires approval of the following applications:

1. Natural Resource Review (master file, #NR-2018-005)

   The project is a natural resources cluster development and is subject to natural resources review.

2. Variance Request (VR-2018-014; VR-2018-015)

   As proposed, the project requires 4 variances: (1) to exceed the maximum allowed building height of 2.5 stories or 35 ft for single-family homes; (2) relief from the 25-ft side yard setback; (3) relief from the number of access points in close proximity on the same frontage; and (4) relief from the requirement that garage doors not exceed 50% of the width of the street facing façade.

3. Lot Consolidation (LC-2018-001)

   The proposal includes consolidation of the two underlying lots into one.

4. Willamette Greenway Review (WG-2018-001)

   The site is in the Willamette Greenway and the project requires a Willamette Greenway Conditional Use review, both for the main development as well as the non-commercial dock.

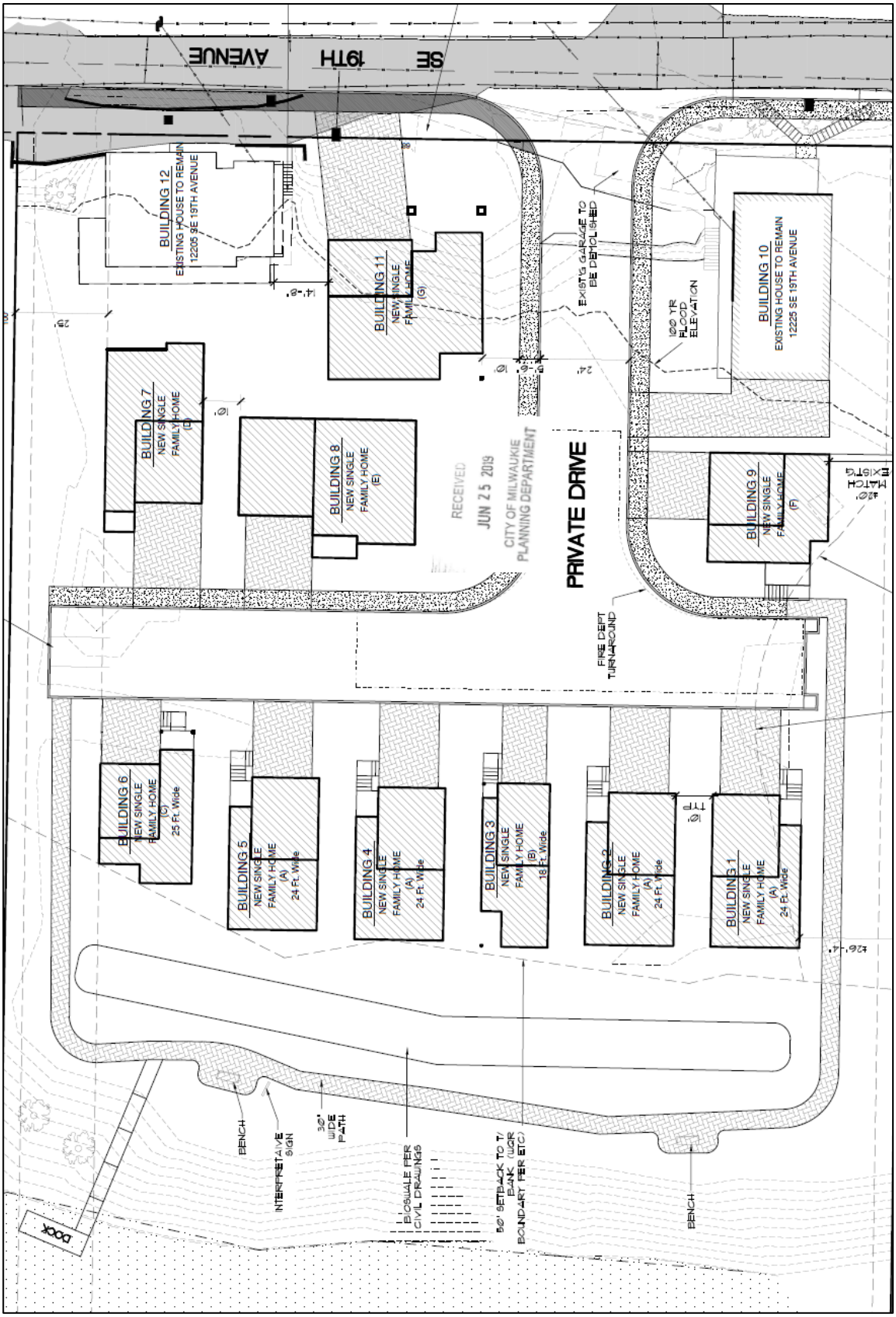

Figure 6. Site Plan

KEY ISSUES

Summary

Staff has identified the following key issues for the Planning Commission's deliberation.

A. Floodplain: How would the proposed development impact the 100-year floodplain?

B. Natural Resources: Does the proposed development adequately address impacts to mapped natural resources to avoid, minimize, and mitigate with a reasonable footprint for the cluster development?

C. Willamette Greenway: Does the proposed development adequately address the approval criteria for a Willamette Greenway Conditional Use?

D. Variances: Is the proposed variance to allow 3-story homes reasonable? What are the effects of the variance on views as it relates to the Willamette Greenway? Are the other requested reasonable: 1) relief from the 25-ft side yard setback; 2) relief from the number of access points in close proximity on the same frontage; and 3) relief from the requirement that garage doors not exceed 50% of the width of the street facing façade?

Analysis

A. How would the proposed development impact the 100-year floodplain?

The City of Milwaukie regulates floodplain development through two 100-year special flood hazard zones. The applicant's proposed development impacts both the areas of inundation for the February 1996 flood as shown on the Metro Water Quality and Flood Management Area Maps and the floodplain and floodway as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and Floodway Maps (FIRMs). The applicant proposes construction of ten new homes, significant renovation of two existing homes, construction of a private street, construction of common space amenities, significant regrading, and design of a stormwater facility within the special flood hazard area. See Figures 3 and 4 for mapped special flood hazard areas on site. City floodplain standards found in Milwaukie Municipal Code (MMC) chapter 18 apply to both FEMA and Metro identified special flood hazards areas.

The applicant has identified the FEMA 100-year flood elevation, FEMA floodway, and ordinary high-water mark on provided plans. The applicant has proposed 1,853.42 cu ft of cut and 1,763 cu ft of fill, for a net cut of 90.36 cubic yards in the FEMA floodplain. Milwaukie code requires balanced cut and fill within both FEMA and Metro floodplains. The applicant has not identified or shown cut and fill information for the areas of inundation for the February 1996 flood. Additionally, the City of Milwaukie requirements for excavation and fill within the floodplain prohibit excavation below bankfull stage from

counting as floodplain cut. The bankfull stage has not been identified by the applicant in submission materials.

The development requires a private street to provide access to nine of the new homes one of the existing homes to be renovated. The City's comprehensive plan states in chapter 3, objective 1, policy 3, "(T)he finished elevations of the lowest floor of buildings and streets will be a minimum of 1.0 foot above the 100-year flood elevation." Standards set forth in the comprehensive plan must be met by this proposed development to satisfy the approval criteria of Willamette Greenway review. The applicant has provided elevation of the proposed road at a crowned center line. The lowest elevation of the private road occurs on Accessway 2 at station 0+26.00. The centerline elevation is marked at 37.4 ft. This would produce elevations at the edge of road of 37.16 ft, 0.24 ft less than the required one foot above BFE required by City policy.

The ten new homes proposed include above grade enclosed garages below the base flood elevation (BFE). Habitable floors, including a potential half story being sought through a variance, will be located above the garages. The applicant has proposed stem wall foundations for all new buildings with below grade crawlspaces under the first floor. The applicant proposes that all buildings will be built in accordance with FEMA standards for construction within the floodplain. The applicant justifies crawlspace construction within this floodplain zone using modelling conducted for the Tilikum Crossing bridge project. The applicant states this model was submitted to FEMA to support a Letter of Map Revision (LOMR) for the bridge project. No LOMR reference number was provided.

The FEMA mapped special flood zone on site is designated AE on the flood insurance rate map (FIRM, see figure 4). This zone is identified by FEMA as an area of flooding where high velocity flows are likely. Cross section E of the FIRM of the area intersects the site. The flood insurance study (FIS) of the cross-section identifies a mean floodway (which contains the slough) velocity of 5.9 ft/s. The floodway's mean velocity is not a good measure of actual flood velocity within the flood fringe but can be used as a general measure for an upper limit. The applicant is proposing to deviate from this FEMA guidance and data based on a model generated for a different project, with a different scope, by a party uninvolved in this application. Staff were unable to locate an associated LOMR on FEMA's National Flood Hazard Layer (NFHL) Viewer.

The enclosed garages represent added enclosed space below BFE that will likely require professionally designed features to accommodate the hydrodynamic loading. If compliant openings are not feasible, the garage floor becomes the buildings lowest floor. This may require the garages to be raised one foot above BFE.

When flood velocities are expected to exceed 5 ft/s, city code (MMC 18.04.150.G) states crawlspaces should not be used. Additionally, FEMA technical guidance states, "open foundations are recommended in riverine flood hazard areas where flow velocities are expected to exceed 5 feet per second because of the anticipated hydrodynamic loads and potential for debris impact and scour. These loads may be sufficient to damage typical solid perimeter foundation walls, even though flood openings are provided." Information

regarding openings in foundation walls and walls of enclosures can be found in FEMA Technical Bulletin 1 (https://www.fema.gov/media-library-data/20130726-1502-20490-9949/fema_tb_1__1_.pdf).

Any area of a building having its floor subgrade (below ground level) on all sides must have their internal floor elevation raised to one foot above flood elevation per MMC 18.04.160.A. The applicant must request a variance following MMC 18.04.130 to have subgrade enclosed areas below the BFE. This includes crawlspaces subgrade on all sides.

The fill and excavation below BFE proposed for this development includes changes of slope near the edge of property. The applicant has not provided details on the impact of drainage on the neighboring properties. Oregon drainage law prohibits a landowner from diverting water onto adjoining land that would not otherwise have flowed their and changing the place where water flowers onto the lower owner's land.

The new impervious area proposed requires engineered stormwater management. The applicant has proposed a stormwater treatment facility located within the floodplain. This stormwater pond facility is part of the proposed excavation necessary to meet balanced floodplain cut and fill. The applicant has proposed that detention will not be required. In general, according to the City of Milwaukie Public Works Standards section 2.0041, all developments will be required to provide onsite detention, unless the developer can demonstrate by a hydraulic analysis that proposed development will not increase stormwater runoff volumes or peak discharge and meets all requirements of the City's municipal discharge permit. All impervious areas of the development are proposed to be piped to this pond. Additional analysis has not been provided to indicate the pond can intercept the required stormwater and still provide floodplain storage during extreme events. Additional consideration may be needed to protect fish from becoming trapped in the pond during high flow events.

Summary of Issues

As noted above, the application does not adequately address all code requirements. A summary of the deficiencies is provided below:

1. Analysis of cut and fill based on area of inundation for the 1996 flood was not included
2. Consideration of bankfull stage when making cut and fill calculations was not included
3. Documentation to justify crawlspace design was not included
4. Drainage impacts on neighboring properties was not addressed
5. Design of detention area to avoid fish being trapped during high flow events was not addressed

B. Does the proposed development adequately address impacts to mapped natural resources to avoid, minimize, and mitigate with a reasonable footprint for the cluster development?

MMC 19.402 provides a discretionary process to analyze the impacts of development on WQRs and HCAs, including measures to prevent negative impacts and requirements for mitigation and enhancement. The approval criteria for evaluating a development's impacts require that a development demonstrate how the proposed activity:

- Avoids the intrusion of development into resource areas to the extent practicable;
- Minimizes detrimental impacts if there is no practicable alternative to avoiding disturbance; and
- Mitigates for adverse impacts if the applicant demonstrates that there is no practicable alternative that will avoid disturbance of the designated natural resources.

The application, as submitted, does not include an alternative that avoids impacts to the mapped natural resource areas. Avoiding or minimizing impacts is also a criterion for approval of a cluster development.

When revised materials were submitted, the applicant prepared four design alternatives for evaluation under this discretionary review process. The following table summarizes potential impacts of the four alternatives:

Alternative	WQR/HCA impacts (combined)	Wetland fill	Below OHWM of the Willamette River
Preferred – 12 units	38,500 sq ft	0	Repair to existing dock, no new structure
#2 – 23 units	57,213 sq ft	3,363 sq ft	Proposed Dock, plus possible additional fill
#3 – 16 units	>38,500 sq ft[1]	0	Proposed Dock
#4 – 18 units	>38,500 sq ft	0	Proposed Dock
#5 – 16 units[2]	Unknown – includes units on the "island" west of the slough and an access bridge	unknown	Proposed Dock

[1] Alternative #3 would have less impact than #2 but more than #4 and the preferred because the private drive would extend further south into the buffer of Wetland A.
[2] Alternative #5 submitted as a site plan on July 12, 2019 to illustrate another development alternative. No mitigation, floodplain evaluation, etc. was provided for this alternative.

Additional ESA review revealed that, based on the alternatives presented, it is unclear if the preferred design impacts the least amount of natural resources because the revised materials do not include a revised impact analysis addressing the floodplain from the previous iteration. Moreover, the applicant did not propose an alternative with a significantly different layout that focused on avoiding impacts. An alternative, or alternatives, that emphasizes fewer homes, duplexes, or multifamily units outside of the HCA/WQR was not provided and should have been considered. A question was posed to the applicant: Would fewer units, such as 9 units clustered at the street as shown in Alternative #2, which would significantly avoid and minimize HCA and floodplain impacts, be a viable project? Staff notes that this alternative was a way to illustrate an alternative that would avoid impacts to the mapped natural resource areas and to the floodplain.

The applicant submitted a response to this question and provided an analysis based specifically on a 9-unit alternative rather than respond to the spirit of the question, which was to consider an alternative that avoids the natural resource areas, either via fewer units, a different configuration or type of development, or a combination of both. The applicant's response states that the 9-unit option would not be feasible because:

- 9 units is below minimum density
- A configuration with access and driveways on 19th Ave would reduce visitor parking for Spring Park
- 2 existing homes would be torn down, which would be in conflict with Policy #2, Objective #4 – Neighborhood Conservation in Chapter 4 of the comprehensive plan which discusses preserving existing structures where possible
- The configuration would block all views to the Willamette River and would therefore, not comply with the Willamette Greenway overlay zone.

The 9-unit alternative was suggested as a way of asking the applicant to provide a real alternative that would avoid impacts to the mapped natural resources and to the floodplain. The applicant contends that the proposed 12 units with mitigation on the "island" is the only feasible alternative that minimizes impacts to the natural resources.

Mitigation

In the final proposed alternative, the applicant proposes to mitigate for natural resource impacts in the western portion of the parcels to the west of the slough (see Figure 7). The overall concept is to plant a wide variety of native shrubs, trees and groundcover with the aim that suitable species will establish and others may not. As noted by ESA, the proposed mitigation site appears suitable but is anticipated to be challenging because of its position in the Willamette River floodplain, periodic flooding, the existing extent of weeds, and presence of shallow bedrock in some areas. Despite the potential challenges, ESA notes that several of the native shrubs and trees are anticipated to establish given adequate

irrigation and maintenance. However, it is unknown if the majority of the plantings will thrive in these conditions.

Based on the analysis and inventory of this area, ESA has recommended that the total area of 41,708 sq ft should be used while preserving existing native trees and saplings as well as the standing dead trees (snags) which provide perches for birds. The total mitigation would consist of 385 trees and 1,925 shrubs so the entire mitigation area would likely need to be used. Because the island area is largely fill material with a compacted clay mix soil, the applicant states that the entire area will be plowed up with new mulch and compost brought in to prepare the soils for planting. The soils appear to be suitable on-site, although site preparation and weed control will need to be thorough and will require several site visits and treatments. The fact that there are Oregon ash and black cottonwood saplings/trees on-site means that there are suitable conditions for these native plants. Floodplains can support wooded areas and the species that generally thrive in floodplains include Oregon ash, black cottonwood, willows, and red alder. Oak trees can also handle winter flooding as long as the soils dry out in the summer. Some plant loss and mortality should be expected due to flooding. The code requires 80% survival so an ongoing maintenance program would be needed.

The applicant should provide information about how they will access the mitigation area to perform the required work. Given that this area is separated from the development portion of the site by the slough, a detailed plan that shows access points is necessary.

Should the outstanding issues regarding the alternatives analysis and access to the mitigation area for the planting work be resolved, several conditions of approval are recommended, including the following:

- Provide a detailed planting plan that shows existing native trees/shrubs to be retained, a typical planting scheme (40 x 40'), and details on site preparation and maintenance including timing and frequency for weed control. Show mitigation site access, where signage will be posted and how irrigation will be provided across the slough.
- Submit a revised planting list that reflects that vine maple is not a tree and tall shrubs should not be substituted for trees.
- Submit a revised mitigation monitoring report that replaces the proposed criteria for total percent cover of native species stratum with "the percent cover of invasive herbaceous species shall be no greater than 20%." This is the average of the options provided which were either 10 percent or 30 percent based on the extent of woody vegetation.
- Remove trash and debris from transient camps that have been established on site.
- Submit an updated mitigation monitoring and maintenance plan and monitoring report forms. Extended on-going monitoring, including a repair and

restoration program, is required to address flood damage. The timeframe for this extended monitoring program is 10 years.

Summary of Issues

As noted above, the application does not adequately address all code requirements. A summary of the issues or deficiencies is provided below:

1. Staff questions whether there is an alternative that provides 12 units that are built closer to 19th Ave, that provides parking from below, and that are clustered as much as possible away from the HCA and the floodplain.
2. Is the proposed mitigation area appropriate given its propensity to flood and its current natural state?

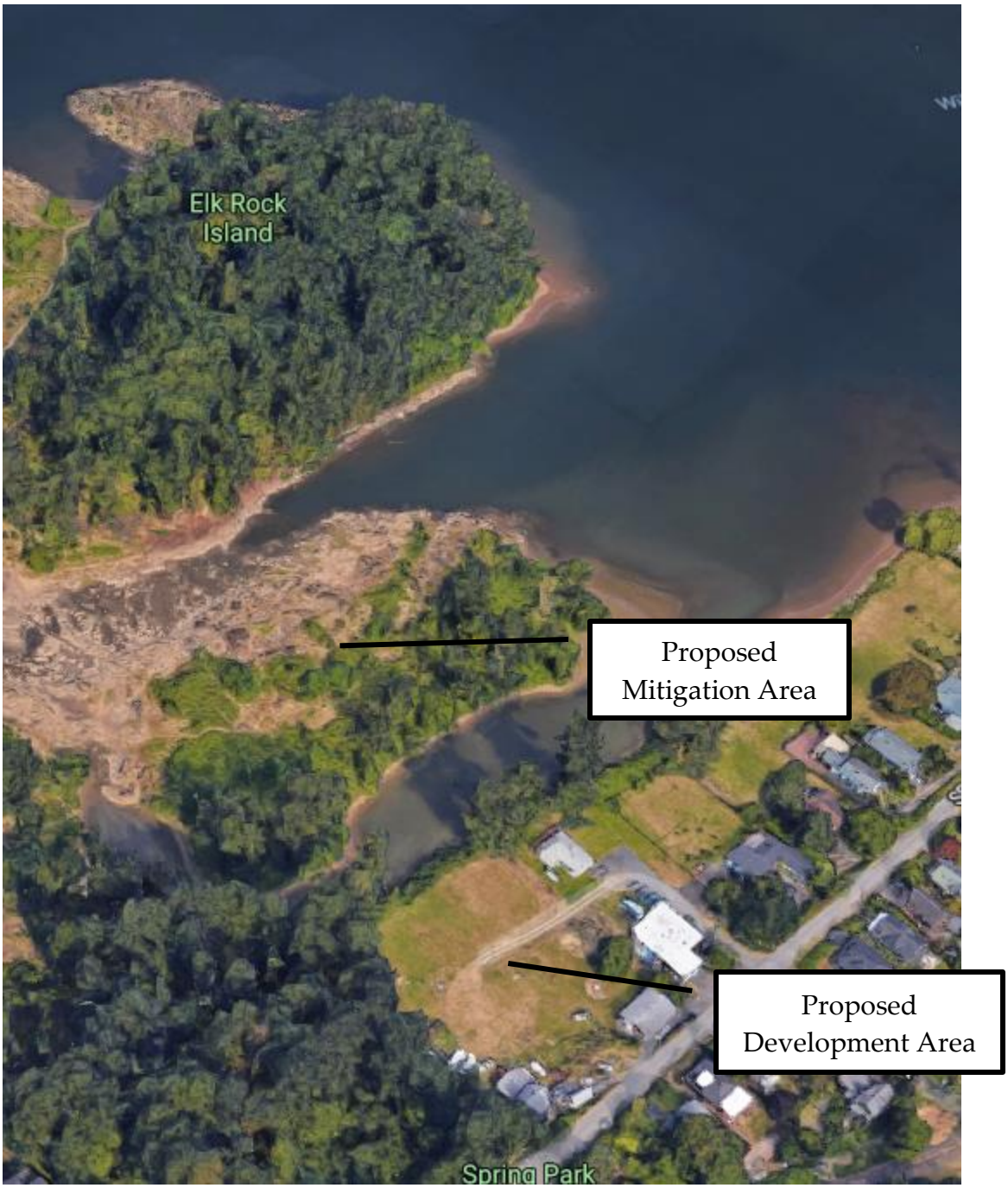

Figure 7. Subject property with the slough and the Willamette River

C. Does the proposed development adequately address the approval criteria for a Willamette Greenway Conditional Use?

The purpose of the Willamette Greenway Zone (WG) is to protect, conserve, enhance, and maintain the natural, scenic, historic, economic, and recreational qualities of lands along

the Willamette River and major courses flowing into the Willamette River. The subject property is entirely within the Willamette Greenway. The code includes a list of criteria that are to be taken into account in the consideration of a greenway conditional use:

- Compatibility with the scenic, natural, historic, economic, and recreational character of the river;
- Protection of views both toward and away from the river;
- Landscaping, aesthetic enhancement, open space, and vegetation between the activity and the river, to the maximum extent practicable;
- Public access to and along the river, to the greatest possible degree, by appropriate legal means;
- Emphasis on water-oriented and recreational uses;
- Maintain or increase views between the Willamette River and downtown;
- Protection of the natural environment according to regulations in Section 19.402;
- Conformance to applicable Comprehensive Plan policies;
- The request is consistent with applicable plans and programs of the Division of State Lands;
- A vegetation buffer plan.

Approval of a project in the Willamette Greenway is a conditional use, subject to the provisions of MMC 19.905. The key conditional use approval criteria that apply to this project and that must be addressed by the application are:

- Are the characteristics of the lot suitable for the proposed use considering size, shape, location, topography, existing improvements, and natural features?
- Will the operating and physical characteristics of the proposed use be reasonably compatible with, and have minimal impact on, nearby uses?
- Will all identified impacts be mitigated to the extent practicable?

These criteria are important to consider, particularly the suitability of the site for the proposed development, given that nearly the entire site is in the 100-yr floodplain and contains mapped natural resources. Based on the applicant's plans, almost all of the site would be altered to accommodate the proposed development.

The applicant's materials state that the proposal is consistent with the character of the river because this section of the river has been developed over the past 100 years for residential and commercial use and that the proposed residential development is consistent with the surrounding uses on both sides of the river.

The applicant's narrative states that views to the Willamette River will not be impacted by the development because the main channel of the river is not visible from the property. While the proposal would remove invasive vegetation, and enhance the

vegetated buffer, it is clear that the project would also greatly intensify the development impacts on the site.

As related to the approval criteria, views to the river are considered from the public right-of-way. When staff visited the site, and stood on 19th Ave in front of the property, small areas of the Willamette River to the north and south and the properties on the west bank were visible across the property (see Figure 8). Existing views from the public right-of-way are limited.

Figure 8. Looking southwest from 19th Ave

The presence of Elk Rock Island blocks any views directly west across the property, in addition to dense vegetation blocks views in the summer months. But, as shown above, there are portions of the river that are visible from the public right-of-way in the winter and spring. The proposed site plan identifies view corridors from the right-of-way (see Figure 9). It appears that the proposed development will provide some narrow views to the river. Numerous comments were received related to this issue and they unilaterally opposed the development based on its impact on views.

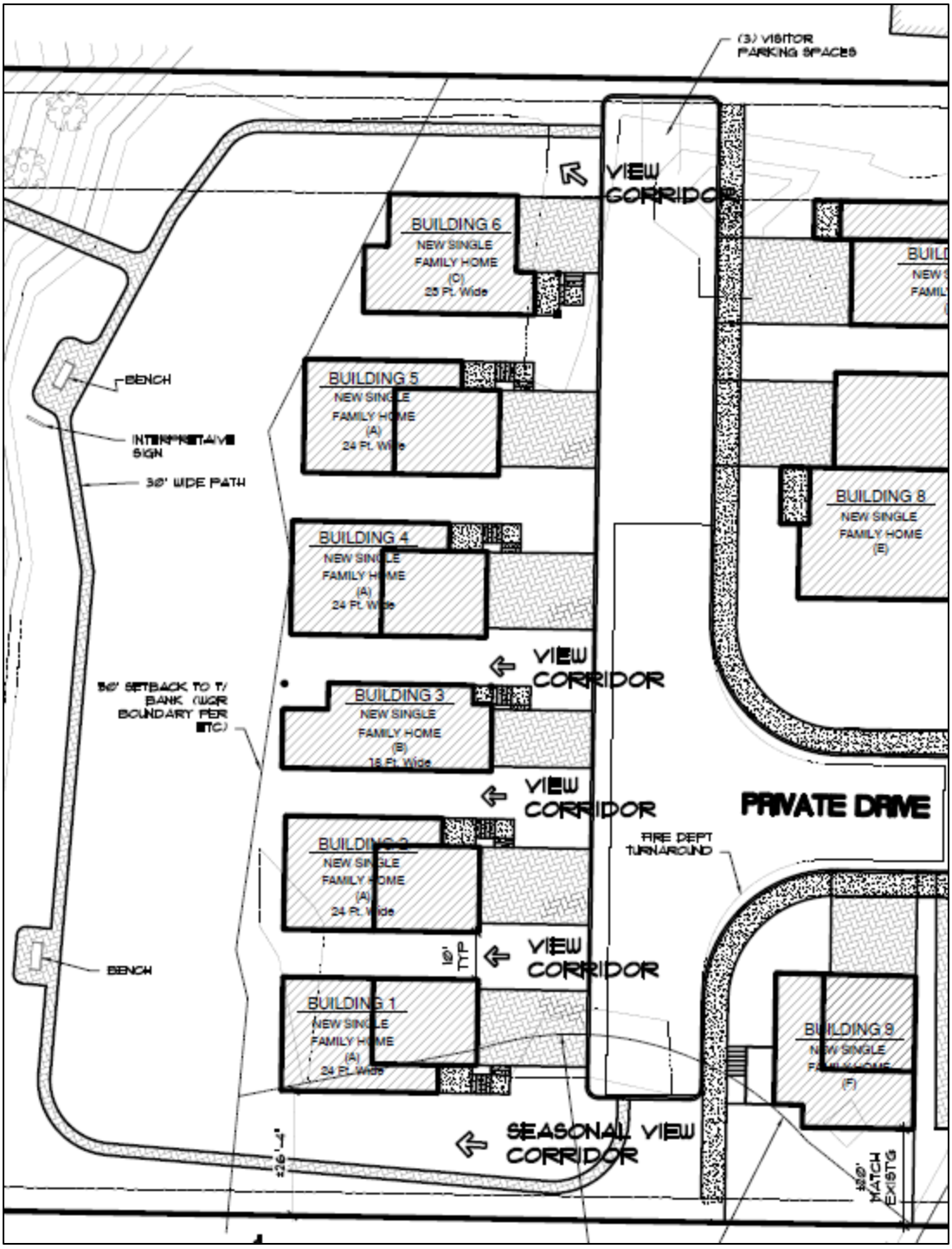

Figure 9. View corridors

The overall views from the public right-of-way toward the river are limited today and do not appear significant enough to preclude approval of the WG conditional use application.

Summary of Issues

As noted above, the application does not adequately address all code requirements. A summary of concerns is provided below:

1. Do the characteristics of the lot make it suitable for the proposed use given its location in the 100-year floodplain?
2. Mitigation on the island: will it be adequate given its location in the 100-year floodplain?
3. Consideration of landscape, aesthetic enhancement, open space, and vegetation between the development and the slough.

D. Are the proposed variances reasonable?

1. Allow 3-story homes

The new homes proposed at the lower level of the site would be 3 stories with a garage located within the floodplain and living areas above (see Figure 10). Per the applicant's materials, all proposed buildings would comply with the maximum measured height requirements and have "low pitched roofs to minimize the impact on views from the Willamette River and the public right of way."

The development standards in the R-5 zone limit building height to 2.5 stories or 35 ft, whichever is less. The use of stories in addition to building height generally limits the shape and bulk of buildings in residential areas. In this case, allowing structures that meet with height limit, but exceed the story limit, would allow for larger homes than would otherwise be permitted, because 2 full stories of living space would be permitted rather than 1.5 above the garage.

The variance is requested to allow for narrower footprints that would allow for a greater overall open space on the site, more efficient use of space, and because the "lower level" of these homes is not habitable space. The lower level can only be utilized as a garage or unfinished storage area due to FEMA and building code requirements. The applicant argues that since the proposed lower floor of these buildings is located within the floodplain and about 20 ft below the elevation of 19th Ave they will have less impact on views than two story homes constructed along 19th Ave (See Figure 12 for homes that require variance approval).

All of the proposed homes would comply with the height limits as measured in feet. The proposed home design allows for lower homes due to lower roof pitch. Note that for homes designed with a pitched roof, the height is measured to the midpoint of the ridge (See Figures 10 and 11).

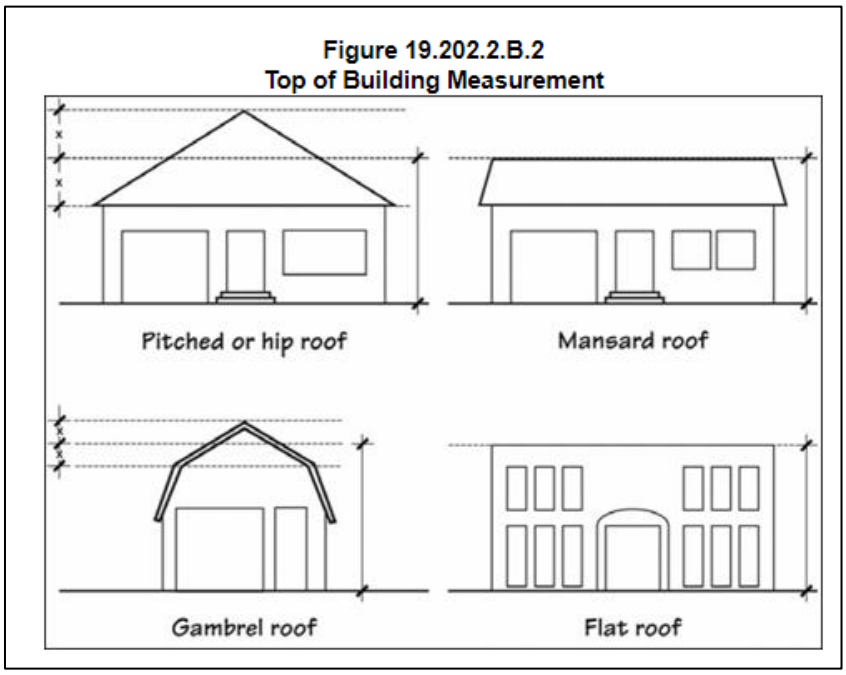

Figure 100. Building height measurement - MMC 19.202.2

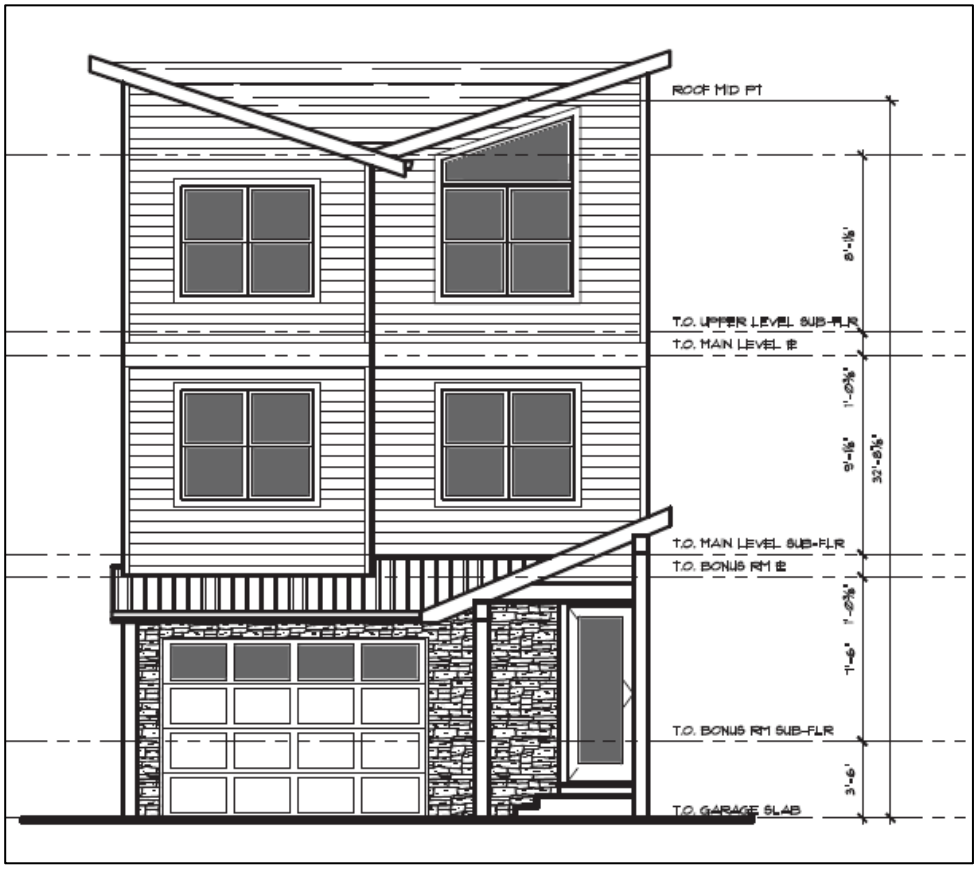

Figure 111. Building Type A.

The height variance request is reasonable given the proposed home design, that the structures will comply with the measured height limit, and that the first floor is effectively not usable as living space.

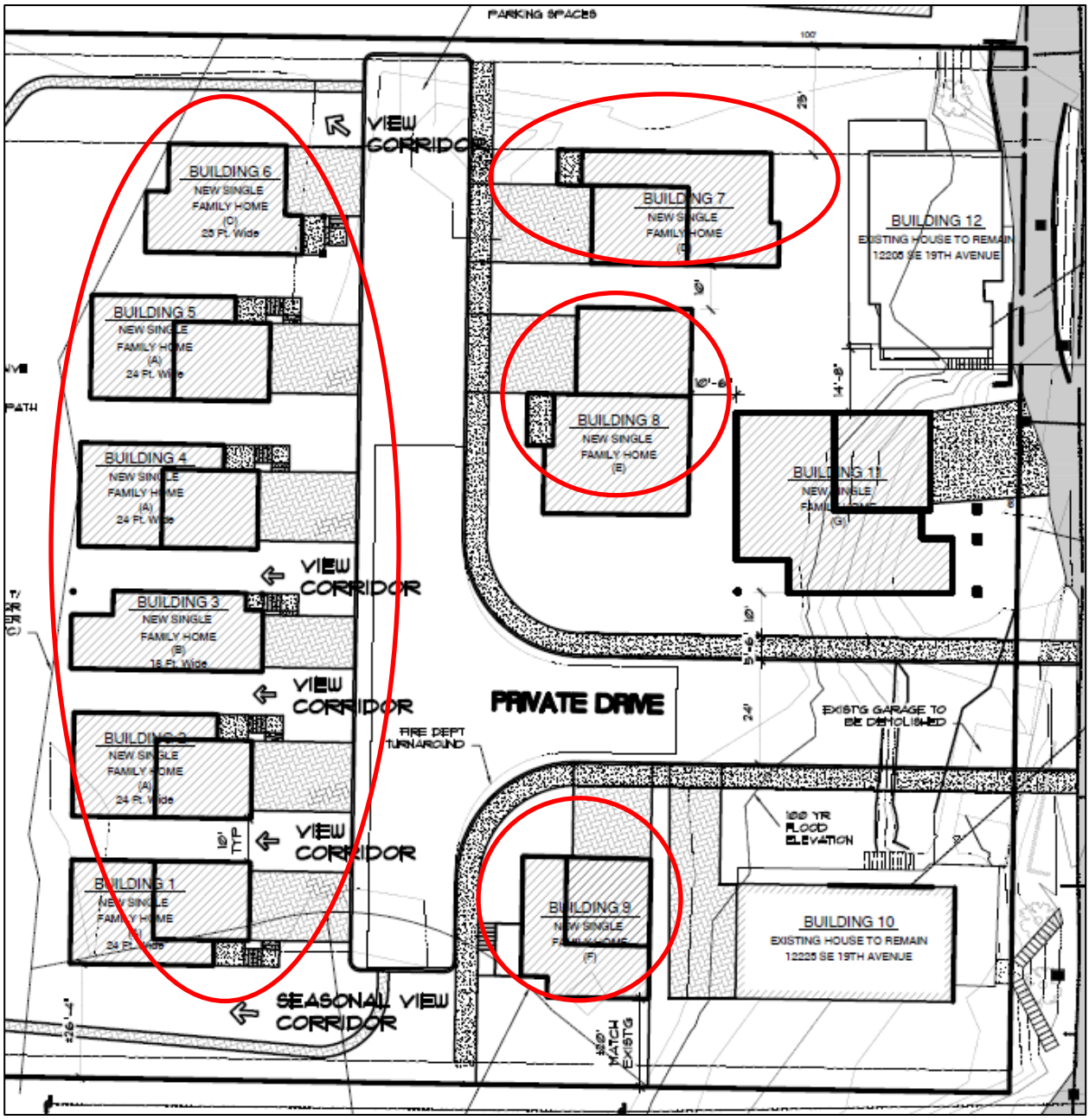

Figure 122. Site plan showing proposed 3-story homes.

2. Variances to allow reduced side yard setback, to allow garages wider than 50% of the front façade, and to allow more than one access point in close proximity onto the site.

MMC Subsection 12.16.040.D Sets standards for the number of accessway locations. One accessway is allowed on local streets. One additional accessway is allowed per frontage where the driveway approaches, including adjacent property accessways, can be spaced 150 ft apart. The applicant proposes a cluster development on a single parcel with two access points onto a local street spaced less than 40 feet apart. The application does not address the variance required for the accessways, and the applicant must do so. Further, no street design information was provided to confirm that the frontage improvements will comply with the design plan for 19th Ave for the Island Station Neighborhood Greenway.

However, the remaining requested variances do not result in significant impacts.

Natural resource cluster developments are required to have a 25-ft setback from all property lines. The proposed 20-ft setback for a proposed new home, rather than 25 ft, will have no impact on surrounding properties because it matches the existing setback of #12225 SE 19th Ave. The proposed 20-ft setback in addition to the existing unimproved 40-ft Sparrow St right-of-way retains the goal of the setback in a natural resources cluster development by creating a buffer to the adjacent property.

The detached homes with garage door widths exceeding the maximum 50% of the width of the street-facing façade will not be visible from 19th Ave. The proposed homes are designed to be narrow, at approximately 18 ft to 24 ft wide. The proposed design includes garage doors with a wood stained appearance and glazing to better fit into the surrounding environment.

Summary of Issues

As noted above, the application does not adequately address all code requirements. A summary of the issues or deficiencies is provided below:

A variance is required to allow the proposed design and number of accessways. The application does not address the variance or the approval criteria.

CONCLUSIONS

A. Staff recommendation to the Planning Commission is as follows:

1. Close the public hearing, but keep the record open for written testimony, unless additional time to address the identified issues is needed for more than just written testimony. Continue the hearing to August 27, 2019 for deliberation.

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CODE AUTHORITY AND DECISION-MAKING PROCESS

The proposal is subject to the following provisions of the Milwaukie Municipal Code (MMC).

- MMC 18.04 Flood Hazard Area
- MMC 19.301 Low Density Residential Zones
- MMC 19.401 Willamette Greenway Zone
- MMC 19.402 Natural Resources
- MMC 19.504 Site Design Standards
- MMC 19.505 Building Design Standards
- MMC 19.600 Off-Street Parking and Loading
- MMC 19.700 Public Facility Improvements
- MMC 19.911 Variances
- MMC 19.1006 Type III Review

This application is subject to Type III review, which requires the Planning Commission to consider whether the applicant has demonstrated compliance with the code sections shown above. In Type III reviews, the Commission assesses the application against review criteria and development standards and evaluates testimony and evidence received at the public hearing.

At the request of the applicant, staff recommends that the public hearing process proceed as follows (see Attachment 5):

1. The Planning Commission closes the public hearing on July 23 but leaves the written record open as follows (unless additional time to address the identified issues is needed for more than just written testimony):
    1. until July 30 for anyone to submit argument and evidence;
    2. until August 6 for anyone to rebut the first open record period submittals; and
    3. until August 13 for applicant only to submit final written argument without new evidence
2. The Planning Commission deliberates to a tentative decision on August 27, allowing the Commission to review all written testimony.
3. The Planning Commission makes a final decision on September 10.
4. If an appeal is filed, that process will commence and a hearing will be held with the City Council, who will make the final decision.

The final decision on these applications, which includes any appeals to the City Council, must be made by August 26, 2019, in accordance with the Oregon Revised Statutes and the

Milwaukie Zoning Ordinance. The applicant has extended the time period in which the application must be decided to November 1, 2019, per the schedule noted above.

COMMENTS

Notice of the proposed project was given to the following agencies and persons: City of Milwaukie Building, Engineering, and Public Works Departments, Island Station Neighborhood District Association (NDA), Oregon Marine Board, Oregon Department of Fish and Wildlife, Division of State Lands, Oregon Parks and Recreation Department, North Clackamas Park and Recreation District, Clackamas Fire District #1, and properties within 300 ft of the subject site. All comments received for the May 28 public hearing are available in the staff report for that hearing: https://www.milwaukieoregon.gov/bc-pc/planning-commission-29. The following is a summary of the comments received by the City for the July 23 continued public hearing. See Attachment 5 for further details.

- **Steve Gerken, 12114 SE 19th Ave:** Numerous concerns regarding the lack of alternatives specific to avoidance of the mapped natural resource areas and the floodplain, including both market-rate development and a "homeless pod" alternative.

ATTACHMENTS

Attachments are provided as indicated by the checked boxes. All material is available for viewing upon request.

		Early PC Mailing	PC Packet	Public Copies	Packet
1.	Conditions of Approval – working draft for discussion purposes only	☐	☒	☒	☒
2.	Applicant's revised and additional information submitted June 24 and July 3, 2019				
	a. Revised Natural Resources response and Mitigation Plan	☐	☒	☒	☒
	b. Response to Engineering review, including plan set	☐	☒	☒	☒
3.	Natural Resources review provided by ESA (dated July 8, 2019)	☐	☒	☒	☒
4.	Applicant's response to ESA review (received July 12, 2019)	☐	☒	☒	☒
5.	Comments Received	☐	☒	☒	☒

Key:
Early PC Mailing = paper materials provided to Planning Commission at the time of public notice 20 days prior to the hearing.
PC Packet = paper materials provided to Planning Commission 7 days prior to the hearing.
Public Copies = paper copies of the packet available for review at City facilities and at the Planning Commission meeting.
Packet = packet materials available online at https://www.milwaukieoregon.gov/bc-pc/planning-commission-33.

Recommended Conditions of Approval
(Working Draft – for discussion purposes only)
File #NR-2018-005, Elk Rock Estates

Conditions

1. Conditional Use Permit

   As per MMC Subsection 19.905.6, the City will issue a conditional use permit upon approval of an application to establish a conditional use (including the Willamette Greenway conditional use). The applicant must record the conditional use permit with the Clackamas County Recorder's Office and provide a copy to the City prior to developing the property.

2. Prior to the approval of any building, the following shall be resolved:

   a. The applicant shall submit a Construction Management Plan (CMP) that satisfies the requirements of MMC 19.402.9 and shows the following:

      i. The CMP must establish root protection zones (RPZs) around trees in WQR/HCA adjacent to any approved work area. Per 19.402.9, the RPZ shall extend from the trunk to the outer edge of the tree's canopy, or as close to the outer edge of the canopy as is practicable for the approved project.

      ii. Clarify the location of all staging and access areas, and ensure that all temporary disturbance areas have been identified and accounted for the mitigation plan.

   b. The applicant shall provide a detailed planting plan that includes the following:
      i. Identifies existing native trees/shrubs to be retained,
      ii. A typical planting scheme (40 x 40') – note that vine maple is not a tree; tall shrubs may not be substituted for trees,
      iii. Details regarding site preparation and maintenance including timing and frequency for weed control,
      iv. Plans for mitigation improvements including site access, where signage will be posted, and how irrigation will be provided across the slough.
      v. An updated mitigation monitoring and maintenance plan and monitoring report forms. Extended on-going monitoring, including a repair and restoration program, is required to address flood damage. The timeframe for this extended monitoring program is 10 years.

   c. The applicant shall provide documentation by a professional engineer, certified floodplain manager, or other approved professional certifying compliance with all relevant NFIP policies, Oregon Metro Title 3, and Milwaukie Municipal Code Title 18.

d. Submit a final storm water management plan to the City of Milwaukie Engineering Department for review and approval. The plan shall be prepared in accordance with Section 2 – Stormwater Design Standards of the City of Milwaukie Public Works Standards. In the event the storm management system contains underground injection control devices, submit proof of acceptance of the storm system design from the Department of Environmental Quality.
e. Redesign the stormwater basin and area proposed for floodplain cut to achieve an appearance that integrates better with this natural environment. Provide mitigation plantings in this area.
f. Submit an operation and maintenance plan for all private stormwater facilities. Include legal documents to ensure continued maintenance and contingency in the event the proposed homeowner's association is ever dissolved.
g. Revise plans to reduce the number of accessways on SE 19th Ave to one or obtain a variance for MMC12.16.040D.4.b.
h. Provide plans clearly indicating the 34.5 ft contour and 1996 areas of inundation as shown on the Metro Water Quality and Flood Management Area Maps.
i. Provide balance cut and fill calculations to satisfy the requirements of all special flood hazard areas. Include any soil enhancement for the mitigation area in the total fill calculations.
j. Revise plans for all portions of Private Drive 1 and Private Drive 2 to be at least one foot above BFE with a minimum elevation of 37.4 feet.
k. Provide documentation on current market value and cost of improvements for existing buildings. All improvements classified as substantial improvements in the flood hazard areas must follow all NFIP requirements for substantial improvements in flood hazard areas.
l. All right-of-way improvement on SE 19th Ave shall conform with the Island Station Neighborhood Greenway plan.

3. Prior to issuance of a certificate of occupancy of any building permit, the following shall be resolved:
    a. Submit a letter from the project landscape designer attesting that all required site plantings have been completed in conformance with the approved site plans and with City standards, including all mitigation plantings. This includes removal of all invasive or nuisance species vegetation (as identified on the Milwaukie Native Plant List) per the Natural Resources report and mitigation plan.
    b. Install a minimum of two permanent signs along the perimeter of the mitigation area stating, "Habitat Mitigation Area" and/or "Protected Sensitive Area" to signify to the public the area is an active restoration site.
    c. Remove trash and debris from transient camps that have been established on site.

d. Provide a narrative describing all actions taken to comply with these conditions of approval. In addition, describe any changes made after the issuance of this land use decision that are not related to these conditions of approval.
e. Construct a driveway approach to meet all guidelines of the Americans with Disabilities Act (ADA) to each new lot. The driveway approach aprons shall be between 24 ft and 30 ft in width and least 7.5 feet from the side property line.
f. Submit all relevant elevation certificates to the City.
g. Record a deed restriction for all garage spaces with floors below BFE to prevent conversion to any use that is not strictly parking, storage, or access.
Record a deed restriction to maintain view corridors between buildings so that Elk Rock Island, the slough, and/or the Willamette River from the street system.

Additional Requirements

1. Prior to any earth disturbance activity, the applicant shall obtain an erosion control permit from the City.
2. At the time of submission of any building permit application, final plans submitted for building permit review shall be in substantial conformance with plans approved by this action, which are the plans stamped received by the City on June 24 and July 3, 2019, except as otherwise modified by these conditions.
3. Limitations on Development Activity

   Development activity on the site shall be limited to 7:00 a.m. to 10:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. Saturday and Sunday, as per MMC Subsection 8.08.070.(l).
4. Landscape Maintenance

   As per MMC Subsection 19.402.11.B.9, a minimum of 80% of all required mitigation plantings for WQR or HCA disturbance shall remain alive on the second anniversary of the date the planting is completed. An annual report on the survival rate of all plantings shall be submitted for 2 years.
5. Submit full-engineered plans for construction of all required public improvements on SE 19th Ave, reviewed and approved by the City of Milwaukie Engineering Department.
6. Obtain a right-of-way permit for construction of all required public improvements listed in these recommended conditions of approval.
7. Pay an inspection fee equal to 5.5% of the cost of the public improvements.
8. Provide a payment and performance bond for 100 percent of the cost of the required public improvements.
9. Install all underground utilities, including stubs for utility service prior to surfacing any streets.

10. Clear vision areas shall be maintained at all driveways and accessways and on the corners of all property adjacent to an intersection.
11. Provide a final approved set of electronic "As Constructed" drawings to the City of Milwaukie prior to final inspection.
12. Remove all signs, structures, or vegetation in excess of three feet in height located in "vision clearance areas" at intersections of streets, driveways, and alleys fronting the proposed development. Prior to the removal of any vegetation, applicant shall confirm with the Engineering department the location of clear vision areas and if the vegetation removal is required to comply with clear vision standards.
13. Expiration of Approval

    As per MMC 19.1001.7.E.1.a, proposals requiring any kind of development permit must compete both of the following steps:

    a. Obtain and pay all necessary development permits and start construction within 2 years of land use approval.

    b. Pass final inspection and/or obtain a certificate of occupancy within 4 years of land use approval.

HCA MITIGATION PROPOSAL AND ALTERNATIVES ANALYSIS FOR ELK ROCK ESTATES

City of Milwaukie ID #: 18-004PA

ETC Job EVA18007

Evaluated by:__ _____ June 22, 2019

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"Creating Tomorrow's Environment - Today"

MITIGATION PROPOSAL AND ALTERNATIVE ANALYSIS

For Elk Rock Estates
City of Milwaukie ID #: 18-004PA
Matthew Gillis

REVISED: June 29, 2019. This revision responds to comments from the city and is modified for changes with the revised site plan dated June 14, 2019.

There is 38,500 SQFT of HCA that will be impacted by the development. Of this area approximately 2,236 SQFT will be used as a low-impact recreation area, (a walking path and two park benches, almost all of which will be pervious materials). Another 2,484 SQFT will be used as a stormwater swale. The walking path and swale are exempted from HCA mitigation requirements per MMC 19.402.4.B, leaving 33,780 of non-exempt impacts requiring mitigation.

A proportion of the island that is a stone's throw across the slough from the development site, and part of the applicant's lots, will host the entire mitigation. LIDAR data was used to estimate the area above OHWM (20ft elevation). The data was supplied by Harper, Houf, Peterson Righellis Inc. The LIDAR data has checked out to be within ODOT protocols. Approximately 41,708 SQFT of island area on the subject property is above 20' elevation and available for use as mitigation for HCA impacts.

Additional areas adjacent to the development, basically areas between the buildings and Top-of-bank that are not part of the proposed stormwater swale or walking path could provide up to 6,982 SQFT of additional mitigation. Added to the island area there is then approximately 48,690 SQFT of area that can potentially be used as mitigation for the 33,780 SQFT of non-exempt impacts.

A geotechnical investigation was conducted by Daniel M. Redmond, P.E., of Redmond Geotechnical Services, LLC. It showed the island area above 20ft elevation has a sandy loam soil from 1.5ft to more than 3ft deep. Other areas below the 20ft contour were not investigated. Please see Appendix 5.

A wetland determination survey was conducted by Annakate Martin, Senior Biologist, Environmental Technology Consultants. This was a wetland determination only, not to be confused with a wetland delineation. She concluded that the areas above the 20ft elevation contour were upland. Ms. Martin also conducted a vegetation survey and found the island infested with blackberry and Tree-of-Heaven, along with a smattering of native species. Importantly the area appears to be able to support deep-rooted long-lived plant species like trees, and this answers a concern raised earlier by the city, that the island may not have the soils necessary to support a mitigation planting. Other areas below the 20ft contour were not investigated. Please see Appendix 4.

19.402.1.B. General Standards for Required Mitigation

Where mitigation is required by Section 19.402 for disturbance to WQRs and/or HCAs, the following general standards shall apply:

1. Disturbance

a. Designated natural resources that are affected by temporary disturbances shall be restored, and those affected by permanent disturbances shall be mitigated, in accordance with the standards provided in Subsection 19.402.11.C for WQRs and Subsection 19.402.11.D.2 for HCAs, as applicable.

Response: In order to meet floodplain no-net-rise requirements and meet a requirement that road surfaces be above the 36.4 FT floodplain elevation, most of the area east of Top-of-Bank will need to be graded. Material outside of the development footprints will be removed and used to raise up the road surfaces in order to put raise them above the flood plain elevation. The volume of this material (remove + fill volume) needs to net to zero to meet the no-net-rise requirement.

Within the grading extents, (most of everything east of the Top-of-Bank), we are counting everything as a "permanent disturbance". Two of the disturbances are exempt from mitigation requirements per MMC 19.402.4.B:

All areas within the 50FT WQR buffer are also included in the HCA area, and so we show these areas combined and call them HCA areas in this analysis.

Table 1. HCA & WQR Disturbances created by the Elk Rock Estates Proposed Development. Disturbed areas outside the HCA and WQR areas are not included.

DISTURBANCE	SQFT
Buildings, roads, & other impervious surfaces	20,226
Stormwater Swale (exempt per 19.402.4.B.5)	2,484
Walking path & benches (exempt per 19.402.4.B.4)	2,236
Graded areas that will be replanted as landscape or as lawn areas. (possibly exempt per 19.402.1.B.1.b, but we are treating them as disturbances requiring mitigation)	13,554
Disturbed wetland areas	0
Disturbed areas below OHWM	0
Total disturbance	**38,500**
Total disturbance requiring mitigation per MMC Title 19	**33,780**

b. Landscape plantings are not considered to be disturbances, except for those plantings that are part of a non-exempt stormwater facility; e.g., raingarden or bioswale.

Response: The stormwater swale is an infiltrating swale and there is no existing forest canopy or tree driplines in the vicinity, and therefore exempt per MMC 19.402.4.B.

The "Native landscape plantings & grass areas", 13,554 SQFT in Table 1 above, may or may not be considered exempt per MMC 19.402.1.B.1.b (above). In this application they are treated as impacts requiring mitigation, although further review of this interpretation of the MMC may be necessary.

2. Required Plants

Unless specified elsewhere in Section 19.402, all trees, shrubs, and ground cover planted as mitigation shall be native plants, as identified on the Milwaukie Native Plant List. Applicants are encouraged to choose particular native species that are appropriately suited for the specific conditions of the planting site; e.g., shade, soil type, moisture, topography, etc..

Response: The 2011 Portland Plant List was used per the instructions found on Milwaukie's website.

3. Plant Size

Replacement trees shall average at least a 1/2-in caliper—measured at 6 in above the ground level for field-grown trees or above the soil line for container-grown trees— unless they are oak or madrone, which may be 1-gallon size. Shrubs shall be at least 1-gallon size and 12 in high.

Response: Landscape plans will include this instruction.

4. Plant Spacing

Trees shall be planted between 8 and 12 ft on center. Shrubs shall be planted between 4 and 5 ft on center or clustered in single-species groups of no more than 4 plants, with each cluster planted between 8 and 10 ft on center. When planting near existing trees, the dripline of the existing tree shall be the starting point for plant spacing measurements.

Response: Landscape plans will include this instruction.

5. Plant Diversity

Shrubs shall consist of at least 2 different species. If 10 trees or more are planted, then no more than 50% of the trees shall be of the same genus.

Response: Landscape plans will include this instruction.

6. Location of Mitigation Area

a. On-Site Mitigation

All mitigation vegetation shall be planted on the applicant's site within the designated natural resource that is disturbed, or in an area contiguous to the resource area; however, if the vegetation is planted outside of the resource area, the applicant shall preserve the contiguous planting area by executing a deed restriction such as a restrictive covenant.

Response: The mitigation site selected is a portion of the 41,708 SQFT of the island areas which are portions of the same tax lots where the impact will occur. It is surrounded by the resource, and contiguous with it in every sense of the word.

The term "resource area" is used multiple times in the MMC, but it is not explicitly defined. However, the term "Designated Natural Resource" is defined as "any "water quality resource" or

"habitat conservation area" as defined in Section 19.201 and established in Section 19.402." and we will use that definition for "resource area". Because no mitigation plantings will be made outside the resource area, it appears that a deed restriction or restrictive covenant will not be required for the mitigation area.

b. Off-Site Mitigation

(1) For disturbances allowed within WQRs, off-site mitigation shall not be used to meet the mitigation requirements of Section 19.402.

(2) For disturbances allowed within HCAs, off-site mitigation vegetation may be planted within an area contiguous to the subject-property HCA, provided there is documentation that the applicant possesses legal authority to conduct and maintain the mitigation, such as having a sufficient ownership interest in the mitigation site. If the off-site mitigation is not within an HCA, the applicant shall document that the mitigation site will be protected after the monitoring period expires, such as through the use of a restrictive covenant.

Response: No off-site mitigation is proposed.

7. Invasive Vegetation

Invasive nonnative or noxious vegetation shall be removed within the mitigation area prior to planting, including, but not limited to, species identified as nuisance plants on the Milwaukie Native Plant List.

Response: The HCA areas are currently vegetated with a high percentage of invasive plants, the dominant vegetation is Blackberry, Plantain, and Japanese knotweed. These will be removed except for the steep bank area which will be left alone to avoid erosion issues.

8. Ground Cover

Bare or open soil areas remaining after the required tree and shrub plantings shall be planted or seeded to 100% surface coverage with grasses or other ground cover species identified as native on the Milwaukie Native Plant List. Revegetation shall occur during the next planting season following the site disturbance.

Response: A native grass seed mix (recommend "Disturbed Ground/Late Seed" be used) will be used in some areas of bare ground that will not be planted with horticultural lawn grasses. Grasses in this area will need to be mowed periodically for fire control as they will be trafficked by tobacco using humans and close enough to buildings that fire prevention is an over-riding priority. A native wildflower seed is specified for the island areas used for mitigation.

The following standards are required and included here in this mitigation plan:

19.402.1.B.9. Tree and Shrub Survival

A minimum of 80% of the trees and shrubs planted shall remain alive on the second anniversary of the date that the mitigation planting is completed.

a. Required Practices

To enhance survival of the mitigation plantings, the following practices are required:

(1) Mulch new plantings to a minimum of 3-in depth and 18-in diameter to retain moisture and discourage weed growth.

(2) Remove or control nonnative or noxious vegetation throughout the maintenance period.

b. Recommended Practices

To enhance survival of tree replacement and vegetation plantings, the following practices are recommended:

(1) Plant bare root trees between December 1 and April 15; plant potted plants between October 15 and April 30.
(2) Use plant sleeves or fencing to protect trees and shrubs against wildlife browsing and the resulting damage to plants.
(3) Water new plantings at a rate of 1 in per week between June 15 and October 15 for the first 2 years following planting.

c. Monitoring and Reporting

Monitoring of the mitigation site is the ongoing responsibility of the property owner. Plants that die shall be replaced in kind as needed to ensure the minimum 80% survival rate. The Planning Director may require a maintenance bond to cover the continued health and survival of all plantings. A maintenance bond shall not be required for land use applications related to owner-occupied single-family residential projects. An annual report on the survival rate of all plantings shall be submitted for 2 years.

10. Light Impacts

Where practicable, lights shall be placed so that they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.

C. Mitigation Requirements for Disturbance within WQRs

1. The requirements for mitigation vary depending on the existing condition of the WQR on the project site at the time of application. The existing condition of the WQR shall be assessed in accordance with the categories established in Table 19.402.11.C.

2. When disturbance within a WQR is approved according to the standards of Section 19.402, the disturbance shall be mitigated according to the requirements outlined in Table 19.402.11.C and the standards established in Subsection 19.402.11.B.

Subsection 19.402.11.D.2 Mitigation Requirements for Disturbance in HCAs

To achieve the goal of reestablishing forested canopy that meets the ecological values and functions described in Subsection 19.402.1, when development intrudes into an HCA, tree replacement and vegetation planting are required according to the following standards, unless the planting is also subject to wetlands mitigation requirements imposed by state and federal law.

These mitigation options apply to tree removal and/or site disturbance in conjunction with development activities that are otherwise permitted by Section 19.402. They do not apply to situations in which tree removal is exempt per Subsection 19.402.4 or approvable through Type I review.

An applicant shall meet the requirement of Mitigation Option 1 or 2, whichever results in more tree plantings; except that where the disturbance area is 1 acre or more, the applicant shall comply with Mitigation Option 2.

a. Mitigation Option 1

This mitigation requirement is calculated based on the number and size of trees that are removed from the site. Trees that are removed from the site shall be replaced as shown in Table 19.402.11.D.2.a. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses or herbs. Nonnative sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

Table 19.402.11.D.2.a
Tree Replacement

Size of Tree to be Removed (inches in diameter)	Number of Trees and Shrubs to be Planted
6 to 12	2 trees and 3 shrubs
13 to 18	3 trees and 6 shrubs

19 to 24	5 trees and 12 shrubs
25 to 30	7 trees and 18 shrubs
over 30	10 trees and 30 shrubs

The proposed development removes no trees. There currently are few trees on the lot, and the existing trees are on the margins, or along the Slough, or on the island, and these areas are not impacted. The project will therefore use 19.402.11.D.2.b to compute the number of mitigation trees and shrubs required.

Note that the city has questions whether or not two cottonwood trees near the SW corner of the development were on the lot or not. The surveyors located trees on the lot, and these were not included, and so we assume they are in the Sparrow Street ROW, and not on the lot.

b. Mitigation Option 2

This mitigation requirement is calculated based on the size of the disturbance area within an HCA. Native trees and shrubs are required to be planted at a rate of 5 trees and 25 shrubs per 500 sq ft of disturbance area. This is calculated by dividing the number of square feet of disturbance area by 500, multiplying that result times 5 trees and 25 shrubs, and rounding all fractions to the nearest whole number of trees and shrubs. For example, if there will be 330 sq ft of disturbance area, then 330 divided by 500 equals 0.66, and 0.66 times 5 equals 3.3, so 3 trees must be planted, and 0.66 times 25 equals 16.5, so 17 shrubs must be planted. Bare ground shall be planted or seeded with native grasses or herbs. Nonnative sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

The disturbed HCA requiring mitigation is 33,780 SQFT, the number of trees and shrubs to satisfy the mitigation requirement is:

Required Trees @ 5 per 500 sqft	338
Required Shrubs @ 25 per 500 sqft	1689

*Fractional trees & shrubs are rounded up to the nearest whole number.

c. Adjustments to HCA Mitigation Requirements

Proposals to vary the number or size of trees and shrubs required as mitigation in Subsection 19.402.11.D.2 shall be subject to the Type II review process and the requirements of Subsection 19.402.12.C.2.

Response: No variance from subsection 19.402.11.D.2 is requested.

19.402.12.A General Discretionary Review

1. Identification of the ecological functions of riparian habitat found on the property, as described in Subsection 19.402.1.C.2

"Riparian" means those areas associated with streams, lakes, and wetlands where vegetation communities are predominately influenced by their association with water, (MMC 19.200).

The riparian habitat on the subject property consists of the island areas, and the areas on the eastern side of the property between OHWM and the Top-of-Bank. The area proposed for development is not riparian per the definition as the vegetation community is a product of a long history of use and management by humans.

2. An inventory of vegetation, sufficient to categorize the existing conditions of the WQR per Table 19.402.11.C, including the percentage of ground and canopy coverage materials within the WQR.

The vegetation communities of the development area describe in ETC's wetland delineation report, which has previously been accepted by the State and by the City. The vegetation communities of the island mitigation areas are described in Appendix 4.

3. An assessment of the water quality impacts related to the development, including sediments, temperature and nutrients, sediment control, and temperature control, or any other condition with the potential to cause the protected water feature to be listed on DEQ's 303(d) list.

The proposed development will be permitted in part by a 1200C permit for the grading permit, and by 401 permit for the Stormwater Management Plan. Adherence to these permit requirements should be adequate to protect the Willamette River, which is listed on DEQ's 303(d) list.

4. An alternatives analysis, providing explanation of the rationale behind choosing alternative selected, listing measures that will be taken to avoid and/or minimize adverse impacts to designated natural resources, and demonstrating that:

a. No practicable alternatives to the requested development exist that will not disturb the WQR or HCA.

b. Development in the WQR and/or HCA has been limited to the area necessary to allow for the proposed use.

c. If disturbed, the WQR can be restored to an equal or better condition in accordance with Table 19.402.11.C; and the HCA can be restored consistent with the mitigation requirements of Subsection 19.402.11.D.2

d. Road crossings will be minimized as much as possible.

Response: The alternatives analysis is presented in a following section.

5. Evidence that the applicant has done the following, for applications proposing routine repair and maintenance, alteration, an/or total replacement of existing structures located within the WQR:

a. Demonstrated that no practicable alternative design or method of development exists that would have a lesser impact on the WQR than the one proposed. If no such practicable alternative design or method of development exists, the project shall be conditioned to limit its disturbance and impact on the WQR to the minimum extent necessary to achieve the proposed repair/maintenance, alteration and/or replacement.

b. Provided mitigation to ensure that impacts to the functions and values of the WQR will be mitigated or restored to the extent practicable.

Response: There are currently no existing structures located in the WQR, except for an old dock, which may be repaired or replaced at a later date.

6. A mitigation plan for the designated natural resource that contains the following information:

a. A description of adverse impacts that will be caused as a result of development.

Response: The primary resource is the Willamette River. The proposed development will build roads, sidewalks and condominiums on approximately 20,226 SQFT of the HCA area. In order to meet floodplain and storm water requirements, an additional 18,274 SQFT of area will be dug down up to 5 feet but replanted with native species. Some of this area will be used for stormwater management, some for low-impact outdoor recreation, and some for landscape areas. In order to minimize impacts the development is located as far away from the primary resource as possible, in a part of property that has been historically used for farming and then more recently as an equipment storage area and residential area.

b. An explanation of measures that will be taken to avoid, minimize, and/or mitigate adverse impacts to the designated natural resource; in accordance with, but not limited to, Table 19.402.11.C for WQRs and Subsection 19.402.11.D.2 for HCAs.

c. Sufficient description to demonstrate how the following standards will be achieved:

(1) Where existing vegetation has been removed, the site shall be revegetated as soon as practicable.

Response: Disturbed areas west of the building envelopes will be treated per the conditions of the 1200C permit, the Stormwater Management Plan, and the Mitigation Plan.

(2) Where practicable, lights shall be placed so that they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.

Response: No lighting will be installed in the mitigation area. No lighting will be installed that is directed West or South of the development footprint.

(3) Areas of standing trees, shrubs, and natural vegetation will remain connected or contiguous; particularly along natural drainage courses, except where mitigation is approved; so as to provide a transition between the proposed development and the designated natural resource and to provide opportunity for food, water, and cover for animals located within the WQR.

Response: As described by the HCA Determination Report, the area proposed for development is currently devoid of trees and shrubs except for blackberries and other invasive species. It is also flat, and without drainages.

This island mitigation area is described in more detail in appendixes 4 and 5.

d. A map showing where the specific mitigation activities will occur. Off-site mitigation related to WQRs shall not be used to meet the mitigation requirements of Section 19.402.

Response: Maps are included. There is no offsite mitigation.

e. An implementation schedule; including a timeline for construction, mitigation, mitigation maintenance, monitoring, and reporting; as well as a contingency plan. All in-stream work in fish-bearing streams shall be done in accordance with the allowable windows for in-water work as designated by ODFW.

Response: Construction of the mitigation will commence concurrently with the start of construction of the impacted areas.

ETC recommends the first growing season to be devoted to removal and control of invasive species. Blackberry infestations in particular need to be treated with herbicides, then allowed to die for two weeks, then cut down, allowed to resprout for a month or two, then treated with herbicides again. It takes a full growing season to prepare these areas for planting.

Care needs to be taken to preserve native species present in the mitigation area. In particular the survey shown in Appendix 4 identified an area of native grass species, and also sapling Ash trees, these should be preserved.

Bare areas of the mitigation area should be heavily mulched before the fall rainy season begins.

Planting and seeding work should begin in mid-October and be completed by the end of January.

Maintenance and monitoring activities should begin in March. An irrigation system should be installed by April 1. ETC recommends a drip line irrigation system with one drip emitter provided to each tree or shrub.

The monitoring and maintenance protocols are described in more detail in Appendix 3.

Except for the repair to an existing dock, there will be no in-water work as part of this project. The dock is not permitted as part of this first submittal, an application for the dock will be made at a later date.

19.402.12.B. Approval Criteria

1. Unless specified elsewhere in Section 19.402, applications subject to the discretionary review process shall demonstrate how the proposed activity complies with the following criteria:

a. Avoid

Response: Efforts to avoid impacts are discussed in the Alternatives Analysis section and in the applicant's, narrative contained in the document "Application for Type III Design Review, Revised February 25, 2019", prepared by Iselin Architects and Harper Houf Peterson Righellis, Inc.

The proposed activity avoids the intrusion of development into the WQR and/or HCA to the extent practicable. The proposed activity shall have less detrimental impact to the designated natural resource than other practicable alternatives, including significantly different practicable alternatives that propose less development within the resource area.

b. Minimize

If the applicant demonstrates that there is no practicable alternative that will avoid disturbance of the designated natural resource, then the proposed activity within the resource area shall minimize detrimental impacts to the extent practicable.

Response: Efforts to minimize impacts are discussed in the Alternatives Analysis section and in the applicant's narrative contained in the document "Application for Type III Design Review, Revised February 25, 2019", prepared by Iselin Architects and Harper Houf Peterson Righellis, Inc.

(1) The proposed activity shall minimize detrimental impacts to ecological functions and loss of habitat, consistent with uses allowed by right under the base zone, to the extent practicable.
(2) To the extent practicable within the designated natural resource, the proposed activity shall be designed, located, and constructed to:
(a) Minimize grading, removal of native vegetation, and disturbance and removal of native soils; by using the approaches described in Subsection 19.402.11.A, reducing building footprints, and using minimal excavation foundation systems (e.g., pier, post, or piling foundation).
(b) Minimize adverse hydrological impacts on water resources.
(c) Minimize impacts on wildlife corridors and fish passage.
(d) Allow for use of other techniques to further minimize the impacts of development in the resource area; such as using native plants throughout the site (not just in the resource area), locating other required landscaping adjacent to the resource area, reducing light spill-off into the resource area from development, preserving and maintaining existing trees and tree canopy coverage, and/or planting trees where appropriate to maximize future tree canopy coverage.

Response: The compliance with the above section is discussed in the Alternatives Analysis section and in the applicant's narrative contained in the document "Application for Type III Design Review, Revised February 25, 2019", prepared by Iselin Architects and Harper Houf Peterson Righellis, Inc., and in the Stormwater Management Plan and in the 1200C permit associated with this project.

c. Mitigate
If the applicant demonstrates that there is no practicable alternative that will avoid disturbance of the designated natural resource, then the proposed activity shall mitigate for adverse impacts to the resource area. All proposed mitigation plans shall meet the following standards:

Response: As shown in the Alternative's Analysis section, it is not possible to develop the site at densities allowed by the R-5 zoning without impacting the WQR buffers and HCA areas.

(1) The mitigation plan shall demonstrate that it compensates for detrimental impacts to the ecological functions of resource areas, after taking into consideration the applicant's efforts to minimize such detrimental impacts.

Response: As shown in the Alternatives Analysis section, the proposed project minimizes impacts by reducing the development size and locating it as far as possible from the resources. The proposed mitigation plan is compliant with the guidelines listed in Title 19, and therefore assumed to be compensation for the detrimental impacts.

(2) Mitigation shall occur on the site of the disturbance, to the extent practicable. Off-site mitigation for disturbance of WQRs shall not be approved. Off-site mitigation for disturbance of HCAs shall be approved if the applicant has demonstrated that it is not practicable to complete the mitigation on-site and if the applicant has documented that they can carry out and ensure the success of the off-site mitigation as outlined in Subsection 19.402.11.B.5.
In addition, if the off-site mitigation area is not within the same subwatershed (6th Field Hydrologic Unit Code) as the related disturbed HCA, the applicant shall demonstrate that it is not practicable to complete the mitigation within the same subwatershed and that, considering the purpose of the mitigation, the mitigation will provide more ecological functional value if implemented outside of the subwatershed.

Response: The proposed mitigation is entirely on-site.

(3) All revegetation plantings shall use native plants listed on the Milwaukie Native Plant List.

Response: The Portland Plant List was used instead of the Milwaukie Native Plant List as per the instructions found on Milwaukie's website. The plant list in Appendix 3 is actually adapted from a native plant list from Clark County Washington, however that list too is derived from the Portland native plant list as Clark County uses the Portland list.

(4) All in-stream work in fish-bearing streams shall be done in accordance with the allowable windows for in-water work as designated by ODFW.

Response: No in-stream work is proposed.

(5) A mitigation maintenance plan shall be included and shall be sufficient to ensure the success of the planting. Compliance with the plan shall be a condition of development approval.

Response: A monitoring and maintenance plan is attached as Appendix 1.

C. Limitations and Mitigation for Disturbance of HCAs

1. Discretionary Review to Approve Additional Disturbance within an HCA

An applicant seeking discretionary approval to disturb more of an HCA than is allowed by Subsection 19.402.11.D.1 shall submit an Impact Evaluation and Alternatives Analysis, as outlined in Subsection 19.402.12.A, and shall be subject to the approval criteria provided in Subsection 19.402.12.B.

Response: The disturbed HCA is less than allowed by Subsection 19.402.11.D.1. Please refer to the narrative presented in the supporting document Application for Type III Design Review - Gillis Properties Elk Rock Estates Cluster Development 12205/ 12225 SE 19th St., Milwaukie, Oregon 97206. By Iselin Architects, P.C. and Harper Houf Peterson Righellis, Inc. Revised 2/25/2019.

2. Discretionary Review to Approve Mitigation that Varies the Number and Size of Trees and Shrubs within an HCA

An applicant seeking discretionary approval to proportionally vary the number and size of trees and shrubs required to be planted under Subsection 19.402.11.D.2 (e.g., to plant fewer larger trees and shrubs or to plant more smaller trees and shrubs), but who will comply with all other applicable provisions of Subsection 19.402.11, shall be subject to the following process:

a. The applicant shall submit the following information:

(1) A calculation of the number and size of trees and shrubs the applicant would be required to plant under Subsection 19.402.11.D.2.

(2) The number and size of trees and shrubs that the applicant proposes to plant.

(3) An explanation of how the proposed number and size of trees and shrubs will achieve, at the end of the third year after initial planting, comparable or better mitigation results than would be achieved if the applicant complied with all of the requirements of Subsection 19.402.11.D.2. Such explanation shall be prepared and signed by a knowledgeable and qualified

natural resource professional or a certified landscape architect. It shall include discussion of site preparation including soil additives, removal of invasive and noxious vegetation, plant diversity, plant spacing, and planting season; and immediate post-planting care, including mulching, irrigation, wildlife protection, and weed control.

(4) A mitigation, site-monitoring, and site-reporting plan.

b. Approval of the request shall be based on consideration of the following:

(1) Whether the proposed planting will achieve, at the end of the third year after initial planting, comparable or better mitigation results than would be achieved if the applicant complied with all of the requirements of Subsection 19.402.11.D.2.

(2) Whether the proposed mitigation adequately addresses the plant diversity, plant survival, and monitoring practices established in Subsection 19.402.11.B.

Response: A variance from this subsection is not requested.

ALTERNATIVE ANALYSIS:

Much of the responses in this section have been previously submitted in the applicant's narrative contained in the document "Application for Type III Design Review, Revised February 25, 2019", prepared by Iselin Architects and Harper Houf Peterson Righellis, Inc. ETC has expanded on some of that narrative in this section.

19.402.1 Intent

5. Allow and encourage habitat-friendly development while minimizing the impact on water quality and fish and wildlife habitat functions.

Response: The selected alternative promotes minimized impacts to the HCA by combining a cluster development approach with reducing the number of units in the development and keeping the development as far from the river and wetlands as possible.

Development of this site to the density of the underlying zone without modification to the mapped Habitat Conservation Area (HCA) is not possible. Based on the density of the underlying zone 23-29 units are required. After all final calculations were done omitting areas within the WQR and other sensitive areas a range of 12-18 dwelling units is possible. The proposed development seeks approval for a total of twelve units.

A map amendment was initially sought utilizing the Cluster Development allowed by the Milwaukie Municipal Code (MMC) with this application. The City's environmental consultant has determined that all land within the 100 year flood plain must be included within the HCA; contradicting the evidence presented by the Applicant's consultant that the land to the east of Top-of-Bank did not qualify for the HCA designation due to historic uses and developments that occurred prior to the adoption of the Milwaukie Municipal Code and are specifically exempted per MMC 19.402.15.B.2.b. Please refer to the supporting document submitted separately "City of Milwaukie HCA Determination Report, Tax Lots 3200 and 3300 in T1S R1E S35. By John McConnaughey and Annakate Martin, Environmental Technology Consultants, June 6, 2019."

The primary resource is the Willamette River and its habitat are considered the most important to preserve and protect. There is a small functionally isolated wetland in the Sparrow Street Row

on the South side, and also a ditch that historically probably drained the wetland area but is now disconnected but still retains wetland characteristics. These wetland areas are secondary resources.

The selected design, (Figure M1), shows a cluster development of providing only 12 housing units that are located away from the primary and secondary resources as much as possible. A number of other designs were considered up to the maximum 32 dwelling units allowed for an R-5 residential development. These designs included constructing units on the island, built on stilts and accessed by a cable suspension bridge. Ultimately these larger development scenarios had to be abandoned due to resource and view impacts.

Three alternative designs, (Figures M3, M4 and M5) are presented here, both providing more housing units, but creating greater impacts to the resource. M3 shows a 16-unit design similar to the selected 12-unit design. By reducing or eliminating the units on the North and South property lines the remaining units can be located further from the resources and property lines, also the Private Drive can be reduced on the South end, reducing the WQR impact from Wetland "A".

Minimizing the impact with the proposed development still dictates disruption of the mapped HCA area. Mitigation per the attached document is therefore proposed on this site as part of the Project. We believe this mitigation plan meets all requirements of the Milwaukie Municipal Code or can be in compliance with Conditions of Approval.

6. Permit residential cluster development to encourage creative and flexible site design that is sensitive to the land's natural features and adapts to the natural topography.

Response: The cluster development standards allow this project to comply with Goal 5 while providing 12 housing units.

A reduced side yard setback from 25' to 20' on the south side of the property. This is proposed to allow for a logical driveway placement and to allow for a reasonable building footprint below the existing home on this side of the site. The 20' proposed setback will also allow the proposed new home to align with the existing home which is set back 20' from south property line. We believe this requested variance also meets the intent of the Code to provide an increased perimeter buffer since this property line abuts a 40' wide unimproved right of way which will likely never be improved due to the identified wetland within the right of way. The property on the opposite side of this right of way will also remain open space since it is a public park.

19.402.14 Adjustments and Variances

To encourage applicants to avoid or minimize impacts to WQRs and/or HCAs, several types of adjustments and variances are available for use on any property that includes a WQR or HCA. These include adjustments to specific base zone and lot design standards, discretionary variances, and allowances for residential cluster development.

Response: The responses to this section is condensed from the supporting document "Application for Type III Design Review", submitted separately. In the event of any inconsistencies between this document and that document, please refer to the

A. Adjustments

The adjustments provided in Subsection 19.402.14.A shall not be used to avoid the requirement to submit a construction management plan, if deemed applicable per Subsection 19.402.3. The following adjustments are allowed by right as part of any Type I, II, or III application:

1. Adjustments to Base Zone Standards

a. Yard Setback (General)

Yard setback standards may be adjusted by up to 10%. This allowance applies only to the yard requirements established in base zones and does not apply to additional yard requirements for conditional uses or community service uses, yard exceptions established in Subsection 19.501.2, or transition area measures established in Subsection 19.504.6.

Response: Criteria do not apply. With the exception of the side yard setback described above, no adjustments to the base zone standards are proposed.

2. Rear Yard Setback (Limited)

For residential development, if the subject property is adjacent to a separate tract that was established according to the standards of Subsection 19.402.13.J, and the tract is adjacent to the rear yard of the subject property, the minimum rear yard requirement may be reduced to 10 ft.

2. Adjustments to Lot Design Standards

When property boundaries are changed and/or land divided per Title 17 Land Division, an applicant may utilize the following adjustments to avoid or minimize impacts to a WQR or HCA:

a. The minimum base zone standards for lot width and lot depth may be reduced by up to 10%.

b. The minimum lot frontage required on a public street may be reduced by up to 10%.

Response: Criteria do not apply. No adjustments to the lot design standards are proposed.

B. Variances

1. Requests to vary any standards beyond the adjustments allowed in Subsections 19.402.14.A or B shall be subject to the review process and approval criteria for variances established in Section 19.911.

2. In granting any variance request related to Section 19.402, the Planning Commission may impose such conditions as are deemed necessary to minimize adverse impacts that may result from granting the variance. Examples of such conditions include, but are not limited to, maintaining a minimum width of the vegetated corridor alongside a primary protected water feature and limiting the amount of WQR for which the adjacent vegetated corridor width can be reduced.

Response: No variances to standards of Subsections 19.402.14.A or B.

C. Residential Cluster Development

For residential proposals, development may be clustered so that land can be developed at allowed densities while avoiding or minimizing impacts to WQRs or HCAs. The intent of this section is to encourage creative and flexible site design that enables the allowable density to be transferred elsewhere on a site to protect environmentally sensitive areas and preserve open space and natural features. A residential cluster development may be permitted in any residential or mixed use zoning district, subject to Type III review and approval by the Planning Commission. A cluster development proposal

may be considered in conjunction with a proposal for land division or property line adjustment as provided in Subsection 19.402.13.

Response: A residential cluster development is being proposed to minimize impacts to the WQR and HCA.

1. Calculation of Permitted Number of Dwelling Units

a. The maximum number of dwelling units proposed for a residential cluster development shall not exceed the number of dwelling units otherwise permitted for the residential zoning district in which the parcel is located. The number of units allowed on a parent lot may be transferred to one or more newly created lots or parcels on the site. The cumulative density for all lots or parcels shall not exceed the density allowed for the parent lot.

Response: The density allowed for the gross property area would be 25-32 dwelling units based on the ratio of 7-8.7 dwelling units per the base R-5 zone. The proposed density of 12 dwellings is 3.28 dwellings per gross acre.

b. The number of permitted dwelling units on a site shall be calculated in the following manner:

(1) Measure the gross area of the proposed cluster development site in acres and tenths of an acre.

Response: Gross site area is 3.66 acres per assessor's records.

(2) From the gross area, subtract the area of public streets, other publicly dedicated improvements, and common open space (whether or not it is conveyed pursuant to Subsection 19.402.14.C.2.c), measured in acres and tenths of an acre. The remainder shall be the net buildable area.

Response: Common area consisting of HCA/ WQR and area to the west of the slough is 1.58 acres, leaving 2.08 acres of net buildable area.

(3) Convert the net buildable area from acres to square feet, using the equivalency of 43,560 sq ft = 1 acre.

Response: Net buildable area is 90,605 sq. ft.

(4) Divide the net buildable area by the smallest minimum lot size (in square feet) per unit for a dwelling unit permitted in the zoning district. This figure shall be rounded to the nearest lower number to establish the maximum number of dwelling units permitted in the cluster development.

Response: 90, 605 / 5000 = 18.12 dwelling units maximum. 12 units are proposed.

2. Development Standards

a. All principal and accessory uses authorized in the underlying zoning district(s) shall be allowed in the cluster development. In addition, single-family attached dwellings, multifamily dwellings, and townhouses may be permitted for a cluster development located in a residential zoning district that does not otherwise allow attached dwelling units.

Response: Single family detached homes are proposed as allowed in the underlying R-5 zone.

b. Maximum lot coverage, building height, and off-street parking requirements for the applicable zoning district shall apply to the cluster development. Maximum lot coverage, floor area ratios, and off-street parking requirements shall be applied to the entire site rather than to any individual lot.

Response: The maximum lot coverage and off-street parking for the R-5 zone will be met with the proposed development. The height limit for the home on SE 19th will comply with the underlying zone. All other new homes proposed meet the more restrictive 35' requirement of the Willamette Greenway overlay.

c. The following provisions shall apply to any residential cluster development, regardless of the general requirements of the applicable residential zoning district:

(1) The adjustments allowed by Subsection 19.402.14.A shall be available for cluster development proposals.

Response: No adjustments are being requested per Subsection 19.402.14.A.

(2) Minimum lot width and lot depth standards shall not apply.

Response: No subdivision is proposed. The overall site exceeds the lot width and depth of the underlying zone.

(3) A minimum separation of 10 ft shall be provided between all principal buildings and structures.

Response: A minimum of 10' separation is proposed between all buildings on the site.

(4) A minimum yard or common open space shall be provided, with a minimum depth of 25 ft, as measured from all public streets and from the side and rear lot lines of the entire cluster development.

Response: A minimum 25' yard is proposed from the front, rear and north side yards. A variance is being sought to allow a minimum side setback to the south. This is being sought to match the existing home and since the unimproved right of way along this frontage will likely remain undeveloped due to the wetland area within it. This unimproved 60' right of way provides a buffer that meets the intent of this criteria.

(5) Each lot shall provide at least 12 ft of frontage on a public street.

Response: The consolidated lot will have 240' of frontage on SE 19th St. Criteria is met.

(6) More than 1 principal building or structure may be placed on a lot.

Response: Twelve detached single-family homes are proposed on a common building site with this application.

(7) No less than 25% of the site shall be conveyed as common open space.

Response: 1.58 acres (43% of gross site area) is proposed to be conveyed as common open space. The instrument of this conveyance will be as acceptable to the City.

(8) No less than 50% of the designated natural resources on the site shall be included in calculating the common open space.

Response: 94% of the designated natural resource area on the site is being calculated as common open space. The 4,094 sq. ft. created by the delineated wetland to the south side of the property is not proposed as common open space.

3. Site Plan Requirements
The preliminary and final site plans for a residential cluster development shall include the following information, in addition to the items listed on the City's Site Plan Requirements:
a. The maximum number and type of dwelling units proposed.
b. The areas of the site on which the dwelling units are to be constructed or are currently located and their size. This may take the form of the footprint of the dwelling unit or a building envelope showing the general area in which the dwelling unit is to be located.
c. The calculations for the permitted number of dwelling units, derived pursuant to Subsection 19.402.14.C.2.
d. The areas of the site on which other principal and accessory uses are proposed to be located and their size.
e. The areas of the site designated for common open space and their size.

Response: Information from this subsection has been included on the Site Plan.

4. Approval Criteria
a. Proposals for residential cluster development shall demonstrate compliance with the following criteria:
(1) The site plan satisfies the requirements of Subsections 19.402.14.C.1 and 2.

Response: The proposed Site Plan satisfies the requirement of Subsections 19.402.14.C.1 and .2.

(2) Buildings and structures are adequately grouped so that at least 25% of the total area of the site is set aside as common open space. To the greatest degree practicable, common open space shall be designated as a single tract and not divided into unconnected small parcels located in various parts of the development. Common open space shall be conveyed as allowed by Subsection 19.402.13.J.

Response: A single common space tract is proposed with instrument of conveyance acceptable to the City, ie. Deed restriction, public ownership, common tract or easement.

(3) Individual lots, buildings, structures, streets, and parking areas are situated to minimize the alteration of natural features, natural vegetation, and topography.

Response: Buildings are proposed to be clustered to minimize impact and alteration of natural features and topography.

(4) Impacts to WQRs and HCAs are avoided or minimized to the greatest degree practicable.

Response: The proposed cluster development is consistent with the purpose of Subsection 19.402.1. as explained above in that section.

(5) The cluster development advances the purposes established in Subsection 19.402.1.

b. The Planning Commission may apply such conditions or stipulations to its approval as may be required to maintain harmony with neighboring uses and promote the objectives and purposes of the Comprehensive Plan and the Zoning and Land Division Ordinances.
c. If the Planning Commission finds that the criteria in Subsection 19.402.14.C.4.a are met, it shall approve the residential cluster development, subject to any conditions established pursuant to Subsection 19.402.14.C.4.b.

Maps following this page

M1 Proposed development plan with HCA, WQR, and Wetlands shown
M2 HCA mapping per City of Milwaukie
M3 Rejected Alternative #2
M4 Rejected Alternative #3
M5 Rejected Alternative #4
M6 Aerial Photo of the Site

APPENDICES:

Appendix 1 - Mitigation Monitoring and Maintenance Plan
Appendix 2 - Annual Mitigation Monitoring Report Template
Appendix 3 - Planting Plan
Appendix 4 - Mitigation Area Current Conditions and Suitability
Appendix 5 - Geotechnical Investigation of the Proposed Mitigation Area

SUPPORTING DOCUMENTS:

Documents submitted separately:

Elk Rock Estates - Site Civil Memorandum. By Ken Valentine, PE., Harper Pouf Peterson Righellis, Inc., June 20, 2019

Application for Type III Design Review - Gillis Properties Elk Rock Estates Cluster Development 12205/ 12225 SE 19th St., Milwaukie, Oregon 97206. By Iselin Architects, P.C. and Harper Houf Peterson Righellis, Inc. Revised 2/25/2019.

City of Milwaukie HCA Determination Report, Tax Lots 3200 and 3300 in T1S R1E S35. By John McConnaughey and Annakate Martin, Environmental Technology Consultants, June 6, 2019.

HCA AND WQR NON-EXEMPT IMPACTS 33,780 SQFT.

TOTAL HCA AREA GRADED = 38,500 SQFT. EXEMPT AREAS INCLUDE STORMWATER SWALE, 2,484 SQFT AND WALKING PATH 2,236 SQFT

ISLAND MITIGATION AREA
33,780 SQFT WITHIN THE AREA AT OR ABOVE THE 20' OHWM AND HAVE BEEN DETERMINED TO BE UPLAND.

HCA BUILDING & STREET IMPACT 20,226 SQFT

GRADING EXTENTS IN HCA 38,500 SQFT

HCA AREA CORRECTED TO TOP-OF-BANK (42,241 SQFT INCLUDES ONLY AREAS EAST OF TOP-OF-BANK, ADDITIONAL HCA AREAS EXIST ON THE PROPERTY)

ETC DATA PLOTS AND TEST PITS

FEMA FLOOD ELEVATION, 36.4 FT

WALKING PATH 2,236 SQFT

STORM SWALE 2,484 SQFT

TOP OF BANK

WILLAMETTE RIVER OHWM ELEVATION = 20FT

WETLAND "B" 188 SQFT

WETLAND "A" 3,175 SQFT WITHIN STUDY AREA CONTINUES SOUTH PAST STUDY AREA BOUNDARY

WREN STREET

SE 19TH AVENUE

SE SPARROW ST

SLOUGH

SUBJECT PROPERTY

3100 3200 3300 310

P8 P9 P10 P11

Test pit Test pit Test pit

NOTE!

TOPOGRAPHY SHOWN ON THIS PLAN IS FROM A LIDAR SURVEY, AND IS CONFIRMED TO BE WITHIN ODOT PROTOCOLS. THE TOP-OF-BANK, OHWM AND FEMA FLOOD ELEVATIONS ARE FROM A TOPOGRAPHIC SURVEY BY ANDY PARIS AND ASSOCIATES.

SELECTED ALTERNATIVE 12 UNIT DESIGN

PRELIMINARY SITE PLAN MSC-221

REVISED JUNE 14, 2019

PROVIDES 10 NEW SINGLE FAMILY HOMES, 2 EXISTING HOMES FOR A TOTAL OF 12 HOUSING UNITS. ANNOTATED WITH IMPACT AND MITIGATION AREAS ADDED

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

SELECTED ALTERNATIVE
SITE PLAN WITH WETLANDS DETERMINED BY ETC AND HCA PROPOSED IMPACTS AND MITIGATIONS

environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M1

HCA AND WQR PERMANENT IMPACTS REQUIRING MITIGATION, 33,780 SQFT.

ISLAND MITIGATION AREA
APPROXIMATELY 33,780 SQFT

100' COMPLIANCE LINE

HCA BUILDING & STREET IMPACT 20,226 SQFT

WREN STREET

FEMA FLOOD ELEVATION, 36.4 FT

3100

3200

3300

ETC DATA PLOTS AND TEST PITS

P8

Test pit

P9

Test pit

P10

P11

Test pit

HCA AREA ON WEST BAND CORRECTED TO TOP-OF-BANK

GRADING LIMITS

SUBJECT PROPERTY

SLOUGH

WALKING PATH 2,236 SQFT

STORM SWALE 2,484 SQFT

19TH AVENUE SE

TOP OF BANK

WILLAMETTE RIVER OHWM ELEVATION = 20FT

SE SPARROW ST

WETLAND "B" 188 SQFT

WETLAND "A" 3,175 SQFT WITHIN STUDY AREA CONTINUES SOUTH PAST STUDY AREA BOUNDARY

NOTE!

TOPOGRAPHY SHOWN ON THIS PLAN IS FROM A TOPOGRAPHIC SURVEY BY ANDY PARIS AND ASSOCIATES. THE TOP-OF-BANK, OHWM AND FEMA FLOOD ELEVATIONS ARE BASED ON THAT SURVEY .

MILWAUKIE HCA MAP
ORANGE REPRESENTS AREAS DEFINED AS HCA BY TITLE 19

0 25 50 100 Feet
1:600

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

CITY OF MILWAUKIE HCA MAP WITH WETLANDS DETERMINED BY ETC AND HCA PROPOSED IMPACTS AND MITIGATIONS

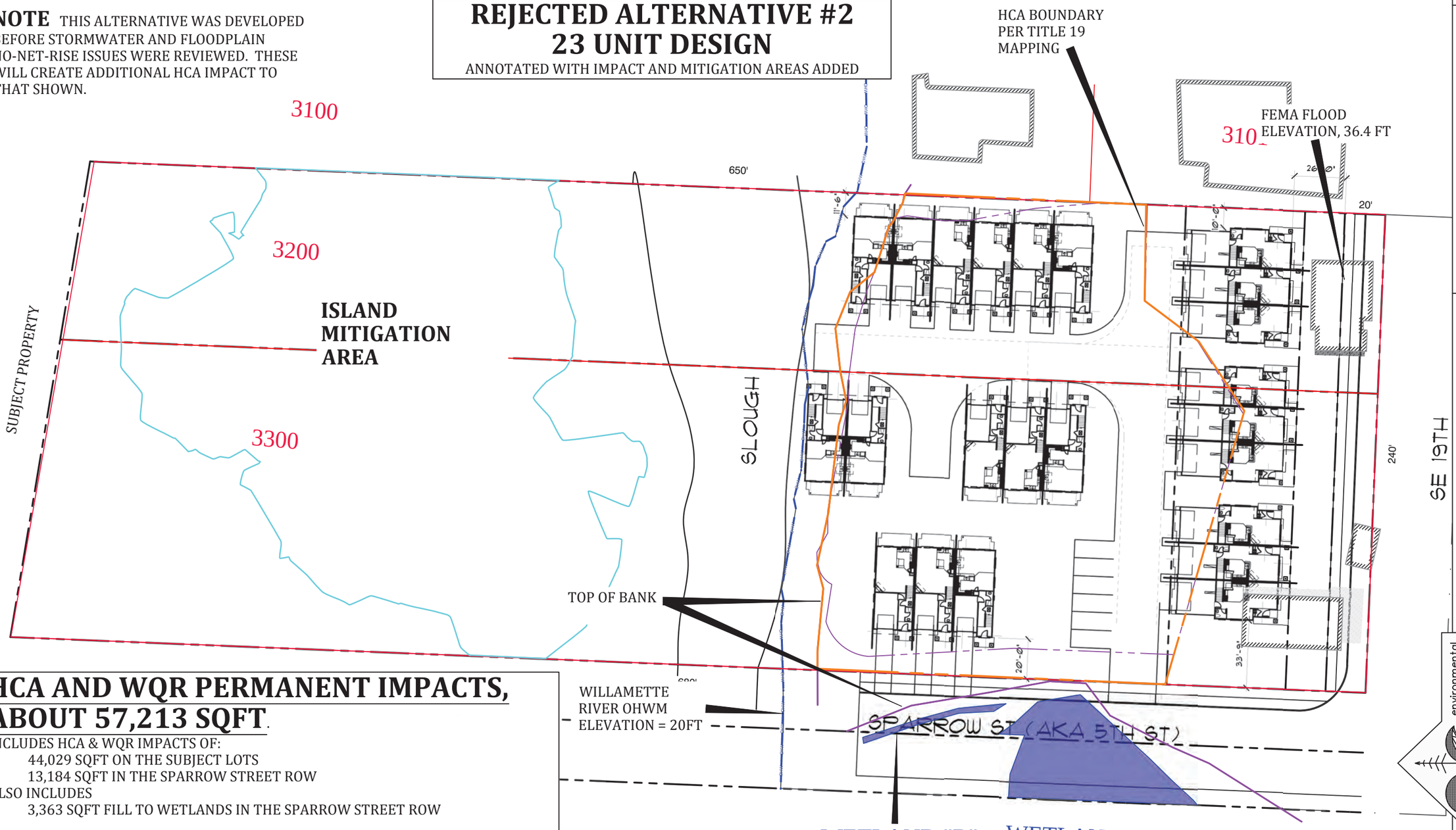
environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M2

NOTE THIS ALTERNATIVE WAS DEVELOPED BEFORE STORMWATER AND FLOODPLAIN NO-NET-RISE ISSUES WERE REVIEWED. THESE WILL CREATE ADDITIONAL HCA IMPACT TO THAT SHOWN.

REJECTED ALTERNATIVE #2
23 UNIT DESIGN

ANNOTATED WITH IMPACT AND MITIGATION AREAS ADDED



HCA AND WQR PERMANENT IMPACTS, ABOUT 57,213 SQFT.

INCLUDES HCA & WQR IMPACTS OF:
- 44,029 SQFT ON THE SUBJECT LOTS
- 13,184 SQFT IN THE SPARROW STREET ROW

ALSO INCLUDES
- 3,363 SQFT FILL TO WETLANDS IN THE SPARROW STREET ROW

THIS SCENARIO ALSO MAY FILL A SMALL AREA TO THE OHWM OF THE WILLAMETTE RIVER. IT IS UNLIKELY THAT ENOUGH AREA ON THE ISLAND WILL BE ABLE TO SUPPORT THE MITIGATION REQUIREMENTS OF THIS SCENARIO.

THIS SCENARIO ALSO PRODUCES MORE IMPACTS TO VIEWS.

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

REJECTED ALTERNATIVE 2
SITE PLAN WITH WETLANDS DETERMINED BY ETC AND HCA PROPOSED IMPACTS AND MITIGATIONS

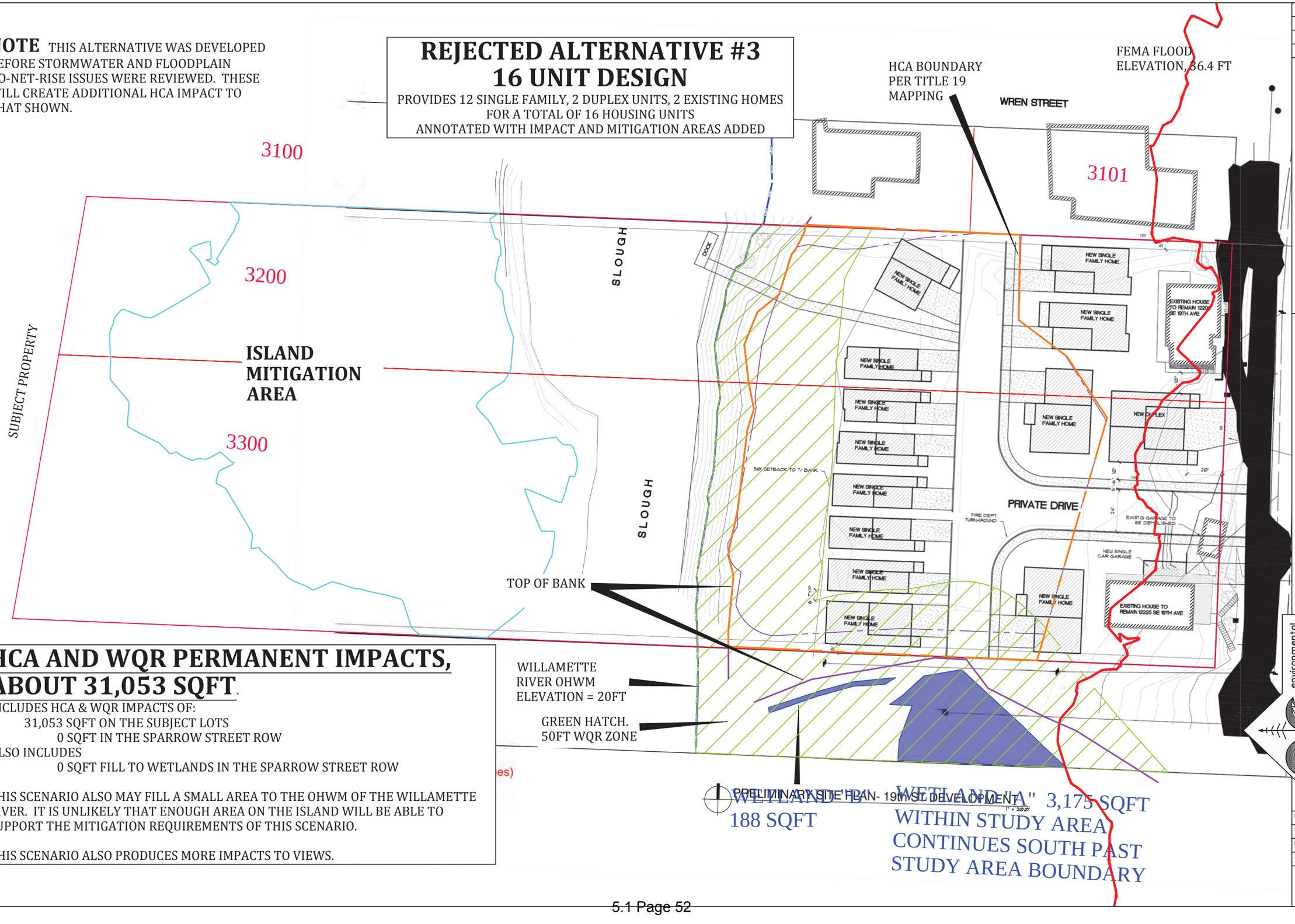
environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M3

NOTE THIS ALTERNATIVE WAS DEVELOPED BEFORE STORMWATER AND FLOODPLAIN NO-NET-RISE ISSUES WERE REVIEWED. THESE WILL CREATE ADDITIONAL HCA IMPACT TO THAT SHOWN.

REJECTED ALTERNATIVE #3
16 UNIT DESIGN

PROVIDES 12 SINGLE FAMILY, 2 DUPLEX UNITS, 2 EXISTING HOMES FOR A TOTAL OF 16 HOUSING UNITS
ANNOTATED WITH IMPACT AND MITIGATION AREAS ADDED



HCA AND WQR PERMANENT IMPACTS, ABOUT 31,053 SQFT.

INCLUDES HCA & WQR IMPACTS OF:
31,053 SQFT ON THE SUBJECT LOTS
0 SQFT IN THE SPARROW STREET ROW
ALSO INCLUDES
0 SQFT FILL TO WETLANDS IN THE SPARROW STREET ROW

THIS SCENARIO ALSO MAY FILL A SMALL AREA TO THE OHWM OF THE WILLAMETTE RIVER. IT IS UNLIKELY THAT ENOUGH AREA ON THE ISLAND WILL BE ABLE TO SUPPORT THE MITIGATION REQUIREMENTS OF THIS SCENARIO.

THIS SCENARIO ALSO PRODUCES MORE IMPACTS TO VIEWS.

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

REJECTED ALTERNATIVE 3
SITE PLAN WITH WETLANDS DETERMINED BY ETC AND HCA PROPOSED IMPACTS AND MITIGATIONS

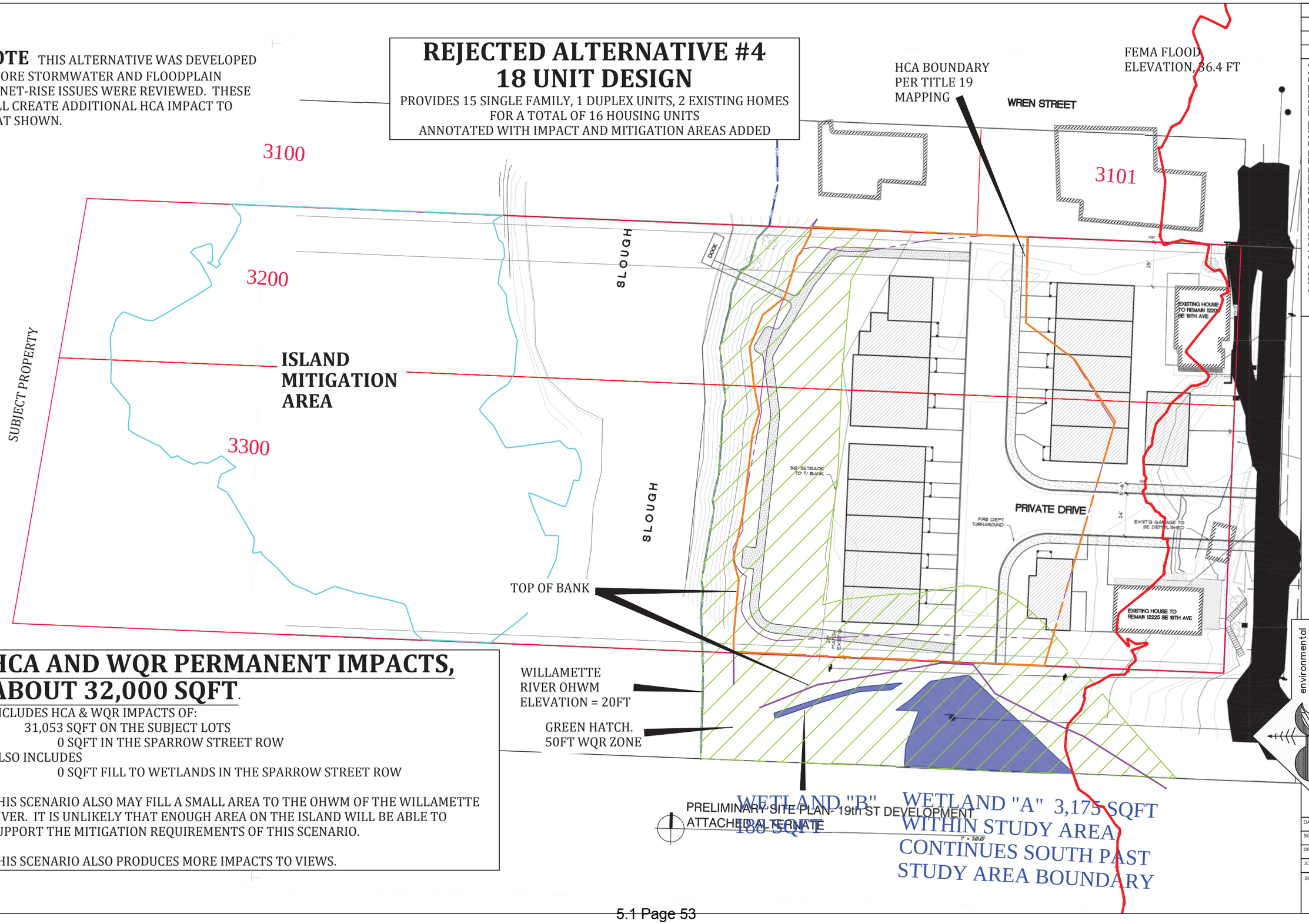
environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M4

NOTE THIS ALTERNATIVE WAS DEVELOPED BEFORE STORMWATER AND FLOODPLAIN NO-NET-RISE ISSUES WERE REVIEWED. THESE WILL CREATE ADDITIONAL HCA IMPACT TO THAT SHOWN.

REJECTED ALTERNATIVE #4
18 UNIT DESIGN

PROVIDES 15 SINGLE FAMILY, 1 DUPLEX UNITS, 2 EXISTING HOMES
FOR A TOTAL OF 16 HOUSING UNITS
ANNOTATED WITH IMPACT AND MITIGATION AREAS ADDED



HCA AND WQR PERMANENT IMPACTS, ABOUT 32,000 SQFT.

INCLUDES HCA & WQR IMPACTS OF:
31,053 SQFT ON THE SUBJECT LOTS
0 SQFT IN THE SPARROW STREET ROW
ALSO INCLUDES
0 SQFT FILL TO WETLANDS IN THE SPARROW STREET ROW

THIS SCENARIO ALSO MAY FILL A SMALL AREA TO THE OHWM OF THE WILLAMETTE RIVER. IT IS UNLIKELY THAT ENOUGH AREA ON THE ISLAND WILL BE ABLE TO SUPPORT THE MITIGATION REQUIREMENTS OF THIS SCENARIO.

THIS SCENARIO ALSO PRODUCES MORE IMPACTS TO VIEWS.

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

REJECTED ALTERNATIVE 3
SITE PLAN WITH WETLANDS DETERMINED BY ETC AND HCA PROPOSED IMPACTS AND MITIGATIONS

environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M5

PROPOSED MITIGATION AREA

AREA ON THE ISLAND THAT IS ABOVE OHWM. WETLAND DETERMINATION SURVEY SHOW WETLAND HYDROLOGY IS NOT PRESENT, A SOIL SURVEY FOUND SOILS ARE DEEP ENOUGH TO SUSTAIN MITIGATION PLANTS. MUCH OF THE AREA IS PRESENTLY COVERED BY BLACKBERRY.

GREEN - 33,780 SQFT REQUIRED FOR MITIGATION

MEGENTA - 41,708 SQFT AVAILABLE FOR MITIGATION

3100

3101

3200

3300

P8

P9

P10

P11

Test pit

Test pit

Test pit

SUBJECT PROPERTY

WILLAMETTE RIVER OHWM ELEVATION = 20FT

PROPOSED HCA DISTURBANCE TO BE MITIGATED

REVISIONS

MILWAULKIE RIVERFRONT CUSTOM HOMES
GILLIS PROPERTIES LLC
5965 WEST A STREET
WEST LINN, OR 97068

PROPOSED MITIGATION SITE.

environmental technology consultants
PO Box 821185
Vancouver, WA 98682
360-696-4403

DATE Jul 01, 2019
SCALE NOTED
DRAWN JHM
JOB 94–02
SHEET M6

APPENDIX 1
MITIGATION MONITORING AND MAINTENANCE PLAN

IRRIGATION: Success of the trees and shrubs planted from bare root and potted stock will be much greater if the plants are irrigated in their first three summers. ETC recommends using drip irrigation with one drip emitter supplied to each plant. We prefer the 1/2 gallon/hour emitter as they provide the greatest control and most plants that can be supported by a single irrigation zone. A ordinary garden hose should supply about 1,440 gallons/hour and so in theory could supply about 2,800 emitters. ETC recommends not putting more than 500 emitters on a single zone as leaks, line loss, and variations in the emitters will reduce the system's capacity. A timer should be used to supply water 2 to 6 times per day, with a total delivery of about 1 quart of water per plant per day initially and increased if necessary. 1 quart is 30 minutes using 1/2 gallon/hour emitters. The actual amount of water delivered by drip emitters varies considerably with pressure and manufacturer, so some calibration will be necessary after the system is installed.

ETC does not recommend sprinklers for trees and shrubs, though seed may need some supplemental irrigation by sprinklers in the first year if the spring is abnormally dry.

Irrigation in normal years should be provided from mid-June through September, and adjusted as necessary for abnormally dry or wet weather. Irrigation for the first three growing seasons is typically recommended for mitigation plantings.

The mitigation area described in Figures M5 and M9 will be monitored for a period of 5 years following the installation of the prescribed plants. Yearly monitoring reports will be authored and submitted to the City of Oregon City Planning Director on the forms provided in Appendix 2.

WEED CONTROL: Control of invasive weeds, Blackberry in particular, is both required by the MMC and required to ensure the establishment and growth of the mitigation plantings. ETC recommends a minimum of two or more patrols per year to remove invasive vegetation. ETC recommends the careful application of herbicides if allowed by the City of Milwaukie. In our experience manual efforts to remove invasives is ineffective and prohibitively expensive.

APPENDIX 2
Annual Mitigation Monitoring Report Template

NOTE: Plant species shown in the tables below may need to be adjusted after a final mitigation plant list is determined.

1) Date Monitoring Survey Conducted _____ (Must be during the growing season between May 1 and September 30.

2) This Report is for (Circle 1): Year 1 - 2019 As-built
Year 2 – 2020
Year 3 – 2021
Year 4 – 2022
Year 5 – 2023 Final Report

3) Name of and affiliation of person conducting this survey:

_____ _____ _____
Name Company phone or email

4) General Observations and Recommendations: _____

_____

_____

_____

5) Notes on Invasive Species and Removal Efforts Performed: _____

_____

_____

_____

Invasive Species Observed and Area Covered by Invasive Species:

Species 1 _____ % Cover _____

Species 2 _____ % Cover _____

Species 3 _____ % Cover _____

MITIGATION MONITORING REPORT PAGE 2

6) Notes on Irrigation Provided, and Recommendations on Future Irrigation: _____

_____

_____

_____

7) List deceased plants and replacements:

Species_____Replaced? Y or N date_____

Species_____Replaced? Y or N date_____

Species_____Replaced? Y or N date_____

Species_____Replaced? Y or N date_____

Species_____Replaced? Y or N date_____

Species_____Replaced? Y or N date_____

8) The minimum survival criteria for trees and shrubs is 80%. Did the mitigation meet the minimum survival criteria? Describe what measures will be taken to improve survival in the next monitoring period.

_____

_____

_____

_____

9) Attach photographs taken from the photo stations shown in Figure 4.

NOTE: Permittees may use these paper forms or electronic copies of the report and spreadsheets.

MITIGATION MONITORING REPORT PAGE 3

Record numbers of live plants for each monitoring year. Natural recruits of new native plants count toward the total survival. Compute % survival for totals trees and total shrubs only.						
Native Trees and Shrubs, recommended and alternates.	Number Planted	AS-BUILT 2019	2020	2021	2022	2023
Trees (385 required)						
Shrubs (1,925 required)						
TOTAL NUMBER OF TREES + SHRUBS SURVIVING.						
PERCENT SURVIVING (DIVIDE TOTAL BY 2,310) May be more than 100%						

Mitigation Success Criteria:

The success criteria below are adapted from DSL's mitigation monitoring success guidelines with references to wetlands and wetland hydrology criteria removed.

The objectives of this mitigation are to create a self sustaining upland habitat with an area of at least 33,780 SQFT that is dominated by native plants. The criteria below are listed in order of importance;

1. An area of at least 33,780 SQFT dominated by native plants.
2. A minimum 80% survival of the trees and shrubs for a total of 80% X 2,027 = 1,622 trees and shrubs. Recruitment of any native tree or shrub species may be used toward this goal.
3. DSL's Remove/Fill Guidance document recognizes four habitat types that are defined by vegetation and wetland hydrology. Monitoring reports need to estimate the areas of these four habitat types. Invasive species are not to be included when computing this metric, for example an area that is 100% blackberries is counted as a "herbaceous wetland", but if it was 100% Douglas Spirea, it would be counted as a "shrub-dominated wetland" :

   1. Forested upland (Areas characterized by woody vegetation that is 6m (19 feet) or taller.

   2. Shrub-dominated upland, (Areas dominated by woody vegetation less than 6m (20ft) tall. Species includes shrubs, young trees, and trees and shrubs that are small and stunted because of environmental conditions).

   Additionally, to be classified as Forested or Shrub-dominated, areas must have a density of at least 1,600 native tree and shrub stems per acre, OR the cover of native woody vegetation is at least 50%.

   3. Herbaceous upland, (All other areas not meeting the forested or shrub-dominated definitions).

   4. Upland Buffers, (Areas not normally possessing wetland hydrology during the growing season).

3. Should areas of the mitigation develop wetland hydrology during the course of the monitoring period, they shall continue to count toward the required acreage for this mitigation.

4. It is recognized that there are a complex set of interacting ecological processes that determine the success and failure of various plant species to colonize and thrive in a particular site. This makes it difficult to predict what species will come to dominate. It is also difficult to predict the complex interaction of soil, sun, shade, slopes, water, and animals that create specific conditions colonizing plants will encounter. Also the vegetation will shift over time as a site evolves. Therefore there is no specific area requirement for the four habitat types, except as follows:

   a. The sum of the areas of (Forested + Shrub-Dominated + Herbaceous areas) will be equal or greater than 33,780 SQFT).
   b. There shall be at least six different native species. To qualify a species must have at least 5% aerial coverage.
   c. The cover of native herbaceous species is at least 60%, (this metric applies to the herbaceous stratum only).

d. If the total % cover of the native tree stratum species is less than 50%, then the % cover of invasive herbaceous species shall be no greater than 10%.

e. If the total % cover of the native shrub stratum species is less than 50%, then the % cover of invasive herbaceous species shall be no greater than 10%.

f. If the total % cover of the native tree stratum species is greater than 50%, then the % cover of invasive herbaceous species shall be no greater than 30%.

g. If the total % cover of the native shrub stratum species is greater than 50%, then the % cover of invasive herbaceous species shall be no greater than 30%.

h. The % cover of invasive shrub or tree species shall be no greater than 10%

i. Bare substrate represents no more than 20% cover.

j. By year 3 and thereafter, there shall be at least 6 different native species. To qualify a species must have at least 5% cover in a habitat class.

4. The portions of the mitigation area determined to be Upland Buffer shall meet the following criteria:

   a. The cover of native species is at least 60%, (all strata combined).

   b. If the % cover of tree + shrub species is < 50%, then the cover of invasive species shall be no more than 10%.

   c. If the % cover of tree + shrub species is > 50%, then the cover of invasive species shall be no more than 30%.

5. **Invasive Species**. For this mitigation, invasive species includes all plants listed on the current Oregon Department of Agriculture Noxious Weed list, plus the following species:

   a. Phalaris arundinacea, (Reed canary grass)

   b. Mentha pulegium, (Pennyroyal, pennyrile, squaw mint)

   c. Holcus lanatus, (Velvet grass).

   d. Anthoxanthum odoratum, (Sweet vernal grass).

Mitigation Monitoring Protocols:

Vegetation Monitoring: Vegetation monitoring will be per DSL's "Routine Monitoring Guidance for Vegetation".

APPENDIX 3
PLANTING PLAN

The planting area identified on Figure M6 and described further in Appendix 4 will be planted with the following plant list. Substitutions within the list are allowed depending on availability of plants. Taller shrubs (those with a maximum height of 20FT or higher), may be substituted for trees. Consult a landscape professional for species suitability to the site.

Table 1: Native Tree List

	Common Name	Botanical Name	Deciduous	Evergreen	Dry	Moist	Wet	Sunny	Some Shade	Shady	Deer?	Height (ft)	Number
Trees	Vine Maple	Acer circinatum	X		X	X		X	X	X		25	50
	Big Leaf Maple	Acer macrophyllum	X		X	X		X	X		3	100	25
	Red Alder	Alnus rubra	X		X	X	X	X	X		2	120	30
	Oregon Ash	Fraxinus latifolia	X			X	X	X	X			70	20
	Western Larch	Larix occidentalis	X		X			X	X			135	
	Pacific Crabapple	Malus fusca	X			X	X	X	X			40	25
	Quaking Aspen	Populus tremuloides	X			X	X	X	X		3	82	
	Black Cottonwood	Populus trichocarpa	X			X	X	X	X		2	160	
	Bitter Cherry	Prunus emarginata	X		X	X		X	X			30	25
	Oregon White Oak	Quercus garryanna	X		X	X		X	X		3	75	33
	Cascara	Rhamnus purshiana	X		X	X	X	X	X	X		30	25
	Pacific Willow	Salix lasiandra	X			X	X	X	X		0	40	25
	Scouler's Willow	Salix scouleriana	X		X	X		X	X		0	30	25
	Grand Fir	Abies grandis		X	X	X		X	X	X	2	250	
	Incense cedar	Calocedrus decurrens		X	X	X		X	X		2	120	
	Ponderosa pine	Pinus ponderosa		X	X			X	X			235	
	Douglas Fir	Pseudotsuga menziesii		X	X	X		X	X		2	250	
	Pacific Yew	Taxus brevifolia		X	X	X			X	X		25	
	Western Red Cedar	Thuja plicata		X		X	X		X	X	1	200	35
	Western Hemlock	Tsuga heterophylla		X		X			X	X	2	225	20
	TOTAL TREES REQUIRED = 338												**338**

Table 2: Native Shrub List

	Common Name	Botanical Name	Deciduous	Evergreen	Dry	Moist	Wet	Sunny	Some Shade	Shady	Deer?	Height (ft)	Number
Shrubs	Serviceberry	Amelanchier alnifolia	X		X	X		X	X	X		20	
	Red Osier Dogwood	Cornus stolonifera	X			X	X	X	X	X		15	200
	Beaked Hazelnut	Corylus cornuta	X			X		X	X	X	2	20	150
	Oceanspray	Holodiscus discolor	X		X	X		X	X		1	15	
	Twinberry*	Lonicera involucrata	X			X	X	X	X		1	10	200
	Indian Plum	Oemlaria cerasiformis	X		X	X		X	X	X	3	15	200
	Mock Orange	Philadelphia lewisii	X		X	X		X	X		3	9	
	Pacific Ninebark	Physocarpus capitatus	X			X	X	X	X	X	0	13	200
	Rosa species	R. nutkana, R. pisocarpa	X		X	X	X	X	X		1	26	50
	Rhododendron red or w	Rhododendron sp		X	X			X	X		0	20	
	Red-flowering Currant	Ribes sanguineum	X		X	X		X	X		0	13	75
	Thimbleberry	Rubus parviflorus	X		X	X		X	X	X	0	8	100
	Salmonberry	Rubus spectabilis	X			X	X	X	X	X	0	10	100
	Blue Elderberry	Sambucus cerulea	X		X	X			X	X	1	15	173
	Red Elderberry	Sambucus racemosa	X		X	X		X	X	X	1	15	
	Spirea	Spirea douglasii	X			X	X	X	X		0	7	
	Snowberry	Symphoricarpos albus	X		X	X	X	X	X		1	11	174
	Red Huckleberry	Vaccinum parvifolium	X		X	X			X	X	3	10	
	Alaskan Blueberry	Vaccinum ovalifolium (ala	X		X	X		X	X		3	10	
	Salal	Gaultheria shallon		X	X	X		X	X	X	0	5	37
	Oregon Grape	Mahonia sp.		X	X	X		X	X	X	0	6	30
	Evergreen Huckleberry	Vaccinum ovatum		X	X	X			X	X	0	10	
	TOTAL SHRUBS REQUIRED = 1,689												**1689**

Key to Deer Herbivory Rating. Certain trees and shrubs may require fencing to reduce herbivory by deer.
3 = Yes, deer may browse heavily on this plant, protection probably required.
2 = Moderate deer browsing but plant will likely survive
1 = Browsing not likely to be a problems unless deer are really hungry
0 = Deer do not browse on this plant
Blank = not known

SEED MIXES - Areas cleared of vegetation in preparation for planting will be reseeded with the following plant mixes at the specified rates:

Wild Flower Mix (Custom "Native Pacific Northwest Mix")		
Generally upland plants, Zone B. This Sunmark mixture is native to the Pacific Northwest and is commonly found inland as far as Central Washington and Oregon. This mix is formulated for bloom period from spring to fall. Note that several species determined not to be native species by Clackamas County have been deleted from the original Sunmark list.		
Planting Rate = 8 oz./1000 sq.ft		
Sunmark Seed, 12775 NE Marx St, Building 14, Portland, OR 97230 888-214-7333		
Scientific Name	**Common Name**	**Color**
Clarkia amoena	Dwarf Godetia	Pink/White
Clarkia unguiculata	Clarkia	Pink/Lavender
Eschscholzia californica	California Poppy	Yellow/Orange
Gilia capitata	Globe Gilia	Blue
Gilia tricolor	Bird's Eyes	Lavender/White
Helianthus annuus	Common Sunflower	Yellow
Layia platyglossa	Tidy-Tips	Yellow/White
Linum grandiflorum rubrum	Scarlet Flax	Scarlet
Linum perenne lewisii	Blue Flax	Blue
Lupinus densiflorus aureus	Yellow Lupine	Yellow
Lupinus polyphyllis	Many Leaved Lupine	Mixed
Nemophila menziesii	Baby Blue-Eyes	Blue
Sisyrinchium bellum	Blue-Eyed Grass	Purple
Sunmark "Oak Savanah" mix. For use in upland areas where shrub and trees are desired. For this project the above wildflower mix is to be combined to this mix when planting.		
Seeding Rate: 140 Pounds Per Acre		
3 Pounds Per 1000 Square Feet		
SUNMARK SEEDS INTERNATIONAL (503) 241-SEED		
E-Mail Address seeds@sunmarkseeds.com		
Sunmark's Oak Savanah Mix is an excellent blend of native shrub, trees and grass mixture for reclamation of natural oak shrub scrub sites, providing excellent habitat enhancement and erosion control. Oak Savanah mix may be used in native plantings for reclamation throughout the Pacific Northwest.		
Acer macrophyllum	Big Leaf Maple	20.00%
Arbutus menziesii	Pacific Madrone	20.00%
Quercus garryana	Oregon White Oak	15.00%
Pinus ponderosa	Ponderosa Pine	15.00%
Lupinus polyphillis	Many Leaved Lupine	10.00%
Malus sp.	Crab Apple, wild	10.00%
Arctostaphylos uva-ursi	Bearberry	3.00%

Elymus glaucus	Blue Wildrye	3.05%
Balsamorrhiza sagittaria	Arrowleaf Balsamroot	2.00%
Symphoricarpus albus	Snowberry	1.80%
Spirea douglasii	Douglas Spirea	0.10%
Agrostis exerata	Spike Bentgrass	0.05%

Seeding, Planting, and Mulching Specifications and Guidelines©

Prior to planting, the site shall be inspected for the presence of invasive species that can pose a risk to the native plant community, (e.g. reed canary grass, Himalayan blackberry, English Hawthorn, Japanese knotweed, etc.). All invasive weeds shall be chemically controlled with a herbicide approved for vegetation control in environmentally sensitive areas such as a non-surfactant containing ***glyphosate*** formulation such as **Aquamaster®** or **Rodeo®** or an amine form of ***trichlopyr*** such as **Garlon 3A®**. Tank mixes of both chemicals are permitted as long as directions for tank mixes are followed.

1) After excavation and construction is completed, if topsoil is required 3" of topsoil shall be applied over the complete surface of the graded mitigation site. The topsoil shall be tilled deeply into the exposed ground surface to a minimum of 8" and optimally 12". 3" of environment-friendly hogfuel shall be applied over the entire surface following planting.
2) **Plants will conform to the American Standard for Nursery Stock (ANSI Z60.1-2004)** or the most current version. As stated in the American Standard for Nursery Stock (ANSI Z60.1-2004), "**All container grown nursery stock shall be healthy, vigorous, well rooted, and established in the container in which it is growing; shall have a well established root system reaching the sides of the container to maintain a firm ball when the container is removed, but shall not have excessive root growth encircling the inside of the container**."
3) Plants sold or designated "**Conservation Grade**" **will not be acceptable** for this project.
4) All plants shall be tagged for dormant season identification. Tags to remain on plant material after planting for monitoring purposes.
5) Planting will be done preferably during the winter months. Roots will be protected from freezing, heat and desiccation. All plant materials will be protected if left unplanted overnight.
6) **Preparing the Planting Hole and Planting.**
   a) Dig planting hole no deeper than 90% of the height of the rootball.
   b) Dig the planting hole at least twice the width of the rootball.
   c) *Do not loosen the bottom of the hole in any way*. Leave the bottom of the hole undisturbed for the rootball to sit firmly on, to make sure no subsiding takes place, which causes root balls to sink.
   d) DO NOT FORCE ROOTS INTO THE HOLE IN SUCH A WAY AS TO BEND LONG ROOTS.
   e) Use only existing native backfill soil. *Do not use any soil amendments in the hole*.
   f) Score the outside of the rootball with at least four (4) 1"-2" incisions cut from the top of the rootball to the bottom. Any circling roots that are discovered either circling the sides or circling the bottom of the rootball will be cut through with loppers or hand-pruners. Any circling roots inside the 1" depth incisions will be cut through.
   g) Place the rootball in the planting hole on the bottom of the hole.
   h) Make sure approximately 1" of the rootball (e.g. 10% of rootball top is above grade) sits above grade so that the top of the rootball is visible, and the crown of the plant is plainly seen (e.g. Trunk flare visible).
   i) Level rootball by propping with backfill soil and fill hole with 1/3 of backfill soil.
   j) Tamp the backfill soil with a sod tamper or hands. Do not tamp with feet in any way that could place any weight on the top of the rootball. *Fibrous-rooted plants will tear and separate from the plant from tamping directly on the rootball* with feet.
   k) Water in well. Place remaining backfill soil making sure none is placed on top of the rootball. Tamp the backfill soil and water again.
   l) Any excess backfill soil can be used to form a small circular berm around the rootball, making sure that none ends up on the top of the rootball.
   m) Place 3"-4" of an *environmentally friendly hogfuel, "H& H Recyclers Trailmix", or "Stumpgrindings" with a minimum of bark (e.g. stump grindings), coarse woody mulch in a 6' diameter circle around the plant, making sure it is no less than 2" from trunk. No mulch is to come in contact with the plant stems/trunks.
7) **Handling and Care of Planting Plugs**

8) Use only existing native backfill soil or till in a 2" to 3" layer of organic amendment over whole planting site. Do not use any soil amendments in the hole.
9) Dig planting hole no deeper than the height of the plug.
10) Dig the planting hole at least twice the width of the plug.
11) Roughen exterior of heavily rooted or rootbound plugs to open up rootball and activate new root initials.
12) Center the plug in the planting hole.
13) Backfill soil around plug and tamp soil around plug with fingers and hands.
14) **Handling and Care of Whips, Live Stakes and Sprigs**
    a) All plant material will be stored in water or water filled containers covering at least ½ of the stake until ready to be installed in the ground.
    b) Use only existing native backfill soil. Do not use any soil amendments in the hole.
    c) All plants to be planted as whips, stakes, or sprigs shall be planted as follows:
    d) Each piece must be freshly cut with the base cut at a 45 degree taper.
    e) Whips and stakes shall be 4' to 5' in length and 3/4" to 1½" in diameter (Cottonwood stakes may be 3/4" to 2½").
    f) Optimally, the bottom half of whips and stakes will be immersed in water for 7-10 days (NRCS recommendation 2 to 6).
    g) Keep all plant materials moist in transport. In hot and/or windy days cover with wet burlap.
    h) Plant when soil is moist to facilitate penetration of the stakes into the ground.
    i) For plants that are difficult to root use a rooting hormone as specified on the product container prior to installing
    j) Install the base of pieces into the ground at least 2/3 of their length.
    k) If soil conditions do not allow easy penetration of pieces into the ground, prepare a small diameter hole using a probe such as a piece of large diameter rebar or similar device prior to installing sprig. The hole diameter should be smaller than the sprig diameter. If hole is too large gently tamp soil around plant.
    l) DO NOT POUND PIECES INTO THE SOIL WITH A HAMMER, MALLET, OR ANY OTHER IMPACT DEVICE!
15) **Handling and Care of Loose Seed**
16) Seed mixes shall be broadcast with a "cyclone" type spreader either a walk behind spreader with pneumatic tires to impact area to be seeded as little as possible. Or a "belly-crank" type of spreader that hangs in front of technician shall be used. No drop spreaders will be used at all.
17) If topsoils have not been replaced a 3" minimum layer compost shall be evenly applied to the subject area and thoroughly tilled to at least 8" depth, optimally to one foot of depth.
18) Seed mixes containing very small seeds can be mixed with dry builders sand to facilitate even spreading of seed.
19) Seed shall be evenly applied to all bare soil areas. No mulches purposely placed around individual plants shall have seed broadcast on it so as to minimize any competition from the seed mix species.
20) Seeded areas shall be mulched with weed free straw or peat moss at no more than 1/2" depth.
21) **Animal Protection and Fertilization**
22) Each plant will have a sturdy planting tube of heavy plastic or metal screening as per manufacturer instructions (e.g. Tubex Tree Shelters, Protex Pro/Gro Tubes, Tree Pro tubes). If in rolls, cut to size for plant and zip-lock together as needed. Staple or stake plant tubes to the ground. Use staples with a minimum length of 6". Use longer staples in floodplain areas that have flooding events.
23) In areas with dear beaver and/or nutria population pressure consider metal fencing or screening such as "chicken wire". Fencing should be tailored to the particular herbivore threat.
24) Fertilization shall be done with a slow release fertilizer (e.g. Agriform, Scotts Sierra Tablets, Healthy Start Macro Tablets, and AgSafe Agritab Corp. Tablets) that provides a minimum of two (2) years feeding.
25) **Erosion Control**
26) Slopes that require erosion control covers shall have Coir Fiber blankets cut an applied to surfaces and stapled at the recommended staple spacing configuration with 7" or longer steel staples.

Fertilizer Example:

AGSAFE AGRITAB TABLETS

Minimum Guaranteed Analysis: Guaranteed Analysis

20.00% TOTAL NITROGEN (N)*
2.4% Ammoniacal Nitrogen0. 05% COPPER (Cu)
0.8% Urea Nitrogen 0.05% Water Soluble Copper (Cu)
4.5% Water Soluble Organic Nitrogen 0.02% BORON (B)
2.3% Water Insoluble Nitrogen 1.00% IRON (Fe), TOTAL
10.00% AVAILABLE PHOSPHORIC ACID (P_2O_5) 0.50 Water Soluble Iron (Fe)
5.00% SOLUBLE POTASH (K_2O) 0.05% MANGANESE (Mn)
2.00% CALCIUM (Ca) 0.05% Water Soluble Manganese (Mn)
1.00% MAGNESIUM (Mg), TOTAL 0.05% ZINC (Zn)
0.50% Water Soluble Magnesium (Mg) 0.05% Water Soluble Zinc (Zn)
2.00% SULFUR (S), TOTAL
2.00% Combined Sulfur (S)

Derived From: Ureaform, Methylene Ureas, Urea, Ammonium Phosphates, Calcium Phosphates, Potassium Sulfate, Magnesium Oxide, Magnesium Sulfate, Sodium Borate, Copper Sulfate, Iron Sulfate, Ferrous Sulfate, Manganese Sulfate, and Zinc Sulfate.
*14% slowly available Nitrogen from ureaform, dimethylene urea, and trimethylene urea.

NON-PLANT FOOD INGREDIENTS
HUMUS (10%) – Humic Acids (5-7%) derived from Humus Utah Shale Ore
PROPRIETARY BLEND – Plant and Fish Extracts, Organics, and Beneficial Soil Bacteria & Fungi

*All reference to pesticide applications were done by a state licensed applicator- (Washington State Department of Agriculture Commercial Pestici Applicator *License #75375*
Oregon State Department of Agriculture Commercial Pesticide Applicator *License #AG-L1003662CPA*

APPENDIX 4
MITIGATION AREA CURRENT CONDITIONS AND SUITABILITY

Lot 3200 and 3300 SE 19th Avenue, Clackamas County, Oregon

ETC Job EVA18007

Evaluated by: Annakate Martin June 18, 2019
Annakate Martin, Senior Biologist

Prepared for:
Mathew Gillis
4776 Carolina Avenue, NE
Salem, OR 97305

Environmental Technology Consultants
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Gladstone, OR 97027
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"Creating Tomorrow's Environment - Today"

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Photo 1. Cover page. Looking south through the approximate middle of Mitigation area 1 (left side) and area 2 (right side).

INTRODUCTION

PURPOSE OF THIS REPORT:

This report is to provide information on the habitat of the proposed mitigation areas on the subject properties island to be determine by the City of Milwaukie if the island can be used for mitigation. The island is west of the proposed development on the subject site to the east.

Only those areas on the island that are above OHWM, 20' elevation were investigated and reported on (Figures M1 through M5). Observations were made of the soils, vegetation and hydrology were observed, although most of the two lots were traversed regardless of elevation but in some areas blocked by blackberries.

PROPOSED USE:

There are two areas on the island that are determined to be in good condition for mitigation, there is 41,708 SQFT that can be used for mitigation above the 20' in elevation. The HCA requires we use 33,780 SQFT therefore there is an extra 8,000 SQFT to adjust and use if needed when planting. There will be 338 trees and 1,689 shrubs used in the mitigation area. The plantings would be a dense planting of trees every 8' apart and shrubs every 4' apart and some in cluster plantings.

DISCLAIMER:

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my knowledge.

QUALIFICATIONS OF ANNAKATE MARTIN, NRS

I received my Bachelor of Science degree in Natural Resources from Washington State University in 2002. In 2002 I worked for the University of Idaho on MAP tracking steelhead and salmon on the Snake River out of Clarkston, Washington.2002-2003 I worked for Idaho Fish and Game as a field technician for identifying fish in remote streams in Idaho. In 2004, 2016 and currently I have worked for Environmental Technology Consultants conducting wetland delineations and all other environmental reports. From 2007-2014 I worked for 3 Kings Environmental conducting Phase I ESA reports, asbestos and lead surveys. In 2011 I started my own company primarily providing erosion control services and conducting Phase I ESA habitat assessments. I was employed with Clark Public Utilities as a Watershed Coordinator in which I oversaw property restoration with native plants and maintained a nursery in 2017 before coming back to ETC in 2018.

I am currently working on getting my certification as a Professional Wetland Scientist from Portland State University. I have 20 years working in the environmental field specializing in many different areas.

No part of my compensation is dependent on the outcome of my investigations or conclusions I may draw from the observed data.

QUALIFICATIONS OF JOHN MCCONNAUGHEY

I earned a Bachelor of Science degree from the University of Oregon in 1978 and in 1984 I earned a Masters of Fisheries Science degree from the University of Alaska at Juneau, (since renamed the University of Alaska, Southeast). The Juneau curriculum specializes in the study of Pacific salmon. I held positions with agencies tasked with salmon research and management beginning with summer jobs in 1979 in Rogue River, the Oregon Dept of Fish and Wildlife, and then with the Alaska Department of Fish and Game in Ketchikan Alaska, in 1980. I worked on salmon projects with ADF&G in Anchorage and Juneau for 5 years before moving to American Samoa to serve as a fisheries projects leader for the Department of Marine and Wildlife Resources. Upon returning stateside, I worked for the Yakama/Klickitat Fisheries Project out of Yakima Washington for 5 years leading four research projects studying aspects of salmon supplementation projects in the Yakima River.

I have been employed with Environmental Technology Consultants for the past 10 years. In 2010 I earned certification as a Professional Wetland Scientists, (PWS) from the Society of Wetlands Scientists, (SWS), and was renewed in 2015.

No part of my compensation is dependent on the outcome of my investigations or conclusions I may draw from the observed data.

Landscape Setting and Land Use

Study Area

The study area included only the western "island" portions of parcels 3200 & 3300. Areas that were thick with blackberry could still be observed from a distance. Portions of the adjoining properties were observed also.

JURISDICTIONAL CONSIDERATIONS

- City of Milwaukie, Oregon
- Clackamas County, Oregon.
- Shoreline of the State area.
- FEMA flood hazard maps.
- No NWI, State or County mapped wetlands on the parcel.
- No Priority Habitat and Species areas mapped on the parcel.

LANDSCAPE SETTINGS

The island is rock around the lower elevations on the south and west sides and a sandy loam on the east side. As you walk up into the island it is dense with blackberries and opens up in the middle with a small field of grasses, daisies and Ash saplings. Along the east side of the property there are mature Black Cottonwoods and Ash trees with some native snowberry and

Rosa sp. Primarily the mitigation areas are dense blackberry and in Mitigation Area 1 there is a mature Tree of Heaven mixed in with all that blackberry and some shiny geranium.

The soils that were found were a 10YR3/3 sandy loam with no hydrology present and no indicator of hydrology. There were some areas that had granite rock coming out of the ground but that was in the lower elevation areas.

PREVIOUS AND CURRENT LAND USES, & SITE ALTERATIONS

There have been no known previous uses for the island besides recreational for people to walk out to. It is possible that there was some use of the island and slough for log storage before 1950.

Methods

General Wetland Determination Methodology: This investigation was carried out in accordance with the guidelines set forth in the Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1, 1987) and its recent 2010 update, version 2.0.

Site Specific Methodology: All areas of the parcel were accessible by foot. I dug 3, 16" test pits and 4 data plots that covered the majority of each area in the mitigation sites. I was observing the vegetation, soils and hydrology.

Weather: It was a very rainy spring day with downpours at different times. The weather had been on and off rain before the site visit.

Previous Studies

We are not aware of any previous wetland investigation on the subject parcel island.

Mapping Method

Cell phone GPS was used to locate data plots and they are shown on figure M1.

Description of the Island

No areas of the lots met the three criteria for determining wetland presence and no waterways or streams were observed on the island, there were also no primary or secondary features indicating flooding.

The vegetation at P8 and along the eastern side of the island had more native species than the majority of the Mitigation areas. The mitigation areas were basically 100% *Rubus armeniacus* with some *Populus balsamifers, Fraxinous latifolia, Rosa sp, and Symphoriscarpus albus*. There was a small dip in elevation between the two mitigation areas that will not be used in the mitigation, the area had native grasses, oxeye daises and Ash saplings.

Surface soils are similar to other areas of the property, a 10YR3/3 sandy loam. There were no Hydric features observed.

No areas of bare soil and no indications of water ponding or movement were observed. The soil was not saturated to at least 16" (the depth of my soil pit). As the area has received average precipitation this past spring, in my opinion an area not exhibiting wetland hydrology on May 31 is not a wetland.

CONCLUSION: No wetlands or waterways exist above OHWM on the island. The island is an upland area with a sustainable ecosystem for the planting of native vegetation. If we could remove the blackberry and other invasive species and mitigate it with native plants, I believe it would be a thriving habitat community.

REQUESTED ACTIONS

1. We ask for the approval of the island to be the mitigation site for the disturbance within the HCA area.

APPENDIX A) Data Forms

Data forms following this page:
P8
P9
P10
P11

APPENDIX B) Ground Level Color Photographs

Photo 1: Looking east into the mitigation area (the house on the property can be seen), from the south. Part of the blackberry patch is evident in the photo along with some native Black Cottonwood and Ash

Photo 2: Looking directly into the dense blackberries in the mitigation area.

Photo 3: Looking south into the mitigation area with the native grass in the middle. This is the area that is not suggested for mitigation.

Photo 4: Dense blackberry patch in the mitigation, Tree of Heaven in upper right corner.

Photo 5: Tree of Heaven in mitigation area.

Photo 6: A picture of P8, which is in the northeast corner of the property, the most native vegetation that was observed besides the native grasses.

APPENDIX C) Literature Citations

1. *Classification Of Wetlands And Deepwater Habitats Of The United States*. U.S. Department Of The Interior, Fish And Wildlife Service, December, 1979.
2. *Corps Of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi, January 1987.
3. Dennis, La Rea J. *Gilkey's Weeds of the Pacific Northwest*. Oregon State University, Corvallis, Oregon, 1980.
4. Gilkey, Helen M. and La Rea J. Dennis. *Handbook Of Northwestern Plants*. Oregon State University, Corvallis, Oregon, 1980.
5. Gilkey, Helen M. and Patricia L. Packard. *Winter Twigs: Northwestern Oregon & Western Washington*. Oregon State University Press, Corvallis, Oregon, 1962.
6. Groxz, Kevin and Dustin Day, *Wetland Delineation & Assessment, 78th Street Project, Clark County WA.* The Resource Company, October 4, 2006.
7. Guard, Jennifer B. *Wetland Plants of Oregon and Washington.* Lone Pine Publishing, Redmond, Washington, 1995.
8. *Hydric Soils Of The United States*, U.S.D.A., SCS, December, 1987.
9. Malone, K and Williams, H. (2010). Growing Season Definition and Use in Wetland Delineation: A Literature Review. Division of Environmental Science Stephen F. Austin State University Nacogdoches, Texas 75962-6109. ERDC/CRREL CR-10-3
10. Pollock, M.M., J.M. Wheaton, N. Bouwes, and C.E. Jordan. 2011. Working with Beaver to Restore Salmon Habitat in the Bridge Creek Intensively Monitored Watershed: Design Rationale and hypotheses, Interim Report. NOAA Northwest Fisheries Science Center: Seattle, WA. 63. pp.
11. Pojar, Jim, and Andy McKinnon, eds. *Plants of the Pacific Northwest Coast.* Lone Pine Publishing, Redmond, Washington, 1994.
12. Taylor, Ronald J. *Northwest Weeds.* Mountain Press Publishing, Missoula, Montana, 1990. http://www.clackamas.us/docs/wes/adminpro.pdf
13. U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
14. U.S. Department of Agriculture, Natural Resources Conservation Service. 1996. *Field Indicators of Hydric Soils in the United States*. G.W.Hurt, Whited, P.M., and Pringle, R.F. (eds,). USDA, NRCS, Fort Worth, TX.
15. Vepraskas, Michael J. *Redoximorphic Features for Identifying Aquic Conditions.* Technical Bulletin 301. North Carolina Agricultural Research Service, North Carolina State University, December, 1992.
16. Wheaton JM, Bouwes N, Consolati F*, DeMeurichy KD, Jordan C, Pollock M, Volk CJ and Weber N. In Prep. Can Beaver Dams Aggrade Incised Streams to the Point of Floodplain Reconnection and Recovery? For submission to: Wetlands.

APPENDIX 5
MITIGATION PROPOSAL AND ALTERNATIVE ANALYSIS

Mr. Matthew Gillis
Oregon Residential Properties, LLC
2050 Beavercreek Road, Suite 101-337
Oregon City, Oregon 97045

Re: Geotechnical Consultation Services, Evaluation of Existing Soil Cover Depth,
Elk Rock Estates Proposed Mitigation Site, Milwaukie (Multnomah County), Oregon

Dear Mr. Gillis:

In accordance with your request, we have completed our evaluation of the soil cover depth at the above proposed Elk Rock Estates Mitigation Site (see Site Vicinity Map, Figure No. 1). The purpose of our work at this time was to perform soil probes across the proposed mitigation area to evaluate whether soil conditions exist which would allow for and/or support the proposed planting and mitigation work.

Specifically, on June 4, 2019, we were present at the site and performed a total of nine (9) soil probes across the proposed mitigation area (see Site Exploration Plan, Figure No. 2). The soil probes, which were advanced with portable hand auger equipment in the areas currently vegetated, encountered an existing depth of soil above the underlying Basalt bedrock deposits of from about two (2) to three (3) feet or more. The subsurface soils encountered in the test holes generally consisted of a gray to dark gray and/or dark olive-brown, loose, silty fine sand consistent with the alluvial soil characteristics along the banks of the Willamette River. We point out that while areas were present across the proposed mitigation area where Basalt bedrock was exposed and were generally void of vegetation and/or soil cover, much of the proposed mitigation area contains an existing soil cover which is presently vegetated with a moderate to dense growth of grass, weeds and brush as well as numerous small to large size trees.

In this regard, based on the results of our recent soil probes performed at the site, we are of the opinion that the area(s) across the proposed mitigation area which contain an existing soil cover are suitable for the proposed planting and mitigation work.

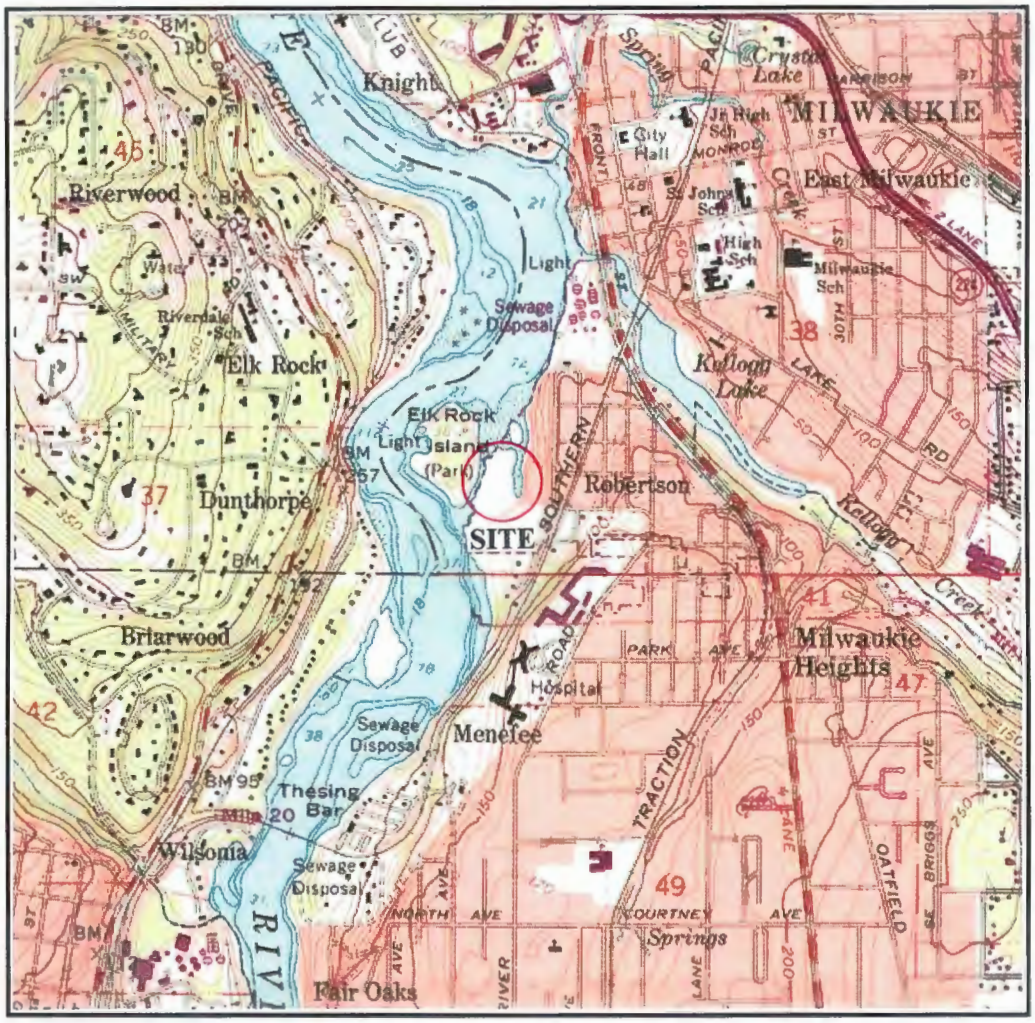
We appreciate this opportunity to be of service to toy at this time and trust that the above information is suitable to your present needs. Should you have any questions regarding the above or if you require any additional assistance and/or information, please do not hesitate to call.

Sincerely,

Daniel M. Redmond, P.E., G.E.
President/Principal Engineer

Attachments:

Figure No. 1 - Site Vicinity Map
Figure No. 2 - Site Exploration Plan
Figure No. 3 - Soil Probe Logs



LAKE OSWEGO QUADRANGLE
OREGON
7.5-MINUTE SERIES (TOPOGRAPHC)

SCALE 1:24 000

1 0 1 MILE

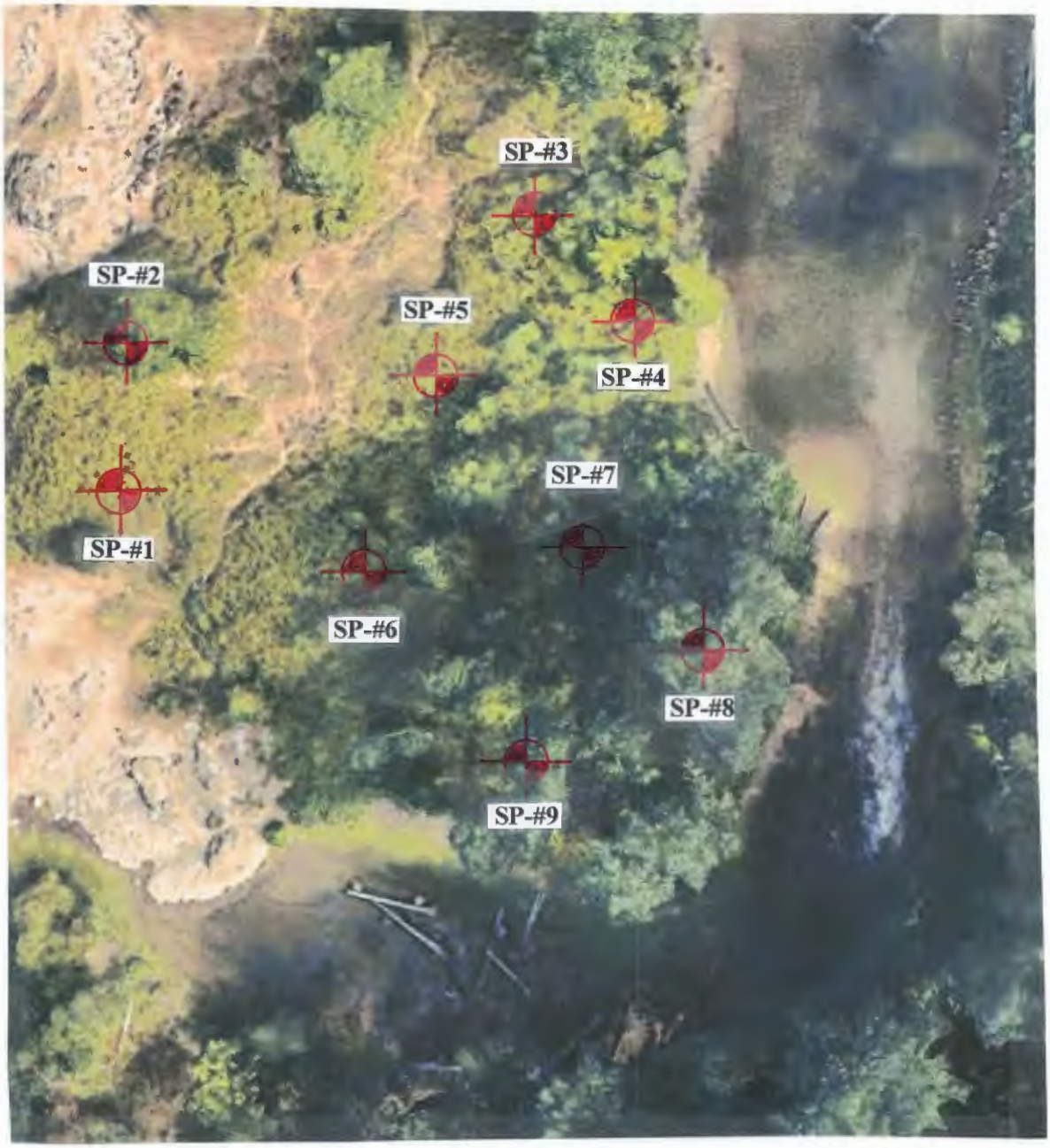
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET—WILLAMETTE RIVER DATUM

SITE VICINITY MAP

Project No. 1549.002.G	ELK ROCK ESTATES SITE	Figure No. 1



LEGEND

SP-#9 Indicates approximate location of soil probe

	SITE EXPLORATION PLAN	
Project No. 1549.002.G	**ELK ROCK ESTATES SITE**	Figure No. 2

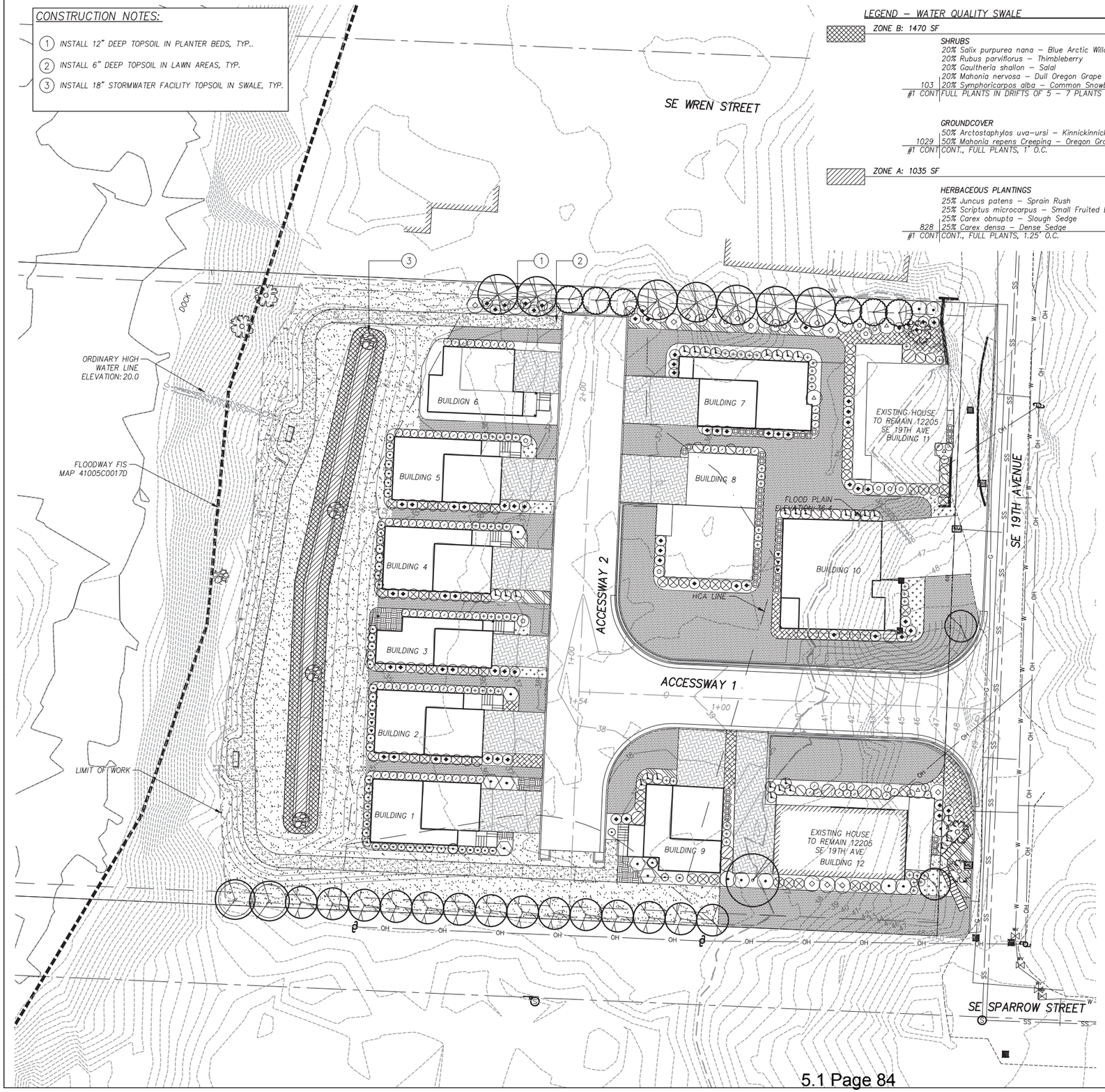
SOIL PROBE LOGS

Soil Probe Location	Depth of Existing Soil Cover
SP-#1	+2.0'
SP-#2	+3.0'
SP-#3	+2.0'
SP-#4	+3.0'
SP-#5	+2.0'
SP-#6	+3.0'
SP-#7	+3.0'
SP-#8	+3.0'
SP-#9	+3.0'

Figure No. 3

CONSTRUCTION NOTES:

1. INSTALL 12" DEEP TOPSOIL IN PLANTER BEDS, TYP..
2. INSTALL 6" DEEP TOPSOIL IN LAWN AREAS, TYP.
3. INSTALL 18" STORMWATER FACILITY TOPSOIL IN SWALE, TYP.



LEGEND – WATER QUALITY SWALE

ZONE B: 1470 SF

SHRUBS

20% Salix purpurea nana – Blue Arctic Willow
20% Rubus parviflorus – Thimbleberry
20% Gaultheria shallon – Salal
20% Mahonia nervosa – Dull Oregon Grape
103 | 20% Symphoricarpos alba – Common Snowberry
#1 CONT | FULL PLANTS IN DRIFTS OF 5 – 7 PLANTS

GROUNDCOVER

50% Arctostaphylos uva-ursi – Kinnickinnick
1029 | 50% Mahonia repens Creeping – Oregon Grape
#1 CONT | CONT., FULL PLANTS, 1' O.C.

ZONE A: 1035 SF

HERBACEOUS PLANTINGS

25% Juncus patens – Sprain Rush
25% Scriptus microcarpus – Small Fruited Bulrush
25% Carex obnupta – Slough Sedge
828 | 25% Carex densa – Dense Sedge
#1 CONT | CONT., FULL PLANTS, 1.25' O.C.

LEGEND

TREES

14 | Acer circinatum – Vine Maple | 1/2" CAL. | B&B, WELL BRANCHED, LIMBED TO 6'
2 | Pinus contorta 'Contorta' – Shore Pine | 6' HT. | B&B, FULL TREES, BRANCHED TO GROUND
7 | Chamaecyparis nootkatensis 'Pendula' – Weeping Alaska Cedar | 6' HT. | B&B, FULL TREES, BRANCHED TO GROUND
6 | Chamaecyparis obtusa 'Gracilis' – Hinoki Falsecypress | 6' HT. | B&B, FULL TREES, BRANCHED TO GROUND
2 | Lagerstromea 'Natchez' – Natchez Crapemyrtle | 1.5" CAL. | B&B, WELL BRANCHED, LIMBED TO 6'
1 | Styrax japonicus – Japanese Snowbell | 1.5" CAL. | B&B, WELL BRANCHED, LIMBED TO 6'

SHRUBS

7 | Abelia x grandiflora – Glossy Abelia | 5 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
52 | Azelea 'Delaware Valley White' – Delaware Valley White Azelea | 2 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
44 | Ilex crenata 'Green Island'– Japanese Holly | 2 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
6 | Fatsia japonica – Japanese Aralia | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
6 | Juniperus squamata 'Blue Star' – Blue Star Juniper | 5 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
13 | Kalmia latifolia 'Heart of Fire' – Heart of Fire Mt. Laurel | 5 GAL | CONT., FULL PLANTS, 4' OC
xx | Osmanthus delavayi – Sweet Olive | 2 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
71 | Rosa 'Scarlet Meidiland' – Scarlet Meidiland Rose | 2 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
xx | Rhododendron 'PJM' – PJM Rhododendron | 2 GAL | CONT., FULL PLANTS, 5' OC
7 | Rhododendron 'Yaku Princess' – Yaku Princess Rhododendron | 2 GAL | CONT., FULL PLANTS, 5' OC
68 | Rhaphiolepis umbellata 'Minor' – Dwarf Yeddo Hawthorn | 2 GAL | CONT., FULL PLANTS, 5' OC
29 | Sarcococca ruscifolia – Sweet Box | 2 GAL | CONT., FULL PLANTS, 3' OC
7 | Ceanothus thyrsiflorus 'Skylark' – Blue Blossom | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
29 | Mahonia aquifolium 'Compacta' – Compact Oregon Grape | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
92 | Polystichum munitum – Sword Fern | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
2 | Ribes sanguineum – Flowering Currant | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN
20 | Vaccinium ovatum – Evergreen Huckleberry | 1 GAL | CONT., FULL PLANTS, SPACING AS SHOWN

GROUNDCOVER

772 | Iberis sempervirens – Candytuft | 1 GAL | CONT., FULL PLANTS, 1' O.C.
106 | Sarcococca hookeriana var. humilis – Sweet Box | 1 GAL | CONT., FULL PLANTS, 2' O.C.
114 | Erica carnea 'Vivellii' – Winter Heath | 1 GAL | CONT., FULL PLANTS, 2' O.C.
66 | Mahonia nervosa – Longleaf Mahonia | 1 GAL | CONT., FULL PLANTS, 2' O.C.

SEED MIXES

Northwest Supreme Lawn Mix by Sunmark Seeds (or approved equal) 8 LB / 1000 SF

City of Portland Native 50/50 Meadow Mix 1 LB / 1000 SF

SEE SHEET 8 FOR PLANTING NOTES

0 10 20 40
SCALE: 1" = 20'

PLANTING PLAN
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED LANDSCAPE ARCHITECT
747
JEFFERY P. CREEL
OREGON
05/13/11

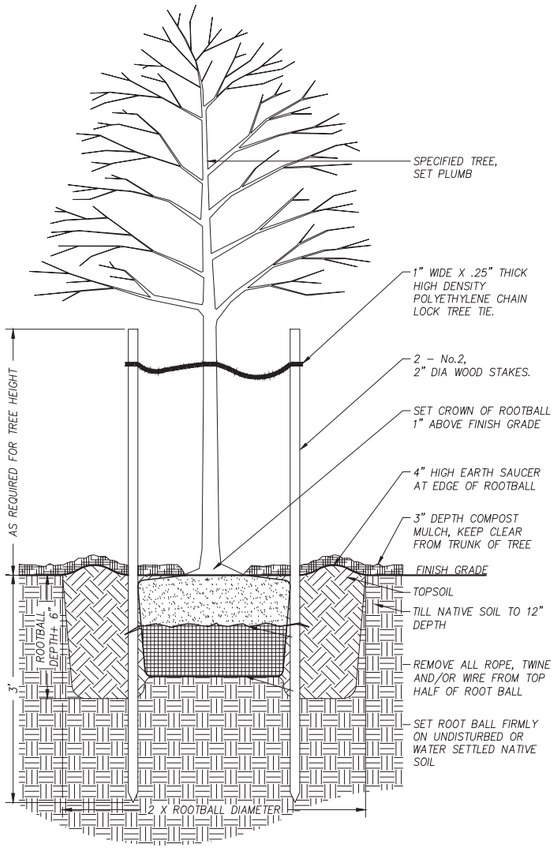
DESIGNED:	JPC
DRAWN:	JPC
CHECKED:	KKV
DATE:	JUNE 2019

REVISIONS

NO.	DESCRIPTION	DATE:
1	REVISED GRADING	APRIL 2019

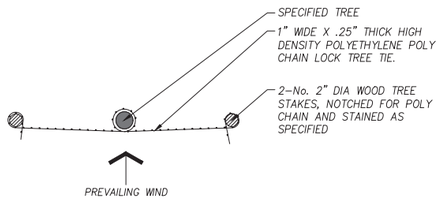
SHEET NO.
7

JOB NO.
MSC-221



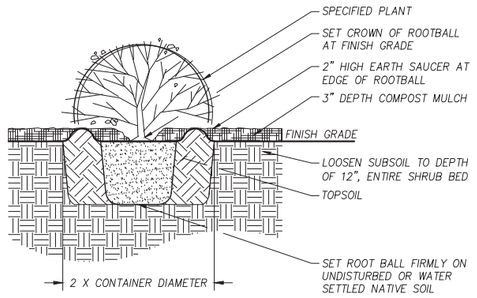
1 DECIDUOUS TREE PLANTING
Section — NOT TO SCALE

NOTE:
WRAP POLY CHAIN AROUND NOTCHED STAKE AND LOCK TO SECURE. WRAP CENTER OF POLY CHAIN AROUND TREE TRUNK TO MOVE 3" IN ALL DIRECTIONS.

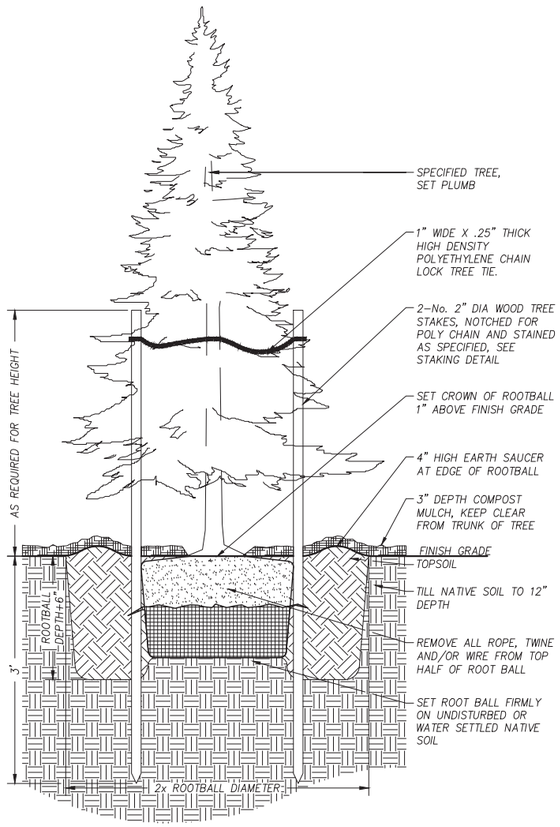


2 TREE STAKING
Plan — NOT TO SCALE

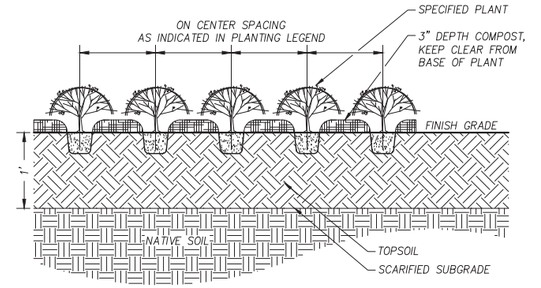
NOTE:
PROVIDE 36" DIAMETER MULCH OR COMPOST RING, AS SPECIFIED.



3 SHRUB PLANTING
Section — NOT TO SCALE

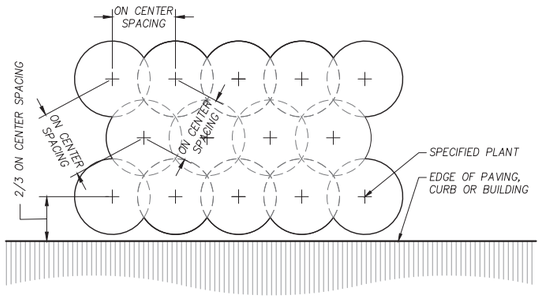


6 CONIFER TREE PLANTING
Section — NOT TO SCALE



4 GROUNDCOVER PLANTING
Section — NOT TO SCALE

NOTE:
ON CENTER SPACING SHALL BE AS INDICATED IN PLANTING LEGEND.



5 TRIANGULAR SPACING
Plan — NOT TO SCALE

GENERAL PLANTING NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF PORTLAND STANDARDS AND OREGON BUILDING AND SPECIALITY CODES.
2. INSTALL EROSION CONTROL SYSTEMS IN ACCORDANCE WITH CITY OF PORTLAND STANDARDS PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
3. CONTRACTOR SHALL MARK AND PROTECT ALL UTILITIES, SITE FEATURES, AND VEGETATION TO REMAIN IN PLACE.
4. CONTRACTOR SHALL REMOVE ALL WEEDS AND INVASIVE SPECIES PRIOR TO PLANTING OR SEEDING.
5. ALL DISTURBED AREAS SHALL BE SEEDED.
6. PRIOR TO PLANTING, CONTRACTOR SHALL TEST ON–SITE SOILS FOR SOIL FERTILITY BY CERTIFIED TESTING LAB. IF NECESSARY, BACKFILL SOILS FOR TREE PITS, SHRUB AND GROUNDCOVER AREAS SHALL BE AMENDED AS RECOMMENDED BY SOIL ANALYSIS REPORT.
7. CONTRACTOR TO INSTALL 3" LAYER OF COMPOST MULCH AT ZONE B TREE, SHRUB AND GROUNDCOVER AREAS.
8. LANDSCAPE INSTALLATION SHALL INCLUDE PROVISION HAND WATERING DURING THE 2–YEAR ESTABLISHMENT PERIOD.
9. PLANT MATERIAL INSTALLED SHALL CONFORM IN SIZE AND GRADE TO THE "AMERICAN STANDARD FOR NURSERY STOCK" CURRENT EDITION.
10. LANDSCAPE CONTRACTOR WARRANTY ALL PLANTINGS FOR A 2–YEAR ESTABLISHMENT PERIOD. PLANTS SHALL BE IN SATISFACTORY HEALTH. LANDSCAPE CONTRACTOR SHALL REPLACE ALL DAMAGED, DEAD, OR DYING PLANTS COVERED BY WARRANTY WITHIN 30 DAYS OF INITIAL IDENTIFICATION OF CONDITION.
11. STORMWATER FACILITY CONSTRUCTION TO BE INSPECTED BY BES CONSTRUCTION INSPECTOR.
12. CONTRACTOR SHALL CONTACT BES CONSTRUCTION 48–HOURS PRIOR TO STARTING CONSTRUCTION ON THE STORMWATER FACILITY. ANY WORK ON THE FACILITY WITHOUT INSPECTIONS WILL BE REJECTED.
13. CONTRACTOR SHALL PROVIDE BES CONSTRUCTION WITH TESTING DATA AS PER CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTION 01040.13 – SOIL TESTING 14 DAYS PRIOR TO CONSTRUCTION.
14. SEE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTION 01040.14(D) – STORMWATER FACILITY TOPSOIL.
15. INSTALL TOPSOIL IN A MANNER THAT ENSURES ADEQUATE INFILTRATION. PLACE IN TWO EQUAL LIFTS. (IF NO DRAIN ROCK IS SPECIFIED, ADD THE FOLLOWING NOTE: ROTO–TILL THE FIRST LIFT INTO NATIVE SOIL.) LIFTS SHOULD NOT BE COMPACTED, BUT RATHER PLACED IN A MANNER TO REDUCE EXCESSIVE EROSION OR SETTLEMENT. LIFTS MAY BE LIGHTLY WATERED TO ENCOURAGE NATURAL COMPACTION OR, IF NECESSARY ROLLED WITH A WATER–FILLED LANDSCAPE ROLLER. SLIGHTLY OVERFILL THE FACILITY ABOVE PROPOSED FINISHED GRADE TO ACCOMMODATE NATURAL SETTLEMENT.
16. AFTER THE STORMWATER FACILITY CONSTRUCTION STARTS, THE BES INSPECTOR IS REQUIRED TO CHECK ON THE PROGRESS OF THE JOB AS NECESSARY UNTIL THE FACILITY HAS BEEN PLANTED. CONSTRUCTION DELAY WILL RESULT IN ADDITIONAL FEES.
17. FOLLOWING SWALE CONSTRUCTION, PLANTING SHALL OCCUR BETWEEN SEPTEMBER 1 AND NOVEMBER 1, OR BETWEEN FEBRUARY 1 AND APRIL 15. IF CONSTRUCTION IS COMPLETED DURING THESE TIME PERIODS, PLANTING SHALL OCCUR IMMEDIATELY. IF CONSTRUCTION IS COMPLETED OUTSIDE OF THESE TIME PERIODS, TOPSOIL SHALL BE COVERED ENTIRELY WITH NORTH AMERICAN GREEN C125BN EROSION CONTROL FABRIC, SECURED WITH 12" WOODEN ECOSTAKE (18" ON–CENTER). PLANTS SHALL BE INSTALLED THROUGH HOLES CUT IN THE EROSION CONTROL FABRIC, AND FABRIC SHALL BE RESTAKED SECURELY FOR STABILITY AND SOIL COVERAGE FOLLOWING PLANTING.
18. CONTRACTOR TO PLACE EROSION CONTROL FABRIC OVER STORMWATER FACILITY AND SURROUNDING AREA TO PREVENT EROSION DURING WET WEATHER CONDITIONS. FABRIC SHALL BE 100% BIODEGRADABLE COIR FABRIC (NORTH AMERICAN C125BN OR APPROVED EQUAL).
19. PLANTS SHALL BE INSPECTED AND APPROVED BY BES REVEGETATION PROGRAM PRIOR TO PLANTING. CONTACT THE BES PUBLIC WORKS INSPECTOR.

PLANTING DETAILS
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS ★ PLANNERS
LANDSCAPE ARCHITECTS ★ SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED
747
JEFFERY P. CREEL
OREGON
05/13/11
LANDSCAPE ARCHITECT

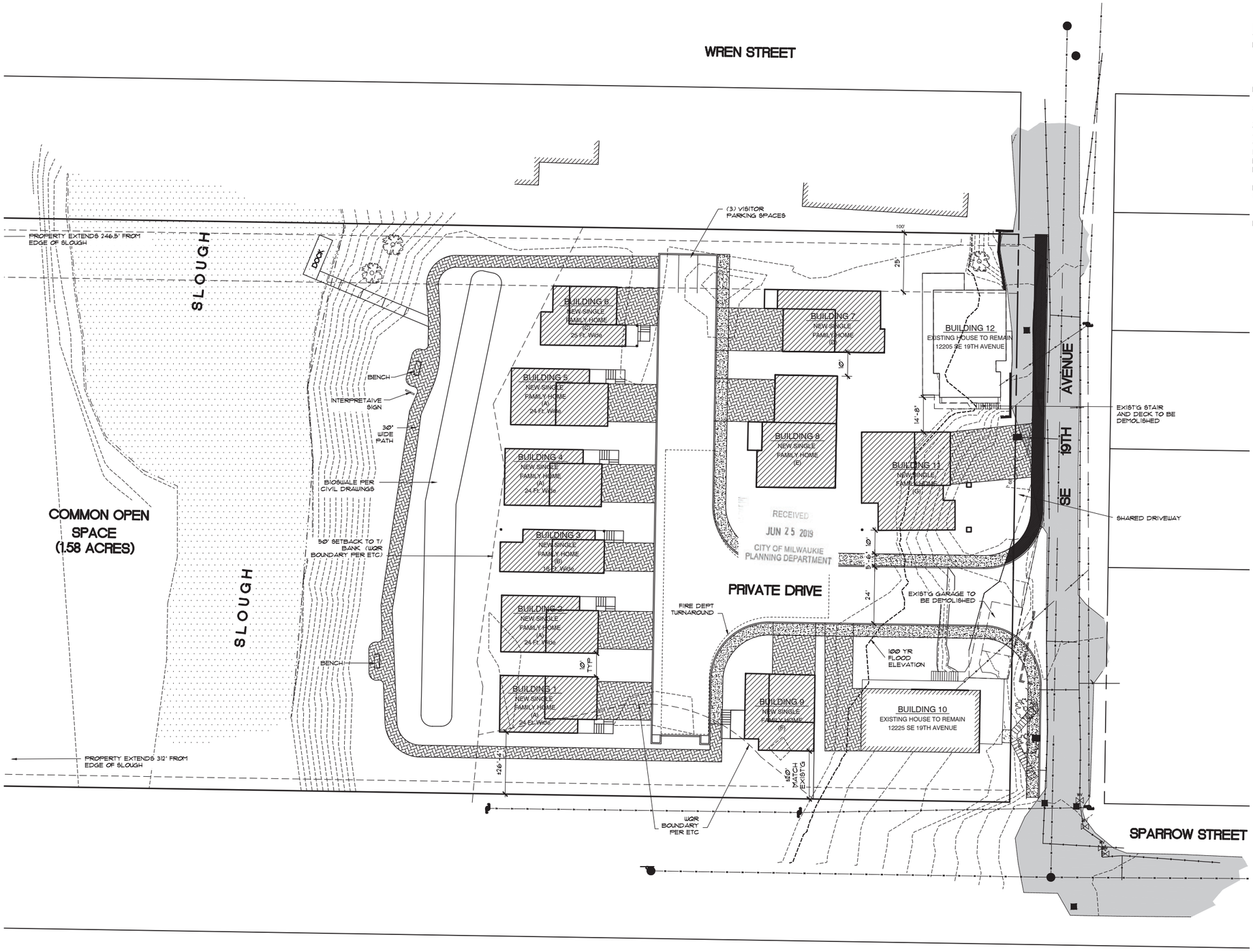
DESIGNED:	DRAWN:	CHECKED:	DATE:
JPC	JPC	KKV	JUNE 2019

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO.
8

JOB NO.
MSC-221



PRELIMINARY SITE PLAN

1" = 20.0'

PROJECT INFORMATION

PROJECT DESCRIPTION	RESIDENTIAL CLUSTER DEVELOPMENT W/ 12 DETACHED SINGLE FAMILY HOMES (10 NEW AND 2 EXISTING)
PROPERTY LOCATION	TAX LOTS 3200/ 3300 TAX MAP 1 1E, 35DD)
ADDRESS	12205/ 12225 SE 19TH AVE MILWAUKIE, OR 97206
ZONE	R-5
SITE AREA	3.66 ACRES
COMMON AREA	1.58 ACRES
NET BUILDABLE AREA	2.08 ACRES
MAXIMUM DENSITY	90,605/ 5,000 = 18.12 DWELLINGS
PROPOSED DEVELOPMENT	12 DWELLING UNITS
BUILDING COVERAGE	8.1%
VEGETATIVE COVERAGE	83.66%
PARKING	
REQUIRED	12 SPACES
PROVIDED	37 SPACES (19 IN PRIVATE GARAGES, 15 AT DRIVEWAYS, 3 VISITOR SPACES)

RECEIVED
JUN 25 2019
CITY OF MILWAUKIE
PLANNING DEPARTMENT

ISELIN ARCHITECTS P.C.
1307 Seventh Street
Oregon City, OR 97045
503-656-1942 ph
503-656-0658 fax
www.iselinarchitects.com

NOT FOR PRELIMINARY CONSTRUCTION

GILLIS PROPERTIES
ELK ROCK ESTATES
12225/ 12205 SE 19TH
Milwaukie, OR

PROJ. NO. :	1738
FILE :	A-SIT
DATE :	6/24/19

SHEET #
A0
SITE PLAN

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS ◆ PLANNERS
LANDSCAPE ARCHITECTS ◆ SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
PHONE: 503.221.1131 www.hhpr.com FAX: 503.221.1171

Job No.: MSC-221

Date: June 20, 2019

To: Vera Kolias, AICP
City of Milwaukie

From: Ken Valentine, PE

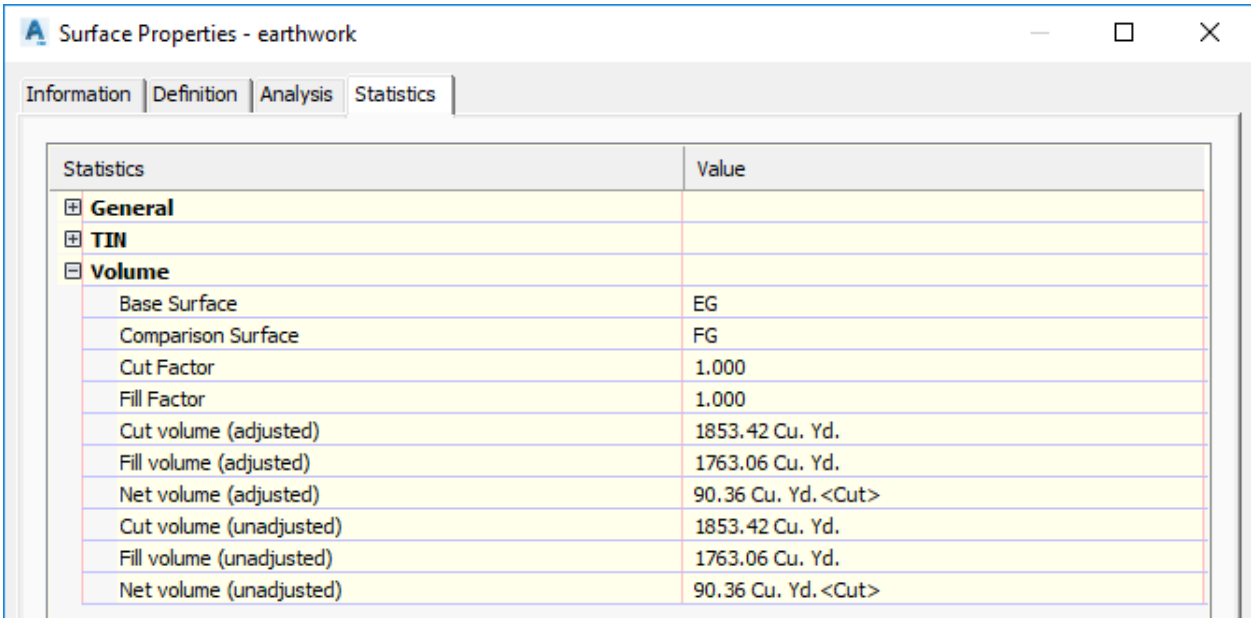
Project/Subject: **Elk Rock Estates – Site Civil Memorandum**

The Elk Rock Estates project is located adjacent to the Willamette River in Milwaukie, Oregon. The property consists of two tax lots, 3200 being 1.34 acres and 3300 being 2.32 aces in size. The project will create 10 new single family residences and preserve two existing single family residences. A large portion of the site falls within the 100-year floodplain as identified in the Flood Insurance Study (FIS) 41005CV001A. The FIS shows a cross section directly through the site labeled “E” also known as river mile 19.1. The base flood elevation (BFE) at this cross section is 36.4 feet above mean sea level based on the 1988 vertical datum. The grading goal for the project is achieve a balanced cut and fill or a not net fill within the 100-year flood plain.

The proposed grading plan was prepared by first grading an access from 19th Avenue sloping down into the site from the east creating a Tee intersection with access running north and south form the Tee. According to the City of Milwaukie Comprehensive Plan all streets are required to be one foot above the base flood elevation. The City of Milwaukie has stated that the access should be considered a street because it provides access to the majority of the proposed homes. Therefore, the roadway grading was established to meet the City’s criteria to be one foot above the BFE. The access is proposed as twenty-four wide paved surface with crowned centerline and two percent cross slopes. The driveways for each home were then graded to match into the proposed access and sloped down at four to six percent into the proposed garages. The garages were then assumed to be level without regard to the BFE because they are not considered living spaces. The minimum finish floor grades for the houses were set at one foot above the BFE per code. The building foundations will be constructed on existing grade with concrete stem walls. The foundation walls will be constructed per FEMA Technical Bulletin FEMATB-11 for building constructed in Special Flood Hazard Areas. The foundations will be constructed with flood vents and the crawl spaces will not be constructed no more than feet below the lowest adjacent grade. Further foundation discussion is included in the flood plain fringe velocity section of this memorandum. A water quality swale was designed using the Portland PAC calculator. The swale is proposed west of the lower buildings above the floodway and ordinary high water line. Cuts and fills on various locations on the site were determined through a trial and error process with the goal of a balanced or net cut scenario.

A proposed grading plan was created using Autodesk Civil3d software and a finish surface was created. An existing grade surface was created by combining metro lidar data with field shot topographic information. The finish grade surface was then laid over the existing grade surface and an earthwork surface was created. The earthwork surface boundary is the BFE line. All earthwork at and below the BFE and below was calculated using the triangulation of each surface. The analysis determined the cut volume within the flood plain is 1,853.42 cubic yards and fill

volume is 1,763.06 cubic yards with a net cut of 90.36 cubic yards. Additional grading details will be developed during the construction document stage, but this analysis demonstrates that it is possible to develop the site and balance the earthwork within the flood plan.



Statistics	Value
General	
TIN	
Volume	
Base Surface	EG
Comparison Surface	FG
Cut Factor	1.000
Fill Factor	1.000
Cut volume (adjusted)	1853.42 Cu. Yd.
Fill volume (adjusted)	1763.06 Cu. Yd.
Net volume (adjusted)	90.36 Cu. Yd.<Cut>
Cut volume (unadjusted)	1853.42 Cu. Yd.
Fill volume (unadjusted)	1763.06 Cu. Yd.
Net volume (unadjusted)	90.36 Cu. Yd.<Cut>

Figure 1 - Autodesk Civil3d Cut/Fill Results

Flood Plain Fringe Velocity

The staff report dated May 20, 2019 states that the area where the houses are proposed would be subject to velocities of 5.9 feet per section based on the mean velocity at cross section E of the flood insurance study. The staff report correctly states that the mean velocity is not a good measure of the fringe velocity. The mean velocity is a simple mathematic calculation dividing the flow in cubic feet per second by the cross sectional area measured in square feet to achieve a foot per second number. This calculation is never accurate for determining the fringe velocities due to changing roughness coefficients in the fringe. The center of the channel is generally where the highest velocities are measured because there is less friction and lower Manning's coefficient of roughness. The fringe which is covered in thick vegetation and rock outcroppings has a higher Manning's coefficient thereby reducing the fringe velocities. The best known ways to determine actual fringe velocity is by actual measurement during the event or by modeling the river using a FEMA approved software such as HECRAS developed by the US Army Corp of Engineers. Measuring during the actual event is unpractical, therefore the HECRAS results are the accepted practice by FEMA.

As stated above, the proposed project is located at river mile 19.1 and can be located in the Flood Insurance Study (FIS) 41005CV001A at cross section E. The FIS states that the peak discharges for the Willamette River were based on stage-frequency curves for gauges at the Willamette Falls Locks and Wilsonville. The model for the Willamette River is a backwater model adjusted by modeling the 1964 flood and matching the elevations obtained at three cross sections in the river. FEMA does not have official HECRAS models for the Willamette River, so the BFE data and velocities are based on very old hydraulic analysis and measurements. A HECRAS model was developed of Willamette River from the Oregon City Falls to the confluence with the Columbia

River as part of the Tilikum Crossing bridge project. The model was prepared by West Consultants and a Letter Map Revision was submitted to FEMA. The model is the best representation of the river conditions available today. A copy of the model was acquired to assist in the design of the Elk Rock Estates project.

The model results for cross section E of the FIS indicate that the fringe velocities are 0.95 fps for the left overbank and 1.33 fps for the right overbank (The proposed site). A copy of the analysis results are attached to this memo. These velocities are well below the mean velocity of 5.9 fps. The FEMA Technical Bulletin 1 "*Openings in Foundation Walls and Walls of Enclosures*" dated August 2008 identified for special treatment and design. The document also states that parking of vehicles, building access, storage and crawlspaces are allowed below the BFE and that using perimeter foundation walls that create enclosed areas so long as flow is allowed utilizing flood openings. City code MMC 18.04150G states that crawl spaces are should not be used when velocities exceed 5 fps. The model results indicate the velocities are much lower than 5 fps. See additional memo titled "Staff Report Response to Floodplain Impacts".

Cross Section Output

File Type Options Help

River: Willamette River Profile: 100-yr

Reach Upper Portland RS: 19.1 Plan: Proposed

Plan: Proposed Willamette River Upper Portland RS: 19.1 Profile: 100-yr

E.G. Elev (ft)	36.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.56	Wt. n-Val.	0.060	0.035	0.090
W.S. Elev (ft)	36.40	Reach Len. (ft)	2300.00	2480.00	2200.00
Crit W.S. (ft)	-28.48	Flow Area (sq ft)	163.85	59459.08	8567.44
E.G. Slope (ft/ft)	0.000137	Area (sq ft)	163.85	59459.08	9250.65
Q Total (cfs)	375000.00	Flow (cfs)	157.94	363471.50	11370.53
Top Width (ft)	1953.62	Top Width (ft)	14.31	1336.92	602.39
Vel Total (ft/s)	5.50	Avg. Vel. (ft/s)	0.96	6.11	1.33
Max Chl Dpth (ft)	104.90	Hydr. Depth (ft)	11.45	44.47	18.22
Conv. Total (cfs)	32052270.0	Conv. (cfs)	13499.8	31066900.0	971869.8
Length Wtd. (ft)	2475.66	Wetted Per. (ft)	27.00	1377.18	475.71
Min Ch El (ft)	-68.50	Shear (lb/sq ft)	0.05	0.37	0.15
Alpha	1.20	Stream Power (lb/ft s)	2225.00	0.00	0.00
Frctn Loss (ft)	0.18	Cum Volume (acre-ft)	748.51	50712.02	2908.42
C & E Loss (ft)	0.08	Cum SA (acres)	126.64	1036.09	163.13

Figure 2 HEC-RAS Cross Section Results

FEMA Technical bulletin 11 provides guidance for designing buildings in the floodplain with crawl spaces. The proposed buildings will incorporate design incompliance with FEMA guidelines. Compliant openings in the foundation walls will be incorporated into the designs and garage floors below the BFE are approved in the FEMA bulletin 1. Whether or not the garages are elevated should be a final design decision and will comply with applicable regulations and FEMA guidelines.

The staff report also discusses the elevation for the building access drive. Whether the access is required be one foot above the BFE or not the roadway and subsequent cut/fill ratio can be designed to provide for a "No-rise" situation. Typically the final analysis is completed after land use approval and after incorporating conditions of approval. I have completed many projects

within regulated floodplains that have either incorporated a balanced cut/fill ratio, demonstrated no negative impacts through a no-rise analysis or both. Preliminary analysis has demonstrated that a balanced cut/fill can be achieved based the proposed grading plan. The conditions of approval should include a requirement to meet MMC 18 and the final analysis will be completed once the conditions of approval have been issued and accepted.

Stormwater Management

The site is located at the intersection of 19th Avenue and Sparrow Street in Milwaukie, Oregon. The proposed development includes construction of a shared access way and 10 new single family dwellings developed as a cluster development. The site is made up of two tax lots that extend from 19th Avenue west across a slough on to Elk Island within the Willamette River.

This drainage report addresses the best practices (BMP) for the new impervious surfaces including roof runoff. Water quality treatment will be completed using a vegetated swale.

Existing Site Conditions

The existing site includes two existing homes fronting 19th Avenue. 19th Avenue is lighting improved with an asphalt roadway. The Sparrow Street right of way extends along the south of the property but is unimproved. The site slopes down from east to west to the Willamette River. There is an existing sanitary sewer that transects about the middle of the property north to south. The site is primarily covered in grasses with trees on the fringes. A portion of the site is within the AE flood hazard area as depicted on the FEMA Firm Map number 41005C0017D. The maps indicates that cross E is directly on the property. The FEMA flood insurance study 41005CV001A dated June 17, 2008 indicates the base flood elevation is 36.4 msl based on the NAVD 88 vertical datum.

The USDA Web Soil Survey shows the pre-developed conditions in this area as Newberg fine sandy loam, map unit 67, with hydrologic soil group A.

Soils curve numbers were based on the existing ground cover and hydrologic soil grouping.

Curve numbers: 98 for impervious Area
49 for fair conditions grass cover soil type A

Proposed Site Improvements

The improvements include construction of a shared access way constructed of asphalt paving and concrete curbs. The pavement will be 24' wide and approximately 348 linear feet. There will be 10 new single family homes of various sizes with driveways. The proposed access way and the houses on the east side of the proposed access way will be collected via pipes and catch basins. The runoff will be directed to a vegetated infiltration swale. The proposed buildings on the west side of the access way will be daylighted and flow to the vegetated swale. The vegetated swale will provide water quality before discharging to the Willamette River.

The City of Milwaukie has adopted the City of Portland Stormwater Management Manual (SWMM). The site's impervious surfaces must be managed per the SWMM. Per the SWMM, the Stormwater Infiltration and Discharge Hierarchy is to be used to determine the feasibility of the stormwater option to be used for the site. The following addresses each category in the Hierarchy;

Category 1: Requires total onsite infiltration with vegetated infiltration facilities.

The site will not use a total onsite infiltration basin.

Category 2: Requires total onsite infiltration with a vegetated facility that overflows to a subsurface infiltration facility.

The site will not overflow to a subsurface infiltration facility.

Category 3: Requires onsite detention with vegetated facilities that overflow to a drainage way, river, or storm-only pipe.

The site will overflow to the Willamette River.

Table 1 City of Portland Stormwater Management Requirements

Design Requirement	City of Portland
Treatment Area	All Area within Limits of Improvements
Treatment Storm	70% TSS removal from 90% avg. annual runoff
Detention	• 2-year post-developed to ½ 2 year pre-developed runoff • 5-year post-developed runoff to 5-year pre-developed runoff • 10-year post-developed runoff to 10-year pre-developed runoff • 25-year post-developed runoff to 25-year pre-developed runoff

Flow Control

Flow control is not required for discharges flowing to the Willamette River per the SWMM.

Water Quality

All impervious surfaces will be directed a vegetated swale designed using the SWMM presumptive approach calculator (PAC). The proposed development will create 29,834 new impervious surfaces. A vegetated swale will be located west of the developed area closest to the Willamette River. A slough is located west of the developed area and east of Elk Island. The swale will collect and provide treatment before discharging to the slough. The discharge will be located above the ordinary high water line estimated to be at or near the 20 foot contour line.

Conveyance

The onsite storm pipe system has been designed using the rational method. The pipes will be privately maintained and no portion of the system will be publicly owned or maintained by the City of Milwaukie. The maximum pipe size will be 10 inch with a minimum slope of 1%. There is no downstream analysis required because the system will discharge to the Willamette River.

Conclusion

The vegetated swale has been sized to treat all impervious surfaces associated with the development per the SWMM and PAC. The stormwater system will be maintained by the development. No detention is required because the system ultimately discharges to the

Willamette River. The design meets or exceeds the City of Milwaukie requirements for stromwater management. A formal drainage report will be submitted with construction permitting.

Exhibits

Existing Conditions Map
Proposed Conditions Map
PAC Report
Soil Survey Hydrologic Group Data

SE WREN STREET

5.0'

HABITAT CONSERVATION AREA

EXISTING HOUSE TO REMAIN
12205 SE 19TH AVE

ORDINARY HIGH WATER LINE ELEVATION: 20.0

FLOODWAY FIS MAP: 41005C0017D

EXISTING ROW LINE

100 YEAR FLOOD PLAIN ELEVATION: 36.4

SE 19TH AVENUE

50' SETBACK TO T/BACK

EX 8" SANITARY

EXISTING HOUSE TO REMAIN
12205 SE 19TH AVE

5.0'

EXISTING PROPERTY LINE

SE SPARROW STREET

0 10 20 40
SCALE: 1" = 20'

P:\MSC (Gillis Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DOCS\REPORTS\STORM - (Storm Report)\MSC221 - 2 - Existing Condition.dwg

EXISTING CONDITION
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 13, 1995
KENNETH K. VALENTINE
EXPIRES: 06/30/20

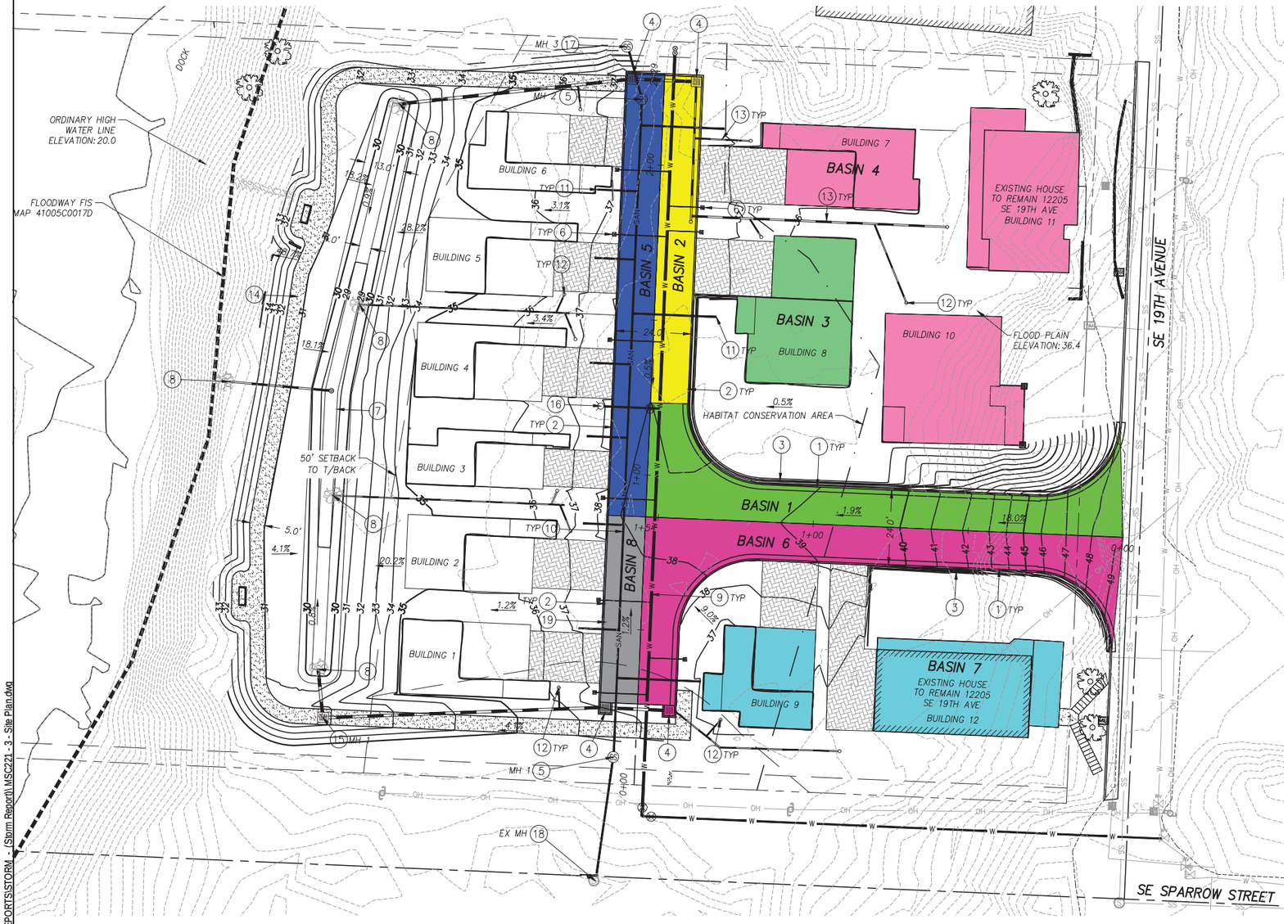
DESIGNED:	KKV
DRAWN:	HHPR TEAM
CHECKED:	KKV
DATE:	JUNE 2019

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO.
E

JOB NO.
MSC-221



0 10 20 40

SCALE: 1" = 20'

CONSTRUCTION NOTES:

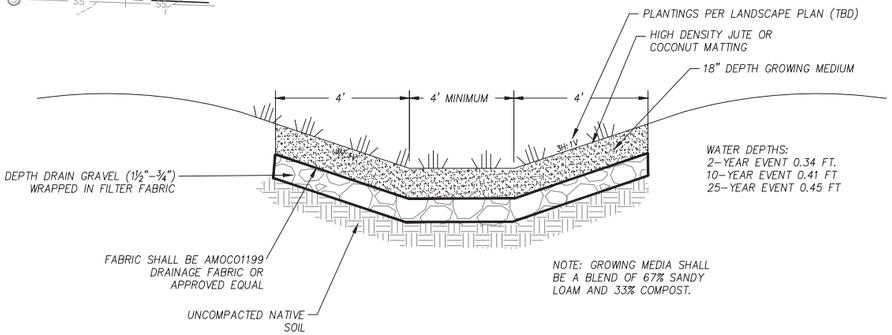
1. INSTALL STANDARD CURB AND GUTTER.
2. INSTALL MOUNTABLE CURB.
3. INSTALL MODULAR BLOCK RETAINING WALL.
4. INSTALL STANDARD CATCH BASIN.
5. INSTALL 48" STANDARD SANITARY MANHOLE
6. INSTALL WATER METER
7. CONSTRUCT WATER QUALITY SWALE. SEE BELOW.
8. CONSTRUCT STORM WATER OUTFALL WITH RIPRAP
9. INSTALL 8" WATER LINE
10. INSTALL 8" SANITARY SEWER LINE
11. INSTALL SANITARY SEWER LATERAL
12. INSTALL STORM CLEANOUT
13. INSTALL STORM SEWER LATERAL
14. CONSTRUCT PEDESTRIAN TRAIL
15. INSTALL 48" STANDARD STORM MANHOLE
16. INSTALL FIRE HYDRANT
17. INSTALL STANDARD 48" SANITARY MANHOLE OVER EXTG. 8" SANITARY LINE. PLUG AND ABANDON EXTG. SANITARY PIPE TO THE SOUTH. CONTRACTOR TO POTHOLE AND VERIFY LOCATION AND ELEVATION PRIOR TO CONSTRUCTION.
18. CONNECT TO EXTG. SANITARY MANHOLE. PLUG AND ABANDON EXTG. SANITARY PIPE TO THE NORTH.
19. ABANDON EXTG. SANITARY SEWER IN PLACE. REMOVE PORTIONS OF PIPE THAT ARE IN CONFLICT WITH PROPOSED FACILITIES.

PROPOSED LEGEND:

- SAN — SANITARY LINE
- W — WATER LINE
- STORM LINE
- CURB
- ATRIUM INLET
- PEDESTRIAN PATH
- MAJOR CONTOUR – 5' INTERVALS
- MINOR CONTOUR – 1' INTERVALS
- SD — STORM MANHOLE
- SS — SANITARY MANHOLE
- CLEANOUT
- CATCH BASIN
- FIRE HYDRANT
- 2% — FLOW ARROW AND SLOPE

IMPERVIOUS AREA BASIN DATA

- BASIN 1 – 2,502 SF 0.06 AC
- BASIN 2 – 1,326 SF 0.03 AC
- BASIN 3 – 4,870 SF 0.11 AC
- BASIN 4 – 1,150 SF 0.03 AC
- BASIN 5 – 2,937 SF 0.07 AC
- BASIN 6 – 5,756 SF 0.13 AC
- BASIN 7 – 2,775 SF 0.06 AC
- BASIN 8 – 771 SF 0.02 AC



STORM WATER QUALITY SWALE

N.T.S.

PROPOSED CONDITIONS AND BASINS MAP
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

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REGISTERED PROFESSIONAL ENGINEER OREGON JULY 13, 2005 KENNETH K. VALENTINE 50,102

EXPIRES: 06/30/20

DESIGNED:	KKV
DRAWN:	HHPR TEAM
CHECKED:	KKV
DATE:	JUNE 2019

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO.

P

JOB NO. MSC-221

P:\MSC (Gillis Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DOCS\REPORTS\STORM - (Storm Report)\MSC221 - 3 - Site Plan.dwg

PAC Report

Project Name **Milwaukie Cluster Development**	Permit No.	Created **11/15/18 10:02 AM**
Project Address **12205 SE 19th Street Milwaukie, OR 97222**	Designer **Ken Valentine**	Last Modified **6/12/19 1:40 PM**
	Company **HHPR**	Report Generated **6/12/19 1:40 PM**

Project Summary

Riverside Cluster Development

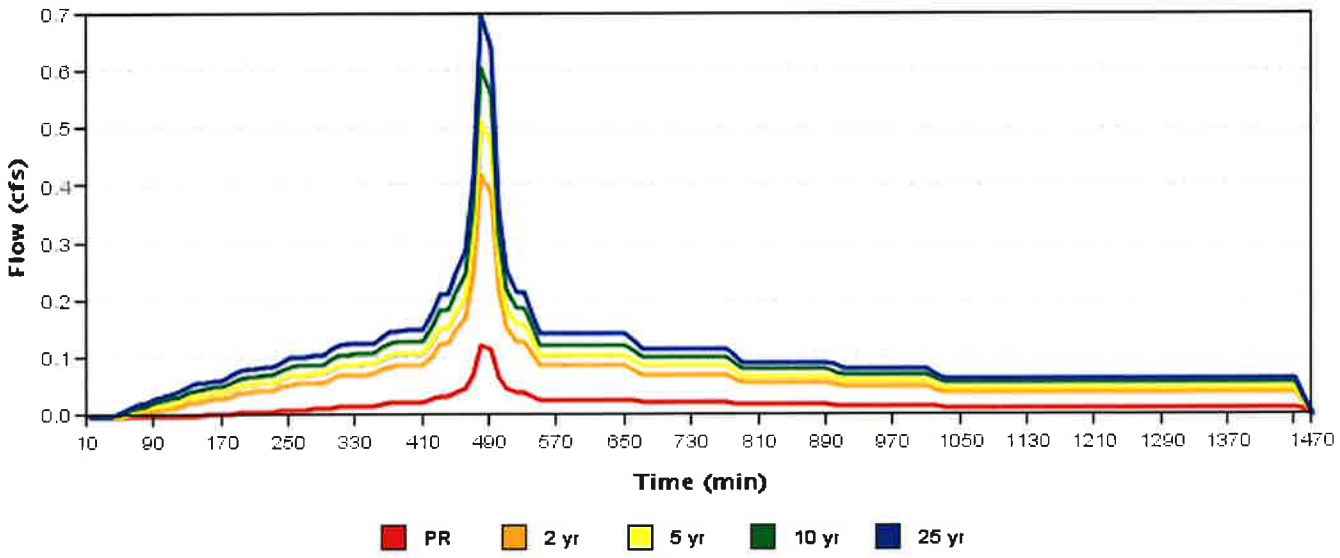
Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
Combined	29834	0.10	3	Swale	C		2.7%	Pass	Not Used

Catchment Combined

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	**Open Pit Falling Head**
	Native Soil Infiltration Rate (I_{test})	**0.10**
Correction Factor	CF_{test}	**2**
Design Infiltration Rates	Native Soil (I_{dsgn})	**0.05 in/hr**
	Imported Growing Medium	**2.00 in/hr**
Catchment Information	Hierarchy Category	**3**
	Disposal Point	**A**
	Hierarchy Description	**Off-site flow to drainageway, river, or storm-only pipe system**
	Pollution Reduction Requirement	**Pass**
	10-year Storm Requirement	**N/A**
	Flow Control Requirement	**N/A**
	Impervious Area	**29834 sq ft** **0.685 acre**
	Time of Concentration (Tc)	**5**
	Pre-Development Curve Number (CN_{pre})	**72**
	Post-Development Curve Number (CN_{post})	**98**

Indicates value is outside of recommended range

SBUH Results



	Pre-Development Rate and Volume		Post-Development Rate and Volume	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
PR	0	1.72	0.123	1558.91
2 yr	0.037	1187.167	0.421	5398.339
5 yr	0.086	1862.761	0.514	6634.829
10 yr	0.142	2625.513	0.607	7873.169
25 yr	0.204	3456.774	0.7	9112.677

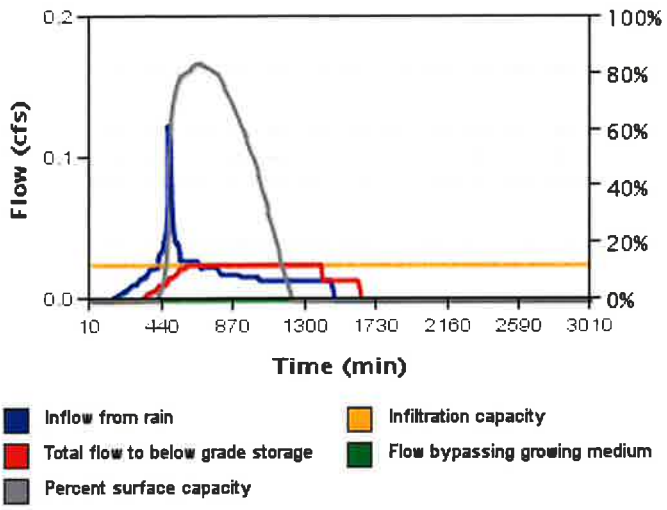
Facility Combined

Facility Details	Facility Type	**Swale**
	Facility Configuration	**C: Infl. with RS and underdrain (Ud)**
	Facility Shape	**Sloped**
	Above Grade Storage Data	
	Growing Medium Depth	**18 in**
	Surface Capacity at Depth 1	**305.4 cu ft**
	Design Infiltration Rate for Native Soil	**0.000 in/hr**
	Infiltration Capacity	**0.025 cfs**
	Below Grade Storage Data	
	Rock Storage Depth	**12 in**
	Rock Porosity	**0.30 in**
	Storage Depth 3	**12.0 in**
Facility Facts	Total Facility Area Including Freeboard	**800.00 sq ft**
	Sizing Ratio	**2.7%**
Pollution Reduction Results	Pollution Reduction Score	**Pass**
	Overflow Volume	**1437.734 cf**
	Surface Capacity Used	**84%**
	Rock Capacity Used	**100%**
Flow Control Results	Flow Control Score	**Not Used**
	Overflow Volume	**7748.830 cf**
	Surface Capacity Used	**100%**
	Rock Capacity Used	**100%**

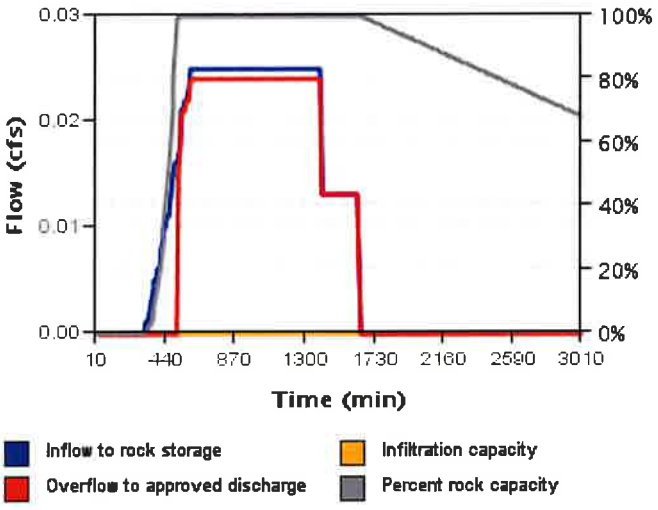
Sloped Facility Worksheet

#	Segment Length (ft)	Check Dam Length (ft)	Slope, v/h (ft/ft)	Bottom Width (ft)	Right Side Slope, h/v (ft/ft)	Left Side Slope, h/v (ft/ft)	Downstream Depth (in)	Landscape Width (ft)	Rock Storage Width (ft)
1	20.00	1.00	0.0100	4.00	3.0	3.0	9.0	10.00	4.00
2	20.00	1.00	0.0100	4.00	3.0	3.0	9.0	10.00	4.00
3	20.00	1.00	0.0100	4.00	3.0	3.0	9.0	10.00	4.00
4	20.00	1.00	0.0100	4.00	3.0	3.0	9.0	10.00	4.00

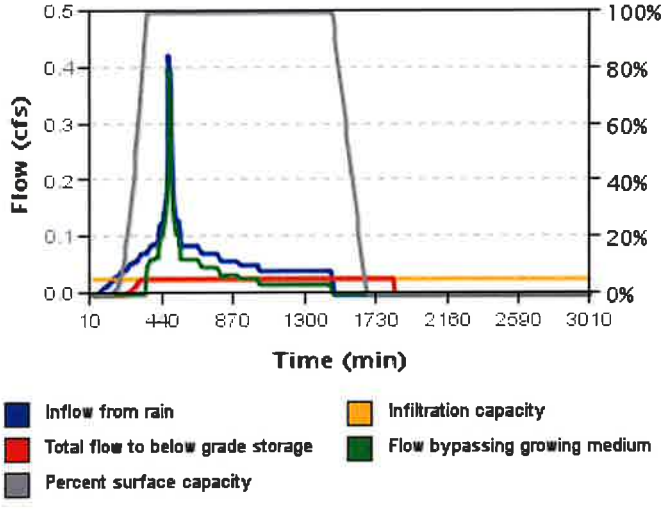
Pollution Reduction Event Surface Facility Modeling



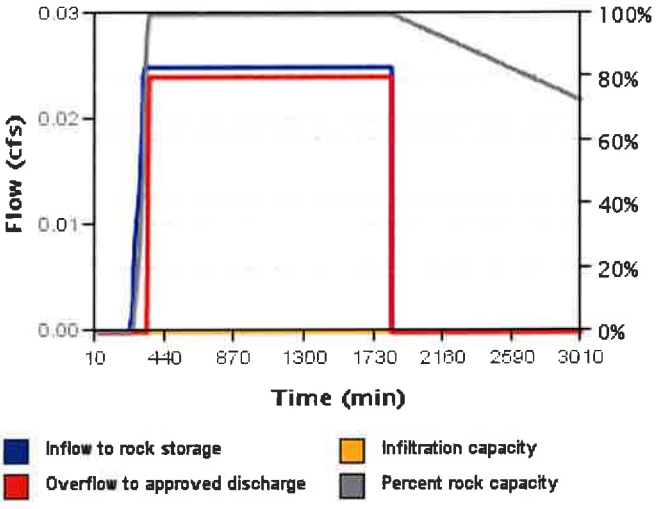
Pollution Reduction Event Below Grade Modeling



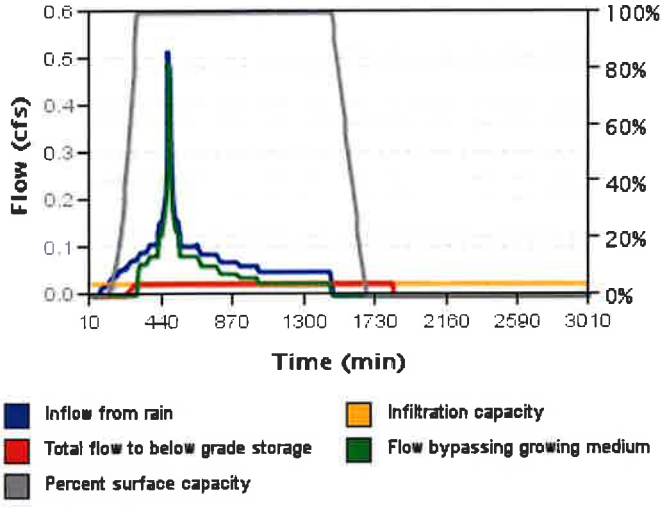
2 Year Event Surface Facility Modeling



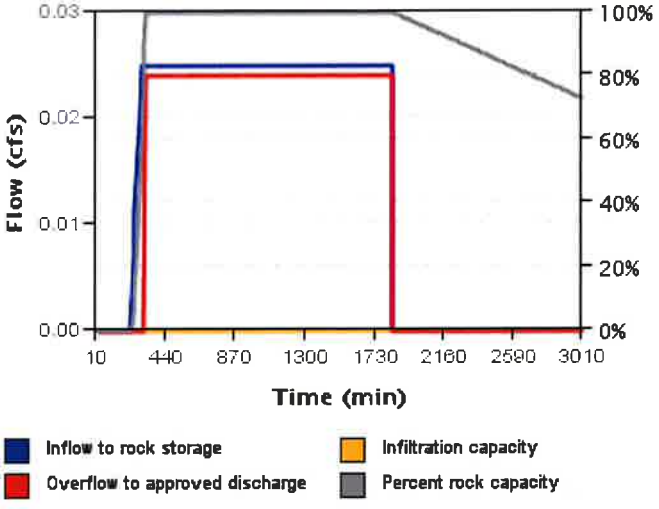
2 Year Event Below Grade Modeling



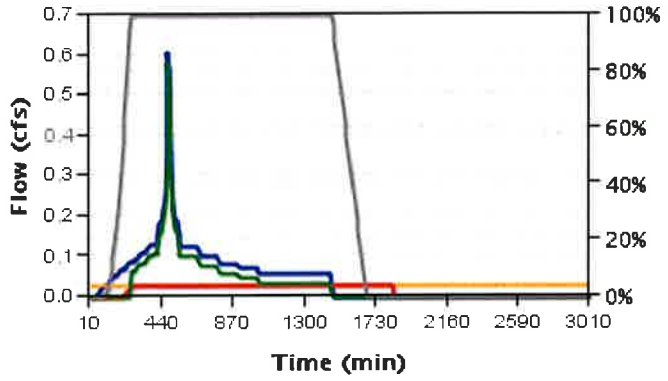
5 Year Event Surface Facility Modeling



5 Year Event Below Grade Modeling

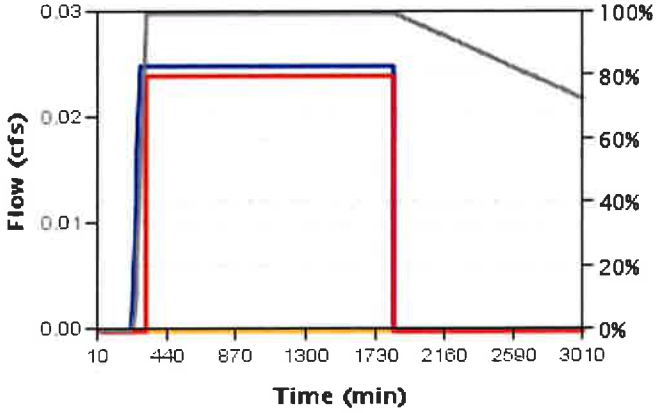


10 Year Event Surface Facility Modeling



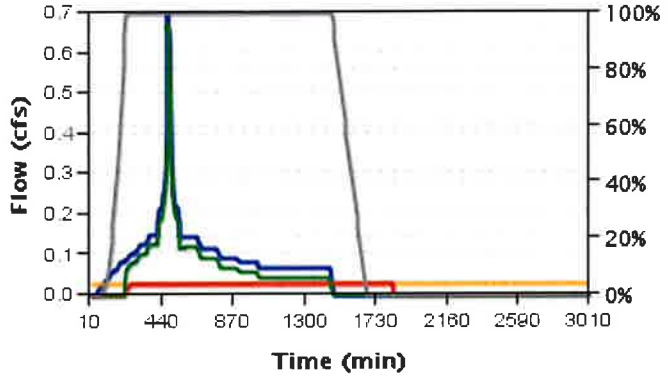
Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

10 Year Event Below Grade Modeling



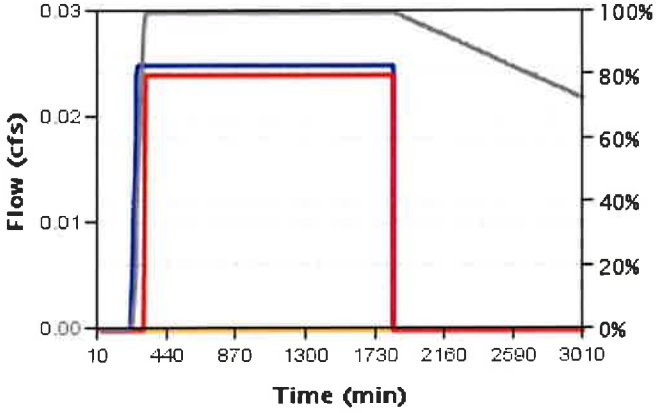
Inflow to rock storage
Infiltration capacity
Overflow to approved discharge
Percent rock capacity

25 Year Event Surface Facility Modeling



Inflow from rain
Infiltration capacity
Total flow to below grade storage
Flow bypassing growing medium
Percent surface capacity

25 Year Event Below Grade Modeling



Inflow to rock storage
Infiltration capacity
Overflow to approved discharge
Percent rock capacity

Milwaukie Cluster

2-year Flow Swale depth

Man-Made Channels

CIVIL TOOLS PRO
English Units
06-18-2019 09:30:28

Results

Flow Depth	=	0.34 ft
Flowrate	=	0.42 cfs
Bottom Width	=	4.00 ft
Side Slope (H:V)	=	3.0000 H:V
Channel Slope (V:H)	=	0.0100 V:H
Manning's N	=	0.250
Wetted Area	=	1.68 sq ft
Wetted Perimeter	=	6.12 ft
Velocity	=	0.25 fps
Froude No.	=	0.08
Flow Regime	=	Sub-Critical

Milwaukie Cluster

10-year Flow Swale depth

Man-Made Channels

CIVIL TOOLS PRO
English Units
06-18-2019 09:29:29

Results

Flow Depth	=	0.41 ft
Flowrate	=	0.60 cfs
Bottom Width	=	4.00 ft
Side Slope (H:V)	=	3.0000 H:V
Channel Slope (V:H)	=	0.0100 V:H
Manning's N	=	0.250
Wetted Area	=	2.13 sq ft
Wetted Perimeter	=	6.58 ft
Velocity	=	0.28 fps
Froude No.	=	0.09
Flow Regime	=	Sub-Critical

Milwaukie Cluster

25-year Flow Swale depth

Man-Made Channels

CIVIL TOOLS PRO
English Units
06-18-2019 09:30:00

Results

Flow Depth	=	0.45	ft
Flowrate	=	0.70	cfs
Bottom Width	=	4.00	ft
Side Slope (H:V)	=	3.0000	H:V
Channel Slope (V:H)	=	0.0100	V:H
Manning's N	=	0.250	
Wetted Area	=	2.38	sq ft
Wetted Perimeter	=	6.82	ft
Velocity	=	0.29	fps
Froude No.	=	0.09	
Flow Regime	=	Sub-Critical	

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Clackamas County Area, Oregon

Milwaukie Cluster Development

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Scale: 1:1,520 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 14, Sep 18, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
67	Newberg fine sandy loam	8.9	73.1%
91B	Woodburn silt loam, 3 to 8 percent slopes	2.1	17.4%
93E	Xerochrepts-Rock outcrop complex, moderately steep	0.2	1.4%
W	Water	1.0	8.1%
Totals for Area of Interest		**12.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

67—Newberg fine sandy loam

Map Unit Setting

National map unit symbol: 226g
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Newberg and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Newberg

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 14 inches: fine sandy loam
H2 - 14 to 23 inches: fine sandy loam
H3 - 23 to 42 inches: fine sand
H4 - 42 to 60 inches: extremely gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Wapato

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: Yes

Aquolls

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

91B—Woodburn silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 227z
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodburn and similar soils: 90 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodburn

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 16 inches: silt loam
H2 - 16 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 25 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C
Forage suitability group: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Huberly
Percent of map unit: 2 percent
Landform: Swales on terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Dayton
Percent of map unit: 1 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Aquolls
Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

93E—Xerochrepts-Rock outcrop complex, moderately steep

Map Unit Setting
National map unit symbol: 2282
Elevation: 100 to 500 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition
Xerochrepts and similar soils: 60 percent
Rock outcrop: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerochrepts

Setting
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from andesite and/or basalt

Typical profile

H1 - 0 to 26 inches: gravelly loam
H2 - 26 to 30 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 30 percent
Depth to restrictive feature: 10 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 30 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

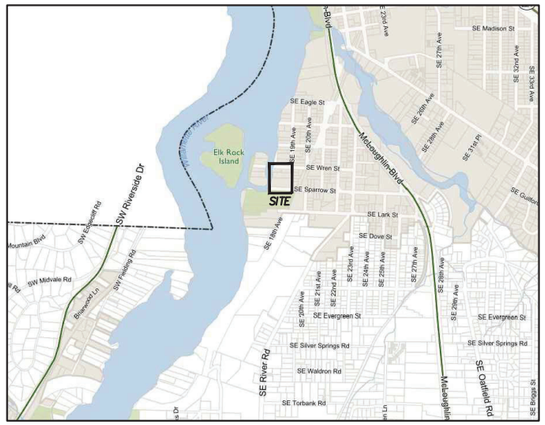
Description of Water

Interpretive groups

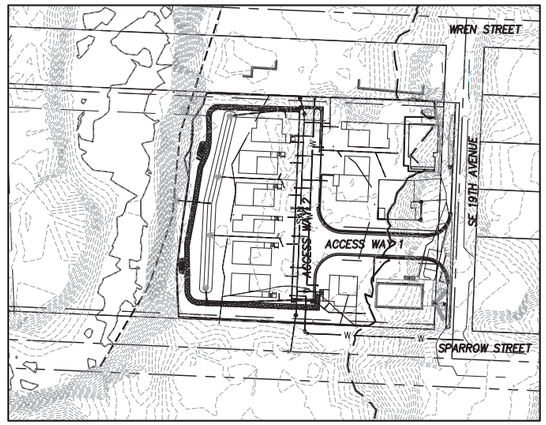
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Yes

RIVER CLUSTER DEVELOPMENT

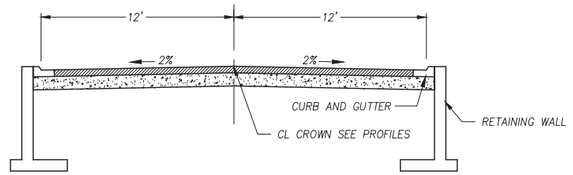
MILWAUKIE, OREGON



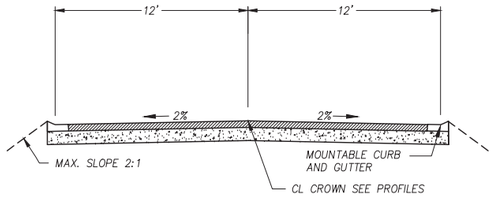
VICINITY MAP
NTS



SITE PLAN
NTS



TYPICAL SECTION ACCESS WAY 1
N.T.S.



TYPICAL SECTION ACCESS WAY 2

GENERAL NOTES

WORK SHALL CONFORM WITH OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION (APWA), OREGON DEPARTMENT OF TRANSPORTATION (ODOT), CITY OF MILWAUKIE STANDARDS, APPLICABLE UTILITY PROVIDER STANDARDS, THE INTERNATIONAL BUILDING CODE (IBC), AND THE UNIFORM PLUMBING CODE (UPC).

EXISTING UTILITIES SHOWN ON THE PLANS ARE PER SURFACE LOCATIONS AND AS-BUILT DRAWINGS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY ALL EXISTING INVERT ELEVATIONS PRIOR TO MAKING CONNECTIONS TO EXISTING STRUCTURES OR CONSTRUCTING NEW MANHOLES OVER EXISTING PIPES. ANY REQUIRED CHANGES TO THE PLAN MUST BE APPROVED THROUGH THE ENGINEER.

TRAFFIC CONTROL DEVICES, FLAG PERSONS, ETC., SHALL BE IN PLACE PRIOR TO INITIATION OF CONSTRUCTION WORK AND SHALL BE EFFECTIVELY MAINTAINED.

ALL TRAFFIC CONTROL DEVICES TO CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), (CURRENT EDITION).

EXCAVATOR(S) MUST COMPLY WITH O.R.S. 757.541 THROUGH 757.571; EXCAVATOR(S) SHALL NOTIFY ALL UTILITY COMPANIES FOR LINE LOCATIONS 72 HOURS (MIN.) PRIOR TO START OF WORK. DAMAGE TO UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION NOISE AND PROJECT WORK TIMES SHALL COMPLY WITH CURRENT LOCAL AND STATE REGULATIONS.

ALL MANHOLES AND VALVE LIDS SHALL BE CONSTRUCTED LEVEL WITH THE FIRST LIFT OF PAVEMENT. WHEN THE SECOND LIFT OF PAVEMENT IS PLACED THE MANHOLE LIDS AND VALVE COVERS SHALL BE ADJUSTED TO FINISH GRADE. MANHOLES TO BE ADJUSTED WITH STEEL OR C.I. 1-1/2" RISER RING.

ALL WASTE MATERIALS INCLUDING STRIPING MUST BE DISPOSED IN A MANNER CONFORMING TO LOCAL, STATE AND FEDERAL REQUIREMENTS. STRIPING SHALL BE STOCKPILED OR DISPOSED OF ON LOTS. ANY EXCESS EXCAVATED MATERIAL DEEMED SUITABLE FOR CONSTRUCTION OF STRUCTURAL FILLS BY THE PROJECT GEOTECHNICAL ENGINEER SHALL BE COMPACTED TO SPECIFICATIONS BELOW. STOCKPILED MATERIALS SHALL BE COVERED WITH BLACK PLASTIC OR STRAW AND SURROUNDED BY STRAW BALES TO ELIMINATE SEDIMENT TRANSPORT.

ALL BURIED UTILITY MAINS AND LATERALS (EXCEPT AT WATER METERS & VALVE BOXES) LOCATED WITHIN THE RIGHT-OF-WAY SHALL HAVE A MINIMUM 30-INCH COVER TO FINISH GRADE AND BE PLACED PRIOR TO PAVING.

GRADING AND COMPACTION

ALL STRUCTURAL FILLS SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR EQUIVALENT STANDARD (AASHTO T-180). SUBGRADE SHALL BE COMPACTED TO 92% RELATIVE DENSITY. ASPHALT CONCRETE SHALL BE COMPACTED TO 92% RELATIVE DENSITY. CRUSHED ROCK SHALL BE COMPACTED TO 95% RELATIVE DENSITY.

ALL FILL ON LOTS SHALL BE CONSIDERED STRUCTURAL FILL AND SHALL BE COMPACTED TO 95% RELATIVE DENSITY OF IN-PLACE DENSITY OF SURROUNDING SOIL.

CONTRACTOR TO PROOF ROLL SUBGRADE, WITH ENGINEER AND LOCAL JURISDICTION INSPECTOR, PRIOR TO CRUSHED ROCK PLACEMENT AND PRIOR TO PAVING AND CURB INSTALLATION.

PAVING

ASPHALTIC CONCRETE (A.C.) PAVEMENT SHALL BE LEVEL 2, 1/2" DENSE HMAC MIXTURE WITH 20% RECYCLED MATERIALS AS DEFINED IN SECTION 745, 2015 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, (ODOT).

CRUSHED ROCK SHALL BE SIZED AS SHOWN ON PLAN AND SHALL BE CONSTRUCTED AS DEFINED IN SECTION 641, 2015 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, (ODOT).

STORM SEWER

PIPE AND ALL ASSOCIATED MATERIALS AND FITTINGS SHALL CONFORM TO EITHER 1) ADS N-12 IB WT (WATER TIGHT) OR 2) SDR 35 PVC (ASTM D3034 AND ASTM F679 FOR LARGER PIPES) WITH GASKETED BELL END OR 3) OTHER APPROVED MATERIALS. CONSTRUCTION SHALL CONFORM TO MILAUKIE ENGINEERING STANDS SECTION 2.000.

SANITARY SEWER

PIPE AND ALL ASSOCIATED MATERIALS AND FITTINGS SHALL BE SDR 35 PVC ASTM D3034 WITH GASKETED BELL END AND BE INSTALLED PER CITY OF MILWAUKIE ENGINEERING STANDARDS SECTION 3.0000.

WATER

PIPE AND ALL ASSOCIATED MATERIALS AND FITTINGS SHALL BE DUCTILE IRON PIPE AND BE INSTALLED PER CITY OF MILWAUKIE ENGINEERING STANDARDS SECTION 4.0000.

OWNER

GILLIS PROPERTIES LLC
CONTACT: MATT GILLIS
11650 SW 67TH AVE, STE. 210
TIGARD, OREGON 97223
PHONE: 661-810-2344

ARCHITECT

ISELIN ARCHITECTS, PC
CONTACT: TODD ISELIN
1307 SEVENTH STREET
OREGON CITY, OREGON 97045
PHONE: 503-656-1942

ENGINEER

HARPER HOUF PETERSON RIGHELLIS INC.
CONTACT: KEN VALENTINE, PE
205 SE SPOKANE STREET #200
PORTLAND, OREGON 97202
PHONE: 503-221-1131
FAX: 503-221-1171

SURVEYOR

HARPER HOUF PETERSON RIGHELLIS INC.
CONTACT: THOM WALKER
205 SE SPOKANE STREET #200
PORTLAND, OREGON 97202
PHONE: 503-221-1131

PROJECT LOCATION

12205 SE 19TH STREET
MILWAUKIE, OREGON 97222
LATITUDE: 45° 26' 7"
LONGITUDE: -122° 38' 40"

PROJECT DESCRIPTION

2S, 11E, SECTION 35DD TAX LOT 3200 AND 3300
CLACKAMAS COUNTY, OREGON
R-5 ZONE

SHEET INDEX

RECEIVED
JUN 25 2019
CITY OF MILWAUKIE
PLANNING DEPARTMENT

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

COVER SHEET
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 13, 1990
KENNETH K. VALENTINE
EXPIRES: 06/30/20

DESIGNED:	DRAWN:	CHECKED:	DATE:
KKV	HHPR TEAM	KKV	JUNE 2019

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO. 1

JOB NO. MSC-221

P:\MSC (Gillis Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DWGS\SHEETS\ MSC221 - 1 - Cover.dwg

SE WREN STREET

SHED

5.0'

CONCRETE RUBBLE WALLS

CAUTION GAS IN THIS VICINITY

LIVE TREE -FELL WEST

CONCRETE RUBBLE WALL

PATH

CONCRETE RUBBLE WALLS

HABITAT CONSERVATION AREA

EXISTING HOUSE TO REMAIN
12205 SE 19TH AVE

RR TIE WALL
4" CONCRETE WAL

EXISTING STAIRS AND DECK TO BE DEMOLISHED

ORDINARY HIGH WATER LINE ELEVATION: 20.0

FLOODWAY FIS MAP 41005C0017D

EXISTING ROW LINE

100 YEAR FLOOD PLAIN ELEVATION: 36.4

SE 19TH AVENUE

50' SETBACK TO T/BACK

EX 8" SANITARY

EXISTING GARAGE TO BE DEMOLISHED

EXISTING STAIRS AND DECK TO BE DEMOLISHED

EXISTING HOUSE TO REMAIN
12205 SE 19TH AVE

5.0'

EXISTING PROPERTY LINE

SE SPARROW STREET

0 10 20 40
SCALE: 1" = 20'

EXISTING CONDITION
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 13, 2007 KENNETH K. WESTLUND
EXPIRES: 06/30/20

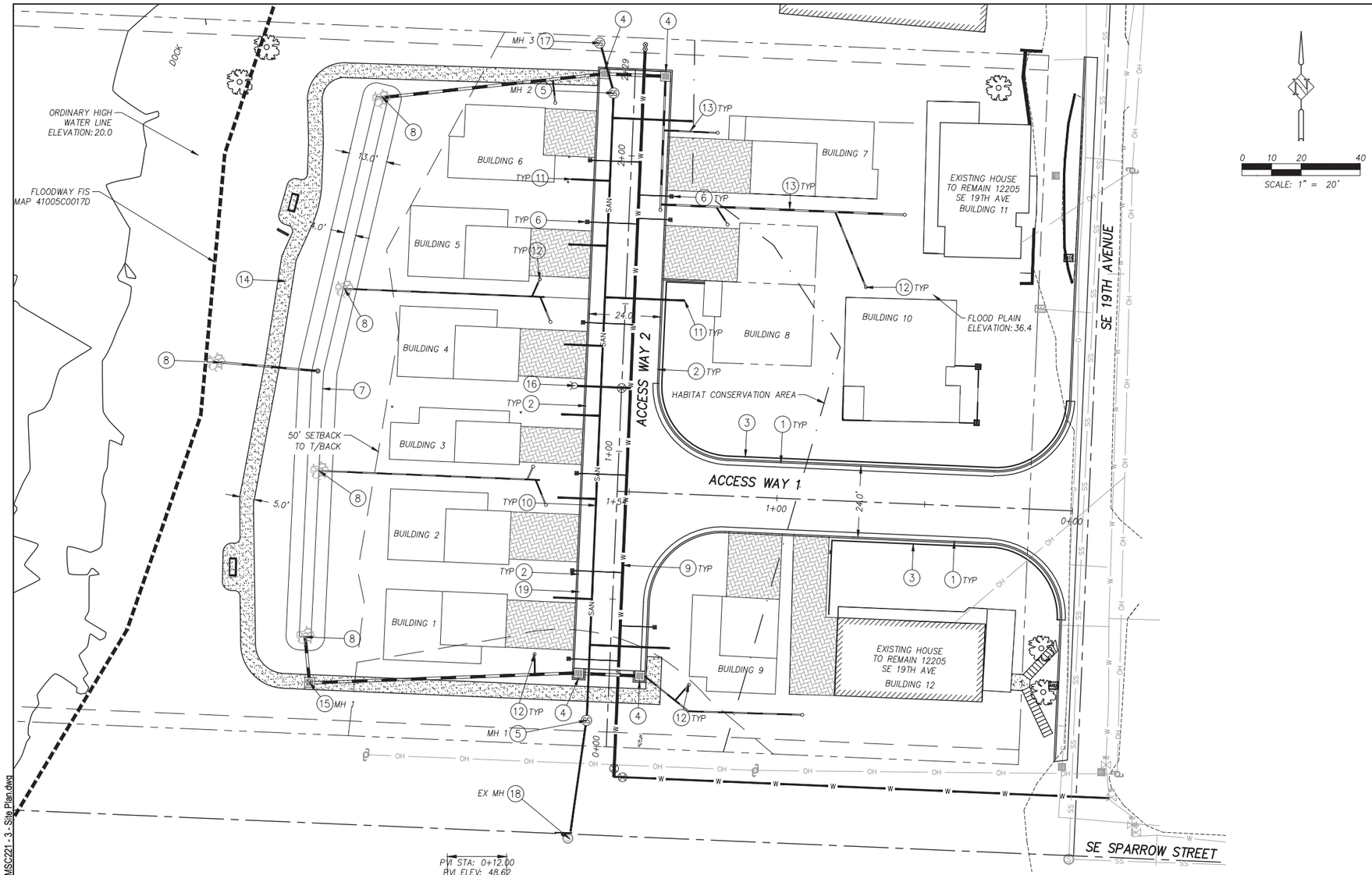
DESIGNED:	KKV
DRAWN:	HHPR TEAM
CHECKED:	KKV
DATE:	JUNE 2019

REVISIONS

DATE	NO.	DESCRIPTION
APRIL 2019	1	REVISED GRADING

SHEET NO.

JOB NO. MSC-221



0 10 20 40

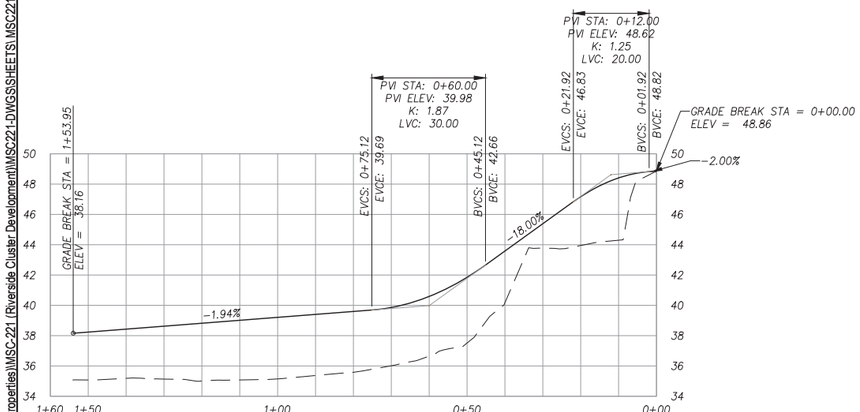
SCALE: 1" = 20'

CONSTRUCTION NOTES:

1. INSTALL STANDARD CURB AND GUTTER.
2. INSTALL MOUNTABLE CURB.
3. INSTALL MODULAR BLOCK RETAINING WALL.
4. INSTALL STANDARD CATCH BASIN.
5. INSTALL 48" STANDARD SANITARY MANHOLE
6. INSTALL WATER METER
7. CONSTRUCT WATER QUALITY SWALE. SEE SHEET 6 FOR DETAIL.
8. CONSTRUCT STORM WATER OUTFALL WITH RIPRAP
9. INSTALL 8" WATER LINE
10. INSTALL 8" SANITARY SEWER LINE
11. INSTALL SANITARY SEWER LATERAL
12. INSTALL STORM CLEANOUT
13. INSTALL STORM SEWER LATERAL
14. CONSTRUCT PEDESTRIAN TRAIL
15. INSTALL 48" STANDARD STORM MANHOLE
16. INSTALL FIRE HYDRANT
17. INSTALL STANDARD 48" SANITARY MANHOLE OVER EXTG. 8" SANITARY LINE. PLUG AND ABANDON EXTG. SANITARY PIPE TO THE SOUTH. CONTRACTOR TO POTHOLE AND VERIFY LOCATION AND ELEVATION PRIOR TO CONSTRUCTION.
18. CONNECT TO EXTG. SANITARY MANHOLE. PLUG AND ABANDON EXTG. SANITARY PIPE TO THE NORTH.
19. ABANDON EXTG. SANITARY SEWER IN PLACE. REMOVE PORTIONS OF PIPE THAT ARE IN CONFLICT WITH PROPOSED FACILITIES.

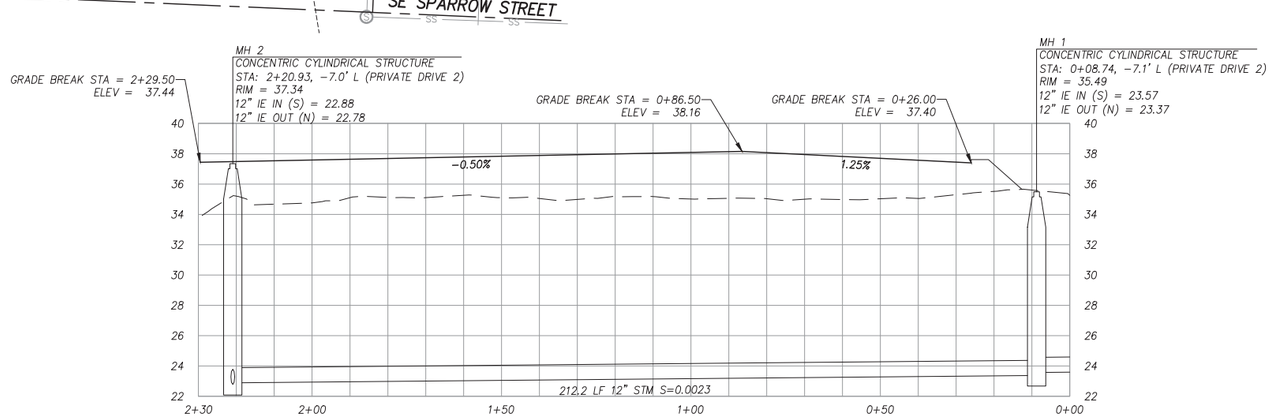
PROPOSED LEGEND:

- SAN — SANITARY LINE
- W — WATER LINE
- STORM LINE
- CURB
- ATRIUM INLET
- PEDESTRIAN PATH
- MAJOR CONTOUR – 5' INTERVALS
- MINOR CONTOUR – 1' INTERVALS
- SD — STORM MANHOLE
- SS — SANITARY MANHOLE
- CLEANOUT
- CATCH BASIN
- FIRE HYDRANT



ACCESS WAY 1

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



ACCESS WAY 2

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

SITE AND UTILITY PLAN
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS★SURVEYORS
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REGISTERED PROFESSIONAL ENGINEER — OREGON — KENNETH K. KLEIN — 50,102 — EXPIRES: 06/30/20

DESIGNED:	DRAWN:	CHECKED:	DATE:
KKV	HHPR TEAM	KKV	JUNE 2019

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO.
3

JOB NO.
MSC-221

P:\MSC (Gillis Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DWGS\SHEETS\ MSC221 - 3 - Site Plan.dwg

Surface Properties - earthwork

Information | Definition | Analysis | Statistics

Statistics	Value
General	
TIN	
Volume	
Base Surface	EG
Comparison Surface	FG
Cut Factor	1.000
Fill Factor	1.000
Cut volume (adjusted)	1853.42 Cu. Yd.
Fill volume (adjusted)	1763.06 Cu. Yd.
Net volume (adjusted)	90.36 Cu. Yd.<Cut>
Cut volume (unadjusted)	1853.42 Cu. Yd.
Fill volume (unadjusted)	1763.06 Cu. Yd.
Net volume (unadjusted)	90.36 Cu. Yd.<Cut>

EARTHWORK DATA:

SE WREN STREET

SE 19TH AVENUE

SE SPARROW STREET

PRIVATE DRIVE 1

PRIVATE DRIVE 2

DOCK

ORDINARY HIGH WATER LINE ELEVATION: 20.0

FLOODWAY FIS MAP 41005C0017D

FLOOD PLAIN ELEVATION: 36.4

HCA LINE

EXISTING HOUSE TO REMAIN 12205 SE 19TH AVE

FFE 36.23

FFE 37.40

FFE 35.2

PROPOSED LEGEND:

- SAN — SANITARY LINE
- W — WATER LINE
- STORM LINE
- ATRIUM INLET
- PEDESTRIAN PATH
- MAJOR CONTOUR – 5' INTERVALS
- MINOR CONTOUR – 1' INTERVALS
- RIP RAP

0 10 20 40

SCALE: 1" = 20'

GRADING PLAN
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

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REGISTERED PROFESSIONAL ENGINEER — OREGON JULY 13, 1979 — KENNETH K. VALENTINE — 90,102 — EXPIRES: 06/30/20

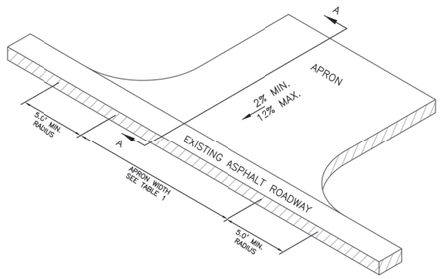
DESIGNED:	KKV
DRAWN:	HHPR TEAM
CHECKED:	KKV
DATE:	JUNE 2019

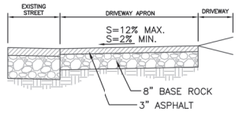
REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO. 4

JOB NO. MSC-221





CROSS SECTION A–A

TABLE 1 – DRIVEWAY APPROACH WIDTH		
CLASSIFICATION	MIN. WIDTH	MAX. WIDTH
1–2 RESIDENTIAL DWELLING UNITS	9.0'	20.0'
3 RESIDENTIAL DWELLING UNITS	16.0'	20.0'
4–7 RESIDENTIAL DWELLING UNITS	20.0'	24.0'
8 OR MORE RESIDENTIAL DWELLING UNITS	24.0'	36.0'

1. ALL PAVEMENT INSTALLATION SHALL BE HOT CLASS "C" MIX ASPHALT CONCRETE.
2. EXISTING ASPHALT CONCRETE IN FRONT OF THE DRIVEWAY APRON SHALL BE SAW CUT ALONG A LINE PARALLEL TO THE FRONTING PROPERTY LINE TO PROVIDE A CLEAN SURFACE FOR THE DRIVEWAY APPROACH TO TIE INTO.
3. SEAL ALL JOINTS WITH A HEAT APPLIED RUBBERIZED SEALANT. SEALANT SHALL CONFORM TO ASTM D6690 TYPE I, OR APPROVED EQUAL.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

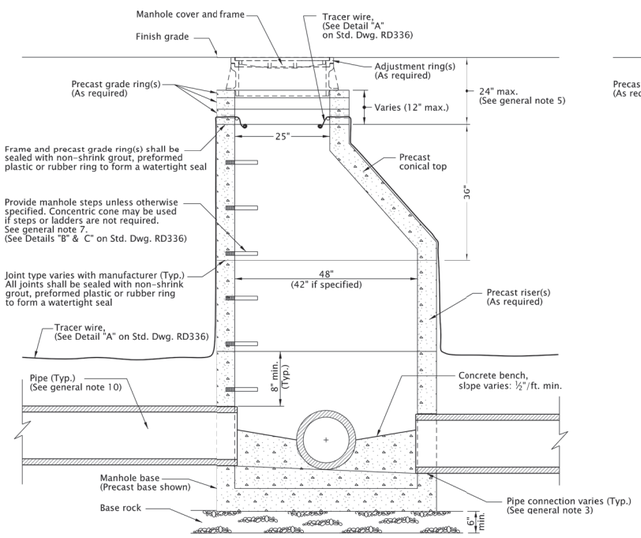
Asphalt Driveway Approach

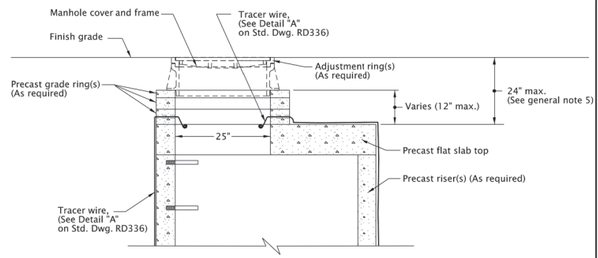
DRAWING NO. 502F

APPROVED _____ 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	UPDATED FOR CODE CHANGES	10/09	ZJW
2	GENERAL FORMATTING	12/10	MCP
3	CHANGED NOTE 3	12/14	AJR

RD338





GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
13. This detail limited to interior drop of 24".
    See Std. Dwgs. RD350 or RD352 for drop manhole details for drops in excess of 24".

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD SANITARY SEWER MANHOLE

2018

DATE	REVISION DESCRIPTION

RD338

Effective Date: December 1, 2018 – May 31, 2019

25-JUL-2017

rd338.dgn

DETAILS
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
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THE FOLLOWING LATEST VERSION OF THE OREGON STANDARD DRAWINGS PUBLISHED BY APWA/ODOT SHALL BE USED AS A CITY OF MILWAUKIE STANDARD WITH MILWAUKIE SPECIFIC REQUIREMENTS AS NOTED

OSSC STANDARD DRAWING NUMBER	OSSC STANDARD DRAWING NAME	MILWAUKIE EXCEPTION TO DRAWING
RD317	CULVERT EMBANKMENT AND RIPRAP PADS PROTECTION	NO EXCEPTION TAKEN
RD335	STANDARD STORM SEWER MANHOLE	NO MANHOLE STEPS
RD339	PIPE TO STRUCTURE CONNECTIONS	NO EXCEPTION TAKEN
RD340	STORM SEWER POLLUTION CONTROL MANHOLE	NO MANHOLE STEPS
RD344	STANDARD MANHOLE BASE SECTION	NO EXCEPTION TAKEN
RD345	PIPE TO MANHOLE CONNECTIONS	NO EXCEPTION TAKEN
RD360	MANHOLE FRAME ADJUSTMENT	NO EXCEPTION TAKEN
RD363	GUTTER TRANSITION AT INLET	NO EXCEPTION TAKEN
RD365	FRAMES & GRATES FOR CONCRETE INLETS	NO EXCEPTION TAKEN
RD370	DITCH INLET TYPE D	NO EXCEPTION TAKEN
RD372	CONCRETE INLET TOP, OPTION 1 TYPE CG–3	NO EXCEPTION TAKEN
DET1300	SEDIMENTATION MANHOLE	NO EXCEPTION TAKEN
DET1302	POLLUTION CONTROL MANHOLE	NO EXCEPTION TAKEN

NOTES:

1. STANDARD DRAWING PUBLISHED BY APWA/ODOT NOT LISTED SHALL NOT BE USED WITHOUT PRIOR APPROVAL BY THE PUBLIC WORKS DEPARTMENT

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

OSSC ACCEPTABLE STORM STANDARD DRAWINGS

DRAWING NO. 600

APPROVED _____ 11/18
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	NEW DRAWING	11/18	TAP

THE FOLLOWING LATEST VERSION OF THE OREGON STANDARD DRAWINGS PUBLISHED BY APWA/ODOT SHALL BE USED AS A CITY OF MILWAUKIE STANDARD WITH MILWAUKIE SPECIFIC REQUIREMENTS AS NOTED

OSSC STANDARD DRAWING NUMBER	OSSC STANDARD DRAWING NAME	MILWAUKIE EXCEPTION TO DRAWING
RD317	CULVERT EMBANKMENT AND RIPRAP PADS PROTECTION	NO EXCEPTION TAKEN
RD335	STANDARD STORM SEWER MANHOLE	NO MANHOLE STEPS
RD339	PIPE TO STRUCTURE CONNECTIONS	NO EXCEPTION TAKEN
RD340	STORM SEWER POLLUTION CONTROL MANHOLE	NO MANHOLE STEPS
RD344	STANDARD MANHOLE BASE SECTION	NO EXCEPTION TAKEN
RD345	PIPE TO MANHOLE CONNECTIONS	NO EXCEPTION TAKEN
RD360	MANHOLE FRAME ADJUSTMENT	NO EXCEPTION TAKEN
RD363	GUTTER TRANSITION AT INLET	NO EXCEPTION TAKEN
RD365	FRAMES & GRATES FOR CONCRETE INLETS	NO EXCEPTION TAKEN
RD370	DITCH INLET TYPE D	NO EXCEPTION TAKEN
RD372	CONCRETE INLET TOP, OPTION 1 TYPE CG–3	NO EXCEPTION TAKEN
DET1300	SEDIMENTATION MANHOLE	NO EXCEPTION TAKEN
DET1302	POLLUTION CONTROL MANHOLE	NO EXCEPTION TAKEN

NOTES:

1. STANDARD DRAWING PUBLISHED BY APWA/ODOT NOT LISTED SHALL NOT BE USED WITHOUT PRIOR APPROVAL BY THE PUBLIC WORKS DEPARTMENT

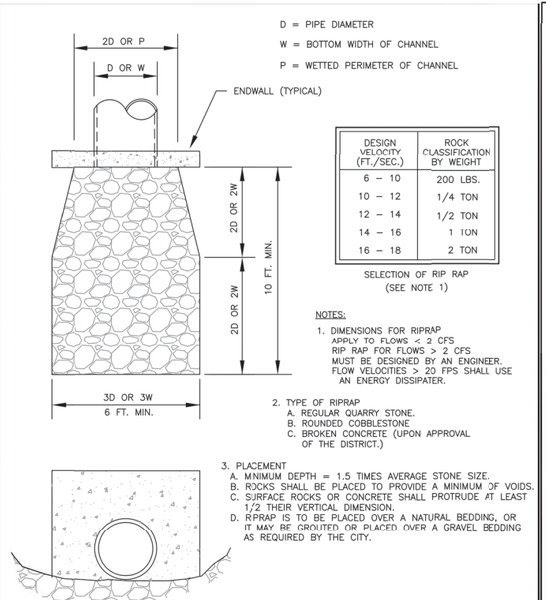
CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

OSSC ACCEPTABLE STORM STANDARD DRAWINGS

DRAWING NO. 600

APPROVED _____ 11/18
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	NEW DRAWING	11/18	TAP



D = PIPE DIAMETER
W = BOTTOM WIDTH OF CHANNEL
P = WETTED PERIMETER OF CHANNEL

DESIGN VELOCITY (FT./SEC.)	ROCK CLASSIFICATION BY WEIGHT
6 – 10	200 LBS.
10 – 12	1/4 TON
12 – 14	1/2 TON
14 – 16	1 TON
16 – 18	2 TON

SELECTION OF RIP RAP (SEE NOTE 1)

NOTES:

1. DIMENSIONS FOR RIPRAP APPLY TO FLOWS < 2 CFS. RIP RAP FOR FLOWS > 2 CFS MUST BE DESIGNED BY AN ENGINEER. FLOW VELOCITIES > 20 FPS SHALL USE AN ENERGY DISSIPATER.
2. TYPE OF RIPRAP
   A. REGULAR QUARRY STONE.
   B. ROUNDED COBBLESTONE
   C. BROKEN CONCRETE (UPON APPROVAL OF THE DISTRICT.)
3. PLACEMENT
   A. MINIMUM DEPTH = 1.5 TIMES AVERAGE STONE SIZE.
   B. ROCKS SHALL BE PLACED TO PROVIDE A MINIMUM OF VOIDS.
   C. SURFACE ROCKS OR CONCRETE SHALL PROTRUDE AT LEAST 1/2 THEIR VERTICAL DIMENSION.
   D. RIPRAP IS TO BE PLACED OVER A NATURAL BEDDING, OR IT MAY BE GROUTED OR PLACED OVER A GRAVEL BEDDING AS REQUIRED BY THE CITY.

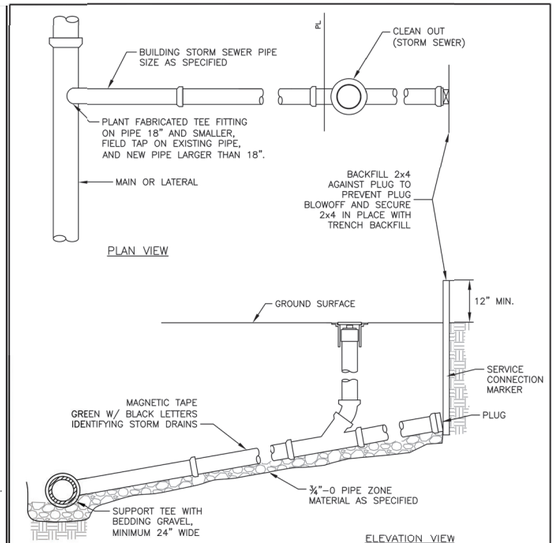
CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Riprap

DRAWING NO. 623

APPROVED _____ 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	ADJUSTED DRAWING NOTES TEXT SIZE	12/10	MCP
2	CHANGED DRAWING NUMBER	12/13	MTC



NOTE: HOUSE SERVICE LATERALS MAY BE CONNECTED TO MAIN TRUNK ONLY IF TRUNK LINE OUTFALLS TO A REGIONAL WATER QUALITY FACILITY. THE CONNECTION WILL BE REVIEWED AND APPROVED BY THE ENGINEERING DIRECTOR.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Storm Lateral Connection

DRAWING NO. 621

APPROVED _____ 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	ADDED HOUSE LATERAL NOTE	12/10	MCP
2	CHANGED DRAWING NUMBER	12/13	MTC

REGISTERED PROFESSIONAL ENGINEER — OREGON JULY 13, 1982 — KENNETH K. VAN NICE — EXPIRES: 06/30/20

DESIGNED:	KKV
DRAWN:	HHPR TEAM
CHECKED:	KKV
DATE:	JUNE 2019

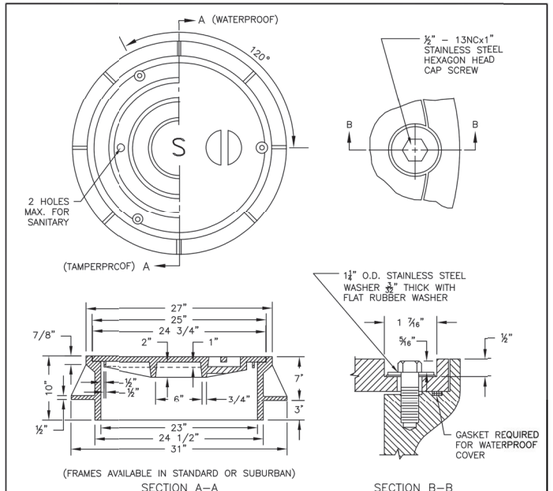
REVISIONS

DATE	NO.	DESCRIPTION
APRIL 2019	1	REVISED GRADING

SHEET NO. 5

JOB NO. MSC-221

P:\MSC-(Gills Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DWGS\SHEETS\ MSC221 - x - Details.dwg



(FRAMES AVAILABLE IN STANDARD OR SUBURBAN)

SECTION A–A

SECTION B–B

NOTES:

1. TAMPER PROOF COVERS REQUIRED ON SANITARY OR STORM MANHOLES LOCATED WITHIN UNIMPROVED EASEMENTS AND RIGHT–OF–WAY.
2. WATER TIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. COVER AND FRAME TO BE MACHINED FOR TRLE BEARING.
4. MATERIAL SHALL BE GREY CAST IRON ASTM A 48 CLASS 30.

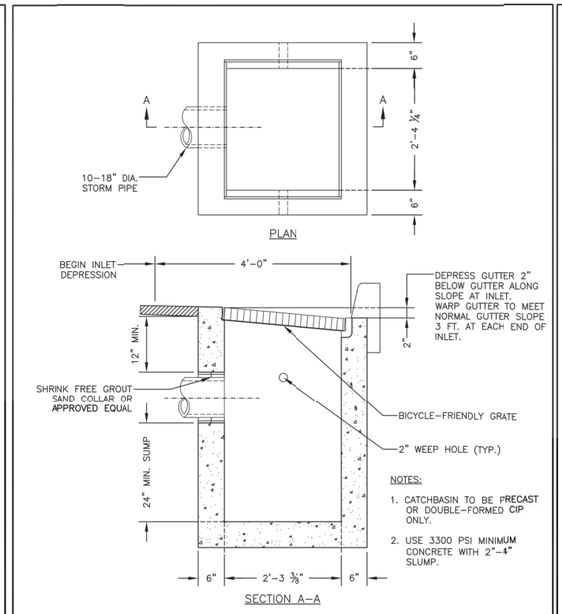
LIDS MAY BE PURCHASED FROM THE CITY OR THE MANUFACTURER

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Waterproof and Tamperproof Frame and Cover — DRAWING NO. 302

APPROVED Justin Dardenbach 11/18 — CITY ENGINEER — DATE

NO.	REVISIONS	DATE	BY
2	GENERAL FORMATTING	12/10	MCP
3	DRAWING NO. CHANGE, PURCHASING NOTE	12/13	MCP
4	DRAWING NO. CHANGE	11/18	TAP



SECTION A–A

NOTES:

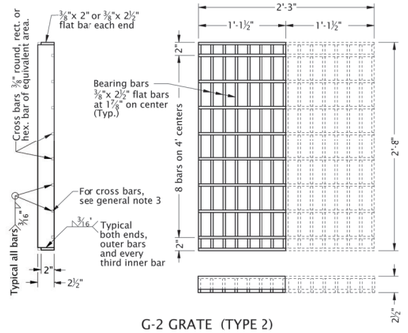
1. CATCHBASIN TO BE PRECAST OR DOUBLE–FORMED CIP ONLY.
2. USE 3300 PSI MINIMUM CONCRETE WITH 2"–4" SLUMP.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

G–2 Catchbasin — DRAWING NO. 601

APPROVED Justin Dardenbach 11/18 — CITY ENGINEER — DATE

NO.	REVISIONS	DATE	BY
1	ADJUST MIN. PIPE SIZE, FORMATTING	12/10	MCP
2	RENUMBERED DRAWING	11/18	TAP



G–2 GRATE (TYPE 2)

(Bicycle-safe)
(2 grates required per inlet, as shown)

NOTES:

1. FOR INLET DETAILS, SEE APPROPRIATE INLET STANDARD DRAWING (S).
2. ¾" CROSS BARS SHALL BE FLUSH WITH THE TOP OF GRATE SURFACE AND MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.
3. HOT DIP GALVANIZE AFTER FABRICATION.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

G–2 Catchbasin Grate — DRAWING NO. 604

APPROVED Justin Dardenbach 11/18 — CITY ENGINEER — DATE

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	DRAWING RENUMBERED	11/18	TAP

THE FOLLOWING LATEST VERSION OF THE OREGON STANDARD DRAWINGS PUBLISHED BY APWA/ODOT SHALL BE USED AS A CITY OF MILWAUKIE STANDARD WITH MILWAUKIE SPECIFIC REQUIREMENTS AS NOTED

OSSC STANDARD DRAWING NUMBER	OSSC STANDARD DRAWING NAME	MILWAUKIE EXCEPTION TO DRAWING
RD250	THRUST BLOCKING	NO EXCEPTION TAKEN
RD254	HYDRANT INSTALLATION	MEGALUG RESTRAINED JOINT
RD262	TYPICAL MAIN DEAD–END BLOWOFF ASSEMBLY	MEGALUG RESTRAINED JOINT
RD270	COMBINATION AIR RELEASE AIR VACUUM VALVE ASSEMBLY (2" AND SMALLER)	NO EXCEPTION TAKEN
RD282	WATER SAMPLING STATION	KUPFERLE ECLIPSE 88–SS WITH "CITY OF MILWAUKIE" LOGO CAST INTO ACCESS DOOR

NOTES:

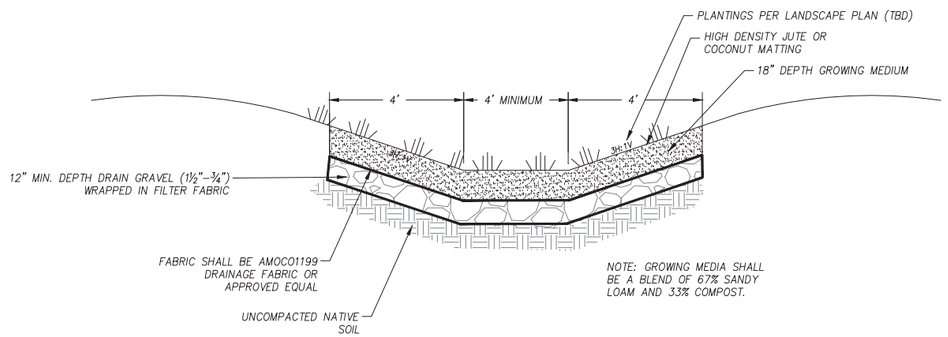
1. STANDARD DRAWING PUBLISHED BY APWA/ODOT NOT LISTED SHALL NOT BE USED WITHOUT PRIOR APPROVAL BY THE PUBLIC WORKS DEPARTMENT

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

OSSC ACCEPTABLE WATER STANDARD DRAWINGS — DRAWING NO. 400

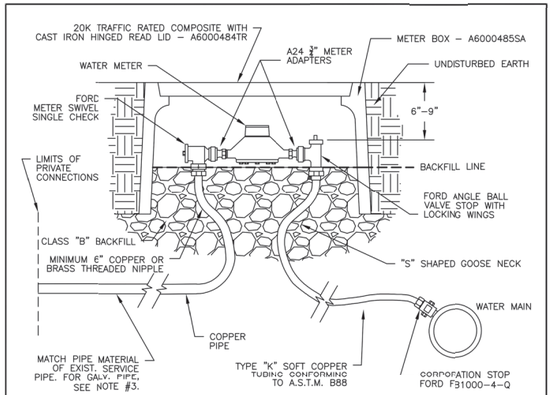
APPROVED Justin Dardenbach 11/18 — CITY ENGINEER — DATE

NO.	REVISIONS	DATE	BY
1	NEW DRAWING	11/18	TAP

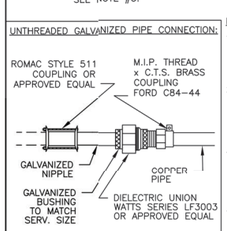


STORM WATER QUALITY SWALE

N.T.S.



UNTHREADED GALVANIZED PIPE CONNECTION:



NOTES:

1. IF COPPER TUBING CROSSES CATHODICALLY PROTECTED LINE, ENCASE COPPER IN POLYETHYLENE TUBING FOR 24" (CENTERED AT THE CROSSING LINE) AND FASTEN WITH 2" WIDE ADHESIVE TAPE THAT IS COMPATIBLE WITH POLYETHYLENE.
2. PLACE METER BOXES (1) LOCATED BEHIND THE SIDEWALK WHERE THERE IS SUFFICIENT RIGHT–OF–WAY, (2) WITHIN THE PLANTER STRIP, EXCLUDING WATER QUALITY FACILITIES, (3) WITHIN THE SIDEWALK WITH THE BACK OF THE METER BOX AT THE BACK EDGE OF THE SIDEWALK.
3. CONNECT GALVANIZED SERVICE PIPE; (1) AT EXISTING THREADED FITTING WITHIN 5 FEET OF WATER METER; (2) RETHREAD EXISTING GALVANIZED SERVICE PIPE, (3) IF EXISTING PIPE IS IN POOR CONDITION AND CANNOT BE RETHREADED, USE UNTHREADED GALVANIZED PIPE CONNECTION DETAIL.
4. IF METER BOX IS LOCATED IN THE SIDEWALK, DIELECTRIC UNION WILL BE INSTALLED (1) 6" FROM BACK OF METER INSIDE OF METER BOX, (2) BEHIND BACK OF SIDEWALK.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Standard 3/4 to 1 Inch Water Service — DRAWING NO. 401

APPROVED Justin Dardenbach 11/18 — CITY ENGINEER — DATE

NO.	REVISIONS	DATE	BY
4	REMOVED COPPERSETTER	11/13	AJR
5	ADDED DIELECTRIC UNION NOTE	12/14	AJR
6	ADDED 3/4" WATER SERVICE	11/18	TAP

DETAILS
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS • LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED PROFESSIONAL ENGINEER — OREGON JULY 17, 1999 — KENNETH K. WARMENTINE — 90,102 — EXPIRES: 06/30/20

DESIGNED:	DRAWN:	CHECKED:	DATE:
KKV	HHPR TEAM	KKV	JUNE 2019

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO. 6

JOB NO. MSC-221

P:\MSC (Gillis Properties)\MSC-221 (Riverside Cluster Development)\MSC221-DWG\SHEETS\ MSC221 - x - Details.dwg

0 10 20 40
SCALE: 1" = 20'

LEGEND – WATER QUALITY SWALE

ZONE B: 1470 SF

SHRUBS

20% Salix purpurea nana – Blue Arctic Willow
20% Rubus parviflorus – Thimbleberry
20% Gaultheria shallon – Salal
20% Mahonia nervosa – Dull Oregon Grape

103	20% Symphoricarpos alba – Common Snowberry
#1 CONT	FULL PLANTS IN DRIFTS OF 5 – 7 PLANTS

GROUNDCOVER

	50% Arctostaphylos uva-ursi – Kinnickinnick Bulrush
1029	50% Mahonia repens Creeping – Oregon Grape
#1 CONT	CONT., FULL PLANTS, 1' O.C.

ZONE A: 1035 SF

HERBACEOUS PLANTINGS

	25% Juncus patens – Sprain Rush
	25% Scriptus microcarpus – Small Fruited Bulrush
	25% Carex obnupta – Slough Sedge
828	25% Carex densa – Dense Sedge
#1 CONT	CONT., FULL PLANTS, 1.25' O.C.

CONSTRUCTION NOTES:

(1) INSTALL 18" DEEP STORMWATER FACILITY TOPSOIL IN SWALE. TOPSOIL SHALL MEET CITY OF PORTLAND SPECIFICATIONS FOR STORMWATER FACILITY TOPSOIL.

GENERAL PLANTING NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF PORTLAND STANDARDS AND OREGON BUILDING AND SPECIALITY CODES.
2. INSTALL EROSION CONTROL SYSTEMS IN ACCORDANCE WITH CITY OF PORTLAND STANDARDS PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
3. CONTRACTOR SHALL MARK AND PROTECT ALL UTILITIES, SITE FEATURES, AND VEGETATION TO REMAIN IN PLACE.
4. CONTRACTOR SHALL REMOVE ALL WEEDS AND INVASIVE SPECIES PRIOR TO PLANTING OR SEEDING.
5. ALL DISTURBED AREAS SHALL BE SEEDED.
6. PRIOR TO PLANTING, CONTRACTOR SHALL TEST ON-SITE SOILS FOR SOIL FERTILITY BY CERTIFIED TESTING LAB. IF NECESSARY, BACKFILL SOILS FOR TREE PITS, SHRUB AND GROUNDCOVER AREAS SHALL BE AMENDED AS RECOMMENDED BY SOIL ANALYSIS REPORT.
7. CONTRACTOR TO INSTALL 3" LAYER OF COMPOST MULCH AT ZONE B TREE, SHRUB AND GROUNDCOVER AREAS.
8. LANDSCAPE INSTALLATION SHALL INCLUDE PROVISION HAND WATERING DURING THE 2-YEAR ESTABLISHMENT PERIOD.
9. PLANT MATERIAL INSTALLED SHALL CONFORM IN SIZE AND GRADE TO THE "AMERICAN STANDARD FOR NURSERY STOCK" CURRENT EDITION.
10. LANDSCAPE CONTRACTOR WARRANTY ALL PLANTINGS FOR A 2-YEAR ESTABLISHMENT PERIOD. PLANTS SHALL BE IN SATISFACTORY HEALTH. LANDSCAPE CONTRACTOR SHALL REPLACE ALL DAMAGED, DEAD, OR DYING PLANTS COVERED BY WARRANTY WITHIN 30 DAYS OF INITIAL IDENTIFICATION OF CONDITION.
11. STORMWATER FACILITY CONSTRUCTION TO BE INSPECTED BY BES CONSTRUCTION INSPECTOR.
12. CONTRACTOR SHALL CONTACT BES CONSTRUCTION 48-HOURS PRIOR TO STARTING CONSTRUCTION ON THE STORMWATER FACILITY. ANY WORK ON THE FACILITY WITHOUT INSPECTIONS WILL BE REJECTED.
13. CONTRACTOR SHALL PROVIDE BES CONSTRUCTION WITH TESTING DATA AS PER CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTION 01040.13 – SOIL TESTING 14 DAYS PRIOR TO CONSTRUCTION.
14. SEE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTION 01040.14(D) – STORMWATER FACILITY TOPSOIL.
15. INSTALL TOPSOIL IN A MANNER THAT ENSURES ADEQUATE INFILTRATION. PLACE IN TWO EQUAL LIFTS. (IF NO DRAIN ROCK IS SPECIFIED, ADD THE FOLLOWNG NOTE: ROTO-TILL THE FIRST LIFT INTO NATIVE SOIL.) LIFTS SHOULD NOT BE COMPACTED, BUT RATHER PLACED IN A MANNER TO REDUCE EXCESSIVE EROSION OR SETTLEMENT. LIFTS MAY BE LIGHTLY WATERED TO ENCOURAGE NATURAL COMPACTION OR, IF NECESSARY ROLLED WITH A WATER-FILLED LANDSCAPE ROLLER. SLIGHTLY OVERFILL THE FACILITY ABOVE PROPOSED FINISHED GRADE TO ACCOMMODATE NATURAL SETTLEMENT.
16. AFTER THE STORMWATER FACILITY CONSTRUCTION STARTS, THE BES INSPECTOR IS REQUIRED TO CHECK ON THE PROGRESS OF THE JOB AS NECESSARY UNTIL THE FACILITY HAS BEEN PLANTED. CONSTRUCTION DELAY WILL RESULT IN ADDITIONAL FEES.
17. FOLLOWNG SWALE CONSTRUCTION, PLANTING SHALL OCCUR BETWEEN SEPTEMBER 1 AND NOVEMBER 1, OR BETWEEN FEBRUARY 1 AND APRIL 15. IF CONSTRUCTION IS COMPLETED DURING THESE TIME PERIODS, PLANTING SHALL OCCUR IMMEDIATELY. IF CONSTRUCTION IS COMPLETED OUTSIDE OF THESE TIME PERIODS, TOPSOIL SHALL BE COVERED ENTIRELY WITH NORTH AMERICAN GREEN C125BN EROSION CONTROL FABRIC, SECURED WITH 12" WOODEN ECOSTAKE (18" ON-CENTER). PLANTS SHALL BE INSTALLED THROUGH HOLES CUT IN THE EROSION CONTROL FABRIC, AND FABRIC SHALL BE RESTAKED SECURELY FOR STABILITY AND SOIL COVERAGE FOLLOWNG PLANTING.
18. CONTRACTOR TO PLACE EROSION CONTROL FABRIC OVER STORMWATER FACILITY AND SURROUNDING AREA TO PREVENT EROSION DURING WET WEATHER CONDITIONS. FABRIC SHALL BE 100% BIODEGRADABLE COIR FABRIC (NORTH AMERICAN C125BN OR APPROVED EQUAL).
19. PLANTS SHALL BE INSPECTED AND APPROVED BY BES REVEGETATION PROGRAM PRIOR TO PLANTING. CONTACT THE BES PUBLIC WORKS INSPECTOR.

STORMWATER FACILITY PLANTING PLAN
RIVER CLUSTER DEVELOPMENT
MILWAUKIE, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

REGISTERED LANDSCAPE ARCHITECT
747
JEFFERY P. CREEL
OREGON
05/13/11

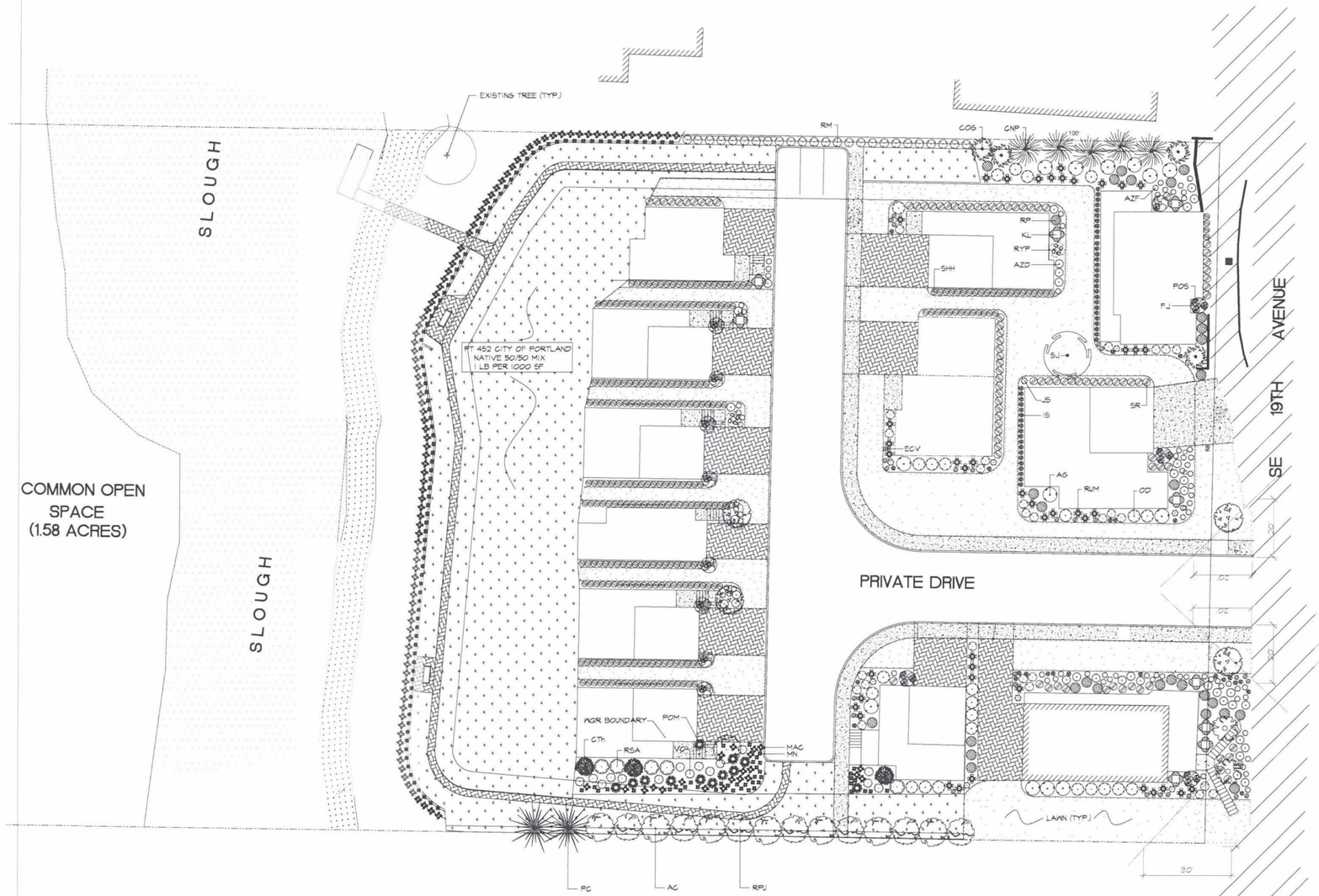
DESIGNED:	JPC	CHECKED:	KRV
DRAWN:	JPC	DATE:	JUNE 2019

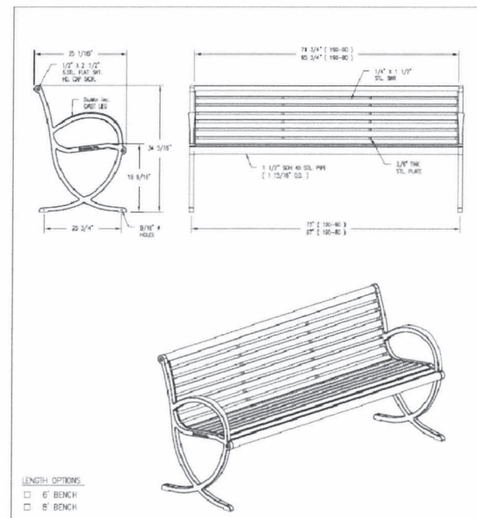
REVISIONS

NO.	DESCRIPTION	DATE
1	REVISED GRADING	APRIL 2019

SHEET NO. 7

JOB NO. MSC-221





MITIGATION PLANT LEGEND "VERIFY ALL QUANTITIES"

SYM.	#	BOTANICAL	COMMON	SIZE
AC	8	ACER CIRCINATUM	NATIVE VINE MAPLE	1/2 IN CAL
CTh	3	CEANOTHUS THYRSIFLORUS Blue Jeans	Blue Jeans CEANOTHUS	1 GAL
MAC	122	MAHONIA AQUIFOLIUM "COMPACTA"	COMPACT OREGON GRAPE	1 GAL
MN	136	MAHONIA NERVOSA	NATIVE CASCADE MAHONIA	1 GAL
POM	12	POLYSTICHUM MUNITUM	SWORD FERN	1 GAL
PC	2	PINUS CONTORTA	SHORE PINE	1/2 IN CAL
RPU	7	RHAMNUS PURSHIANA	CASCARA	1/2 IN CAL
RSA	5	RIBES SANGUINUM	NATIVE CURRANT	1 GAL
VO	15	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	1 GAL

ALL THE PLANTS WITHIN THE NGR BOUNDARY ARE NATIVE.

REMOVE ALL NOXIOUS VEGETATION IDENTIFIED BY ETC IN THEIR HCA DETERMINATION REPORT DATED JUNE 6, 2018.

PLANT LEGEND "VERIFY ALL QUANTITIES"

SYM.	#	BOTANICAL	COMMON	SIZE
AG	18	ABELIA GRANDIFLORA	GLOSSY ABELIA	5 GAL
AZD	35	AZALEA "DELAWARE VALLEY WHITE"	DELAWARE VALLEY WHITE AZALEA	2 GAL
AZF	74	AZALEA "FLAME CREEPER"	FLAME CREEPER AZALEA	2 GAL
CNP	5	CHAMAECYPARIS N. "PENDULA"	WEEPING ALASKAN CEDAR	6 FT - 8 FT
COG	4	CHAMAECYPARIS OBTUSA "GRACILIS"	SLENDER HINOKI CYPRESS	6 FT - 8 FT
ECV	27	ERICA CARNEA "VIVELLII"	SPRING HEATHER	1 GAL
FJ	18	FATSIA JAPONICA	JAPANESE ARALIA	5 GAL
IS	72	IBERIS SEMPERVIRONS	CANDYTUFT	1 GAL
JS	9	JUNIPERUS C. "SKYROCKET"	SKYROCKET JUNIPER	5FT - 6FT
KL	9	KALMIA LATIFOLIA 'Heart of Fire'	Heart of Fire MOUNTAIN LAUREL	5 GAL
LI	4	LAGERSTROEMIA INDICA PURPLE MAGIC	PURPLE MAGICGRAPE MYRTLE	1-1/2 IN CAL
OD	25	OSMANTHUS DELAVAYI	DELAVAY OSMANTHUS	2 GAL
POS	21	POLYSTICHUM SETIFERUM	ALASKA LACE FERN	1GAL
RM	51	ROSA MEIDILAND "SCARLET"	SCARLET MEIDILAND ROSE	2 GAL
RP	30	RHODODENDRON 'P.J.M.'	P.J.M. RHODY	2 GAL
RUM	48	RHAPHIOLEPIS U. MINOR 'GULF GREEN'	DWARF YEDDO HAWTHORN	2 GAL
RYP	2	RHODODENDRON YAKU PRINCESS	YAKU PRINCESS RHODY	5 GAL
SHH	258	SARCOCOCCA H. "HUMILIS"	LOW SARCOCOCCA	1 GAL
SJ	1	STYRAX JAPONICA	JAPANESE SNOWBELL	1-1/2 IN CAL
SR	42	SARCOCOCCA RUSCIFOLIA	TALL SARCOCOCCA	2 GAL

L1 PLANTING PLAN

AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED.

20
0 10 20
SCALE IN FEET

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center.(Note: the telephone number for the Oregon Utility Notification Center is (503) 232-1987).

MULCH
DARRELL MULCH
LANDSCAPE ARCHITECTURE
1907 N.E. 66TH AVENUE #188
PORTLAND, OREGON 97213
(503) 222-7416 TEL

REGISTERED 315 Darrell Mulch OREGON 10-18-93 LANDSCAPE ARCHITECT

GILLIS PROPERTIES
ELK ROCK ESTATES
12225/ 12205 SE 19TH
Milwaukie, OR

DATE:	4-24-19
PROJECT NO:	X
DESIGNED:	DM
DRAWN:	DM
CHECKED:	DM
REVISIONS:	

SHEET L1 / 1

ESA

819 SE Morrison Street
Suite 310
Portland, OR 97214
503.274.2010 phone
503.274.2024 fax

www.esassoc.com

memorandum

date	July 8, 2019
to	Vera Kolias, AICP
from	Sarah Hartung, Senior Biologist
subject	Natural Resource Review for Elk Rock Estates

This memorandum summarizes ESA's technical review of land use application materials revised in June 2019 for the proposed Milwaukie Riverfront Custom Homes, i.e. Elk Rock Estates. Items addressed by the revised application materials include proposed mitigation and an alternatives analysis. Responses to specific technical review tasks are identified in *italics*.

1. Conduct a site visit to assess existing conditions and generally corroborate the figures and narrative provided in the application submittal.

Response: ESA visited the proposed development area east of the slough on March 16, 2019 to assess existing conditions and visited the proposed mitigation area west of the slough on July 7, 2019. Generally, ESA found site conditions east of the slough to be as described in the application materials. Conditions west of the slough were described as "infested with blackberry and tree-of-heaven along with a smattering of native species." The applicant's assessment of the Himalayan blackberry infestation in the proposed mitigation area is correct, but only a couple tree-of-heaven saplings were observed by ESA and one tree identified as a tree-of-heaven appears to be a walnut tree. The site has a disturbed understory dominated by non-native species, some of them considered nuisance plants by the City of Milwaukie including Himalayan blackberry and reed canarygrass. The shrub layer on the site is sparse (with the exception of extensive blackberry) but there are pockets of Oregon ash and black cottonwood saplings (both native) as well as non-native English hawthorn, sweet cherry, and cutleaf birch. The proposed mitigation area has a small stand (6-8 trees) of mature black cottonwood trees in the southeast portion of the site. A few of these native trees are overgrown with English ivy which is also present in the understory. Additionally, a relatively large patch of poison oak (Toxicodendron diversilobum) is present in the west-central portion of the mitigation site. Although this species is native, it can pose a threat to human health.

2. Review the Natural Resource materials prepared by ETC. Assess and comment on the applicant's responses to the following requirements:

a. WQR & HCA Boundaries:
   - Confirm the applicant's assessment of the WQR, particularly with respect to steep slopes at the slough and the measurement of the vegetated corridor, as well as the WQR classification (i.e., Good, Marginal, or Poor).

Response: (no change from the May 7, 2019 memo) The WQR of the delineated slough appears accurate as shown in the figures. The 50-foot setback was established from top of bank. OHWM was flagged at 20 feet elevation just below mid-slope on the bank of the slough.

A 50-foot buffer is correctly identified for Wetlands A and B located in the Sparrow Street Right-Of-Way that overlaps with the study area.

The natural resource documentation concludes that the WQR of the slough is "degraded" which appears accurate based on the lack of shrub and tree cover on-site. An assessment of the condition of the natural resources west of the slough is not provided.

*The condition of the area near Wetland A in the Sparrow Street ROW is described as follows, "*The Sparrow Street ROW to the south of the property is densely vegetated with 65% canopy of Black Cottonwood, Beaked Hazelnut 5%, and Red Alder 10%. The shrub layer is Himalayan blackberry 70%, some Indian plum 5%, and Holly 10%. The herbaceous strata were Reed Canarygrass 50%, Willowherb 15%, high percentages in various spots of English Ivy and Cleavers on the upland areas and small percentages of Horsetail and grasses in the bottom of the ditch."

Despite the presence of some non-native invasive plants, including a relatively high percentage of Himalayan blackberry in the understory, the WQR condition of Wetland A meets the definition of "good."

   - Review the applicant's detailed boundary verification for the HCA to confirm the accuracy of the proposed adjustments to the City's Natural Resource Administrative Map (according to the procedures outlined in MMC Subsection 19.402.15.A.2.b).

Response: N/A – boundary adjustment no longer requested, see previous memo provided by ESA.

b. Inventory of existing vegetation, identification of the ecological functions of riparian habitat, and categorization of the existing condition of the WQR on the subject property?

Response: The inventory of existing vegetation east of the slough from ESA's March 2019 visit looked reasonably accurate. The application concludes that the proposed development area is "degraded" based on the low cover of shrubs and trees and the high percentage of weeds in the groundcover. This characterization is assumed to meet the Class C "Poor" category per Table 19. 402.11.C. The application does not provide a detailed discussion of ecological functions of riparian habitat.

The area west of the slough is described briefly in the revised materials as "infested with blackberry and tree-of-heaven along with a smattering of native species." Four sample plots were established by the applicant to characterize vegetation and investigate the presence of potential wetlands (no wetlands were found). ESA agrees with the determination that no wetlands conditions occur in the proposed mitigation area, although the area is presumed to experience flooding during high flows of the Willamette River. The sample plots reasonably characterize existing vegetation. Several non-native, invasive species observed in the proposed mitigation area that are not noted in the revised materials include: St. John's wort (Hypericum perforatum), reed canarygrass (Phalaris arundinacea), English hawthorn (Crataegus monogyna), Scot's broom (Cytisus scoparius – at the north end, possibly off-site), cutleaf birch (Betula pendula), and sweet cherry (Prunus avium).

The revised mitigation plan calls for preserving native species present in the mitigation area, including an area of "native grass species." This area is visible from aerial imagery and is located in the western half of the proposed mitigation area. References to this area as "native" are incorrect and there is no reason to exclude this area from the mitigation acreage. This area consists of weedy, introduced species such as sweet vernal grass (Anthoxanthum odoratum), tall fescue (Schedonorus – formerly Festuca – arundinaceus), Queen Anne's lace (Daucus carota), oxeye daisy (Leucanthemum vulgare) and a small patch of reed canarygrass. Other grasses found on-site are bentgrasses (Agrostis spp.) and bromes (Bromus spp.). No native grass species were observed during the July 7, 2019 site visit.

c. Analysis of alternatives to the proposed development, including a critique of the rationale behind choosing the alternative selected

<u>Response</u>: Alternative #4 (18 units) was added to the revised materials, but the application has failed to revise the impact analysis with detailed calculations of WQR/HCA impacts for each of the alternatives making it difficult to assess which one has the least amount of impact. Alternative #2 (23 units) is likely not a viable alternative anymore because it was developed before stormwater and floodplain no-net-rise issues were reviewed and addressed. Moreover, the revised materials do not include an alternative with a significantly different layout emphasizing attached dwellings or multifamily units clustered at the east and of the property in order to avoid/reduce impacts in the WQR/HCA mapped areas. A mark-up of a possible different design is based on Alternative #2, but eliminates a majority of the units within the floodplain. A question to ask the applicant is: are they willing to reduce the number of units to 9 to significantly avoid and minimize floodplain and HCA impacts? Would a 9-unit development still be a viable project? See Exhibit A below.

Exhibit A: A possible design alternative that clusters development at the east end of the property to avoid/minimize floodplain and HCA impacts.

d. Mitigation plan that is appropriate for the proposed disturbance and that ensures the disturbed portions of the WQR and HCA will be restored to an equal or better condition, including appropriateness of the proposed mitigation planting list. Review ETC's alternatives report to remediation of the banks of the slough.

Response: The mitigation plan is much improved and the site-specific evaluation of soils appears accurate. The overall concept is to plant a wide variety of native shrubs, trees and groundcover with the aim that suitable species will establish and others may not. The proposed mitigation site appears suitable but is anticipated to be challenging because of its position in the Willamette River floodplain, periodic flooding, the existing extent of weeds, and presence of shallow bedrock in some areas. Despite

the potential challenges, several of the native shrubs and trees are anticipated to establish given adequate irrigation and maintenance.

A few items in the revised materials warrant correction. Impacts from the proposed stormwater swale and walking path and benches are not exempt per 19.402.4.B 4 and 5 and the total disturbance requiring mitigation should be 38,500 ft.². The intent of 19.402.4.B is to provide limited exemptions within HCAs, but the proposed stormwater swale and walking path/benches are located within a combination WQR/HCA mapped area.

Using the total impact number of 38,500 ft.², the required number of trees to be planted should be 385 (not 338) and the required number of shrubs to be planted should be 1,925 (not 1,689). In order to fit the required number of trees and shrubs into the mitigation area while preserving existing native woody plants, the applicant will likely need to use the entire magenta area (41,708 ft.²) shown on exhibit M6.

Review comments on Recommended Plants:

- *The list of native trees, shrubs, and seed mix generally looks appropriate and includes all native trees and shrubs found on the Portland Plant List.*
- *Note that vine maple is not a tree and tall shrubs should not be substituted for trees.*

3. Evaluate the proposed activity with respect to the three approval criteria established in MMC Subsection 19.402.12.B:
a. Avoid = The proposed activity will have less detrimental impact to the WQR and HCA than other practicable alternatives.
b. Minimize = Where impacts cannot be avoided, the proposed activity shall minimize detrimental impacts to the extent practicable.
c. Mitigate = The proposed mitigation plan demonstrates appropriate and adequate mitigation for adverse impacts to the WQR and HCA.

Response: The revised materials do not include a significantly different layout that concentrates development at the east end of the property in order to reduce the footprint of impacts within the WQR/HCA mapped areas. The revised materials do not sufficiently demonstrate that no practicable alternative design or method of development exists that would have a lesser impact on the WQR/HCA than the one proposed.

4. Evaluate the proposed project with respect to standards and criteria for residential cluster development established in MMC 19.402.14.C.

Response: Twelve separate single-family homes are proposed and the proposal appears to meet minimum standards, although the preferred design does not take advantage of the intent of cluster development, which is to allow single-family attached dwellings, multifamily dwellings and townhouses.

5. Prepare a written report that summarizes your assessment.

Response:

The following deficiencies are recommended to be resolved with revised application materials prior to the issuance of a decision:

- *A significantly different layout that eliminates the need for road access on-site and emphasizes multi-family units at the east end of the property (see Exhibit A above).*
- *A complete alternatives analysis that updates viable development options according to stormwater and floodplain no-net-rise issues.*

If the applicant can sufficiently address items 2c and 3 and provide additional information missing from the alternatives analysis, then the following items are recommended to be incorporated into project materials as part of conditions of approval:

- *The entire 41,708 sf area west of the slough should be used as mitigation while preserving existing native trees and saplings (but not necessarily the poison oak) including: black cottonwood trees and saplings, Oregon ash trees and saplings, cascara saplings, and the standing dead trees (snags) which provide perches for birds.*
- *Install a minimum of two permanent signs along the perimeter of the mitigation area stating, "Habitat Mitigation Area" and/or "Protected Sensitive Area" to signify to the public the area is an active restoration site.*
- *Provide a detailed planting plan that shows existing native trees/shrubs to be retained, a typical planting scheme (40 x 40'), and details on site preparation and maintenance including timing and frequency for weed control. Show mitigation site access, where signage will be posted and how irrigation will be provided across the slough.*
- *Note that vine maple is not a tree and tall shrubs should not be substituted for trees.*
- *Simplify the success criteria and strike items 4d-g from the mitigation success criteria and replace with, "the percent cover of invasive herbaceous species shall be no greater than 20%." This is the average of the options provided which were either 10 percent or 30 percent based on the extent of woody vegetation.*
- *Protect the success of the mitigation area by requiring a performance bond.*
- *Remove trash and debris from transient camps that have been established on site.*

Environmental Technology Consultants
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WA Landscape Contractors License #: ENVIRTCO23RB
Web: www.etcEnvironmental.net
www.SisulEngineering.com
Email: etc@etcEnvironmental.net

July 11, 2019

TO: Mathew Gillis
4776 Carolina Avenue, NE
Salem, OR 97305

RE: Addendum #1 to "HCA Mitigation Proposal and Alternative's Analysis for Elk Rock Estates V7" City of Milwaukie ID #:L 18-004PA
Comments on the city proposed "9-Unit" Alternative Development Plan

Dear Mr. Gillis,

You asked ETC to comment on the city's proposed alternative development plan, we are calling the "9-Unit" plan for lack of a better name. Essentially this plan constructs a single row of dwelling units along SE 19th Avenue as close to the street as possible in order to reduce impacts to the HCA zone.

The response below incorporates comments from ETC, Harper Houf Peterson Righellis Inc, and your attorney Michael Robinson.

The Natural Resources code is not clear and objective per Oregon needed housing law. Therefore the criteria may not be applied to our application, but we have met the code with our alternatives analysis.

The attached townhome option reflects the option suggested by the City's environmental consultant. It is a modification of the townhome design we rejected in Nov 2018 eliminating the buildings on the lower portion of the site and turning the 19th St units from front load to rear load units. There are several reasons this design is not practicable.

Below are the reasons why the 9 unit proposal made by ESA's report is not practicable and does not meet the code:

- The 9 house option **does not meet the minimum Zoning code requirements** for a minimum of 12 units. It would remove 3 proposed units during a state declared housing emergency.

    - Attached houses would not fit into the neighborhood and would change the neighborhood character which goes against a goal in the comprehensive plan. The R5 zone is designed for residential detached units.

    - Building attached houses at the street would create a solid wall and would block all views to and from the river which would **not meet the greenway code.**

    - ESA's alternative is not practicable because it would require tearing down 2 existing single family houses in good condition with a rebuild cost of over $800,000. While the cities comprehensive plan talks about maintaining current structures and avoid tearing them down for new construction. Preserving and remodeling these homes will have a smaller carbon footprint.

    - Building 9 houses at the street would eliminate potential for visitor parking spaces and create a larger parking problem close to the park.

    - It would not follow the Metro 2040 code and the cities comprehensive plan that encourages dense development close to the max and public transportation.

    - A 9 unit plan at the street would reduce needed housing. It does not meet the comprehensive plan goal of:

- <u>Goal Statement: To provide for the maintenance of existing housing, the rehabilitation of older housing, and the development of sound adequate new housing to meet the needs of the current residents and the larger metropolitan housing market, while preserving and enhancing local neighborhood quality and identity.</u>

- The “wall” of townhomes proposed by ESA will be 45’ high at the back side, since a tall crawl space will be necessitated by the driveway level relative to the street.

- Tall retaining walls at the garage will be required since cutting into the steep bank will be necessary. These will add significantly to the construction cost and along with the reduced number of units on the property may make the project economically infeasible.

    - This 9 house layout has a permanent encroachment of 6,395 s.f. into the HCA. This will require less mitigation than other options, but will still have a large area of unused field area that will require on-going maintenance and could continue to be a detriment for the neighborhood.

- The attached units would not meet the comprehensive plan policy to create desirable and attractive living environment. The lack of windows on the sides of units is not practicable for such a large lot.

On an environmental aside ETC notes that the HCA area in question contains only one natural resources element that qualifies it as HCA, that is the area is within the FEMA floodplain. Otherwise it is a area of fill material that has been used for decades for various uses, including vehicle parking, storage, farming, and lawn area. It meets the city’s definition of a developed property, and in our opinion qualifies as exempt from HCA regulations per Milwaukie’s Municipal Code. The area contains few criteria that would traditionally place it in a critical habitat classification.

Sincerely,

John McConnaughey, PWS
Wetland Scientist

To: Vera Kolias

Re: Response to questions raised in Natural Resource Review of Elk Rock Estates dated 7/8/2019.

I have tried to be both prompt and brief in order to provide you input prior to the issuance of your staff report. **We have avoided 1.58 acres of impact, we have minimized impact by proposing 12 units instead of 18 and not developing a plotted unimproved road, and we are mitigating the impact we may create.**

Our proposed plan is not impacting an environmental asset. Although the site is in the HCA due to matching the park next door, the proposed development site is a dirt lot with weedy grasses. We are not removing trees or large scrubs in the proposed development area, unless they are invasive. The building area is not an environmental asset.

This development will greatly improve the natural habitat through our mitigation of planting over 500 trees and thousands of scrubs, while removing invasive plants.

Our proposal minimizes the road surface by not developing sparrow even though it is a plotted road.

The proposed plan also helps the neighborhood by adding a fire truck turn around near the end of 19th so the fire trucks won't have to back up down 19th to turn around.

Our proposed development meets the comprehensive plan Goal as follows:

Goal Statement: To provide for the maintenance of existing housing, the rehabilitation of older housing, and the development of sound adequate new housing to meet the needs of the current residents and the larger metropolitan housing market, while preserving and enhancing local neighborhood quality and identity.

Our proposed development also meets the comprehensive plan goal to meet the recreational needs of residents by adding a boat dock for access to the river.

I wanted to comment on just a couple of the points made in the ESA report, as follows:

A. "The revised materials do not include an alternative with a significantly different layout emphasizing attached dwellings or multi family units clustered at the east end of the property. Is the applicant willing to reduce the number of units to 9 ? Would a 9 unit project still be a viable project.?" (Page 3)

Response - No, Nine units at the street is not a viable development option for the following reasons:

1. 9 units does not meet the minimum density requirements.

2. It is not practicable due to economic viability. Indeed we had considered the proposal as already clustered on the easternmost two acres of the 3.6 acre property.

3. it would cause economic hardship. City code allows 18 units for this site. (we already brought a reasonable and conservative plan) Email from staff mentions 29 would be allow minus deductions.

4. It would block all views from the street and neighbors which does not meet greenway code plus it's bad for the neighborhood and city.

5. Needed Housing and the Metro 2040 plan is the reason we need more density especially when this project qualifies in radius to max for metro orientated development. 9 units reduces housing with a state declared housing emergency.
New state law would soon allow duplexes on every 5k square foot lot which is much higher impact.

6. The code would allow developing "sparrow", which was the reason giving by staff and city manager to not mitigate in the sparrow right of way. Developing sparrow is planned in the future for park parking. This means developing sparrow is a viable option and by choosing our plan we are reducing environmental impacts.

B. "The revised materials do not sufficiently demonstrate that the alternative design or method of development exists that would have a lesser impact on the WQR/HCA than the one proposed". (Page 5)

Response: There are multiple alternatives that meet the code that have much more enviornental impact. (I would ideally develop the island because it is more lucrative. The current proposal we have made after discussions with the city is the ***minimal viable economic proposal already***. But we have already compromised from alternatives which have more impact than our current request and believe our current design is a very reasonable proposal that already IS the "lesser impact" proposal. Here are other options we considered:

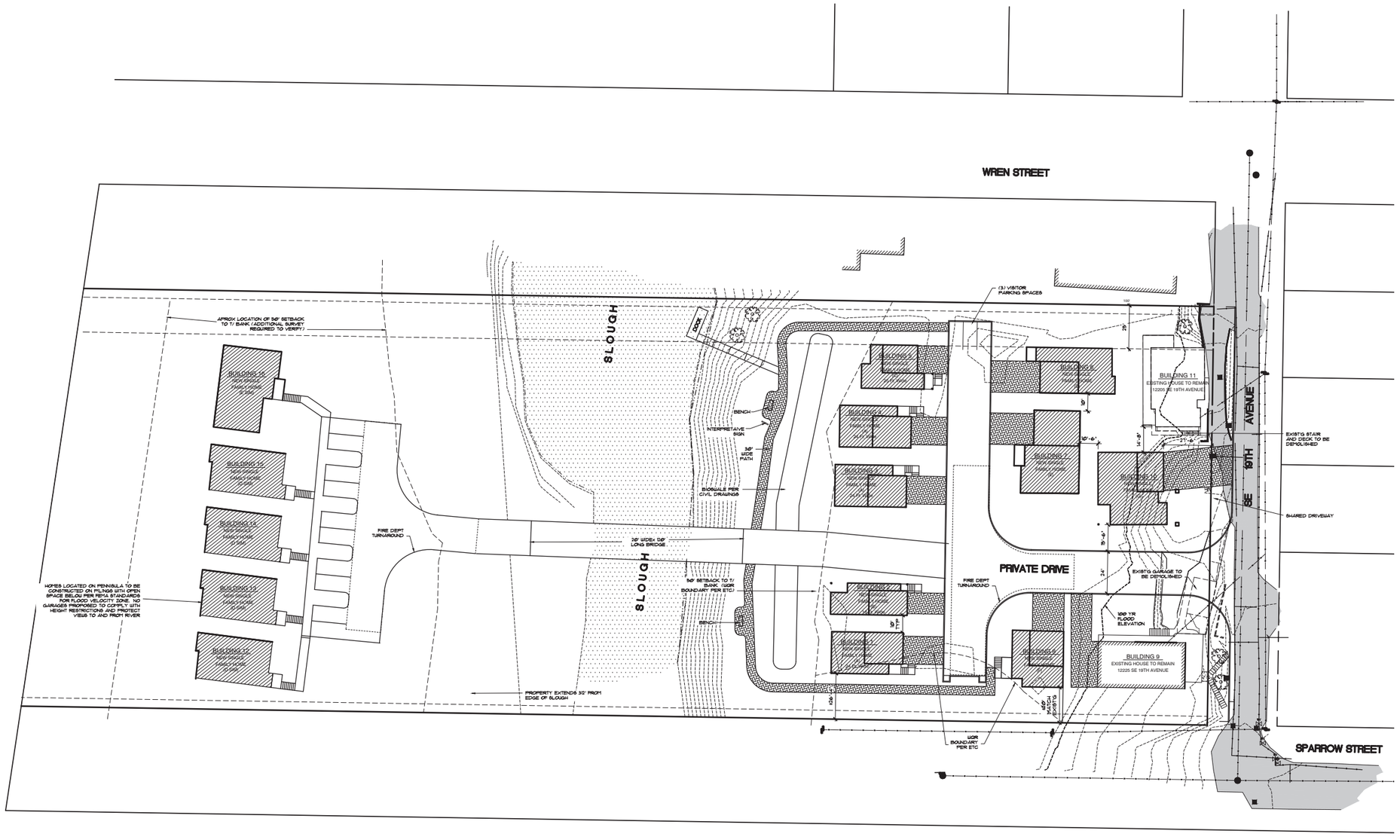
10 units on main site and 4 duplexes on stilts on island meets the code.
10 units on main site and 6 detached on stilts on island meets the code.
18 units meets the code on the mainland and proposing 12 reduces environmental impact.
18 units and developing sparrow has more environmental impact which meets the code.

These are all viable options under the code, and my choosing a lesser impact to the HCA we meet the intent of the code. The natural resources code is not applicable per state needed housing law because it is not clear an objective. (Mike Robinson will submit a letter to address this)

Developing sparrow and adding lots on the island and the main site is how this property was zoned. **Not developing houses on stilts over the water meets the cluster development criteria.** It has been done in Mill Pond in Astoria, And many commercial buildings in Astoria. As well as all over the us and downtown Portland. We own over 3.66 acres and have clustered on 2 acres of the property which meets the intent of the code.

We have avoided 1.58 acres of impact, we have minimized impact by proposing 12 units instead of 18 and not developing a plotted unimproved road, and we are mitigating the impact we will create.

While we could resubmit with one of these other more lucrative proposals which ARE economically viable (showing that this proposal has a much lesser impact than the other economically viable alternatives available to us) The current proposal is already clustered and has a lesser impact than the other alternatives that use the majority of our 3.6 acre site.



PRELIMINARY SITE PLAN

1" = 30.0'

ISELIN ARCHITECTS P.C.
1307 Seventh Street
Oregon City, OR 97045
503-656-1942 ph
503-656-0658 fax
www.iselinarchitects.com

NOT FOR PRELIMINARY CONSTRUCTION

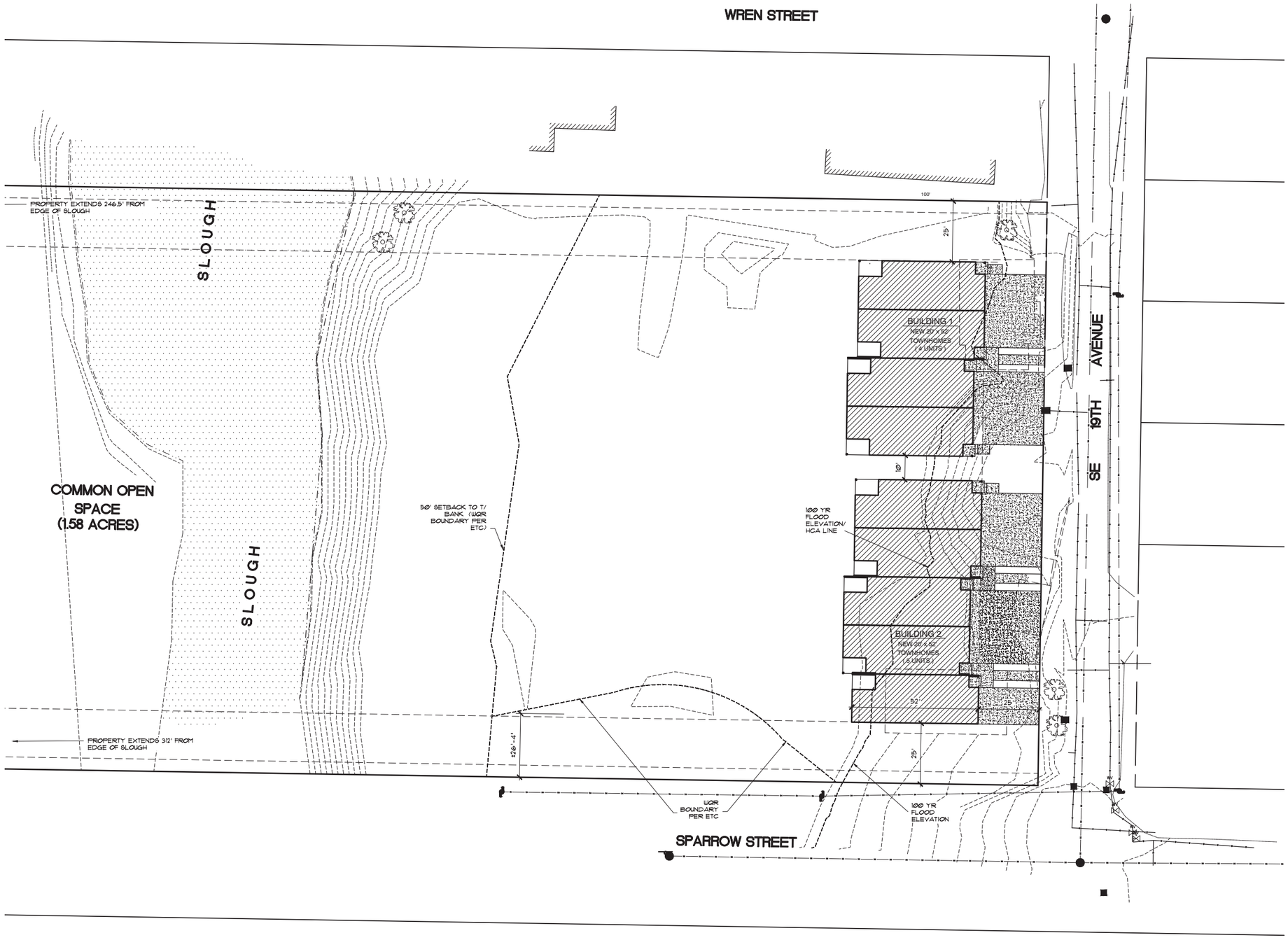
GILLIS PROPERTIES
ELK ROCK ESTATES
12225/ 12205 SE 19TH
Milwaukie, OR

PROJ. NO. :	1738
FILE :	A-SIT
DATE :	6/24/19

SHEET #

A0

SITE PLAN W/ ISLAND DEVELOPMENT



PRELIMINARY SITE PLAN- TOWNHOME OPTION MINIMAL HCA IMPACT

1" = 200'

ISELIN ARCHITECTS P.C.
1307 Seventh Street
Oregon City, OR 97045
503-656-1942 ph
503-656-0658 fax
www.iselinarchitects.com

NOT FOR PRELIMINARY CONSTRUCTION

GILLIS PROPERTIES
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Milwaukie, OR

PROJ. NO. :	1738
FILE :	A-SIT
DATE :	6/24/19

SHEET #

A0

SITE PLAN

Schwabe
WILLIAMSON & WYATT®

July 16, 2019

Michael C. Robinson
Admitted in Oregon
T: 503-796-3756
C: 503-407-2578
mrobinson@schwabe.com

VIA E-MAIL

Vera Kolias
City of Milwaukie
6101 SE Johnson Creek Boulevard
Milwaukie OR 97206

RE: Application by Elk Rock Estates; City of Milwaukie File Numbers NR-2018-005, LC-2018-001, WG-2018-001 and VR-2018-014 and 2081-015

Dear Ms. Kolias:

This office represents the Applicant. Please place this letter in the official Planning Department file for this Application and before the Milwaukie Planning Commission prior to the commencement of the initial evidentiary hearing on July 23, 2019.

This Application is a "Needed Housing" application as defined in ORS 197.303(1) **(Exhibit 1)**. Pursuant to ORS 197.307(4), the City of Milwaukie (the "City") "may adopt and apply only clear and objective standards, conditions and procedures regulating the development of housing, including needed housing" **(Exhibit 2)**. ORS 197.307(4)(b) expressly provides that the clear and objective standards, conditions and procedures "may not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay." ORS 197.307(5) is inapplicable to this Application because the site is not in a city with a population of 500,000 or more nor is it in a historic area designated for protection under a land use planning goal protecting historic areas. The City has not taken an exception to the Needed Housing laws pursuant to ORS 197.303(3). Notwithstanding ORS 197.307(7), the City must still comply with ORS 197.307(4) in establishing approval standards under which a particular housing type is permitted outright, or imposing special conditions upon approval of a specific development proposal, or establishing approval procedures.

Because the Application is a Needed Housing application, it is also subject to ORS 197.522 **(Exhibit 3)**. ORS 197.522(3) requires that if the City finds an application to be inconsistent with its Comprehensive Plan and applicable land use regulations (in this case, respectively, the Milwaukie Comprehensive Plan (the "Plan") and the Milwaukie Municipal Code Title 19) prior to making a final decision on the application, the City shall allow the Applicant the opportunity to amend or propose conditions of approval that would make the Application consistent with the Plan and applicable land use regulations. ORS 197.522(4) provides that the City may deny an application that is inconsistent with the Plan and applicable land use regulations ***and*** that cannot

be made consistent through amendments to the application or the imposition of reasonable conditions of approval.

While the Applicant strives to satisfy relevant Comprehensive Plan and land use regulation provisions, the Applicant reserves the right to argue that any subjective approval criteria in either the Comprehensive Plan or Milwaukie Municipal Code Chapters 18.04, 19.301, 19.401, 19.402, 19.504, 19.505, 19.600, 19.700 and 19.1006 and other land use regulations as asserted by the City or participants in the public hearing believed to be applicable to the Application are inapplicable to this Application.

The client appreciates the City's professional assistance in making suggestions that will allow it to meet the relevant clear and objective approval criteria with reasonable conditions of approval, as necessary, so that the Milwaukie Planning Commission can approve this Application.

Very truly yours,

Michael C. Robinson

MCR
Enclosures

Cc Mr. Matt Gillis *(via email) (w/enclosures)*
Mr. John McConnaughey *(via email) (w/enclosures)*
Mr. Ken Valentine *(via email) (w/enclosures)*
Mr. Todd Iselin *(via email) (w/enclosures)*
Mr. Denny Egner *(via email) (w/enclosures)*
Mr. Garrett Stephenson *(via email) (w/enclosures)*

PDX\134393\246818\MCR\25806235.1

2017 ORS 197.303[1]
"Needed housing" defined

(1) As used in ORS 197.307 (Effect of need for certain housing in urban growth areas), "needed housing" means all housing on land zoned for residential use or mixed residential and commercial use that is determined to meet the need shown for housing within an urban growth boundary at price ranges and rent levels that are affordable to households within the county with a variety of incomes, including but not limited to households with low incomes, very low incomes and extremely low incomes, as those terms are defined by the United States Department of Housing and Urban Development under 42 U.S.C. 1437a. "Needed housing" includes the following housing types:

(a) Attached and detached single-family housing and multiple family housing for both owner and renter occupancy;

(b) Government assisted housing;

(c) Mobile home or manufactured dwelling parks as provided in ORS 197.475 (Policy) to 197.490 (Restriction on establishment of park);

(d) Manufactured homes on individual lots planned and zoned for single-family residential use that are in addition to lots within designated manufactured dwelling subdivisions; **and**

(e) Housing for farmworkers.

(2) Subsection (1)(a) and (d) of this section does not apply to:

(a) A city with a population of less than 2,500.

(b) A county with a population of less than 15,000.

(3) A local government may take an exception under ORS 197.732 (Goal exceptions) to the definition of "needed housing" in subsection (1) of this section in the same manner that an exception may be taken under the goals. [1981 c.884 §6; 1983 c.795 §2; 1989 c.380 §1; 2011 c.354 §2; 2017 c.745 §4]

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[1] Legislative Counsel Committee, *CHAPTER 197—Comprehensive Land Use Planning*, https://-www.oregonlegislature.gov/bills_laws/ors/ors197.html (2017) (last accessed Mar. 30, 2018).

2017 ORS 197.307[1]
Effect of need for certain housing in urban growth areas

- **approval standards for residential development**
- **placement standards for approval of manufactured dwellings**

(1) The availability of affordable, decent, safe and sanitary housing opportunities for persons of lower, middle and fixed income, including housing for farmworkers, is a matter of statewide concern.

(2) Many persons of lower, middle and fixed income depend on government assisted housing as a source of affordable, decent, safe and sanitary housing.

(3) When a need has been shown for housing within an urban growth boundary at particular price ranges and rent levels, needed housing shall be permitted in one or more zoning districts or in zones described by some comprehensive plans as overlay zones with sufficient buildable land to satisfy that need.

(4) Except as provided in subsection (6) of this section, a local government may adopt and apply only clear and objective standards, conditions and procedures regulating the development of housing, including needed housing. The standards, conditions and procedures:

(a) May include, but are not limited to, one or more provisions regulating the density or height of a development.

(b) May not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.

(5) The provisions of subsection (4) of this section do not apply to:

(a) An application or permit for residential development in an area identified in a formally adopted central city plan, or a regional center as defined by Metro, in a city with a population of 500,000 or more.

(b) An application or permit for residential development in historic areas designated for protection under a land use planning goal protecting historic areas.

(6) In addition to an approval process for needed housing based on clear and objective standards, conditions and procedures as provided in subsection (4) of this section, a local government may adopt and apply an alternative approval process for applications and permits

for residential development based on approval criteria regulating, in whole or in part, appearance or aesthetics that are not clear and objective if:

(a) The applicant retains the option of proceeding under the approval process that meets the requirements of subsection (4) of this section;

(b) The approval criteria for the alternative approval process comply with applicable statewide land use planning goals and rules; **and**

(c) The approval criteria for the alternative approval process authorize a density at or above the density level authorized in the zone under the approval process provided in subsection (4) of this section.

(7) Subject to subsection (4) of this section, this section does not infringe on a local government's prerogative to:

(a) Set approval standards under which a particular housing type is permitted outright;

(b) Impose special conditions upon approval of a specific development proposal; **or**

(c) Establish approval procedures.

(8) In accordance with subsection (4) of this section and ORS 197.314 (Required siting of manufactured homes), a jurisdiction may adopt any or all of the following placement standards, or any less restrictive standard, for the approval of manufactured homes located outside mobile home parks:

(a) The manufactured home shall be multisectional and enclose a space of not less than 1,000 square feet.

(b) The manufactured home shall be placed on an excavated and back-filled foundation and enclosed at the perimeter such that the manufactured home is located not more than 12 inches above grade.

(c) The manufactured home shall have a pitched roof, except that no standard shall require a slope of greater than a nominal three feet in height for each 12 feet in width.

(d) The manufactured home shall have exterior siding and roofing which in color, material and appearance is similar to the exterior siding and roofing material commonly used on residential dwellings within the community or which is comparable to the predominant materials used on surrounding dwellings as determined by the local permit approval authority.

(e) The manufactured home shall be certified by the manufacturer to have an exterior thermal envelope meeting performance standards which reduce levels equivalent to the performance standards required of single-family dwellings constructed under the state building code as defined in ORS 455.010 (Definitions for ORS chapter 455).

(f) The manufactured home shall have a garage or carport constructed of like materials. A jurisdiction may require an attached or detached garage in lieu of a carport where such is consistent with the predominant construction of immediately surrounding dwellings.

(g) In addition to the provisions in paragraphs (a) to (f) of this subsection, a city or county may subject a manufactured home and the lot upon which it is sited to any development standard, architectural requirement and minimum size requirement to which a conventional single-family residential dwelling on the same lot would be subject. [1981 c.884 §5; 1983 c.795 §3; 1989 c.380 §2; 1989 c.964 §6; 1993 c.184 §3; 1997 c.733 §2; 1999 c.357 §1; 2001 c.613 §2; 2011 c.354 §3; 2017 c.745 §5]

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[1] Legislative Counsel Committee, *CHAPTER 197—Comprehensive Land Use Planning*, https://-www.oregonlegislature.gov/bills_laws/ors/ors197.html (2017) (last accessed Mar. 30, 2018).

2017 ORS 197.522[1]
Local government to approve subdivision, partition or construction

• conditions

(1) As used in this section:

(a) "Needed housing" has the meaning given that term in ORS 197.303 ("Needed housing" defined).

(b) "Partition" has the meaning given that term in ORS 92.010 (Definitions for ORS 92.010 to 92.192).

(c) "Permit" means a permit as defined in ORS 215.402 (Definitions for ORS 215.402 to 215.438 and 215.700 to 215.780) and a permit as defined in ORS 227.160 (Definitions for ORS 227.160 to 227.186).

(d) "Subdivision" has the meaning given that term in ORS 92.010 (Definitions for ORS 92.010 to 92.192).

(2) A local government shall approve an application for a permit, authorization or other approval necessary for the subdivision or partitioning of, or construction on, any land for needed housing that is consistent with the comprehensive plan and applicable land use regulations.

(3) If an application is inconsistent with the comprehensive plan and applicable land use regulations, the local government, prior to making a final decision on the application, shall allow the applicant to offer an amendment or to propose conditions of approval that would make the application consistent with the plan and applicable regulations. If an applicant seeks to amend the application or propose conditions of approval:

(a) A county may extend the time limitation under ORS 215.427 (Final action on permit or zone change application) for final action by the governing body of a county on an application for needed housing and may set forth a new time limitation for final action on the consideration of future amendments or proposals.

(b) A city may extend the time limitation under ORS 227.178 (Final action on certain applications required within 120 days) for final action by the governing body of a city on an application for needed housing and may set forth a new time limitation for final action on the consideration of future amendments or proposals.

(4) A local government shall deny an application that is inconsistent with the comprehensive plan and applicable land use regulations and that cannot be made consistent through amendments

to the application or the imposition of reasonable conditions of approval. [1999 c.838 §4; 2015 c.374 §3]

Note: 197.522 (Local government to approve subdivision, partition or construction) was added to and made a part of ORS chapter 197 by legislative action but was not added to any smaller series therein. See Preface to Oregon Revised Statutes for further explanation.

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[1] Legislative Counsel Committee, *CHAPTER 197—Comprehensive Land Use Planning*, https://-www.oregonlegislature.gov/bills_laws/ors/ors197.html (2017) (last accessed Mar. 30, 2018).

Vera Kolias

From: Robinson, Michael C. <MRobinson@SCHWABE.com>
Sent: Tuesday, July 16, 2019 5:40 AM
To: Vera Kolias
Cc: Dennis Egner; matthew.gillis@mac.com; Ken Valentine P.E.; Stephenson, Garrett H.
Subject: Gillis Application

Good morning, Vera. I am writing to follow-up on our telephone discussion yesterday afternoon regarding the 120-day period in ORS 227.278(1). The applicant has authorized me to send this email.

The July 23 Planning Commission hearing is the initial evidentiary hearing. Anyone can ask that the hearing be continued to a date certain or the written record held open before the close of the hearing and the Planning Commission must grant the request. ORS 197.763(6)(a). Unless waived by the applicant, the applicant has the right to final written argument after the record is closed to other parties. ORS 197.763(6)(e). The applicant will not waive its right to final written argument. For these reasons, the Planning Commission may not close the record or make a tentative decision on July 23.

The applicant would grant an extension of the 120-day period based on the following schedule:

1. The Planning Commission closes the public hearing on July 23 but leaves the written record open as follows:

-until July 30 for anyone to submit argument and evidence as those terms are defined in ORS 197.763(9);
-until August 6 for anyone to rebut the first open record period submittals; and
-until August 13 for applicant only to submit final written argument without new evidence(7 days is the minimum amount of time allowed for final written argument).

2. The Planning Commission deliberates to a tentative decision on August 27. I explained that the applicant would like deliberation on this date instead of August 13 because that gives the Planning Commission the opportunity to read and consider the final written argument which it wouldn't have if it deliberates the same day it receives final written argument.

3. The Planning Commission makes a final decision at its first meeting in September.

4. The appeal period commences and runs. If an appeal is filed, you'll need to give notice of and schedule the City Council appeal hearing.

5. The City Council will need to make a final decision.

The applicant would extend the 120-day period based on the above schedule to November 1, 2019 and would grant further reasonable extensions of the 120-day period in order to allow the City Council to make a final decision if an appeal is filed. This offer is contingent upon the Planning Commission leaving the written record open as described in 1, above, and deliberating to a tentative decision as described in 2, above.

I'm available today if you'd like to talk.

Thanks for taking the time to discuss this with me.

Mike

Sent from my iPhone

Vera Kolias

From: Robinson, Michael C. <MRobinson@SCHWABE.com>
Sent: Tuesday, July 16, 2019 8:37 AM
To: Vera Kolias; 'Matthew GILLIS'
Cc: Dennis Egner
Subject: RE: NR-2018-005 - Elk Rock Estates - New Information

I have two comments on this latest submittal.

First, the author fails to understands that “views” cannot be an approval criterion because the word is a subjective standard and may not be applied to this application under ORS 197.303(1) and 197.307(4). To the extent the applicant is addressing the issue, it is on a purely voluntary basis and the applicant is not waiving its right under the above statutes to assert that it is not required to comply with this standard at all.

Second, the statute referred to in the email was not effective on the date that this application was submitted and it is not a mandatory requirement for a property owner.

Please place this email in the record for this application.

Thanks very much. Mike

From: Vera Kolias <KoliasV@milwaukieoregon.gov>
Sent: Tuesday, July 16, 2019 8:12 AM
To: 'Matthew GILLIS' <matthew.gillis@mac.com>; Robinson, Michael C. <MRobinson@SCHWABE.com>
Cc: Dennis Egner <EgnerD@milwaukieoregon.gov>
Subject: FW: NR-2018-005 - Elk Rock Estates - New Information

Hello Matt,

FYI – these comments were received this morning.

-Vera

VERA KOLIAS, AICP
Associate Planner
503.786.7653
City of Milwaukie
6101 SE Johnson Creek Blvd • Milwaukie, OR 97206

From: Steve Gerken <argentpickle@yahoo.com>
Sent: Monday, July 15, 2019 9:09 PM
To: Vera Kolias <KoliasV@milwaukieoregon.gov>
Subject: Re: NR-2018-005 - Elk Rock Estates - New Information

Hello Ms Kolias--

Thank you for the link below.

As regards the applicant's concern for increasing available housing in the city and in the region, there is no noted shortage of high-end homes with two-story dining and sitting spaces, such as appear in plans for Buildings 6 and 8 in applicant's materials.??

There is a noted shortage of what is termed "middle housing", which shortage a recent change in state legislation is meant to address.?? See for example:
https://www.portlandoregon.gov/bps/article/577850
(predates recent legislation)

In terms of solely examining the number of units, the previously submitted Homeless Pod concept provides the same number of net units as applicant's submitted plan.?? Additionally, and at variance with applicant's plans, the homeless pod approach also serves a market segment already known to be underserved by existing available units, and has vastly lower impact on the natural resource area, the floodplain, and the views from SE 19th Avenue.??

An additional alternative concept exists which supplies 12 units total housing, all as "missing middle" in the form of duplexes, with reduced impact on the habitat conservation area and on the floodplain.

IV. Six Duplexes
All building numbers refer to applicant's numbered on submitted drawings.
If:
??-?? Building 9 (existing residence at 12225 SE 19th) is remodeled into a duplex;
??-?? A new duplex is constructed in the approximate location and footprint of proposed Building 10;
??-?? Building 11 (existing residence at 12205 SE 19th)is remodeled into a duplex;
??-?? A new duplex is constructed in the approximate location of proposed Building 8, possibly extending somewhat to the west;
??-?? A new duplex is constructed slightly to the south of proposed Building 7, such that this new duplex is lined up north to south behind the new duplex placed at Building 10; and
??-?? A new duplex is constructed in the approximate location of Building 6, possibly extending somewhat to the south, but no further south than Building 11;
the upshot would be 12 housing units appropriately scaled for missing middle buyers, while preserving more views from more neighborhood vantage points, and eliminating the construction impacts west of the private drive.?? There is also the possibility that in this approach, part of the private drive could be reduced to a one-lane alley while still providing adequate width for ordinary use and emergency vehicle access.?? Any such reduction would further decrease the construction impact in the habitat conservation area.

Duplexes are not currently present in the Island Station neighborhood, but neither are rowhouses.?? If either is to be considered as an alternative to spreading single-family construction all over the flood plain, duplexes are a closer match to the existing neighborhood, and can be placed so as to preserve at least some existing views.

Thank you,
Steve Gerken
12114 SE 19th Avenue
Milwaukie, OR

On 7/15/2019 8:59 AM, Vera Kolias wrote:

> Good morning all,
> ??
> The applicant submitted additional materials on Friday.?? They are posted here:??
> https://www.milwaukieoregon.gov/sites/default/files/fileattachments/planning/page/100491/elk_rock_estates_env_response_11july2019.pdf.
> ??
> Thank you,
> Vera
> ??
> **VERA KOLIAS, AICP**
> Associate Planner
> 503.786.7653
> City of Milwaukie

6101 SE Johnson Creek Blvd ??? Milwaukie, OR 97206
??

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This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**.

Vera Kolias

From: Steve Gerken <argentpickle@yahoo.com>
Sent: Tuesday, July 16, 2019 8:54 AM
To: Vera Kolias
Subject: RE: NR-2018-005 - Elk Rock Estates - New Information

Hello Ms Kolias--

Another option that refines concept IV Six Duplex is:

V. Six Duplexes With Better Road
If, as compared to the Six Duplexes concept, the three duplexes closest to the river are moved to the west by the width of the north-south portion of the private drive, and the north-south portion of the private drive is moved to the east to run between the two rows of duplexes, less fill would be required to raise the road surface to one foot above the 100 year flood plain. This would reduce the amount of cut required elsewhere on the property, which in turn would reduce total disturbance in the habitat conservation area. Also, the east-west portion of the private drive would be shorter, because the tee intersection would be closer to SE 19th Ave. This would further reduce the amount of fill and cut in the flood plain and habitat conservation area.

Applicant's failure to consider this and other options as methods of reducing impact in the habitat conservation area support a position that the application should be denied.

Thank you,
Steve Gerken
12114 SE 19th Ave
Milwaukie

On Jul 16, 2019 8:12 AM, Vera Kolias <KoliasV@milwaukieoregon.gov> wrote:

> Thank you very much for your comments. They will be included with the staff report.
>
> -Vera
>
> **VERA KOLIAS, AICP**
>
> Associate Planner
>
> 503.786.7653
>
> City of Milwaukie
>
> 6101 SE Johnson Creek Blvd • Milwaukie, OR 97206
>
> **From:** Steve Gerken <argentpickle@yahoo.com>
> **Sent:** Monday, July 15, 2019 9:09 PM
> **To:** Vera Kolias <KoliasV@milwaukieoregon.gov>
> **Subject:** Re: NR-2018-005 - Elk Rock Estates - New Information

Hello Ms Kolias--

Thank you for the link below.

As regards the applicant's concern for increasing available housing in the city and in the region, there is no noted shortage of high-end homes with two-story dining and sitting spaces, such as appear in plans for Buildings 6 and 8 in applicant's materials.?? There is a noted shortage of what is termed "middle housing", which shortage a recent change in state legislation is meant to address.?? See for example:
https://www.portlandoregon.gov/bps/article/577850
(predates recent legislation)

In terms of solely examining the number of units, the previously submitted Homeless Pod concept provides the same number of net units as applicant's submitted plan.?? Additionally, and at variance with applicant's plans, the homeless pod approach also serves a market segment already known to be underserved by existing available units, and has vastly lower impact on the natural resource area, the floodplain, and the views from SE 19th Avenue.??

An additional alternative concept exists which supplies 12 units total housing, all as "missing middle" in the form of duplexes, with reduced impact on the habitat conservation area and on the floodplain.

IV. Six Duplexes
All building numbers refer to applicant's numbered on submitted drawings.
If:
??-?? Building 9 (existing residence at 12225 SE 19th) is remodeled into a duplex;
??-?? A new duplex is constructed in the approximate location and footprint of proposed Building 10;
??-?? Building 11 (existing residence at 12205 SE 19th)is remodeled into a duplex;
??-?? A new duplex is constructed in the approximate location of proposed Building 8, possibly extending somewhat to the west;
??-?? A new duplex is constructed slightly to the south of proposed Building 7, such that this new duplex is lined up north to south behind the new duplex placed at Building 10; and
??-?? A new duplex is constructed in the approximate location of Building 6, possibly extending somewhat to the south, but no further south than Building 11;
the upshot would be 12 housing units appropriately scaled for missing middle buyers, while preserving more views from more neighborhood vantage points, and eliminating the construction impacts west of the private drive.?? There is also the possibility that in this approach, part of the private drive could be reduced to a one-lane alley while still providing adequate width for ordinary use and emergency vehicle access.?? Any such reduction would further decrease the construction impact in the habitat conservation area.

Duplexes are not currently present in the Island Station neighborhood, but neither are rowhouses.?? If either is to be considered as an alternative to spreading single-family construction all over the flood plain, duplexes are a closer match to the existing neighborhood, and can be placed so as to preserve at least some existing views.

Thank you,
Steve Gerken
12114 SE 19th Avenue
Milwaukie, OR

On 7/15/2019 8:59 AM, Vera Kolias wrote:

> Good morning all,
>
> ??

The applicant submitted additional materials on Friday.?? They are posted here:?? https://www.milwaukieoregon.gov/sites/default/files/fileattachments/planning/page/100491/elk_rock_estates_env_response_11july2019.pdf.

??

Thank you,

Vera

??

VERA KOLIAS, AICP

Associate Planner

503.786.7653

City of Milwaukie

6101 SE Johnson Creek Blvd ??? Milwaukie, OR 97206

??

Disclaimer

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Vera Kolias

From: Steve Gerken <argentpickle@yahoo.com>
Sent: Monday, July 15, 2019 9:09 PM
To: Vera Kolias
Subject: Re: NR-2018-005 - Elk Rock Estates - New Information

Hello Ms Kolias--

Thank you for the link below.

As regards the applicant's concern for increasing available housing in the city and in the region, there is no noted shortage of high-end homes with two-story dining and sitting spaces, such as appear in plans for Buildings 6 and 8 in applicant's materials.?? There is a noted shortage of what is termed "middle housing", which shortage a recent change in state legislation is meant to address.?? See for example:
https://www.portlandoregon.gov/bps/article/577850
(predates recent legislation)

In terms of solely examining the number of units, the previously submitted Homeless Pod concept provides the same number of net units as applicant's submitted plan.?? Additionally, and at variance with applicant's plans, the homeless pod approach also serves a market segment already known to be underserved by existing available units, and has vastly lower impact on the natural resource area, the floodplain, and the views from SE 19th Avenue.??

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Milwaukie, OR

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??
Thank you,
Vera
??
VERA KOLIAS, AICP
Associate Planner
503.786.7653
City of Milwaukie
6101 SE Johnson Creek Blvd ??? Milwaukie, OR 97206
??

Vera Kolias

From: Steve Gerken <argentpickle@yahoo.com>
Sent: Sunday, July 14, 2019 11:08 AM
To: Vera Kolias
Subject: Re: NR-2018-005 - Elk Rock Estates - New Information

Dear Ms Kolias--

In regards application NR-2018-005 "Elk Rock Estates" please note that in connection with MMC 19.402, while the application as revised July 2019 further elaborates on the 23 unit and 16 unit alternatives, the application does not supply any discussion of an alternative which avoids impacts to the mapped natural resource areas.?? In fact, the revisions supplied in July 2019 detail even greater disturbances to natural areas than in the earlier materials. In the July 2019 materials, essentially the entire natural resource area would be disturbed, whether for road and residence construction, for cuts to balance the fills resulting from road and residence construction, or for other mitigations required as a result of road and residence construction.

Due to the applicant's failure to include an alternative that avoids or minimizes impacts to natural resource areas, even after being explicitly prompted to do so, I advise that the planning commission reject the application as materially deficient in regards MMC 19.402.

Examples of actual alternatives which avoid or minimize impacts to natural resource areas might include:

I. No-Build Option
If existing residences on the properties are remodeled, and no new residences or roads are constructed, disturbances to mapped natural areas on the subject properties are entirely avoided.

By completely eliminating new construction in the mapped natural resource areas, and completely eliminating new construction in the floodplain, this option removes the need for disturbances within the natural area related to brush clearing and tree and shrub planting, and also removes the need for cuts in the mapped natural areas to balance fills.

This option further addresses neighbor concerns about additional vehicle traffic and parking congestion on the SE 19th Avenue woonerf by significantly limiting the number of vehicles associated with residential use of the properties.

II. Build Only Outside Flood Plain Option
If:

??-?? existing residences on the properties are remodeled;
??-?? the existing detached garage is demolished; and
??-?? a new single-family residence, duplex, or rowhouse is
?????? constructed between the existing residences, fronting on
?????? SE 19th Avenue, in a location substantially similar to
?????? Building 11 on submitted plans,
disturbances to mapped natural resource areas on the property would be minimized to the extent practical and consistent with new construction and the creation of new housing capacity.??

By removing the need for fill to raise a new road surface to legal height, this option also substantially removes the need for balanced cuts within natural areas.???? By removing the land area of a new road, and removing the land area of several proposed new residences, this option significantly reduces the need for disturbances within the natural area related to brush clearing and tree and shrub planting.

This option further addresses neighbor concerns about additional vehicle traffic and parking congestion on the SE 19th Avenue woonerf by significantly limiting the number of vehicles associated with residential use of the properties.

III. Homeless Pod Option
If:
??-?? the existing detached garage is demolished;
??-?? a boardwalk is constructed, on posts and piers, at a
?????? finished surface elevation of 37.4', abutting the west
?????? face of the existing residence at 12205 SE 19th Avenue
?????? and extending west 20', and extending approximately
?????? 180' from the northern extent of 12205 SE 19th Avenue to
?????? the existing house at 12225 SE 19th Avenue, with
?????? boardwalk and footpath connecting to SE 19th Avenue
?????? between the existing houses;
??-?? the existing houses are internally remodeled into
?????? shower, bathroom, and kitchen facilities;
??-?? 8'x12' pod type housing for the homeless is placed
?????? on the boardwalk with the long dimension running
?????? east-west and six foot spacing between pods north-south;
?????? and
??-?? appropriate connecting doors are provided between the
?????? boardwalk and the remodeled residences,
disturbances to mapped natural resource areas on the property would be minimized to the extent practical and consistent with new construction and with the creation of twelve housing units. In this approach, twelve transitional housing units for the homeless could be provided on the properties with minimal disturbance to the mapped natural resource areas and minimal disruption of the 100 year flood plain.

In this option, fill in the flood plain below the 100 year flood elevation would be limited to the volume of posts and piers needed to support the boardwalk.?? A balancing cut

elsewhere on the property would be required, but the magnitude of the cut would be markedly less than the cuts required in any plan submitted by the applicant. Disturbances in the mapped natural resource areas would require mitigating plantings elsewhere on the property, but again, magnitudes and numbers would be much less than required by any plan submitted by the applicant.

If use of the boardwalk is opened to the public, this option would mitigate disturbances to the views toward the river from the SE 19th Avenue woonerf by creating new public views toward the river from the perimeter of the boardwalk.?? This option also has much lower total property heights above ground than any option submitted by the applicant, which consequently means less disruption to views toward the river from any neighborhood vantage point.

By consolidating plumbing facilities in locations with existing water and sewer hookups and minimizing the number of "wet walls", and due to other features of this approach, this option would significantly control construction costs and eliminate the need to dig trenches on the property for utility hookups in the construction phase.

This option would result in as many housing units as the plan submitted by the applicant, albeit units of a somewhat different character.

This option further addresses neighbor concerns about additional vehicle traffic and parking congestion on the SE 19th Avenue woonerf by reducing the number of vehicles associated with residential use of the properties, and by increasing foot traffic on SE 19th Avenue. However, neighbors may have other or additional concerns about this use of the properties.

Conclusion
The above options are included here as illustration that the applicant has failed to provide any alternative that avoids or minimizes impacts to the mapped natural resource areas, and that such alternatives exist.?? The applicant's failure to consider alternatives which avoid or minimize disturbances to mapped natural resources should lead to rejection of the application.

Thank you,
Steve Gerken
12114 SE 19th Avenue
Milwaukie, OR

On 6/26/2019 11:53 AM, Vera Kolias wrote:

> Good morning all,
> ??

As you have submitted comments on this land use application, we are letting you know that the applicant has submitted new information for review for the July 23 public hearing.?? New information received on June 25, 2019 can be reviewed on the application website at https://www.milwaukieoregon.gov/planning/nr-2018-005 under Supporting Documents.
??
We would appreciate it if you could help us get the word out about this new information in advance of the July 23 public hearing ??? please share this with your neighbors who may be interested.
??
Thank you very much ??? please let me know if you have any questions.
??
-Vera
??
??
VERA KOLIAS, AICP
Associate Planner
503.786.7653
City of Milwaukie
6101 SE Johnson Creek Blvd ??? Milwaukie, OR 97206
??

CITY OF **MILWAUKIE**

To: Planning Commission

Through: Dennis Egner, Planning Director

From: Brett Kelver, Associate Planner

Date: July 16, 2019,[1] for July 23, 2019, Public Hearing

Subject: **File:** A-2019-002

Applicant: City of Milwaukie

Location: Public right-of-way (ROW) in Lake Rd & Kuehn Rd adjacent to Cereghino Farms subdivision and Lake Rd ROW west to city limits

NDA: Lake Road

ACTION REQUESTED

Recommend approval by the City Council of annexation file #A-2019-002, including adoption of the proposed ordinance and exhibits found in Attachment 1. This action would allow for annexation of the public right-of-way (ROW) in SE Lake Road and SE Kuehn Road adjacent to the Cereghino Farms subdivision, as well as of the SE Lake Road ROW from there west to the current city limits (see site map in Attachment 2).

BACKGROUND INFORMATION

On May 21, 2019, the City Council adopted Ordinance 2171 and approved the annexation of the Cereghino Farms subdivision property on SE Lake Road at SE Kuehn Road. At the same time, the Council passed a motion to initiate the annexation of the adjacent public ROW in SE Lake Road and SE Kuehn Road as well as the remaining SE Lake Road ROW from there west to the current city limits. Annexation of the ROW would adjust the city's zoning and other maps to eliminate gaps between the new subdivision and the nearest city limits across SE Kuehn Road and farther west on SE Lake Road.

A. Site and Vicinity

The Annexation Territory is just over 2 acres of public ROW in SE Lake Road and SE Kuehn Road adjacent to the Cereghino Farms subdivision (see Figure 1). Clackamas

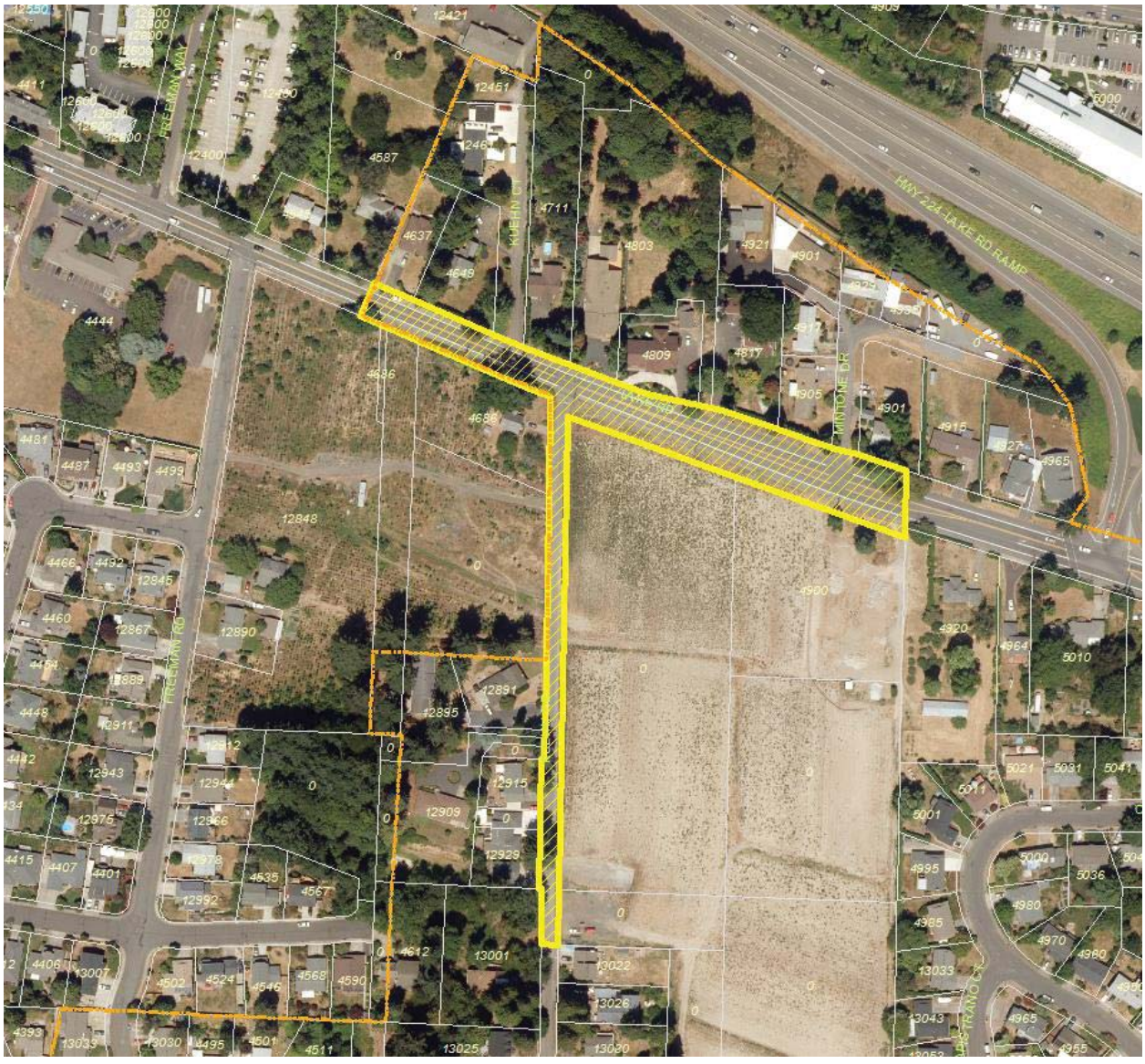
---

[1] As required by MMC Subsection 19.1102.1.C, a staff report for this application was issued at least 15 days prior to the hearing, on July 8. Since then, the staff report, ordinance (Attachment 1), and findings (Exhibit A of Attachment 1) have all been updated for this July 16 publication in place of the earlier versions.

County currently has maintenance authority over the ROW, though the city expects to initiate a transfer of that authority following annexation.

The surrounding area consists of residential dwellings and lots (mostly single-family). To the southwest are undeveloped parcels of residentially designated land.

Figure 1. Annexation Territory & Vicinity



B. Zoning Designation

Residential R-10 *(For public ROW, the zoning map reflects the zoning of immediately adjacent properties)*

C. Comprehensive Plan Designation

Low density residential (LDR) *(For public ROW, the comprehensive plan land use map reflects the designation of immediately adjacent properties)*

D. Land Use History

The timeline of annexation-related actions for the Cereghino Farms property to the southeast is as follows:

- **September 5, 2017:** The City Council approved a memorandum of understanding (MOU) that expressed a desire to have the Cereghino Farms subdivision property annex to the city.
- **April 16, 2019:** The City Council adopted a resolution authorizing the city manager to sign an annexation agreement with the developer of the Cereghino Farms subdivision.
- **April 30, 2019:** The applicant and the city signed an annexation agreement outlining the terms and conditions of the proposed annexation. The applicant provided an application for annexation.
- **May 21, 2019:** The City Council adopted Ordinance 2171, annexing the Cereghino Farms subdivision property, with the effective date based on recording the final subdivision plat.

E. Proposal

The proposal includes the following:

1. Annexation into the city of the public ROW in SE Lake Road and SE Kuehn Road adjacent to the Cereghino Farms subdivision property as well as the SE Lake Road ROW west to the current city limits.
2. Amendments to the city's comprehensive plan land use map and zoning map to reflect the city's new boundary.
3. Withdrawal of the Annexation Properties from the following urban service districts:
   - Clackamas County Service District for Enhanced Law Enforcement
   - Clackamas County Service District No. 5 for Street Lights

The annexation of the ROW requires approval of an adopting ordinance.

CONCLUSIONS

Staff recommendation to the Planning Commission is as follows:

Recommend that City Council adopt the proposed ordinance for annexation, based on the information provided in application #A-2019-002. This will result in annexation of the public

ROW in SE Lake Road and SE Kuehn Road adjacent to the Cereghino Farms subdivision as well as the SE Lake Road ROW west to the current city limits.

CODE AUTHORITY AND DECISION-MAKING PROCESS

The proposal is subject to the following provisions of the Milwaukie Municipal Code (MMC).

- MMC Section 19.1007 Type IV Review
- MMC Chapter 19.1100 Annexations and Boundary Changes

This application is subject to Type IV review, which requires the Planning Commission to consider whether the applicant has demonstrated compliance with the code sections shown above and make a recommendation to the City Council for a final decision. In Type IV reviews, the Commission may recommend that the City Council approve or deny the application with or without changes, providing a written justification for the recommendation.

The Commission has 2 decision-making options as follows:

A. Recommend approval of the proposed annexation with the Recommended Findings in Support of Approval.

B. Recommend denial of the proposed annexation upon finding that it does not meet approval criteria.

Annexation applications are not subject to the 120-day clock that applies to other land use decisions, so there is no deadline for a final decision.

ATTACHMENTS

Attachments are provided as indicated by the checked boxes. All material is available for viewing upon request.

	PC Packet	Public Copies	Packet
1. Annexation Ordinance	☒	☒	☒
a. Exhibit A—Findings in Support of Approval	☒	☒	☒
b. Exhibit B—Legal Description and Tax Maps	☒	☒	☒
2. Annexation Site Map	☒	☒	☒

Key:
PC Packet = materials provided to Planning Commission 7 days prior to the hearing.
Public Copies = paper copies of the packet available for review at City facilities and at the Planning Commission meeting.
Packet = packet materials available online at https://www.milwaukieoregon.gov/bc-pc/planning-commission-33.

CITY OF MILWAUKIE

COUNCIL ORDINANCE No.

AN ORDINANCE OF THE CITY OF MILWAUKIE, OREGON, ANNEXING INTO THE CITY LIMITS THE PUBLIC RIGHT-OF-WAY OF SE LAKE ROAD AND SE KUEHN ROAD ADJACENT TO THE CEREGHINO FARMS SUBDIVISION AS WELL AS THE PORTION OF SE LAKE ROAD WEST TO THE CURRENT CITY LIMITS (FILE #A-2019-002).

WHEREAS, the territory proposed for annexation is contiguous to the city's boundary and is within the city's urban growth management area; and

WHEREAS, the requirements of the Oregon Revised Statutes for initiation of the annexation were met by the City Council approving a motion to initiate the annexation at its regular session meeting on May 21, 2019; and

WHEREAS, the territory proposed for annexation lies within the territories of both the Clackamas County Service District for Enhanced Law Enforcement and Clackamas County Service District #5 for Street Lights; and

WHEREAS, the annexation and withdrawals are not contested by any necessary party; and

WHEREAS, the annexation will promote the timely, orderly, and economic provision of public facilities and services; and

WHEREAS, the annexed public right-of-way will receive comprehensive plan land use and zoning designations equivalent to the adjacent properties; and

WHEREAS, the city conducted two public hearings and mailed notice as required by law; and

WHEREAS, the planning commission held a public hearing on July 23, 2019, and recommended approval of the annexation; and

WHEREAS, the city prepared and made available an annexation report that addressed all applicable criteria, and, upon consideration of such report, the City Council favors annexation of the public right-of-way and withdrawal from all applicable districts based on findings and conclusions attached hereto as Exhibit A;

Now, Therefore, the City of Milwaukie does ordain as follows:

Section 1. The Findings in Support of Approval attached as Exhibit A are hereby adopted.

Section 2. The public right-of-way described and depicted in Exhibit B is hereby annexed to the City of Milwaukie.

Section 3. The public right-of-way annexed by this ordinance and described in Section 2 is hereby withdrawn from both the Clackamas County Service District for Enhanced Law Enforcement and Clackamas County Service District #5 for Street Lights.

Section 4. The public right-of-way annexed by this ordinance and described in Section 2 is hereby assigned a comprehensive plan land use designation of low density residential (LDR) and a municipal code zoning designation of residential R-10.

Section 5. The city shall immediately file a copy of this ordinance with Metro and other agencies required by Metro Code Chapter 3.09.030, ORS 222.005, and ORS 222.177. The annexation and withdrawal shall become effective upon filing of the annexation records with the Secretary of State as provided by ORS 222.180.

Read the first time on _____, and moved to second reading by _____ vote of the City Council.

Read the second time and adopted by the City Council on _____.

Signed by the Mayor on _____.

_____
Mark F. Gamba, Mayor

ATTEST:

_____
Scott S. Stauffer, City Recorder

APPROVED AS TO FORM:

_____
Justin D. Gericke, City Attorney

FINDINGS IN SUPPORT OF APPROVAL

Based on the staff report for the annexation of the public right-of-way in SE Lake Road and SE Kuehn Road adjacent to the Cereghino Farms subdivision property as well as the SE Lake Road ROW west to the current city limits, the Milwaukie City Council finds:

1. The Annexation Territory consists of approximately 2.16 acres of public right-of-way (ROW) in SE Lake Road and SE Kuehn Road, found on Assessor Maps 1S2E31CC, 2S2E06BA, 2S2E06BB, and 2S2E06BD. The Annexation Territory is contiguous to the existing city limits via the existing SE Lake Road ROW to the west as well as via a residential property at the southwest corner of SE Lake Road and SE Kuehn Road. The Annexation Territory is within the regional urban growth boundary and also within the city's urban growth management area (UGMA).

   Clackamas County currently has maintenance authority over the ROW that comprises the Annexation Territory, though the city expects to initiate a transfer of that authority following annexation. The surrounding area consists of residential dwellings and lots (mostly single-family).

2. The City Council initiated annexation of the Annexation Territory on May 21, 2019, in conjunction with the recent annexation of the Cereghino Farms subdivision property (Ordinance 2171, land use file #A-2019-001). The city seeks annexation of the SE Lake Road and SE Kuehn Road ROW to provide greater contiguity of the city limits to the Cereghino Farms subdivision property. The proposed annexation meets the requirements for initiation set forth in ORS 222.111, Metro Code Section 3.09.040, and Milwaukie Municipal Code (MMC) Subsection 19.1102.2.A.4.

3. The annexation petition was processed and public notice was provided in accordance with ORS Section 222.170(1), Metro Code Section 3.09.030, and MMC 19.1102.

4. The proposed annexation would adjust the city boundary on the comprehensive plan land use map and zoning map. The application includes a proposal to show the appropriate city land use and zoning designations over the Annexation Territory; for ROW, those designations are determined by the designations of the adjacent properties. The existing comprehensive plan land use and zoning designations on the adjacent properties, both in the county and within the current city boundary, are low density residential and residential R-10, respectively. As proposed, the city land use and zoning designations for the Annexation Territory would also be low density residential and residential R-10, respectively.

5. The approval criteria for annexations are contained in MMC 19.1102.3. They are listed below with findings in italics.

   A. The subject site must be located within the city's urban growth boundary (UGB);

      The Annexation Territory is within the regional UGB and within the city's UGMA.

B. The subject site must be contiguous to the existing city limits;

The Annexation Territory is contiguous to the existing city limits via the existing SE Lake Road ROW to the west as well as via a residential property at the southwest corner of SE Lake Road and SE Kuehn Road.

C. The requirements of Oregon Revised Statutes (ORS) for initiation of the annexation process must be met;

As allowed by ORS 222.111, the City Council initiated the annexation by a motion approved at its regular session meeting on May 21, 2019.

D. The proposal must be consistent with Milwaukie Comprehensive Plan policies;

Chapter 6 of the comprehensive plan contains the city's annexation policies. Applicable annexation policies include: (1) delivery of city services to annexing areas where the city has adequate services and (2) requiring annexation in order to receive a city service. City sewer and water services are available in the SE Lake Road portion of the Annexation Territory; bringing the Annexation Territory into the city will make those services available to other nearby unincorporated properties if they choose to annex. As proposed, the annexation is consistent with Milwaukie Comprehensive Plan policies.

E. The proposal must comply with the criteria of Metro Code Section 3.09.050, which refers to criteria (d) and (e) of Section 3.09.045.

The annexation proposal is consistent with applicable Metro code sections for annexations, as detailed in Finding 6.

F. The proposal must comply with the criteria of Section 19.902 for Zoning Map Amendments and Comprehensive Plan Map Amendments, if applicable.

The annexation would add new territory within the city limits, and the new territory must be designated on both the zoning map and the comprehensive plan map for land use. These additions effectively constitute amendments to the zoning map and comprehensive plan map.

The approval criteria for zoning map amendments and comprehensive plan amendments are provided in MMC Subsections 19.902.6.B and 19.902.3.B, respectively. Collectively, the criteria address issues such as compatibility with the surrounding area, being in the public interest and satisfying the public need, adequacy of public facilities, consistency with transportation system capacity, consistency with goals and policies of the Milwaukie Comprehensive Plan and relevant Metro plans and policies, and consistency with relevant State statutes and administrative rules.

MMC Table 19.1104.1.E establishes automatic zoning map and comprehensive plan map designations for expedited annexations. Compliance with the table is essentially equivalent to specific findings that address individual criteria for zoning map and comprehensive plan map amendments, such as compatibility, public need, etc. In essence, if a proposed designation is consistent with the table, it is consistent with the various applicable plans and policies.

In the case of the proposed annexation, the public ROW will assume the zoning designation of adjacent properties, which is R-10 both for incorporated and unincorporated lots in this area.

The application includes a proposal to designate the Annexation Territory according to the guidance of MMC Table 19.1104.1.E, from a county zoning designation of Residential R-10 to a city designation of R-10 for zoning and a county land use designation of Low Density Residential to a city designation of Low Density Residential for land use. The approval criteria for both proposed amendments are effectively met.

6. Prior to approving an annexation, the city must apply the provisions set forth in Subsection 3.09.050.D of the Metro Code, which references subsections D and E of Section 3.09.045. They are listed below with findings in italics.

   A. Find that the change is consistent with expressly applicable provisions in:

      (1) Any applicable urban service agreement adopted pursuant to ORS 195.205;

      There are no applicable urban service agreements adopted pursuant to ORS 195 in the area of the proposed annexation. The city has an UGMA agreement with Clackamas County that outlines procedures and practices for coordinating land use planning activities. The proposed annexation is in keeping with the city's policy of requiring properties to annex to the city in order to connect to city services.

      (2) Any applicable annexation plan adopted pursuant to ORS 195.205;

      There are no applicable annexation plans adopted pursuant to ORS 195 in the area of the proposed annexation.

      (3) Any applicable cooperative planning agreement adopted pursuant to ORS 195.020 (2) between the affected entity and a necessary party;

      There are no applicable cooperative planning agreements adopted pursuant to ORS 195 in the area of the proposed annexation.

      (4) Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;

      Clackamas County completed a North Clackamas Urban Area Public Facilities Plan in 1989 in compliance with Goal 11 of the Land Conservation and Development Commission for coordination of adequate public facilities and services. The city subsequently adopted this plan as an ancillary comprehensive plan document. The plan contains four elements:

      - *Sanitary Sewerage Services*
      - *Storm Drainage*
      - *Transportation Element*
      - *Water Systems*

      The proposed annexation is consistent with the four elements of this plan as follows:

      <u>Wastewater</u>: The city maintains a public sewer system in SE Lake Road within the Annexation Territory that can adequately serve the area. The existing sewer system in SE Kuehn Road is maintained by Clackamas County Water Environment Services (WES), which will retain maintenance authority after annexation of the SE Kuehn Road ROW. Staff intends to seek jurisdictional transfer of the sewer system to the city following annexation.

Storm: The city does not currently have any stormwater facilities in the ROW of SE Lake Road or SE Kuehn Road.

Transportation: Clackamas County currently maintains SE Lake Road and SE Kuehn Road. Following this annexation of ROW, the city will initiate a transfer of jurisdiction for maintenance authority.

Water: Clackamas River Water (CRW) is the identified water service provider in this plan. However, the city's more recent UGMA agreement with the county identifies the city as the lead urban service provider in the area of the proposed annexation. The city's water service master plan for all of the territory within its UGMA addresses the need to prepare for future demand and coordinate service provision changes with CRW. As per the city's intergovernmental agreement (IGA) with CRW, CRW will continue to provide water service within the Annexation Territory.

(5) Any applicable comprehensive plan.

As discussed in Finding 5, the proposed annexation is consistent with the Milwaukie Comprehensive Plan. The Clackamas County Comprehensive Plan contains no specific language regarding city annexations. The comprehensive plans, however, contain the city-county UGMA agreement, which identifies the area of the proposed annexation as being within the city's UGMA. The UGMA agreement requires that the city notify the county of proposed annexations, which the city has done. The agreement also calls for city assumption of jurisdiction of local streets that are adjacent to newly annexed areas. The city will initiate a transfer of jurisdiction for the newly annexed ROW in SE Lake Road and SE Kuehn Road once the annexation is official.

B. Consider whether the boundary change would:

(1) Promote the timely, orderly, and economic provision of public facilities and services;

As discussed above in Finding 6-a, the city is the primary identified urban service provider in the area of the proposed annexation. The proposed annexation will facilitate the timely, orderly, and economic provision of urban services to properties abutting the Annexation Territory.

The city has public sewer service via a sewer line in SE Lake Road. As per the UGMA agreement discussed above in Finding 6-a, CRW will continue to provide water service to the surrounding area through its existing water lines within the Annexation Territory.

(2) Affect the quality and quantity of urban services; and

The Annexation Territory consists of approximately 2.16 acres of public ROW in SE Lake Road and SE Kuehn Road. Annexation of the site is not expected to affect the quality or quantity of urban services in this area, given the surrounding level of urban development and the existing level of urban service provision in this area.

(3) Eliminate or avoid unnecessary duplication of facilities and services.

Upon annexation, the Annexation Territory will be served by the Milwaukie Police Department. The city will also assume responsibility for maintaining street lights in the

Annexation Territory. To avoid duplication of law enforcement and street lighting services, the site will be withdrawn from both the Clackamas County Service District for Enhanced Law Enforcement and Clackamas County Service District #5 for Street Lights, respectively, upon annexation.

C. A city may not annex territory that lies outside the UGB, except that it may annex a lot or parcel that lies partially within and partially outside the UGB.

The Annexation Territory is entirely within the regional UGB.

7. The city is authorized by ORS Section 222.120(5) to withdraw annexed territory from non-city service providers and districts upon annexation of the territory to the city. This allows for more unified and efficient delivery of urban services to newly annexed properties and is in keeping with the city's comprehensive plan policies relating to annexation.

Wastewater: The city maintains a public sewer system in SE Lake Road within the Annexation Territory that can adequately serve the area. The existing sewer system in SE Kuehn Road is maintained by Clackamas County Water Environment Services (WES), which will retain maintenance authority after annexation of the SE Kuehn Road ROW.

Water: CRW is the identified water service provider in this plan. However, the city's more recent UGMA agreement with the county identifies the city as the lead urban service provider in the area of the proposed annexation. The city's water service master plan for all of the territory within its UGMA addresses the need to prepare for future demand and coordinate service provision changes with CRW. As per the city's IGA with CRW, CRW will continue to provide water service within the Annexation Territory, which should not be withdrawn from this district at this time.

Storm: The city does not currently have any stormwater facilities in the ROW of SE Lake Road or SE Kuehn Road.

Fire: The Annexation Territory is currently served by Clackamas Fire District #1 and will continue to be served by the district upon annexation, since the entire city is within this district.

Police: The Annexation Territory is currently served by the Clackamas County Sheriff's Department and is within the Clackamas County Service District for Enhanced Law Enforcement, which provides additional police protection to the area. The city has its own police department, and this department can adequately serve the area. To avoid duplication of services, the area will be withdrawn from this district upon annexation to the city.

Street Lights: The Annexation Territory is currently within Clackamas County Service District #5 for Street Lights but will be withdrawn from this district upon annexation.

Other Services: Community development, public works, planning, building, engineering, code enforcement, and other municipal services are available through the city and will be available to the area upon annexation as necessary. The Annexation Territory will continue to remain within the boundaries of certain regional and county service providers, such as TriMet, North Clackamas School District, Vector Control District, and North Clackamas Parks and Recreation District.

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 | www.aks-eng.com

AKS Job #6685-02

OFFICES IN: BEND, OR - KEIZER, OR - TUALATIN, OR - VANCOUVER, WA

EXHIBIT B

Annexation Description

A portion of right-of-way, located in the Northwest One-Quarter of Section 6, Township 2 South, Range 2 East, Willamette Meridian, Clackamas County, Oregon, and being more particularly described as follows:

Beginning at the northwest corner of the Elisha Kellogg Donation Land Claim No. 54, also being on the west line of Document Number 2015-052983, Clackamas County Deed Records; thence along said west line, North 01°19’24" East 226.08 feet to the northeast corner of Document Number 2017-074698, Clackamas County Deed Records, also being on the southerly right-of-way line of SE Lake Road (45.00 feet from centerline), and the Point of Beginning; thence along said southerly right-of-way line along a non-tangent curve to the right with a Radius of 5774.58 feet, a Delta of 01°36'36", a Length of 162.28 feet and a Chord of North 70°42'56" West 162.27 feet; thence continuing along said southerly right-of-way line, North 69°54'38" West 154.92 feet; thence continuing along said southerly right-of-way line (variable width from centerline), North 72°46'23" West 100.12 feet; thence continuing along said southerly right-of-way line (50.00 feet from centerline), North 69°54'38" West 48.41 feet; along a curve to the right with a Radius of 5779.58 feet, a Delta of 00°54'03", a Length of 90.87 feet and a Chord of North 69°27'36" West 90.87 feet to the northwest corner of said deed, also being on the easterly right-of-way line of SE Kuehn Road, County Road No. 1249, (15.00 feet from center line); thence along said easterly right-of-way line, South 00°58'18" West 818.63 feet to the northwest corner of Document Number 2007-064347, Clackamas County Deed Records; thence leaving said easterly right-of-way line, North 87°34’13" West 30.00 feet to the westerly right-of-way line of SE Kuehn Road, County Road Number 1249, (variable width from centerline); thence along said westerly right-of-way line, Northerly 475 feet, more or less, to the southeast corner of Document Number 2006-109951, Clackamas County Deed Records, also being on the City of Milwaukie city limits line; thence continuing along said westerly right-of-way line and said city limits line, Northerly 385 feet, more or less, to the intersection of said westerly right-of-way line and the southerly right-of-way line of SE Lake Road (30.00 feet from centerline); thence along said southerly right-of-way line and said city limits line, Northwesterly 273 feet, more or less, to the southwesterly extension of the easterly line of Document Number 2011-010989, Clackamas County Deed Records; thence along said southwesterly extension and said city limits line, Northeasterly 60 feet, more or less, to the southeasterly corner of said deed, also being on the northerly right-of-way line of SE Lake Road (variable width from centerline); thence leaving said city limits line along said northerly right-of-way line, Southeasterly 881 feet, more or less, to the northerly extension of the west line of said Document Number 2015-052983; thence along said northerly extension and the west line of said Document Number 2015-052983, Southerly 101 feet, more or less, to the Point of Beginning.

The above described tract of land contains 2.16 acres, more or less.

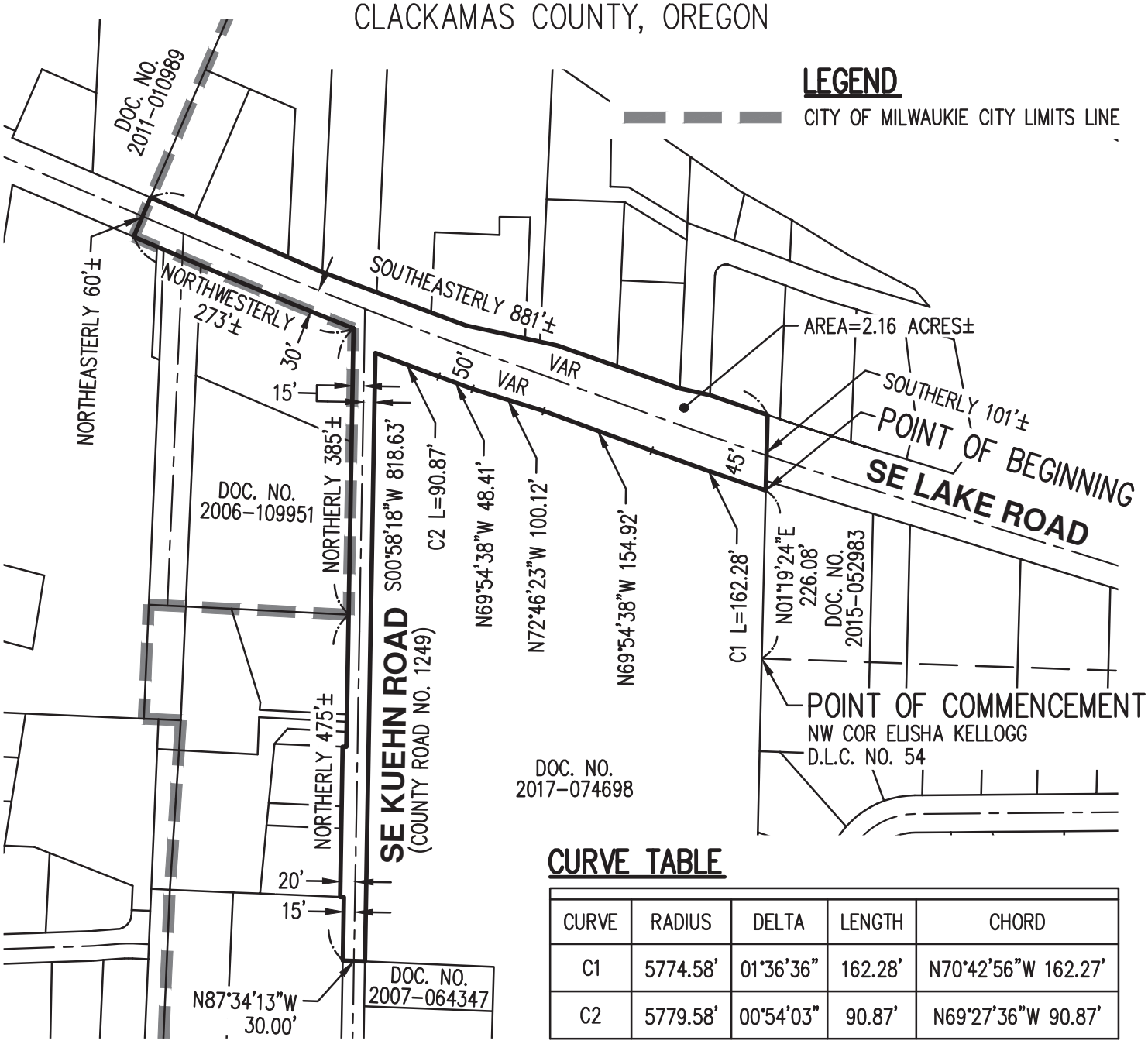
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Benjamin R Huff

OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

EXHIBIT B

A PORTION OF RIGHT-OF-WAY, LOCATED IN THE NORTHWEST 1/4 OF SECTION 6, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON



CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	5774.58'	01°36'36"	162.28'	N70°42'56"W 162.27'
C2	5779.58'	00°54'03"	90.87'	N69°27'36"W 90.87'

7/12/2019

REGISTERED PROFESSIONAL LAND SURVEYOR

Benjamin R Huff
OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS
RENEWS: 6/30/21

PREPARED FOR

CITY OF MILWAUKIE
6101 SE JOHNSON CREEK BOULEVARD
MILWAUKIE, OR 97206

SCALE: 1"= 200 FEET

200 0 40 100 200

ORIGINAL PAGE SIZE: 8.5" x 11"

N

ANNEXATION MAP

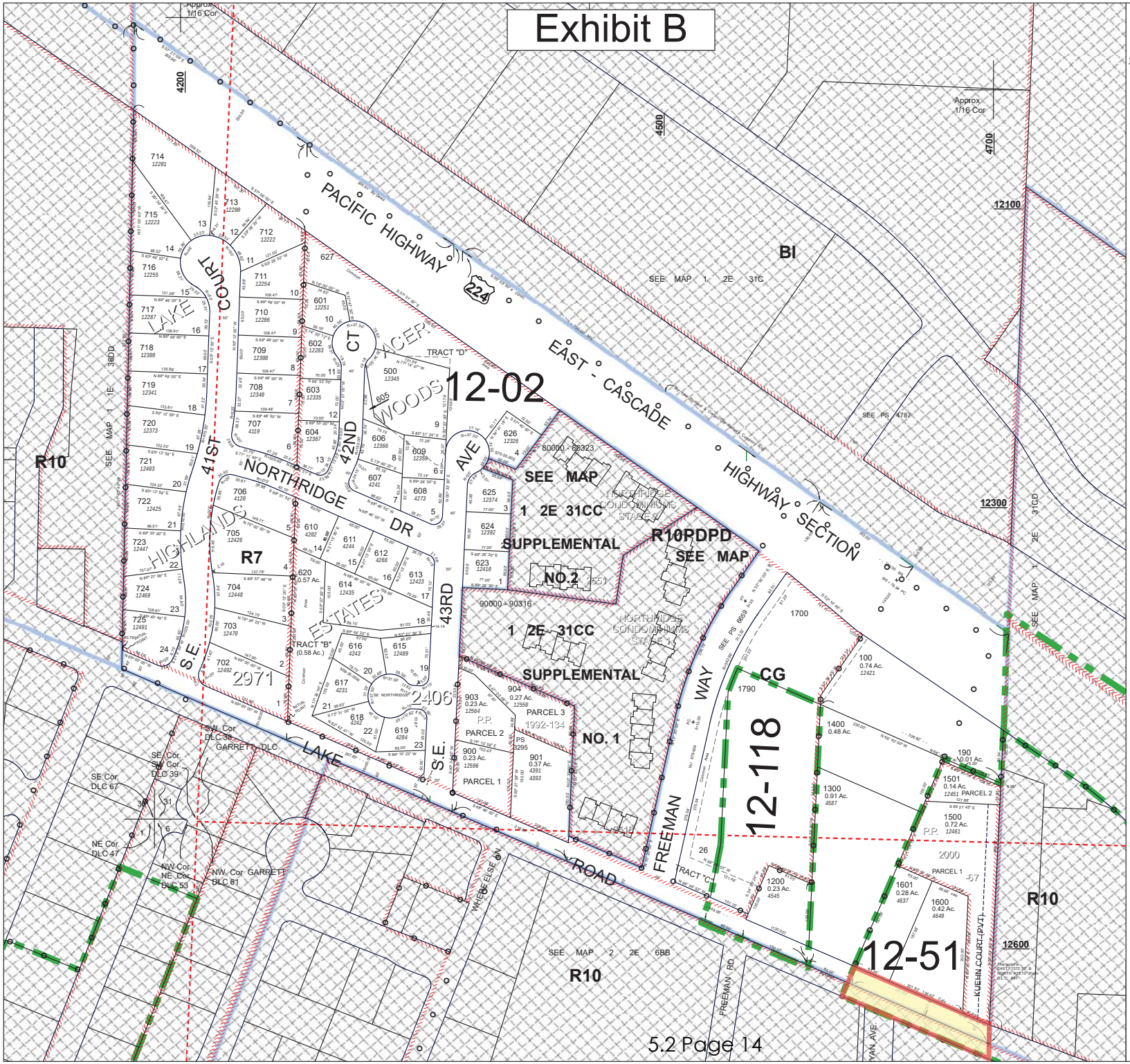
EXHIBIT B

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

DRWN: WCB
CHKD: BRH
AKS JOB: 6685-02

DWG: 6685-02 20190516 EXB | EXB

Exhibit B



1 2 E 31CC
MILWAUKIE

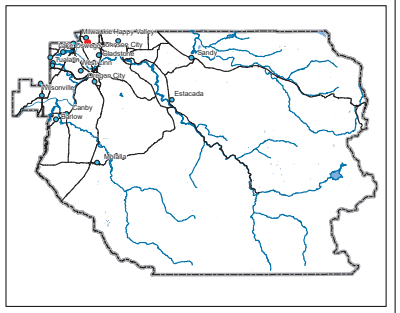
S.W.1/4 S.W.1/4 SEC.31 T.1S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 100'

D. L. C.
JOHN GARRETT NO 38 & 61
JOSEPH KELLOGG NO 39 & 67

Cancelled Taxlots

200
300
400
501
502
600
621
622C2
622
628
628C1
629C1
629C2
629C3
630C1
630C2
630C2
700
701
800
902
1000
1100
1780

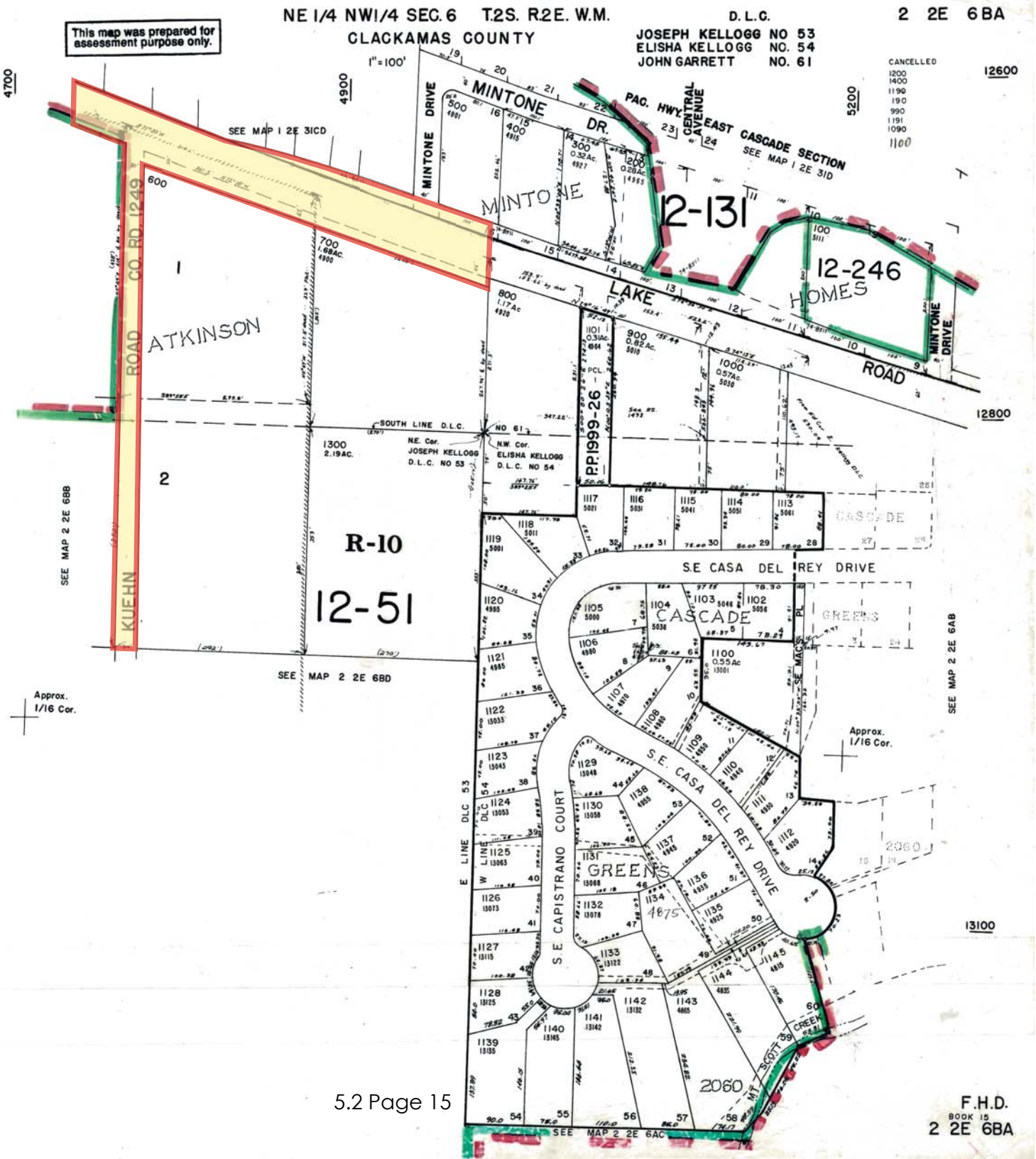
- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
- WaterLines
- Land Use Zoning
- Plats
- Water
- Corner
- Section Corner
- 1/16th Line
- Govt Lot Line
- DLC Line
- Meander Line
- PLSS Section Line
- Historic Corridor 40'
- Historic Corridor 20'

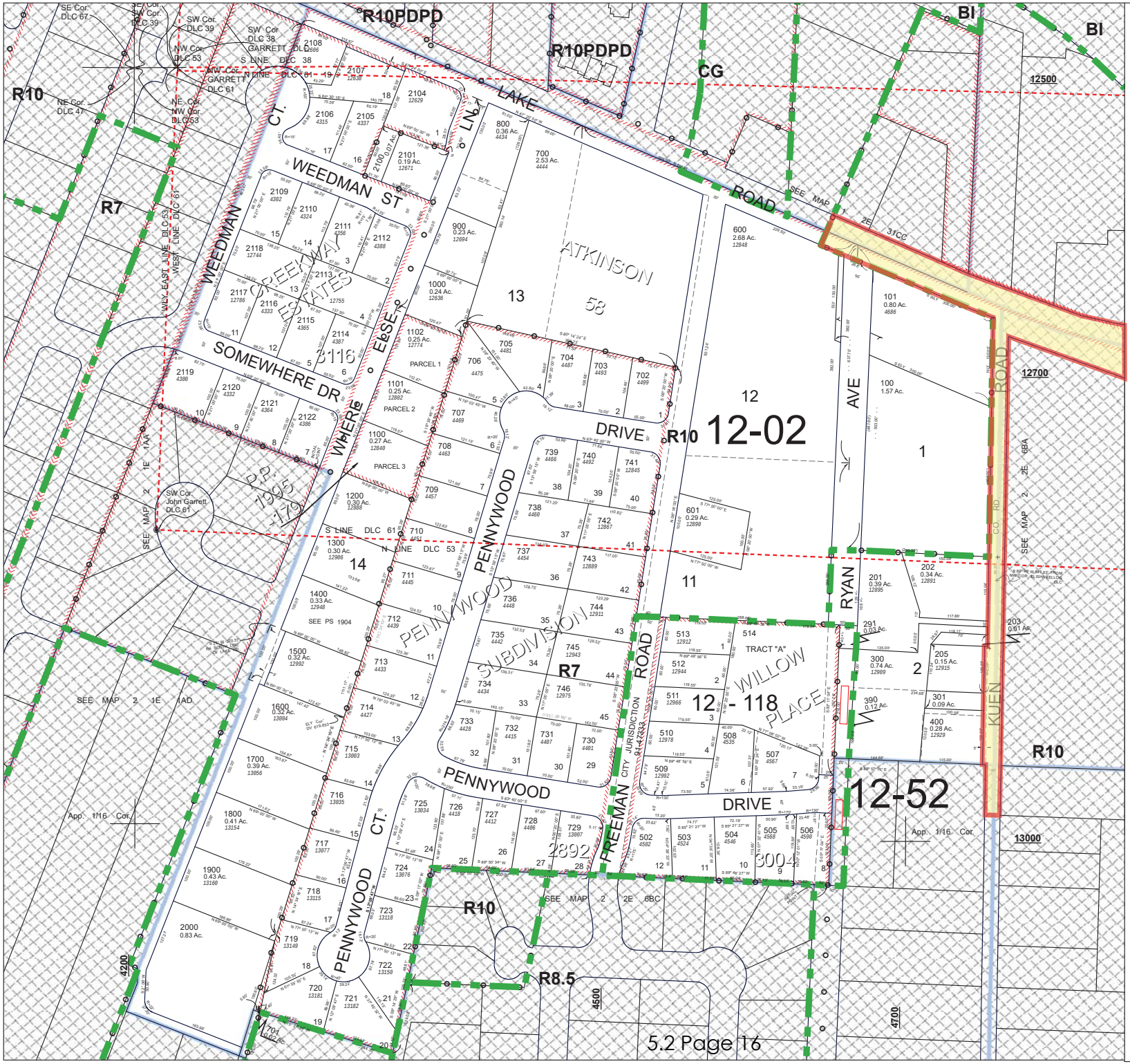


THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

7/25/2016

1 2 E 31CC
MILWAUKIE


This map was prepared for assessment purpose only.
NE 1/4 NW1/4 SEC. 6 T.2S. R.2E. W.M.
CLACKAMAS COUNTY
1"=100'
D. L. C.
JOSEPH KELLOGG NO 53
ELISHA KELLOGG NO. 54
JOHN GARRETT NO. 61
2 2E 6 BA
CANCELLED
1200
1400
1190
190
990
1191
1090
1100
12600
12800
13100
4700
4900
5200
SEE MAP 1 2E 31CD
SEE MAP 1 2E 31D
MINTONE DRIVE
MINTONE DR.
MINTO LE
PAC. HWY. CENTRAL AVENUE EAST CASCADE SECTION
12-131
12-246
HOMES
LAKE ROAD
MINTONE DRIVE
KUEHN ROAD CO. RD. 1249
ATKINSON
600
700 1.68Ac. 4900
800 1.17 Ac 4920
900 0.82 Ac. 5010
1000 0.57Ac. 5030
1101 0.31Ac 4964
PCL. 1
P.P.1999-26
SOUTH LINE D.L.C.
NO 61
1300 2.19AC.
N.E. Cor. JOSEPH KELLOGG D.L.C. NO 53
N.W. Cor. ELISHA KELLOGG D.L.C. NO 54
R-10
12-51
SEE MAP 2 2E 6BB
SEE MAP 2 2E 6BD
SEE MAP 2 2E 6AB
SEE MAP 2 2E 6AC
Approx. 1/16 Cor.
S.E CASA DEL REY DRIVE
CASCADE
GREENS
S.E. CASA DEL REY DRIVE
S.E CAPISTRANO COURT
GREEN
2060
E LINE DLC 53
W LINE
F.H.D.
BOOK 15
2 2E 6BA



2 2 E 06BB

N.W.1/4 N.W.1/4 SEC.6 T.2S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 100'

D. L. C.
JOHN D. GARRETT NO. 38 & 61
JOSEPH KELLOGG NO. 53

Cancelled Taxlots

200
204
401
500
500U1
500U2
501
590
591
594
596
2102
2103

- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
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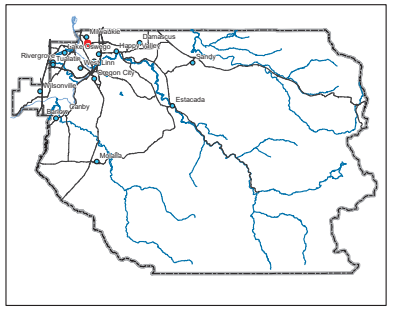
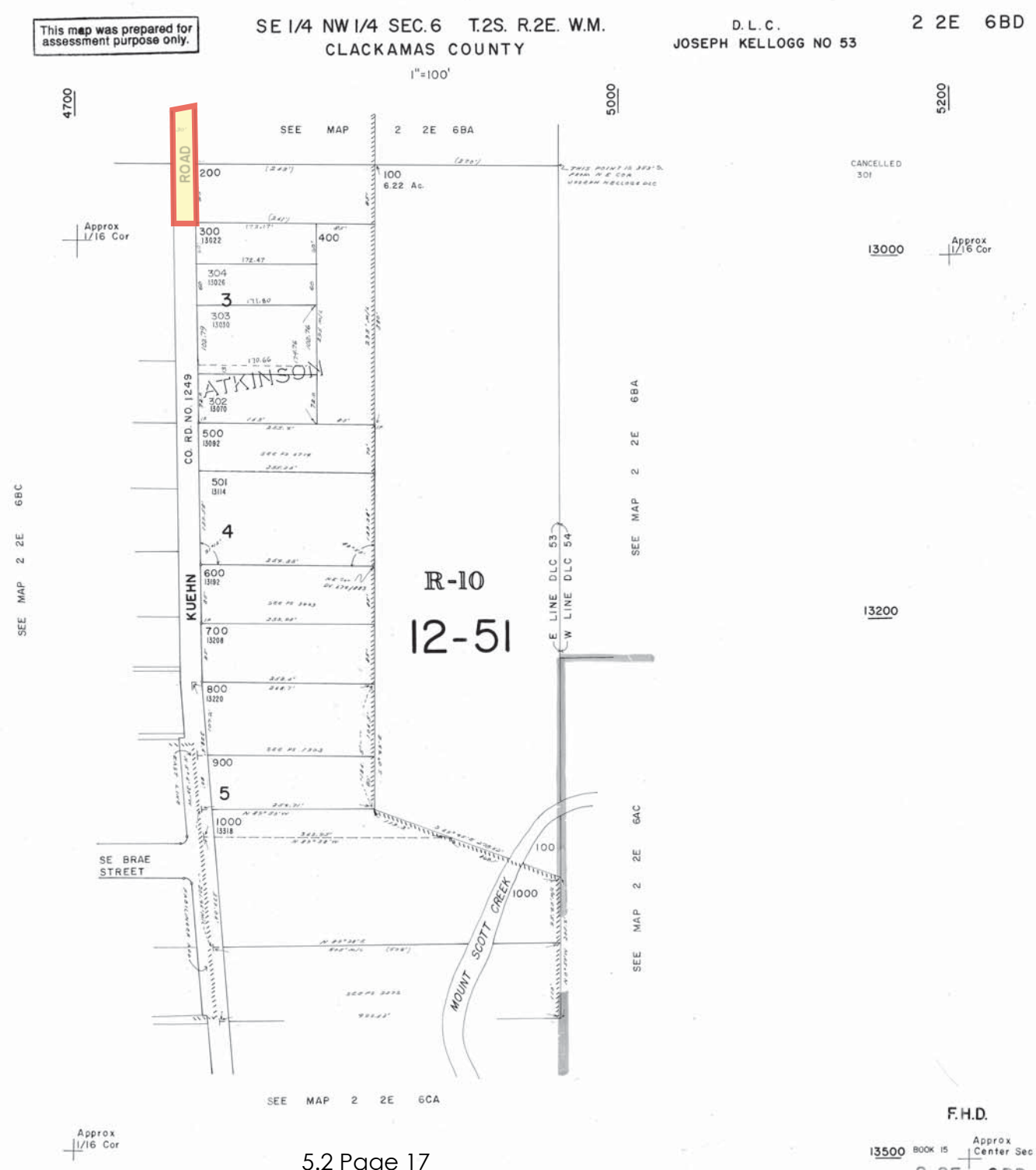
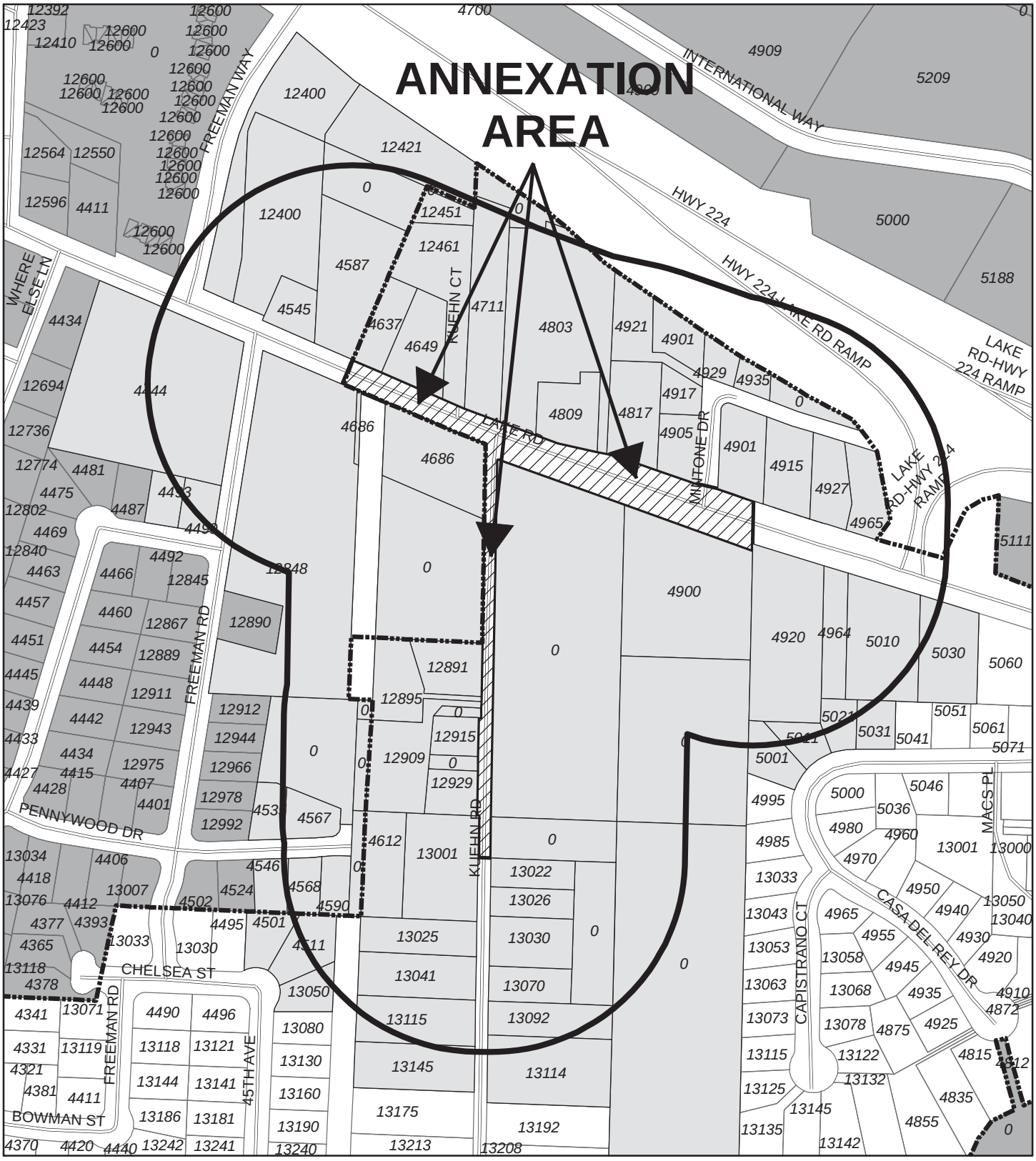


THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

11/12/2015

2 2 E 06BB


This map was prepared for assessment purpose only.
SE 1/4 NW 1/4 SEC. 6 T.2S. R.2E. W.M.
CLACKAMAS COUNTY
1"=100'
D.L.C.
JOSEPH KELLOGG NO 53
2 2E 6BD
4700
5000
5200
SEE MAP 2 2E 6BA
ROAD
200
100
6.22 Ac.
CANCELLED
301
Approx 1/16 Cor
300
13022
400
304
13026
3
303
13030
ATKINSON
302
13070
CO. RD. NO. 1249
500
13092
501
13114
4
600
13192
700
13208
800
13220
900
5
1000
13518
R-10
12-51
E LINE DLC 53
W LINE DLC 54
13000
13200
SEE MAP 2 2E 6BC
SEE MAP 2 2E 6BA
SE BRAE STREET
100
1000
MOUNT SCOTT CREEK
SEE MAP 2 2E 6AC
SEE MAP 2 2E 6CA
Approx 1/16 Cor
F.H.D.
13500
BOOK 15
Approx Center Sec
2 2E 6BD
9-11-69 D H



Site Map
Annexation of public right-of-way in Lake Rd & Kuehn Rd
File #A-2019-002

North

0 85 170 340 510 680 Feet

Legend

- ROW being annexed
- 400-ft notice boundary
- Properties receiving notice
- Other Milwaukie tax lots
- Other tax lots (unincorporated)
- City Limit

CITY OF **MILWAUKIE**

To: Planning Commission
Through: Dennis Egner, Planning Director
From: Wendy Marshall, Civil Engineer
Date: July 16, 2019, for July 23, 2019, Work Session
Subject: Street Renaming – Keil Crossing Subdivision

ACTION REQUESTED

Recommend that the City Council rename SE 43rd Avenue within the Keil Crossing subdivision. Options include Keil Street and Conway Street.

BACKGROUND INFORMATION

Keil Crossing subdivision, on SE Railroad Avenue between SE 42nd Avenue and SE 45th Avenue, was recorded with Clackamas County on June 29, 2019. The subdivision includes two new streets with access from SE Railroad Avenue. Both streets were given numerical avenue names. The eastern-most street (SE 44th Avenue) runs in a north-south direction similar to other numbered streets in the City. The western-most street (SE 43rd Avenue) runs in an east-west direction. See Attachment 1.

When the new street signs were installed and building permits were in review, Code Enforcement and Police personnel recognized that the street name for SE 43rd Avenue was confusing for emergency personnel and other road users, as the standard convention is to use the term ***Street*** for east-west routes, and ***Avenue*** for north-south routes.

Staff has determined it is in the City's and the public's best interest to rename SE 43rd Avenue within the Keil Crossing subdivision. One option is to name the street SE Keil Street after the family that purchased the property in 1888. The Cultural Resource Survey Form for the house that previously occupied the property is included as Attachment 2. The subdivision was named after this family.

A second option is to make the street name the same as another nearby east-west street that aligns with the subject street. The closest east-west street, though it does not align entirely, is SE Conway Street which is a cul-de-sac located 250 feet to the east.

Proposed address numbers have been assigned and will be revised by City staff per standard procedure to provide logical continuation of the grid and to coincide with the new street name (if approved by City Council).

The revision should occur as soon as possible, before any new homes are occupied, to minimize impact to the residents. Staff considers this request as a housekeeping measure to reconcile a prior naming problem.

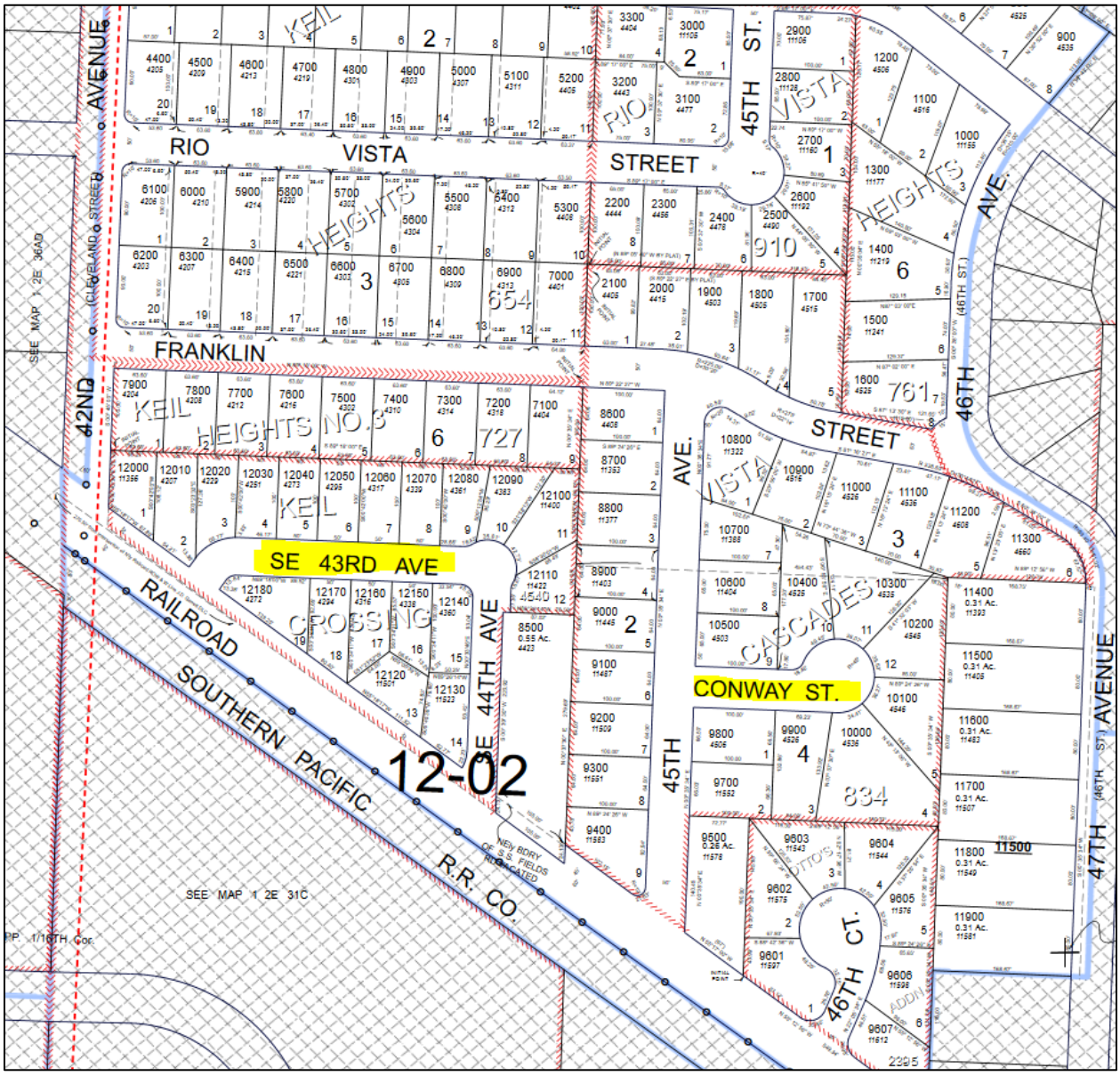
BUDGET IMPACT

The proposed action is anticipated to have minimal budget impact of less than $400. Two street name signs will be modified by the City sign shop.

ATTACHMENTS

1. Tax Lot Map
2. Cultural Resource Survey Form

Tax Lot Map


SE 43RD AVE
CONWAY ST.
RAILROAD
SOUTHERN PACIFIC
R.R. CO.
12-02
SEE MAP 1 2E 31C
SEE MAP 1 2E 36AD
42ND AVENUE
(CLEVELAND STREET)
FRANKLIN
RIO VISTA
KEIL HEIGHTS NO. 3
KEIL CROSSING
45TH ST.
STREET
AVE.
46TH AVE.
(46TH ST.)
47TH AVENUE
(46TH ST.)
44TH AVE
45TH
46TH CT.
CASCADES
654
727
910
761
834
2295

Cultural Resource Survey Form

Cultura[l Resource] Survey Form:

CLACKAMAS COUN. 4

T.D. NUMBER M-31-R5

PHOTO INFORMATIO

ROLL: X

FRAME: 9,10,11

STUDY AREA: MILWAUKIE

LEGAL: T. 1S R. 2E SEC. 31BC

TAX (LOTS): 8100

ZONE _____ SIZE _____

IDENTIFICATION:

COMMON/HISTORICAL NAME: The KEIL-HOESLY FARM HOUSE

ADDRESS: 4217 S. E. Railroad Avenue, Milwaukie AREA: Milwaukie

CURRENT OWNER: CARL HOESLY USE: Residence

OWNER'S ADDRESS: 210 W. McLoughlin Blvd., Vancouver, WA 98660

ORIGINAL OWNER: Jacob and Elizabeth Keil USE: Vacant

AREA OF SIGNIFICANCE: TOWN: X COUNTY: _____ CITY: _____ NATION: _____

HISTORIC INTEREST:

THEME: Architecture - 19th Century/Agriculture--Horticulture DATE: 1880's

DESCRIPTION: Jacob and Elizabeth Keil came to Milwaukie in 1876 from Wisconsin. They bought this farm from Mr. Wait when it was a small square building, with only a kitchen, front room and bedroom in 1888. In the 1890's they commissioned Mr. Shindler to build on the front portion of the house. Mr. Shindler was the first mayor of Milwaukie. Some of the original orchard trees still stand, probably acquired from Seth Lewelling Nursery.

ARCHITECTURAL INTEREST:

STYLE: Vernacular STORIES: 2

DATE: 1880's/Add. 1895 CONDITION: fair ARCHITECT: _____

SIDING: Shiplap 8", wide rake and corner boards.

ROOF: Cross Gable

DOORS: _____

WINDOWS: Narrow 1/1 double-hung, architrave molding.

MAIN ENTRANCE: Front entrance: Multi-light with architrave molding. Hip roof supported by chamfered posts and decorative brackets.

NOTES: Additions to the north. Center portion appears to have been built before that of the body of the house, but without later architrave molding. One window 4/4 off kitchen (looking into woodshed).

BIBLIOGRAPHY:

Unrecorded interview w/ a member of the Hoesly-Kei family.

DATE: 10/5/83

RECORDER: Altier/Hayden

106