



# Appeal of Site Review Denial Staff Report and Recommendation

Community Development Department, Planning Division

**Report Date:** January 14, 2019  
**Hearing Date:** January 22, 2019

**Land Use Request:** Appeal of the Community Development Department's denial of site plan approval for a 16-unit manufactured home park expansion

**File Number:** 311-18-000036-PLNG

**Property Location:** 4015 Pacific Avenue

**Legal Description:** Washington County Tax Lot 1N332CC01400

**Appellant:** Appellant: 3J Consulting, Inc. (Heather Austin), 5075 SW Griffith Drive, Suite 150, Beaverton, Oregon 97005

**Property Owner:** Property Owner: Rose Grove Mobile Home Park, Ltd. By Royce Management, 201 Ocean Avenue, Unit 507B, Santa Monica, California 90402

**Comprehensive Plan Map and Zoning Map Designations:** Community Commercial (CC)  
Community Commercial (CC)

**Applicable Standards and Criteria:** City of Forest Grove Development Code:  
§10.2.500 et. seq. *Director's Interpretation*  
§10.3.300 et. seq. *Commercial and Mixed Use Zones*  
§10.8.000 et. seq. *General Development Standards*

**Reviewing Staff:** Bryan Pohl, Community Development Director  
James Reitz (AICP), Senior Planner

## I. LAND USE HISTORY

The property at 4015 Pacific Avenue is located in the CC Community Commercial zoning district; it has been commercially-zoned since at least 1980. This 1.15-acre site has been vacant since 1976, when the house there burned and was demolished. For some time afterward the site was used for mobile or manufactured home sales. The only existing on-site improvement is a driveway along the west property line that serves the adjacent Rose Grove Mobile Home Park.

The site and Rose Grove MHP have been owned by the applicant for decades. City records do not indicate when Rose Grove MHP was initially created.

Rose Grove MHP generally and this site specifically have been the subject of multiple land use applications since 1990. The following is a brief synopsis of each application and its disposition:

1. CPA-90-03 and ZC-90-03: Comprehensive plan amendment and zone change to re-designate and re-zone Rose Grove MHP from commercial and industrial to residential (initiated by Rose Grove residents). Not approved by the City Council.
2. CU-00-01: Conditional use permit for an 18-space recreational vehicle park at 4015 Pacific Avenue. Disposition unknown.
3. CU-05-02: Conditional use permit for a 21-space recreational vehicle park at 4015 Pacific Avenue. Approved by the Planning Commission (approval expired after 1 year).
4. CU-08-01: Conditional use permit for a 21-space recreational vehicle park at 4015 Pacific Avenue. Denied by the Planning Commission. Approved by the City Council on appeal (with additional conditions).
5. CPA-09-01 and ZC-09-01: Comprehensive plan map amendment and Development Code zoning map amendment to re-designate and re-zone 4015 Pacific Avenue from Community Commercial to Medium Density Residential, to allow for an up to 14-unit expansion of the Rose Grove MHP. Not approved by the City Council.

Also in 2009, the City adopted the current Development Code (DC). The DC replaced the Zoning Ordinance which had been in effect since 1980. The Zoning Ordinance did not permit manufactured home parks in the Community Commercial zoning district as either a permitted or conditional use.

The DC underwent a multi-year writing, review and adoption process. The adopted code had many updates and revisions, including codes for lot line adjustments, wireless communication facilities, natural resource areas, and commercial and town center building design standards, among many other changes large and small.

The DC does not list manufactured home park as either a permitted or conditional use in the CC zoning district, despite the Planning Commission and City Council having had ample opportunity to include that revision at any time during the review and adoption process. As they were under the Zoning Ordinance, manufactured home parks remain conditional uses in the R-5, R-7, R-10, RML and RMH zoning districts; they must also comply with the provisions of DC §10.5.300 et. seq. Manufactured Dwelling Parks.

In May 2018 the applicant's attorney discussed with staff the possibility that Rose Grove MHP could be enlarged under the definition of Household Living, which is a Limited Use permitted in the CC zoning district. Staff recommended that the applicant file for a Director's Interpretation under DC §10.2.500 et. seq. The applicant filed for Site Development Review under DC §10.2.400. DC §10.2.500 allows for an interpretation to "be requested as a separate and individual action, or in advance of or concurrent with applying for a land use permit or other action."

## II. DIRECTOR'S INTERPRETATION

The applicant asserts that because manufactured dwellings are one of the housing types listed in the Household Living definition, and because Household Living is listed as a Limited Use permitted in the CC zoning district, it must follow that new manufactured

homes are permitted in the CC zoning district, and that therefore an expansion of the Rose Grove MHP is also permitted.

The Household Living definition is as follows: *Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month. Examples include single family detached and attached dwellings, duplexes, multifamily dwellings, and manufactured dwellings. The household living category includes most types of senior housing, e.g., congregate care and assisted living, if residents live in self-contained units. The Uniform Building Code shall determine the maximum number of people who may reside in any given dwelling unit. (DC §10.12.110(A))*

To approve the application for Site Development Review, staff would first have to find that the proposed use was permitted in the zone.

DC §10.2.500 Director's Interpretation notes that "It is expected that some terms or phrases within the Code may be ambiguous and may therefore have two or more reasonable meanings. Because it is not possible to identify or remove all ambiguities in the Code, the following process has been established for resolving these ambiguities. This process may be requested as a separate and individual action, or in advance of or concurrent with applying for a land use permit or other action."

On December 12, 2018, staff denied the application for Site Development Review, noting that:

1. *A definition is not a standard or an approval criterion.*
2. *An example is just one that is representative of all of a group or type. The examples listed in the definition are generally representative of Household Living types. As such, a list of examples cannot be construed as permitting e.g., single-family detached homes in the Town Center or the CC zoning district, nor manufactured home parks in the CC zoning district;*
3. *The Development Code stipulates the allowable locations for manufactured dwelling parks. DC §10.5.300(A) states that the purpose of the Manufactured Dwelling Park code is "To accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval." The CC zoning district is not listed as one where manufactured dwelling parks are allowed.*
4. *Even if the City were to accept the rationale that the Household Living definition somehow allowed for manufactured dwelling parks in the CC zoning district, DC §10.1.120(D) requires that "Where two or more requirements of this Code apply, the most restrictive requirement shall govern." In this context, because Manufactured Dwelling Park is specifically listed as a conditional use in most of the residential zones, and is not listed at all in the CC zoning district, the more restrictive requirement would prohibit approval of an application for a manufactured home park in any zoning district that was not R-10, R-7, R-5, RML or RMH.*

DC §10.2.510(E) Appeal to Planning Commission allows an applicant to appeal a Director's Interpretation. The applicant appealed this decision on December 26, 2018.

DC §10.2.510(F) authorizes the Planning Commission to consider the appeal at a public hearing. Notice of the appeal hearing was mailed to property owners and residents within 300 feet of the prospective site on December 31, 2018, and was published in the

*News Times* on January 16, 2019. As of the date of this report, no additional comments have been received from the appellant, property owner or other party.

### III. BASIS OF APPEAL

The appellant has submitted the following for the Planning Commission's consideration:

*The property owner disagrees with the staff finding that because DC Section 10.5.300(A) states that the purpose of the manufactured dwelling park code is to "accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval", manufactured dwelling parks are not permitted in the CC zoning district. The purpose statement of a code section is not a standard or approval criterion.*

*The absence of manufactured dwelling park as a conditional use in the CC zone does not imply that a manufactured dwelling park is not permitted in the zoning district. DC Section 10.3.320 lists many uses which are not permitted in the CC zoning district. Manufactured dwelling park is not among the uses listed as "not permitted" in the CC zoning district.*

An additional submittal was received on January 11, 2019 and is appended to this report as Exhibit 4.

### IV. ANALYSIS

The City has previously considered the question of whether to permit a use not explicitly listed in a zone via the Director's Interpretation process. In 2017, the Director issued an interpretation that a marijuana processor was not permitted in the Community Commercial zoning district. In that decision, the Director noted that "because that use (marijuana processor) is specifically addressed by the Code and is not included in the Community Commercial zone district, it is not eligible to be considered ... in the CC district." On appeal, that decision was sustained by the Planning Commission.

The question here is essentially the same: to use the Director's Interpretation process to determine whether to permit a use not specifically listed in a zoning district, while the use is specifically permitted in another zoning district. Consistent with the above interpretation, because Manufactured Dwelling Parks are not listed as a Permitted Use in the CC zoning district, but are listed as conditional uses in most residential districts, staff concluded that they cannot be permitted in the CC district via a Director's Interpretation.

Furthermore, ORS 197.480(5) would appear to apply. This statute reads as follows:

- a) *A city or county may establish clear and objective criteria and standards for the placement and design of mobile home or manufactured dwelling parks.*
- b) *If a city or county requires a hearing before approval of a mobile home or manufactured dwelling park, application of the criteria and standards adopted pursuant to paragraph (a) of this subsection shall be the sole issue to be determined at the hearing.*

c) *No criteria or standards established under paragraph (a) of this subsection shall be adopted which would preclude the development of mobile home or manufactured dwelling parks within the intent of ORS 197.295 and 197.475 to 197.490.*

Pursuant to subsection (a), the City has established clear and objective criteria and standards for manufactured dwelling parks, as codified in DC §10.5.300 et. seq. Because the City has adopted clear and objective standards for manufactured dwelling parks, that use cannot be approved using different Development Code criteria i.e., Site Development Review.

In addition, pursuant to subsection (b), the City does require a conditional use permit hearing to review proposals for manufactured home parks.

## V. FINDINGS

Finding: The applicant seeks to expand the Rose Grove Mobile Home Park (MHP) onto a new site located at 4015 Pacific Avenue.

Finding: The site at 4015 Pacific Avenue is located in the Community Commercial (CC) zoning district. The Development Code (DC) does not list Manufactured Home Parks as either a permitted or conditional use in the CC zoning district.

Finding: Household Living is a Limited Use in the CC zoning district, pursuant to Table 3-10 Footnote #2 as follows: "Residential units are permitted as a stand-alone use or part of a mixed use development in the CC zone, at a minimum density of 16.22 units/net acre and a maximum density of 30.00 units/net acre. There is no minimum density requirement when residential units are constructed over first floor commercial uses. Residential density for affordable housing may be increased to 50.00 units/net acre pursuant to §10.7.410 Table 7-2 Tier 2"

Finding: The applicant asserts that Rose Grove MHP can be permitted to expand because Household Living is a Limited Use permitted in the CC zoning district.

Finding: The definition of Household Living is "Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month."

Finding: A definition is not a standard or an approval criterion.

Finding: The Household Living definition lists several examples including "single-family detached and attached dwellings, duplexes, multi-family dwellings, and manufactured dwellings."

Finding: An example is just one that is representative of all of a group or type. The examples listed in the definition are generally representative of Household Living types that are permitted in various zoning districts located throughout the city. The listed types are not universally permitted in all zoning districts where Household Living is permitted. For example, multi-family dwellings are not permitted in single-family zoning districts.

Finding: The Household Living examples do not include manufactured home parks.

Finding: ORS 197.480(5) requires that the City adopt clear and objective criteria and standards for the placement and design of mobile home or manufactured dwelling parks. The City has done so, pursuant to DC §10.5.300 et. seq. Manufactured Dwelling Parks.

Finding: DC §10.5.300 lists Manufactured Dwelling Parks as conditional uses only in the R-5, R-7, R-10, RML and RMH residential zoning districts. Those are the only zoning districts where manufactured dwelling parks are explicitly permitted by the Development Code.

Finding: Manufactured Dwelling Parks are not listed as permitted or conditional uses in other zones where Household Living is permitted, including the SR, NC, CC, NMU, TCC and TCT zoning districts.

Finding: DC §10.1.120(D) requires that “Where two or more requirements of this Code apply, the most restrictive requirement shall govern.” Because Manufactured Dwelling Park is specifically listed as a conditional use in most of the residential zones, and is not listed at all in the CC zoning district, the more restrictive requirement would prohibit approval of an application for a manufactured home park in any zoning district that was not R-10, R-7, R-5, RML or RMH.

Finding: The DC was adopted in 2009. The City did not include the CC zoning district into DC §10.5.300 Manufactured Dwelling Parks which would have required such an application in the CC zoning district to comply with the standards listed therein.

Finding: Because a manufactured home park is not listed in §10.5.300, an application for a manufactured home park in the CC zoning district would not have to undergo Conditional Use permit review, but only Site Development Review.

Finding: Because the City requires conditional use permit review for a manufactured home park only in the R-5, R-7, R-10, RML and RMH residential zoning districts, it would be illogical for the City to exempt from conditional use permit review an application for a manufactured home park in another zoning district.

Finding: If Household Living is interpreted to allow all listed residential types in the CC zoning district, then it follows that all those same types must be allowed wherever Household Living is permitted. This would include allowing:

- Single-family detached homes in the Town Center. Since the TCT zoning district does not have minimum lot area, setback or off-street parking requirements, only the minimum density and height requirements would apply. Minimum density in the TCT zoning district is 16.22 Dwelling Units per Acre (DUA), which would allow homes on lots of approximately 2,700 square feet. A two-story home would satisfy the height requirement of 16 feet.
- Single-family detached homes and manufactured homes on lots in the Neighborhood Commercial (NC) zoning district, if part of a mixed use development and complying with density standards (3.48 to 4.35 DUA, or lot areas ranging from a high of 12,700 square feet to a low of 10,000 square feet).

Finding: While the TCT and NC zoning districts both permit Household Living, there is nothing in their Purpose statements to suggest that single-family subdivisions are allowed or should be permitted. Under the applicant’s interpretation however, such applications would have to be accepted.

Finding: The City has previously considered the question of whether to permit a use not explicitly listed in a zone via the Director's Interpretation process. In 2017, the Director issued an interpretation that a marijuana processor was not permitted in the Community Commercial zoning district. In that decision, the Director noted that "because that use (marijuana processor) is specifically addressed by the Code and is not included in the Community Commercial zone district, it is not eligible to be considered ... in the CC district." On appeal, that decision was sustained by the Planning Commission.

Finding: The City has previously ruled on an application to expand Rose Grove MHP onto the parcel at 4015 Pacific Avenue. In 2009 the City Council denied a request to amend the Comprehensive Plan map and Development Code zoning map to re-designate and re-zone the parcel from Community Commercial to Medium Density Residential, to allow for an up to 14-unit expansion of the Rose Grove MHP. To approve an expansion via a Director's Interpretation would be in conflict with the City Council's decision.

## VI. CONCLUSIONS

Staff concludes that:

- Approving this use via a Director's Interpretation would be in conflict with the Development Code (manufactured home parks are not listed as permitted uses in the CC zoning district), a previous Director's Interpretation (a use not listed cannot be permitted via a Director's Interpretation) and previous City Council decisions to not approve Rose Grove MHP expansion proposals.
- If Household Living is interpreted to allow all examples of residential types in the CC zoning district, then it follows that all those same types must be allowed wherever Household Living is permitted. This would allow single-family detached homes in the TCT and NC zoning districts, in addition to an expanded Rose Grove MHP and potentially other manufactured home parks elsewhere in the CC zoning district.
- Because the City requires conditional use permit review for a manufactured home park in the R-5, R-7, R-10, RML and RMH residential zoning districts, it would be illogical for the City to exempt from conditional use permit review an application for a manufactured home park in another zoning district.

## VII. RECOMMENDATION

The Planning Commission has at least these options:

- A. Sustain the Director's Decision; *or*
- B. Approve the appellant's interpretation, citing specific findings of fact in support of that conclusion, for inclusion in the Planning Commission Findings and Decision document; *and*
- C. Continue the matter to a date certain so that staff can prepare proposed Site Development Review conditions for Planning Commission approval.

VIII. LIST OF ATTACHMENTS

The following exhibits were received, marked, and entered into the record as evidence for this application at the time this staff report was written. Additional exhibits received after the date of this report will be marked beginning with the next consecutive number and will be entered into the record at the time the public hearing is opened, prior to oral testimony.

|           |  |
|-----------|--|
| Exhibit 1 | Application for Site Plan Approval                               |
| Exhibit 2 | Letter Denying Site Plan Approval                                |
| Exhibit 3 | Appeal Letter dated December 26, 2018                            |
| Exhibit 4 | Appellant's Letter to Planning Commission dated January 11, 2019 |

# EXHIBIT A

Site Review Application Materials  
Prepared and Submitted by the Applicant



**APPLICATION FOR:**

- Site Plan Approval
- Conditional Use
- Variance
- Appeal to \_\_\_\_\_

**Establish a Planned Development:**

- PRD  CPD  PID

**Comprehensive Plan Amendment:**

- Text  Map

**Zoning Ordinance Amendment:**

- Text  Map

**Land Division:**

- Subdivision  Partition
- Tentative Plat  Final Plat

**Other:** Site Development Review

**APPLICANT:**

**Name:** Heather Austin, AICP, 3J Consulting, Inc.  
**Address:** 5075 SW Griffith Dr, Suite 150  
**City:** Beaverton  
**State:** OR **Zip** 97005  
**Phone:** 503-887-2130 **Fax** \_\_\_\_\_  
**Email:** heather.austin@3j-consulting.com

**PROPERTY DESCRIPTION:**

**Site Address:** 3839 Pacific Avenue  
**Map and Tax Lot # :** 1N932D0001400  
 (Please attach legal description)  
**Total Acres or Square Feet:** \_\_\_\_\_  
**Acres:** 0.98 (After LLA Approved September 12, 2018)  
**Sq. Ft:** 42,483

**PROPERTY OWNERS:**

**Name:** Rose Grove Mobile Home Park Ltd.  
**Address:** 201 Ocean Ave #507B  
**City:** Santa Monica  
**State:** CA **Zip** 90402  
**Phone:** 310-422-5481 **Fax** \_\_\_\_\_  
**Email:** deb@rkleinman.com

**PROPERTY USE DESCRIPTION:**

**Existing Land Use:** Vacant  
**Existing Zone:** CC- Community Commercial  
**Proposed Zoning:** CC- Community Commercial  
 (if applicable)  
**Proposed Use:** Manufactured Home Park Expansion

**ADDITIONAL INFORMATION:**

In order to expedite and complete the processing of this application, the Planning Division requires that all pertinent material required for review be submitted at the time application is made. If the application is found to be incomplete, review and processing of the request will not begin until the application is made complete. The submittal requirements relative to this application may be obtained from the specific sections of the Zoning or Land Division Ordinances pertaining to this application and from Planning Division staff. Pre-application conferences with Planning Division staff are encouraged. If there are any questions as to submittal requirements, contact the Planning Division prior to formal submission of the application. In submitting this application, the applicant should be prepared to give evidence and information which will justify the request. *The filing fee must be paid at the time of submission. This fee in no way assures approval and is non-refundable.*

Continued

I certify that the statements made in this application are complete and true to the best of my knowledge. I understand that any false statements may result in denial of this application.

Applicants Signature Heather M Austin Date 9/19/18

Property Owner's Signature Dorothy E Rye Date 9-15-18

**For Office Use:**

Received by \_\_\_\_\_ Date \_\_\_\_\_

Fee Paid \_\_\_\_\_ Date \_\_\_\_\_

Receipt Number \_\_\_\_\_

Application Number \_\_\_\_\_

File Number \_\_\_\_\_



## **ROSE GROVE MOBILE HOME PARK**

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3839 SW PACIFIC AVENUE | FOREST GROVE, OR  
SITE DEVELOPMENT REVIEW  
NOVEMBER 2018

### **OWNER | APPLICANT**

ROSE GROVE MOBILE HOME PARK LTD.  
201 OCEAN AVENUE #507B  
SANTA MONICA, CA 90402  
CONTACT: DEBORAH KLEINMAN  
PHONE: (310) 422-5461

### **APPLICANT'S REPRESENTATIVE:**

3J CONSULTING, INC  
5075 SW GRIFFITH DRIVE, SUITE 150  
BEAVERTON, OR 97005  
CONTACT: Heather Austin, AICP  
PHONE: (503) 946-9365 x.206

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**Attachments**

- Land Use Application
- CWS Service Provider Letter
- Preliminary Land Use Plans

## GENERAL INFORMATION

Property Owner and Applicant: **Rose Grove Mobile Home Park Ltd.**  
201 Ocean Avenue #507B  
Santa Monica, CA 90402  
Contact: Deborah Kleinman  
Phone: 310-422-5461  
Email: deb@kleinman.com

Applicant's Representative: **3J Consulting, Inc.**  
5075 SW Griffith Drive, Suite 150  
Beaverton, OR 97005  
Contact: Mercedes Smith  
Phone: 503-946-9365  
Email: heather.austin@3j-consulting.com

## SITE INFORMATION

Parcel Number: 1N332D001400  
Address: 3839 SW Pacific Ave  
Size: 0.98 acres  
Zoning Designation: CC- Community Commercial  
Existing Use: Vacant  
Street Functional Classification: SW Pacific Avenue is classified as an arterial  
Surrounding Zoning: The property is surrounded on all sides by CC- Community Commercial zoning.

## INTRODUCTION

### APPLICANT'S REQUEST

Rose Grove Mobile Home Park Ltd. is proposing to develop this site to accommodate 16 manufactured homes. This site is immediately adjacent to the existing Rose Grove development, which contains 1,300 homes. The access to this site is proposed through the existing street network within Rose Grove. The existing curb cut to SW Pacific Avenue at this site will be limited to an emergency-vehicle-only access. This narrative has been prepared to describe the proposed development and to document compliance with the relevant sections of Forest Grove's Development Code.

## **SITE DESCRIPTION/SURROUNDING LAND USE**

This site is located at 3839 SW Pacific Avenue within the City of Forest Grove and is identified as Tax Lot 1400 on Washington County Tax Assessor's Map Number 1N332D. The subject site is approximately 0.98 acres in size (pending recordation of a lot line adjustment approved by the City of Forest Grove on September 12, 2018). The site is vacant and generally flat. There is public sidewalk adjacent to the park along SW Pacific Street. All of the surrounding property is zoned Community Commercial (CC). North of the site is the Rose Grove Mobile Home Park. West of the site is the Best Western University Inn & Suites. East of the site is Doherty Ford, a vehicle sales and repair business. South of the site is SW Pacific Avenue, across which is a Seventh Day Adventist church.

## **PROPOSAL**

The Rose Grove Mobile Home Park is a residential neighborhood in Forest Grove providing needed housing to over 1,300 families, including 800 children. This proposal seeks to add sixteen (16) spaces for manufactured homes, expanding the park's ability to serve Forest Grove families.

Utility connections will be provided via the existing lines in SW Pacific Avenue (TV Highway). The frontage of SW Pacific Street adjacent to this property includes a public sidewalk. Access to the new 16 homes will be from an internal connection to Rose Grove, with the current driveway apron on SW Pacific Avenue serving as emergency-access only. Trash and recycling in Rose Grove is collected at each individual home. The 16 new homes will also be served with garbage and recycling directly with no group enclosure proposed.

## **APPLICABLE CRITERIA**

The following sections of Forest Grove's Development Code have been extracted as they have been deemed to be applicable to the proposal. Following each **bold** applicable criteria or design standard, the applicant has provided a series of draft findings. The intent of providing code and detailed responses and findings is to document, with absolute certainty, that the proposed development has satisfied the approval criteria for a Site Development Review Application.

This Application is for the "development of housing." Therefore, ORS 197.307(4) requires that only "clear and objective standards, conditions and procedures" may be applied to the project. A number of site development review criteria are not clear and objective, including:

- 10.2.450.B, C, D, E, and F.
- 10.8.410.A, B, C, D, and F.
- 10.8.425.A.

These criteria do not apply to the Application under ORS 197.307(4). However, in the alternative, the Applicant provides responses to these criteria, below.

## ARTICLE 2- LAND USE REVIEWS

### SITE DEVELOPMENT REVIEW

#### 10.2.450 REVIEW CRITERIA

The Director shall review and approve, conditionally approve, or deny the site development plan based on the following criteria:

**A. The site development plan complies with all applicable standards of the base zoning district, any overlay district, and the applicable general development standards of Article 8.**

**Applicant's Finding:** As described within this narrative, the site development plan complies with all applicable standards of the Community Commercial (CC) zoning district, and the applicable general development standards of Article 8. This standard is met.

**B. The site development plan ensures reasonable compatibility with surrounding uses as it relates to the following factors:**

- 1. Building mass and scale do not result in substantial visual and privacy impacts to nearby residential properties; and**
- 2. Proposed structures, parking lots, outdoor use areas or other site improvements that could cause substantial off-site impacts such as noise, glare and odors are oriented away from nearby residential uses and/or adequately mitigated through other design techniques.**

**Applicant's Finding:** The adjacent property to the north is part of the same manufactured home park. To the east is the Doherty Ford dealership and to the west is the 2-story Best Western University Inn, both of which are much greater in building mass and scale than the proposed home sites. There are no off-site impacts such as noise, glare and odors associated with the proposed use. This standard is met.

**C. The site development plan preserves or adequately mitigates impacts to unique or distinctive natural features including, but not limited to:**

- 1. Significant on-site vegetation and trees;**
- 2. Prominent topographic features; and**
- 3. Sensitive natural resource areas such as wetlands, creek corridors and riparian areas.**

**Applicant's Finding:** There are no significant on-site vegetation, trees, or prominent topographic features. As stated in the submitted Clean Water Services Service Provider Letter, sensitive natural resource areas. This standard is met.

**D. The site development plan preserves or adequately mitigates impacts to designated historic resources.**

**Applicant's Finding:** There are no designated historic resources on this site. This standard is met.

**E. The site development plan provides adequate right-of-way and improvements to abutting streets to meet the street standards of the City. This may include, but not be limited to, improvements to the right-of-way, sidewalks, bikeways, and other facilities needed because of anticipated vehicular and pedestrian traffic generation.**

**Applicant's Finding:** This site is adjacent to SW Pacific Avenue, a fully-developed arterial with adequate public sidewalk. No additional public improvements are anticipated with this proposal. This standard is met.

**F. The site development plan promotes safe, attractive and usable pedestrian facilities that connect building entrances, public sidewalks, bicycle and auto parking spaces, transit facilities, and other parts of a site or abutting properties that may attract pedestrians.**

**Applicant's Finding:** The proposed site development plan will connect in to the Rose Grove Mobile Home Park. Rose Grove is home to 1,300 people, 800 of whom are children. Rose Grove constructed a large playground and open space in the fall of 2017 to support the families within the park. The proposed addition of 16 home sites will utilize an extension of the existing on-site pedestrian/bicycle/vehicle shared connectivity network successfully serving the residents of the park. Rose Grove is on the free Grovelink community bus line and the #57 Trimet bus route. Public sidewalks connect the park within a mile to employment opportunities, shopping centers, medical offices, restaurants and other services. This standard is met.

## ARTICLE 3- ZONING DISTRICTS

### COMMERCIAL AND MIXED USE ZONES

#### 10.3.320 USE REGULATIONS

Refer to Article 12 for information on the characteristics of uses included in each of the Use Categories. **B. Limited Uses. Uses that are allowed subject to specific limitations are listed in Table 3-10 with an "L". These uses are allowed if they comply with the limitations listed in the footnotes to the table and the development standards and other regulations of this Code.**

**Applicant's Finding:** The Property is zoned "Community Commercial" (CC). The purpose of the zone is described as follows:  
"The CC zone is established to promote a concentration of mixed uses – including retail, service, office and residential uses – along the regional transit corridor. The link between land use and transit is intended to result in an efficient development pattern that supports the regional transit system and makes progress in reducing

traffic congestion and air pollution. The location, mix and configuration of land uses are designed to encourage convenient alternatives to the auto, a safe and attractive streetscape, and a more livable community.” FGZO 10.3.310.B.

The CC zone allows all residential uses as “household living” (FGZO Table 3-10), the definition of which includes manufactured homes:

“Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month. Examples include single family detached and attached dwellings, duplexes, multifamily dwellings, and manufactured homes. The household living category includes most types of senior housing, e.g., congregate care and assisted living, if residents live in self-contained units. The Uniform Building Code shall determine the maximum number of people who may reside in any given dwelling unit.” FGZO 10.12.110.A.

Stand-alone residential projects, such as the one proposed, which is not part of a mixed-use development, require a density of between 16.22 and 30 dwelling units per acre. The proposed stand-alone residential development proposes 16 units on 0.98 acres, or a density of 16.32 dwelling units per acre. This standard is met.

### 10.3.330 COMMERCIAL AND MIXED USE ZONE DEVELOPMENT STANDARDS

#### B. Development Standards

| <b>STANDARD</b>                | <b>CC Zone</b>                              |
|--------------------------------|---|
| <b>Maximum Use Size</b>        | <b>No maximum</b>                           |
| <b>Minimum Lot Size</b>        | <b>5,000 square</b>                         |
| <b>Minimum Lot Width</b>       | <b>50 feet</b>                              |
| <b>Minimum Lot Depth</b>       | <b>None</b>                                 |
| <b>Minimum Setbacks</b>        |   |
| - Front                        | <b>None</b>                                 |
| - Interior Side                | <b>None</b>                                 |
| - Corner (street side)         | <b>None</b>                                 |
| - Rear 15                      | <b>None</b>                                 |
| <b>Maximum Setback</b>         | <b>None- Property is East of Oak Street</b> |
| <b>Maximum Building Height</b> | <b>45 feet</b>                              |
| <b>Minimum Landscaped Area</b> | <b>15% of site</b>                          |

**Applicant's Finding:** The lot size far exceeds the 5,000 square foot minimum and the lot width far exceeds the 50-foot minimum. No buildings will exceed the 45-foot height maximum. A minimum of 15% of the site will be landscaped, as shown on the submitted site plan. This standard is met.

## ARTICLE 5- SPECIAL PROVISIONS

### TREE PROTECTION

#### 10.5.110 CITY APPROVAL REQUIRED

A. In no case can trees within the public right-of-way that are deemed by the City to be healthy and pose no risk of property damage or personal injury be removed or topped. In addition, unless approved by a tree permit or specifically exempted under subsection (C) below, it shall be unlawful within any one year to modify protected trees included in §10.5.100 as follows:

1. Remove or prune as to remove over 20% of a tree's canopy,
2. Top a tree, or
3. Disturb over 10% of the critical root zone of any protected tree or vegetation except in accordance with the provisions of this Code.

#### B. Permit Requirements

1. The applicant shall file an application for protected tree removal or pruning with the City. The application shall include information on the location and size of the parcel, the location, type, and size of the tree or trees proposed for removal or pruning, and the reasons for the request. Where specified by this code, a tree protection plan shall be provided in accordance with the provisions of §10.5.120. The application and reasons shall address appropriate criteria based on the categories in described in §10.5.100 (i.e., street trees, trees on developable land, etc.)

2. Where an application involves infested tree(s), the application shall contain an analysis of the tree(s) by an arborist.

3. The Director shall determine whether the request is valid under the terms of this Code within four working days of submittal of the application. If valid, the application shall be processed as a Type I permit within seven working days unless referred or appealed to the Community Forestry Commission (CFC).

4. Applications for the removal or pruning of trees pursuant to §10.5.125 shall be submitted as part of the land use permit application or grading permit, whichever is first. The application shall be reviewed and acted upon by the Community Forestry Commission prior to the issuance of any land use approval for new development or grading permit. Notice will be sent consistent with the Type II procedures with appeal to the City Council.

#### C. Permit Exemption. The following activities do not require a permit:

1. Imminent Danger. If an imminent danger exists to the public or any property owner or occupant, the City may issue an emergency removal permit. The removal shall be in accordance with accepted arboricultural standards and be the minimum necessary to eliminate the danger.

2. Penalty for Incorrect Danger Assessment. If it is determined that imminent danger did not exist or that the hazardous condition had existed for over sixty (60) days and the owner delayed in applying for a permit, mitigation shall be required as established in §10.5.150 of this Code.

3. Maintenance. Regular maintenance which does not require removal of over 20% of the tree's canopy, tree topping, or disturbance of over 10% of the root system.

**Applicant's Finding:** There are no existing street trees on this site. The trees on-site are addressed in Section 10.5.130, below. This standard is met.

#### 10.5.120 STREET TREES (TREES IN PUBLIC RIGHTS-OF-WAY)

##### A. Standards and Requirements.

1. **Street Trees Required.** All development projects fronting on a public or private street more than 100 feet in length approved after the adoption of this title shall be required to plant street trees.
2. **Street Tree Planting List.** Certain trees can severely damage utilities, streets and sidewalks or can cause personal injury. Approval of any planting list shall be subject to review by the Director.
3. **Tree Plan Required.** New street trees shall conform to an existing tree plan unless a specific exemption is granted. When a tree plan does not exist, the City shall determine tree species. In selection of tree species, the City shall consider the list of prohibited trees, the available planting area, above or below ground restrictions, the need for tree diversity, and the requests of adjacent property owners.
4. **Size and Spacing of Street Trees.** The specific spacing of street trees by size of tree shall be as follows:
  - a. Small or narrow-stature trees under twenty-five (25) feet tall and less than sixteen (16) feet wide branching at maturity shall be spaced no greater than twenty (20) feet apart;
  - b. Medium-sized trees twenty-five to forty (25-40) feet tall, sixteen to thirtyfive (16-35) feet wide branching at maturity shall be spaced no greater than thirty (30) feet apart;
  - c. Large trees over forty (40) feet tall and more than thirty-five (35) feet wide branching at maturity shall be spaced no greater than forty (40) feet apart.
  - d. Except for signalized intersections, trees shall not be planted closer than twenty (20) feet from a street intersection, nor closer than two (2) feet from private driveways (measured at the back edge of the sidewalk), fire hydrants or utility poles to maintain visual clearance.
  - e. No new utility pole location shall be established closer than five (5) feet to any existing street tree.
  - f. Street trees shall not be planted closer than twenty (20) feet to light standards.
  - g. Where there are overhead power lines, the street tree species selected shall be of a type which, at full maturity, will not interfere with the lines.
  - h. Street trees shall not be planted within two (2) feet of any permanent hard surface paving or walkway:
    - i. Space between the tree and the hard surface may be covered by a nonpermanent hard surface such as grates, bricks on sand, paver blocks and cobblestones; and
    - ii. Sidewalk cuts in concrete for tree planting shall be at least four feet by four feet (4 X 4) to allow for air and water into the root area.
5. **Pruning Requirements.** Trees or shrubs within any public right-of-way, or on public and private grounds and having branches projecting into the public street or sidewalk, shall be kept pruned by the owner or owners of property adjacent to or in front of which such trees, shrubs or plants are growing and shall meet the following:
  - a. At least eight (8) feet of clearance above sidewalks, thirteen (13) feet above local streets, and fifteen (15) feet above collector and arterial street roadway surfaces shall be provided.
  - b. The branches of any tree, shrub, or other vegetation shall be pruned so as to maintain the clear vision area requirements as set forth in §10.8.150.
  - c. Newly planted trees may remain untrimmed, provided they do not interfere with street traffic or persons using the sidewalk.

6. **Cut And Fill Around Existing Trees.** Existing trees may be used as street trees if no cutting or filling takes place within the drip-line of the tree.

7. **Granting Of Adjustments.** Adjustments to the street tree requirements may be granted by the Director by means of a Type I or II procedure, using approval criteria in Article 2 for Adjustments.

8. **Street Tree Maintenance – Property Owner Responsibility**

a. The adjacent property owner shall appropriately water the tree for two (2) years following planting, unless a City irrigation system, maintenance program, or separate maintenance contract is developed which specifically removes the property owner of this responsibility.

b. Pruning requirements. Trees or shrubs within any public right-of-way, or on public and private grounds and having branches projecting into the public street or sidewalk, shall be kept pruned according to city standards by the owner or owners of property adjacent to or in front of which such trees, shrubs or plants are growing.

c. Where tree roots create hazardous sidewalk conditions, the owner is responsible for pruning the roots or modifying the sidewalk to alleviate the hazardous condition.

9. **City Maintenance of Street Trees**

a. The City may perform pruning on any street tree within the rights-of-way without a permit if total pruning results in removal of less than 20% of the crown or disturbance of less than 10% of the root system. Major pruning of a series of street trees may be combined in one permit.

b. If the owner or owners, lessees, occupants or person in charge of the property shall fail and neglect to trim such trees, shrubs or plants within ten (10) to forty-five (45) days after notice, the City shall trim such trees, shrubs or plants and shall bill the property owner for the cost of the work. Such trimming by the City shall not relieve such owner, lessee, occupant or person in charge of responsibility for violation of the code.

10. **Additional Requirements**

a. It shall be unlawful to attach anything to a tree, or to the support of protection devices of a tree, except that which is used for support or protection or approved by the City.

b. It shall be illegal to remove protective devices from around a tree, or in any way damage a street tree.

c. The applicant shall state when products of pruning or tree removal will be used for a financial return. The commercial harvesting of tree products (e.g. harvesting and selling of spring foliage) shall not be the primary purpose for pruning or cutting street trees.

d. If removal is allowed, the stump shall be removed to a depth of six (6) inches below the surface of the ground or finish grade of the street, whichever is of greater depth.

e. A tree of at least two (2) -inch or larger caliper size shall be planted within one (1) year of removal of the street tree.

**B. Criteria for Pruning or Removal.** The permit for major pruning or removal shall be granted if any of the following criteria are met:

1. The tree is dead or diseased. This criterion shall not be used as the sole reason for removal if the cost of curing the disease is less than one-fourth of the value of the tree. Criterion 1 is to determine if major pruning or removal is appropriate, and shall not be used to require treatment of the tree.

2. The tree has become a major nuisance by virtue of damage to personal property or improvements, either public or private, on the subject site or adjacent sites, and that the

maintenance required to prevent damage to such improvements or property outweighs the value of the tree to the community.

3. The tree is unsafe to the occupants of the property, an adjacent property or the general public.

4. The removal has been approved as part of a development project, pursuant to the provisions of §10.5.135.

5. The removal is for a public purpose, and there is no alternative without significant cost or safety problems.

6. The removal is part of a street tree improvement program, such as improving the streetscape, or improving the age and species diversity within the City.

**Applicant's Finding:** Street trees are proposed along the SW Pacific Avenue frontage of this site at the eastern end. The existing tree remaining on site is also located so as to serve as a street tree. The remainder of the SW Pacific Avenue frontage will include shrubs as the edge of the storm water detention pond. This standard is met.

### **10.5.130 TREES ON DEVELOPABLE LAND, PRIOR TO AND DURING DEVELOPMENT**

#### **A. Protected Trees Prior to Development**

1. A permit shall be required for the removal or major pruning for trees six (6) - inches or greater in diameter or Oregon White Oaks three (3) – inches or greater in diameter, measured 4 ½ feet above natural grade, or other Protected Trees as defined in this code. A permit may cover a tree management plan which specified cutting, pruning, and thinning on a six (6)-month to two (2)-year basis.

**B. Tree Removal Criteria.** The permit for removal of tree(s) on developable land shall be granted if any of the following criteria have been met:

1. The tree is dead or diseased. Criterion 1 shall not be used as the sole reason for removal if the cost of curing the disease is less than one-fourth (1/4) of the value of the tree. Criterion 1 is to determine if major pruning or removal is appropriate, and shall not be used to require treatment of the tree.

2. Removal of the tree is necessary to accomplish a public purpose, such as the installation of public utilities or provision of public streets by a public agency. The applicant shall show evidence of alternative designs.

3. Removal of the tree is for thinning purposes following accepted arboricultural practices.

#### **C. Review Standards During Development Review**

1. Prior to the removal of any protected trees a tree permit is required. If there is a land use or other permit which may result in modification of the site the tree permit shall be reviewed concurrent with that other permit and follow the same process.

2. Permit Requirements. In conjunction with the development permit requested, the applicant shall include the location, size, and species of all trees subject to this code. Groves or trees that are to be protected do not have to be individually delineated; however, the approximate number of trees in each grove shall be indicated.

3. Protection Plan. For all trees proposed to be preserved, the applicant shall submit a protection plan consistent with the provisions of §10.5.120. Protected trees shall be identified on landscape plans.

4. Review Criteria. Protected Trees, as defined in §10.5.100 shall be preserved unless the applicant proves to the satisfaction of the reviewing body that removal is necessary as a result of:

- a. Need to remove trees that pose a safety hazard to pedestrians, property or vehicular traffic or threaten to cause disruption of public service; or which pose a safety hazard to persons or buildings.
- b. Need to remove diseased trees or trees weakened by age, storm, fire or other injury.
- c. Need to observe good arboricultural practices.
- d. Need for access to the building site or immediately around the proposed structure for construction equipment.
- e. Need for essential grade changes to implement safety standards common to standard engineering or architectural practices.
- f. Surface water drainage and utility installations.
- g. Locations of driveways, buildings or other permanent improvements so as to avoid unreasonable economic hardship.
- h. Compliance with other ordinances or codes.
- i. Need to install solar energy equipment. For criteria d-g above, the applicant shall provide evidence of exploring alternate designs that would increase tree protection. Removal of register trees shall also comply with the criteria in §10.5.145.

5. Yard Setback Adjustment

- a. The Director may authorize adjustments from the setback requirements of this Code where it can be shown that, owing to special and unusual circumstance related to a specific property, a proposed development would result in the removal of trees designated in the Register. An adjustment to the side, front, and/or rear yard setback by up to 50% may be authorized if necessary to retain designated Register trees.
- b. The Director may grant only the minimum adjustment necessary to retain the designated Register trees. In granting the adjustment, the Director may attach conditions necessary to protect the interests of the surrounding property or neighborhood. The adjustment to setbacks to protect Register trees shall be consolidated with the land use application and reviewed under the procedures specified for Adjustments in §10.2.100.

**Applicant's Finding:**

Three deciduous trees are proposed for removal with this application, measuring 27" DBH, 30" DBH and 48" DBH. These trees are proposed for removal with this development application in order to develop this site to the minimum density standards of the C-2 zoning district. The removal of the three trees will also result in the ability to locate structures and driveways so as to avoid unreasonable economic hardship. This standard is met.

**ARTICLE 8- GENERAL DEVELOPMENT STANDARDS**

**ACCESS AND CIRCULATION**

**10.8.110 GENERAL PROVISIONS**

**A. Continuing Obligation of Property Owner.** The provision and maintenance of access and egress stipulated in this section are continuing requirements for the use of any structure or parcel of real property in the City.

**B. Access Plan Requirements.** No building or other permit shall be issued until a scaled site plan is submitted that shows how access, egress and circulation requirements are to be fulfilled. The Director shall provide the applicant with information about the submittal requirements for an access plan.

**C. Joint Access.** Owners of two or more uses, structures, or parcels of land may agree to jointly use the same access and egress when the combined access and egress of both uses, structures, or parcels of land satisfies their requirements as designated in this Article, provided:

1. Satisfactory legal evidence shall be presented in the form of deeds, easements, leases or contracts to establish the joint use; and
2. Copies of the deeds, easements, leases or contracts are placed on permanent file with the City.

**D. Public Street Access.** All vehicular access and egress shall connect directly with a public or private street approved by the City for public use, except where joint access is provided through adjacent or other property which is connected to a street. Vehicular access to a residential use shall be provided within the same lot for single-family and two-family dwellings, and within the same lot or development for multi-family dwellings. Access to multi-family units shall avoid being located through single family residential areas before being connected to a collector or arterial as designated by the City's Transportation Plan.

**E. Transit Agency Referral.** The City shall submit all development proposals located along the Pacific Avenue/19th Avenue transit corridor to Tri-Met and along existing and proposed collectors and arterials in the Westside Planning Area to Ride Connection/GroveLink for review and comment regarding facilities necessary to support transit. The following facilities may be required as a condition of a permit:

1. Walkways to transit stops;
2. Bus stop shelters or waiting areas;
3. Turnouts for buses.

**F.** Where hard surfaces are stipulated by these requirements, pervious surfaces are encouraged to be used. Where improvements are within the public rights-of-way, such surfaces can be used upon approval by the City Engineer.

**G.** Landscaped areas should include water quality features such as bio-swales or wetlands, trees, grass, shrubs, and other plant material when possible so as to cover landscape areas.

**Applicant's Finding:** This submittal includes a scaled site plan showing how access, egress and circulation is accomplished on the site. Access to the proposed 16 additional units will be via the main (existing) entrances of Rose Grove Mobile Home Park. The access drive currently accessing Tax Lot 1400, where the additional 16 units are proposed, will be emergency-vehicle access only. This standard is met.

#### **10.8.115 ON-SITE PEDESTRIAN WALKWAYS**

##### **A. Required Walkways. On-site pedestrian walkways are required as follows:**

- 1. Walkways shall extend from the ground floor entrances or from the ground floor landing of stairs, ramps, or elevators of all commercial, institutional, and industrial uses, to the public sidewalk or curb of the public street or streets which provide the required access and egress. Walkways shall provide convenient connections between buildings in multi-building commercial, institutional, and industrial complexes. Walkways shall be constructed between a new development and neighboring developments. If connections aren't currently available, then planned connections shall be designed to provide an opportunity to connect adjoining developments.**
- 2. The maximum distance between a parking space and a walkway shall not exceed forty-five (45) feet. All walkways constructed within parking lots shall be raised to standard sidewalk height. All surface treatment of walkways shall be firm, stable and slip resistant.**
- 3. Required walkways shall be paved with hard-surfaced materials such as concrete, asphalt, stone, brick, etc. Walkways may be required to be lighted and/or signed as needed for safety purposes. Lighting and or signs may be required for walkways for safety purposes.**
- 4. Whenever required walkways cross vehicle access driveways or parking lots, such crossings shall be designed and located for pedestrian safety. Required walkways shall be physically separated from motor vehicle traffic and parking by either a minimum six (6)-inch vertical separation (curbed) or a minimum three (3)-foot horizontal separation, except that pedestrian crossings of traffic aisles are permitted for distances no greater than thirty-six (36) feet if appropriate landscaping, pavement markings, or contrasting pavement materials are used. Walkways shall be a minimum of four (4) feet in width, exclusive of vehicle overhangs and obstructions such as mailboxes, benches, bicycle racks, and signposts, and shall be in compliance with ADA standards.**
- 5. Where required for pedestrian access, interior landscape areas in combination with pedestrian walkways between rows of parking shall be at least ten (10) feet in width to accommodate walkways, shrubbery, and trees 20 to 30 feet on-center. This ten (10) foot width may be reduced between tree areas depending on the characteristics of the vegetation. Angled or perpendicular parking spaces shall provide bumper stops or widened curbs to prevent bumper overhang into interior landscaped areas or walkways.**

**Applicant's Finding:** Section 10.8.115.A.1 identifies on-site pedestrian walkways as required for all “commercial, institutional, and industrial uses”. This proposal is for a residential development and, as such, this standard is not applicable.

#### **10.8.120 MINIMUM ACCESS REQUIREMENTS FOR RESIDENTIAL USES**

**A. Direct Access to Arterial Streets from a residential dwelling established after the effective date of this Code is prohibited. The City may permit direct access to an arterial for lots of subdivisions approved prior to the effective date of this Code, and for multi-family residential complexes if the access is designed to local residential street standards.**

**B. Single-Family Dwellings and Duplexes shall be required to have one driveway, fully improved with hard surface pavement, with a minimum width of 10 feet.**

**C. Service Drives for Multi-Family Dwellings shall be fully improved with hard surface pavement with a minimum width of:**

- 1. 12 feet when accommodating one-way traffic, or**
- 2. 20 feet when accommodating two-way traffic.**

**In no case shall the design or said service drive or drives require or facilitate the backward movement or other maneuvering of a vehicle within a street.**

**D. Private Residential Access Drives shall be provided and maintained in accordance with the provisions of the Uniform Fire Code.**

**E. Dead End Access Drives In Excess Of 150 Feet shall be provided with approved provisions for the turning around of fire apparatus by one of the following:**

- 1. A circular, paved surface having a minimum turn radius measured from center point to outside edge of thirty-five (35) feet; or**
- 2. A hammerhead, paved surface with each leg of the hammerhead having a minimum depth of forty (40) feet and a minimum width of twenty (20) feet.**
- 3. The maximum cross slope of a required turnaround is 5%.**

**F. Driveway Grades shall not exceed a maximum of 20%.**

**Applicant's Finding:** SW Pacific Avenue is an arterial and, as such, new direct residential access is not permitted or proposed with this application. The proposed 16-lots will be served by new private residential access drives matching those within the Rose Grove Mobile Home Park, designed to meet Uniform Fire Code. No dead-end access drives will exceed 150 feet without providing approved provisions and no driveway grades will exceed a maximum of 20%. This standard is met.

#### **10.8.140 SPECIFIC SITE ACCESS AND CIRCULATION STANDARDS**

**The following access and circulation standards apply specifically to certain types of development or apply within certain locations within the community.**

## **CLEAR VISION AREA**

**10.8.155 STANDARDS** Except in the Town Center zones, a clear vision area shall be maintained on the corners of all property adjacent to the intersection of two streets, a street and a railroad, or a driveway providing vehicular access to a public street, excluding alleys.

**Applicant's Finding:** This property is not adjacent to the intersection of two streets, a street and a railroad, or a driveway providing vehicular access to a public street due to the access restriction to SW Pacific Avenue. This standard does not apply to this proposal.

## **LANDSCAPING, SCREENING AND BUFFERING**

### **10.8.410 GENERAL PROVISIONS**

**A. Obligation to Maintain.** It shall be the continuing obligation of the property owner to maintain required landscaped areas in an attractive manner free of weeds and noxious vegetation. In addition, the minimum amount of required living landscape materials shall be maintained.

**B. Ground Preparation.** The ground in all required landscaped areas should be properly prepared with suitable soil and fertilizer. Specifications shall be submitted with the landscape plans showing that adequate preparation of the top soil and sub-soil will be undertaken prior to planting to support the plantings over a long period of time.

**C. Installation Requirements.** The installation of all landscaping shall be as follows:

1. All landscaping shall be installed according to accepted planting procedures and the provisions of this article;
2. The plant materials shall be of high grade, and shall meet the size and grading standards of the American Standards for Nursery Stock;
3. All required landscaped areas must be provided with a piped underground irrigation system unless a licensed landscape architect or certified nurseryman submits written verification that the proposed plant materials do not require irrigation.

**D. Pruning Required.** All plant growth in landscaped areas of developments shall be controlled by pruning or trimming so that it will not:

1. Interfere with the maintenance or repair of any public utility;
2. Restrict pedestrian or vehicular access; and
3. Constitute a traffic hazard because of reduced visibility.

**E. Certificate of Occupancy.** Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the City such as the posting of a performance bond or security equal to 125% of the cost of the landscaping.

**F. Care Of Landscaping Along Public Rights-Of-Way. Appropriate methods for the care and maintenance of street trees and landscaping materials shall be provided by the owner of the property abutting the rights-of-way unless otherwise required for emergency conditions and the safety of the general public.**

**Applicant's Finding:** The landscaping on site is maintained by the management of Rose Grove Mobile Home Park. Any new landscaping included with this proposal will be maintained by the management of Rose Grove Mobile Home Park as well. There have been no issues with the continued maintenance of healthy landscaping on the site within the park and this will continue after the addition of the 16 proposed home sites. This standard is met.

#### **10.8.415 GENERAL STANDARDS**

**A. Non-invasive native vegetation is encouraged to be used for all landscaping except within 100 feet of a natural resource area. In such situations, native vegetation is required.**

**B. Installation of bio-swales or preservation of wetlands should be located where possible in landscaped areas.**

**C. Required Landscaping Adjacent to Public Rights-Of-Way -- A strip of land at least 5 feet in width located between the abutting right-of-way and the off-street parking area or vehicle use area which is exposed to an abutting right-of-way, except in required vision clearance areas.**

**D. Perimeter Landscaping Relating to Abutting Properties -- On the site of a building or structure or open lot use providing an off-street parking area or other vehicular use area, where such areas will not be entirely screened visually by an intervening building or structure from abutting property, a 5-foot landscaped strip shall be between the common lot line and the off-street parking area or other vehicular use area exposed to abutting property. Landscaped areas should include where possible water quality features such as bio-swales or wetlands, trees, grass, shrubs, and other plant material so as to cover the landscape area.**

**Applicant's Finding:** A 10-foot landscaped strip is required by 10.8.420, below, along SW Pacific Avenue and, therefore, a minimum 5-foot landscaped strip will be provided within the 10-foot landscaped strip between SW Pacific Avenue and the east-west drive aisle on the site. There are no on-site parking areas aside from adjacent to individual homes. There are no on-site natural resource areas or wetlands. This standard is met.

#### **10.8.420 LANDSCAPING REQUIREMENTS BY ZONE**

**B. Landscaping Required in the Community Commercial Zones. A landscaped strip at least ten (10) feet in width shall be provided abutting any property line facing a street. The landscape strip shall be appropriately landscaped with ground cover, planted berm, shrubbery and/or trees.**

**E. 75% Coverage.** Except in the Town Center Core Zone, at least 75% of the required landscaped area shall be planted with any suitable combination of trees, shrubs, or evergreen ground cover. The required 75% coverage shall be based on the size of the plant material within a specified time as follows:

1. Trees – within five (5) years from the date of final inspection by the Building Official.
2. Shrubs – within two (2) years from the date of final inspection by the building Official.
3. Ground covers – at the time of final inspection by the Building Official.

**F. 25% Architectural Features.** Except in the Town Center Core Zone, landscaped areas as required by this article may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, decorative hard paving and gravel areas, interspersed with planting areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscaped area.

**Applicant's Finding:** A minimum 10-foot landscaped strip will be provided abutting the southern property line, which faces SW Pacific Avenue. The landscaped strip will be planted according to Subsections E. and F. above, including shrubs and evergreen ground cover. This standard is met.

#### **10.8.425 BUFFERING AND SCREENING STANDARDS**

##### **A. General Provisions**

1. It is the intent that these requirements shall provide for privacy and protection and reduce or eliminate the adverse impacts of visual or noise pollution at a development site, without unduly interfering with the view from neighboring properties or jeopardizing the safety of pedestrians and vehicles;
2. Buffering and screening is required to reduce the impacts on adjacent uses which are of a different type in accordance with the matrices in this chapter (Tables 8-2, 8-3 and 8-4). The owner of each proposed development is responsible for the installation and effective maintenance of buffering and screening.
3. In lieu of these standards, a detailed buffer area landscaping and screening plan may be submitted for the Director's approval as an alternative to the standards, provided it affords the same degree of buffering and screening as required by this code.

##### **B. Buffering and Screening Requirements**

1. A buffer consists of an area within a required setback adjacent to a property line and having a depth equal to the amount specified in the buffering and screening matrix and containing a length equal to the length of the property line of the abutting use or uses.

**Applicant's Finding:** This standard applies to buffer areas within a required setback adjacent to property lines shared with other property owners. As this property is within the CC zoning district, there is no minimum side yard setback. Footnote [2] of Table 3-11 states that, "Side or rear yard setbacks may be required where the CC zone

abuts a Residential zone”. In this case, the CC zone abuts other CC-zoned properties. A landscaped buffer is therefore not required along the property lines of abutting uses.

#### **OFF-STREET PARKING AND LOADING**

**Table 8-5: Parking Requirements lists “Single [Residential] Units, Detached” as needing a minimum of 1.0 parking spaces per dwelling unit. There is no maximum parking allowed for residential development.**

**Applicant's Finding:** This proposal includes 1 parking space per dwelling unit located adjacent to each home site. This standard is met.

#### **PUBLIC IMPROVEMENTS**

##### **10.8.610 STREETS**

**A. Improvements. No development shall occur unless the development has frontage or approved access to a public street:**

- 1. Streets within a development and streets adjacent shall be improved in accordance with this article;**
- 2. Any new street or additional street width planned as a portion of an existing street shall be dedicated and improved in accordance with this code;**
- 3. New development shall be connected to a collector or arterial by a paved street;**
- 4. Where transportation-related improvements are required as a result of a transportation study pursuant to §10.1.225(D), the developer shall install said improvements to the satisfaction of the City Engineer, or participate in the financing of said improvement where the impacts are beyond the responsibility of one project; and**
- 5. The City Engineer may accept a future improvement guarantee in lieu of street or other transportation related improvements if one or more of the following conditions exist:**
  - a. A partial improvement is not feasible due to the inability to achieve proper design standards;**
  - b. A partial improvement may create a potential safety hazard to motorists or pedestrians;**
  - c. Due to the nature of existing development on adjacent properties it is unlikely that street improvements would be extended in the foreseeable future and the improvement associated with the project under review does not, by itself, provide a significant improvement to street safety or capacity;**
  - d. The improvement would be in conflict with an adopted capital improvement plan;**
  - e. The improvement is associated with an approved land partition on property zoned residential and the proposed land partition does not create any new streets; or**

f. Additional planning work is required to define the appropriate design standards for the street and the application is for a project that would contribute only a minor portion of the anticipated future traffic on the street.

6. Improvements to streets shall be made according to adopted City standards, unless the approval authority determines that the standards will result in an unacceptable adverse impact on existing development or on the proposed development or on natural features such as wetlands, steep slopes or existing mature trees.

**Applicant's Finding:** This site is adjacent to SW Pacific Avenue, a fully-developed public arterial. There is no new right-of-way proposed with this development application. This standard is met.

**E. Minimum Rights-Of-Way and Street Widths.** Unless otherwise indicated on an approved street plan, or as needed to continue an existing improved street, street right-of-way and roadway widths shall not be less than the minimum width described below. Where a range is indicated, the width shall be determined by the appropriate decision-making authority based upon anticipated average daily traffic (ADT) on the new street segment. These are presented in Table 8-8.

1. The decision-making body shall make its decision about desired right-of-way width and pavement width of the various street types within the subdivision or development after consideration of the following:

- a. The type, design and location of the road as set forth in the Transportation System Plan. Standards for specific streets identified in the Transportation System Plan shall apply;
- b. Anticipated traffic generation;
- c. On-street parking needs;
- d. Sidewalk and bikeway requirements;
- e. Requirements for placement of utilities;
- f. Street lighting;
- g. Drainage and slope impacts;
- h. Street tree location;
- i. Planting and landscape areas;
- j. Safety and comfort for motorists, bicyclists, and pedestrians;
- k. Access needs for emergency vehicles.

**Applicant's Finding:** Table 8-8: Street Standards identifies the minimum R.O.W Width for a Principal Arterial of 90-96 feet and the minimum for an Arterial of 66 feet. The width of the R.O.W. of SW Pacific Avenue, an arterial, adjacent to this site, is 110 feet, exceeding the minimum R.O.W. width. The minimum roadway width for a Principal Arterial is 52-64 feet and the minimum roadway width for an arterial is 40 feet. The roadway width of SW Pacific Avenue is 40 feet, meeting the minimum required. This standard is met.

### 10.8.615 EASEMENTS

**A. Easements.** Easements for sewers, drainage, water mains, electric lines or other public utilities shall be either dedicated or provided for in the deed restrictions, and where a development traversed by a watercourse, or drainageway, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the watercourse.

**B. Utility Easements.** A property owner proposing a development shall make arrangements with the City, the applicable district and each utility franchise for the provision and dedication of utility easements necessary to provide full services to the development. The City's standard width for public main line utility easements shall be fifteen (15) feet unless otherwise specified by the utility company, applicable district, or City Engineer.

**C.** Where the alignment of a utility easement (other than those required perimeter easements) is such that it would also serve as a suitable easement for originating or continuing a pedestrian/bicycle path, the Community Development Director may require that such easement be designated as serving both functions. The walkway shall be designed and improved consistent with the requirements of §10.8.100 Access and Circulation.

**Applicant's**            There are no public utility easements existing or proposed with this development.  
**Finding:**                This standard is met.

### 10.8.620 SIDEWALKS

**A. Sidewalks Required.** Sidewalks shall be constructed, replaced or repaired to City design standards as set forth in the standard specifications manual and located as follows:

1. On both sides of arterial and collector streets to be built at the time of street construction;
2. On both sides of all other streets and in pedestrian easements and rights-of-way, except as provided further in this section, to be constructed along all portions of the property designated for pedestrian ways in conjunction with development of the property; and
3. On one side of any industrial street to be constructed at the time of street construction or after determination of curb cut locations.

**Applicant's**            This site is adjacent to SW Pacific Avenue, a public arterial. There is an existing  
**Finding:**                sidewalk within the Pacific Avenue right-of-way. This standard is met.

### 10.8.625 SANITARY SEWERS

**A. Sewers Required.** Sanitary sewers shall be installed to serve each new development and to connect developments to existing mains in accordance with the provisions set forth in Design and Construction Standards for Sanitary and Surface Water Management (as adopted by Clean Water Services in 1996

and including any future revisions or amendments) and the adopted policies of the Comprehensive Plan and the City's Master Sewer Plan.

**B. Sewer Plan Approval.** The City Engineer shall approve all sanitary sewer plans and proposed systems prior to issuance of development permits involving sewer service.

**C. Over-Sizing.** Proposed sewer systems shall include consideration of additional development within the area as projected by the Comprehensive Plan.

**D. Permits Denied.** Development permits may be restricted by the Commission or Hearings Officer where a deficiency exists in the existing sewer system or portion thereof which cannot be rectified within the development and which if not rectified will result in a threat to public health or safety, surcharging of existing mains, or violations of state or federal standards pertaining to operation of the sewage treatment system.

**Applicant's Finding:** This site will be provided with sanitary sewer service from the main line located in SW Pacific Avenue. This standard is met.

#### **10.8.630 WATER FACILITIES**

**A. Water Facilities Required.** Water facilities shall be installed to serve each new development and to connect developments to existing mains in accordance with the provisions set forth in the adopted policies of the Comprehensive Plan and the City's Master Water Plan.

**B. Water Plan Approval.** The City Engineer shall approve all plans for water facilities and proposed systems prior to issuance of development permits involving water service.

**C. Over-Sizing.** Proposed water facilities shall include consideration of additional development within the area as projected by the Comprehensive Plan.

**D. Permits Denied.** Development permits may be restricted by the Planning Commission or Hearings Officer where a deficiency exists in the existing water system or portion thereof which cannot be rectified within the development and which, if not rectified, will result in a threat to public health or safety or violations of local, state or federal standards pertaining to the operation of the water system.

**Applicant's Finding:** This site will be provided water via an existing water main in SW Pacific Avenue and an existing water meter on the southwest corner of the site. This standard is met.

#### **10.8.635 STORM DRAINAGE**

**A. General Provisions.** The Director and City Engineer shall issue a development permit only where adequate provisions for storm water and flood water runoff have been made, and:

1. The storm water drainage system shall be separate and independent of any sanitary sewerage system;
2. Where possible, inlets shall be provided so surface water is not carried across any intersection or allowed to flood any street; and
3. Surface water drainage patterns shall be shown on every development proposal plan.

**B. Easements.** Where a watercourse, drainageway, channel or stream traverses a development, there shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse and such further width as will be adequate for conveyance and maintenance.

**C. Accommodation of Upstream Drainage.**

1. A culvert or other drainage facility shall be large enough to accommodate runoff from its entire upstream drainage area, whether inside or outside the development, and;
2. The City Engineer shall approve the necessary size of the facility, based on the provisions of Design and Construction Standards for Sanitary and Surface Water Management (as adopted and amended by Clean Water Services) and the City's Master Storm Water Sewer Plan.

**D. Effect on Downstream Drainage.** Where it is anticipated by the City Engineer that the additional runoff resulting from the development will overload an existing drainage facility, the Director and Engineer shall withhold approval of the development until provisions have been made for improvement of the potential condition or until provisions have been made for storage of additional runoff caused by the development in accordance with the Design and Construction Standards for Sanitary and Surface Water Management (as adopted by Clean Water Services and including any future revisions or amendments).

**Applicant's Finding:** Storm drainage is proposed as roof drains on each unit and on-site catch basins draining to an on-site storm line that leads to a detention pond on the southern side of the site. The pond outfall is then collected by the public system in SW Pacific Avenue. This standard is met.

#### **10.8.645 UTILITIES**

**A. Underground Utilities.** All utility lines in new developments shall be placed underground, and:

1. The developer shall make all necessary arrangements with the serving utility to provide the underground services;
2. The City reserves the right to approve location of all surface mounted facilities;
3. All underground utilities, including sanitary sewers and storm drains installed in streets by the developer, shall be constructed prior to the surfacing of the streets; and
4. Stubs for service connections shall be long enough to avoid disturbing the street improvements when service connections are made.

**B. Information on Development Plans.** The applicant for a development shall show on the development plan or in the explanatory information, easements for all underground utility facilities, and:

1. Plans showing the location of all underground facilities as described herein shall be submitted to the City Engineer for review and approval; and
2. Care shall be taken in all cases to ensure that above ground equipment does not obstruct vision clearance areas for vehicular traffic.

**C. Exception to Under-Grounding Requirement for Infill Development.** An applicant for infill development, which is served by above ground utilities, may be exempt from the requirement for undergrounding utilities. This exception shall apply only to existing utility lines.

**Applicant's Finding:** All proposed utilities will be located underground. Existing overhead utilities will remain with this infill development. This standard is met.

**10.8.650 AGREEMENT** For projects involving public improvements, the applicant shall enter into an agreement with the City Engineer prior to any site preparation or, where there is a partition or subdivision, prior to approval of the final map. The agreement shall be in a form as approved by the City Engineer. At a minimum, it shall include detailed plans for public improvements and provide adequate assurance to guarantee the installation of the improvements (known as Performance Assurance) and the workmanship and material of the installation (known as Maintenance Assurance). The agreement may be waived by the City Engineer if the level of work is considered minor. However, the assurances shall be required for any public improvements. The assurance shall be based on the following requirements:

**A. Maintenance Assurance.** All improvements installed by the developer shall be guaranteed as to workmanship and material for a period of one (1)-year following acceptance by the City Engineer.

**B. Form of Assurance.** All assurances shall be secured by cash deposit, bond or irrevocable letter of credit in the amount of 100% of the cost to complete the project as set by the City Engineer.

**Applicant's Finding:** The property owners will provide adequate assurance of any required public improvement work. This standard is met.

#### **10.8.660 INSTALLATION PREREQUISITE**

**A. Approval Required.** No public improvements, including sanitary sewers, storm sewers, streets, sidewalks, curbs, lighting or other requirements shall be undertaken except after the plans have been approved by the City, permit fee paid, and permit issued.

**B. Permit Fee.** The permit fee is required to defray the cost and expenses incurred by the City for construction and other services in connection with the improvement. The permit fee shall be set by Council resolution.

#### **10.8.665 INSTALLATION CONFORMATION**

**A. Conformance Required.** In addition to other requirements, improvements installed by the developer either as a requirement of these regulations or at his own option, shall conform to the requirements of this chapter and to improvement standards and specifications followed by the City.

**B. Adopted Installation Standards.** The Standard Specifications for Public Works Construction, Oregon Chapter A.P.W.A., and Design and Construction Standards for Sanitary and Surface Water Management (as adopted by Clean Water Services and including any future revisions or amendments) shall be a part of the City's adopted installation standard(s); other standards may also be required upon recommendation of the City Engineer.

#### **10.8.670 PLAN CHECK**

**A. Submittal Requirements.** Work shall not begin until construction plans and construction estimates have been submitted and checked for adequacy and approved by the City Engineer in writing. The developer can obtain detailed information about submittal requirements from the City Engineer.

**B. Compliance.** All such plans shall be prepared in accordance with requirements of the City.

#### **10.8.675 NOTICE TO CITY**

**A. Commencement.** Work shall not begin until the City has been notified in advance.

**B. Resumption.** If work is discontinued for any reason, it shall not be resumed until the City is notified.

#### **10.8.680 CITY INSPECTION**

**A. Inspection of Improvements.** Improvements shall be constructed under the inspection and to the satisfaction of the City. The City may require changes in typical sections and details if unusual conditions arising during construction warrant such changes in the public interest.

|                             |   |
|-----------------------------|---|
| <b>Applicant's Finding:</b> | No public improvement installation will begin prior to public improvement permit issuance or submittal of construction plans and estimates. All public improvements plans will be prepared and installed in accordance with City standards. The City will be notified prior to commencement of any public improvement work. Public improvements are subject to City inspection. This standard is met. |
|-----------------------------|---|

#### **SUMMARY AND CONCLUSION**

Based upon the materials submitted herein, the applicant respectfully requests approval from the City's Planning Department of this application for a Type II Site Development Review Application.

## Sensitive Area Pre-Screening Site Assessment

1. **Jurisdiction:** Forest Grove

2. **Property Information** (example 1S234AB01400)

Tax lot ID(s): 1N332DD001400

Site Address: 3839 Pacific Avenue

City, State, Zip: Forest Grove, OR, 97116

Nearest Cross Street: Adair Ave/Mountain View Ln

3. **Owner Information**

Name: Dorothy Royce

Company: Rose Grove Mobile Home Park Ltd.

Address: 201 Ocean Ave #507B

City, State, Zip: Santa Monica, CA, 90402

Phone/Fax: 310-422-5461

E-Mail: ppdot@aol.com

4. **Development Activity** (check *all* that apply)

- Addition to Single Family Residence (rooms, deck, garage)
- Lot Line Adjustment       Minor Land Partition
- Residential Condominium       Commercial Condominium
- Residential Subdivision       Commercial Subdivision
- Single Lot Commercial       Multi Lot Commercial

Other Extension of an existing manufactured home park

5. **Applicant Information**

Name: Heather Austin

Company: 3J Consulting, Inc.

Address: 5075 SW Griffith Drive, Suite 150

City, State, Zip: Beaverton, OR, 97005

Phone/Fax: 503-887-2130

E-Mail: heather.austin@3j-consulting.com

6. **Will the project involve any off-site work?**     Yes     No     Unknown

Location and description of off-site work \_\_\_\_\_

7. **Additional comments or information that may be needed to understand your project** \_\_\_\_\_

The proposal includes the addition of 16 home sites on a property adjacent to the existing Rose Grove Mobile Home Park.

This application does NOT replace Grading and Erosion Control Permits, Connection Permits, Building Permits, Site Development Permits, DEQ 1200-C Permit or other permits as issued by the Department of Environmental Quality, Department of State Lands and/or Department of the Army COE. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.

By signing this form, the Owner or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site. I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Print/Type Name Heather Austin      Print/Type Title Senior Planner

**ONLINE SUBMITTAL**

Date 9/17/2018

### FOR DISTRICT USE ONLY

Sensitive areas potentially exist on site or within 200' of the site. **THE APPLICANT MUST PERFORM A SITE ASSESSMENT PRIOR TO ISSUANCE OF A SERVICE PROVIDER LETTER.** If Sensitive Areas exist on the site or within 200 feet on adjacent properties, a Natural Resources Assessment Report may also be required.

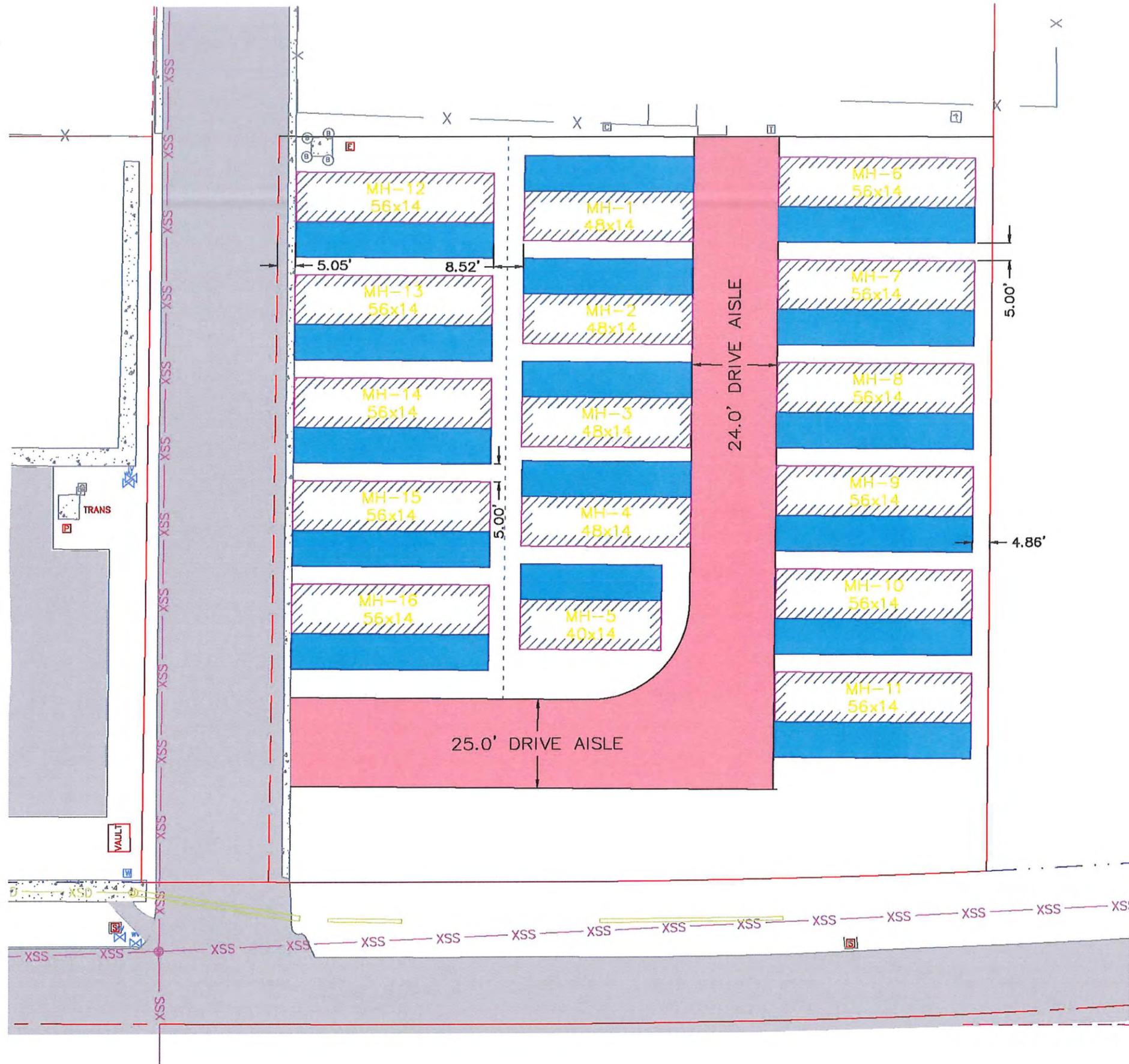
Based on review of the submitted materials and best available information Sensitive areas do not appear to exist on site or within 200' of the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider letter as required by Resolution and Order 17-05, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, State, and federal law.

Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider letter as required by Resolution and Order 07-20, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, state and federal law.

This Service Provider Letter is not valid unless 1 CWS approved site plan(s) are attached.

The proposed activity does not meet the definition of development or the lot was platted after 9/9/95 ORS 92.040(2). **NO SITE ASSESSMENT OR SERVICE PROVIDER LETTER IS REQUIRED.**

Reviewed by Chuck Buckhalter      Date 9/19/18



**LEGEND**

- = EXISTING CONCRETE
- = EXISTING PAVEMENT
- = PROPOSED DRIVE
- = PROPOSED DRIVE AISLE

CWS FILE NO. 18-002949  
 Approved  
 Clean Water Services  
 FOR ENVIRONMENTAL REVIEW  
 By *CP* Date 9-19-18  
 SPL ATTACHMENT 1 OF 1

# *Rose Grove Mobile Home Park Addition*

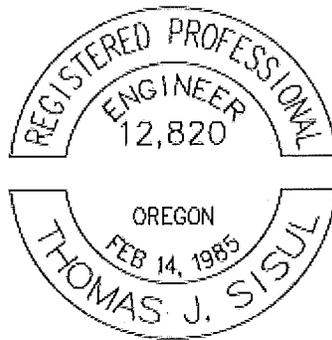
*Forest Grove, OR*

**Developer: Rose Grove Mobile Home Park**

J.O. SGL 18-083

November 2nd, 2018

## ***PRELIMINARY STORM CALCULATIONS***



EXPIRES: 6/30/

### **SISUL ENGINEERING**

*A Division of Sisul Enterprises, Inc.*

**375 Portland Avenue**

**Gladstone, OR 97027**

phone: (503) 657-0188

fax: (503) 657-5779

### **NARRATIVE:**

The site is currently and appears to have some low-growing vegetation and/or grass from aeriels. The site is generally flat with between 0-3% falls from the southwest to the northeast. The site is located at 3839 SW Pacific Avenue, Forest Grove, Oregon, Tax Lot 1400.

The site is proposed to be developed with (16) manufactured homes of varying size, each with a paved driveway/parking area. A paved private road is also being proposed to serve each of the homes. Stormwater runoff will be conveyed from the homes via where as the runoff from the road will be directed to a catch basin at the northern side of the road. Runoff will then be conveyed via pipe system to a water quality manhole to treat the runoff. It will then be conveyed into a large planter for detention. The following calculations are to determine the size of the water quality manhole needed to treat the water quality flow, the planter for detention, and the design of the flow control structure (i.e. orifice sizes and locations).

### **Detention Requirements:**

2-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 2-year, 24-hour storm event.

10-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 10-year, 24-hour storm event.

25-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 25-year, 24-hour storm event.

### **SITE CONDITIONS & DESIGN VALUES - PRE-DEVELOPMENT:**

#### **Area:**

Total Area = 0.9752 Acres

Pervious Area = 0.9752 acres

Impervious Area = 0.0000 acres

#### **Existing Use:**

The site is currently undeveloped and bare ground with and short grass and brush.

#### **Soil Type:**

This site has one soil type as identified by the NRCS Web Soil Survey (See attached reports).

Woodburn silt loam 45A -- Hydrologic Group 'C'

#### **Runoff Curve Numbers:**

(Per Table 2-2a, Technical Release 55 – Urban Hydrology for Small Watersheds)

Open spaces (fair condition) – Hydrologic Group 'C' → CN = 79

**Rainfall Distribution:**

(Per Clean Water Services Design and Construction Standards Drawing No. 1280)

- 2-year, 24-hour duration STD SCS Type 1A Storm → 2.50 inches
- 10-year, 24-hour duration STD SCS Type 1A Storm → 3.45 inches
- 25-year, 24-hour duration STD SCS Type 1A Storm → 3.90 inches

**Time of Concentration – Pre-Developed:**

(Design Values per Table 3.5.2C King County Washington Surface Design Manual)

Sheet Flow:  $T_{C1} = \frac{0.42 (n_s L)^{0.8}}{(P_2)^{0.5} * (s_o)^{0.4}}$

$L = 150.00 \text{ ft.}$

$P_2 = 2.5 \text{ in.}$

$S_o = 0.0062 \text{ ft./ft.}$

$n_s = 0.15$

$$T_{C1} = \frac{0.42 (0.15 * 150.00)^{0.8}}{(2.5)^{0.5} * (0.0062)^{0.4}} = \dots$$

$T_{C1} = 24.49 \text{ minutes}$

Shallow Concentrated Flow:  $T_{C2} = \frac{L}{(60) * k * (s_o)^{0.4}}$

$L = 169.41 \text{ ft.}$

$k = 11$

$S_o = 0.0062 \text{ ft./ft.}$

Total Time of Concentration:  $T = \dots$

$$T_{C2} = \frac{(169.41)}{(60) * (11) * (0.0062)^{0.4}} = \dots$$

$T_{C2} = 1.96 \text{ minutes}$

$T_{C1} + T_{C2} = T_C \rightarrow T_C = \mathbf{26.45 \text{ minutes}}$

The minimum time of concentration moving forward will be **26.45 minutes.**

**PRE-DEVELOPMENT HYDOGRAPHS:**

The pre-developed hydrographs will be generated using the Santa Barbara Urban Hydrograph (SBUH) Method. (KING COUNTY DEPARTMENT OF PUBLIC WORKS Surface Water Management Division, HYDROGRAPH PROGRAMS Version 4.20)

**2-Year Runoff Rate – Pre-Development**

-----  
\*\*\*\*\* S.C.S. TYPE-1A DISTRIBUTION \*\*\*\*\*  
\*\*\*\*\* 2-YEAR 24-HOUR STORM \*\*\*\*\* 2.50" TOTAL PRECIP. \*\*\*\*\*  
-----

ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1  
0.9752,79,0.0000,98,26.45

DATA PRINT-OUT:

| AREA(ACRES) | PERVIOUS    |      | IMPERVIOUS |      | TC(MINUTES) |
|-------------|-------------|------|------------|------|-------------|
|             | A           | CN   | A          | CN   |             |
| 1.0         | 1.0         | 79.0 | .0         | 98.0 | 26.5        |
|             |             |      |            |      |             |
| PEAK-Q(CFS) | T-PEAK(HRS) |      | VOL(CU-FT) |      |             |
| <u>.11</u>  | 7.83        |      | 2950       |      |             |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-2.und

**10-Year Runoff Rate – Pre-Development**

-----  
\*\*\*\*\* S.C.S. TYPE-1A DISTRIBUTION \*\*\*\*\*  
\*\*\*\*\* 10-YEAR 24-HOUR STORM \*\*\*\*\* 3.45" TOTAL PRECIP. \*\*\*\*\*  
-----

ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1  
0.9752,79,0.0000,98,26.45

DATA PRINT-OUT:

| AREA(ACRES) | PERVIOUS    |      | IMPERVIOUS |      | TC(MINUTES) |
|-------------|-------------|------|------------|------|-------------|
|             | A           | CN   | A          | CN   |             |
| 1.0         | 1.0         | 79.0 | .0         | 98.0 | 26.5        |
|             |             |      |            |      |             |
| PEAK-Q(CFS) | T-PEAK(HRS) |      | VOL(CU-FT) |      |             |
| <u>.24</u>  | 7.83        |      | 5384       |      |             |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-10.und

**25-Year Runoff Rate – Pre-Development**

-----  
\*\*\*\*\* S.C.S. TYPE-1A DISTRIBUTION \*\*\*\*\*  
\*\*\*\*\* 25-YEAR 24-HOUR STORM \*\*\*\*\* 3.90" TOTAL PRECIP. \*\*\*\*\*  
-----

ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1  
0.9752,79,0.0000,98,26.45

DATA PRINT-OUT:

|              |              |             |              |
|--------------|--------------|-------------|--------------|
| AREA (ACRES) | PERVIOUS     | IMPERVIOUS  | TC (MINUTES) |
|              | A CN         | A CN        |              |
| 1.0          | 1.0 79.0     | .0 98.0     | 26.5         |
| PEAK-Q (CFS) | T-PEAK (HRS) | VOL (CU-FT) |              |
| <u>.31</u>   | 7.83         | 6627        |              |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-25.und

**SITE CONDITIONS & DESIGN VALUES - POST-DEVELOPMENT:**

**Area:**

Total Area = 0.9752 Acres  
Pervious Area = 0.3337 acres  
Impervious Area = 0.6415 acres

**Runoff Curve Numbers:**

(Per Table 2-2a, Technical Release 55 – Urban Hydrology for Small Watersheds)

Open spaces (fair condition) - Hydrologic Group ‘C’ → 79  
Impervious surfaces (asphalt, roofs, etc.) - Hydrologic Group ‘C’ → 98

**Rainfall Distribution:**

(Per Clean Water Services Design and Construction Standards Drawing No. 1280)

2-year, 24-hour duration STD SCS Type 1A Storm => 2.50 inches  
10-year, 24-hour duration STD SCS Type 1A Storm => 3.45 inches  
25-year, 24-hour duration STD SCS Type 1A Storm => 3.90 inches

**Time of Concentration – Post-Development:**

Since a large portion of the site is impervious, the minimum time of concentration of five (5) minutes will be used. **Tc = 5 minutes.**

**POST-DEVELOPED HYDROGRAPHS:**

The post-developed hydrographs will be generated using the Santa Barbara Urban Hydrograph (SBUH) Method. (KING COUNTY DEPARTMENT OF PUBLIC WORKS Surface Water Management Division, HYDROGRAPH PROGRAMS Version 4.20)

**2-Year Runoff Rate – Post-Development**

```

-----
***** S.C.S. TYPE-1A DISTRIBUTION *****
***** 2-YEAR 24-HOUR STORM **** 2.50" TOTAL PRECIP. *****
-----
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1
0.3337,79,0.6415,98,5

```

DATA PRINT-OUT:

|              |          |            |              |
|--------------|----------|------------|--------------|
| AREA (ACRES) | PERVIOUS | IMPERVIOUS | TC (MINUTES) |
|--------------|----------|------------|--------------|

```

          A      CN      A      CN
1.0          .3  79.0      .6  98.0      5.0

```

```

PEAK-Q(CFS)  T-PEAK(HRS)  VOL(CU-FT)
.47          7.67          6302

```

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-2.dev

### 10-Year Runoff Rate – Post-Development

```

-----
***** S.C.S. TYPE-1A DISTRIBUTION *****
***** 10-YEAR 24-HOUR STORM ***** 3.45" TOTAL PRECIP. *****
-----

```

ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1  
0.3337, 79, 0.6415, 98, 5

DATA PRINT-OUT:

```

AREA(ACRES)  PERVIOUS      IMPERVIOUS      TC(MINUTES)
              A      CN      A      CN
1.0          .3  79.0      .6  98.0      5.0

```

```

PEAK-Q(CFS)  T-PEAK(HRS)  VOL(CU-FT)
.70          7.67          9340

```

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-10.dev

### 25-Year Runoff Rate – Post-Development

```

-----
***** S.C.S. TYPE-1A DISTRIBUTION *****
***** 25-YEAR 24-HOUR STORM ***** 3.90" TOTAL PRECIP. *****
-----

```

ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO. 1  
0.3337, 79, 0.6415, 98, 5

DATA PRINT-OUT:

```

AREA(ACRES)  PERVIOUS      IMPERVIOUS      TC(MINUTES)
              A      CN      A      CN
1.0          .3  79.0      .6  98.0      5.0

```

```

PEAK-Q(CFS)  T-PEAK(HRS)  VOL(CU-FT)
.81          7.67          10815

```

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-25.dev

**WATER QUALITY CALCULATIONS:**

Per Clean Water Services' Current Design & Construction Standards - R&O 17-05, Section 4.05.6, the following calculations for water quality volume and flow were used to size the water quality device.

$$\text{Water Quality Volume} = \frac{(0.36 \text{ in}) \times (\text{Impervious Area})}{(12 \text{ in/ft})}$$

$$\text{WQV} = \frac{(0.36 \text{ in}) \times (27,942.16 \text{ SF})}{(12 \text{ in/ft})} \rightarrow \underline{\underline{\text{WQV} = 838.26 \text{ CF}}}$$

$$\text{Water Quality Flow} = \frac{\text{WQV}}{(14,400 \text{ sec})}$$

$$\text{WQF} = \frac{(838.26 \text{ CF})}{(14,400 \text{ sec})} \rightarrow \underline{\underline{\text{WQF} = 0.0582 \text{ CFS}}}$$

**WATER QUALITY SUMMARY:**

Based on the calculated water quality flow rate, the Contech CDS2015-4-C water quality manhole will be used to provide water quality to the runoff (see attached specifications).

**DETENTION ROUTING:**

A detention pond will provide the detention storage. The flow control structure for the will have two orifices and an overflow riser. The attached spreadsheet shows the detention routing data.

The routing will be performed using the Santa Barbara Urban Hydrograph (SBUH) Method. (KING COUNTY DEPARTMENT OF PUBLIC WORKS Surface Water Management Division, HYDROGRAPH PROGRAMS Version 4.20)

RESERVOIR ROUTING INFLOW/OUTFLOW ROUTINE

SPECIFY [d:] [path] filename [.ext] OF ROUTING DATA

18083.txt

DISPLAY ROUTING DATA (Y or N)?

Y

ROUTING DATA:

| STAGE (FT) | DISCHARGE (CFS) | STORAGE (CU-FT) | PERM-AREA (SQ-FT) |
|------------|-----------------|-----------------|-------------------|
| .00        | .00             | .0              | .0                |
| .25        | .04             | 46.1            | .0                |
| .50        | .06             | 118.9           | .0                |
| .75        | .07             | 220.9           | .0                |
| 1.00       | .08             | 354.6           | .0                |
| 1.25       | .09             | 519.7           | .0                |
| 1.50       | .10             | 715.9           | .0                |
| 1.75       | .11             | 945.8           | .0                |
| 2.00       | .12             | 1212.0          | .0                |
| 2.25       | .13             | 1514.1          | .0                |

|      |     |        |    |
|------|-----|--------|----|
| 2.50 | .13 | 1851.7 | .0 |
| 2.75 | .14 | 2227.5 | .0 |
| 3.00 | .14 | 2642.7 | .0 |

AVERAGE PERM-RATE: .0 MINUTES/INCH

**2-Year Detention Routing:**

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:  
18083-2.dev

INFLOW/OUTFLOW ANALYSIS:

|                    |                    |                      |
|--------------------|--------------------|----------------------|
| PEAK-INFLOW (CFS)  | PEAK-OUTFLOW (CFS) | OUTFLOW-VOL (CU-FT)  |
| .47                | <u>.11</u>         | 6257                 |
| INITIAL-STAGE (FT) | TIME-OF-PEAK (HRS) | PEAK-STAGE-ELEV (FT) |
| .00                | 8.83               | <u>1.90</u>          |
| PEAK STORAGE:      | 1100 CU-FT         |                      |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-2.pnd

**10-Year Detention Routing:**

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:  
18083-10.dev

INFLOW/OUTFLOW ANALYSIS:

|                    |                    |                      |
|--------------------|--------------------|----------------------|
| PEAK-INFLOW (CFS)  | PEAK-OUTFLOW (CFS) | OUTFLOW-VOL (CU-FT)  |
| .70                | <u>.24</u>         | 9213                 |
| INITIAL-STAGE (FT) | TIME-OF-PEAK (HRS) | PEAK-STAGE-ELEV (FT) |
| .00                | 8.17               | <u>2.35</u>          |
| PEAK STORAGE:      | 1650 CU-FT         |                      |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-10.pnd

**25-Year Detention Routing:**

ENTER [d:][path]filename[.ext] OF COMPUTED HYDROGRAPH:  
18083-25.dev

INFLOW/OUTFLOW ANALYSIS:

|                    |                    |                      |
|--------------------|--------------------|----------------------|
| PEAK-INFLOW (CFS)  | PEAK-OUTFLOW (CFS) | OUTFLOW-VOL (CU-FT)  |
| .81                | <u>.28</u>         | 10809                |
| INITIAL-STAGE (FT) | TIME-OF-PEAK (HRS) | PEAK-STAGE-ELEV (FT) |
| .00                | 8.33               | <u>2.60</u>          |
| PEAK STORAGE:      | 1990 CU-FT         |                      |

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:  
18083-25.pnd

## **Detention Summary:**

The detention requirements are to reduce the following design storm events:

2-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 2-year, 24-hour storm event.

10-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 10-year, 24-hour storm event.

25yr, 24-hour storm event must be controlled to the pre-developed runoff rate of a 25-year, 24-hour storm event.

Based on the routing data and the flow control design, the detention pond will be capable of detaining and releasing stormwater runoff to meet the detention requirements mentioned above. The flow control structure will have two (2) orifices. The bottom orifice will be a 1-3/4" orifice at 0.00' above the pond bottom. The second orifice will be a 2-1/2" orifice at 1.90' above the pond bottom. The overflow weir will be at an elevation of 2.75' above the pond bottom. See attached routing spreadsheet for further information.

Per Clean Water Services' Current Design & Construction Standards - R&O 17-05, Section 4.04.1, the minimum required freeboard is 1.00' above the 25-year design storm. Therefore, a curb wall is proposed around the pond perimeter to provide the required freeboard

The following tables show that the detention requirements have been met.

### **Minimum Peak Rate Stormwater Runoff Control Requirements.**

2-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 2-year, 24 hour storm event.

| <b>2-year allowable release rate</b> | <b>2-year post-development release rate</b> |
|--------------------------------------|---|
| <b>0.11 cfs</b>                      | <b><u>0.11 cfs</u></b>                      |

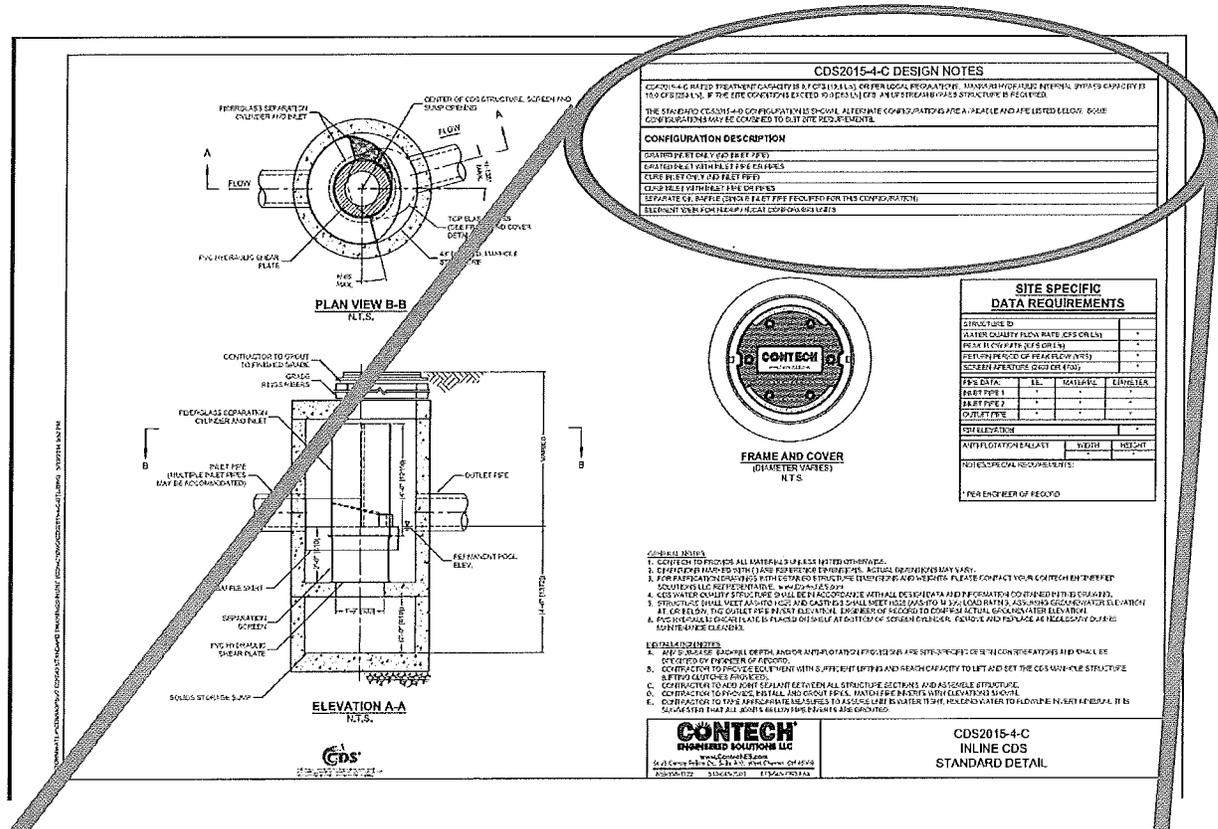
10-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 10-year, 24-hour storm event.

| <b>10-year allowable release rate</b> | <b>10-year post-development release rate</b> |
|---------------------------------------|--|
| <b>0.24 cfs</b>                       | <b>0.24 cfs</b>                              |

25-year, 24-hour storm event must be controlled to the pre-developed runoff rate of a 25-year, 24-hour storm event.

| <b>25-year allowable release rate</b> | <b>25-year post-development release rate</b> |
|---------------------------------------|--|
| <b>0.31 cfs</b>                       | <b>0.28 cfs</b>                              |

# *SUPPORTING PAGES*



| CDS2015-4-C DESIGN NOTES  |  |
|---|--|
| <p><b>CDS2015-4-C RATED TREATMENT CAPACITY IS 0.7 CFS [10.6 L/s], OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS [283 L/s]. IF THE SITE CONDITIONS EXCEED 10.0 [283 L/s] CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.</b></p> <p>THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.</p> |  |
| <p><b>CONFIGURATION DESCRIPTION</b></p>   |  |
| <p>GRATED INLET ONLY (NO INLET PIPE)</p>  |  |
| <p>GRATED INLET WITH INLET PIPE OR PIPES</p>  |  |
| <p>CURB INLET ONLY (NO INLET PIPE)</p>  |  |
| <p>CURB INLET WITH INLET PIPE OR PIPES</p>  |  |
| <p>SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)</p>  |  |
| <p>SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS</p>   |  |

**Figure 1:** This figure shows that the proposed water quality manhole is capable of providing water quality for the stormwater runoff generated by the proposed impervious areas.

# DETENTION POND ROUTING DATA

Rose Grove Mobile Home Park Addition (SGL18-083)  
Proposed Detention Pond

|                       |       |        |                     |      |                        |
|-----------------------|-------|--------|---------------------|------|------------------------|
| Orifice #1 Diameter:  | 1 3/4 | inches | Overflow Riser Dia: | 12   | inches                 |
| Orifice #1 Elevation: | 0.00  | feet   | Overflow elevation: | 2.75 | ft                     |
| Orifice #2 Diameter:  | 2 1/2 | inches | Infiltration Rate:  | 0.0  | in/hr = 0.00000000 cfs |
| Orifice #2 Elevation: | 1.90  | feet   |                     |      |                        |
| Orifice #3 Diameter:  | 0     | inches |                     |      |                        |
| Orifice #3 Elevation: | 0.00  | feet   |                     |      |                        |
| Orifice #4 Diameter:  | 0     | inches |                     |      |                        |
| Orifice #4 Elevation: | 0.00  | feet   |                     |      |                        |

n = 13

| Stage | Elevation (ft) | Surface Area (sq. ft) | Storage Volume (cu. ft.) | Orifice #1      |           | Orifice #2      |           | Orifice #3      |           | Orifice #4      |           | Overflow Discharge (cfs) | Actual Discharge (cfs) | Elevation | Actual Discharge | Storage Volume | Infiltration |
|-------|----------------|-----------------------|--------------------------|-----------------|-----------|-----------------|-----------|-----------------|-----------|-----------------|-----------|--------------------------|------------------------|-----------|------------------|----------------|--------------|
|       |                |                       |                          | Discharge (cfs) | Head (ft) |                          |                        |           |                  |                |              |
| 1     | 0.00           | 134                   | 0.00                     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000                    | 0.00                   | 0.00      | 0.00             | 0.00           | 0.00         |
| 2     | 0.25           | 234                   | 46.07                    | 0.042           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.042                    | 0.25                   | 0.042     | 46.1             | 0.00           | 0.00         |
| 3     | 0.50           | 349                   | 118.91                   | 0.059           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.059                    | 0.50                   | 0.059     | 118.9            | 0.00           | 0.00         |
| 4     | 0.75           | 467                   | 220.90                   | 0.072           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.072                    | 0.75                   | 0.072     | 220.9            | 0.00           | 0.00         |
| 5     | 1.00           | 602                   | 354.68                   | 0.083           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.083                    | 1.00                   | 0.083     | 354.6            | 0.00           | 0.00         |
| 6     | 1.25           | 719                   | 519.68                   | 0.093           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.093                    | 1.25                   | 0.093     | 519.7            | 0.00           | 0.00         |
| 7     | 1.50           | 851                   | 715.92                   | 0.102           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.102                    | 1.50                   | 0.102     | 715.9            | 0.00           | 0.00         |
| 8     | 1.75           | 988                   | 945.82                   | 0.110           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.110                    | 1.75                   | 0.110     | 945.8            | 0.00           | 0.00         |
| 9     | 2.00           | 1147                  | 1211.99                  | 0.118           | 0.054     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.171                    | 2.00                   | 0.171     | 1212.0           | 0.00           | 0.00         |
| 10    | 2.25           | 1275                  | 1514.08                  | 0.125           | 0.100     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.225                    | 2.25                   | 0.225     | 1514.1           | 0.00           | 0.00         |
| 11    | 2.50           | 1426                  | 1851.73                  | 0.131           | 0.131     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.263                    | 2.50                   | 0.263     | 1851.7           | 0.00           | 0.00         |
| 12    | 2.75           | 1581                  | 2227.55                  | 0.138           | 0.156     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.294                    | 2.75                   | 0.294     | 2227.5           | 0.00           | 0.00         |
| 13    | 3.00           | 1740                  | 2642.66                  | 0.144           | 0.178     | 0.000           | 0.000     | 0.000           | 0.000     | 0.000           | 0.000     | 0.374                    | 3.00                   | 0.374     | 2642.7           | 0.00           | 0.00         |

<= Orifice Outflow

|   |  |  |
|---|--|--|
| B | Stage Number   |  |
| C | Water Surface Elevation  |  |
| D | Water Surface Area @ Given Elevation                               |  |
| E | Storage Volume = [(Average Area) * (Elevation)] - Previous Volume  |  |
| F | $Q = 0.62 \times (\text{area}) \times (2 \times g \times h)^{0.5}$ |  |
| G | Q = Orifice Eq.  |  |
| H | Q = Orifice Eq.  |  |
| I | Q = Orifice Eq.  |  |
| J | Overflow Riser as a Weir $Q = 2.68 \times L \times H^{1.5}$        |  |
| K | $L = 2 \times \text{plf}$  |  |

Figure 2: Routing spreadsheet.

Table 2-2a Runoff curve numbers for urban areas <sup>1/</sup>

| Cover description  | Average percent<br>impervious area <sup>2/</sup> | Curve numbers for<br>hydrologic soil group |    |    |    |
|--|--|--|----|----|----|
|  |  | A  | B  | C  | D  |
| Open space (lawns, parks, golf courses, cemeteries, etc.) <sup>3/</sup>  |  |  |    |    |    |
| Poor condition (grass cover < 50%)   |  | 68   | 79 | 86 | 89 |
| Fair condition (grass cover 50% to 75%)  |  | 49   | 69 | 79 | 84 |
| Good condition (grass cover > 75%)   |  | 39   | 61 | 74 | 80 |
| Impervious areas:  |  |  |    |    |    |
| Paved parking lots, roofs, driveways, etc.<br>(excluding right-of-way)   |  | 98   | 98 | 98 | 98 |
| Streets and roads:   |  |  |    |    |    |
| Paved; curbs and storm sewers (excluding<br>right-of-way)  |  | 98   | 98 | 98 | 98 |
| Paved; open ditches (including right-of-way)   |  | 83   | 89 | 92 | 93 |
| Gravel (including right-of-way)  |  | 79   | 85 | 89 | 91 |
| Dirt (including right-of-way)  |  | 72   | 82 | 87 | 89 |
| Western desert urban areas:  |  |  |    |    |    |
| Natural desert landscaping (pervious areas only) <sup>4/</sup>   |  | 81   | 77 | 85 | 88 |
| Artificial desert landscaping (impervious weed barrier,<br>desert shrub with 1- to 2-inch sand or gravel mulch<br>and basin borders) |  | 96   | 96 | 96 | 96 |
| Urban districts:   |  |  |    |    |    |
| Commercial and business  | 85   | 89   | 92 | 94 | 95 |
| Industrial   | 72   | 81   | 88 | 91 | 93 |
| Residential districts by average lot size:   |  |  |    |    |    |
| 1/8 acre or less (town houses)   | 65   | 77   | 85 | 90 | 92 |
| 1/4 acre   | 38   | 61   | 75 | 83 | 87 |
| 1/3 acre   | 30   | 57   | 72 | 81 | 86 |
| 1/2 acre   | 25   | 54   | 70 | 80 | 85 |
| 1 acre   | 20   | 51   | 68 | 78 | 84 |
| 2 acres  | 12   | 46   | 65 | 77 | 82 |
| Newly graded areas<br>(pervious areas only, no vegetation) <sup>6/</sup>   |  | 77   | 86 | 91 | 94 |
| Idle lands (CN's are determined using cover types<br>similar to those in table 2-2c).  |  |  |    |    |    |

<sup>1/</sup> Average runoff condition, and  $L_s = 0.25$ .<sup>2/</sup> The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.<sup>3/</sup> CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.<sup>4/</sup> Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.<sup>6/</sup> Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

## Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity (Ksat)* refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)

### Report—Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Physical Soil Properties—Washington County, Oregon |       |      |      |          |                    |                                  |                          |                      |                |                 |     |   |                        |                        |
|--|-------|------|------|----------|--------------------|----------------------------------|--------------------------|----------------------|----------------|-----------------|-----|---|------------------------|------------------------|
| Map symbol and soil name                           | Depth | Sand | Silt | Clay     | Moist bulk density | Saturated hydraulic conductivity | Available water capacity | Linear extensibility | Organic matter | Erosion factors |     |   | Wind erodibility group | Wind erodibility index |
|  |       |      |      |          |                    |                                  |                          |                      |                | Kw              | Kf  | T |                        |                        |
|  | In    | Pct  | Pct  | Pct      | g/cc               | micro m/sec                      | In/in                    | Pct                  | Pct            |                 |     |   |                        |                        |
| 45A—Woodburn silt loam, 0 to 3 percent slopes      |       |      |      |          |                    |                                  |                          |                      |                |                 |     |   |                        |                        |
| Woodburn   | 0-16  | -14- | -71- | 10-16-20 | 1.20-1.30<br>-1.40 | 4.00-9.00-14.00                  | 0.19-0.20-0.21           | 0.0-1.5-2.9          | 3.0-4.0-5.0    | .37             | .37 | 5 | 5                      | 56                     |
|  | 16-31 | -7-  | -85- | 20-28-35 | 1.20-1.30<br>-1.40 | 4.00-9.00-14.00                  | 0.19-0.20-0.21           | 3.0-4.5-5.0          | 0.5-1.8-3.0    | .49             | .49 |   |                        |                        |
|  | 31-60 | -10- | -88- | 15-23-30 | 1.33-1.40<br>-1.60 | 0.42-0.61-1.40                   | 0.19-0.20-0.21           | 0.0-1.5-2.9          | 0.0-0.3-0.5    | .55             | .55 |   |                        |                        |

### Data Source Information

Soil Survey Area: Washington County, Oregon  
 Survey Area Data: Version 16, Sep 18, 2018

## Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

*Group A.* Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

*Group B.* Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

*Group C.* Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

*Group D.* Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit and plasticity index (Atterberg limits)* indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

### Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "\*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Engineering Properties—Washington County, Oregon |                  |                  |       |                            |                |        |               |             |                                  |             |           |          |              |                  |
|--|------------------|------------------|-------|----------------------------|----------------|--------|---------------|-------------|----------------------------------|-------------|-----------|----------|--------------|------------------|
| Map unit symbol and soil name                    | Pct. of map unit | Hydrologic group | Depth | USDA texture               | Classification |        | Pct Fragments |             | Percentage passing sieve number— |             |           |          | Liquid limit | Plasticity index |
|  |                  |                  |       |                            | Unified        | AASHTO | >10 inches    | 3-10 inches | 4                                | 10          | 40        | 200      |              |                  |
|  |                  |                  |       |                            |                | L-R-H  | L-R-H         | L-R-H       | L-R-H                            | L-R-H       | L-R-H     | L-R-H    | L-R-H        |                  |
| 45A—Woodburn silt loam, 0 to 3 percent slopes    |                  |                  | In    |                            |                |        |               |             |                                  |             |           |          |              |                  |
| Woodburn   | 85               | C                | 0-15  | Silt loam                  | ML             | A-4    | 0-0-0         | 0-0-0       | 100-100-100                      | 95-98-100   | 85-90-95  | 70-78-85 | 25-28-30     | HP-3-5           |
|  |                  |                  | 16-31 | Silty clay loam, silt loam | CL             | A-6    | 0-0-0         | 0-0-0       | 100-100-100                      | 100-100-100 | 95-92-100 | 85-90-95 | 30-35-40     | 10-15-20         |
|  |                  |                  | 31-60 | Silt loam, silty clay loam | CL-ML, CL, ML  | A-4    | 0-0-0         | 0-0-0       | 100-100-100                      | 100-100-100 | 95-92-100 | 80-85-90 | 25-30-35     | 5-8-10           |

### Data Source Information

Soil Survey Area: Washington County, Oregon  
 Survey Area Data: Version 16, Sep 18, 2018

Soil Map—Washington County, Oregon



USDA  
Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

### MAP LEGEND

- Area of Interest (AOI)
- Soil
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features
- Spot 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
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landslide
- Lava Flow
- Mason or Excavation
- Name or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Siltstone
- Slime or Slip
- Sodic Spot

### 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 areas, 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: Washington County, Oregon  
 Survey Area Date: Version 16, Sep 18, 2016

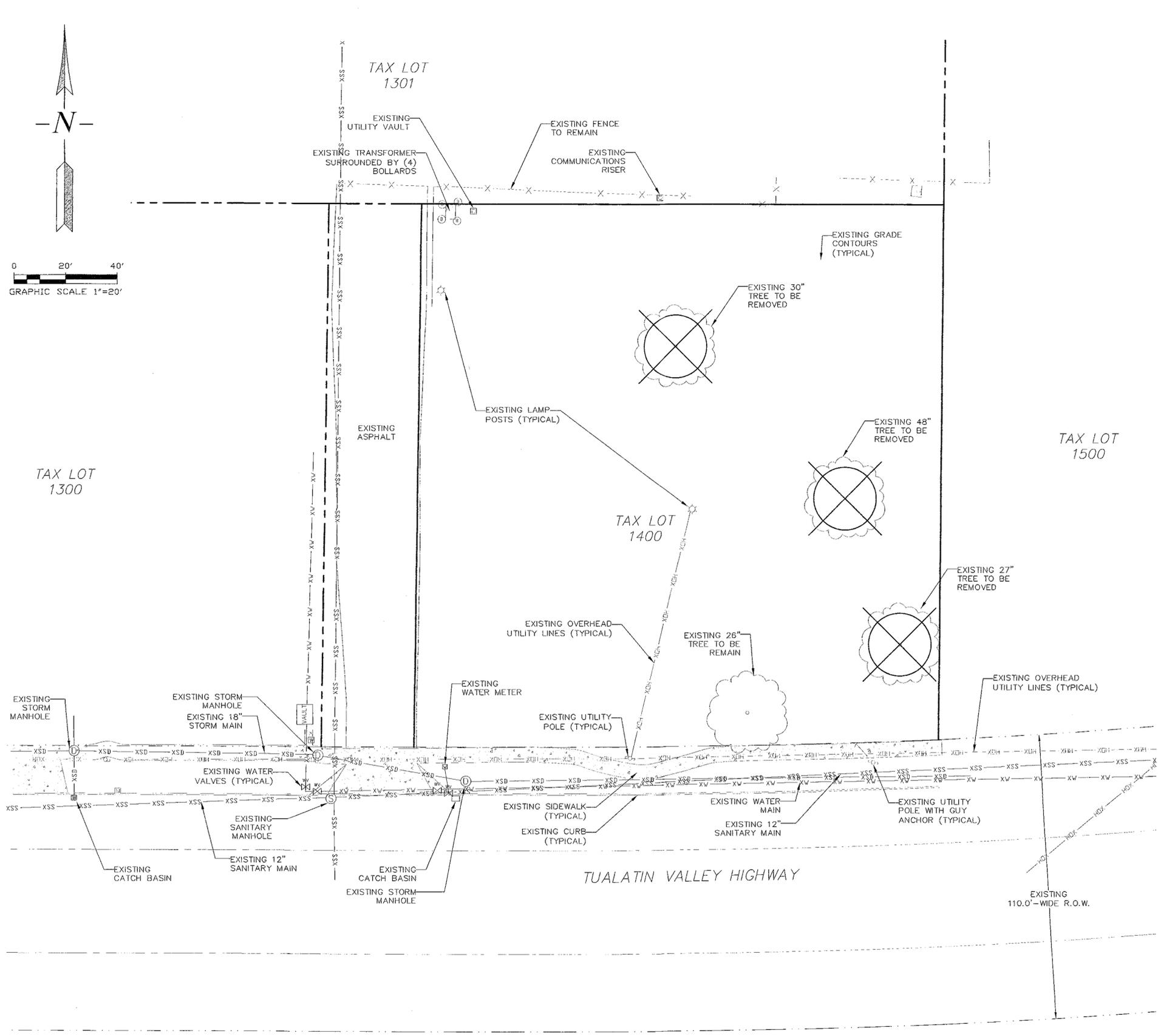
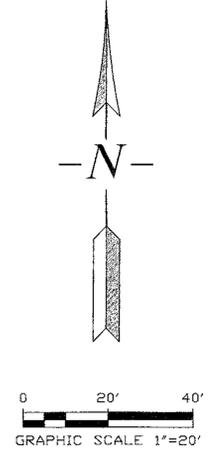
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 18, 2015—Feb 12, 2017

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 |
|-----------------------------|---|--------------|----------------|
| 45A                         | Woodburn silt loam, 0 to 3 percent slopes | 1.1          | 100.0%         |
| Totals for Area of Interest |   | 1.1          | 100.0%         |



- LEGEND:**
- = PROPERTY LINE
  - XSS- = EXISTING SANITARY
  - XSD- = EXISTING STORM
  - XW- = EXISTING WATER
  - XIB- = EXISTING OVERHEAD UTILITIES
  - 450- = EXISTING MAJOR CONTOUR
  - 451- = EXISTING MINOR CONTOUR
  - - - = EXISTING EASEMENT
  - - - = EXISTING CENTERLINE
  - - - = EXISTING RIGHT-OF-WAY
  - - - = EXISTING SIDEWALK
  - - - = EXISTING CURB
  - - - = EXISTING CENTERLINE
  - - - = PROPOSED RIGHT-OF-WAY
  - - - = PROPOSED LOT LINES
  - SS- = PROPOSED SANITARY
  - SD- = PROPOSED STORM
  - W- = PROPOSED WATER
  - 450- = PROPOSED MAJOR CONTOUR
  - 451- = PROPOSED MINOR CONTOUR
  - - - = PROPOSED SETBACKS
  - - - = PROPOSED SIDEWALK
  - - - = PROPOSED CURB
  - - - = SAWCUT
  - - - = SEDIMENT FENCE
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  - [Symbol] = EXISTING WATER METER
  - [Symbol] = EXISTING FIRE HYDRANT
  - [Symbol] = PROPOSED WATER METER
  - [Symbol] = BLOWOFF ASSEMBLY
  - [Symbol] = PROPOSED FIRE HYDRANT
  - [Symbol] = EXISTING SANITARY MANHOLE
  - [Symbol] = EXISTING CLEANOUT
  - [Symbol] = PROPOSED SANITARY MANHOLE
  - [Symbol] = EXISTING UTILITY POLE
  - [Symbol] = EXISTING LIGHT POLE
  - [Symbol] = GAS VALVE
  - [Symbol] = EXISTING CATCH BASIN
  - [Symbol] = EXISTING STORM MANHOLE
  - [Symbol] = EXISTING CULVERT
  - [Symbol] = ELECTRICAL RISER
  - [Symbol] = ELECTRICAL VAULT
  - [Symbol] = ELECTRICAL POWER PEDESTAL
  - [Symbol] = TRANSFORMER
  - [Symbol] = GAS RISER
  - [Symbol] = COMMUNICATION PEDESTAL
  - [Symbol] = MAILBOX
  - [Symbol] = SIGN POST
  - [Symbol] = DIRECTION OF FLOW
  - [Symbol] = EXISTING TREE
  - [Symbol] = PROPOSED TREE
  - [Symbol] = PROPOSED SHRUB
  - [Symbol] = EXISTING TREE TO BE REMOVED
  - [Symbol] = PROPOSED DRIVEWAY HATCH
  - [Symbol] = ROADWAY HATCH
  - [Symbol] = SIDEWALK HATCH
  - [Symbol] = GRAVEL HATCH
  - [Symbol] = SAWCUT HATCH
  - [Symbol] = PLANTER HATCH

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**ROSE GROVE MHP ADDITION**  
ROSE GROVE MOBILE HOME PARK

**Existing Conditions and Tree Removal Plan**

**SISUL ENGINEERING**  
375 PORTLAND AVENUE  
GLADSTONE, OREGON 97027  
(503) 657-0188  
DRAWING: XTR 0311-106.dwg

|       |           |
|-------|-----------|
| DATE  | NOV. 2018 |
| SCALE | AS NOTED  |
| DRAWN | JDM       |
| JOB   | SGL18-083 |
| SHEET | <b>1</b>  |
| OF    | SHEETS    |



EXPIRES: 6/30/



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**ROSE GROVE MHP ADDITION**  
ROSE GROVE MOBILE HOME PARK

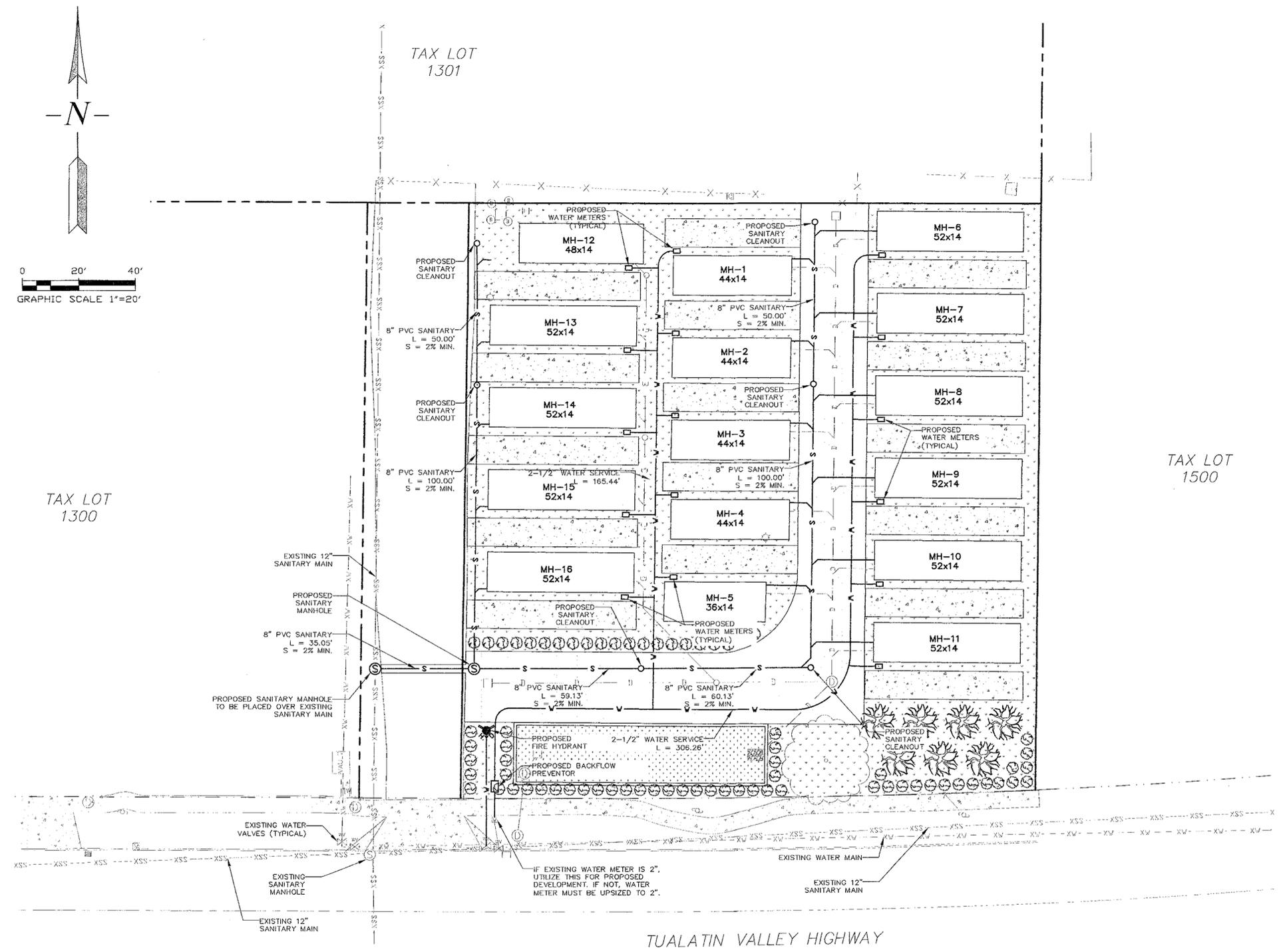
Water and Sanitary Plan

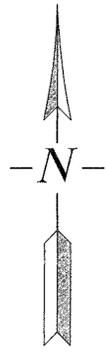
**SISUL ENGINEERING**  
375 PORTLAND AVENUE #7027  
GLADSTONE, OREGON 97027  
(503) 867-0186  
FAX: (503) 867-0186

|              |           |
|--------------|-----------|
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| DRAWN        | JDM       |
| JOB          | SGL18-083 |
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EXPIRES: 6/30/



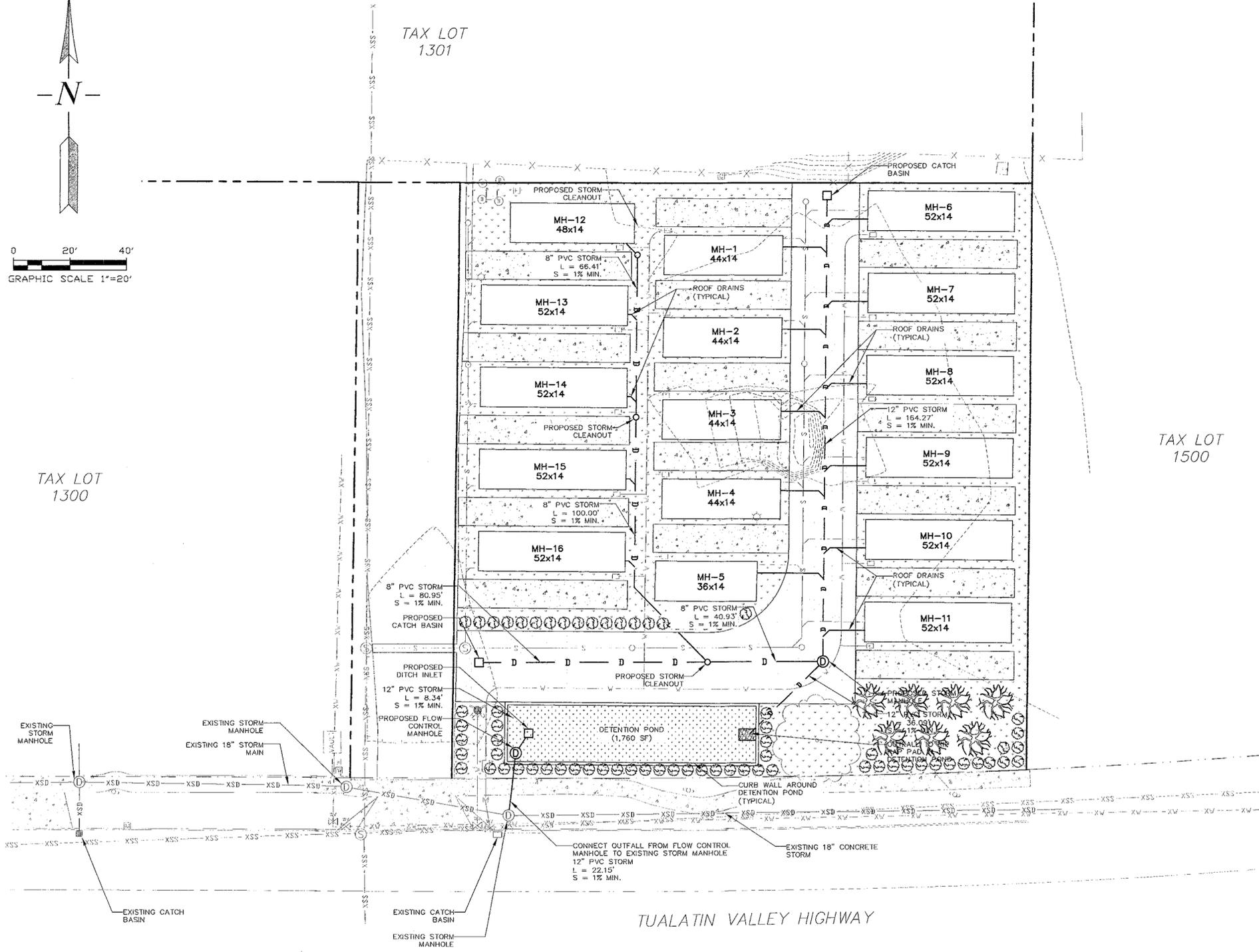


0 20' 40'  
GRAPHIC SCALE 1"=20'

TAX LOT  
1301

TAX LOT  
1300

TAX LOT  
1500



TUALATIN VALLEY HIGHWAY

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ROSE GROVE MHP ADDITION  
ROSE GROVE MOBILE HOME PARK

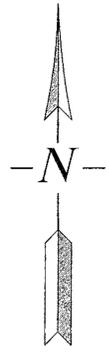
Storm Plan

**SISUL ENGINEERING**  
376 PORTLAND AVENUE #7027  
GLADSTONE, OREGON  
(503) 667-0166  
DRAWING: X-S-002-BaseDrain



EXPIRES: 6/30/

|              |           |
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| DATE         | NOV. 2018 |
| SCALE        | AS NOTED  |
| DRAWN        | JDM       |
| JOB          | SGL18-083 |
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| OF OF SHEETS |           |

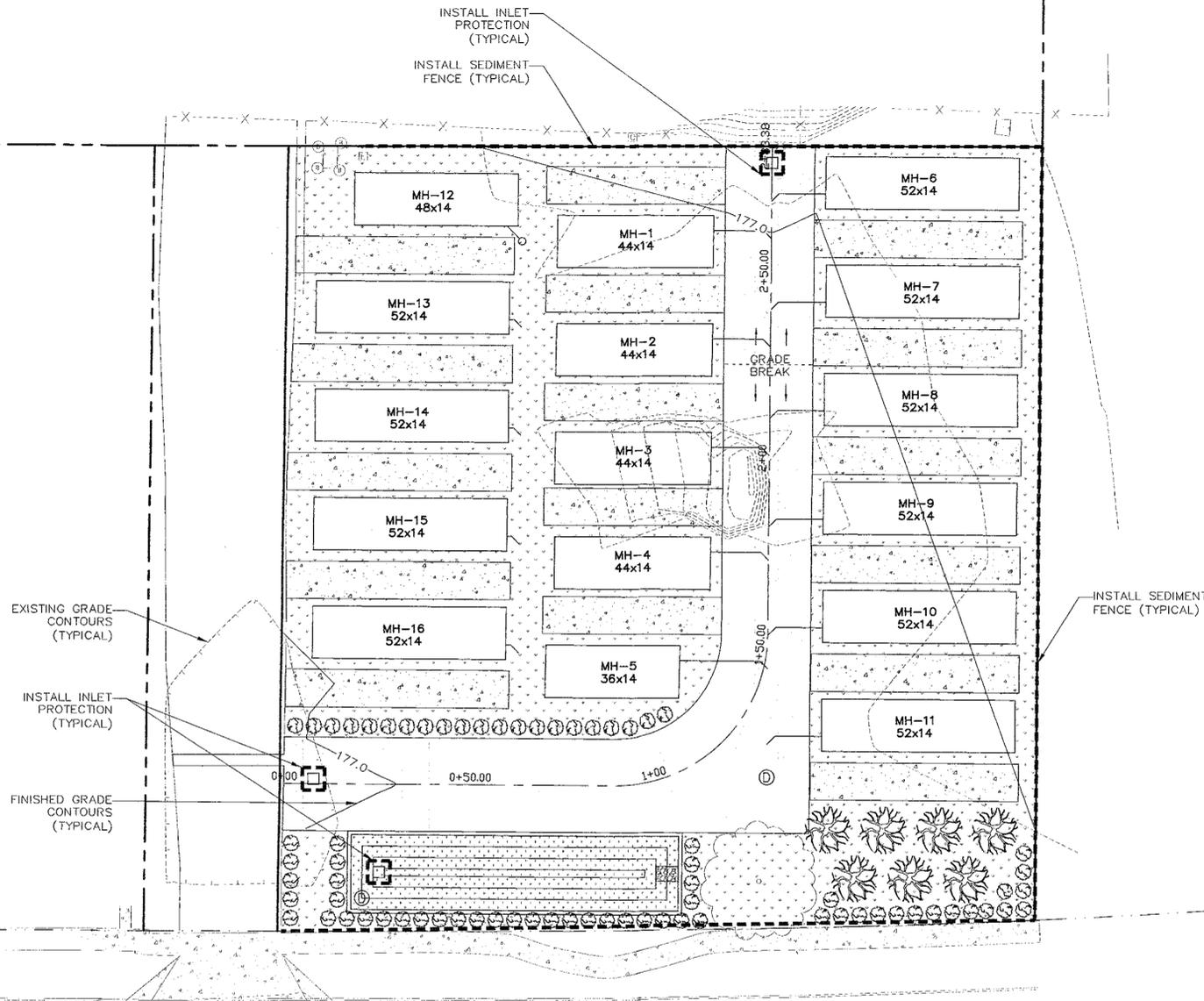


0 20' 40'  
GRAPHIC SCALE 1"=20'

TAX LOT  
1301

TAX LOT  
1300

TAX LOT  
1500



TUALATIN VALLEY HIGHWAY

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**ROSE GROVE MHP ADDITION**  
ROSE GROVE MOBILE HOME PARK

Grading and Erosion  
and Sediment  
Control Plan

**SISUL ENGINEERING**  
376 PORTLAND AVENUE  
GLADSTONE, OREGON 97027  
(503) 667-0188  
S:\CARL\18-083\18-083.dwg

DATE NOV. 2018  
SCALE AS NOTED  
DRAWN JDM  
JOB SGL18-083

SHEET  
**5**  
OF OF SHEETS



EXPIRES: 6/30/

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**ROSE GROVE MHP ADDITION**  
ROSE GROVE MOBILE HOME PARK

Details

**SISUL ENGINEERING**  
375 PORTLAND AVENUE  
GLADSTONE, OREGON 97027  
(503) 667-0188  
DATE PLOTTED: 11/14/2018 10:30:00 AM

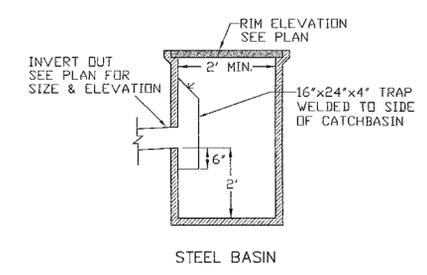
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| DATE  | NOV. 2018 |
| SCALE | AS NOTED  |
| DRAWN | JDM       |
| JOB   | SGL18-083 |
| SHEET | 1         |
| OF    | OF SHEETS |

STEEL-PLATE CATCHBASINS SHALL NOT BE LESS THAN 10 GAUGE WITH WELDED SEAMS WITH SLEEVES ATTACHED FOR CONNECTING THE STORM DRAIN LINES.

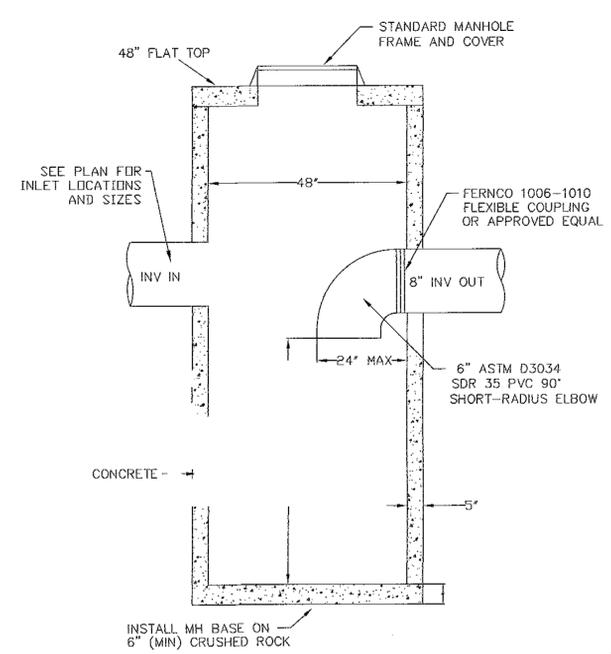
CATCHBASINS MADE OF CAST IRON SHALL HAVE A WALL THICKNESS OF NOT LESS THAN 1/4" WITH SLEEVES ATTACHED FOR CONNECTING THE STORM DRAIN LINES.

STEEL CATCHBASINS SHALL BE ASPHALT COATED INSIDE & OUT.

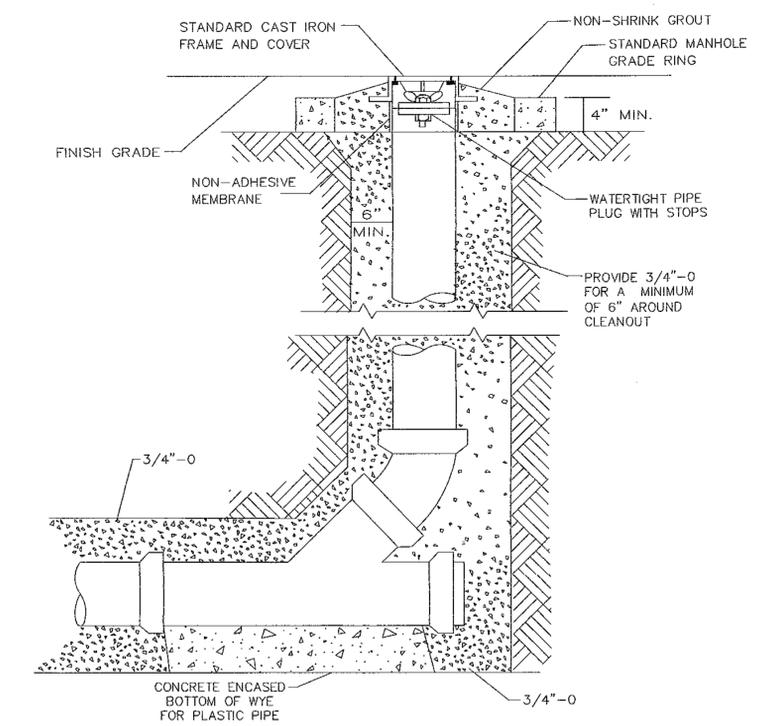
GRATE TO BE WELDED STEEL DROP IN GRATE (ASTM A36). END BARS 1/2"x2"; CROSS BARS 1/2"x2" @ 2" O.C.; BIKE STRAPS 1/8"x1"; 16,000 lb) UNIFORM LOAD CAPACITY.



PRIVATE CATCHBASIN DETAIL  
IN PAVEMENT AREAS  
N.T.S.



SEDIMENTATION MANHOLE  
N.T.S.



NOTE: CONCRETE ENCASE ENTIRE WYE SECTION AND 45° BEND IF CONCRETE PIPE

STANDARD CLEAN OUT  
N.T.S.



## EXHIBIT B

Staff Letter Denying Site Plan Approval



*A place where families and businesses thrive.*

---

December 12, 2018

Heather Austin, AICP  
3J Consulting, Inc.  
5075 SW Griffith Drive, Suite 150  
Beaverton, Oregon 97005

Re: Rose Grove MHP Expansion Site Review  
3839 Pacific Avenue  
File Number 311-18-000036-PLNG

Dear Heather:

This is your notice that the request to expand the Rose Grove MHP has been denied.

The application appears to be predicated on Commercial and Mixed Use Zones Use Table 3-10 which lists Household Living as a Limited Use in the Community Commercial (CC) zoning district. Household Living is defined as:

*Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month. Examples include single-family detached and attached dwellings, duplexes, multifamily dwellings, and manufactured dwellings. The household living category includes most types of senior housing, e.g., congregate care and assisted living, if residents live in self-contained units. The Uniform Building Code shall determine the maximum number of people who may reside in any given dwelling unit (Development Code §10.12.110(A) – emphasis added).*

You have asserted that because Household Living is a Limited Use in the CC zoning district, that all the listed housing types – including manufactured homes – must therefore be permitted. There are several problems with this approach:

1. A definition is not a standard or an approval criterion.
  2. An example is just one that is representative of all of a group or type. The examples listed in the definition are generally representative of Household Living types. As such, a list of examples cannot be construed as permitting e.g., single-family detached homes in the Town Center or the CC zoning district, nor manufactured home parks in the CC zoning district;
  3. The Development Code stipulates the allowable locations for manufactured dwelling parks. DC §10.5.300(A) states that the purpose of the Manufactured Dwelling Park code is "To accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval." The CC zoning district is not listed as one where manufactured dwelling parks are allowed.
  4. Even if the City were to accept your rationale that the Household Living definition somehow allowed for manufactured dwelling parks in the CC zoning district, DC §10.1.120(D) requires that "Where two or more requirements of this Code apply, the most restrictive requirement shall govern." In this context, because Manufactured Dwelling Park is specifically listed as a conditional use in most of the residential zones, and is not listed at all in the CC zoning district, the more restrictive requirement would prohibit approval of an application for a manufactured home park in any zoning district that was not R-10, R-7, R-5, RML or RMH.
-

Thus, the City cannot approve this application.

Absent an appeal, this decision constitutes the final local action on this matter. Should you or any other affected party wish to appeal this decision, the appeal must be filed with the Community Development Department within fourteen (14) days of the date of this notice (by December 26, 2018 @ 4:30 pm). Appeals must be filed in writing, must state specifically how the decision conflicts with the purposes, intents, and provisions of the Development Code or other applicable ordinances, and be accompanied by a \$250 fee.

Please contact me at [jreitz@forestgrove-or.gov](mailto:jreitz@forestgrove-or.gov) or 503/992-3233 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "James Reitz". The signature is stylized with a large initial "J" and a long horizontal stroke extending to the right.

James Reitz, AICP  
Senior Planner

C      Affected Parties

## EXHIBIT C

Appeal Letter Dated December 26, 2018

# 3J CONSULTING

5075 SW GRIFFITH DRIVE, SUITE 150  
BEAVERTON, OREGON 97005  
PH: (503) 946.9365  
WWW.3J-CONSULTING.COM

December 26, 2018

James Reitz, AIP  
Senior Planner  
City of Forest Grove  
PO Box 326  
Forest Grove, OR 97116

Dear Mr. Reitz-

On behalf of my client, Rose Grove Mobile Home Park Ltd., I would like to formally submit an appeal to the City of Forest Grove of the denial of File Number 311-18-000036-PLNG.

The letter from the City, dated December 12, 2018, lists four reasons for denial of the land use submittal.

The property owner/applicant disagrees with staff's finding that manufactured dwellings are not permitted in the CC zoning district.

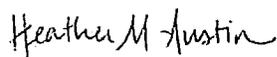
The property owner/applicant disagrees with the staff finding that because DC Section 10.5.300(A) states that the purpose of the manufactured dwelling park code is to "accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval", manufactured dwelling parks are not permitted in the CC zoning district. The purpose statement of a code section is not a standard or approval criterion.

The absence of manufactured dwelling park as a conditional use in the CC zone does not imply that a manufactured dwelling park is not permitted in the zoning district. DC Section 10.3.320 lists many uses which are not permitted in the CC zoning district. Manufactured dwelling park is not among the uses listed as "not permitted" in the CC zoning district.

For the above reasons, the property owner/applicant respectfully requests an appeal hearing before the City's Planning Commission. According to DC Section 10.1.540, Appeals of a Type II land use decision are de novo.

Please let me know if you have any questions about the above information.

Sincerely,



Heather Austin, AICP  
Senior Planner  
3J Consulting, Inc.  
503-887-2130  
[Heather.austin@3j-consulting.com](mailto:Heather.austin@3j-consulting.com)



## EXHIBIT D

Appeal Letter Dated January 11, 2019

January 11, 2019

**Garrett H. Stephenson**

Admitted in Oregon

T: 503-796-2893

C: 503-320-3715

[gstephenson@schwabe.com](mailto:gstephenson@schwabe.com)

Thomas Beck, Chair  
Forest Grove Planning Commission  
City of Forest Grove  
P.O. Box 326  
Forest Grove, OR 97116

RE: Applicant's Appeal of Rose Grove MHP Expansion Site Review  
3839 Pacific Avenue  
City File No. 311-18-000036-PLNG

Dear Chair Beck and Commissioners:

This office represents Rose Grove Mobile Home Park ("Rose Grove") in its Type II Site Plan Review application for an additional 16 manufactured home spaces (the "Application"). A site plan from the Application is provided as **Exhibit A**. This letter responds to Planning staff's decision dated December 12, 2018 (the "Decision"), in which staff denied the Application. **Exhibit B**. This letter is timely submitted prior to the January 22, 2019 hearing before the City Planning Commission (the "Commission").

## I. Introduction

Rose Grove has been a key provider of affordable housing in the City for over 30 years. According to the City's Housing Needs Assessment and Recommendations, which was officially accepted by the City on September 11, 2017, there is a need for about 1,400 additional housing units affordable to low and extremely low income households in Forest Grove. **Exhibit C at 7**. With 332 units, Rose Grove is by far the largest single provider of affordable housing in the City. Virtually all of Rose Grove's manufactured and mobile homes provide 1-2 bedroom single-family living spaces, which are affordable to families with an annual income of less than \$42,000. **Exhibit C at 28**. Approval of this project is consistent with the Assessment's recommendation that the City "support efforts and programs (partnerships) to expand and retain affordable housing opportunities for Forest Grove residents." **Exhibit C at 8**.

In addition to providing affordable housing, Rose Grove substantially supports the quality of life of its tenants. It does so by providing a rent relief program, plants and harvest a community garden each year, provides Thanksgiving and Christmas dinners to needy residents, among many other things. Stated simply: Rose Grove is committed to providing a very high quality living experience for those in need of affordable housing and wishes to continue to do so.

## II. Summary of Argument

Rose Grove's proposed expansion is for about an acre of development-ready ground, upon which Rose Grove plans to provide an additional 16 manufactured home spaces. The Commission can approve the project under the express terms of the Forest Grove Development Code ("FGDC" or "Code"). The zoning of the Property is "Community Commercial" ("CC") which allows all residential uses as "household living" (FGDC10.3.120, Table 3-10). The definition of "household living" includes manufactured homes:

"Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month. Examples include single family detached and attached dwellings, duplexes, multifamily dwellings, and manufactured homes. The household living category includes most types of senior housing, e.g., congregate care and assisted living, if residents live in self-contained units. The Uniform Building Code shall determine the maximum number of people who may reside in any given dwelling unit." FGDC 10.12.110.A.

Staff proposes a convoluted and confusing response that is neither easy to follow nor supported by the express language of the FGDC. As explained below, staff's analysis is simply wrong and impermissible on a number of levels. However, the Commission need not engage in a complex analysis of the FGDC to find that manufactured homes are permitted in the CC zone—as noted above, the plain language of the FGDC explains that they are.

For the following reasons, Rose Grove respectfully requests that the Commission interpret the FGDC as written and approve the Application, which decision is not only the correct interpretation of the FGDC, but will also further the City's adopted affordable housing goals.

## III. Standard of Review

When the Commission reviews a staff level decision, no legal deference is owed to staff's interpretation of the Code. *Gage v. City of Portland*, 319 Or 308, 317 (1994). Therefore, the Commission is charged with determining for itself whether staff properly interpreted the applicable criteria. The correct methodology to construe the meaning of code provision is to start with its text and context. *Portland General Elec. Co. v. Bureau of Labor and Industries*, 317 Or. 606, 610-612 (1993). A correct interpretation of a code provision must be supported by, and may not conflict with, the express language that provision. *Siporen v. City of Medford*, 349 Or 247, 261 (2010). City staff's interpretation of the FGDC conflicts with the express language of the Code, which states that (1) "household living" is permitted as a limited use in the Community Commercial (CC) zoning district, and (2) "manufactured dwellings" are included within the definition of "household living." Consequently, the Commission must reverse Staff's Decision.

## II. Response to Staff's Reasons for Appeal

Staff provided very little in the way of a written decision and did not take issue with how the Application satisfied the criteria for Site Plan Review. Staff provided four short statements expressing its interpretation, which are set forth below and followed by Rose Grove's response.

### 1. "A definition is not a standard or an approval criterion."

**RESPONSE:** Staff's argues that the definition in FGDC 10.12.110.A. does not apply to the decision because it is a definition, not a standard or approval criteria. This argument directly contradicts established Land Use Board of Appeals ("LUBA") case law. In *Warren v. Washington County*, a petitioner argued that the definition of "enhancement" could not be considered a "standard" because it is a definition. LUBA No. 2018-089. LUBA rejected that argument on its face, noting that definitions within development standards are themselves standards. *Id.* at 5.

There is simply no support for staff's argument that use definitions do not govern how the City interprets uses. FGDC 10.1.120 provides that "except as otherwise specified, the definitions included in Article 12 shall be used to interpret the provisions of this Code." FGDC Article 12, "Use Categories & Definitions," "includes the definition of works with specific meaning in the Code." It also explains that "uses are assigned to the category whose description most closely describes the nature of the primary uses." The City must use the definitions in its code to interpret uses.

Not only does the Code provide a specific definition of "household living," it also provides specific examples, one of which is "manufactured dwellings." Staff's reasoning is fundamentally flawed because it asks the Commission to read the FGDC's definitions right out of the code, in direct violation of FGDC 10.1.120.

### 2. "An example is just one that is representative of all of a group or type. The examples listed in the definition are generally representative of Household Living types. As such, a list of examples cannot be construed as permitting e.g., single-family detached homes in the Town Center or the CC zoning district, nor manufactured home parks in the CC zoning district."

**RESPONSE:** In making this argument, staff asks the Commission to ignore the express definitions of allowed uses when interpreting those uses. Not only is staff's argument nonsensical, it also violates Oregon law. In *Church v. Grant County*, the Court of Appeals held that where a "county's interpretation of its code was inconsistent with the express language of the code," "the county's interpretation was impermissible as a matter of law." 187 Or. App. 518 (2003). In that case, the county's code provided that minimum area or width requirements did not apply to an "authorized lot," which included within the code definition a separate unit of land created by land partitioning. *Id.* at 762. The county did not dispute that the applicants' parcel was an "authorized lot," but instead argued that "authorized lot" must be read in context so that

the exception only applied to lots created before a certain time. *Id.* The court ultimately held that “it is impermissible to read into...an ordinance a requirement that the ordinance simply does not contain.”

Again, City staff’s interpretation of the Code is inconsistent with the express language of the Code. The Code explicitly states that “household living,” which includes “manufactured dwellings,” is a permitted use in the CC zone. Any contrary interpretation is inconsistent with the express provisions of the Code, and is therefore impermissible.

- 3. “The Development Code stipulates the allowable locations for manufactured dwelling parks. DC §10.5.300(A) states that the purpose of the Manufactured Dwelling Park code is ‘To accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval.’ The CC zoning district is not listed as one where manufactured dwelling parks are allowed.”**

**RESPONSE:** ORS 174.010 provides that when local governments interpret their codes, they may “not to insert what has been omitted, or to omit what has been inserted; and where there are several provisions or particulars such construction is, if possible, to be adopted as will give effect to all.” Staff incorrectly found that the Manufacturing Dwelling Park Code has relevance to this Application and in so doing, incorrectly inserts a restriction on manufactured dwellings in the CC zone that has been omitted.

FGDC 10.5.300 only applies in the R-10, R-7, R-5, RML, and RMH zoning districts. There is no link, express or implied, between that sections and the CC zone. The only significance of the lack of such link, is that it demonstrates FGDC 10.5.300 does not apply in the CC zone. And, the Manufactured Dwelling Park Code clearly explains that “it shall not apply to manufactured dwelling parks established before adoption of these regulations.” FGDC 10.5.300. Rose Grove was established long before the Manufactured Dwelling Park Code was adopted, which is another reason why the Manufactured Dwelling Park Code does not apply here.

At bottom, the City is obligated to interpret its code based on what it says, not what individual City staff persons think it means or should say. The reasons why the CC zone was excluded from DC 10.5.300 may be subject to conjecture, but the fact remains that the CC zone expressly allows all “household living” uses, including “manufactured homes.” If the Code defined “residential” uses to *exclude* manufactured dwellings or if the CC zone allowed residential uses except manufactured dwellings, City staff’s interpretation might make sense, but the Code does not do so. Staff’s attempt to read into the Code a requirement that “manufactured homes” only be approved in zones where they require a conditional use permit runs afoul of ORS 174.010 and the Court of Appeals’ holding in *Church*, as explained above, and clearly conflicts with the express language of the Code itself.

4. **“Even if the City were to accept your rationale that the Household Living definition somehow allowed for manufactured dwelling parks in the CC zoning district, DC §10.1.120(D) requires that ‘Where two or more requirements of this Code apply, the most restrictive requirement shall govern.’ In this context, because Manufactured Dwelling Park is specifically listed as a conditional use in most of the residential zones, and is not listed at all in the CC zoning district, the more restrictive requirement would prohibit approval of an application for a manufactured home park in any zoning district that was not R-10, R-7, R-5, RML or RMH.”**

**RESPONSE:** LUBA has held that local government regulations and statutes must be read in harmony, if at all possible. See *Friends of Neabeack Hill v. City of Philomath*, 30 Or LUBA 46, 61 (1995). In other words, if there is a way to read contested Code provisions in harmony, the City must interpret them accordingly.

As explained above, City staff has gone out of its way to create a conflict where none exists, by attempting to link the Manufactured Dwelling Park Code to the CC zone. Staff’s argument is irrelevant because there is no link, express or implied, between the Manufactured Dwelling Park Code—which are development standards—and the use allowances of FGDC 10.3.120, Table 3-10, that apply in the CC zone.

Again, the text of the Code is clear: in the zones which allow “manufactured dwelling parks” as conditional uses, applicants are required to obtain a conditional use approval, and in the zones where “household living” is allowed and where manufactured dwellings are not conditional uses, manufactured dwellings are allowed outright. There is no conflict between these provisions. Because the text is clear, the only permissible interpretation of the FGDC is that manufactured dwellings are permitted in the CC zone. *Siporen v. City of Medford*, 349 Or 247, 261 (2010).

#### **IV. Staff’s decision violates Oregon’s Needed Housing Statute (ORS 197.307)**

This Application is for the “development of housing.” ORS 197.307(4) provides in relevant part “that a local government may adopt and apply only clear and objective standards, conditions and procedures regulating the development of housing, including needed housing.” As explained above, the Code is clear and objective insofar as it allows “household living,” which explicitly includes “manufactured homes.” However, under staff’s proposed interpretation, the Code becomes conflicting and ambiguous, and therefore requires a “subjective, value-laden analysis” that the Needed Housing Statute was specifically intended to avoid. *Rogue Valley Assoc. of Realtors v. City of Ashland*, 35 Or LUBA 139, 6 158 (1998); *Warren v. Washington County*, LUBA No. 2018-089 (2018). Therefore, the Needed Housing Statute provides an additional basis upon which the Commission must reverse staff’s decision and approve the Application.

**V. Comments from Best Western University Inn and Suites**

Best Western University Inn and Suites (“Best Western”) offered comments in an email dated November 30, 2018. First, Best Western refers to a previous 2008 ruling that purportedly required (i) a “U” shaped driveway to be included in the proposed addition, (ii) proper landscape, and (iii) the continued existence of a fire gate. While it indicates that the City has approved a prior expansion of Rose Grove, this Application is a separate matter. Even if they were relevant, Best Western’s comments do not create a basis for denial because they do not address relevant approval criteria.

Second, Best Western claims that the Application “completely changes the previous application.” Again, the “previous application” is not the application under review by City staff or by the Planning Commission, and it has no binding effect on the same. Best Western further argues that “removal of the gate” will create a hazardous entry and exit onto Tualatin Valley Highway. The application proposes that this access remain closed except for emergency access, so Best Western’s concerns are unfounded.

**IV. Conclusion**

The Commercial and Mixed Use Zones Use Table 3-10 of the Code is clear: “manufactured dwellings” are allowed in the CC zone as a type of “household living.” Therefore, staff’s decision is unlawful. And, because staff identified no other basis for denial, if the Commission rejects staff’s basis for denial, it must approve the Application as submitted.

Rose Grove sincerely appreciates the Commission’s time and careful consideration of this matter. For the above reasons, Rose Grove respectfully requests that the Commission reverse staff’s denial of the Application and approve the Application.

Sincerely,



Garrett H. Stephenson

GST:jmhi  
Enclosures

cc: Ms. Deborah Kleinman (*via e-mail*) (*w/encls.*)  
Ms. Heather Austin (*via e-mail*) (*w/encls.*)  
Ms. Dorothy Royce (*via e-mail*) (*w/encls.*)  
Mr. Andrew Tull (*via e-mail*) (*w/encls.*)  
K.C. Safley (*via e-mail*) (*w/encls.*)





*A place where families and businesses thrive.*

---

December 12, 2018

Heather Austin, AICP  
3J Consulting, Inc.  
5075 SW Griffith Drive, Suite 150  
Beaverton, Oregon 97005

Re: Rose Grove MHP Expansion Site Review  
3839 Pacific Avenue  
File Number 311-18-000036-PLNG

Dear Heather:

This is your notice that the request to expand the Rose Grove MHP has been denied.

The application appears to be predicated on Commercial and Mixed Use Zones Use Table 3-10 which lists Household Living as a Limited Use in the Community Commercial (CC) zoning district. Household Living is defined as:

*Living facilities for small groups (households) of people who are related or unrelated, featuring self-contained units including facilities for cooking, eating, sleeping and hygiene. Tenancy is longer than one (1) month. Examples include single-family detached and attached dwellings, duplexes, multifamily dwellings, and manufactured dwellings. The household living category includes most types of senior housing, e.g., congregate care and assisted living, if residents live in self-contained units. The Uniform Building Code shall determine the maximum number of people who may reside in any given dwelling unit (Development Code §10.12.110(A) – emphasis added).*

You have asserted that because Household Living is a Limited Use in the CC zoning district, that all the listed housing types – including manufactured homes – must therefore be permitted. There are several problems with this approach:

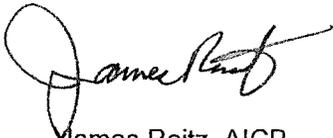
1. A definition is not a standard or an approval criterion.
2. An example is just one that is representative of all of a group or type. The examples listed in the definition are generally representative of Household Living types. As such, a list of examples cannot be construed as permitting e.g., single-family detached homes in the Town Center or the CC zoning district, nor manufactured home parks in the CC zoning district;
3. The Development Code stipulates the allowable locations for manufactured dwelling parks. DC §10.5.300(A) states that the purpose of the Manufactured Dwelling Park code is “*To accommodate manufactured dwelling parks in the R-10, R-7, R-5, RML and RMH zoning districts subject to conditional use review and site development plan approval.*” The CC zoning district is not listed as one where manufactured dwelling parks are allowed.
4. Even if the City were to accept your rationale that the Household Living definition somehow allowed for manufactured dwelling parks in the CC zoning district, DC §10.1.120(D) requires that “Where two or more requirements of this Code apply, the most restrictive requirement shall govern.” In this context, because Manufactured Dwelling Park is specifically listed as a conditional use in most of the residential zones, and is not listed at all in the CC zoning district, the more restrictive requirement would prohibit approval of an application for a manufactured home park in any zoning district that was not R-10, R-7, R-5, RML or RMH.

Thus, the City cannot approve this application.

Absent an appeal, this decision constitutes the final local action on this matter. Should you or any other affected party wish to appeal this decision, the appeal must be filed with the Community Development Department within fourteen (14) days of the date of this notice (by December 26, 2018 @ 4:30 pm). Appeals must be filed in writing, must state specifically how the decision conflicts with the purposes, intents, and provisions of the Development Code or other applicable ordinances, and be accompanied by a \$250 fee.

Please contact me at [jreitz@forestgrove-or.gov](mailto:jreitz@forestgrove-or.gov) or 503/992-3233 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "James Reitz". The signature is stylized with a large loop at the beginning and a long horizontal stroke at the end.

James Reitz, AICP  
Senior Planner

C      Affected Parties

**RESOLUTION NO. 2017-57**

**RESOLUTION ACCEPTING THE AFFORDABLE HOUSING NEEDS ASSESSMENT  
AND POLICY RECOMMENDATIONS SUBMITTED BY THE TEMPORARY  
AFFORDABLE HOUSING COMMUNITY ADVISORY COMMITTEE AND TEMPORARY  
AFFORDABLE HOUSING TECHNICAL ADVISORY COMMITTEE**

**WHEREAS**, On April 11, 2016, City Council adopted Resolution No. 2016-22 establishing goals and objectives for Fiscal Year 2016-17; and

**WHEREAS**, Objective 3.18 for FY 2016-17 identifies addressing affordable housing needs as a Council priority; and

**WHEREAS**, on February 27, 2017, City Council approved Resolution 2017-26 affirming the Council's objectives including addressing affordable housing needs; and

**WHEREAS**, City Council adopted Resolution 2016-63 establishing temporary advisory committees to assist Council with achieving Objective 3.18; and

**WHEREAS**, members of the temporary advisory committees met five times from November 2016 through June 2017 to identify affordable housing needs and prepare policy and program recommendations for City Council consideration; and

**WHEREAS**, the affordable housing needs assessment and policy and program recommendations were presented to City Council during a work session on July 10, 2017; and

**WHEREAS**, the needs assessment and policy and program recommendations are contained in the *Forest Grove Affordable Housing Needs Assessment and Recommendations Report* described in Exhibit A; and

**WHEREAS**, the members of the temporary affordable housing committees desire to submit to the City Council the *Affordable Housing Needs Assessment and Recommendations Report* to City Council for acceptance.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF FOREST GROVE AS FOLLOWS:**

**Section 1.** The City Council hereby accepts the *Affordable Housing Needs Assessment and Recommendations Report* attached as Exhibit A.

**Section 2.** This resolution is effective immediately upon its enactment by the City Council.

**PRESENTED AND PASSED** this 11<sup>th</sup> day of September, 2017.

  
\_\_\_\_\_  
Anna D. Ruggles, City Recorder

**APPROVED** by the Mayor this 11<sup>th</sup> day of September, 2017.

  
\_\_\_\_\_  
Peter B. Truax, Mayor

# Forest Grove Affordable Housing Needs Assessment and Recommendations

## Recommended By: Ad-Hoc Affordable Housing Committee

---

Document Prepared By: Community Development Department

Ad-Hoc Affordable Housing Community and Technical Advisory Committee

*The Forest Grove City Council and Community Development Department wish to thank the following participants for their time, effort and commitment leading to completion of this Affordable Housing Needs Assessment and Action Plan:*

James Adkins, Home Builders Association  
Kimberley Armstrong, Washington County Land Use and Transportation  
Kali Bose, Bienestar  
Bruce Countryman, West Tuality Habitat for Humanity  
Melisa Dailey, Washington County Housing Services  
Bill Daly, Community Representative At-large  
Russ Dondero, Community Representative At-large  
Sheila Greenlaw-Fink, Community Housing Fund  
Celeste Goulding, Luke-Dorf and Forest Grove Resident  
Christina Graslje, Luke-Dorf  
Gary Mackendrick, West Tuality Habitat for Humanity  
Michael Mallery, Pacific University  
Patrick McLaughlin, Metro  
Anne Newkirk Niven, Public Safety Advisory Commission  
Jennifer Proctor, Washington County Community Development  
Pat Rogers, Community Action Agency  
Sue Rubin, Adelante Mujeres  
Mitch Taylor, Sustainability Commission  
Brian Schimmel, Sustainability Commission  
Karen Shawcross, Bienestar  
Ben Sturtz, REACH Community Development Corporation  
Val Valfre, Washington County Housing  
Dee Walsh, Network for Affordable Housing (NOAH)  
Ryan Wells, City of Cornelius  
Jennifer Yocun, United Church of Christ

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## **Acknowledgements**

### **City Council**

Peter B. Truax, Mayor  
Thomas Johnston, Council President  
Timothy A. Rippe, Councilor  
Ronald Thompson, Councilor  
Elena Uhing, Councilor  
Matthew J. Vandehey, Councilor  
Malynda Wenzl, Councilor

### **Ad-Hoc Affordable Housing Community and Technical Advisory Committee**

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Dee Walsh, Network for Affordable Housing (NOAH)  
Ryan Wells, City of Cornelius  
Jennifer Yocum, United Church of Christ

### **Community Development Department**

Jon R. Holan, Community Development Director  
Daniel Riordan, Senior Planner

## Chapter 1 - Introduction

Forest Grove is an attractive place to live and work. The high quality of life in the Tualatin Valley attracts people from all over the country. With the influx of households to the region since the recession of 2008/2009 the housing supply for both rental and home ownership opportunities is severely constrained throughout the region. The result is higher housing costs. Housing costs are beyond the reach of many households. In addition, many households are vulnerable to rent increases placing them in the precarious situation of deciding between paying rent, buying groceries, or purchasing needed medication. Those that can't absorb price increases are faced with relocation provided they can find an affordable place to rent. Many Forest Grove residents are particularly vulnerable since median household and median family income is lower in Forest Grove compared to Washington County and the region as a whole.

City Council recognizes the urgency of the affordable housing situation facing our community and identified as an objective for 2017 the need to prepare a white paper on the issue and specific recommendations for addressing Forest Grove's affordable housing needs. To assist with this effort City Council established an ad-hoc affordable housing community and technical advisory committee to guide preparation of a white paper and recommendations. The committee included representatives from agencies and organizations involved with affordable housing as well as persons from the community interested in the issue. The committee met five times during 2017.

This document summarizes the work of the Ad-hoc Committee and also provides background information about the Forest Grove community, the current state of affordable housing in Forest Grove, and priority recommendations for addressing the City's affordable housing needs. Information contained in this paper includes:

- Working definition of affordable housing;
- Overview of the Forest Grove Community including population, employment, income, and education as factors affecting a person's ability to afford housing;
- Description of the current affordable housing supply in Forest Grove including manufactured homes and regulated affordable housing;
- Factors affecting affordable housing;
- Results from the community housing questionnaire distributed throughout the City;
- Affordable housing concepts;
- Overview of affordable housing policies; and
- Affordable housing policy and action recommendations.

## Purpose

Although this report focuses on housing as a commodity it is really about people. It is about the ability of our children, parents, friends, and co-workers to afford safe and decent housing suitable for our needs as individuals. Housing provides basic shelter, access to opportunity and for home ownership the prospect of wealth creation. This report addresses the need for housing affordable to households with modest incomes. For purposes of this report affordable housing means housing (rental or owner-occupied) available to households earning 60% or less of the Washington County Median Family Income (MFI) where a household pays no more than 30% of gross household income on housing related expenses including rent or mortgage and utilities. Sixty-percent of the County's MFI was selected as the threshold because this translates to about 80% of the City's MFI which is lower than the County's MFI. The 30% rule is a commonly accepted definition of affordable housing for various affordable housing programs including those administered by or on-behalf of the US Department of Housing and Urban Development.

*Housing is a necessity. Housing provides safety, comfort, contributes to general well-being and increases our stake in our community.*

Housing is a necessity. Housing provides safety, comfort and contributes to general well-being. Shelter in some forms provides an opportunity for wealth creation and increases our stake in our community. Given, how important housing is why do some members of our community have difficulty accessing and retaining affordable housing?

One possible answer is the majority of housing is provided by private developers with housing made available in the private marketplace. In this respect, housing is considered to be nothing more than a commodity sold to the highest bidder with the aim of maximizing profit. The result is there is little incentive or assurance to construct modest homes, or affordable housing built or provided by non-profit or for-profit organizations that will result in housing for low- and moderate-income households. As such, these households are faced with competing for existing homes or regulated housing built or provided by non-profit organizations.

Affordable housing provides stability to individuals and families. Such stability supports the success of children in school and their future economic opportunities. In addition, Forest Grove has a sizable elderly population. Stable affordable housing is important to seniors in order to avoid displacement from their homes. This also applies to individuals with disabilities.

As noted in the Meyer Memorial Trust, *The Cost of Affordable Housing Development in Oregon* report published in October 2015, "affordable housing is a specific and unusual niche in real estate development, premised on the basic fact that the tenants can't pay the full cost of their housing." "Restrictions on rents and on rent increases over time – drives a housing model fundamentally dependent on public subsidies, and one which brings a string of additional (and not always obvious) costs that aren't faced by market rate housing developers."

Providing affordable housing is a complex issue. There are strategies, however, that could result in expanding the supply of affordable housing. This report recommends these strategies for consideration by the City Council.

## Desired Outcomes

The Committee identified several desired outcomes for affordable housing initiatives for City Council consideration. The desired outcomes include:

- Retain the existing affordable housing stock in Forest Grove recognizing that retaining affordable housing is often more cost-effective than constructing new housing.
- To the greatest extent possible provide financial incentives to expand the supply of affordable housing throughout Forest Grove. This could be achieved through existing sources of financial assistance provided by Washington County, the US Department of Housing and Urban Development, US Department of Agriculture, Community Action, and Community Housing Fund. New sources of funding such as a construction excise tax recently authorized by the Oregon Legislature.
- Identify regulatory barriers to expanding the supply of affordable housing in Forest Grove and mitigate these barriers through Development Code amendments.
- Support efforts and programs (partnerships) to expand and retain affordable housing opportunities for Forest Grove residents.
- Monitor the effectiveness of adopted affordable housing programs and policies to ensure desired outcomes are achieved.

## Recommended Approach to Affordable Housing

Members of the ad-hoc affordable housing committee believe that housing needs should be addressed from the perspective of a continuum ranging from basic shelter, affordable rental housing, market rate rental housing, affordable homeownership opportunities and market rate homeownership. This approach is consistent with Statewide Land Use Planning Goal 10: Housing, which requires cities and counties to provide for the housing needs of citizens of the state and plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households. Only by providing housing opportunities across this spectrum can the issue of affordable truly be addressed.

## The Affordable Housing Need in Forest Grove

Based in the American Community Survey household income data presented in Chapter 3, there are 2,015 households -about 26% of the City's total number of households - that fall in the low income and extremely low income categories. Low income households are those with incomes between 30% and 50% of area median income. Extremely low income households are those with income below 30% of the area median income.

Metro maintains an inventory of regulated affordable housing throughout the region. Regulated affordable housing means housing that is made affordable through public subsidies and/or agreements or statutory regulations that restrict income levels and/or rents. Regulated affordable housing generally provides housing for households that otherwise could not afford adequate housing at market rates.

*Conservatively, there is a need for about **1,400 housing units** affordable to low- and extremely low income households in Forest Grove.*

The Metro 2015 Regional Inventory of Regulated Affordable Housing Summary Report is included in the appendix and indicates there is a supply of only 652 regulated affordable housing units in Forest Grove. Based on the number of households with incomes below 50% of the City median household income there appears to be a need for at least an additional 1,400 affordable housing units just to meet the needs of low and extremely low income households currently residing in Forest Grove. The identified need of 1,400 affordable housing units is also consistent with the estimated number of severely cost-burdened extremely low-, low-, and moderate-income households in Forest Grove as described in Chapter 3. Extremely cost burdened households are those paying more than 50% of household income toward housing costs.

The identified need of 1,400 affordable housing units is about 10% of the affordable housing need identified by Washington County (14,000 units) and is consistent with the current share of regulated affordable housing provided in Forest Grove at about 9% of the current County total.

The identified need of about 1,400 affordable housing units should be considered to be a conservative estimate. Some of the most vulnerable households facing housing insecurity and affordability challenges are households in the moderate income category renting market-rate units. If the unit is a month-to-month tenancy only three months' notice is required for a rent increase under state law. The needs of moderate income households are not included in the estimate above.

The affordable housing need could be addressed in a variety of ways. One way to encourage apartment owners to accept project based vouchers that fill the gap between what a household is able to afford and market rents. Another way is to reduce the cost of providing new housing units such as accessory dwelling units by reducing or waiving some fees. Chapter 8 and 9 of this report go into considerable detail about strategies to address the affordable housing need. Regardless of the strategy the need is urgent. As demand for housing units of all types continues exceed supply there will be upward pressures on rents and home purchase price. Further, land and construction costs will only become more expensive over time. Delaying action will only make the problem more difficult and more expensive to address.

### **A Note on Homelessness**

Sometimes the notion of homelessness and affordable housing gets considered as part of the same issue. The Ad-hoc Committee recognizes the topics are different with one exception. The Committee did consider the connection from the standpoint that affordable housing can provide an opportunity to create transitional housing for certain homeless persons obtaining more solutions rather than relying on temporary shelters. The Committee does recommend the City Council to further explore the homeless situation by establishing and ad-hoc committee on the subject.

## Chapter 2 - Defining Affordable Housing

The City of Forest Grove Affordable Housing Committees considered several ways for defining affordable housing. The conventional public policy indicator of housing affordability in the United State is the percent of income spent on housing<sup>1</sup>. A common threshold for determining if a household is cost burdened is if housing expenditures exceed 30% of household income. This is the measure used by many public housing organizations and agencies including the US Department of Housing and Urban Development. The 30% of household income measure evolved from the United State National Housing Act of 1937<sup>2</sup>.

Transportation is the second largest expense for most households after housing<sup>3</sup>. According to the US Department of Transportation and Center for Transit Oriented Development, households living in auto-dependent locations spend 25% of its income on transportation costs. In contrast, housing that is located closer to employment, shopping, restaurants and other amenities can reduce household transportation costs to 9% of household income.

Some agencies including Metro include transportation costs to housing expenses to create a measure of burden. The Committee discussed these considerations and chose to focus on the housing related costs only and not to include transportation. This is consistent with most affordable housing programs.

Housing cost burden is a problem in Forest Grove. According to the latest data from the American Community Survey many households spend more than 30% of their household income on housing related costs. Approximately 1,214 owner-occupied households in Forest Grove spend more than 30% of their household income on housing expenses. Another 1,708 renter-households spend more than 30% of their income on housing costs for a combined total of 2,922 households. To give an idea of the magnitude of the problem the number of cost burdened households in Forest Grove represents about 35% of Forest Grove's total number of households. This amount provides one indication of the overall affordable housing need in Forest Grove.

*Approximately **3,000 households** (about 35% of all households) in Forest Grove spend more than 30% of their household income on housing related costs.*

### Housing Costs

To accurately assess housing affordability consideration must be given to what makes up housing costs since affordability measures are based on the percentage household income used for housing related expenses. Housing related expenses for home-owners include the following categories:

- Mortgage payment (principal, interest and mortgage insurance, if applicable);
- Second mortgage and/or home equity loans, if any;
- Real Estate taxes;
- Homeowners insurance;
- Condominium or home-owner association fees, if applicable; and
- Utilities including – electricity, gas, water and sewer, and other utilities.

<sup>1</sup> US Census Bureau, Who can Afford to Live in a Home

<sup>2</sup> US Census Bureau, Who can afford to Live in a Home

<sup>3</sup> US Department of Transportation, Federal Highway Administration, "Transportation and Housing Costs"

Income set-aside for future maintenance could also be added to the list to get a complete picture of homeownership costs.

Monthly homeowner costs alone may not accurately reflect actual cost burden since mortgage interest and real estate taxes may be tax deductible thereby reducing a household's overall housing related expenses.

Rental related housing costs come from the following two categories:

- Contract rent (the amount paid to the landlord); and
- Utilities – electricity, gas, water, sewer, and other utilities

Unlike some homeownership costs rental costs, such as property taxes included in rent, are not tax deductible for the renter.

Housing costs are divided by monthly household income to calculate monthly owner costs as a percentage of income, and gross rent as a percentage of income<sup>4</sup>. According to information presented by Johnson Economics to the Washington County Affordable Housing Committee on October 14, 2016, rents have increased considerably in the Hillsboro-Forest Grove area since 2011. Between 2011 and 2015 rents have increased 34.1% over the five-year period. This amounts to an average annual increase of about 6.8%. In contrast the non-seasonally adjustment consumer price index for all items in the Portland Metropolitan area increased 19.6% over the same five-year period for an annual average increase of about 3.9%.

The US Department of Housing and Urban Development publishes Fair Market Rent data for areas throughout the country. The 2017 Fair Market rent reported for a studio unit in Washington County is \$946 per month. The 2017 Fair Market rent for a one-bedroom unit is \$1,053 per month; a two-bedroom is \$1,242 per month and a three-bedroom unit is \$1,808 per month. These amounts are beyond the means of many households. For example using the HUD guideline that a maximum of 30% of a household income should be used for housing related costs a household earning 80% of the median income in Forest Grove would be able to afford a unit priced at about \$968 per month. This is just over the Fair Market rent for a studio unit in Washington County. More than 30% of the household's income would be required for a one- or two-bedroom unit. Data on rent levels for Forest Grove by dwelling type is provided in Chapter 4.

## **Defining Low and Moderate Income Households**

Cost is one side of the affordable housing issue. The other side is household income. There are a variety of definitions for low- and moderate-income households. The definition used depends on the program. For example, the HUD Home Investment Partnership (HOME) program regulations define a low-income family as one whose annual income does not exceed 80% of the area median adjusted for family size. In contrast, the Community Development Block Grant (CDBG) program defines low-income households as those having an income equal to or less than 50% of the area median defined by household size. USDA programs for rural areas uses yet another definition based on the national non-metro area median income. Forest Grove is considered rural for purposes of USDA programs. More information about the HUD and USDA income limits is provided in Chapter 3 in Table 5 and Table 6.

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<sup>4</sup> US Census Bureau, Who Can Afford to Live in a Home  
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The Washington County Consolidated Plan uses the following convention for categorizing income groups. Chapter 3 provides additional detail about the number of households in Forest Grove falling within the income categories listed below.

*Table 1*

| <b>Income Category</b>            | <b>Definition</b>  |
|-----------------------------------|--|
| <b>Extremely Low Income</b>       | Income at or below 30% of the area median                      |
| <b>Low Income Households</b>      | Income above 30% and at or below 50% of the area median income |
| <b>Moderate Income Households</b> | Income above 50% and at or below 80% of the area median income |

Chapter 3 provides current data with respect to the number of low- and moderate-income households in Forest Grove.

## Chapter 3 - Our Community

### Overview

Forest Grove is experiencing the effects of growth pressures in Washington County generally and the Hillsboro area specifically. Washington County has a 2016 population of approximately 583,000 persons. Forest Grove has a 2016 population of 23,375. The population of Forest Grove makes-up about 4% of the County's total population.

In-migration accounts for much of the population growth experienced in Washington County since 2010. Since 2010, the population of Washington County has increased by approximately 54,000 persons. Of this increase, roughly 54% is due to net-migration according to the Center for Population Research at Portland State University<sup>5</sup>. Washington County's strong economy since the financial crisis was a major contributor to net in-migration. This is reflected in the low unemployment rate published by the Oregon Employment Division. The Oregon Employment Division reports a 3.1% unemployment rate for Washington County as of April 2017. In addition, Washington County has the highest wages of any county in Oregon. Washington County's average wages are more than \$16,000 higher than the statewide average. These factors have had a profound effect on housing demand and prices.

According to the Portland State University Population Research Center, the 2016 population for Forest Grove is 23,375<sup>6</sup>. As the table below shows, this is slightly less than Tualatin and more than Sherwood. The table below also shows that Forest Grove's median age is lower than Newberg, Sherwood and Tualatin. Median Household Income is also lower than the other three communities. This is reflected in the poverty rate which is higher than the three other communities.

*Table 2*

|                                | <b>Forest Grove</b> | <b>Newberg</b> | <b>Sherwood</b> | <b>Tualatin</b> |
|--------------------------------|---------------------|----------------|-----------------|-----------------|
| <b>Population (2016)</b>       | 23,375              | 23,465         | 19,145          | 26,840          |
| <b>Housing Units</b>           | 8,374               | 8,158          | 6,702           | 11,166          |
| <b>Median Household Income</b> | \$48,411            | \$50,039       | \$80,107        | \$66,384        |
| <b>Median Age</b>              | 34.1                | 38.1           | 36.2            | 38.1            |
| <b>Poverty Rate</b>            | 16.9%               | 11.7%          | 5.9%            | 11.7%           |

Source: Portland State University Population Research Center and American Factfinder (2015)

Table 2 below shows housing the number of housing units that are either owner-occupied or renter-occupied. The majority of housing units in Forest Grove are owner-occupied at about 58% of the total occupied housing units in the City. Rental housing makes-up about 42% of the occupied housing units. The supply of rental housing units does not meet demand especially with the presence of Pacific University in the City. Although Pacific University recently expanded the number of on-campus housing units many students choose to reside off-campus since this often a

<sup>5</sup> Center for Population Research, Portland State University; Table 3: Components of Population Change for Oregon's Counties: April 1, 2010 to July 1, 2016, prepared April 2017.

<sup>6</sup> Portland State University Population Center

cheaper option. Students living off-campus compounds the already limited supply of rental housing options in the City at least while school is in session.

Although the supply of rental housing is limited this situation should improve. There are close to three hundred market-rate rental housing units in the pipeline. This includes the 192-unit Forestplace Apartments on Pacific Avenue near the Forest Grove Ace Hardware; the 78-unit Jesse Quinn project on Pacific Avenue and A Street; and the 28-unit Cedar Manor Apartments on Hawthorne Street and 26<sup>th</sup> Avenue. These additional units will help ease the constrained supply of rental units in Forest Grove. It should be noted, however, that all of these units are market-rate and not restricted or regulated as affordable housing units.

*Table 3*

| <b>Tenure</b>          | <b>Number</b> | <b>Percentage</b> |
|------------------------|---------------|-------------------|
| <b>Owner-occupied</b>  | 4,554         | 57.9%             |
| <b>Renter-occupied</b> | 3,315         | 42.1%             |

Source: American Factfinder (2015)

### Employment and Income

Many factors influence a household's ability to afford housing. Clearly, type of employment and income are significant factors. Table 3 below shows average wages for various occupational categories provided by the Oregon Employment Division. The table also shows the annual wage based on full-time employment and how this annual wage relates to median family income for Forest Grove.

It is rather striking that five occupation categories shown on the table, on average, earn an annual wage that is less than 80% of the City's median income. This includes food service, retail salesperson, personal care, building maintenance and healthcare support categories. It is these households that are most in need of affordable housing opportunities such as those described in Chapter 7 (Affordable Housing Concepts). These households also need certainty regarding housing costs and are the least likely to whether significant price increases.

*Table 4*

| <b>Occupation</b>                            | <b>Average Hourly Wage</b> | <b>Annual Wage (Full Time)</b> | <b>Percent of Forest Grove Median HH Income</b> |
|--|----------------------------|--------------------------------|---|
| <b>Food Service</b>                          | \$12.13                    | \$25,243                       | 52%   |
| <b>Retail Sales</b>                          | \$13.40                    | \$27,872                       | 56%   |
| <b>Personal Care and Service</b>             | \$13.73                    | \$28,553                       | 59%   |
| <b>Building Maintenance</b>                  | \$14.46                    | \$30,085                       | 62%   |
| <b>Healthcare Support</b>                    | \$17.41                    | \$36,214                       | 75%   |
| <b>Construction Laborer</b>                  | \$18.94                    | \$39,395                       | 81%   |
| <b>Office and Administrative</b>             | \$19.15                    | \$39,815                       | 82%   |
| <b>Teacher</b>                               | \$26.90                    | \$55,952                       | 115%  |
| <b>Education, Training, Library</b>          | \$29.33                    | \$61,015                       | 126%  |
| <b>Healthcare Practitioner and Technical</b> | \$42.76                    | \$88,939                       | 184%  |
| <b>General and Operations Managers</b>       | \$55.89                    | \$116,234                      | 240%  |

Source: Oregon Employment Division and Forest Grove Community Development Department (2017)

Table 4 below shows the estimated number of employees for each occupation category identified in Table 3 earning less than 80% of the City's median income if employed fulltime. The civilian employed population as of 2015 is approximately 9,500 persons<sup>7</sup>. Table 4 indicates approximately 2,400 persons are engaged in occupations where an employee is likely to earn less than 80% of the City's median household income. This represents approximately 26% of total employment in Forest Grove. This suggest that in order to afford the majority of housing available in Forest Grove an employee in one of the occupations listed below would have to live in a household with another wage earner.

*Table 5*

| <b>Occupation</b>    | <b>Employees</b> |
|----------------------|------------------|
| Food Service         | 378              |
| Retail Sales         | 788              |
| Personal Care        | 440              |
| Building Maintenance | 622              |
| Healthcare Support   | 200              |
| <b>TOTAL</b>         | <b>2,428</b>     |

Source: Oregon Employment Division (2017)

Additional information about available jobs in the Portland Metro Region is published by the Oregon Employment Division. Some of this information is provided in the appendix and includes data on number of vacancies by industry and occupation, educational requirements, and average hourly wage.

*Income Trends*

Although household incomes in Forest Grove have edged up since 2000, incomes have not kept pace with increases in inflation especially escalation of housing costs. Table 5 below shows income gains between 2000 and 2015. Between 2000 and 2015 household income increased by a modest \$8,373 per year. This represents a 20.9% increase over the past fifteen year or about 1.4% per year. Over that same fifteen year period the Consumer Price Index increased by 37.2% or 2.5% annually. The fact that incomes have not kept pace with price inflation compounds an already difficult housing affordability situation especially for households earning less than 80% of the City's median income.

*Table 6*

|                                       |                 |
|---------------------------------------|-----------------|
| <b>Median Household Income (2000)</b> | <b>\$40,038</b> |
| <b>Median Household Income (2010)</b> | <b>\$47,296</b> |
| <b>Median Household Income (2015)</b> | <b>\$48,411</b> |

Source: American Factfinder (2015 data)

As shown above, the median family income for Forest Grove based on information published in the American Community Survey for 2015 is \$48,411. Using the Washington County income categories and income levels from the 2015 American Community Survey, more than 1/3 of Forest Grove households are at or fall below the moderate income threshold. This amounts to more than 2,700 households needing affordable housing options in Forest Grove.

<sup>7</sup> US Census Bureau, American Factfinder, Table S2401  
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*Table 7*

| <b>Income Category</b>      | <b>Income</b>        | <b>Estimated Number of Households</b> | <b>Percentage of Forest Grove Households</b> |
|-----------------------------|----------------------|---------------------------------------|--|
| <b>Extremely Low Income</b> | \$14,999 and below   | 1,055                                 | 13.4%  |
| <b>Low Income</b>           | \$15,000 to \$24,999 | 960                                   | 12.2%  |
| <b>Moderate Income</b>      | \$25,000 to \$38,700 | 750                                   | 9.5%   |
| <b>Total</b>                |                      | 2,765                                 | 35.1%  |

Source: American Factfinder (2015 data)

Table 7 below provides data showing supportable rent levels if no more than 30% of a household's income is spent on rent. This amount does not include utilities.

*Table 8*

| <b>Income Category</b>      | <b>Affordable Rent Level</b> |
|-----------------------------|------------------------------|
| <b>Extremely Low Income</b> | \$375 and below              |
| <b>Low Income</b>           | \$375 to \$625               |
| <b>Moderate Income</b>      | \$625 to \$970               |

Source: City of Forest Grove, Community Development Department

Chapter 4 (The State of Affordable Housing in Forest Grove) provides information on rent for various housing types in Forest Grove. Based in this information the median rent for a one-bedroom apartment unit in Forest Grove is \$675 per month. The median rent level for a two-bedroom apartment is \$750 per month. Vacant units however, typically rent well above these levels. For example a two-bedroom unit available at the Boxer Apartments is currently listed for rent at \$845 per month and a two-bedroom apartment at College Place Apartments is currently listed for rent at \$1,035 per month. These units are above many low- and moderate-income households ability to afford.

Many Forest Grove residents confront a housing cost burden. This is especially true for persons living in rental units. The median household income for renters in Forest Grove is approximately \$24,000. In contrast, owner median household income is approximately \$71,000 According to the American Community Survey; renters spend on average 38% of household income in housing costs compared to 24% for owners.

The table below shows the number and percentage of severely cost burdened households by income category. A severely cost burdened household is one paying more than 50% of household income on housing related costs.

*Table 9*

| <b>Income Category</b> | <b>Number of Households Severely Cost Burdened</b> | <b>Percentage of Households in Income Category Severely Cost Burdened</b> |
|------------------------|--|---|
| Extremely Low Income   | 1,151  | 65%   |
| Very Low Income        | 262  | 19%   |
| Low Income             | 82   | 5%  |
| <b>Total</b>           | <b>1,495</b>                                       |   |

Source: American Community Survey (2014 data)

The US Department of Housing and Urban Development publishes rent data and income limits for the several affordable housing programs. The table below shows what HUD indicates as being “Fair Market Rent” in Washington County. In the affordable housing program Fair Market Rent is used to determine the amount of subsidy a household may receive. Under the certificate program a household may not rent a unit exceeding the Fair Market Rent and receive a subsidy. If a unit up to the Fair Market Rent is rented the recipient receives a subsidy between the gross rent and 30% of the household’s income. The Fair Market Rent for Washington County as of June 15, 2017 ranges from \$946 for a studio to over \$2,000 for a four bedroom unit.

*Table 10*

| <b>Fair Market Rent (2017)<br/>Washington County</b> |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|
| <b>0 Bedroom</b>                                     | <b>1 Bedroom</b> | <b>2 Bedroom</b> | <b>3 Bedroom</b> | <b>4 Bedroom</b> |
| <b>\$946</b>   | <b>\$1,053</b>   | <b>\$1,242</b>   | <b>\$1,808</b>   | <b>\$2,188</b>   |

Source: US Department of Housing and Urban Development (2017 data)

HUD also establishes income qualification limits for the HOME Investment Partnership affordable housing program. The eligibility of households for HOME assistance varies with the funded activity, for example, rental assistance or home purchase assistance. For rental assistance at least 90 percent of the families participating in the program must have incomes that are no more than 60% of the HUD-adjusted median family income for the area. For rental projects with five or more assisted units, program requirements are at least 20% of the units must be occupied by families with incomes that do not exceed 50% of the HUD-adjusted area median income. The maximum e income of households receiving HUD assistance must not exceed 80% of the area median income bases on the size of the household. The HUD income limits for 2017 are shown below for various household sizes.

**Table 11**

| <b>2017 Income Limits<br/>Washington County</b>      |           |           |           |           |
|--|-----------|-----------|-----------|-----------|
| <b>50% Income Limit (2017)<br/>Washington County</b> |           |           |           |           |
| 1 Person   | 2 Persons | 3 Persons | 4 Persons | 5 Persons |
| \$26,150   | \$29,900  | \$33,650  | \$37,350  | \$40,350  |
| <b>60% Income Limit (2017)<br/>Washington County</b> |           |           |           |           |
| 1 Person   | 2 Persons | 3 Persons | 4 Persons | 5 Persons |
| \$31,380   | \$35,880  | \$40,380  | \$44,820  | \$52,020  |
| <b>80% Income Limit (2017)<br/>Washington County</b> |           |           |           |           |
| 1 Person   | 2 Persons | 3 Persons | 4 Persons | 5 Persons |
| \$41,850   | \$47,800  | \$53,800  | \$59,750  | \$64,550  |

Source: US Department of Housing and Urban Development (2017 data)

In addition to HUD, the US Department of Agriculture administers several rural development programs that provide housing assistance to individuals and families. Forest Grove is classified as a rural community for purposes of the USDA rural development programs. Specific programs include a single family housing direct home loan, single family housing guaranteed loan program and single family housing repair loans and grants. Eligibility requirements for these programs are described below.

***USDA Single Family Housing Direct Home Loan Program***

The USDA single family housing direct home loan and grant program assists low- and very-low-income applicants obtain decent, safe and sanitary housing in eligible rural areas by providing down payment assistance. The purpose of this program is to provide affordable homeownership opportunities to promote prosperity which in turn creates thriving communities and improves the quality of life in rural areas.

To qualify, households must meet certain income eligibility standards. The USDA adjusted income limits for the Portland-Vancouver-Hillsboro Metropolitan Statistical Area are provided below. Similar to the HUD programs, the income limits are based on the number of persons residing in the home.

**Table 12**

|   | <b>1 Person</b> | <b>2 Persons</b> | <b>3 Persons</b> | <b>4 Persons</b> |
|---|-----------------|------------------|------------------|------------------|
| <b>Very Low Income</b>                    | \$37,350        | \$37,350         | \$37,350         | \$37,350         |
| <b>Low Income</b>                         | \$59,750        | \$59,750         | \$59,750         | \$59,750         |
| <b>Moderate Income</b>                    | \$65,250        | \$65,250         | \$65,250         | \$65,250         |
| <b>Adjusted Median Income<sup>8</sup></b> | \$74,700        | \$74,700         | \$74,700         | \$74,700         |

|   | <b>5 Persons</b> | <b>6 Persons</b> | <b>7 Persons</b> | <b>8 Persons</b> |
|---|------------------|------------------|------------------|------------------|
| <b>Very Low Income</b>                    | \$49,350         | \$49,350         | \$49,350         | \$49,350         |
| <b>Low Income</b>                         | \$78,850         | \$78,850         | \$78,850         | \$78,850         |
| <b>Moderate Income</b>                    | \$84,350         | \$84,350         | \$84,350         | \$84,350         |
| <b>Adjusted Median Income<sup>9</sup></b> | \$98,700         | \$98,700         | \$98,700         | \$98,700         |

Source: USDA, HB-1-3550, Appendix 9 5/17/2017

The maximum loan amount for eligible property in Washington County, effective January 2017, is \$326,600. Borrowers are required to repay all or a portion of the payment subsidy received over the life of the loan when the title to the property transfers or the borrower is no longer living in the dwelling.

Applicants must:

- Be without decent, safe and sanitary housing
- Be unable to obtain a loan from other resources on terms and conditions that can be reasonably expected to meet
- Agree to occupy the property as a the primary residence

Properties financed with direct loan funds must be:

- Generally less than 2,000 square feet
- Not have a market value in excess of the applicable area loan limit
- Not have in ground swimming pools
- Not be designed for income producing activities.

Funds can be used to build, repair, renovate or relocate a home, or to purchase and prepare sites, including providing water and sewage facilities.

<sup>8</sup> Adjusted median income is equal to twice the respective very low-income limit

<sup>9</sup> Adjusted median income is equal to twice the respective very low-income limit

### ***USDA Single Family Guaranteed Loan Program***

The USDA single family guaranteed loan program assists approved lenders in providing low- and moderate-income households the opportunity to own adequate, modest, decent, safe, and sanitary dwellings are their primary residence in eligible rural areas. Households must meet income eligibility standards to qualify.

Loan proceeds may be used for:

- New or existing residential property used as a permanent residence;
- Closing costs and other reasonable expenses associated with the purchase may be included in the transaction;
- Repairs and rehabilitation when associated with the purchase of an existing dwelling,
- Refinancing of eligible loans,
- Improvements accommodate a household member who has a physical disability,
- Connection fees, assessments or the pro rata installment cost for utilities such as water, sewer, electricity, and gas for which the buyer is liable;
- Essential household equipment
- Energy efficiency measures
- Site preparation costs, including grading, foundation plantings, seeding or sod installation, trees, walks, fences and driveways.

### ***USDA Single Family Housing Repair Loan and Grant Program***

The USDA single family housing repair loan and grant program provides loans to very-low-income homeowners to repair, improve or modernize their homes. This program requires a family income below 50% of the area median income. The maximum loan amount is \$20,000. Grants are also provided to elderly very-low-income homeowners to remove health and safety hazards. To qualify for a grant applicants must be age 62 or older and not be able to repay a repair loan and have a family income below 50% of the area median income. The maximum grant is \$7,500.

### **Education**

Income is strongly correlated with educational attainment. While higher education is not a guarantee of higher income it does provide additional opportunity that might not otherwise be available to a person. The power of education is indicated by the fact that earning a Bachelor degree increases annual median earnings by over 61% compared with the earnings potential for someone with only a high school diploma.

*Table 13*

| <b>Educational Attainment</b>          | <b>Annual Median Earnings</b> |
|--|-------------------------------|
| <b>High School Graduate</b>            | \$30,000                      |
| <b>Some College/Associates Degree</b>  | \$35,881                      |
| <b>Bachelor Degree</b>                 | \$48,205                      |
| <b>Graduate or Professional Degree</b> | \$51,671                      |

Source: Oregon Employment Division

The table below from the American Community Survey (2011-2015) shows educational attainment for Forest Grove residents 25 years of age and older. The data indicates approximately one-third (34.4%) of Forest Grove residents age 25 years or older have a high school education.

Approximately one-quarter of the City's residents age 25 years or more have some college education. Just under one-fifth of Forest Grove residents 25 years of age or more have a Bachelor degree.

*Table 14*

| <b>Educational Attainment</b>   | <b>Population 25 years of Age and Older</b> | <b>Percentage of Population 25 years of age or older</b> |
|---------------------------------|---|--|
| High School Graduate            | 3,963                                       | 34.4%  |
| Some College No Degree          | 3,149                                       | 27.4%  |
| Associates Degree               | 1,106                                       | 9.6%   |
| Bachelor Degree                 | 2,120                                       | 18.4%  |
| Graduate or Professional Degree | 1,173                                       | 10.2%  |
| <b>Total</b>                    | <b>11,511</b>                               | <b>100%</b>  |

Source: American Community Survey (2015 data)

## Chapter 4 - The State of Affordable Housing in Forest Grove

This chapter provides a snapshot of existing affordable housing opportunities in Forest Grove. The City is home to a variety of affordable housing options including manufactured home parks, apartments, attached single family homes, and single family dwellings on small lots. The Casey Meadows subdivision on 26<sup>th</sup> Avenue, shown below, is an example of a market-rate subdivision providing detached single family homes on small lots. While not affordable for some households, the homes in Casey Meadows are less expensive than subdivisions elsewhere in the City and provide an option for some first-time homebuyers or persons that wish to downsize or not maintain a large yard.

Typical Contemporary Single Family Development



### Manufactured Home Parks

There are three manufactured home parks and one recreational vehicle park in Forest Grove. The manufactured home parks include Rose Grove on Pacific Avenue, Quail Run Estates north of Bonnie Lane between Main Street and B Street, and The Homestead Community on Heather Street near Mountain View Lane. The Homestead Community is a development for persons 55 years of age and older. Combined the three manufactured home parks accommodate 645 homes. The number of units for each of the manufactured home parks is shown below.

*Table 15*

| <b>Manufactured Home Park</b> | <b>Number of Spaces</b> |
|-------------------------------|-------------------------|
| Rose Grove                    | 332                     |
| Quail Run Estates             | 147                     |
| The Homestead Community       | 166                     |
| <b>TOTAL</b>                  | <b>645</b>              |

Source: City of Forest Grove Community Development Department

The Hampton Court recreational vehicle park is located north of Pacific Avenue north of the Ballard Towne Shopping Center. The recreational vehicle park accommodates ten recreational vehicles.

### Apartment Inventory

In February 2017, the Planning Division conducted a cursory inventory of apartment vacancies and rents for units currently on the market in Forest Grove. The results of the inventory are shown below and are quite telling. Based on the data compiled the apartment vacancy rate in Forest Grove is near one percent. This is likely one reason why there are several apartment projects in the pipeline including the 192-unit Forestplace Apartments on Pacific Avenue near the Forest Grove Ace Hardware. When completed, the Forestplace Apartments will be the largest complex in Forest Grove. Other apartment projects underway include the 78-unit Jesse Quinn project on Pacific Avenue at A Street and the 28-unit Cedar Manor Apartments on Hawthorne Street at 21<sup>st</sup> Avenue.

The highlighted projects shown with an asterisk are projects with subsidized units.

*Table 16*

| <b>Name</b>         | <b>Unit Type</b> | <b>Area (Square ft.)</b> | <b>Total Units</b> | <b>Available Units</b> |
|---------------------|------------------|--------------------------|--------------------|------------------------|
| The Boxer           | 2 bed/1 bath     | 600                      | 100                | 1                      |
| Forest Grove Apts.  | 2 bed/1 bath     | 850                      | 30                 | 1                      |
| Sherwood Manor      | 2 bed/1.5 bath   | 850                      | 48                 | 1                      |
| Cedar Street Apts.  | 1 bed/1 bath     | 550                      | 21                 | 1                      |
| Park View Apts.     | 2 bed/1 bath     | 824                      | 36                 |                        |
| Karen's Corner      | 1 bed/ bath      | 615                      | 61                 | 1                      |
| *Forest Manor Apts. | 1 bed/1 bath     | 750                      | 4                  |                        |
|                     | 2 bed/2 bath     | 1,000                    | 24                 |                        |
| Vandervelden Court  |                  |                          | 38                 |                        |
| Myrtlewood Apts.    | 1 bed/1 bath     | 700                      | 5                  |                        |
|                     | 2 bed/1 bath     | 1,100                    | 1                  |                        |
| Maywood Terrace     | 2 bed/1 bath     | 904                      | 12                 |                        |
| Donna's Place       | 1 bed/1 bath     | 600                      | 2                  |                        |
| Donna's Place       | 2 bed/1 bath     | 800                      | 6                  |                        |
| Forest Villa        |                  |                          | 84                 |                        |
| *Juniper Gardens    | 2 bed/1 bath     | 898                      | 15                 |                        |
|                     | 3 bed/1.5 bath   | 1,324                    | 25                 |                        |
|                     | 4 bed/2 bath     | 1,472                    | 6                  |                        |
| *Garden Grove Apts. | 2 bed/1 bath     | 1,000                    | 25                 |                        |
|                     | 3 bed/1 bath     | 1,200                    | 23                 |                        |

|                         |                  |       |     |   |
|-------------------------|------------------|-------|-----|---|
| Four Oaks Apts.         | 1 bed/1 bath     | 600   | 16  |   |
| Holroyd Building        | Studio           | 213   | 1   |   |
|                         | 1 bed/1 bath     | 414   | 1   |   |
|                         | 2 bed/1 bath     | 840   | 1   |   |
| *Jose Arciga Apts.      | 2 bed/1 bath     | 1,000 | 12  |   |
| *Jose Arciga Apts. II   |                  |       | 12  |   |
| Parkside Apartments     | 1 bed/1 bath     | 667   | 6   |   |
|                         | 2 bed/1 bath     | 800   | 12  |   |
|                         | 3 bed/1 bath     | 963   | 6   |   |
| Vanrich Apartments      | Studio           | 383   | 17  |   |
| The Villager Apartments | 1 bed/1 bath     | 690   | 8   |   |
|                         | 2 bed/1 bath     | 800   | 20  |   |
|                         | 3 bed/1 bath     | 985   | 8   |   |
| Kimberly                | 1 bed/1 bath     | 750   | 20  |   |
| Hidden Pines            | 1 bed/1 bath     | 980   | 1   |   |
|                         | 2 bed/1 bath     | 980   | 14  |   |
| Candlewood Apts.        | 2 bed/1 bath     | 875   | 24  |   |
| *Covey Run Apartments   | 3 bed/1.5 bath   | 1,180 | 26  |   |
|                         | 4 bed/2.5 bath   | 1,485 | 14  |   |
| Kaylee Apartments       |                  |       | 10  |   |
| College Place Apts.     | 1 bedroom/1 bath | 620   | 70  | 4 |
|                         |                  |       | 895 | 9 |

## Regulated Affordable Housing

According to the regional affordable housing inventory maintained by Metro<sup>10</sup>, there are 652 regulated affordable housing units in Forest Grove. This is about 9% of the total regulated affordable housing units in Washington County according to the Metro data.

*Table 17*

| Jurisdiction      | Subsidized Units (2011) | Subsidized Per Capita (per 1000 persons) |
|-------------------|-------------------------|--|
| Forest Grove      | 604                     | 28.8                                     |
| Hillsboro         | 2,200                   | 24.0                                     |
| Tualatin          | 604                     | 23.2                                     |
| Wash Co. (uninc.) | 2,118                   | 11.1                                     |
| Tigard            | 642                     | 13.4                                     |
| Beaverton         | 512                     | 5.7                                      |
| Cornelius         | 10                      | 0.8                                      |

Regulated housing means housing made affordable through public subsidies and/or agreements or statutory regulations that restrict or limit incomes levels and/or rents. Subsidized home ownership units including homes built or rehabilitated by Habitat for Humanity are included in the regional inventory.

The estimate of regulated affordable housing units provides one measure of the minimum supply of affordable units in the community. Since the units are regulated there is greater assurance that the

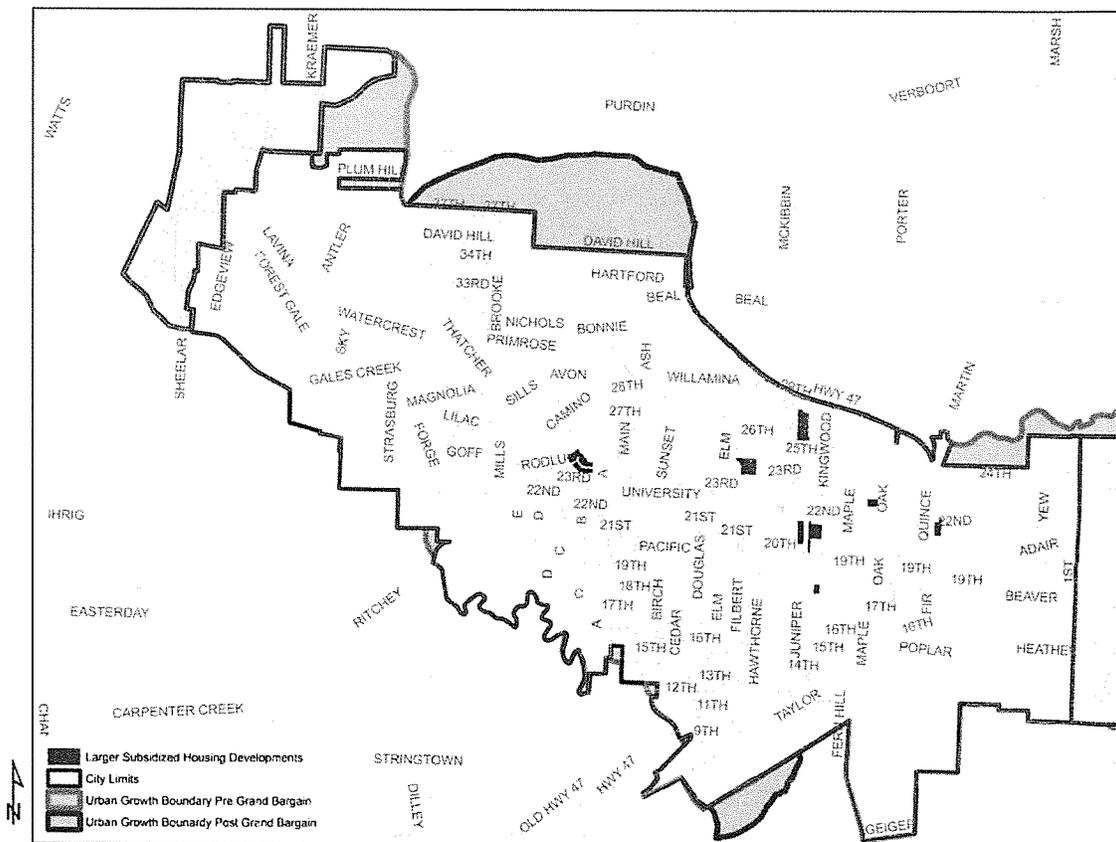
<sup>10</sup> 2015 Regional Inventory of Regulated Affordable Housing Summary Report  
Page | 23

units will remain affordable compared to market rate units where out-of-pocket housing costs are more likely to appreciate.

Based in the American Community Survey household income data there are 2,015 households that fall in the low income and extremely low income categories. With a supply of only 652 regulated affordable housing units there appears to be a need for at least an additional 1,363 affordable housing units to meet the needs of low and extremely low income households. This need is about 10% of the affordable housing need identified by Washington County and is consistent with the current share of regulated affordable housing provided in Forest Grove at about 9% of the current County total.

The City of Forest Grove home is home to several affordable housing projects receiving funding through a variety of federal affordable housing programs. The locations of the larger subsidized affordable housing projects are shown on the map below.

**Larger Subsidized Housing Developments**



The federal programs include Low Income Housing Tax Credits, Community Development Block Grant, Section 8 housing vouchers, and US Department of Agriculture Rural Development 515 program. A listing of affordable housing projects with the number of units at each is shown below.

*Table 18*

| <b>Development</b>      | <b>Number of Units</b> |
|-------------------------|------------------------|
| Covey Run Townhomes     | 40                     |
| Elm Park Phase 1 and II | 78                     |
| Forest Senko Villa      | 84                     |
| Garden Grove Apts.      | 48                     |
| Jose Arciga Apartments  | 49                     |
| Juniper Gardens         | 46                     |
| Willow Park Apts.       | 46                     |
| Forest Manor Apts.      | 28                     |
| Villager                | 36                     |
| Parkside                | 24                     |
| Vanrich                 | 17                     |

The Covey Run Townhomes development is shown below. The development includes attached duplex units designed to look similar to a detached single family home.

**Covey Run Townhomes**



The image below shows the Jose Arciga apartment complex south of 19<sup>th</sup> Avenue near the Ballard Towne Shopping Center. The project was developed by Bienestar a local community development corporation specializing in farmworker labor housing.

**Jose Arciga Apartments**



Another Bienestar project, Juniper Gardens is shown below. Juniper Gardens is located on Juniper Street north of 26<sup>th</sup> Avenue. The project was completed in 2014.

**Juniper Gardens**



Overall, Forest Grove is home to a total of 604 subsidized housing units according to the Washington County Consolidated Plan. Based on this information, Forest Grove has the largest number of subsidized units per capita in Washington County.

## Rental Rates in Forest Grove

Metro maintains an inventory of rental units throughout the region. The inventory includes rental rates for apartments, condominiums, duplexes and single family homes. Data for Forest Grove is provided below.

The first table shows the range of rents for various dwelling types.

*Table 19*

| <b>Dwelling Type</b>      | <b>Rental Range per Month</b> |
|---------------------------|-------------------------------|
| Apartment – Studio        | \$350 to \$875                |
| Apartment – 1 bedroom     | \$495 to \$950                |
| Apartment – 2 bedroom     | \$475 to \$1,350              |
| Apartment – 3 bedroom     | \$695 to \$1,895              |
|                           |                               |
| Condominium – 1 bedroom   | \$550 to \$825                |
| Condominium – 2 bedroom   | \$725 to \$1,350              |
| Condominium – 3 bedroom   | \$849 to \$1,600              |
|                           |                               |
| Duplex – 1 bedroom        | \$495 to \$795                |
| Duplex – 2 bedroom        | \$725 to \$1,100              |
| Duplex – 3 bedroom        | \$849 to \$1,200              |
| Duplex – 4 bedroom        | \$925 to \$1,250              |
|                           |                               |
| Single Family – 1 bedroom | \$600 to \$1,025              |
| Single Family – 2 bedroom | \$600 to \$1,500              |
| Single Family – 3 bedroom | \$695 to \$2,695              |
| Single Family – 4 bedroom | \$550 to \$2,795              |

Source: Metro

The next table shows the median rent level by dwelling type and the income necessary to afford the median rent. This is compared to the median household income for Forest Grove and Washington County to give a sense of affordability.

**Table 20**

| <b>Dwelling Type</b>                  | <b>Median Rent Per Month</b> | <b>Annual Income Required To Afford Median Rent If No More than 30% of Household Income Goes to Rent</b> | <b>Percentage of Forest Grove Annual Median Income (\$48,411<sup>11</sup>)</b> | <b>Percentage of Washington County Annual Median Income (\$66,754<sup>12</sup>)</b> |
|---------------------------------------|------------------------------|--|--|---|
| <b>Apartment Studio</b>               | \$550                        | \$22,000   | 45%  | 33%   |
| <b>Apartment – 1 bedroom</b>          | \$675                        | \$27,000   | 56%  | 40%   |
| <b>Apartment – 2 bedroom</b>          | \$750                        | \$30,000   | 62%  | 45%   |
| <b>Apartment – 3 bedroom</b>          | \$1,373                      | \$54,920   | 113%   | 82%   |
| <b>Condominium – 1 bedroom</b>        | \$650                        | \$26,000   | 54%  | 39%   |
| <b>Condominium – 2 bedroom</b>        | \$900                        | \$36,000   | 74%  | 54%   |
| <b>Condominium – 3 bedroom</b>        | \$1,300                      | \$52,000   | 107%   | 79%   |
| <b>Duplex – 1 bedroom</b>             | \$650                        | \$26,000   | 54%  | 39%   |
| <b>Duplex – 2 bedroom</b>             | \$875                        | \$35,000   | 72%  | 52%   |
| <b>Duplex – 3 bedroom</b>             | \$995                        | \$39,800   | 82%  | 59%   |
| <b>Duplex – 4 bedroom</b>             | \$950                        | \$38,000   | 78%  | 57%   |
| <b>Single Family Home – 1 bedroom</b> | \$695                        | \$27,800   | 57%  | 42%   |
| <b>Single Family Home – 2 bedroom</b> | \$1,050                      | \$42,000   | 87%  | 63%   |
| <b>Single Family Home – 3 bedroom</b> | \$1,450                      | \$58,000   | 120%   | 87%   |
| <b>Single Family Home – 4 bedroom</b> | \$1,900                      | \$76,000   | 157%   | 114%  |

Source: Metro and City of Forest Grove Community Development Department

<sup>11</sup> US Census Bureau, American Community Survey (2011-2015)

<sup>12</sup> US Census Bureau, American Community Survey (2011-2015)

## Chapter 5 - Factors Affecting Housing Affordability

Many factors affect the type and amount of housing built in a community. In general, factors influencing housing affordability can be grouped in the following categories:

- Access to capital;
- Infrastructure costs;
- Land prices;
- Land supply;
- Construction costs;
- Soft costs such as fees, taxes, engineering, surveying and architecture costs; and
- Length of time to complete a project

Development rules and regulations, development fees, land supply, cost of land and demand for housing influence the housing market. Taxes and fees are a necessity for funding services and improvement people expect and rely on. However, such fees impact the cost of housing and affordability.

Although city government the size of Forest Grove does not typically provide housing, government has an instrumental role to play in how housing is provided. For example, state and local governments establish rules for housing construction including type of housing allowed and where it can be built. City and County government also maintain the critical infrastructure needed to serve development including water and sewer lines, reservoirs, treatment plants and roads. The cost of this infrastructure impacts the cost of housing.

City policy and codes can provide additional opportunity for affordable housing options but this does not mean that private developers will produce the units. One thing is clear the private market does not seem to be constructing housing commensurate with median family income levels in Forest Grove. However, the market seems to be doing a good job constructing housing for households relocating from elsewhere with incomes higher than Forest Grove median income levels.

Another factor affecting housing affordability is uncertainty. Considerable uncertainty exists at the federal level with respect to federal tax law and possible impacts to the viability of the Low Income Housing Tax Credit Program. There is also uncertainty with respect to the federal budget and funding levels for the Community Development Block Grant Program and HOME Investment Partnership. In addition, federal legislation (HR 482) referred to the House Committee on Financial Services would repeal the Affirmatively Furthering Fair Housing rule and associated programs. Land costs represent about 1/3 of the cost of development. With land costs increasing it is difficult to produce housing affordable to moderate and low income households. The chart below shows land costs for several developments in Forest Grove.

Soft costs are another factor impacting housing cost. Soft costs include permit fees, financing, architectural, engineering, surveying costs, management fees and overhead. The chart below shows permit fees for a standard 2,000 square foot home. The chart only shows permit fees including system development charges, surcharges and certain taxes. The total amount for such costs is currently approximately \$30,000.00. System Development Charges (SDCs) amount to about \$22,000 or about 73% of the total.

Table 21

COMMUNITY DEVELOPMENT DEPARTMENT  
BUILDING DIVISION

Estimated fees for a 2000 sq. ft. single family home w/550 sq. ft. garage

As of July 1, 2016

|   |                      |
|---|----------------------|
| Planning Department Site Review Fee   | \$351.00             |
| Structural Plan Review  | \$1,016.38           |
| Building Permit   | \$1,562.13           |
| 12% State Surcharge   | \$187.46             |
| Mechanical Permit (Includes 12% State Surcharge)  | \$118.27             |
| Plumbing Permit (3 bath home – includes 12% State Surcharge)  | \$417.15             |
| Excavation Fee (May require performance and 1-year maintenance bond)  | \$33.00              |
| Water Connection - 3/4 inch meter   | \$314.00             |
| Water System Development Charge   | \$5,478.00           |
| Parks System Development Charge   | \$3,000.00           |
| Transportation Development Tax  | \$8,278.00           |
| CWS Sewer Connection  | \$5,300.00           |
| Surface Water Management - Quantity   | \$280.50             |
| Erosion Control   | \$295.00             |
| Tree Planting Deposit (Average Two Trees Per Lot @ \$363 Each)  | \$748.00             |
| Metro Construction Excise Tax (0.12% of project valuation)  | \$270.82             |
| Forest Grove School District Construction Excise Tax (\$1.00 per square foot of heated space)   | \$2,000.00           |
| Light & Power Service Extension   | \$195.00             |
| <b>TOTAL ESTIMATED DEVELOPMENT AND PERMIT FEES</b>  | <b>\$29,843.71**</b> |
|   |                      |
| Sanitary Sewer Lateral Deposit (if necessary)   | \$1,000.00***        |
| Total With Deposit:   | \$30,843.21          |
| <p>*Note: there may be additional charges for unimproved properties (not in a subdivision).<br/> **Note: there may be additional charges for power line extensions. Temporary power (3 mos.) can be acquired for \$150 through the Light &amp; Power Department. Please call (503) 992-3250 for questions relating to these fees.<br/> ***Note: this is a deposit <u>only</u>. Actual fees are based on the cost of labor to install the lateral or water meter and the equipment and materials used. After Public Works has installed the lateral or water meter, you will either receive a refund for the amount not used or a bill for any amount exceeding the deposit.</p> |                      |

In addition to soft costs, hard costs impact the cost of housing. Hard costs include sitework and building construction including labor costs. A hypothetical project pro-forma is provided below. The pro-forma shows the elements typically included in a market-rate residential subdivision project.

*Table 22*

| <b>Project Revenues</b>            |              |
|------------------------------------|--------------|
| Number of Units                    | 50           |
| Average Sales Price per Unit       | \$400,000    |
| Gross Sales Revenue                | \$20,000,000 |
| Less Commission Fees               | \$800,000    |
| Net Project Revenues               | \$19,200,000 |
| <b>Project Costs</b>               |              |
| Land Acquisition                   | \$2,575,000  |
| Planning, Design and Approvals     | \$750,000    |
| Sitework and Building Construction | \$12,175,000 |
| Amenities and Off-Site Costs       | \$100,000    |
| Management & Overhead              | \$1,760,000  |
| Total Project Costs                | \$17,210,500 |
| Net Cash Flow Before Financing     | \$1,989,500  |
| Financing Interest                 | \$1,102,400  |
| Net Cash Flow to Developer         | 887,100      |
| Equity Investment                  | \$1,020,600  |
| Total Cash-on-Cash Return          | 86.9%        |
| Annualized Cash-on-Cash Return     | 19.9%        |

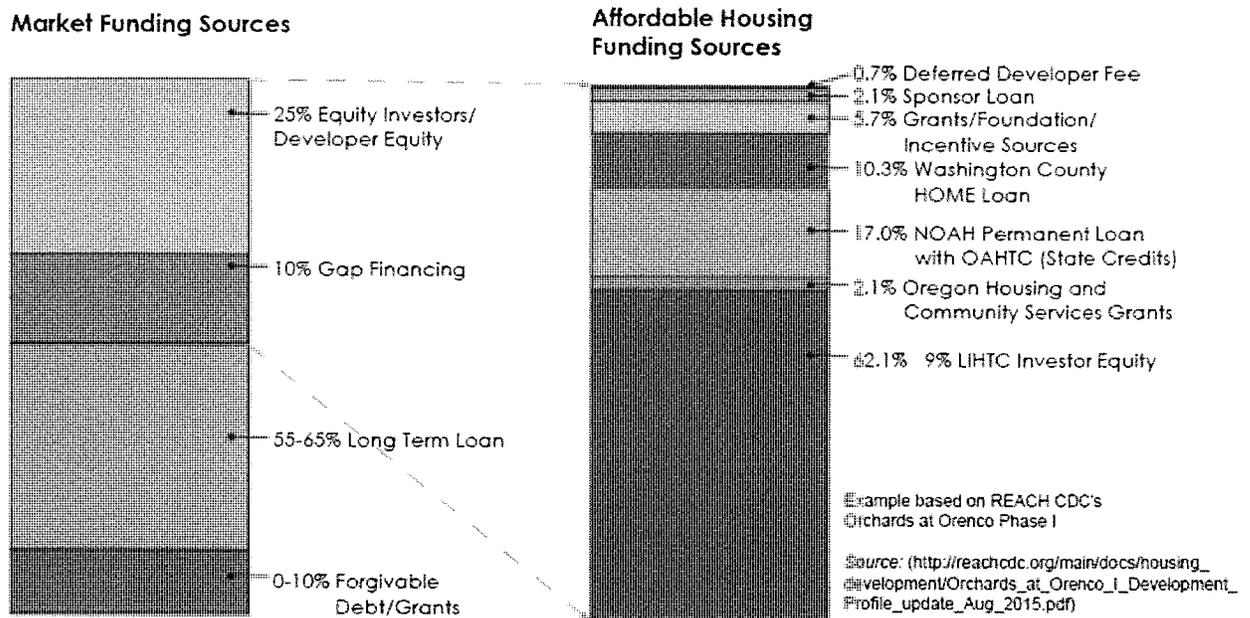
Source: American Planning Association, Plannersweb.com, *Pro-Forma 101 – Getting Familiar With a Basic Tool of Real Estate Analysis* by Wayne Lemmon, December 23, 2013.

The pro-forma is used to assess what it will cost to construct the project including how much can be paid for the land given anticipated soft and hard costs. In general, if soft and hard costs increase the developer will have to pay less for the land, find a way to reduce costs or provide additional equity investment to the project. If the land owner does not accept a lower price for the land or reduce costs, the developer will have to increase the cost of homes or accept a lower rate of return. If the lower rate of return does not compensate the developer for the inherent risk involved in undertaking the a development project and provide adequate reward/profit, the project will not move forward.

Affordable housing developers are faced with many of the same choices. However, they are not driven by profit motives. Unlike private developers affordable housing providers are faced with issues the private market does not contend with. This includes cobbling together project funding from a multitude of sources with divergent reporting and monitoring requirements. This increases the complexity and cost of the project. In addition, affordable housing funders have requirements for quality of construction to ensure durability that private developers need not comply with. Given

the complexity of affordable housing projects, timelines from inception to completion are often longer than those of a private developer since filing deadlines among affordable housing programs are not aligned. This also increases the cost of the project including holding costs on the land and delays add to labor costs. In addition, affordable housing providers are constrained in how much they can borrow from lenders due to the low rents they charge. As a result, affordable housing providers are faced with delivering costly projects for a market where purchasers or renters have limited means to pay these costs. The private market is not faced with this dilemma.

The graphic below shows typical funding sources for market rate and affordable housing projects. The information is from the Orchards at Orenco Phase 1 project. The graphic was prepared by Open Doors Housing Solutions for the Washington County Affordable Housing Strategy, a Portland State University Master of Urban Planning capstone project. The graphic clearly shows the complexity of an affordable housing project with its multiple funding sources.



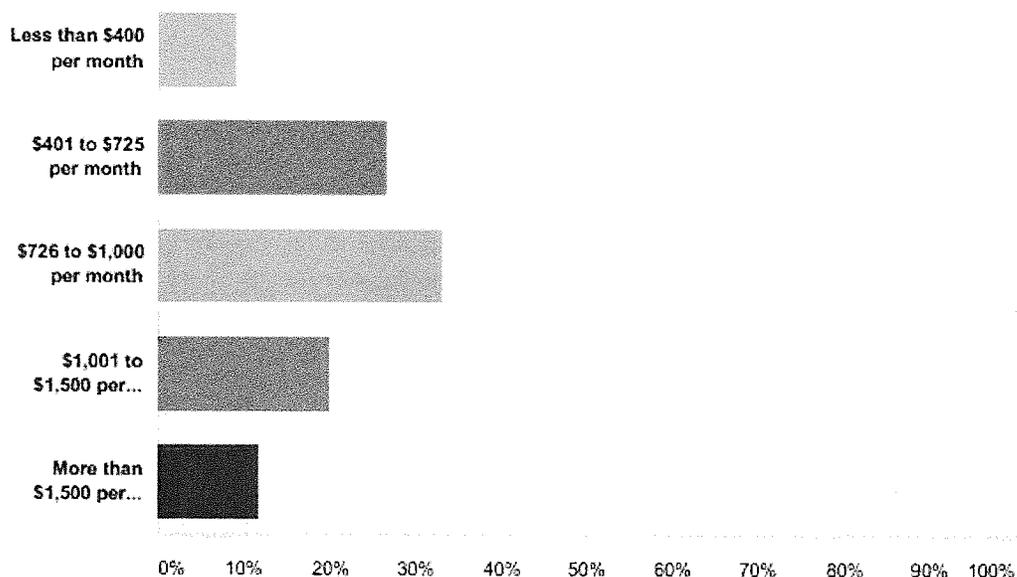
## Chapter 6 – Community Questionnaire

A community questionnaire was conducted between March and April 2017 to gauge housing related concerns in the City. The questionnaire was distributed in the City's monthly utility billings statements, at the Library, and at the Senior Center. Questionnaires were also provided to Adelante Mujeres for distribution to their clients. Copies to the questionnaire were available in both English and Spanish. The questionnaire was available on the City's web page for download or filling out via a link to Survey Monkey. Over 800 responses were received. The questionnaire form and results are presented in the appendix. Key findings are presented below.

The majority of respondents (71%) currently reside in single family detached homes. More than 57% of respondents have lived in Forest Grove for ten years or more. New arrivals living in Forest Grove for five years or less accounted for 30% of respondents.

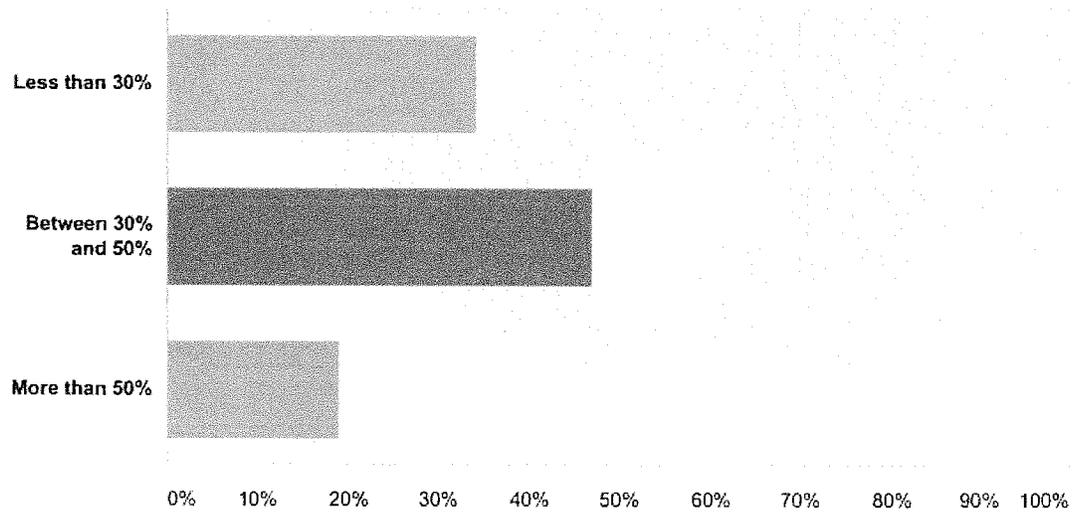
In terms of rent, more than 30% of respondents reported paying more than \$1,000 per month with 12% paying more than \$1,500 per month (see Graph 1 below). Approximately 35% of respondents reported paying less than \$725 per month in rent.

*Graph 1*



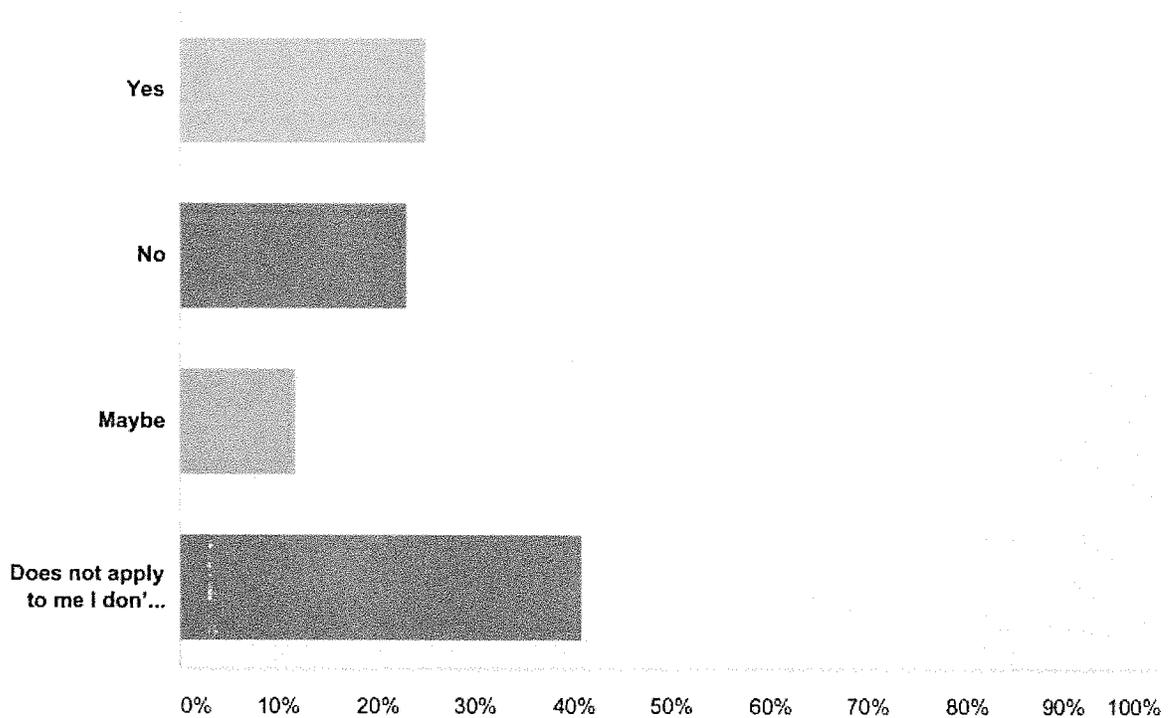
As shown in Graph 2 below, 19% of respondents reported paying more than 50% of their income on housing related costs including rent or mortgage, utilities and maintenance. Approximately 47% of respondents reported paying between 30% and 50% in housing related expenses. This corresponds to 461 households responding to the questionnaire being cost burdened. That is, paying more than 30% of household income on housing related expenses.

**Graph 2**



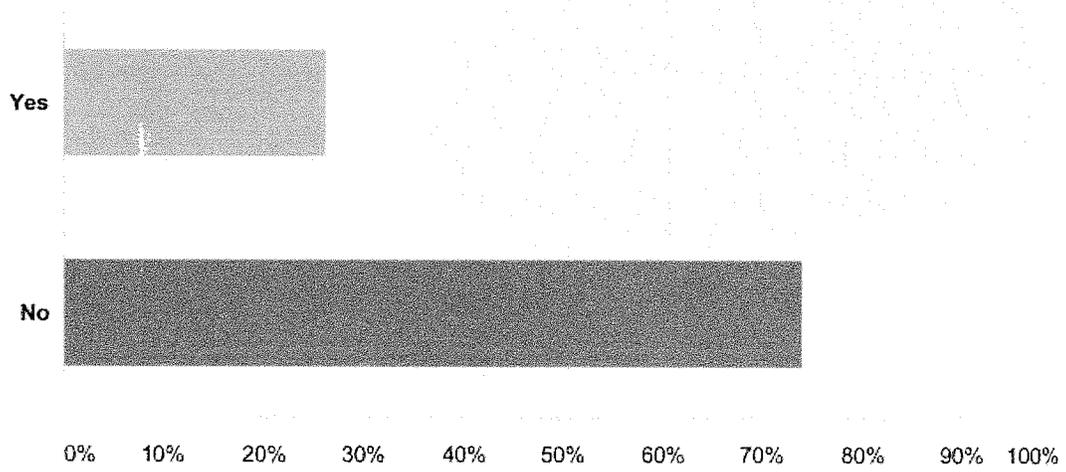
Graph 3 indicates, approximately 12% of respondents indicated they can't afford required rent (first and last month) and deposits if forced to move.

**Graph 3**



Graph 4 below shows that approximately 26% of respondents indicated they've faced a situation in the last five years where they had to choose between paying housing costs or paying for groceries, medical car/medication or transportation costs.

*Graph 4*



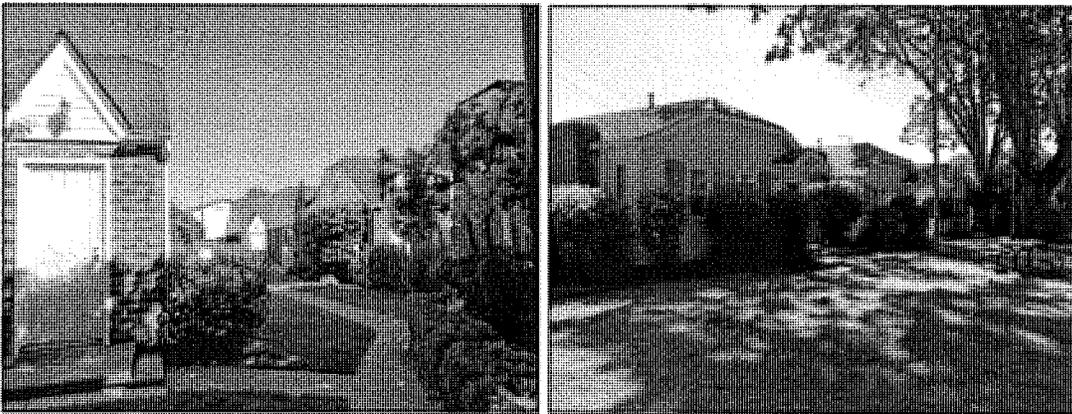
## Chapter 7 – Affordable Housing Concepts

Affordable housing can take many forms. Several affordable housing concepts are described below including cottage clusters, duplexes/single family attached homes, accessory dwelling units, internal home divisions, manufactured homes, and micro-houses sometimes referred to as tiny homes. Each form of housing described below provides an opportunity to help address the supply of affordable housing.

### Development Forms

#### *Cottage Clusters*

Cottage clusters are a traditional development form regaining popularity. Historic cottage clusters are found in Pasadena, California and Salem, Oregon. Cottage clusters may include bungalow style homes are range in size from 750 square feet to 1,200 square feet. Homes are usually placed around a common open area and parking is separated from the unit. Newer developments have been placed on one- to three-acre lots and can be considered infill.



*Cottage clusters on Cottage Street NE, Salem, OR.  
(Photos courtesy of TGM.)*

A contemporary example is the new Commons at NW Crossing in Bend, Oregon shown below.



*1,200 square foot cottage, Commons at NW Crossing, Bend, OR.  
(Photo courtesy of Tye Development.)*

Cottage clusters could be developed as condominiums (home ownership with land held in common), multifamily units (units on one lot) or homes on individual lots around a central open space. The Green Grove co-housing development, under construction north of David Hill Road and west of Thatcher Road, is an example of cottage cluster with condominium ownership. Individual single family homes are owned privately but the land is held in common.

### *Duplexes/Single Family Attached*

Under the Development Code up to 8% of lots for a development in a single family zone may be developed as a duplex or single family attached lots in subdivisions with more than 20 lots.

### *Accessory Dwelling Units*

Accessory dwelling units are currently allowed by Development Code through an administrative (Type I) review process. The Development Code limits the number of accessory dwelling units to one in conjunction with a single-family dwelling. The accessory unit could be created through conversion of existing space, by means of an addition, or as an accessory structure on the same lot with an existing dwelling. Accessory structures are subject to the following standards:

- The owner of the primary dwelling shall occupy at least one of the units;
- Any addition shall not increase the gross floor area of the original dwelling by more than 10%;
- The gross floor area of the accessory dwelling unit shall not exceed 30% of the primary dwelling's gross floor area, or 720 square feet, whichever is less;
- One additional off-street parking space shall be provided in addition to the required parking for the primary dwelling;
- The accessory dwelling unit shall have exterior siding and roofing similar in color, material and appearance to that used on the primary dwelling; and
- The accessory dwelling shall comply with applicable fire and life safety codes.

A local example of an accessory dwelling unit is shown below. The accessory dwelling units is a garage conversion.



The standards above were adopted in 1992 and respond to the concerns about accessory dwellings raised at the time.

Reducing or eliminating City controlled SDCs for accessory dwellings could provide an incentive for the construction of these units.

### *Internal Home Divisions*

As described in the DLCD document, Character-Compatible, Space-Efficient Housing Options for Single-Dwelling Neighborhoods, homes can be internally divided in many ways to create housing units:

- Converting a two-story house into stacked flats by adding a side entry door for the first floor unit, converting an upstairs space into a second kitchen and ensuring that there is a bathroom on each floor;
- Bisecting a two story house into side-by-side townhomes by using a vertical partition wall to split the house in half from front to back and adding a second set of stairs;
- Combining both of the above approaches to create a four-plex;
- Converting basements, attics, or garages into stand-alone dwelling units by bringing them into the insulated envelope of the structure, installing life safety measures, adding heat sources and providing independent access.

Single family homes may be internally divided into multiple independent units up to 2 times the target density of the zone provided the appearance of the home remains that of a single family house. Entrances may be shared or separate entrances may be created around the side or back. Apply Commercial building codes are applied that require fire-rated separation between units and/or fire sprinkler system for internal divisions of three or more units. Historic buildings including historic contributing buildings may not be structurally expanded. In Forest Grove, a Type II process is required for such proposals.

## *Manufactured Homes*

Manufactured home parks have provided affordable housing opportunities for low- and moderate-income households for decades. A manufactured home is defined in the City Code to mean a residential trailer, mobile home or a manufactured home as those terms are defined in ORS 446.003(26). The City's Development Code allows for manufactured homes on individual lots or within manufactured home parks.

According to Development Code Article 7, manufactured homes on individual lots must be at least 1,000 square feet in area, placed on an excavated and back-filled foundation, and have a pitched roof, with a slope of at least three feet in height for each twelve feet in width. In addition, a manufactured home on a lot must have exterior siding and roofing similar in color, material and appearance to that of residential dwellings within the community. Manufactured homes on individual lots may not be sited adjacent to any structure designated as a historic landmark.

In contrast to manufactured homes on individual lots, a manufactured dwelling park means a place where four or more manufactured dwellings are located together. Manufactured home parks are allowed in the City's residential zoning districts including R-10, R-7, R-5, RML and RMH. Manufactured home parks are not allowed in the Community Commercial zone, however, other residential development is permitted in the commercial zone at a maximum density of 30 units per net acre.

The minimum land area for a manufactured home park is four acres. Within a park homes must have a minimum width of 12 feet and minimum floor area of 672 square feet. In addition, 20% of the site must be reserved as open space. This requirement is comparable to open space requirements for multifamily development projects. The Development Code also requires that 10% of the manufactured home park site be reserved and improved as common open space.

Manufactured homes must bear Oregon Department of Commerce "Insignia of Compliance" indicating conformance with HUD standards. In addition, wheels must be removed and all manufactured dwellings shall be skirted and tied down in accordance with state standards. All system development charges apply to manufactured homes.

The picture below is the Quail Run Manufactured Home Park in Forest Grove.



### *Multifamily Homes*

Multifamily housing including apartments and condominiums are a cost-effective way to provide rental and ownership affordable housing options. Forest Grove has approximately 8,370 housing units. Of this number, approximately 2,700 units or 32% of the housing units in the City are multifamily units including manufactured homes in manufactured home parks. To expand the supply of affordable housing units in apartment projects, the City could encourage market-rate developers to seriously consider integrating some project-based housing vouchers into the market rate project. This could be a requirement if the City provides incentives such as tax exemptions, land, fee waivers and the like. Project based vouchers could result in units for households down to 30% of median family income by matching all or most of the advertised rents.

### *Micro-Housing*

Micro-housing, sometimes called tiny houses, is a potential way to reduce housing costs. In particular, several cities are considering micro-housing as a way to address homeless shelter needs. Although an innovative approach to housing, development codes have not caught up with the concept. Amendments to the City's Development Code would likely be required to allow this form of development. Furthermore, as a residential structure building codes for dwellings would apply. Subject to Building Code requirements, micro-houses could be used as accessory dwelling units. Consideration of this approach must also take into account public health and safety concerns.

Micro-housing is a prefabricated structure form of manufactured home if constructed off-site and moved to a location. Manufactured homes must meet the requirements of the Oregon