

CITY OF KEIZER MISSION STATEMENT

KEEP CITY GOVERNMENT COSTS AND SERVICES TO A MINIMUM BY PROVIDING CITY SERVICES TO THE COMMUNITY IN A COORDINATED, EFFICIENT AND LEAST COST FASHION

A G E N D A
KEIZER CITY COUNCIL
EXECUTIVE SESSION

Monday, September 21, 2015

6:15 p.m.

**Keizer Civic Center
Keizer, Oregon 97303**

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. DISCUSSION**
 - a. Pursuant to ORS 192.660(2)(e) – *To conduct deliberations with persons designated by the governing body to negotiate real property transactions;*
AND**
 - b. Pursuant to ORS 192.660(2)(f) - *To consider information or records that are exempt by law from public inspection;***
- 4. ADJOURN**

Upon request, auxiliary aids and/or special services for those with disabilities will be provided. To request services, please contact us at (503) 390-3700 or through Oregon Relay 1-800-735-2900 at least two working days(48 hours) in advance.

The Oregon Public Meeting Law authorizes governing bodies to meet in executive session in certain limited situations. An executive session is defined as any meeting or part of a meeting of a governing body which is closed to certain persons for deliberations on certain matters as defined by ORS 192.660. These sessions are closed to the public. The media may attend the session, unless the Oregon State Statutes specifically prohibits media attendance. The governing body is not allowed to take any final action or make any final decisions during the executive sessions. Any final action or decision must be made after returning or at the next regularly scheduled meeting.

AGENDA
KEIZER CITY COUNCIL
REGULAR SESSION
Monday, September 21, 2015
7:00 p.m.
Robert L. Simon Council Chambers
Keizer, Oregon

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **FLAG SALUTE**
4. **SPECIAL ORDERS OF BUSINESS**
5. **COMMITTEE REPORTS**

6. **PUBLIC TESTIMONY**

This time is provided for citizens to address the Council on any matters other than those on the agenda scheduled for public hearing.

7. **PUBLIC HEARINGS**

- a. Comprehensive Plan/Zone Change/Lot Line Adjustment/Subdivision - Appeal of Hearing Officer Decision – Property at 5447 and 5457 Burbank Street N, Keizer, Oregon
- b. Application of KS REIM, LLC for Reimbursement District Formation
- c. **ORDINANCE** – Amending Keizer Development Code Section 1.200 (Definitions); Amending Ordinance No. 98-389; Declaring an Emergency

8. **ADMINISTRATIVE ACTION**

- a. **RESOLUTION** – Authorizing the City Manager and Public Works Director to Sign 2015-2018 Collective Bargaining Agreement with Laborers International Union of North America, Local 320

9. CONSENT CALENDAR

- a. RESOLUTION – Authorizing the City Manager to Enter Into Lease Agreement with Ricoh USA Inc. for Utility Billing and Primary City Copier

10. COUNCIL LIAISON REPORTS

11. OTHER BUSINESS

This time is provided to allow the Mayor, City Council members, or staff an opportunity to bring new or old matters before the Council that are not on tonight's agenda.

12. WRITTEN COMMUNICATIONS

To inform the Council of significant written communications.

13. AGENDA INPUT

October 5, 2015

7:00 p.m. – City Council Regular Session

October 12, 2015

5:45 p.m. – City Council Work Session

- Salem-Keizer Transit District

October 19, 2015

7:00 p.m. – City Council Regular Session

14. ADJOURNMENT

Upon request, auxiliary aids and/or special services will be provided. To request services, please contact us at (503)390-3700 or through Oregon Relay at 1-800-735-2900 at least two working days (48 hours) in advance.

COUNCIL MEETING: Sept. 21, 2015
AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS
THROUGH: CHRIS EPPLEY, CITY MANAGER
NATE BROWN, COMMUNITY DEVELOPMENT DIRECTOR
FROM: SAM LITKE, SENIOR PLANNER

SUBJECT: Appeal of Hearings Officer's decision

Attachments:

- **Revised alternative for intersection alignment**
- **Appeal statement**
- **Hearings Officer's decision**
- **Staff recommendation with exhibits to the Hearings Officer**

ISSUE:

The Hearings Officer denied an application to subdivide property located at 5447 and 5457 Burbank St N, and an unaddressed field directly to the west of these two parcels into 32 lots. An appeal of that decision was submitted by Mark Grenz of Multi-Tech Engineering on behalf of the applicants Mark Farrow of Trademark Enterprises, LLC for property owned by Robert Bowden and Doug Harner on behalf of JDC Homes, LLC.

DISCUSSION:

In 2008, the City approved a Comprehensive Plan / Zone Change / Lot Line Adjustment / Subdivision application affecting this property. While the subdivision application was approved it was not implemented thereby resulting in the need for the applicant to resubmit this current application. The Lot Line Adjustment was only partially completed but not the property line adjustment that would have resulted in the approved street alignment with the Trent Ave and Burbank Street intersection.

The staff recommendation to the Hearings Officer was to approve the application subject to the applicant meeting all conditions of approval relating to planning, public works, surveying, and fire district requirements. Briefly, the proposed subdivision design for the proposed lots included a new street system that extended west from the Trent Ave / Burbank Street intersection and included two cul-de-sac streets, a potential extension onto adjacent property to the south, and an emergency access to the west to Bowden Lane as required by the Keizer Fire District. The 32 lots range in size from 5,000 to 10,856 square feet with an average lot size of 6,033 square feet.

Because the applicant does not have any interest in the property that is adjacent to their site (1527 Trent Ave, or Lot 70 in the Windsor Woods No 2 Subdivision) a site plan was developed where the proposed street had a slight bend in it as it approached the intersection. This proposed street design was not accepted by Public Works and a recommended condition of approval was that the street alignment be revised to meet Public Works

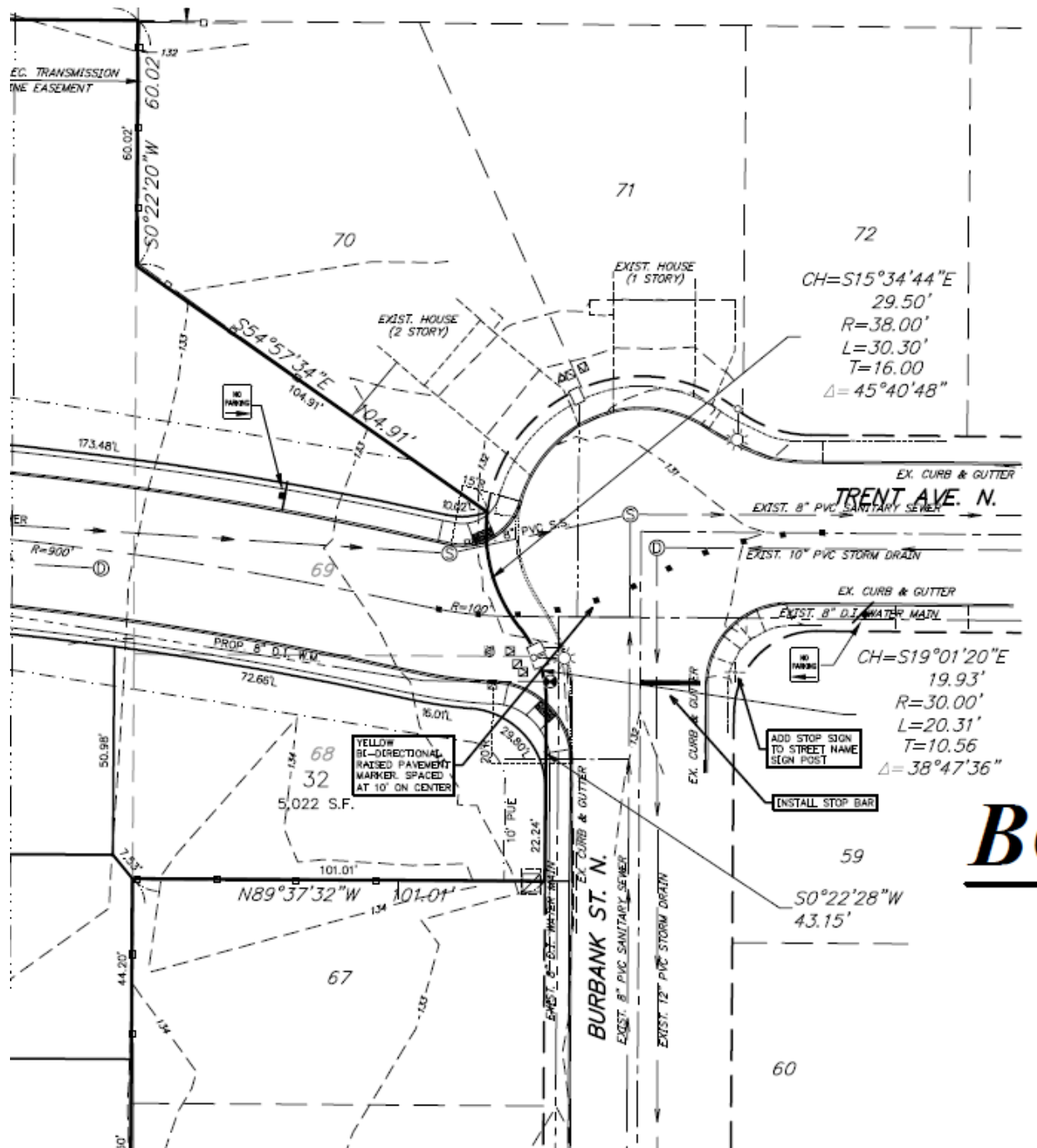
requirements. It was believed that this could be achieved by obtaining a small portion of property at 1527 Trent Ave; redesign the street; a combination of these two alternatives; or other possible alternatives. At the public hearing the applicant's engineer presented testimony of possible alternatives for the alignment of the proposed street with the Burbank Street intersection however, the City Engineer expressed public safety concerns and did not support those alternatives.

The Hearings Officer's determined the proposed street intersection alignment did not comply with city standards and so did not satisfy review criteria. The Hearings Officer found that because Lot 70 (1527 Trent Ave) was not part of the application, the ability of the applicant to acquire a portion was too speculative to be a condition of approval. Specifically, the Hearings Officer noted that the application failed to comply with Section 2.302.03.C – alignment; 2.302.03.E – intersection angles; 2.302.03.F – existing streets; 2.302.03.H – cul-de-sacs; 2.310.06.A – frontage streets; and 3.108.06.A. Five of the sections relate to the proposed street alignment issues. With regard to the remaining Section (2.302.03.H), the Hearings Officer concluded that the proposed Trent Ave cul-de-sac would not meet the city's 800 foot maximum length. However, this is not correct. The cul-de-sac street would only be measured from the intersection of Trent Ave and Burbank Street to its western terminus and not include the entire length of Trent Ave. As such, it would have a length of approximately 450 feet and will comply with this standard. The applicant's appeal of the Hearings Officer's denial is limited specifically to the issue of the alignment of the proposed street at the Burbank Street/Trent Ave intersection. No other objections to any other conditions was raised by the applicant.

After the appeal was submitted, staff met with the applicant's agent to better understand the reasons for the appeal and to express Public Works concerns and to determine if an alternative could be developed that would satisfy those concerns. Following that meeting a revised alternative was developed by an independent traffic engineer identified as "Alt B" for review by staff. This alternative includes a stop sign at Burbank Street, no parking along two sections of Trent Ave at the intersection and raised reflective bi-directional placement markers through the intersection. (See attached drawing.) Staff believes this revised alternative addresses the concerns of both the Hearings Officer and the City Engineer, and staff supports this alternative. The revised street alignment will allow a street intersection that will be safe for both residents in the existing neighborhood as well as for the future residents of the new subdivision.

RECOMMENDATION:

That the City Council open the public hearing to consider the appeal, and if there are no questions, close the hearing. Staff recommends that City Council reverse the Hearings Officer's decision, subject to the alternative referenced above being placed as a condition of approval and direct staff to prepare an order with appropriate conditions of approval.





Pd # 365-

CITY OF KEIZER APPEAL FORM

Staff Decision - \$250.00

Hearing's Officer or Planning Commission - \$365.00

RECEIVED
CITY OF KEIZER

AUG 18 2015

APPEAL RIGHTS: Upon final action on a land use application by the Zoning Administrator, Hearings Officer or Planning Commission, the applicant or any persons receiving notice of decision may appeal the decision by filing within ten (10) days from the date of the mailing of the decision. An appeal to the Hearings Officer, Planning Commission or City Council shall include notice at least ten (10) days prior to hearing to the appellant, the applicant and any other individuals who received notice of the original decision.

Any interested person, including the applicant, who disagrees with this decision, may request that the appropriate body at a public hearing consider the application. The appeal is subject to the appellant paying a fee (see fee schedule above) at the time the appeal form is submitted. This fee will be refunded if the appeal is upheld.

The appeal form must be received by the Keizer Community Development Department, 930 Chemawa Road NE, Keizer by 5:00 p.m. on the tenth day following the date of the mailing of the decision. The failure to submit the required fee with the appeal form or notice of appeal, including return of checks unpaid or other failure of consideration, shall be a jurisdictional defect resulting in the dismissal of the case. *Appeals shall state the alleged errors in the original action and the specific criteria, which the appeal is based upon.*

Land Use Case Appealed: Subdivision Case No 2015-11

Final Date of Appeal Period: August 17, 2015

Errors identified in original action & Specific Criteria the appeal is based upon: _____

The application was denied based on not meeting Criteria under Section 2302, pertaining to Street Standards.

The applicant feels the Street Standards can be met, See Attached, and therefore should be approved.

Appellant Name: Mark Grenz, P.E.

Address, City, Zip: Multi/Tech Engineering Services
1155 SE 13th Street
Salem, OR 97302

Daytime Phone #: 503-363-9227

The City of Keizer Community Development Department will be in contact to notify you of the scheduled hearing for the appeal of this land use case. If you have any questions, contact the department at (503) 856-3441.

Bowden Estates Subdivision 2015-11 Appeal

BACKGROUND:

On August 7, 2015, the decision for Subdivision Case No. 2015-11 was denied by the Hearings.

APPEAL ISSUES:

In summary, the Hearings Officer Denied SUB 2015-11 based on safety issues associated with the proposed alignment of Burbank Street and Trent Avenue as outlined in the Substantive Findings in Order No. Subdivision Case No. 2015-11.

Applicant Response:

The Hearings Officer denied Subdivision 2015-11 based on the safety issues associated with the proposed alignment of Burbank Street and Trent Avenue. The applicant's engineer had been working with the City's Engineer to come up with a solution. Due to the location of the site and the developed land adjacent, the proposed alignment was the most feasible proposal. However, at the July 16, 2015 Hearing, the applicant provided two safer and more efficient alignment options to the Hearings Officer and City Engineer.

The applicant is more than willing to work with the adjacent property owner, Lot 70, in order to obtain right-of-way. Those discussions were in the works.

Therefore, options for the alignment are available and this proposal should be approved.

This concludes our summary addressing the appeal. If you have any questions or need any more information regarding this matter please call Mark Grenz, P.E., Multi/Tech Engineering Inc., at (503) 363-9227.

cc: File #6088



August 7, 2015

NOTICE OF HEARINGS OFFICER DECISION

Subdivision Case No. 2015-11

You are receiving this Notice of the Hearings Officer's decision because you provided either written or verbal testimony on a proposed subdivision on Burbank Street. Attached is a copy of the Hearings Officer's decision approving Subdivision Case No. 2015-11 for a 32 lot subdivision located at 5447 and 5457 and an unaddressed field directly to the west of these two parcels.

Any interested person, including the applicant, who disagrees with this decision, may appeal the decision to the City Council. Any such appeal must be filed with the Keizer Community Development Department on an appeal form provided by the City. A fee of \$365.00 is required for any appeal filed. The appeal form is to be submitted to Keizer Community Development Department, 930 Chemawa Road NE, PO Box 21000, Keizer, Oregon 97307-1000. The appeal form and fee must be received by the City by 5:00 p.m. **August 17, 2015**. Please see the Section 3.207 (Appeal Provisions) in the Keizer Development Code, for more information.

If you any questions, concerns or comments regarding this decision, please contact the Keizer Community Development Department at (503) 856-3439 or 856-3442.

THE CITY OF KEIZER HEARINGS OFFICER

In the Matter of the	)	Case No.	2015-11
	)		
Application of:	)		
	)	Subdivision	
Robert M. Bowden and JDC Homes LLC	)		

ORDER

I. Nature of the Application

This matter comes before the City of Keizer Hearings Officer on the application of Mark Farrow on behalf Trademark Enterprises LLC for property owned by Robert M. Bowden and JDC Homes LLC to subdivide approximately 5.73 acres into 32 lots. The property is located at 5547 and 5457 Burbank Street N Keizer, Oregon and includes an unaddressed field directly west of the two addressed properties. The subject property is identified on Marion County Tax Assessor Map as Township 6 South; Range 3 West; Section 33; Tax Lot 1600, and Section 33DA Tax Lots 1500 and 1600.

II. Relevant Criteria

The standards and criteria relevant to this application are found in the City of Keizer's Development Code (KDC), especially Sections 2.1, 2.2, 2.3. and 3.108.

.

III. Public Hearing

A public hearing was duly held on this application on July 16, 2015. At the hearing, the Planning Division file was made part of the record as was the audio recording of the hearing. The following persons appeared at the hearing and provided testimony on the application:

1.	Sam Litke	Senior Planner, Keizer
2.	William Peterson	Traffic Engineer, Keizer of Community Development
3.	Mark Grenz	Multi/Tech Engineering for Applicant
4.	Karen Bajpai	Opponent
5.	Marilee Teller	Opponent

No objections were raised as to notice, jurisdiction, conflicts of interest, or to evidence or testimony presented at the hearing. At the hearing, but before the opening of the hearing, the following documents were offered and entered into the record:

Exhibit 14

Email dated July 16, 2015 from D. Patrick Dodge,
City of Salem

Exhibit 15

Memo regarding Design Alternatives for Burbank at Trent Ave.
Bowden Estates from A.T.E.P., Inc. submitted by the Applicant

In 2008 the City of Keizer approved a Comprehensive Plan/Zone Change/Lot Line Adjustment/Subdivision application affecting the subject property. The large property involved in the current application was formed as a result of the Lot Line Adjustment process. The Comprehensive Plan designation was changed to Low Density Residential and the zoning on the property was changed to RS. While the concurrent subdivision application was approved, it was not implemented and became null and void. Although the Lot Line Adjustment was implemented with the creation of the larger parcel, it appears that the property line adjustment that would have resulted in the previously approved street alignment with the intersection of Trent Ave and Burbank Street was not implemented.

The application refers to the proposed subdivision as Bowden Meadows Subdivision. However, the subdivision has generally been referred to as Bowden Estates. No explanation for the two names was given at hearing. It appears from the documentation provided that Bowden Estates was the name associated with the prior application. Therefore, Bowden Meadows is the name used for the proposed subdivision in this order. It is also noted that there is inconsistency in regard to the acreage involved in this application although all parties recognize that the subject property is more than 5 acres but less than 6 acres in size. It is also noted that the prior application was not offered into the record and has not been considered.

IV. Findings of Fact

The hearings officer, after careful consideration of the testimony and evidence in the record, issues the following findings of fact:

1. The subject property consists of approximately 5.73 acres and is undeveloped. The property is designated Low Density Residential on the Comprehensive Plan map and is zoned Single Family Residential (RS).
2. The property is located at 5447 and 5457 Burbank Street N, and includes an unaddressed field directly to the west of the addressed property. It is identified in the Marion County Tax Assessor map as Township 6 South; Range 3 West; Section 33; Lots 1500 NS 1600.
3. Surrounding property includes single-family homes on lands to the east that are zoned Residential Single Family (RS). Lands to the south and west are outside the city's urban growth boundary (UGB) and are zoned Exclusive Farm Use (EFU) by Marion County. The property to the North is within the Keizer City limits and is zoned City of Keizer EFU.

4. The proposal is to subdivide the subject property into a 32 lot subdivision.
5. City of Keizer Planning requested comments on this matter from various governmental agencies.

Keizer Public Works reviewed the proposal and provided the following comments:

“The subject property is located outside the original Keizer Sewer District. Therefore a sanitary sewer trunk line acreage fee will be required unless the applicant can provide evidence that an acreage fee has been previously paid.

SANITARY SEWERS:

- a.) City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer’s engineer shall submit plans to the City of Keizer for review and determination of compliance with the City’s Master Sewer Plan for the area.
- b.) Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Appropriate easements for any public sewer mains located within the subject property, if located outside platted right of ways, will need to be recorded in a form which meets the City of Salem Design Standards and shown on the subdivision plat.
- c.) It will be the responsibility of the developers [sic] engineer to locate any existing wells, (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting of the proposed subdivision, shall eliminate any conflicts between existing wells and proposed sanitary sewers.

WATER SYSTEM:

- a.) A master water system plan showing proposed routes of public water mains, fire hydrants and individual services shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of way. Any system development charges for water system improvements will be those in place at the time of individual service connections.
- b.) Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to any issuance of building permits by the City of Keizer. All required fire hydrants shall be served by an 8 inch water main.

- c.) Any existing wells on the subject property are to be abandoned. The developer shall provide evidence that any abandonment of existing wells has been completed in accordance with the rules of the Oregon State Water Resources Department.
- d.) Location of all meters to be approved by Keizer Water Department.

STREET AND DRAINAGE IMPROVEMENTS:

- a.) The developers [sic] engineer shall submit an overall storm drainage plan that will provide service to this development consistent with City's Master Storm Drain Plan for this area of Keizer.
- b.) Storm water detention will be and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests (the location and frequency of the tests to be determined by the City of Keizer) to determine the suitability of the proposed disposal system. The percolation tests and soil analysis shall be performed by a qualified geotechnical engineer. Storm water calculations shall be submitted to the City of Keizer Public Works Department prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system.
- c.) The proposed subdivision will be served by a new street connected to the intersection of Trent Ave. N. and Burbank Street N. The proposed new intersection shall be as close to a "T" intersection as possible. The most recent plan submitted to the Public Works Department needs to be revised a proposed new intersection to meet Public Works Department requirements.

A previously approved subdivision (Bowden Estates), of the subject property provided for access to the Trent Ave. N. – Burbank St. N. intersection in a manner that was acceptable to the City of Keizer Public Works Department. The proposed new subdivision will be required to provide a similar access. Attached to this report are two exhibits from the originally approved Bowden Estates for reference.

A private access easement is being proposed at the west end of Aroma Ct. N. which will furnish access to the existing Bowden Lane to the west of the subject property. The width and structural depth of the proposed access easement shall meet the requirements of the Keizer Fire District, including

any signage and access control features. The west end of the access easement shall be gated with an improvement acceptable to the Fire District.

The application will be required to obtain U.I.C. permits (Underground Injection Control) from the Oregon Department of Environmental Quality and each individual lot will be required to furnish evidence that a Registered U.I.C. has been obtained for all roof drains.

- d.) A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property and shall include existing elevations and proposed corner lot elevations. This plan shall be submitted and approved by the Public Works Department prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc., will be required for review prior to any plan approval.

OTHER

- a.) A street lighting district shall be created at the expense of the applicant to provide for adequate street lights along the frontage of all proposed new lots.
- b.) Construction permits are required by the Department of Public Works prior to any public facility construction.
- c.) A Pre-design meeting with the City of Keizer Department of Public Words will be required prior to the Developer's Engineer submitting plans to either the city [sic] of Keizer or the City of Salem for review.
- d.) Street opening permits are required for any work within the City Right of Way that is not covered by a Construction permit.
- e.) A Pre-construction conference shall be required prior to commencement of any construction under permits issued by the city.
- f.) An improvement agreement shall be executed between the developer and the City of Keizer prior to the recording of the subdivision plat.
- g.) A master utility plan including all proposed power, telephone, gas and cable TV, lines shall be submitted to the Public Words Department for review prior to the Department issuing construction permits for the proposed project.

- h.) Erosion control permits shall be obtained from the City of Keizer prior to the disturbance of any soil on the subject property. Additionally, if required by the Oregon Department of Environmental Quality, a 1200-C permit will be required from the Oregon Department of Environmental Quality and furnished to the City of Keizer by the developer prior to issuance of an erosion control permit.
- i.) Mailbox details indicating proposed locations and approved by the U.S. Post Office shall be submitted to the Public Works Department.”

Marion County Surveyor’s office commented that the subdivision name must be approved per ORS 92.090; that the subdivision must be surveyed per ORS 92.050; that the plat must be submitted for review; that checking fees and recording fee are required; that a current or updated title report must be submitted at the time of review; per ORS 92.065 the remaining monumentation bond maybe required if some of the plat monuments have not been set and/or the installation of street and utility improvements have not been completed or other conditions or circumstances cause the delay (or resetting) of monumentation; and that a current updated title report be submitted at the time of review.

Salem-Keizer Public Schools commented that sufficient school capacity currently exists at the elementary and middle school level but not at the high school level as the high school is already over capacity. Additional comments were related to access to the schools and transportation issues.

Keizer Fire District commented on requirements for access, including turnarounds; Dead Ends; Fire Lane Markings; Parking and Sign Requirements; and fire hydrants.

Portland General Electric commented concerning development cost per current tariff and service requirements and that 10’ PUE would be required on all front street lots.

City of Salem commented via email received that day of the hearing regarding fencing of the subdivision.

All other agencies or governmental entities contacted stated that they did not have comments or they did not respond to the notice.

V. Additional Findings of Fact and Conclusions of Law

Applicants have the burden of proving that all relevant standards and criteria are met.

SUBDIVISION

1. This Subdivision application involves an approximately 5.73 acre parcel.
2. The review criteria for subdivisions are found in Section 3.108.06, A-D of the KDC.
4. Section A of KDC 3.108.06 provides that, "The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3 as appropriate, including provisions for streets and utilities.

Section 2.405 is not applicable as it contains development standards for manufactured home parks. Section 2.3 contains standards that are applicable to this application.

5. **Section 2.301.03** discusses the public facility improvement requirements.

In order to promote and maintain healthy, safe environments and to minimize development impacts upon surrounding properties and neighborhoods the public facilities improvement requirements specified in the table found in Section 2.301.03 are found to be the minimum necessary. The applicant will be required to provide the following public facilities: water hook-up, sewer hook-up, storm drainage to each of the lots within the proposed subdivision. With conditions, this section can be satisfied.

6. **Section 2.301.04** discusses the instance in which a traffic impact analysis (TIA) will be required in order to implement the requirements of Oregon Administrative Rule (OAR) 660-012-0045(2). Section A discusses the standards for review as to when a TIA may be required. Section B discusses the standard for average daily trip analysis. Section C sets out the criteria for when a TIA is required. Section C provides:

When Required: A Traffic Impact Analysis shall be required to be submitted to the City with a development application, when the following conditions apply:

1. The development application involves one or more of the following actions:
 - a. A change in zoning or a plan amendment designation: or
 - b. The development shall cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute or Transportation Engineers Trip Generation manual; and information and studies proved by the local reviewing jurisdiction and/or ODOT.
 1. An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the City Engineer); or

2. An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 or more vehicles per day; or
3. The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leave the property are restricted, or such vehicles queue or hesitate creating a safety hazard; or
4. The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or
5. A change in the internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.

The application does not involve a change in zoning or plan amendment designation. The increase in the volume of traffic will be approximately 320ADT and thus triggers the need for a TIA. The applicant provided a TIA prepared by Associated Transportation Engineering & Planning, Inc. (A.T.E. P, Inc.) and is labeled Exhibit 3. It is noted that the TIA indicates that the application is for 31 new single family residences rather than a 32 lot subdivision. However, the proposal under either scenario, requires a TIA because the ADT exceeds the 250 ADT threshold. After extensive analysis, the TIA concluded that the level of service (LOS) at the intersection of Trent Avenue with Windsor Island Road will function at level B when the project is complete. The LOS ranges from A which is very good as traffic flows smoothly with little or no delays to F in which traffic moves very slowly and has frequent delays. D is an acceptable LOS. The LOS for the intersection of Lockhaven Drive and Windsor Island Road was also a B.

The study was conducted with a projected growth rate for traffic of 2 percent each year to estimate the impact on traffic in the year 2025. The analysis also assumed that the proposed development would generate 23 AM peak hour trips and 31 PM peak hour trips. The analysis also assumed that 60 percent of the traffic would travel to and from the north on Lockhaven Drive and that 30 per cent of the traffic would travel to and from the south on Windsor Island Road to Chemawa Road. Also included in the analysis were the intersections of Trent at Willow Leaf, Lockhaven at Windsor Island Road, and Trent at Windsor Island Road. Both the 2015 at full build out and 2025 traffic projections indicate that the LOS will either be A or B, which is an acceptable LOS for the City of Keizer standards and little if any mitigation measures will be necessary. This section is satisfied.

Section 2.302 – Street Standards – General Requirements.

6. **Section 2.302.03.A - General Requirement.** The location, width, and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and the proposed use of the land to be served by the streets.

The intent of this provision is to require that the layout of new streets in subdivisions take into consideration their relationship to other streets and other factors such as topography to develop a safe and efficient street system. The applicant proposes to develop the site with 32 lots that will each be developed with a single family dwelling. The subject property fronts Burbank Street at its intersection with Trent Avenue. The applicant proposes that a new street system, with the required street improvements, will provide direct access for the proposed lots. The existing street along the frontage of the property is level with no significant topographical impediments that would constrain it from providing access to the subject property. However, the original submitted design presented public safety concerns, particularly the alignment of the new street at the existing Trent Ave / Burbank Street intersection. To address these concerns, the applicant submitted a memorandum from A.T.E.P. Inc. in response. That document is Exhibit 15 and was submitted at the public hearing but prior to the opening of the hearing. A copy of the document was submitted to William Peterson, City Traffic Engineer, at the hearing. Mr. Peterson stated at the hearing that he felt the original proposal contained in Exhibit 2a was unsafe due to sight distance issues. He further indicated that he had reviewed Exhibit 15 and that he felt that the new proposals were unsafe and would not meet code requirements.

A 2008 application involving the same property was approved. However, that subdivision was never developed. Important for this application is the fact that the previous application included Lot 70. Lot 70 is not part of this application, is under different ownership, and now has an existing dwelling located on it. The subtraction of Lot 70 from the subdivision makes it difficult to create a safe intersection where Trent Avenue intersects Burbank Street North.

Because Lot 70 is not under the applicant's control, it is not feasible to condition the approval of this application on the applicant obtaining part or all of Lot 70 in order to facilitate the alignment of the intersection of Burbank Street Trent Avenue. Such a condition is beyond the applicant's control and would be an unenforceable condition as there is no mechanism in place in which to require an individual to sell property, regardless of whether the individual is an involved party or not. Such a condition would be highly speculative and not feasible. Based on the information provided, this criterion is not satisfied. Although this condition is not satisfied, and the application is denied, the following analysis is provided.

7. **Section 2.302.03B – Continuation of Street.** Development proposals shall provide for the continuation of, and connection to, existing streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of land, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length. Exemptions from these street extensions can be found in Section 2302.03.B.1 – 5.

The intent of this provision is for new development to incorporate the continuation of a street to avoid creating new subdivisions that do not provide for any connectivity. The site plan includes two proposed cul-de-sacs, Aroma Court N and Trent Avenue N. The site plan shows Fragrant Street extended to the south property line of the subject property. An extension to the south property line allows for a street to be extended if it is ever determined to be needed and if it is found to be in accordance with all applicable state and local land use regulations. It is noted that the land to south of the proposed subdivision is outside the City UGB and is zoned EFU (Exclusive Farm Use) by Marion County as is the property to the west of the proposed development. The site plan shows a connection to the west property line off the end of Aroma Court and will allow for emergency ingress and egress. The two cul-de-sac streets each have a turn around. Because the southern portion of Fragrant Ave is less than 150 in length, a turn around will not be required. As proposed, this section can be satisfied.

8. **Section 2.302.03.C - Alignment.** All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

The purpose of this provision is to require that new streets in subdivisions meet the city's alignment and spacing standards to ensure safe vehicular travel. The record reflects that a prior subdivision application was approved for the same subject property with one major difference. That difference was the inclusion of Lot 70, which is located to the north of the proposed intersection of Trent Avenue N and Burbank Street N. Because Lot 70 is no longer included in the subject property, street alignment and adequate sight distance are significant issues in the current application because of public safety concerns. Lot 70 is outside the jurisdiction of this matter and conditioning approval of the application on the applicant's ability to acquire Lot 70 is too speculative to be a condition of approval.

The applicant has put forth three possible alternatives for the alignment of Trent Avenue N with Burbank Street. While each of the scenarios has validity, the intersection is still angular and poses sight distance issues-public safety issues. The City's Engineer expressed public safety concerns regarding all three scenarios. Based in the information provided in the application and at hearing, this provision is not satisfied.

9. **Section 2.302.03.D – Future extension of streets.** When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in Section 902.2.2.4 “Dead Ends” of the Uniform Fire Code, 1994 edition.

The intent of this provision is to require new developments to allow streets and other connections to continue onto adjacent properties so that those parcels may connect into the street system in a logical and efficient manner and to avoid non-connected types of developments.

New streets will be required to be constructed within the subdivision. The applicant's revised site plan shows one street, Fragrant Street, extending to the south property line and one emergency connection to the west property line off of Aroma Court. Lands to the south and west of the proposed subdivision are outside of both the city limits and the city's urban growth boundary. While the city has completed a housing needs and an economic opportunities analysis which documents that there is a need for approximately 380 acres of land to meet the city 20 year population projection, there has been no further detailed Goal 14 analysis to determine whether any lands adjacent to this site would be appropriate locations for any future urban growth boundary expansion. It is unknown at this time, if the city will expand its boundaries.

Keizer Fire District commented that since there is only one point of ingress and egress serving the proposed subdivision that a second access point will be needed to provide minimum emergency ingress and egress. The allowance for a connection off of Aroma Court to the southwest corner of the site will allow for a connection onto Bowden Lane. The access point will need be barricaded and gated to only allow for emergency vehicles use. Fragrant Street shall be extended to the south property line and be barricaded. This will allow for future street extension that will be developed consistent with state and local regulations. Until it is developed, it will need to be be barricaded and gated. This will meet Keizer Fire District requirements and discourage other vehicles accessing onto either private property or an access easement.

There are few adjacent attractors such as shopping areas, schools, or parks that might otherwise attract pedestrians within the immediate area. The nearest school is Keizer Elementary School located about 2/3 mile to the northeast. There are no shopping opportunities within the immediate area, although about a mile to the east, along the River Road Corridor, there are a variety of shopping opportunities. The nearest park is Keizer Rapids Park which is located about three quarters of a mile to the southwest. The developer shall be responsible for providing sidewalks along the frontage of the lots

within the subdivision. The sidewalks will allow a pedestrian connection to the sidewalk system that connects with sidewalks along the streets in the general area. With conditions, this section can be satisfied.

10. **Section 2.302.03.E - Intersection angles.** Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.

It does not appear that any of the proposals put forth by the applicant will meet this criteria. Staff reported that the original extension of Trent Avenue (Court) to Burbank Street did not conform to this criteria. The applicant presented to new alternatives at hearing contained in Exhibit 15. However, insufficient information was provided to be able to determine if the proposals were feasible and met the criteria. The city's traffic engineer indicated that he did not believe that either of the two new proposals would satisfy the KDC. Because the evidence is insufficient for the proposed Trent Avenue (Court)/Burbank intersection, the evidence is also insufficient for the two new proposed internal intersections, Fragrant Street / Aroma Court and Trent Avenue (Court) / Fragrant Street. The applicant has not satisfied the criteria in this section.

11. **Section 2.302.03.F - Existing Streets.** Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right of way shall be provided at the time of subdivision, partitioning, or development.

The intent of this provision is to require that the developers of new residential subdivisions be responsible for making needed improvements to the existing street system that are either within or adjacent to a proposed subdivision in order to avoid having streets that are inadequate to handle the increased traffic from the new subdivision.

The subject property has frontage along the west side of Burbank Street which is classified in the city's Transportation System Plan as a local street and has an approximate 34 foot wide paved travel lane within a 46 foot right of way along the frontage of the property. The applicant submitted a Traffic Impact Analysis (TIA) that was done by Associated Transportation Engineering and Planning, Inc. that analyzed the impacts of the proposed development on the nearby street system. It also estimated the impacts of this development combined with estimated population growth for the year 2025. The analysis was developed consistent with the methodology derived from the 9th Edition of the Trip Generation manual of the Institute of Transportation Engineers that estimates that a single family home generates 0.75 a.m. peak trips and 1.0 p.m. peak trip per day. The TIA projects that the development will generate 23 a.m. peak hour trips and 31 p.m. peak hour trip. It was estimated that 60% of the trips will travel north to and from Lockhaven Drive

as the single largest travel path of direction, with the remainder headed south to Chemawa Road, or past either Chemawa Road or Lockhaven Drive.

The TIA looked at 4 intersections to determine the level of impact that the development might have on these intersections. The existing conditions at Trent/Windsor Island were Level of Service (LOS) B/B for a.m. and p.m. peak hours; Lockhaven/Windsor Island LOS A/B; Chemawa/Windsor Island LOS A/B; and Trent/Willow Leaf LOS A/A. The development will result in no change to the LOS at these intersection in either the a.m. or the p.m. peak hour trips. With the development and general population growth, the only change to the operation of the 4 intersection is anticipated at only the Lockhaven/Windsor Island intersection which will have an LOS of B/B. Policy 1 in the City's TSP states that signalized intersections will operate at LOS D or better and signalized intersections will operate at LOS E or better. These all will operate well within the City of Keizer's LOS standards.

No significant mitigation measures resulting from the increased traffic from the new development onto the existing street system and studied intersections will be required. Public Works commented that the original proposed alignment of the Trent Ave at the west side of the Trent Ave / Burbank Street intersection did not meet city standards. At the hearing, the applicant submitted Exhibit 15 contained two new alternatives to the alignment issue at the Trent Avenue/Burbank Street intersection in order to address the concerns raised by Public Works. The city's engineer commented that he did not feel that either of the two new proposed alignments at this intersection would meet the criteria. This is a safety issue. The applicant's TIA, Exhibit 3, is silent with regard to the proposed subdivision street design. The applicant has not demonstrated that any of the proposed alignments satisfy the criteria in this section.

11. **Section 2.302.03.G** - Half-streets may be approved where essential to the reasonable development of an area and when the city finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a $\frac{3}{4}$ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed with an additional 10 feet of pavement on the opposite side of the street from full improvement.

No half streets are proposed. Therefore, this section is not applicable.

12. **Section 2.302.03.H** - Cul-de-sacs. The maximum length shall be 800 feet.

Two cul-de-sac streets are proposed, Aroma Court is approximately 185 feet in length and Trent Avenue is approximately 420 feet in length. The proposed Aroma Court cul-de-sac would satisfy this criterion but the findings above make the proposed Trent Avenue cul-de-sac questionable. In regard to the Trent Avenue cul-de-sac, this criterion is not satisfied.

13. **Section 2.302.03.I** - Street names and numbers shall conform to the established standards and procedures in the City.

The purpose of this provision is to ensure that streets are named in accordance with city procedures to avoid duplicate or confusing street names. The site plan indicates that the names of the proposed streets are Trent Avenue (although it will actually be Trent Court since the proposed street is now a cul-de-sac), Fragrant Street, and Aroma Court. The street names shall be named in accordance with city street naming procedures and the approved street names shall be shown on the plat. All houses within the proposed subdivision will be required to be numbered to conform to the City's street numbering procedures. With conditions, this section can be satisfied.

14. **Section 2.302.03.J** - Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves.

The purpose of this provision is to ensure that new streets are constructed consistent with the city's established street grade standards and avoid having new streets that may be too steep and potentially endanger public safety. The existing street system that is proposed to provide access to the site is flat in the area of the proposed subdivision. As proposed, the street improvements will have no grades or slopes that will constrain or impact the development of the property. The development of the property will not affect the grade of the existing street. A preliminary grading and drainage plan was submitted and indicates that the site is flat and that drainage will be handled on-site. A final grading and drainage plan is required as a condition of approval to ensure that adequate drainage is provided. Construction permits for the widening and improvements to the existing streets are also required. With conditions, this section can be satisfied.

15. **Section 2.302.03.K** - Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the city may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street.

The purpose of this provision is to minimize impacts that a new development may have on arterials and collector streets. Burbank Street and Trent Avenue are classed as local streets in the city's TSP. This section is not applicable.

16. **Section 2.302.03.L** - Alleys shall be provided in commercial and industrial zones unless other permanent provisions for access to off-street parking and loading facilities are provided. The corners of alley intersections shall have radii of not less than 10 feet.

No alleys are proposed, therefore this provision is not applicable.

17. **Section 2.302.03.M.** - Street Landscaping. Where required as part of the right-of-way design, planting strips shall conform with the following standards:

1. Street trees shall be planted at a ratio of no less than one tree per 30 feet of property frontage. Street trees shall conform with the list of acceptable trees included in the City's Street Tree Ordinance. Installation of street trees shall be included in any improvement agreement covering the installation of public facilities and services on a property.
2. Planting strips shall be planted and maintained in predominantly living groundcover materials with hard surfaces consisting of bricks, pavers, rocks, decorative concrete work, etc., only being included as part of an overall landscape design where living plant material is predominant. In no case shall asphalt be used within the planting strip.

The purpose of this provision is to outline the standards relating to providing street landscaping. The applicant will be required to provide trees along the frontage of the lots along all public streets consistent with the spacing requirements within Section 2.302. Information regarding the care and maintenance of the street trees must be included in the CC&R's, Homeowners' Association Agreement or other similar type of agreement approved by the Community Development Department. With conditions, this section can be satisfied.

18. **Section 2.302.03.N** - For streets serving infill development as defined under Section 2.316.03, the Infill Street and Access Easement Standards of Section 2.316.06 may be applied.

The property to be subdivided is greater than 2 acres and does not meet the definition as qualifying for infill development. Therefore, this section is not applicable.

19. **Section 2.302.04** - General Right-Of-Way and Improvement Widths

The standards outlined in this section shall be the minimum requirements for all streets, except where a variance is requested as permitted under Subsection 2.202.05.

The applicant does not request any modification to the right of way or improvement width for public streets. This section is satisfied.

20. **Section 2.302.06 - Construction Specifications**

Construction specifications for all public streets shall comply with the standards of the most recently adopted public works street standards of the City of Keizer.

The intent of this provision is to ensure that the design and construction of new streets in the subdivision meet city standards. All of the proposed lots within the proposed subdivision will be served by either the city's existing public street system or by the new public streets that will be constructed as part of the development of the proposed subdivision. As this will require the applicant to make necessary improvements, the applicant shall provide improvement construction drawings to Public Works for review and approval consistent with all applicable adopted construction specifications and standards adopted by the city. With conditions, this section can be satisfied.

21. **Section 2.302.08. Private Access Easements. A. Width; B. Maintenance; C. Turn-around; D. Parking:**

The intent of this provision is to ensure that lots that are served by a private access easement are constructed in a manner that is consistent with city standards and to avoid the creation of substandard access easements that might be unusable for vehicular traffic. The submitted revised site plan indicates that two private access easements are proposed. One is shown off the end of Trent Avenues and appears to be more than 20 feet wide. It will provide access for Lots 7 and 8 and will be required to be a paved 16 foot wide access easement within a 20 foot wide access easement area. A turn around will not be needed if the access is less than 150 feet in length. The turnaround dimensions shall meet with Public Works approval. Other than that, the private access easement conforms to the city's dimensional specification requirements. As a condition of approval a maintenance agreement will be required to ensure that a mechanism is in place that will allow for any improvements or general maintenance to occur. As the development is proposed by the applicant, parking will be prohibited along the access easement. Each lot being served by the access easement shall provide three on-site parking spaces. As proposed, this easement can satisfy the criterion. The second access easement is limited to emergency use for the Keizer Fire District and will need to be barricaded to eliminate any other use. The barricade will need to include a gate or similar device in order to ensure as much barricading as possible, i.e. something other than or in addition to, a chain to eliminate any other use. With conditions, this section can be satisfied.

Section 2.303 – Off-Street Parking and Loading

22. **2.303.06 – Off-Street Automobile Parking Requirements.** For single family residences, 2 parking spaces per dwelling unit shall be provided on-site.

The intent of this provision is to ensure that each new development meets the city's established minimum off-street parking requirements as listed in Section 2.303 of the KDC and to avoid the parking problems that result from an inadequate level of off-street

parking spaces. The proposal is to develop a subdivision with each lot available for the development of a single family dwelling. This proposal will require that each lot have direct access onto a public street to provide a minimum of two on-site parking spaces as required in the KDC. As proposed, parking will be prohibited along the access easement. Therefore, each lot being served the access easement shall provide three on-site parking spaces as required by Section 2.302.05D. The city has determined that this requirement is the minimum needed to meet both the needs of the residences within the new dwellings as well as serving the needs of visitors to the new residences. With conditions, this section can be satisfied.

Section 2.306 – Storm Drainage

23. **Section 2.306.04** – Plan for storm drainage and Erosion Control. No construction of any facilities in a development included in Subsection 2.306.02 shall be permitted until a storm drainage and erosion control plan for the project is prepared by a professional engineer, and approved by the City. These provisions shall also apply to any cut or fill on a property, which may impact the velocity, volume, or quality of surface water on adjacent property, or may impact any permanent natural body of water.

The intent of this provision is to minimize and avoid storm drainage and erosion runoff problems associated with development by requiring that a storm drainage and erosion control plan be submitted for review and approval prior to any on-site development.

The site has little, to no change, in elevation. The applicant has submitted a preliminary site grading plan. However, the submitted site plan does not indicate the amount of impervious area that will be on each lot. The plan does indicate that the storm water generated by the development will be kept and treated on-site. The grading plan shows that a 10 inch perforated pipe will be located in the roadway so the storm drainage will not be leaving the site and will be detained and treated on-site. The applicant shall comply with city storm drainage requirements.

The developer's engineer shall submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer. Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation tests and soil analysis shall be performed by a qualified geotechnical engineer. Storm water calculations shall be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system. Depending on the storm water quality improvements that are proposed by the

developer may result in the need for some additional dedication along the frontage of the street. A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property. This plan shall be submitted to and approved by the Department of Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc., are required for review prior to any plan approval. With conditions, this section can be satisfied.

Section 2.307 - Utility Lines and Facilities

24. To provide adequate services and facilities appropriate for residential development, the applicant shall meet the standards set forth in Section 2.307 of the Keizer Development Code relating to water, sanitary sewer, private utilities, street lights and easements. This is a development requirement and compliance will be ensured during review of the construction and engineering drawings.
25. **Section 2.307.02.A** - The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbance of soils and site.

The intent of this provision is to require that the design and installation of all utility lines does not disturb any more of the soil and site than is necessary and to avoid creating large scale disturbances which might impact adjacent properties through run off and erosion. The proposal to subdivide the site will require utility lines to serve the new lots. A preliminary subdivision utility plan was submitted with the application that shows the utilities that will be located within the streets. It does not detail the individual services to each lot. Therefore a detailed engineer's plan shall be submitted for review and approval by Public Works. As part of the grading plan, the applicant shall obtain an erosion control permit from the City of Keizer Public Works Department detailing the erosion control measures that will be required to ensure that the construction and installation of these facilities will not result in more than the minimum amount of disturbance of soils on the site. With conditions, this section can be satisfied.

26. **Section 2.307.02(B)** - All development that has a need for water service shall install water facilities and grant necessary easements pursuant to the requirements of the City.

The intent of this provision is to ensure that water lines are installed to city specifications and, if water lines are located outside of public right-of-ways, that they are located within an easement to avoid conflicts.

The applicant's statement indicates that each of the proposed lots will be served by the public water system. The site plan indicates that an 8 inch ductile iron water main will be installed within the right of way of each of the streets within the proposed subdivision. There is an 8 inch water main located in Trent Avenue and in Burbank Street with

capacity to serve the proposed lots. The KDC requires that water service installed outside of the right-of-way shall be placed within an easement, and that the easement be shown on the final plat. The developer shall prepare an overall water system plan showing the proposed routes of public water mains, fire hydrants and individual services. This plan shall be prepared prior to submission of construction plans for development.

Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of ways. Any system development charges for water system improvements will be those in place at the time of individual service connections. Final development plans will be reviewed by the Keizer Fire District with regard to access and location of fire hydrants prior to the issuance of any building permits by the City of Keizer. All fire hydrants will be served by an 8 inch water main.

Any existing wells on the site will be required to be capped and abandoned in accordance with Oregon State Water Resources Department requirements. Location of all meters shall meet the approval of the Keizer Water Department. With conditions, this section can be satisfied.

27. **Section 2.307.02(C)** - Private Utilities, All development that has a need for electricity, gas and communications services shall install them pursuant to the requirements of the district or company serving the development. Except where otherwise prohibited by the utility district or company, all such facilities shall be underground.

The purpose of this provision is to place private utilities which provide service to the new homes underground and avoid above or at grade placement of utilities. Unless otherwise prohibited, this is a development requirement. The Department of Public Works commented that to minimize utility line conflicts, a master utility plan including all proposed power, telephone, gas and cable lines shall be submitted for review prior to issuance of construction permits for the proposed project. PGE provided written testimony about development cost per current tariff, service requirements, and that a 10 foot wide public utility easement on all lots along a street will be required where this utility will be located.

The intent of this easement is to provide space for the underground placement of PGE utilities on each lot. There is an existing overhead electric transmission line that is located along the eastern portion of the site. A 45 foot wide easement is shown on the eastern portion of Lots 24 thru 31, and on the eastern 45 feet of Lot 1, excluding the southeast "tail" of this lot. As with any easement, permanent structures will be prohibited from being placed within this easement area. While the location of this easement with these lots will certainly limit the development potential of each lot, it will not result in any of the lots being unbuildable. Each lot will still have a building envelope of approximately 45 feet of depth and 35 feet of width in which to locate a dwelling. This is adequate to situate a new house of approximately 1,600 square feet. Any use of land within this easement area will need to be consistent with any restrictions outlined in the recorded easement. With conditions, this section can be satisfied.

28. **Section 2.307.02(D)** - Sanitary Sewers, All development that has a need for public/private sanitary sewers shall install the facilities pursuant to the requirements of the city. Installation of such facilities shall be coordinated with the extension of necessary water services and storm drainage facilities.

The intent of this provision is to require that all of the lots in a new subdivision connect to a sanitary sewer system. This eliminates the need for the installation of any on-site private septic systems which require additional land and increase the potential for ground water contamination.

The applicant will connect each of the proposed lots to the sanitary sewer system consistent with all applicable requirements. The site plan indicates that an 8 inch PVC sanitary sewer line will be located within the right of way of each new street within the proposed subdivision. There is an existing 8 inch sanitary sewer line located in Trent Avenue and in Burbank Street. Public Works submitted commits addressing this criterion. The subject property is not located within the original Keizer Sewer District. Therefore, a sanitary sewer trunk line acreage fee will be required. City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer shall submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area. Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Appropriate easements for any public sewer mains located within the subject property, if located outside platted right of ways, will need to be recorded. This will meet the City of Salem Design Standards and will be shown on the subdivision plat. It will be the responsibility of the developer's engineer to locate any existing wells (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting the proposed subdivision, will remove any conflicts between existing wells and proposed sanitary sewers.

As previously indicated a grading and drainage plan will be developed for the subject property. Details will include adequate conveyance of storm water from adjacent property across the subject property. This plan will be submitted and approved by the Department of Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans will be in conformance with the City of Keizer Public Works Standards.

Additional information regarding street grades, site grading, inverts, etc., will be required for review prior to any plan approval. The drainage plan for the development will comply with the KDC, particularly surface drainage and storm sewer system requirements. Drainage facilities shall be provided within the subdivision to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision will take into account the capacity and grade

necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage will be designed to avoid impacts on adjacent property. A Construction Site Pollution Prevention Plan for each newly created lot will be submitted, and an Erosion Control permit obtained, prior to issuance of any building permits. With conditions, this section can be satisfied.

29. **Section 2.307.02(E)** – Street Lights. When required, installation of street lights shall be pursuant to the requirements of the city and the company serving the development.

The intent of this provision is to require that new developments provide for adequate night-time illumination along public streets and avoid dark streets which could lead to safety concerns for pedestrians, motorists, and homeowners. A street lighting plan was not included as part of the proposed subdivision plan. Street lights currently exist along Burbank Street and Trent Avenue. Street lights will be required within the subdivision to provide adequate illumination within the subdivision. As such, a street lighting district will be required to be formed with the new property owners of lots within the subdivision assessed for the costs of providing this service. With conditions, this section can be satisfied.

30. **Section 2.309.04(B)(7f)** – The city may require significant trees that are removed (including trees that are removed within the year prior to the application) be replaced at the rate of up to two new trees for each significant tree removed.

The intent of this provision is to encourage the planting of new trees to replace trees that are cut down as part of the development of a subdivision. In particular, this provision aims to replace trees that are identified as being “significant trees”, which are trees that are either 50 feet in height or trees that are 12 inches in diameter.

While the field that is part of the subject property does not have any trees on it, there is at least one tree located on the southwest corner of Lot 32 that is part of the proposed subdivision. The tree does not appear to be within part of the building envelope. Therefore, it is difficult to determine if this tree will need to be replaced or not or if the developer even intends to remove the tree. The tree appears to be over 50 feet in height. If the tree is removed, the applicant will be required to replace the tree at a 2:1 ratio. No trees have been removed from the subject property within the previous two years. The applicant will replace any significant trees removed on the subject property at a 2:1 ratio. With conditions, this section can be satisfied.

31. **Section 2.309.05** – Screening and buffering shall be used to eliminate or reduce the impacts between a number of uses listed within this section, and in particular to provide for compatibility between dissimilar adjoining uses.

The property is designated the same as lands to the east (RS). It is proposed to be developed with single family homes which is similar to the uses along the west side of

Burbank Street. A 45 foot wide PGE easement is located along the east property line of the subdivision and will result in the homes on Lots 24 thru 31 having a greater rear yard setback than the RS rear building setback requires. This will ensure a greater building to building separation than might typically be found. Given this fact and that the proposed subdivision uses and the uses to the east are not dissimilar, no additional screening and buffering will be required. Citizens expressed concerns regarding the need for fencing along the property lines with lands that are in farm use. This had previously been a condition in the earlier approval. This fencing will both screen the adjacent dissimilar uses and help to reduce trespass onto these lands from the new residents of this subdivision. In order to provide a buffer for the surrounding agricultural farm uses on properties that are located to the south, north, and west, the developer will place a 6 foot fence along the rear of Lots 1 thru 9, 18 thru 21, 23, and 24. In addition to providing a buffer to lands in agricultural use, this will also restrict access onto these lands as well as onto nearby properties that are in various stages of gravel production. With conditions, this section can be satisfied.

Section 2.310 - Development Standards for Land Divisions

32. **Section 2.310.03.A** - Minimum lot area. Minimum lot area shall conform to the requirements of the zoning district in which the parcels are located.

The purpose of this requirement is to allow for the development of the property in a manner consistent with that of the underlying zone district. The subject property is zoned Residential Single Family (RS) and will be bound by the requirements in Section 2.102 of the KDC. The RS designation is similar to that of properties to the east. Within the RS zone, the minimum lot size for detached single-family dwellings is from 5,000 square feet (Lots 13 and 14) to 10,856 (Lot 1). The flag lot is also required to maintain the minimum lot size, excluding the pole portion of the lot, and appears to meet this provision. The lots have an average lot size of 6,033 square feet. There is no requirement that all of the proposed lots achieve this particular size, only that they meet or exceed the city's minimum lot size of 5,000 square feet within the RS zone set out in Section 2.102.05 of the KDC for construction of detached single family dwellings. All of the proposed lots conform to the minimum lot size requirement of the RS zone district. As proposed, and with these conditions, this section is satisfied.

33. **Section 2.310.03.B** - Lot line adjustment. As proposed, this section is not applicable.

34. **Section 2.310.03.C** - Lot width and depth. The depth of a lot or parcel shall not be more than 3 times the width of the parcel.

The purpose for establishing lot width-to-depth ratios is to provide for the orderly, safe, efficient and livable development of land. The lot width-to-depth ratio also prevents lots from being created that would be practically unbuildable. With the exception of lots that are the bulb of the cul-de-sac street and are pie shaped and the exception of Lot 1 that has

a tail running to the southeast, the lots are generally rectangular shaped lots that have depth to width ratios that are less than the 3:1 ratio within this section. The lots have widths that range from 45.5 feet to 95.5 feet and depths that range from 88 feet to 110 feet. As presented, this section is satisfied.

35. **Section 2.310.03.D - Access.** All lots and parcels shall provide a minimum frontage, on an existing or proposed public street, equal to the minimum lot width required by the underlying zone. Cul-de-sac lots shall have a minimum frontage of 25 feet and Flag lots shall have an access strip of no less than twenty (20) feet. The following exceptions shall apply: residential lots or parcels may be accessed via a private street or access easement developed in accordance with the provisions of Section 2.303 when the City finds that a public street is not necessary to provide for the future development of adjoining property.

The intent of this provision is that all lots have minimum frontage along a street to ensure that an access to serve the lots meets city standards. It is also the intent of this provision that the lot can be developed and that it meets all setback requirements. The proposed lots have frontages that range from a little more than 45.5 feet to 95.5 feet, which exceeds the minimum 40 foot frontage requirement for lots in the RS zone. Two cul-de-sac streets are proposed and the lots along the bulb of the cul-de-sac have frontages that range from 30.8 feet to 66 feet, exceeding the minimum 25 foot standard, thus meeting this standard. One flag lot is proposed that has a frontage that also meets this standard. No private streets are proposed. As proposed, this section is satisfied.

36. **Section 2.310.03.E -Flag Lots.** Flag lots shall only be permitted if it is the only reasonable method by which the rear portion of a lot being unusually deep or having an unusual configuration may be accessed and when in compliance with Section 2.302.03.B. If a flag-lot is permitted, the following standards shall be met:
1. The access strip shall not be less than 20 feet wide. The access strip shall be improved with a minimum 12 foot wide paved driveway and paved encroachment which meet applicable City standards.
 2. The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this Ordinance .

A flag lot is proposed on Lot 8. Lot 8 has approximately 30 feet of street frontage. This section, as proposed, is satisfied.

37. **Section 2.310.03.F - Through Lots.** Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. Through lots shall be no less than 100 feet in depth. Screening or buffering, pursuant to the provision of Section 2.307, may be required by the city during the review of the land division request.

No through lots are proposed. This section is not applicable.

38. **Section 2.310.03.G - Lot Lines.** The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face. The rear lot line shall be no less than 1/2 the dimension of the front lot line.

The intent of this provision is to avoid the creation of odd-shaped lots which may meet minimum lot size but, because of their shape, may result in a lot that is too difficult to build on without a variance to code requirements. The intent is to avoid these types of lots in favor of the creation of lots that can be readily developed. The proposed subdivision will result in the creation of the majority of lots being regularly shaped. The exception to this is Lot 1 that has a portion that runs to the southeast and the lots at the bulb of the cul-de-sac and adjacent to the western exterior property line. The remainder of the proposed lot lines run at right angles to the street right-of-way lines. None of the rear lot lines are less than one-half the dimension of the front lot lines. Most of the lots have the same rear property line width as the front property line. As presented this condition can be satisfied.

39. **Section 2.310.03.H - Utility Easements.** Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 2.302.04 of this Code.

The intent of this provision is to ensure that utility easements are provided when needed and to ensure that they are shown on the platting of the subdivision. There will be underground utility lines located along the frontage of each of the lots. This will require a 10 foot wide public utility easement along the front of each lot and the easement will be shown on the final plat consistent with the comments from PGE. This is a development requirement.

There is an existing overhead electric transmission line that is located on the eastern portion of the site. A 45 foot wide easement is shown on the eastern portion of Lots 24 through 31, which are the lots on the east side of Fragrant Street. There is an easement on the eastern 45 feet of Lot 1, excluding the southeast "tail" of this lot. As with any easement permanent structures will be prohibited from being placed within this easement area. With conditions, this section can be satisfied.

Section 2.310.04 - Additional Design Standards For Subdivisions

40. **Section 2.310.04.A - Standards for Blocks:**

1. **General:** The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

2. Sizes: Blocks should not exceed 600 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.

The intent of this provision is to require blocks are created to city standards. The proposed subdivision will not result in the creation of any blocks within the proposed subdivision. Therefore, this section is not applicable.

41. **Section 2.310.04.B** - Traffic Circulation. The proposed subdivision shall be laid out to provide safe and convenient vehicle, bicycle and pedestrian access to nearby residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas; and to provide safe and convenient traffic circulation. At a minimum, "nearby" is interpreted to mean uses within ¼ mile which can be reasonably expected to be used by pedestrians, and uses within 1 mile of the subdivision boundary which can reasonably be expected to be accessed by bicyclists.

The intent of this provision is to allow for safe vehicle, pedestrian, and bicycle access from the lots within the subdivision to nearby attractors. There is no sidewalk along the frontage of the property with the street fronting the site (Burbank Street). As a condition of approval the applicant will be required to provide a 5 foot wide sidewalk along the frontage of the all of the lots in the proposed subdivision. This will result in greater opportunities for pedestrians within the subdivision, as well as pedestrians within the immediate area who may choose to walk along the streets within this subdivision. There are no adjacent attractors such as shopping areas, schools, or parks that might otherwise attract pedestrians within the immediate area. The closest school is located about one-half mile away. The nearest shopping opportunities are located approximately a mile to the east along the River Road commercial corridor which contains a variety of shopping opportunities. The closest park is Keizer Rapids Park, located about two thirds of a mile to the southwest. The two streets in the proposed subdivision will be stubbed out to the west and south property lines, and will be barricaded to prohibit access onto the adjacent properties. As proposed, this section can be satisfied.

Section 2.310.06 - Improvement Requirements - Subdivisions

42. **Section 2.310.06.A** - Frontage Improvements. Street improvements to full City Standards shall be required for all public streets on which a proposed subdivision fronts in accordance with Section 2.303 of this Code. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Additional frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

The intent of this provision is to ensure that lots within the proposed subdivision include street improvements that meet city standards and avoid substandard streets that could become a safety hazard. The subject property has frontage along the west side of Burbank Street which is classified in the city's Transportation System Plan as a local street. This street has a 34 foot wide paved street within a 46 foot right of way along the frontage of the property. Although Public Works commented that no additional dedication will be needed along the frontage of Burbank Street, all of the proposed configurations of the proposed intersection of Burbank Street with Trent Avenue create public safety concerns. The condition proposed to make the design compliant with City Standards is not feasible. Therefore, this section is not satisfied.

43. **Section 2.310.06.B - Walkways for Private Streets.** Sidewalks shall be required in accordance with applicable provisions in Sections 2.302 and 2.316 only if sidewalks currently exist along the connecting street.

There will be no private streets that will be constructed as part of the proposed subdivision. This section is not applicable.

44. **Section 2.310.06.C - Project Streets.** All public or private streets within the subdivision shall be constructed as required by the provisions of Section 2.302.

The intent of this provision is to ensure that lots within the proposed subdivision include street improvements that meet city standards and avoid substandard streets that could become a safety hazard. No private streets will be constructed as part of the proposed subdivision. Any public streets constructed as part of the development will conform to the Section 2.302 of the KDC. With conditions, this section can be satisfied.

45. **Section 2.310.06.D - Monuments.** Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street center lines.

The applicant will be responsible for placing appropriate monuments at the street intersections. With conditions, this section can be satisfied.

46. **Section 2.310.06.E - Bench Marks.** Elevation bench marks shall be set at intervals established by the City Engineer. The bench marks shall consist of a brass cap set in a curb or other immovable structure .

The applicant will be responsible for placing appropriate bench marks at the street intersections. With conditions, this section can be satisfied.

47. **Section 2.310.06.F - Surface Drainage and Storm Sewer System.** Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the

subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property.

The intent of this section is to require new developments to make use of a drainage system that meets city standards, to ensure that the drainage system will handle the storm drainage from the site, and to avoid any adverse impacts onto adjacent properties.

The site has virtually no change in elevation change across the frontage of the site. According to information supplied by the applicant, the site has an elevation that ranges between 133 and 134 MSL. The city has floodplain regulations that govern the placement of structures within identified 100-year floodplains. According to FIRM (Flood Insurance Rate Map) map 41047C0193G, dated January 19, 2000, the majority of the property is not located within an identified 100 year floodplain. Based on a review of floodplain maps, it appears that a small portion of the property appears to be in Zone X, which is defined as being an area of 500 year flood. This zone is also defined as being an area of a 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and also being areas that are protected by levees from 100-year flood. Any development within this portion of the site will need to be in accordance with floodplain regulations so there will be no issues associated with floodplain hazards for this property.

The applicant has submitted a preliminary site grading plan. However, the submitted site plan does not indicate the amount of impervious area that will be on each lot. The developer's engineer will submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer. Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards.

The developer's engineer will conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation test and soil analysis will be performed by a qualified geotechnical engineer. Storm Water calculations will be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets will be connected to an approved system. Depending on the storm water quality improvements that are proposed by the developer, additional dedication may be required.

A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject

property. This plan will be submitted and approved by Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc., will be required for review prior to any plan approval. With conditions, this section can be satisfied.

48. **Section 2.310.06.G - Sanitary Sewers.** Sanitary sewer shall be installed to serve the subdivision and to connect the subdivision to existing mains both on and off the property being subdivided.

The intent of this provision is to protect the public water supply from failing on-site septic systems and ensure the efficient use of urban land. Lots that can connect to a municipal sanitary sewer system require less land than lots with private on-site septic systems.

The applicant has indicated that each of the proposed lots will be connected to the sanitary sewer system consistent with all applicable requirements. There is an 8 inch sanitary sewer line located in Trent Avenue and within the Burbank Street right of way. The applicant's site plan indicates that an 8 inch PVC sanitary sewer line will be placed within the right of way of each street within the proposed subdivision. Public Works commented regarding this criterion. The subject property is not located within the original Keizer Sewer District. Therefore, a sanitary sewer trunk line acreage fee will be required. City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer will submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area. Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. The City of Salem previously commented that an 8 inch sanitary sewer line would be required to be constructed in the new street right of way to serve the new lots.

Appropriate easements for any public sewer mains located within the subject property if located outside platted right of ways will need to be recorded. This will meet the City of Salem Design Standards and will be shown on the subdivision plat. It will be the responsibility of the developer's engineer to locate any existing wells (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting of the proposed subdivision, will

remove any conflicts between existing wells and proposed sanitary sewers. This is a development requirement.

The property is located within an area designated as Special Policy Area – Odor/ Noise Impact Overlay. This is a unique designation due exclusively to the proximity of the Willow Lake Sewer Treatment Plant to the proposed development. The designation is directly related to concerns that nearby property owners might have over odors coming

from the treatment plant. This overlay designation is applied to properties which are located near to the sanitary sewer treatment facility. Since the adoption of this designation, a number of significant events have occurred that affect this designation. These include recent upgrades at the sanitary sewer treatment facility that have resulted in a reduction in the amount of odors being emitted from the plant, and an agreement reached between the City of Keizer and the City of Salem, which operates the treatment plant. With the adoption of Ordinance 2001-451 the impacts associated with this designation have largely been eliminated. The result of the Dual Interest Area Agreement is that property within this designated area can be developed with the requirement that a document be recorded acknowledging that the property owner knows that there is a sewer treatment facility nearby and that this type of facility can produce odors and noises that are associated with its operation. With conditions, this section can be satisfied.

49. **Section 2.310.06.H - Water System.** Water lines with valves and Fire District approved fire hydrants serving the subdivision and connecting the subdivision to the City mains shall be installed and operating prior to start of combustible construction. The design shall take into account provisions for extension beyond the subdivision to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the developer will be responsible for water main sizes necessary to meet minimum fire flow requirements per Uniform Fire Code. The City will not expect the developer to pay for the extra pipe material cost of mains exceeding 8 inches in size.

The intent of this provision is to ensure a safe potable water supply, an adequate water flow, and that fire hydrants are provided for fire protection service for each new lot in the proposed subdivision. The applicant has indicated that each of the proposed lots will be served by the public water system. There is an 8 inch water main located in the Trent Avenue and in Burbank Street. The applicant's site plan indicates that an 8 inch iron ductile waterline will be placed within the right of way of each street within the proposed subdivision. The KDC requires that water service installed outside of the right-of-way will be placed within an easement, and that the easement be shown on the final plat.

The developer will prepare a master water system plan showing the proposed routes of public water mains, fire hydrants and individual services. This plan shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction will be outside of a public right of way. Any system development charges for water system improvements will be those in place at the time of individual service connections. Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to the issuance of building permits by the City of Keizer. All fire hydrants will be served by an 8 inch water main. Any existing wells on the subject property will be abandoned. The developer will provide

evidence that any abandonment of existing wells on the site has been completed in accordance with Oregon State Water Resources Department rules. The location of all meters shall be approved by the Keizer Water Department. With conditions, this section can be satisfied.

50. **Section 2.310.06.I - Sidewalks.** Sidewalks shall be installed along both sides of each public street and in any pedestrian ways within the subdivision. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks (e.g., pedestrian walkways) or sidewalks fronting public property shall not be deferred.

The intent of this provision to require that sidewalks be installed along both sides of each public street and in any pedestrian ways within the subdivision to enhance the mobility of pedestrians. The frontage of Burbank Street with the subject property has a curb but no sidewalk. Sidewalks are required as part of the construction of each lot and are not required before the actual dwelling construction. This is an effort to minimize damage to the sidewalk that might occur during the building phase of the development. The applicant will provide 5 foot wide sidewalks in accordance with the KDC along the frontage of all lots within the proposed subdivision. With conditions, this section can be satisfied.

51. **Section 2.310.06.J - Street Lights.** The installation of street lights is required at locations determined to be appropriate by the City and shall be of a type required by City standards.

The intent of this section is to require that new developments provide street lights that will provide an adequate level of night-time illumination. There are no existing street lights along Burbank Street and Trent Avenue. New street lights will be required along the streets within the subdivision in accordance with city and PGE standards. A street lighting district will be required to be formed with city council authorization. With conditions, this section can be satisfied.

52. **Section 2.310.06.K - Street Signs.** The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards. Each street sign shall display the one hundred block range. Street signs shall be installed prior to obtaining building permits.

The intent of this provision is to require that the installation of street name signs and traffic control signs be placed at appropriate locations as determined by the city. The signs will meet city standards. A street sign will be required at proposed intersections. With conditions, this section will be satisfied.

53. **Section 2.310.06.L - Public Works Requirements.** All facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works.

The intent of this provision is to ensure that all facility improvements conform to the requirements and specifications of the Keizer Department of Public Works. The applicant will comply with public work requirement. With conditions, this section can be satisfied.

54. **Section 2.310.06.M** - Curb Cuts. Curb cuts and driveway installations, excluding common drives, are not required of the subdivided, but if installed, shall be according to the City standards.

Driveway permits will be required at the time of building permit approval. With conditions, this section can be satisfied.

55. **Section 2.310.06.N** - Street Trees. Street tree planting is mandatory where a planting strip is part of the street design. Plantings shall conform to Section 2.302.03(M).

The intent of this provision is to allow for street trees to be planted along streets to improve the streetscape appeal of the street. All tree planting will be in conformance with the KDC. With conditions, this section can be satisfied.

56. **Section 2.310.06.O** - Grading & Fills. All grading which results in fills in excess of 3 feet located within the identified building envelope on a subdivision lot or parcel must be engineered.

The subject property is flat and there should be minimal grading and placement of fill. However, the placement of any fill prior to the construction of any dwelling will be done in accordance with State Building Code requirements. This is a state requirement and is advisory only at this point.

57. **Section 2.310.06.P** - Financial Requirements. All improvements required under this Section shall be completed to City standards or assured through a performance bond or other instrument acceptable to the City Attorney, prior to the approval of the Final Plat of the subdivision.

If this application was being approved, this would be placed as a condition of approval.

Section 3.108.06 – Review Criteria. Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following.

58. **Section 3.108.06A** – The proposal shall comply with the applicable development standards in section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.

The criteria in this section has been addressed elsewhere in this order and is either satisfied or can be satisfied with conditions. However, the conditions are advisory only as

the application is not approved.

59. **Section 3.108.06B** - Each lot shall satisfy dimensional standards and density of the applicable zoning district, unless a variance from the standard is approved.

The intent of this provision to ensure that new subdivisions meet the established dimensional and density provisions of the city standards to assure consistency. The applicant has indicated that each of the lots will be developed with single-family homes. The subject property is zoned RS which means that single family development is allowed on each of the proposed new lots. Section 2.102.05.A of the KDC requires that each lot to be developed with a single-family dwelling contain a minimum average width of 40 feet. The proposed lots have widths that range from 45.5 feet to 109 feet, and so each satisfies this requirement. This section also specifies a minimum average depth of 70 feet for lots with single-family homes. The lots have depths that range from 88 feet to 110 feet and so each exceeds the minimum lot depth requirement. Section 2.102.06.I specifies a minimum density of 4 units per acre and a maximum density of 8 units per gross acres, although areas north of Barnick Road are limited to a maximum of 6 units per acre. The proposed subdivision has a density of 5.69 dwellings per gross acre. This complies with the minimum density requirements of this section of the code. As proposed, this section can be satisfied.

60. **Section 3.108.06C** - Adequate public facilities shall be available to serve the existing and newly created parcels.

As previously discussed, public sewer and water are available and can serve the newly created lots within the proposed subdivision. The applicant will be responsible for complying with the applicable conditions governing the construction and installation of these facility connections. While not technically a public facility such as water, streets, and sewers, schools can also be considered a public facility. The Salem – Keizer School District commented that there is sufficient school capacity to serve the elementary and a middle school needs the proposed development. However, the school district commented that McNary High School is already over capacity and would be at 105% of capacity once the subdivision is fully developed. The applicant must comply with standards for the construction and installation of facility connections. With conditions, this section can be satisfied.

61. **Section 2.316.03** – Infill Development Parcel Criteria

Parcels that meet the following criteria shall be subject to the provisions and standards of this chapter.

An Infill Development Parcel is any Residential Parcel not More than two (2) acres in size that is a lot of record, and which meets any two of the following criteria:

- A. A parcel with less than 250 feet of frontage along a public street;
- B. A parcel with an existing structure;
- C. A parcel that is irregular in shape, such that it cannot be partitioned or subdivided to meet the maximum density of the underlying zone without a variance;
- D. A parcel that is bounded on two or more sides by existing development or natural constraint (i.e., waterways, steep slopes, resource protection areas).

The subject parcel is more than 2 acres. Therefore, this section is not applicable.

62. **Section 3.108.06.D** - Rough proportionality. Improvements or dedication required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Because the safety issue associated with the proposed alignment of Burbank Street and Trent Avenue remains unresolved as presented in this application, the Hearings Officer is unable to address this section of the KDC.

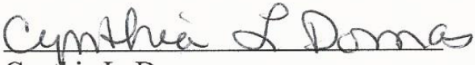
IV. DECISION OF THE HEARINGS OFFICER

It is hereby found that applicant has not met the burden of proving the applicable standards and criteria for approval of the subdivision. The application is DENIED

V. CONDITIONS OF APPROVAL

Conditions imposed in Land Use case are necessary for the public health, safety and welfare. However, because of the public safety issues in relation to the intersection of Burbank Street and Trent Avenue, no conditions of approval are warranted for this application as presented. Any mention of conditions in the body of this order are advisory only.

DATED: August 6, 2015.


Cynthia L. Domas
City of Keizer Hearings Officer

SEE NOTICE OF HEARINGS OFFICER'S DECISION FOR STATEMENT OF APPEAL
RIGHTS



**KEIZER COMMUNITY DEVELOPMENT
DEPARTMENT
STAFF RECOMMENDATION
Subdivision Case No. 2015-11**

TO: Cynthia Domas, Keizer Hearings Officer

FROM: Sam Litke, Senior Planner

SUBJECT: Subdivision Case No. 2015-11

DATE: July 9, 2015

The Community Development staff reviewed the above referenced case and offers the following comments and recommendations:

I. GENERAL INFORMATION

- A. APPLICANT/ PROPERTY OWNERS:** Mark Farrow on behalf of Trademark Enterprises, LLC for property owned by Robert Bowden and Doug Harner on behalf of JDC Homes, LLC.
- B. PROPERTY LOCATION:** The properties are addressed as 5447 and 5457 Burbank Street N, and an unaddressed field directly to the west of these two parcels. They are also identified on Marion County Tax Assessor maps as Township 6 South; Range 3 West; Section 33; Tax Lot 1600, and Section 33DA Tax Lots 1500 and 1600.
- C. EXISTING PARCEL SIZE:** The area proposed to be subdivided contains approximately 5.73 acres.
- D. EXISTING DEVELOPMENT AND PUBLIC FACILITIES:** The site is undeveloped.
- E. PLAN DESIGNATION AND ZONING:** The subject site is designated as Low Density Residential on the Comprehensive Plan Map and is zoned Residential Single Family (RS).
- F. ADJACENT ZONING AND LAND USES:** The properties to the east contain single-family homes on lands that are zoned Residential Single Family (RS); to the south and to the west lands are outside the city's urban growth boundary and are zone Marion County Exclusive Farm Use (EFU); and to the north property is within the city limits and is zone City of Keizer EFU.
- G. PROPOSAL:** The subject properties are proposed to be subdivided into a 32 lot subdivision. The application (Exhibit '1'), site plan prepared by Multi-Tech Engineering

(Exhibit '2'), revised site plan prepared by Multi-Tech Engineering dated 7/7/15 (Exhibit '2A') and a Traffic Impact Analysis (Exhibit '3') are attached.

- H. NOTICE:** Public notice was mailed, published and posted consistent with notice requirements in KDC § 3.204.
- I. PREVIOUS LAND USE DECISION:** In 2008, the City approved a Comprehensive Plan / Zone Change / Lot Line Adjustment / Subdivision application affecting the subject property. The result of the application was that the large property involved in this application was created as result of the Lot Line Adjustment process; the Comprehensive Plan designation was changed to Low Density Residential and the zoning on the property was changed to RS. While the concurrent subdivision application was approved it was not implemented and so became null and void. While the Lot Line Adjustment was implemented with the creation of the larger parcel it appears that the property line adjustment that would have resulted in the previously approved street alignment with the intersection of Trent Ave and Burbank Street was not implemented.

II. COMMENTS

AGENCY COMMENTS:

- A.** The Keizer Public Works Department submitted comments which contain development requirements regarding sanitary sewer, water system, street and drainage improvements and other general development requirements (Exhibit '4').
- B.** The Marion County Surveyor's Office commented that the subdivision must be surveyed and the plat must be submitted for review with appropriate fees for compliance with State surveying requirements (Exhibit '5').
- C.** Salem-Keizer School District provided comments related to the estimated impacts to the school system as a result of the proposed development (Exhibit '6').
- D.** Keizer Fire District provided comments related to access, dead end streets, water flows, and no parking in fire lanes (Exhibit '7'). It should be noted that the Fire District's comments that the applicant will construct streets that will be 26 feet wide and so would require no parking on either side and to be signed as a fire lane is based on a topographical error within the applicant's written statement. The applicant's site plan and clarifying email express that the streets will be constructed to a paved width of 32 feet which will meet city standards and will all for parking on both sides and so will not need to be signed as being fire lanes. Emails sent to the Fire District seeking clarification were not responded to.
- E.** PGE provided written comments that development cost per current tariff and service requirements and that a 10 foot wide Public utility easement is required on all front street lots (Exhibit '8').

- F.** Keizer Police Department, and the city of Salem Community Development Department each commented that they had reviewed the proposal and had no comments.

CITIZEN COMMENTS:

- Written comments were received from Mary Banfield, 5426 Burbank St N (Exhibit '9'), who commented that she had no objections to the proposed application provided that it is not a mobile home park.
- Written comments were received from Kristin Solo, 5437 Burbank St N (Exhibit ('10'), who commented that a tree on the applicant's property that is adjacent to her property is causing damage to her property.
- Written comments were received from Karen Bajpai, 5397 Burbank St N (Exhibit '11'), who commented on concerns related to increased traffic; impacts on schools; other recent developments; impacts on wildlife; odors from the Willow Lake Wastewater Treatment Plant; and suburban sprawl resulting from the proposed development.
- Written comments were received from Doug Harner, 901 N. Brutscher St, Newberg (Exhibit '12') who supports the application.
- Written testimony was received from Marilee Teller, 525 Bowden Ln; George and Violet Baldwin, 645 Bowden Ln; and Barbara Knighton, 615 Bowden Ln who provided concerns related to proposed stubbing of streets to the south and west property lines; previous requirement for fences; prohibition on the use of adjacent property for drainage, construction etc (Exhibit '13').

Staff response:

The proposed application is for a subdivision and not a mobile home park. The confusion can be the result of the relevant review criteria in the same section of the code. While the site (the field) has no trees on it there is at least one tree (possibly a Cottonwood) on the southwest corner of Lot 32 which is part of the proposed subdivision and adjacent to the Solo property. It does not appear that this tree is located within a building envelope so it is not known whether the applicant intends to keep or remove this tree. Since it appears to be greater than 50 feet in height if it is removed it will need to be replaced at a 2:1 ratio. If this is causing damage to Ms. Solo's property she should contact the property owner to see if she can get a resolution to this problem, if not she may need to consider her legal options as the city's ordinances regarding this type of situation are limited and will be of no avail. With regard the proposed development the applicant provided a Traffic Impact Analysis which indicated that there will be no adverse impacts associated from the development of the site on nearby intersections. The Salem-Keizer School District provided comments projecting the impact from the proposed development as well as the cumulative impacts from 2014 and 2015 land use applications on the nearby schools. Their analysis estimated that the impact to Keizer elementary schools would 6 students; 3 new students would be enrolled in middle schools; and 5 new students would be in the high school. The site has been in agricultural production and is not within an identified wildlife conservation habitat so any potential impacts to wildlife are not subdivision review criteria and outside the scope of this review. With regard to the comments

relating to noise and odors from the wastewater treatment the property is within a Special Policy Area – noise/odor overlay owing to odors and noise emitting from the treatment facility. As a requirement of the Dual Interest Area Agreement is a recommended condition of approval that the applicant provide that city with a copy of an easement/waiver regarding noise and odors from the treatment facility which will be reviewed by the city, and recorded and passed onto future buyer of lots in the subdivision. This will alleviate the concerns raised by Ms. Bajpai on this subject. Relative to the issue of suburban sprawl it is important to note that the site is within both the city limits and the city’s urban growth boundary and has been planned for residential use and not for its continued agricultural use. In fact, the intent of requiring cities to accommodate growth within their respective urban growth boundaries is to avoid urban sprawl onto agricultural lands which are outside of urban areas and are planned to allow for commercial farm uses. With regard to concerns from property owners to the south and west regarding access from the proposed subdivision onto their property while one street is proposed to be stubbed at the south property line it will be barricaded. A second connection to the west from Aroma Court will allow only emergency vehicles and prohibit all other vehicles. Given the nature of the dissimilar uses between the proposed subdivision and the existing farm uses there is a proposed condition that fencing be provided along the rear of the lots that are adjacent to farm use as means to restrict trespass onto the adjacent properties. Finally, the subdivision will be required to be surveyed and any uses of adjacent properties cannot be authorized by the city only by the respective property owner.

III. FINDINGS

A. THE REVIEW CRITERIA FOR A SUBDIVISION ARE LISTED IN SECTION 3.108.06 OF THE KEIZER DEVELOPMENT CODE (KDC). SECTION 3.108.06.A – THE PROPOSAL SHALL COMPLY WITH THE APPLICABLE DEVELOPMENT STANDARDS IN SECTION 2.405 AND SECTION 2.3 AS APPROPRIATE, INCLUDING PROVISIONS FOR STREETS AND UTILITIES.

Section 2.405 KDC contains development standards for manufactured home parks and is therefore not applicable in this situation. Section 2.3 KDC contains the standards which guide all development approvals within the City of Keizer. Listed below are the development standards contained in Section 2.3 that are pertinent to this subdivision review.

1. SECTION 2.301.03 - APPLICATION OF PUBLIC FACILITY STANDARDS

FINDINGS: In order to promote and maintain healthy, safe environments and to minimize development impacts upon surrounding properties and neighborhoods the public facilities improvement requirements specified in the table found in Section 2.301.03 are found to be the minimum necessary. The applicant will be required to provide the following public facilities: water hook-up, sewer hook-up, storm drainage to each of the lots within the proposed subdivision. With these items placed as conditions of approval this request can meet this criterion.

2. SECTION 2.302 - STREET STANDARDS – GENERAL PROVISIONS

a. *Section 2.302.03.A - General Requirement. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and the proposed use of the land to be served by the streets.*

FINDINGS: The intent of this provision is to require that the layout of new streets in subdivisions and streets along the subdivision take into consideration their relationship to other streets and other factors such as topography so as to develop a safe and efficient street system. The side by side properties which are proposed to be subdivided are each flat. The applicant proposes to develop the site with 32 lots that will each then be available to be developed with a single family dwelling. The subject property has frontage along the west side of Burbank Street at its intersection with Trent Ave. The applicant proposes that a new street system, with the required street improvements, will provide direct access for the proposed lots. The existing street along the frontage of the property is level with no significant topographical that would otherwise constrain it from providing access to the site. However, the design as submitted particularly the alignment of the new street at the existing Trent Ave / Burbank Street intersection contains public safety concerns. The proposed subdivision will be served by a new street connected to the intersection of Trent Ave. N. and Burbank St. N. The proposed new intersection shall be as close to a "T" intersection as possible. The most recent plan submitted to the Public Works Department needs to be revised at the proposed new intersection to meet the Public Works Department requirements. A previously approved subdivision, (Bowden Estates), of the subject property provided for access to the Trent Ave. N. - Burbank St. N. intersection in a manner that was acceptable to the City of Keizer Public Works Department. The proposed new subdivision will be required to provide a similar access. The Public Works Department commented that prior to submitting construction plans for the proposed subdivision a pre-design meeting with the developer's engineer and the Department of Public Works is required. With this placed as a condition of approval, staff finds this proposal can satisfy this criterion.

b. *Section 2.302.03.B - Continuation of Street. Development proposals shall provide for the continuation of, and connection to, existing streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of lane, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length. Exemptions from these street extensions can be found in Section 2302.03.B.1 – 5.*

FINDINGS: The intent of this provision is for new developments to incorporate the continuation of a street as a means to avoid creating new subdivisions which do not provide for any street connectivity. Fragrant Street is shown extended to the south property line of the site. An extension to the south property line allows for the potential for a street to be extended in the future if it is ever determined to be needed and is found to be in accordance with all applicable state and local land use regulations. On the revised plans a connection to the west property line is shown off the end of Aroma CT and will allow for emergency ingress and egress if necessary. The two cul-

de-sac street each have a turn around and because the southern portion of Fragrant Ave is less than 150 in length a turn around will not be required. This provision is satisfied.

c. Section 2.302.03.C - Alignment. *All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet.*

FINDINGS: The purpose of this provision is to require that new streets in subdivisions meet the city's alignment and spacing standards so as to ensure safe vehicle travel. The proposed street system within the subdivision will utilize new street right of ways which will result in new street intersections that will be constructed. The site plan indicates that each of these new intersections will be constructed so that it aligns in a "T" intersection and will meet with this provision. Public Works has commented that the alignment of the proposed extension of Trent Ave (CT) westward from the Trent Ave / Burbank Street intersection does not align in a manner that would allow for the safe use of the intersection by vehicles and pedestrians. This intersection will need to be redesigned to meet with this provision and also with Public Works concerns. With this placed as a condition of approval will ensure compliance with this provision.

d. Section 2.302.03.D – Future extension of streets. *When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in Section 902.2.2.4 "Dead Ends" of the Uniform Fire Code, 1994 edition.*

FINDINGS: The intent of this provision is to require new developments to allow for street connections onto adjacent properties so that the street system may result in a logical and efficient manner thereby avoiding non-connected developments. New streets will be required to be constructed within the subdivision. The applicant's revised site plan shows one street extending to the south (Fragrant Street) property line and one emergency connection to the west property off of Aroma CT. Lands to the south and west of the proposed subdivision are outside of both the city limits and also the city's urban growth boundary. While the city has completed a housing needs and an economic opportunities analysis which documents that there is a need for approximately 380 acres of land to meet the city 20 year population projection there has not been any further detailed Goal 14 analysis to determine whether any lands adjacent to this site would be appropriate locations for any future urban growth boundary expansion. Without that detailed analysis it is not possible and not within the scope of this review of this proposed subdivision to support, or reject, any possible expansion of the city limits beyond its present location. Allowing a street to stub out to the property line is not intended to imply any commitment on behalf of the city with regard to any future determination of whether or not the city should expand its boundary locations. Keizer Fire District commented that since there is only one point of ingress and egress serving the proposed subdivision that a second access point will be needed to provide at a minimum emergency ingress

and egress. The allowance for a connection off of Aroma CT to the southwest corner of the site will allow for a connection onto Bowden Lane will be required to be barricaded and gated to allow for only emergency vehicles use. It is also recommended that Fragrant Street extend to the south property line and will also be barricaded and while it will not serve the concerns of the Fire District it may allow for a future extension. Any such extension will of course have to be consistent with state and local regulations. Until such time it shall be barricaded. This will meet Keizer Fire District requirements and avoid having any other vehicles access onto either private property or an access easement.

There are few adjacent attractors such as shopping areas, schools, or parks that might otherwise attract pedestrians within the immediate area. The closest school is Keizer Elementary School located about 2/3 mile to the northeast. There is no shopping opportunities within the immediate area, although about a mile to the east there are a variety of shopping opportunities along the River Road corridor. The closest park is Keizer Rapids Park, located about a ¾ mile to the southwest. The developer will be responsible for providing sidewalks along the frontage of the lots within the subdivision. The sidewalks will allow for a pedestrian connection to the sidewalk system that connects with sidewalks along the streets in the general area. With this as a condition of approval assure compliance with this provision.

e. Section 2.302.03.E - Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.

FINDINGS: The purpose of this provision is to require that new public street intersections are constructed consistent with city standards. The proposed extension of Trent Ave (CT) does not conform to this requirement and as a condition of approval will need to be reconfigured to present an alignment at the Trent Ave / Burbank Street intersection that will comply with Public Works requirements and with this provision. The new public streets that will be constructed will result in two new intersections within the subdivision (Fragrant St / Aroma Ct and Trent Ave (CT) / Fragrant St) and each appear to be designed so that they will be constructed to meet with this provision.

f. Section 2.302.03.F - Existing Streets. Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right-of-way shall be provided at the time of subdivision, partitioning, or development.

FINDINGS: The intent of this provision is to require that the developers of new residential subdivisions be responsible for making needed improvements to the existing street system that are either within, or adjacent to, a proposed subdivision in order to avoid having streets that are inadequate to handle the increased traffic from the new subdivision. The subject property has frontage along the west side of Burbank Street which is classified in the city's Transportation System Plan as a local street and has an approximate 34 foot wide paved travel lane within a 46 foot right of way along the frontage of the property. The applicant submitted a Traffic Impact Analysis (TIA) that was done by Associated Transportation Engineering and Planning, Inc that analyzed the

impacts of the proposed development on the nearby street system. It also estimated the impacts of this development combined with estimated population growth for the year 2025. The analysis was developed consistent with the methodology derived from the 9th Edition of the Trip Generation manual of the Institute of Transportation Engineers which estimates that a single family home generates 0.75 AM peak trips and 1.0 PM peak trip per day. The TIA projects that the development will generate 23 AM peak hour trips and 31 PM Peak hour trip. It was estimated that 60% of the trips will travel north to and from Lockhaven Drive as the single largest travel path of direction, with the remainder headed south to Chemawa Road, or past either Chemawa Road or Lockhaven Drive. The TIA looked at 4 intersections to determine the level of impact that the development might have on these intersections. The existing conditions at Trent/Windsor Island were Level of Service (LOS) B/B for AM and PM Peak Hour; Lockhaven/Windsor Island A/B; Chemawa/Windsor Island A/B; and Trent/Willow Leaf A/A. The development will result in no change to the LOS at these intersection in either the AM or the PM peak hour trips. With the development and general population growth the only change to the operation of the 4 intersection is anticipated at only the Lockhaven/Windsor Island intersection which will have an LOS of B/B. Policy 1 in the City's TSP states that signalized intersections will operate at LOS D or better and signalized intersections will operate at LOS E or better. These all will operate well within the city of Keizer's LOS standards. No significant mitigation measures resulting from the increased traffic from the new development onto the existing street system and studied intersections will be required. Public Works has commented that the alignment of the proposed Trent Ave (Trent CT) at the west side of the Trent Ave / Burbank Street intersection does not meet city standards will be required to be redesigned as a condition of approval. The applicant's TIA is silent with regard to the proposed subdivision street design. With this placed as a condition of approval this section is satisfied.

g. Section 2.302.03.G - Half-streets may be approved where essential to the reasonable development of an area and when the City finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a ¾ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed with an additional 10 feet of pavement on the opposite side of the street from full improvement.

FINDINGS: No half streets will be constructed, so therefore this section is not applicable.

h. Section 2.302.03.H - Cul-de-sacs. The maximum length shall be 800 feet.

FINDINGS: On the revised site plan two cul-de-sac streets are proposed. One (Aroma CT) has a length of approximately 185 feet and the other which is shown as Trent Ave but will need to be re-named to be Trent CT is approximately 420 feet in length and so each complies with this section.

i. Section 2.302.03.I - Street names and numbers shall conform to the established standards and procedures in the City.

FINDINGS: The purpose of this provision is to ensure that streets are named in accordance with City procedures to avoid duplicate or confusing street names. The site plan indicates that the names of the streets are proposed to be Trent Avenue (although it will actually be Trent Court since it is

now a cul-de-sac), Fragrant Street, and Aroma Court. The street names shall be named in accordance with city street naming procedures and the approved street names shall be shown on the plat. All houses within the proposed subdivision will be required to be numbered to conform with the City's street numbering procedures. With this placed as a condition will ensure compliance with this section.

j. Section 2.302.03.J - Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves.

FINDINGS: The purpose of this provision is to ensure that new streets are constructed consistent with the city's established street grade standards and avoid having new streets that may be too steep and potentially endanger public safety. The existing street system that is proposed to provide access to the site is flat in the area of the proposed subdivision. The proposed street improvements will have no grades or slopes that will constrain or impact the development of the property. Nor will the development of the property affect the grade of the existing street. A preliminary grading and drainage plan was submitted and indicates that the site is flat and that drainage will be handled on-site. A final grading and drainage plan will be required as a condition of approval to ensure that adequate drainage is provided, as well as construction permits for the widening and improvements to the existing streets. With these placed as a conditions of approval, this proposal can satisfy this criterion.

k. Section 2.302.03.K - Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the City may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street.

FINDINGS: The purpose of this provision is to minimize impacts that a new development may have on arterials and collector streets. Both Burbank Street and Trent Ave are classified in the city's TSP as a local streets, therefore this section is not applicable and a frontage street will not be required.

l. Section 2.302.03.L - Alleys shall be provided in commercial and industrial zones unless other permanent provisions for access to off-street parking and loading facilities are provided. The corners of alley intersections shall have radii of not less than 10 feet.

FINDINGS: No alleys are proposed therefore, this provision is not applicable.

m. Section 2.302.03.M. - Street Landscaping. Where required as part of the right-of-way design, planting strips shall conform with the following standards:

1. *Street trees shall be planted at a ratio of no less than one tree per 30 feet of property frontage. Street trees shall conform with the list of acceptable trees included in the City's Street Tree Ordinance. Installation of street trees shall be included in any improvement agreement covering the installation of public facilities and services on a property.*

2. *Planting strips shall be planted and maintained in predominantly living groundcover materials with hard surfaces consisting of bricks, pavers, rocks, decorative concrete work, etc., only being included as part of an overall landscape design where living plant material is predominant. In no case shall asphalt be used within the planting strip.*

FINDINGS: The purpose of this provision is to outline the standards relating to providing street landscaping. The applicant will be required to provide trees along the frontage of the lots along all public streets consistent with the spacing requirements within Section 2.302. Information regarding the care and maintenance of the street trees must be included in the CC&R's, Homeowners' Association Agreement or other similar type of agreement approved by the Community Development Department. With these placed as conditions of approval, the application can comply with this provision.

n. *Section 2.302.03.N - For streets serving infill development as defined under Section 2.316.03, the Infill Street and Access Easement Standards of Section 2.316.06 may be applied.*

FINDINGS: The property to be subdivided is more than 2 acres in size and does not meet the definition of infill development so this section is not applicable.

3. SECTION 2.302.04 - GENERAL RIGHT-OF-WAY AND IMPROVEMENT WIDTHS

The standards outlined in this section shall be the minimum requirements for all streets, except where a variance is requested as permitted under Subsection 2.202.05.

FINDINGS: The applicant does not request any modification to the right-of-way or improvement width for public streets and the street along the frontage of the site, or within the site, and all streets will be constructed to Public Works requirements. This proposal meets this criterion.

4. SECTION 2.302.06 - CONSTRUCTION SPECIFICATIONS

a. *Construction specifications for all public streets shall comply with the standards of the most recently adopted public works street standards of the City of Keizer.*

FINDINGS: The intent of this provision is ensure that new residential subdivisions design and construct new streets that are needed to serve the lots within the subdivision to meet all City standards for street construction. All of the proposed lots within the proposed subdivision will be served by either the city's existing public street system or by the new public streets that will be constructed as part of the development of the proposed subdivision. Since this will require the

applicant to make necessary improvements it will require that improvement construction drawings are submitted to the Public Works Department for their review and approval consistent with all applicable adopted construction specifications and standards adopted by the city. With this placed as a condition of approval will ensure that this provision is met.

b. Section 2.302.08. Private Access Easements. A. Width; B. Maintenance; C. Turn-around; D. Parking:

FINDINGS: The intent of this provision is ensure that lots that are served by a private access easement is constructed in a manner that is consistent with city standards thereby avoiding the creation of a substandard access easement which might be unusable for vehicular traffic. The submitted revised site plan indicates that two private access easements are proposed. One is shown off the end of Trent CT and appears to be more than 20 feet wide and since it will provide access for Lots 7 and 8. It will serve 2 of the lots and will be required to be a paved 16 foot wide access easement within a 20 foot wide access easement area. A turn around will not be needed if the access is less than 150 feet in length. The turn around dimensions may need to be increased to meet with Public Works approval. Other than that the private access easement conforms with the city's dimensional specification requirements. As a condition of approval a maintenance agreement will be required in order to ensure that a mechanism is in place that will allow for as any improvements or general maintenance to occur. Since parking will be prohibited along the access easement it will be a requirement that each lot being served by the access easement provide three on-site parking spaces. With these placed as conditions of approval will assure that this provision is complied with. The second access easement is limited to emergency use for the Keizer Fire District and will be required to be barricaded to eliminate any other use.

5. SECTION 2.303 - OFF-STREET PARKING AND LOADING

For single family residences, 2 parking spaces per dwelling unit shall be provided on-site.

FINDINGS: The intent of this provision is to ensure that new development meets the city's established minimum off-street parking requirements as listed within Section 2.303 of the Keizer Development Code, and thereby avoid creating a parking problem that results when less than the determined minimum level of off-street parking spaces is provided. With the proposal for the property to be developed with a subdivision where each lot will be available for development with a single family dwelling will require that each lot that has direct access onto a public street to provide a minimum of two on-site parking spaces as is required in the Development Code. Since parking will be prohibited along the access easement it will be a requirement that each lot being served by the access easement provide three on-site parking spaces as required in Section 2.302.05.D. This has been determined by the City to be the minimum needed to meet both the needs of the residences within the new dwellings as well as serving the needs of visitors to the new residences. With this placed as a condition of approval will assure that this proposal meets this criterion.

6. SECTION 2.306 - STORM DRAINAGE

No construction of any facilities in a development included in Subsection 2.306.02 shall be permitted until a storm drainage and erosion control plan for the project is prepared by a professional engineer, and approved by the City. These provisions shall also apply to any cut or fill on a property, which may impact the velocity, volume, or quality of surface water on adjacent property, or may impact any permanent natural body of water.

FINDINGS: The intent of this provision is to minimize, and avoid, storm drainage and erosion runoff problems that may be associated with development by requiring that a storm drainage and erosion control plan be submitted for review and approval prior to any development occurring on the site. The site has little, to no change, in elevation. The applicant has submitted a preliminary site grading plan. However, the submitted site plan does not indicate the amount of impervious area that will be on each lot. The plan does indicate that the storm water that is generated by the development will be kept and treated on-site. The grading plan shows that a 10 inch perforated pipe will be located in the roadway so the storm drainage will not be leaving the site and will be detained and treated on-site. The applicant's will be required to comply with City storm drainage requirements.

The developer's engineer shall submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer. Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation test and soil analysis shall be performed by a qualified geotechnical engineer. Storm Water calculations shall be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system. Depending on the storm water quality improvements that are proposed by the developer may result in the need for some additional dedication along the frontage of the street. A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property. This plan shall be submitted and approved by the Department of Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc, will be required for review prior to any plan approval. With these requirements placed as conditions of approval, this application complies with this provision.

7. SECTION 2.307 - UTILITY LINES AND FACILITIES

FINDINGS: To provide adequate services and facilities appropriate for residential development, the applicant shall meet the standards set forth in Section 2.307 of the Keizer Development Code relating to water, sanitary sewer, private utilities, street lights and easements. This is a development

requirement and compliance will be ensured during review of the construction and engineering drawings.

a. Section 2.307.02.A - *The location, design, installation and maintenance of all utility lines and facilities shall be carried with minimum feasible disturbance of soils and site.*

FINDINGS: The intent of this provision is to require that the design and installation of all utility lines does not disturb any more of the soil and the site than is necessary and to avoid creating large scale disturbances which might impact adjacent properties through run-off and erosion of the site. The proposal to subdivide the site will require utility lines to serve the new lots. A preliminary subdivision utility plan was submitted with the application proposal which shows the utilities that will be located within the streets. It does not detail the individual services to each lot. However, as a condition of approval, a detailed engineer's plan will be required to be submitted for review and approval by city of Public Works staff. As part of the grading plan, an erosion control permit will be required to be obtained from the city of Keizer Public Works Department detailing the erosion control measures that will be required to ensure that the construction and installation of these facilities will not result in more than the minimum amount of disturbance of soils on the site. With this placed as a condition of approval, this proposal can satisfy this criterion.

b. Section 2.307.02(B) - *All development that has a need for water service shall install water facilities and grant necessary easements pursuant to the requirements of the City.*

FINDINGS: The intent of this provision is to ensure that water lines are installed to city specifications and, if a water line is located outside of public right-of-ways that they are located within an easement so as to avoid any potential conflicts. The applicant's statement indicates that each of the proposed lots will be served by the public water system. The site plan indicates that an 8 inch ductile iron water line will be installed within the right of way of each of the streets within the proposed subdivision. There is an 8 inch water main located in Trent Ave, and also in Burbank Street with capacity to serve the proposed lots. The Keizer Development Code requires that water service installed outside of the right-of-way shall be placed within an easement, and that the easement is shown on the final plat. Keizer Public Works Department commented that the developer shall prepare a master water system plan showing proposed routes of public water mains, fire hydrants and individual services shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of ways. Any system development charges for water system improvements will be those in place at the time of individual service connections. Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to any issuance of building permits by the City of Keizer. All required fire hydrants shall be served by an 8 inch water main. Any existing wells on the subject property are to be abandoned. The developer shall provide evidence that any abandonment of existing wells has been completed in accordance with the rules of the Oregon State Water Resources Department. Location of all meters to be approved by Keizer Water Department. With these requirements placed as conditions of approval, this request can meet this criterion.

c. Section 2.307.02(C) - *Private Utilities, All development that has a need for electricity, gas and communications services shall install them pursuant to the requirements of the district or*

company serving the development. Except where otherwise prohibited by the utility district or company, all such facilities shall be underground.

FINDINGS: The purpose of this provision is to place private utilities which provide service to the new homes underground and avoid above ground, or at grade placement of utilities. The applicant's written statement does not indicate if all utilities will be placed underground. Unless otherwise prohibited this is a development requirement. The Department of Public Works commented that to minimize utility line conflicts, a master utility plan including all proposed power, telephone, gas and cable lines shall be submitted for review prior to issuance of construction permits for the proposed project. PGE provided written testimony that they will require that development cost per current tariff and service requirements and that a 10 foot wide public utility easement on all lots along a public street will be required. The intent of this easement is provide space for the underground placement of PGE utilities on each lot. There is an existing overhead electric transmission line that is located along the eastern portion of the site. A 45 foot wide easement is shown on the eastern portion of Lots 24 thru 31, and also on the eastern 45 feet of Lot 1, excluding the southeast "tail" of this lot. As with any easement permanent structures will be prohibited from being placed within this easement area. While the location of this easement of these lots will certainly limit the development potential of each of these lots it will not result in any of the lots being unbuildable since each lot will still have a building envelope of approximately 45 feet of depth and 35 feet of width in which to locate a dwelling which is adequate are to be able to situate a new house approximately 1,600 square feet in size. Any use of land within this easement area will need to be consistent with any restrictions that may be outlined within the recorded easement. With this placed as a condition of approval this request can satisfy this criterion.

d. Section 2.307.02(D) - Sanitary Sewers, All development that has a need for public/private sanitary sewers shall install the facilities pursuant to the requirements of the city. Installation of such facilities shall be coordinated with the extension of necessary water services and storm drainage facilities.

FINDINGS: The intent of this provision is to require that all of the lots in a new subdivision connect to city's approved sanitary sewer system thereby eliminating the need for the installation of any on-site private septic systems which require additional land and increase the potential for ground water contamination. The applicant will be required to connect each of the proposed lots to the sanitary sewer system consistent with all applicable requirements. The site plan indicates that an 8 inch PVC sanitary sewer line will be located within the right of way of each new street within the proposed subdivision. There is an existing 8 inch sanitary sewer line located in Trent Ave and also within Burbank Street. The Public Works Department submitted comments addressing this criterion. The subject property is not located within the original Keizer Sewer District. Therefore, a sanitary sewer trunk line acreage fee will be required. City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer shall submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area. Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Appropriate easements for any public sewer mains located within the subject property if located outside platted right of ways will need to be recorded which meets the

City of Salem Design Standards and must be shown on the subdivision plat. It will be the responsibility of the developer's engineer to locate any existing wells (including on adjacent properties) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting the proposed subdivision, shall remove any conflicts between existing wells and proposed sanitary sewers.

As previously indicated a grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property. This plan shall be submitted and approved by the Department of Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc, will be required for review prior to any plan approval. The drainage plan for the development shall comply with the Keizer Development Code, particularly surface drainage and storm sewer system requirements. Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property. A construction site pollution prevention plan for each newly created lot shall be submitted, and an Erosion Control permit obtained, prior to issuance of any building permits.

e. Section 2.307.02(E) Street Lights. When required, installation of street lights shall be pursuant to the requirements of the city and the company serving the development.

FINDINGS: The intent of this provision to require that new developments provide for adequate night-time illumination along public streets to avoid dark streets which could potentially become a safety hazard to pedestrians, motorists, and homeowners. A street lighting plan was not included as part of the proposed subdivision plan. Street lights currently exist along Burbank Street and Trent Ave. Street lights will be required to be able to provide adequate coverage within the subdivision. As such, a street lighting district will be required to be formed with the new property owners of lots within the subdivision assessed for the costs of providing this service. Therefore, with this section placed as a condition of approval the proposal will meet this criterion.

f. Section 2.309.04(B)(7f) – The City may require significant trees that are removed (including trees that are removed within the year prior to the application) be replaced at the rate of up to two new trees for each significant tree removed.

FINDING: The intent of this provision is to encourage the planting of new trees to replace trees that are cut down as part of the development of a subdivision. In particular, this provision aims to replace trees that are identified as being “significant trees”, which are trees that are either 50 feet in height or trees that are 12 inches in diameter. While the site (the field) has no trees on it there is at least one tree (possibly a Cottonwood) is located on the southwest corner of Lot 32 which is part of the proposed subdivision. It does not appear that it is located within a potential building envelope so it is not known whether the applicant intends to keep or remove this tree. Since it appears to be

greater than 50 feet in height if it is removed it will need to be replaced at a 2:1 ratio consistent with this requirement. No trees have been removed in the past two years. Therefore, the requirement that if this tree is removed, or any other significant trees on the site, they be replaced at a 2:1 ratio will ensure compliance with this provision.

g. Section 2.309.05 – Screening and buffering shall be used to eliminate or reduce the impacts between a number of uses listed within this section, an in particular to provide for compatibility between dissimilar adjoining uses.

FINDING: The property is designated the same as lands to the east (RS), and is proposed to be developed with single family homes which is similar to the uses along the west side of Burbank Street. With there being a 45 foot wide PGE easement along the east property line of the subdivision will result in the homes on Lots 24 thru 31 having a greater rear yard setback than the RS rear building setback requires. This will ensure a greater building to building separation than might typically be found. Given this fact and that the proposed subdivision and the uses to the east are considered to be not dissimilar no additional screening and buffering will be required. Written testimony from adjacent property owners to the south and west commented on the need for fencing along the property lines with lands that are in farm use. This had previously been a condition of approval in the earlier approval. This fencing will both screen the adjacent dissimilar uses and help to reduce trespass onto these lands from the new residents of this subdivision. In order to provide a buffer to the surrounding agricultural farm uses on properties that are located to the south, north, and west a 6 foot fence will need to be placed along the rear of Lots 1 thru 9, 18 thru 21, 23, and 24. This requirement will also restrict access onto these lands as well as onto nearby properties that are in various stages of gravel production. With this as a condition of approval will ensure compliance with this provision.

8. SECTION 2.310 - DEVELOPMENT STANDARDS FOR LAND DIVISIONS

a. Section 2.310.03.A - Minimum lot area. Minimum lot area shall conform to the requirements of the zoning district in which the parcels are located.

FINDINGS: The purpose of this requirement is to allow for the development of the property in a manner consistent with that of the underlying zone district. The subject property is zoned Residential Single Family (RS) and so will be bound by the requirements within Section 2.102 of the Keizer Development Code. The RS zone designation is similar to that of the properties to the east. Within the RS zone, the minimum lot size for detached single-family dwellings is 5,000 square feet and 4,000 square feet for zero side yard development. The applicant's site plan indicates that the lots within the proposed subdivision range in size from 5,000 square feet (Lots 13 and 14) to 10,856 square feet (Lot 1). The flag lot is also required to maintain the minimum lot size excluding the pole portion of the lot and appears to meet this provision. The lots have an average lot size of 6,033 square feet, although there is no requirement that all of the proposed lots achieve this particular size, only that they meet or exceed the city's minimum lot size of 5,000 square feet within the RS zone in Section 2.102.05 for construction of detached single family dwellings. All of the

proposed lots conform to the minimum lot size requirement of the RS zone district. Staff finds this proposal satisfies this criterion.

b. Section 2.310.03.C - Lot width and depth. The depth of a lot or parcel shall not be more than 3 times the width of the parcel.

FINDINGS: The purpose for establishing lot width-to-depth ratios is to provide for the orderly, safe, efficient and livable development of land. The lot width-to-depth ratio also prevents lots from being created that would be practically unbuildable. With the exception of lots that are at the bulb of the cul-de-sac street and are “pie shaped” all other lots (excluding Lot 1 which has a “tail” that runs to the southeast) are rectangular shaped lots which have depth to width ratios that are less than the 3:1 ration within this section. The lots have widths that range from 45.5 feet to 95.5 feet and depths that range from 88 feet to 110 feet. All lots within the proposed subdivision are shown to meet this criterion.

c. Section 2.310.03.D - Access. All lots and parcels shall provide a minimum frontage, on an existing or proposed public street, equal to the minimum lot width required by the underlying zone. Cul-de-sac lots shall have a minimum frontage of 25 feet and Flag lots shall have an access strip of no less than twenty (20) feet. The following exceptions shall apply: residential lots or parcels may be accessed via a private street or access easement developed in accordance with the provisions of Section 2.303 when the City finds that a public street is not necessary to provide for the future development of adjoining property.

FINDINGS: The intent of this provision is to ensure that all lots have a minimum frontage along a street so that an access to serve the lot will meet city standards and that the lot can be developed in a manner that will ensure that all building setback requirements will be met. The proposed lots have frontages that range from slightly more than 45.5 feet to 95.5 feet, which exceeds the minimum 40 foot frontage requirement for lots in the RS zone as indicated in Section 2.102.05. Two cul-de-sac streets are proposed and the lots along the bulb of the cul-de-sac have frontages that range from 30.8 feet to 66 feet, exceeding the minimum 25 foot standard and so meet this provision. One flag lots is proposed and has a frontage that meets with this provision. No private streets are proposed. Given the surrounding pattern of development having a private street continue to serve any adjacent property would not serve any practical purpose and is not warranted. Therefore, this proposal satisfies this criterion.

d. Section 2.310.03.E -Flag Lots. Flag lots shall only be permitted if it is the only reasonable method by which the rear portion of a lot being unusually deep or having an unusual configuration may be accessed and when in compliance with Section 2.302.03.B. If a flag-lot is permitted, the following standards shall be met:

1. The access strip shall not be less than 20 feet wide. The access strip shall be improved with a minimum 12 foot wide paved driveway and paved encroachment which meet applicable City standards.

2. The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this Ordinance.

FINDINGS: On the revised site plan one flag lot (Lot 8) is proposed. It is shown with approximately 30 feet of frontage and so meets with this section.

e. Section 2.310.03.F - Through Lots. Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. Through lots shall be no less than 100 feet in depth. Screening or buffering, pursuant to the provision of Section 2.307, may be required by the City during the review of the land division request.

FINDINGS: No through lots are proposed, so this section is not applicable.

f. Section 2.310.03.G - Lot Lines. The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face. The rear lot line shall be no less than 1/2 the dimension of the front lot line.

FINDINGS: The intent of this provision is to avoid the creation of odd-shaped lots which may meet minimum lot size, but owing to its shape may result in a lot that is too difficult to build on without a variance to requirements within the code. The intent is to avoid these types of lots in favor of the creation of lots that can be readily developed. The proposed subdivision will result in the creation of the majority if the lots being regular shaped lots. The exception is Lot 1, which has a portion of it that runs to the southeast and the lots at the bulb of the cul-de-sac streets which have angled side property lines owing to the fact that they are at the terminus of the cul-de-sac and adjacent to the western exterior property line. The remainder of the proposed lot lines run at right angles to the street right-of-way lines. The rear lot lines are all not less than one-half the dimension of the front lot lines, in fact most of the lots have the same rear property line width as the front property line. The application complies with this criterion.

g. Section 2.310.03.H - Utility Easements. Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 2.302.04 of this Code.

FINDINGS: The intent of this provision is to ensure that utility easements are provided and avoid the situation where they may be needed but since no easements were provided as part of the platting of the subdivision it creates problems after the platting of the subdivision. There will be underground utility lines located along the frontage of each of the lots. This will require a 10 foot wide public utility easement along the front of each lot and that this easement is shown on the final plat consistent with PGE requirements. This is a development requirement and shall be placed as a condition of approval of this subdivision application. There is an existing overhead electric transmission line that is located on the eastern portion of the site. A 45 foot wide easement is shown on the eastern portion of Lots 24 thru 31, which are the lots on the east side of Fragrant Street, and also on the eastern 45 feet of Lot 1, excluding the southeast "tail" of this lot. As with any easement permanent structures will be prohibited from being placed within this easement area. With this placed as a condition of approval the application can comply with this criterion.

9. SECTION 2.310.04 - ADDITIONAL DESIGN STANDARDS FOR SUBDIVISIONS

a. Section 2.310.04.A - Standards for Blocks:

1. General: *The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.*

2. Sizes: *Blocks should not exceed 600 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.*

FINDINGS: The intent of this provision is to require that when blocks are created as the result of the platting of subdivisions that they adhere to the city's standards. The proposed subdivision will not result in the creation of any blocks within the proposed subdivision, and so therefore this provision is not applicable.

b. Section 2.310.04.B - Traffic Circulation. *The proposed subdivision shall be laid out to provide safe and convenient vehicle, bicycle and pedestrian access to nearby residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas; and to provide safe and convenient traffic circulation. At a minimum, "nearby" is interpreted to mean uses within ¼ mile which can be reasonably expected to be used by pedestrians, and uses within 1 mile of the subdivision boundary which can reasonably be expected to be accessed by bicyclists.*

FINDINGS: The intent of this provision is to allow for safe vehicle, pedestrian, and bicycle access from the lots within the subdivision to nearby attractors. There is no sidewalk along the frontage of the property with the street fronting the site (Burbank Street). As a condition of approval the applicant will be required to provide a 5 foot wide sidewalk along the frontage of all of the lots within the subdivision. This will result in greater opportunities for pedestrians not only in the subdivision, but also within the immediate area who may choose to walk along the streets within this subdivision. There are no adjacent attractors such as shopping areas, schools, or parks that might otherwise attract pedestrians within the immediate area. The closest school is located about ½ mile away. There is no shopping within the immediate area, although approximately a mile to the east is the River Road commercial corridor which contains a variety of shopping opportunities. The closest park is Keizer Rapids Park, located about a 2/3 mile to the southwest. Also, while two streets will be stubbed out to the west and south property lines they will both be barricaded to prohibit access onto the adjacent properties. With the improvements as outlined within the conditions of approval the proposal complies with this provision.

10. SECTION 2.310.06 - IMPROVEMENT REQUIREMENTS

a. Section 2.310.06.A - Frontage Improvements. *Street improvements to full City Standards shall be required for all public streets on which a proposed subdivision fronts in accordance with*

Section 2.303 of this Code. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Additional frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

FINDINGS: The intent of this provision is to ensure that lots within the proposed subdivision include street improvements in accordance with city standards so as to avoid having substandard streets which could become a safety hazard. The subject property has frontage along the west side of Burbank Street which is classified in the city's Transportation System Plan as a local street. This street has a 34 foot wide paved street within a 46 foot right of way along the frontage of the property. Public Works has commented that no additional dedication will be needed along the frontage of Burbank Street, however as noted previously the design of the proposed new street at the intersection of Trent Ave and Burbank Street will need to be redesigned which may require some additional improvements than is proposed by the applicant. With this placed as a condition of approval will ensure compliance with this section.

b. Section 2.310.06.B - Walkways for Private Streets. Sidewalks shall be required in accordance with applicable provisions in Sections 2.302 and 2.316 only if sidewalks currently exist along the connecting street.

FINDINGS: There will be no private streets that will be constructed as part of the proposed subdivision, so this section is not applicable.

c. Section 2.310.06.C - Project Streets. All public or private streets within the subdivision shall be constructed as required by the provisions of Section 2.302.

FINDINGS: The intent of this provision is to ensure that lots within the proposed subdivision include street improvements in accordance with city standards so as to avoid having substandard streets. There will be no private streets that will be constructed as part of the proposed subdivision. Public Works has provided comments related to the design and construction of the proposed streets within the subdivision. The public street improvements will be required to be consistent with Section 2.302. With this placed as a condition of approval will ensure compliance with this section.

d. Section 2.310.06.D - Monuments. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street center lines.

FINDINGS: The applicant will be responsible for placing appropriate monuments at the street intersection and with this as a condition this application can comply with this criterion.

e. Section 2.310.06.E - Bench Marks. Elevation bench marks shall be set at intervals established by the City Engineer. The bench marks shall consist of a brass cap set in a curb or other immovable structure.

FINDINGS: The applicant will be responsible for placing appropriate bench marks at the street intersection and with this as a condition this application can comply with this criterion.

f. Section 2.310.06.F - Surface Drainage and Storm Sewer System. Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property.

FINDINGS: The intent of this section is to require that new developments make use of a drainage system that is in accordance with city requirements and which will handle the storm drainage from the site and avoid any adverse impacts onto adjacent properties. The site has virtually no change in elevation change across the frontage of the site. According to information supplied by the applicant the site has an elevation that ranges between 133 and 134 MSL. The city has floodplain regulations that govern the placement of structures within identified 100-year floodplains. According to FIRM map 41047C0193G, dated January 19, 2000, the majority of the property is not located within an identified 100 year floodplain. Based on a review of floodplain maps it appears that perhaps a small portion of the property appears to be in Zone X, which is defined as being an area of 500 year flood. This zone is also defined as being an area of a 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and also being areas that are protected by levees from 100-year flood. And development within this portion of the site will need to be in accordance with floodplain regulations so there will be no issues associated with floodplain hazards for this property. The applicant has submitted a preliminary site grading plan however the submitted site plan does not indicate the amount of impervious area that will be on each lot. The developer's engineer shall submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer. Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation test and soil analysis shall be performed by a qualified geotechnical engineer. Storm Water calculations shall be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system. Depending on the storm water quality improvements that are proposed by the developer, it may result in the need for some additional dedication. A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property. This plan shall be submitted and approved by the Department of Public Works prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc, will be required for review prior to any plan approval. With these requirements placed as conditions of approval, this application complies with this provision.

g. Section 2.310.06.G - Sanitary Sewers. Sanitary sewer shall be installed to serve the subdivision and to connect the subdivision to existing mains both on and off the property being subdivided.

FINDINGS: The intent of this provision is to require that all of the lots in a new subdivision connect to a sanitary sewer system thereby eliminating the need for the installation of any on-site private septic systems which require additional land and increase the potential for ground water contamination. The applicant has indicated that each of the proposed lots will be connected to the sanitary sewer system consistent with all applicable requirements. There is an 8 inch sanitary sewer line located in Trent Ave and also within the Burbank Street right of way. The applicant's site indicates that an 8 inch PVC sanitary sewer line will be placed within the right of way of each street within the proposed subdivision. The Public Works Department submitted comments addressing this criterion. The subject property is not located within of the original Keizer Sewer District. Therefore, a sanitary sewer trunk line acreage fee will be required. City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer shall submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area. Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Previously the City of Salem had commented that an 8 inch sanitary sewer line will be required to be constructed in the new street right of way to serve the new lots. Appropriate easements for any public sewer mains located within the subject property if located outside platted right of ways will need to be recorded which meets the City of Salem Design Standards and shown on the subdivision plat. It will be the responsibility of the developer's engineer to locate any existing wells (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting the proposed subdivision, shall remove any conflicts between existing wells and proposed sanitary sewers. This is a development requirement and shall be placed as a condition of approval of this subdivision application.

The property is located within an area that is designated Special Policy Area – Odor/ Noise Impact Overlay. This is a unique designation owing exclusively to the proximity of the Willow Lake Sewer Treatment Plant. The designation is directly related to concerns that nearby property owners might have over odors coming from the treatment plant. This overlay designation is applied to properties which are located nearby to the sanitary sewer treatment facility. Since the adoption of this designation a number of significant events have occurred that affect this designation. These include recent upgrades at the sanitary sewer treatment facility that have resulted in a reduction in the amount of odors being emitted from the plant, and also an agreement being reached between the city of Keizer and the city of Salem, which operates the treatment plant. With the adoption of Ordinance 2001-451 the impacts associated with this designation have largely been eliminated. The result of the Dual Interest Area Agreement is that property that is within this designated area can be developed with the requirement that a document be recorded acknowledging that the property owner knows that there is a sewer treatment facility nearby and that this type of facility can produce odors and noises that are associated with its operation. With this placed as a condition of approval will assure compliance with this provision.

h. Section 2.310.06.H - Water System. Water lines with valves and Fire District approved fire hydrants serving the subdivision and connecting the subdivision to the City mains shall be installed and operating prior to start of combustible construction. The design shall take into account provisions for extension beyond the subdivision to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the developer will be responsible for water main sizes necessary to meet minimum fire flow requirements per Uniform Fire Code. The City will not expect the developer to pay for the extra pipe material cost of mains exceeding 8 inches in size.

FINDINGS: The intent of this provision is to ensure that in addition to a safe potable water supply that adequate water flow and fire hydrants are provided to ensure fire protection service is provided for each new lot in the proposed subdivision. The applicant has indicated that each of the proposed lots will be served by the public water system. There is an 8 inch water main located in the Trent Ave and also in Burbank Street. The applicant's site plan indicates that an 8 iron ductile waterline will be placed within the right of way of each street within the proposed subdivision. The Keizer Development Code requires that water service installed outside of the right-of-way shall be placed within an easement, and that the easement is shown on the final plat. Keizer Public Works Department commented that the developer shall prepare a master water system plan showing proposed routes of public water mains, fire hydrants and individual services shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of ways. Any system development charges for water system improvements will be those in place at the time of individual service connections. Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to any issuance of building permits by the City of Keizer. All required fire hydrants shall be served by an 8 inch water main. Any existing wells on the subject property are to be abandoned. The developer shall provide evidence that any abandonment of existing wells has been completed in accordance with the rules of the Oregon State Water Resources Department. Location of all meters to be approved by Keizer Water Department. With these requirements placed as conditions of approval, this request can meet this criterion.

i. Section 2.310.06.I - Sidewalks. Sidewalks shall be installed along both sides of each public street and in any pedestrian ways within the subdivision. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks (e.g., pedestrian walkways) or sidewalks fronting public property shall not be deferred.

FINDINGS: The intent of this provision is to require that sidewalks are required by new developments such as subdivisions in an effort to enhance the mobility of pedestrians who both will reside in the proposed subdivision, as well as those who may use this facility but will not reside in the new subdivision. Along the frontage of the site with Burbank Street there is a curb but no sidewalk. Sidewalks along lots within the subdivision will be required as part of the construction of each lot and not required prior to the actual building construction in an effort to minimize damage to the sidewalk that might otherwise occur during the building construction phase of development. With the applicant required to provide 5 foot wide sidewalks meeting city specifications along the

frontage of all lots will result in sidewalks that will eventually be constructed along both sides of the proposed new streets within the proposed subdivision and which will ensure compliance with this section.

j. Section 2.310.06.J - Street Lights. *The installation of street lights is required at locations determined to be appropriate by the City and shall be of a type required by City standards.*

FINDINGS: The intent of this section is to require that new developments provide street lights that will provide for an adequate level of night-time illumination. There are existing street lights along Burbank Street and also along Trent Ave. The applicant will be required to provide new street lights along the new streets within the proposed subdivision as determined where they are needed and located in accordance with city and PGE standards. A street lighting district will be required to be formed with city council authorization and with this placed as a condition of approval and will ensure compliance with this section.

k. Section 2.310.06.K - Street Signs. *The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards. Each street sign shall display the one hundred block range. Street signs shall be installed prior to obtaining building permits.*

FINDINGS: The intent of this provision is to require that the installation of street name signs and traffic control signs be placed at locations determined to be appropriate by the city and shall be of a type required by City standards so as to avoid signs that are in wrong locations or a design that are not consistent with city standards. A street name sign will be required at each of the three street intersections. With this placed as a condition that the location, placement, and type of sign to be in accordance with city requirements will assure compliance with this section.

l. Section 2.310.06.L - Public Works Requirements. *All facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works.*

FINDINGS: The intent of this provision is to ensure that all facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works. The application can meet this criterion. This is addressed as a condition of subdivision approval.

m. Section 2.310.06.M - Curb Cuts. *Curb cuts and driveway installations, excluding common drives, are not required of the subdivider, but if installed, shall be according to the City standards.*

FINDINGS: Driveway permits will be required at the time of building permit approval. With this as a condition of approval, the application can comply with this criterion.

n. Section 2.310.06.N - Street Trees. *Street tree planting is mandatory where a planting strip is part of the street design. Plantings shall conform to Section 2.302.03(M).*

FINDINGS: The intent of this provision is to allow for street trees to be planted along streets to improve the streetscape appeal of the street. As such, tree planting consistent with the city's

requirements will be required. With a condition of approval requiring street trees, this application can comply with this criterion.

o. Section 2.310.06.O - Grading & Fills. All grading which results in fills in excess of 3 feet located within the identified building envelope on a subdivision lot or parcel must be engineered.

FINDINGS: The property is flat and shall require only minimal grading and placement of fill. However, the placement of any fill prior to construction of any dwellings will need to be done in accordance with State Building Code requirements. This is intended as an advisory at this point of the subdivision review.

p. Section 2.310.06.P - Financial Requirements. All improvements required under this Section shall be completed to City standards or assured through a performance bond or other instrument acceptable to the City Attorney, prior to the approval of the Final Plat of the subdivision.

FINDINGS: This requirement will be placed as a condition of approval.

B. SECTION 3.108.06.B - EACH LOT SHALL SATISFY DIMENSIONAL STANDARDS AND DENSITY STANDARDS OF THE APPLICABLE ZONING DISTRICT, UNLESS A VARIANCE FROM THESE STANDARDS IS APPROVED.

FINDINGS: The intent of this provision to ensure that new residential subdivisions meet the established dimensional and density provisions of the city to assure that the development is done consistent with this standard. The applicant has indicated that each of the lots will be developed with single-family homes. The subject property is zoned to RS which will permit single family development on each of the proposed new lots. Section 2.102.05.A of the Keizer Development Code requires that each lot to be developed with a single-family dwelling have a minimum average width of 40 feet. The site plan indicates that the proposed lots have widths that range from 45.5 feet to 109 feet, and so each lot satisfies this requirement. Section 2.102.05 requires that each lot have a depth of 70 feet. The proposed lots have depths that will range from 88 feet to 110 feet. All of the proposed lots will exceed this provision. Section 2.102.06.I specifies a minimum density of 4 dwelling units per acre and a maximum density of 8 dwelling units per gross acres, although areas north of Barnick Road are limited to a maximum of 6 dwelling units per acre. The proposed subdivision is located south of Barnick Road and will have a density of 5.69 dwellings units per gross acre. This complies with the minimum density requirements of this section of the code and so the proposal meets with this provision.

C. SECTION 3.108.06.C - ADEQUATE PUBLIC FACILITIES SHALL BE AVAILABLE TO SERVE THE EXISTING AND NEWLY CREATED PARCELS.

FINDINGS: As previously discussed, public sanitary sewer and water are available and can serve the newly created lots within the proposed subdivision and the applicant will be responsible for

complying with the applicable conditions governing the design, construction and installation of these public facility improvements and connections. While schools are technically not a public facility like sanitary sewer and water facilities they do in a real sense provide a public service and so be included as part of this discussion. The school district has commented that the impact on the local system as a result of the proposed development is that there will be an estimated change in the student enrollment of 14 students. The estimated impact on elementary schools is 6 students with the elementary schools at 90% capacity; the subdivision is estimated to result in 3 new students to the middle schools for an 89% capacity; and the high school can anticipate an increase of 5 new students resulting in an over capacity of 105%. The school district has certain options such as re-districting, adding additional structures to accommodate this projected growth that are beyond the scope of this review. With the requirement that the applicant be responsible for providing adequate public facilities as addressed in this report will result in this application complying with this criterion.

D. SECTION 2.316 INFILL DEVELOPMENT CRITERIA SECTION 2.316.03 - AN INFILL DEVELOPMENT PARCEL IS ANY RESIDENTIAL PARCEL NOT MORE THAN TWO (2) ACRES IN SIZE THAT IS A LOT OF RECORD, AND WHICH MEETS ANY TWO OF THE FOLLOWING CRITERIA: 1) A PARCEL WITH LESS THAN 250 FEET OF FRONTAGE ALONG A PUBLIC STREET; 2) A PARCEL WITH AN EXISTING STRUCTURE; 3) A PARCEL THAT IS IRREGULAR IN SHAPE, SUCH THAT IT CANNOT BE PARTITIONED OR SUBDIVIDED TO MEET THE MAXIMUM DENSITY OF THE UNDERLYING ZONE WITHOUT A VARIANCE; 4) A PARCEL THAT IS BOUNDED ON TWO OR MORE SIDES BY EXISTING DEVELOPMENT OR NATURAL CONSTRAINTS (I.E. WATERWAYS, STEEP SLOPES, RESOURCE PROTECTIONS AREAS).

FINDINGS: The subject parcel is more than 2 acres in size so the provisions in this section are not applicable.

E. SECTION 3.108.06.D - ROUGH PROPORTIONALITY. IMPROVEMENTS OR DEDICATIONS REQUIRED AS A CONDITION OF DEVELOPMENT APPROVAL, WHEN NOT VOLUNTARILY ACCEPTED BY THE APPLICANT, SHALL BE ROUGHLY PROPORTIONAL TO THE IMPACT OF DEVELOPMENT. FINDINGS IN THE DEVELOPMENT APPROVAL SHALL INDICATE HOW THE REQUIRED IMPROVEMENTS OR DEDICATIONS ARE ROUGHLY PROPORTIONAL TO THE IMPACT.

FINDINGS: The City has a legitimate governmental interest in assuring the development does not cause a public problem of inadequate, unsafe and inefficient public transportation facilities. This is done by ensuring that adequate streets that logically continue the City's street system are provided in order to avoid traffic generation that exceeds the street system's carrying capacity, which then causes dangerous or hazardous traffic conditions.

The applicant proposes a thirty-two (32) lot subdivision for single family residential development. The development features access onto Trent Ave / Burbank Street. The proposed lots will be served by public streets. The necessary improvement of a street is identified in Keizer Development Code Section 2.302.04. The table set forth in such section indicates the minimum improvements and right of way widths required. The applicant has proposed streets which comply with the standards within this section of the development code.

The improvement of streets adjacent to subdivisions is necessary to provide a safe and convenient transportation network to serve the residents of the applicant's subdivision. The Keizer Development Code requires that new development make road improvements to bring their road frontage up to the road classification and construction standards. The legislative adoption of the street standards require road improvements and the road construction to be provided by the development as it occurs in proportion to its impacts. The residents of the subdivision will utilize road systems constructed by other developments at no cost to them or the applicant. Other benefits which necessarily flow to the future residents of this development from the completion of the street improvements include access for vehicles, bicyclists and pedestrians to the arterial road system serving this area of the City and improved access for emergency vehicles to the subject property and its residents.

The functional classification of the fronting streets is based on the cumulative traffic impacts from the development of properties in the area which will use the streets. Both Trent Ave and Burbank Street are classified in the city's TSP as a local streets. Functional classification is established in order to ensure that the streets have adequate carrying capacity for the traffic which will utilize it to avoid traffic generation that would cause dangerous or hazardous traffic conditions. The proposed development will generate additional vehicle trips per day that will contribute to the cumulative traffic impact of the streets.

Burbank Street has a 32 foot wide paved street within a 60 foot right of way along the frontage of the property. Public Works has commented that no additional dedication will be needed along the frontage of the site it will be requirement that the applicant provide additional area that is both within and outside the proposed subdivision in order to correct a public safety issue related to the design of the new Trent Ave (to be renamed Trent Court) alignment with the Trent Ave / Burbank Street intersection. The area that will need to be dedicated and improve will be approximately 250 square feet that is within the subdivision (Lot 1) and approximately 200 square feet that is outside the proposed subdivision. The 200 square feet that is not currently part of the subdivision represents approximately 0.002% of the overall area of the site, or almost 0.02% of the lot on which it is presently situated. The requirement for this area to be improved is directly related to concerns over the alignment of the proposed street at the existing intersection. This alignment will be consistent with what was previously approved in 2008 and will represent a design that will be safer for both vehicles and pedestrians.

The City of Keizer has traditionally required developers to dedicate property for and construct standard street, sidewalk, sanitary sewer, storm drain and water supply improvements in subdivisions to meet the basic needs created by the development. The absence, in this instance, of the required street improvements would be cause for denial of the application on the basis that adequate street facilities are not available to serve the site. These traditional street improvements

have been imposed to avoid excessive congestion, negative safety impacts and provide basic services to preserve the health of the community and the residents of the proposed development. Such street improvements and dedications are now, and have traditionally been, part of the cost considered in the developer's reasonable investment-backed expectations for constructing the subdivision. The applicant will be required to dedicate to the public for the construction of the new street within the subdivision. The right-of-way dedication will allow for the improvement of the roadway within the applicant's property with curb, gutter, and 5 foot wide sidewalk along each side of the street. The applicant will be responsible for dedicating to the public and improving the full extent of the new streets within the subdivision. The new streets will serve the new residents within the subdivision. Construction shall be to City of Keizer Street standards. This analysis concludes that the improvements are roughly proportional to the impacts associated with the development of the property.

VII. RECOMMENDATION AND CONDITIONS FOR SUBDIVISION APPLICATION

The available evidence indicates the subdivision proposal complies with the decision criteria. Staff recommends approval of the subdivision subject to the following conditions, which shall be completed, including review and approval by the appropriate department, prior to the time lines outlined below. Compliance with the Conditions of Approval shall be the sole responsibility of the applicants and/or property owner.

1. SANITARY SEWERS:

The subject property is located outside the original Keizer Sewer District. Therefore a sanitary sewer trunk line acreage fee will be required unless the applicant can provide evidence that an acreage fee has been previously paid.

- a.) City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer shall submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area.
- b.) Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Appropriate easements for any public sewer mains located within the subject property, if located outside platted right of ways, will need to be recorded in a form which meets the City of Salem Design Standards and shown on the subdivision plat.
- c.) It will be the responsibility of the developers engineer to locate any existing wells (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting of the proposed subdivision, shall eliminate any conflicts between existing wells and proposed sanitary sewers.

2. WATER SYSTEM:

- a.) A master water system plan showing proposed routes of public water mains, fire hydrants and individual services shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of ways. Any system development charges for water system improvements will be those in place at the time of individual service connections.
- b.) Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to any issuance of building permits by the City of Keizer. All required fire hydrants shall be served by an 8 inch water main.
- c.) Any existing wells on the subject property are to be abandoned. The developer shall provide evidence that any abandonment of existing wells has been completed in accordance with the rules of the Oregon State Water Resources Department.
- d.) Location of all meters to be approved by Keizer Water Department.

3. STREET AND DRAINAGE IMPROVEMENTS:

- a.) The developers engineer shall submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer.
- b.) Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation test and soil analysis shall be performed by a qualified geotechnical engineer. Storm Water calculations shall be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system.
- c.) The proposed subdivision will be served by a new street connected to the intersection of Trent Ave. N. and Burbank St. N. The proposed new intersection shall be as close to a "T" intersection as possible. The most recent plan submitted to the Public Works Department needs to be revised at the proposed new intersection to meet the Public Works Department requirements.

A previously approved subdivision, (Bowden Estates), of the subject property provided for access to the Trent Ave. N. - Burbank St. N. intersection in a manner that was acceptable to the City of Keizer Public Works Department. The proposed new

subdivision will be required to provide a similar access. Attached to this report are two exhibits from the originally approved Bowden Estates for reference.

A private access easement is being proposed at the west end of Aroma Ct. N. which will furnish access to the existing Bowden Lane to the west of the subject property. The width and structural depth of the proposed access easement shall meet the requirements of the Keizer Fire District, including any signage and access control features. The west end of the access easement shall be gated with an improvement acceptable to the Fire District.

The applicant will be required to obtain U.I.C. permits (Underground Injection Control) from the Oregon State Department of Environmental Quality and each individual lot will be required to furnish evidence that a Registered U.I.C. has been obtained for all roof drains.

- d) A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property and shall include existing elevations and proposed lot corner elevations. This plan shall be submitted and approved by the Public Works Department prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc., will be required for review prior to any plan approval.

4. OTHER

- a.) A street lighting district shall be created at the expense of the applicant to provide for adequate street lights along the frontage of all proposed new lots.
- b.) Construction permits are required by the Public Works Department prior to any public facility construction.
- c.) A Pre-design meeting with the City of Keizer Public Works Department will be required prior to the Developer's Engineer submitting plans to either the city of Keizer or the City of Salem for review.
- d.) Street opening permits are required for any work within the City Right of Way that is not covered by a Construction Permit.
- e.) A Pre-construction conference shall be required prior to commencement of any construction under permits issued by the city.
- f.) An improvement agreement shall be executed between the developer and the City of Keizer prior to recording of the subdivision plat.

- g.) A master utility plan including all proposed power, telephone, gas and cable TV. lines shall be submitted to the Public Works Department for review prior to the Department issuing construction permits for the proposed project.
- h.) Erosion control permits shall be obtained from the City of Keizer prior to the disturbance of any soil on the subject property. Additionally, if required by the Oregon Department of Environmental Quality, a 1200-C permit will be required from the Oregon Department of Environmental Quality and furnished to the City of Keizer by the developer prior to issuance of an erosion control permit.
- i.) Mailbox details indicating proposed locations and approved by the U.S. Post Office shall be submitted to the Public Works Department.

Preliminary Plat Approval:

- 5. A detailed preliminary subdivision plat shall be submitted to the Marion County Surveyor's office for review. Marion County Surveyor's office will then submit the plat to Keizer for review and approval. The Preliminary Plat must be submitted for review prior to submittal of a final plat. Title transfer instruments accomplishing the property adjustments shall be recorded with the Marion County Clerk within 1 year from the date of final decision on this application or a one year extension must be requested and approved by the Community Development Director prior to the one year time period.
 - a. A checking fee and second Mylar fee is required.
 - b. A current or updated title report must be submitted at the time of review. Title reports shall be no less than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.
 - c. Subdivision name must be approved per Oregon Revised Statue 92.090.
 - d. Must be surveyed and platted per Oregon Revised Statue 92.050.
 - e. Per Oregon Revised Statue 92.065 remaining monumentation bond may be required if some of the plat monuments have not been set and/or the installation of street and utility improvements has not been completed, or other conditions or circumstances cause the delay (or resetting) of monumentation.
 - f. Include all engineering elements as required by the Department of Public Works.
 - g. For all public water mains, fire hydrants and any public sewer mains located within the subject property (if located outside platted right of ways) easements will be required and will need to be recorded. These easements shall meet the City of Keizer or City of Salem (where applicable) Design Standards and shall be shown on the subdivision plat.
 - h. 10 foot wide public utility easements (PUE) shall be shown along all dedicated right of ways.
 - i. All lots shall conform to lot dimension standards within the RS zone.
 - j. Street and access easement names to be shown on plat.
 - k. PGE easement to be shown on plat.

6. With the Preliminary plat a copy of the proposed CC&R's, Owners Agreements, Articles and By-Laws shall be submitted to the Community Development Department for review as outlined in Section 3.108.07 of the Keizer Development Code. The following information should be included within the instrument(s):
 - a. Information regarding care and maintenance of street trees.
 - b. Existence of all easements on the property that may affect use of lots.
 - c. Language indicating that the property is near lands that are in agricultural production and acknowledges that farm uses can result in noise, dust, odors.
 - d. Language indicating that property is near the Willow Lake Sewer Treatment Plant and acknowledges that this facility can produce noise and odors.
7. Applicant shall submit a Tree Replacement Plan to the city showing the approximately location of all trees to be planted to replace any trees that are removed.

Final Plat approval:

8. Upon approval of the preliminary agreement, a final copy of any CC&R's, Homeowner Agreements, or other instrument shall be submitted to the Community Development Department which conforms to the agreements submitted during preliminary plat approval.
9. Upon approval of the detailed preliminary plat and engineering plans, a final plat for the subdivision, which conforms to the preliminary plat approval, must be submitted for review to Marion County Surveyor's Office.
10. An easement/waiver regarding potential wastewater treatment plant impacts shall be developed and record prior to the final plat being recorded. This mechanism shall be reviewed by the City Attorney.

Prior To Obtaining Building Permit(s):

11. No building permits shall be issued until the plat is recorded and all conditions of any construction permits are completed to the satisfaction of the Department of Public Works.
12. The access easement shall be a minimum of twenty (20) feet of unobstructed width; with a minimum paved width of sixteen (16) feet which shall be located substantially within the center of the access easement. Turn around to comply with turn around standards. No parking shall be permitted within the twenty (20) foot minimum required width. The construction and paving of the access easement, installation of the street addressing signage, and any required no parking signage shall be completed prior to approval of the final plat. In lieu of this, the applicant may obtain a performance bond, improvement agreement or other instrument acceptable to the City as outlined in Section 3.202.02.F.3

and 3.202.05.B of the Keizer Development Code. Improvement agreements may be obtained from the Community Development Department. A copy of reciprocal cross access easement agreement shall be provided to the city.

13. The maintenance and replacement of the access easement, “no parking” signage, and address display signage shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the City and shall be recorded with the Marion County Clerk. A copy of the agreement shall be submitted to the Community Development Department for review and approval. The agreement shall also include language stipulating that the agreement cannot be extinguished without written approval of the City of Keizer.

Prior to Obtaining Building Permit Final for each dwelling within the Subdivision:

14. The residential address requirements found in the Oregon Uniform Fire Code shall be completed as approved by Keizer Fire District and Community Development Department. Access easement sign shall be provided and placed by the applicants in accordance with city standards.
15. Sanitary sewer permits must be received and/or sewer taps and system development charges must be paid due and payable to the City of Salem.
16. The trees designated as replacement trees from the Tree Replacement Plan are to be planted within the subdivision shall be planted prior to final inspection approval for each individual lot as shown on the Tree Replacement Plan.
17. Applicant or any contractors building on lots shall comply with all applicable city regulations regarding noise, dust, times of construction, etc.
18. A 6 foot high fence shall be located along the rear property line of all lots that are adjacent to lands designated EFU that are to the south, west, and north of the proposed subdivision.
19. Each lot with direct access onto a public street shall provide two parking spaces per lot and any lot served by an access easement shall provide 3 on-site parking spaces.

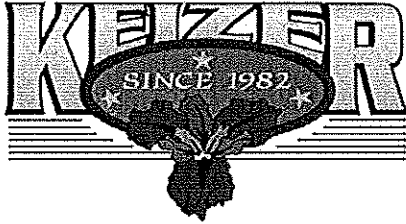


Exhibit '1'

**CITY OF KEIZER
SUBDIVISION
MANUFACTURED HOME PARK
APPLICATION**

- ☒ Subdivision
☐ PUD
☐ Manufactured Home Park

RECEIVED
CITY OF KEIZER

MAY 20 2015

COMMUNITY DEVELOPMENT

If there are any questions, who should be contacted (Agent)?

Name: Mark Grenz P.E.

Address: 1155 SE 13th St., Salem, OR 97302

Daytime Phone Number: 503-363-9227

Fax: 503-364-1260 Email: MGrenz@mtengineering.net

1. <u>Applicant Name</u>	<u>Address</u>
<u>Mark Farrow</u>	<u>PO Box 5248</u>
<u>Trademark Enterprises, LLC</u>	<u>Salem, OR 97304</u>
<u>Phone 503-362-2322</u>	<u>LLC</u>

Complete the following property owner information if the property owner is different from the applicant. Please be aware that the current property owner must also sign the application.

2. <u>Property Owner Name</u>	<u>Address</u>
① <u>Robert M. Bowden</u>	<u>7195 SW East Lake Court</u>
② <u>JDC Homes, LLC</u>	<u>Wilsonville, OR 97070</u>
<u>901 N. Brutscher St.</u>	
<u>Newberg, OR 97132</u>	

3. This application is made for conceptual approval of a proposed 32 lot subdivision to be known as Bowden Meadows.
4. Street Address of subject property: _____.
5. Acreage to be subdivided: 5.43 acres.
6. Number of lots to be created: 32. Proposed number of residential units 32.
7. Range of lot sizes: Smallest 5,000 (acres/square feet)
 Largest 10,856 (acres/square feet)
 Average 6,033 (acres/square feet)

A. Please provide a written response to the following Review Criteria as specified in Section 3.108.06 of the Keizer Land Development Code.

1. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.310 as appropriate, including provisions for streets and utilities.
2. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.
3. Adequate public facilities shall be available to serve the existing and newly created parcels.

B. Please attach 15 copies of preliminary plan with required information as noted on attached information sheet.

STREET/ACCESS EASEMENT NAMING

If new street(s) or private access easement(s) are created with the proposed development, please provide four name choices in order of preference.

1. Bernard
2. Dockery
3. Jenkins
4. Payer

THE APPLICANT(S) SHALL CERTIFY THAT:

- (a) The above subdivision request does not violate any deed restrictions that may be attached to or imposed upon one, both, or all of the subject properties.
- (b) If the application is approved, the applicant(s) will exercise the rights granted in accordance with that approval and will be subject to all conditions and limitations of approval.
- (c) All of the above statements and the statements included on the plot plan and exhibits attached to the plot plan are true to the best of the applicants knowledge; and the applicants acknowledge that any permit issued on the properties may be revoked if it is found that any statements are false.
- (d) The applicant(s) acknowledge that this application and all applicable policies and criteria have been read and understood, and that the requirements and criteria for approving or denying the application are also understood.

SIGNATURE(s) of APPLICANTS

NOTE: If the applicants are not the property owner(s), the current property owner MUST sign the application.

Mark E. Jones

5-13-15
Date

Date

AGENT AUTHORIZATION

Fill out and sign this portion of the application if you (the applicant) are going to designate another individual as your agent. By signing this section you authorize the person named to act as your agent and agree to be bound by all representations and agreements made by the designated agent.

I, _____, hereby authorize _____
to act as my representative and agent in all matters pertaining to the processing and approval of this
land use application, and agree to be bound by all representations and agreements made by the
above designated agent.

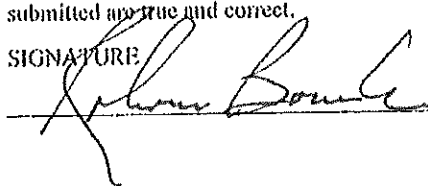
Date

Date

AUTHORIZATION BY PROPERTY OWNER(S)

Property owners and contract purchasers are required to authorize the filing of this application and must sign below. All signatures represent that they have full legal capacity to and do hereby authorize filing of this application and certify that the information and exhibits herewith submitted are true and correct.

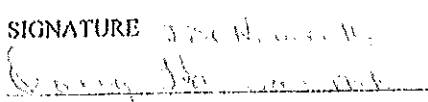
SIGNATURE



ADDRESS & PHONE

7195 S.W. EAST LAKE CT.
WILSONVILLE, OR 97070
Phone 503 694 6222

SIGNATURE



ADDRESS & PHONE

901 W. Brookfield St. #100
Wilsonville, OR 97070
Phone 503 694 6222

FOR OFFICE USE ONLY

Township _____ Range _____ Section _____

Tax Lot Number(s) _____

Zone _____

Date application determined complete

Application elements submitted:

_____ (a) Title transfer

_____ (b) Plot plan (15 copies)

_____ (c) Applicant Statement/questions

_____ (d) Filing fee

Application accepted by _____

AGENT AUTHORIZATION

Fill out and sign this portion of the application if you (the applicant) are going to designate another individual as your agent. By signing this section you authorize the person named to act as your agent and agree to be bound by all representations and agreements made by the designated agent.

I, _____, hereby authorize _____
to act as my representative and agent in all matters pertaining to the processing and approval of this
land use application, and agree to be bound by all representations and agreements made by the
above designated agent.

Date

Date

AUTHORIZATION BY PROPERTY OWNER(S)

Property owners and contract purchasers are required to authorize the filing of this application and must sign below. All signatures represent that they have full legal capacity to and do hereby authorize filing of this application and certify that the information and exhibits herewith submitted are true and correct.

SIGNATURE

ADDRESS & PHONE

Phone _____

SIGNATURE

JDC Homes, Inc

Quang Thannan mb

ADDRESS & PHONE

901 N Brutscher St Ste 201

Newberg Or 97132

Phone 503 538-0404

FOR OFFICE USE ONLY	
Township ____ Range ____ Section ____	Application elements submitted:
Tax Lot Number(s) _____	____ (a) Title transfer
Zone _____	____ (b) Plot plan (15 copies)
	____ (c) Applicant Statement/questions
	____ (d) Filing fee
Date application determined complete _____	Application accepted by _____

BOWDEN MEADOWS-SUBDIVISION

PROPOSAL:

The applicant is proposing to subdivide 5.43 acres into 32 lots on property located on Bowden Lane (063W33/1600). Lots 68 and 69 of Windsor Woods No. 2 (063W33DA/1500 & 1600) are included in this subdivision proposal.

VICINITY:

The subject properties are all zoned Residential Single Family and located within the City of Keizer. The subject properties are all vacant. The subject property does not meet the definition of an infill lot since the site is over 2 acres in size.

Surrounding zoning and land uses:

North: Exclusive Farm Use zoned; existing farm land
South: Outside City Limits; existing single family dwelling
East: Residential Single Family zoned; vacant lots and existing single family dwellings
West: Outside City Limits; existing farm land

SUBDIVISION CRITERIA:

Chapter 3.108.06 Review Criteria Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

A. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.

B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.

C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.

D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

APPLICAN'S REASONS ADDRESSING SUBDIVISION REVIEW CRITERIA:

The applicant is proposing to subdivide 5.43 acres into 32 lots on property located on Bowden Lane (063W33/1600). Lots 68 and 69 of Windsor Woods No. 2 (063W33DA/1500 & 1600) are included in this subdivision proposal.

KMC 2.102.06 Development Standards:

Development of single family dwellings on the subject property will comply with minimum applicable development standards for lot coverage, landscaping, setbacks, building height, and design review standards under KMC 2.314 and 2.315. There is sufficient lot area available on the proposed lots that a dwelling and a garage can be constructed on each lot to meet minimum zone code standards. A sidewalk can be installed with a building permit application. Compliance with applicable fire/life/safety code requirements occurs as a building permit is submitted to and reviewed by the City for issuance of a building permit for the subject property.

The proposed lots range in size from 5,000 to 10,856 square feet. With an average lot size of 6,033 square feet in size. Therefore, meeting or exceeding the minimum requirements.

KMC 2.301 General Provisions:

The Keizer Comprehensive Plan (KCP) designates the subject property as Single Family Residential. The zoning of the subject property conforms to this designation. The subject property is located within the Urban Growth Boundary. The subdivision code, KMC Chapter 2.3 implements the KCP Residential Goal and Policies.

The intent of the subdivision code is to provide for orderly development through the application of appropriate rules and regulations. Further compliance with code standards for the subdivision is detailed below. Completion of the requirements as part of final plat approval provides conformance with the requirements of this chapter.

KMC 2.302 Street Standards:

The subject property is located in a developed and developing area where improved streets and sidewalks continue with new development. The local street system serving the development provides the necessary connections and access to the local street and circulation system serving this residential neighborhood.

The proposed subdivision will provide a 26-foot wide local street with sidewalks which will provide access to the neighborhood to the east of the site, Windsor Woods No. 2. A 26-foot wide stub street connection is being provided to Bowden Lane (which is not a designated or improved) to the west and a stub street is also being provided to the property to the south for future development. Lots 68 and 69 of Windsor Woods No. 2 are included in this proposal to provide the local street extension to the east. See attached site plans.

Access to and from the subject property was discussed with staff at the pre-application conference. The applicant's lot and street layout reflects staff's recommendations and requirements.

Access to, within, and from the development must be consistent with applicable requirements of the Transportation Planning Rule Requirements (TPR) that requires that development provide connectivity between land uses and transportation. Under the Rule, developments are responsible for providing for the safe and efficient circulation of vehicles, bicycles, and pedestrians into, through, and out of a development. The proposal develops the subject property within an established residential area where local and arterial streets and mass transit facilities exist. These facilities connect the transportation system to the surrounding

residential neighborhoods.

The Public Works Department will address the level of street improvements that are roughly proportional to assure conformance to the development to subdivision code and applicable transportation system plan requirements. Completion of conditions of approval prior to the signing of the final plat will satisfy this criterion for the subdivision application.

KMC 2.303 Off-Street Parking and Loading:

On-site parking for the single family dwellings will be constructed at the time of development. A minimum of two parking spaces will be provided on the site for each lot. Bike, van and car-pool parking and off-street loading facilities are not required for single family dwellings.

KMC 2.305 Transit Facilities:

The nearest neighborhood activity centers are Keizer Elementary School located to the northeast of the site and Keizer Rapids Park located to the south of the site. Mass Transit Route 18 (Keizer West) provides service on Lockhaven Drive (east of the site).

KMC 2.306 Storm Drainage:

The City has adopted storm water management plan standards. The tentative site plan shows existing storm drain facilities within the subject property.

Development of single family dwellings on the subject property will connect roof drains to the public storm drain line within the subject property or to the abutting street. Storm drain plans are required to be submitted to and approved by the Public Works Department for final plat approval or for individual building permits on the subject property. The site is relatively level and grading will be done according to acceptable building code and construction standards when development occurs.

KMC 2.307 Utilities and Facilities:

Water and sewer services are available to the subject property. KMC 2.307 does not require the submittal of facility construction plans for tentative subdivision plan review and approval. Final approval requires facilities be made available to serve the site. The location and size of the facilities are illustrated on the tentative plan. There is no evidence that these facilities are not available. Cost for the installation and extension of these facilities is the responsibility of the developer.

Further compliance review with applicable code standards will occur when plans for public facilities and a final plat are submitted for review and approval.

KMC 2.310.03 (A) Minimum Lot Area:

A minimum lot size of 5,000 square feet is required for detached single family dwelling units. The proposal complies with this criterion (Keizer Municipal Code (KMC) Chapter 2.102.05).

Lots range from 5,000 square feet to 10,856 square feet in size. The average lot size within the proposed subdivision is 6,033 square feet. Lot sizes and dimensions are shown on the tentative plan.

KMC 2.310.03 (C) Lot Width and Depth:

The proposed lots meet the minimum lot width and depth requirements. All lots have at least a 50-foot wide lot width. All lots have at least a 100-foot lot depth. All dimensions are shown on the tentative plan.

KMC 2.310.03 (D) Access:

The subject property is located on the east side of Bowden Lane. Bowden Lane is an unimproved road. Access onto Bowden Lane is not allowed. A stub street to Bowden Lane has been provided for future development.

The subject property will have access onto the already existing street system within the neighborhood to the east (Windsor Woods No. 2), as shown on the site plan. The property to the south is outside the city limits, however, a stub street connection is being provided for future development of this site.

The proposed internal streets meet Fire Code for emergency vehicles.

Therefore, the subject property will help to provide further circulation through the existing neighborhoods on to the existing street system and for future development to the south.

KMC 2.310.03 (F) Through-Lots:

There are no through lots proposed within this subdivision.

KMC 2.310.03 (G) Lot Lines:

Lot lines for proposed lots are perpendicular to Bowden Lane and the internal streets as shown on the site plan.

KMC 2.310.03 (H) Utility Easements:

Public and any private utility easements will be shown on the final plat as required per Public Works Department standards for final plat approval. The tentative plan shows the location of water, sewer and storm drain lines. Easements for the public facilities will be noted on the final plat.

KMC 2.310.04 (A) Block Standards:

The block lengths within the proposed subdivision do not exceed 600 feet in length as shown on the site plan. The length, width, and shape of block take into consideration access, safety, traffic circulation, and the surrounding properties.

KMC 2.310.04 (B) Traffic Circulation and (C) Connectivity:

The major street network in the area has been established and is consistent with the Transportation System Plan which implements the Comprehensive Plan. Public Works Department will address any applicable requirements for right-of-way conveyance that might be required because of this subdivision.

Trent Avenue to the east is a 'local' street that provides connection to the existing street system that serves the area. All proposed internal streets will be designed to street standards.

The subdivision is served with adequate transportation infrastructure and the street system adjacent the property conforms to the Transportation System Plan and provides for safe, orderly, and efficient circulation

of traffic into, through, and out of the subject property once the access ways are hard-surfaced and physically connected to the public street system. See attached site plan.

The subject property will have access onto the already existing street system within the neighborhood to the east, as shown on the site plan. Connectivity has been provided via the local street connection to the existing subdivision to the east and a local street stub connection to the vacant property to the south for future development. Therefore, this criteria has been met.

KMC 2.310.06 Improvement Requirements-Subdivisions:

The proposed local streets will be improved to City standards as shown on the site plans. The proposed local streets will be 26 feet wide curb to curb, with a 5-foot wide sidewalk on both sides.

All required public facilities such as sewer and water are available and will be extended to the site. The facility improvements will conform to the requirements and specifications of the Keizer Department of Public Works.

KMC 2.310.07 Improvement Procedures:

Improvement plans will be prepared, submitted to and approved by the City. All utilities will be underground as required by the City for public facilities and private facilities.

Natural Features:

There are no trees located throughout the subject property. Therefore, a tree removal plan is not required.

The subject property does not contain any identified wetland areas or water bodies. As indicated by staff at the pre-app, the property is not within an identified flood plain.

This concludes the applicant's summary addressing the requirements of the code for subdividing the subject property. If you have any questions or need additional information, please call Mark Grenz, P.E., at Multi/Tech Engineering, Inc., Salem, OR at (503) 363-9227.

cc: File

Litke, Sam

From: Brandie Dalton <BDalton@mtengineering.net>
Sent: Tuesday, June 16, 2015 11:35 AM
To: Litke, Sam
Subject: RE: bowden estates

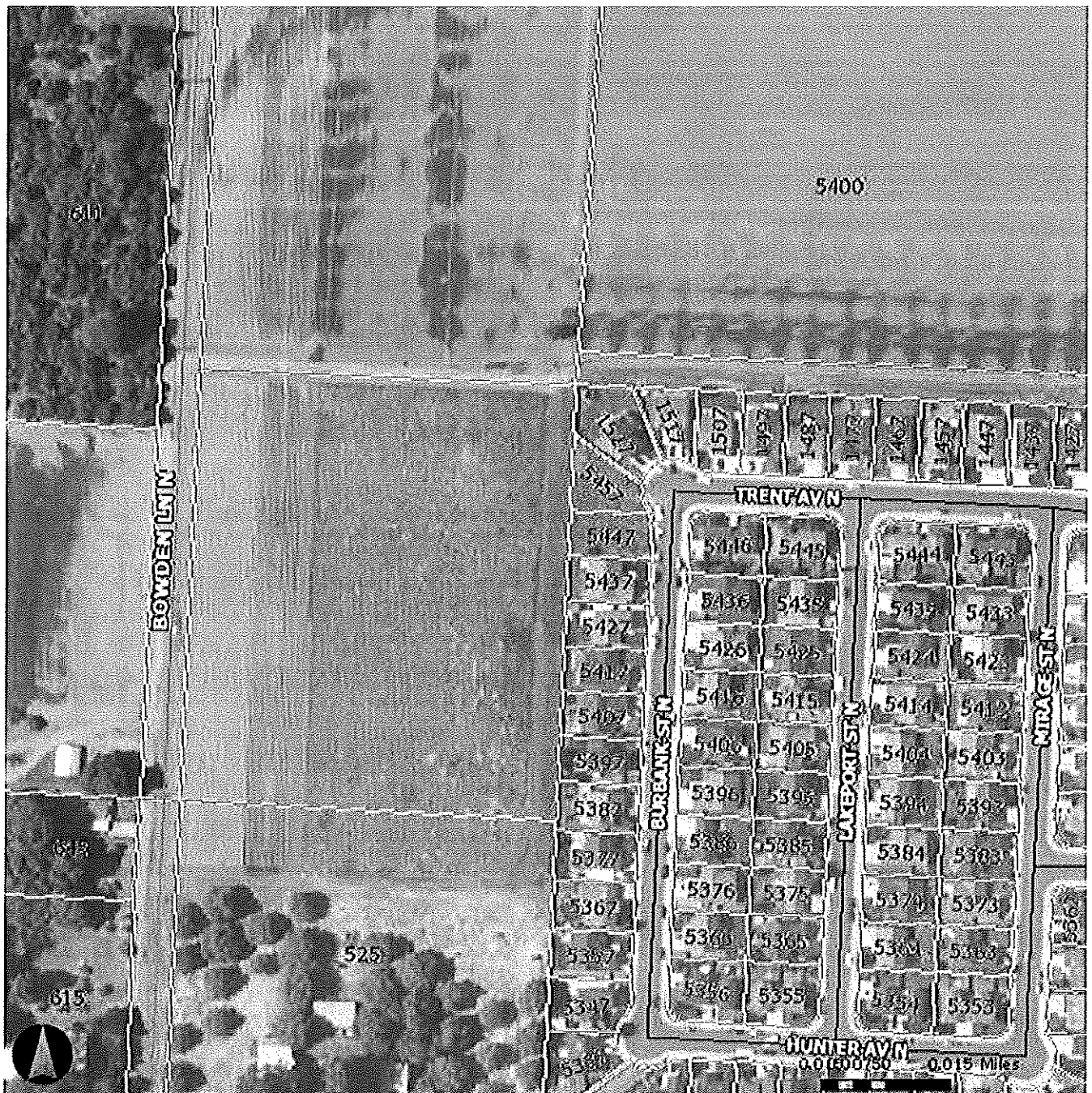
Sorry about the confusion. The 26 feet is a typo and should say 46 foot. So the site plan is correct with a 32 foot wide street within a 46 foot wide row.

From: Litke, Sam [mailto:LitkeS@Keizer.org]
Sent: Tuesday, June 16, 2015 10:58 AM
To: Brandie Dalton (BDalton@mtengineering.net)
Subject: bowden estates

Brandie,
Maybe you can help me out. The site plan shows a 32 foot wide street within a 46 foot wide ROW for the Bowden Estates subdivision but the written application says that the streets will be 26 feet wide. Which is correct? You see the Fire District is relying on the written statement and so want to require no parking along the streets and have them painted as fire lanes.

Sam Litke,
Senior Planner
503-856-3442





LEGEND

LINE TYPES

TAX LOT BOUNDARY	OLD PROPERTY LINE
ROAD RIGHT-OF-WAY	VACATED RIGHT-OF-WAY
RAILROAD	RAILROAD RIGHT-OF-WAY
STREAM, LAKE, ETC.	STREAM, LAKE, ETC.
TAX LOT BOUNDARY	NON-BOUNDARY
SUBDIVISION BOUNDARY	PARTITION PLAT BVD.
TAX CODE BOUNDARY	EASEMENT

SYMBOL TYPES

D.L.C.	⊙
CONTROL POINTS	△
SURVEY MONUMENTS	•
C.L.A. CORNERS	⊕
SECTION	1/4 SEC 1/16 SEC
1/4 SEC	1/16 SEC
1/16 SEC	1/32 SEC

NUMBERS

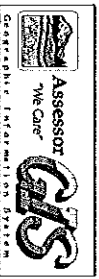
TAX CODE NO.
000 00 00 0

ABSTRACT - ALL ABSTRACTS EXCLUDE ANY PORTION THAT MAY LIE WITHIN THE INDICATED PUBLIC RIGHT OF WAY.

TICK MARKS - WHEN A TICK MARK IS INDICATED ON THE EXTENSION OF A LINE, THEN THE DIMENSION GOES TO THE TICK MARK. GENERALLY THIS IS USED WHEN DIMENSIONS GO INTO PUBLIC RIGHT OF WAY.

ARROWS ARE USED WITH DIMENSIONS IN AREAS OF GREATER COMPLEXITY.

NOTICE: This map was created for Assessor's Office use ONLY.



SCALE 1" = 100'

Plot file created: November 16, 2011
Assessor's Office

NE 1/4 SE 1/4 SEC. 38 T6S R3W WM, MARION COUNTY

6 3W 33DA

1/4 COR



SEE MAP 06 3W 33

SEE MAP 06 3W 34C

SEE MAP 06 3W 34C

SEE MAP 06 3W 33

SEE MAP 06 3W 33

SEE MAP 06 3W 3300

924 20 22 0



BE

NO PART OF ANY STEVENS-NESS FORM MAY BE REPRODUCED IN ANY FORM OR BY ANY ELECTRONIC OR MECHANICAL MEANS.



Marsha A. Matthiesen
PO Box 156
Dundee, OR 97115
Grantor's Name and Address
JDC Homes, LLC
901 N. Brutscher St., Suite 201
Newberg, OR 97132
Grantee's Name and Address
After recording, return to (Name, Address, Zip):
JDC Homes, LLC
901 N. Brutscher St., Suite 201
Newberg, OR 97132
Until requested otherwise, send all tax statements to (Name, Address, Zip):
JDC Homes, LLC
901 N. Brutscher St., Suite 201
Newberg, OR 97132

REEL 3683 PAGE 103
 MARION COUNTY
 BILL BURGESS, COUNTY CLERK
 03-25-2015 09:34 am.
 Control Number 380869 \$ 46.00
 Instrument 2015 00010374

SPACE RESERVED
 FOR
 RECORDERS USE

and/or as fee/file/instrument/microfilm/reception
 No. _____, Records of this County.

Witness my hand and seal of County affixed.

NAME TITLE

By _____, Deputy.

WARRANTY DEED

KNOW ALL BY THESE PRESENTS that Marsha A. Matthiesen

hereinafter called grantor, for the consideration hereinafter stated, to grantor paid by JDC Homes, LLC

hereinafter called grantee, does hereby grant, bargain, sell and convey unto the grantee and grantee's heirs, successors and assigns, that certain real property, with the tenements, hereditaments and appurtenances thereunto belonging or in any way appertaining, situated in Marion County, State of Oregon, described as follows, to-wit:

Lots 68 & 69, Windsor Woods No. 2, in the City of Keizer, County of Marion, State of Oregon.

(IF SPACE INSUFFICIENT, CONTINUE DESCRIPTION ON REVERSE)

To Have and to Hold the same unto grantee and grantee's heirs, successors and assigns forever.

And grantor hereby covenants to and with grantee and grantee's heirs, successors and assigns, that grantor is lawfully seized in fee simple of the above granted premises, free from all encumbrances except (if no exceptions, so state): current taxes, assessments, reservations in patents and all agreements, easements, rights-of-way, encumbrances, liens, setback lines, reservations, powers of special districts, covenants, conditions and restrictions as may appear of record. and that grantor will warrant and forever defend the premises and every part and parcel thereof against the lawful claims and demands of all persons whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$ 178,000.00. [Ⓢ] However, the actual consideration consists of or includes other property or value given or promised which is ☐ the whole ☒ part of the (indicate which) consideration. [Ⓢ] (The sentence between the symbols [Ⓢ], if not applicable, should be deleted. See ORS 93.030.)

In construing this deed, where the context so requires, the singular includes the plural, and all grammatical changes shall be made so that this deed shall apply equally to corporations and to individuals.

In witness whereof, the grantor has executed this instrument on March 19, 2015; if grantor is a corporation, it has caused its name to be signed and its seal, if any, affixed by an officer or other person duly authorized to do so by order of its board of directors.

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

Marsha A. Matthiesen
 Marsha A. Matthiesen

STATE OF OREGON, County of Yamhill ss.

This instrument was acknowledged before me on March 19, 2015

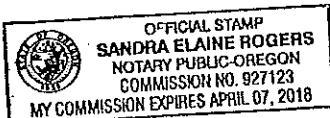
by Marsha A. Matthiesen

This instrument was acknowledged before me on _____

by _____

as _____

of _____



Sandra Rogers
 Notary Public for Oregon
 My commission expires 4/7/18

REEL: 3683

PAGE: 103

March 25, 2015, 09:34 am.

CONTROL #: 380869

State of Oregon
County of Marion

I hereby certify that the attached
instrument was received and duly
recorded by me in Marion County
records:

FEE: \$ 46.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

REEL 3475 PAGE 74
MARION COUNTY
BILL BURGESS, COUNTY CLERK
02-21-2013 10:52 am.
Control Number 333503 \$ 51.00
Instrument 2013 00007791

AFTER RECORDING
RETURN TO:
Robert M. Bowden
Joyce E. Bowden
7195 SW East Lake Court
Wilsonville, OR 97070

GRANTOR INFORMATION:
Robert M. Bowden
7195 SW East Lake Court
Wilsonville, OR 97070

GRANTEE INFORMATION:
Robert M. Bowden, Trustee
7195 SW East Lake Court
Wilsonville, OR 97070

SEND TAX STATEMENTS TO:
Robert M. Bowden
7195 SW East Lake Court
Wilsonville, OR 97070

STATUTORY WARRANTY DEED

ROBERT M. BOWDEN, GRANTOR, conveys to ROBERT M. BOWDEN, trustee of the ROBERT M. BOWDEN TRUST DATED February 19, 2013, GRANTEE, in the following real property situated in Marion County, Oregon, to wit:

See Exhibit "A" attached hereto and incorporated by reference herein.

The true and actual consideration paid for this transfer, stated in terms of dollars, is \$NIL. This transfer is being made for estate planning purposes.

TO HAVE AND TO HOLD the same unto the said GRANTEE'S and GRANTEE'S heirs, successors and assigns forever.

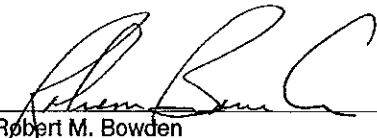
And grantor hereby covenants to and with GRANTEE'S and GRANTEE'S heirs, successors and assigns, that GRANTORS are lawfully seized in fee simple of the above granted premises, free from all encumbrances except those of record or those of an obvious nature, and that GRANTORS will warrant and forever defend the premises and every part and parcel thereof against the lawful claims and demands of all persons whomsoever, except those claiming under the above described encumbrances.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, AND SECTIONS 2 TO

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

In construing this deed and where the context so requires, the singular includes the plural and all grammatical changes shall be implied to make the provisions hereof apply equally to corporations and to individuals.

19 IN WITNESS WHEREOF, the GRANTORS have executed this instrument this day of February, 2013.


Robert M. Bowden

STATE OF OREGON)
) ss.
County of Clackamas)

This instrument was acknowledged before me on February 19, 2013, by Robert M. Bowden.



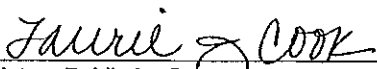

Notary Public for Oregon
My Commission Expires: 8-31-2016

EXHIBIT "A"

Commencing at an iron pipe located at the Southwest corner of a tract of land deeded by Susie Jones to R. F. Hoffman, the said point being more particularly described as being situated South 89° 45' West 27.59 chains from an iron pipe in the center of County Road which is 55.22 chains West and 39.81 chains North 26° 45' West from the Southeast corner of the John Ford Donation Land Claim in Township 6 South, Range 3 West; and running thence North along the West line of the R. F. Hoffman Tract of land, 7.81 chains; thence South 89° 45' West 7.51 chains; thence South 21.56 chains; thence East 7.51 chains; thence North 13.70 chains to the place of beginning.

SAVE AND EXCEPT the Westerly 50.00 feet of the above described tract of land, said 50.00 foot strip having been conveyed to the City of Salem by deed recorded in Reel 283, Page 1861, Marion County Records.

ALSO SAVE AND EXCEPT the Southerly 383.00 feet of the above described tract of land.

REEL: 3475

PAGE: 74

February 21, 2013, 10:52 am.

CONTROL #: 333503

State of Oregon
County of Marion

I hereby certify that the attached
instrument was received and duly
recorded by me in Marion County
records:

FEE: \$ 51.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

OREGON SECRETARY OF STATE
Corporation Division

HOME

business information center **business name search** oregon business guide

referral list business registry/renewal forms/fees notary public

uniform commercial code uniform commercial code search documents & data services

Business Name Search

[New Search](#) [Printer Friendly](#)

Business Entity Data

05-18-2015
11:02

Registry Nbr	Entity Type	Entity Status	Jurisdiction	Registry Date	Next Renewal Date	Renewal Due?
653523-88	DLLC	ACT	OREGON	09-22-1998	09-22-2015	
Entity Name	JDC HOMES, LLC					
Foreign Name						

[New Search](#) [Printer Friendly](#)

Associated Names

Type	PPB	PRINCIPAL PLACE OF BUSINESS				
Addr 1	901 N BRUTSCHER STE 201					
Addr 2						
CSZ	NEWBERG	OR	97132		Country	UNITED STATES OF AMERICA

Please click [here](#) for general information about registered agents and service of process.

Type	AGT	REGISTERED AGENT		Start Date	04-14-1999	Resign Date	
Name	CURTIS	D	WALKER				
Addr 1	901 N BRUTSCHER STE 201						
Addr 2							
CSZ	NEWBERG	OR	97132	Country	UNITED STATES OF AMERICA		

Type	MEM	MEMBER			Resign Date	
Name	JUBAL	S	FROST			
Addr 1	PO BOX 6148					
Addr 2						
CSZ	BEAVERTON	OR	97007	Country	UNITED STATES OF AMERICA	

Type	MEM	MEMBER			Resign Date	
Name	DOUGLAS	C	HARNAR			
Addr 1	PO BOX 1094					
Addr 2						

CSZ	SALEM	OR	97308	Country	UNITED STATES OF AMERICA

Type	MEM	MEMBER		Resign Date	
Name	CURTIS	D	WALKER		
Addr 1	901 N BRUTSCHER STE 201				
Addr 2					
CSZ	NEWBERG	OR	97132	Country	UNITED STATES OF AMERICA

[New Search](#)
[Printer Friendly](#)

Name History

Business Entity Name	Name Type	Name Status	Start Date	End Date
JDC HOMES, LLC	EN	CUR	09-22-1998	

Please read before ordering Copies.
[New Search](#)
[Printer Friendly](#)

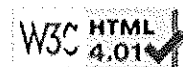
Summary History

Image Available	Action	Transaction Date	Effective Date	Status	Name/Agent Change	Dissolved By
	ANNUAL REPORT PAYMENT	08-20-2014		SYS		
	ANNUAL REPORT PAYMENT	08-21-2013		SYS		
	ANNUAL REPORT PAYMENT	08-30-2012		SYS		
	ANNUAL REPORT PAYMENT	08-26-2011		SYS		
	ANNUAL REPORT	08-24-2010		FI		
	ANNUAL REPORT PAYMENT	08-19-2009		SYS		
	ANNUAL REPORT PAYMENT	08-14-2008		SYS		
	ANNUAL REPORT PAYMENT	08-14-2007		SYS		
	ANNUAL REPORT PAYMENT	08-15-2006		SYS		
	AMNDMT TO ANNUAL RPT/INFO STATEMENT	03-28-2006		FI		
	ANNUAL REPORT PAYMENT	08-17-2005		SYS		
	ANNUAL REPORT PAYMENT	08-24-2004		SYS		
	ANNUAL REPORT PAYMENT	08-18-2003		SYS		

	ANNUAL REPORT PAYMENT	08-13-2002		SYS		
	ANNUAL REPORT PAYMENT	09-19-2001		SYS		
	CHANGED RENEWAL	09-27-2000		FI		
	STRAIGHT RENEWAL	09-21-2000		FI		
	AMENDED RENEWAL	11-04-1999		FI		
	NOTICE	10-04-1999		SYS		
	AGENT/AUTH REP CHNG	04-14-1999		FI		
	NEW FILING	09-22-1998		FI		

[About Us](#) | [Announcements](#) | [Laws & Rules](#) | [Feedback](#)
[Policy](#) | [SOS Home](#) | [Oregon Blue Book](#) | [Oregon.gov](#)

For comments or suggestions regarding the operation of this site,
please contact : corporation.division@state.or.us



© 2015 Oregon Secretary of State. All Rights Reserved.

Exhibit '2A'
Revised

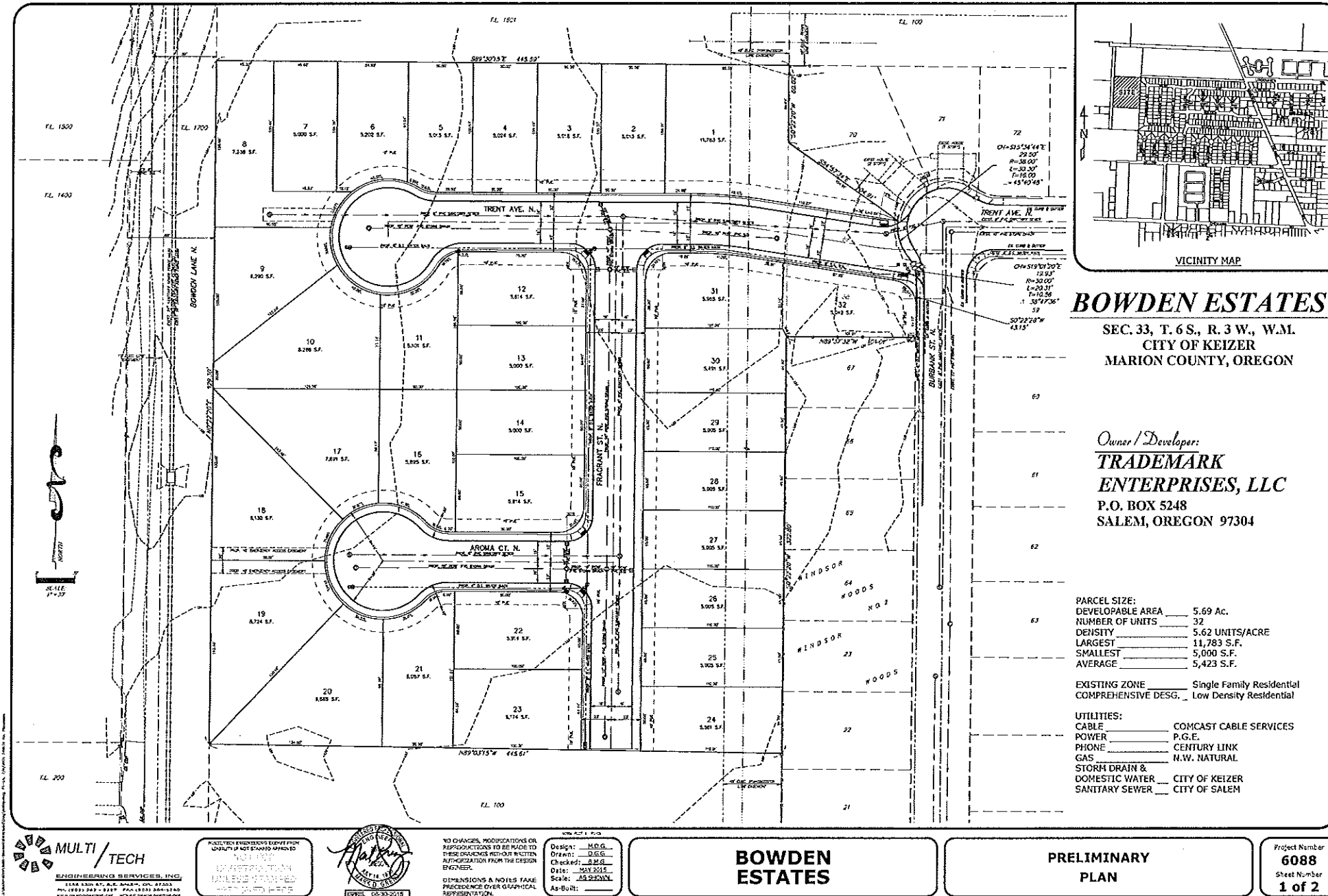
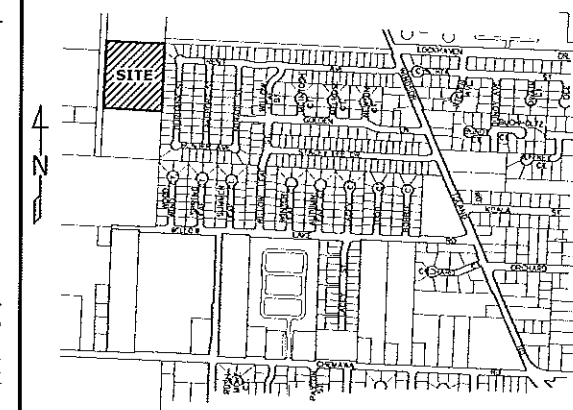


Exhibit '2'

OR 6



VICINITY MAP

BOWDEN ESTATES

SEC. 33, T. 6 S., R. 3 W., W.M.
CITY OF KEIZER
MARION COUNTY, OREGON

Owner/Developer:

BLOEDEL CUSTOM HOMES

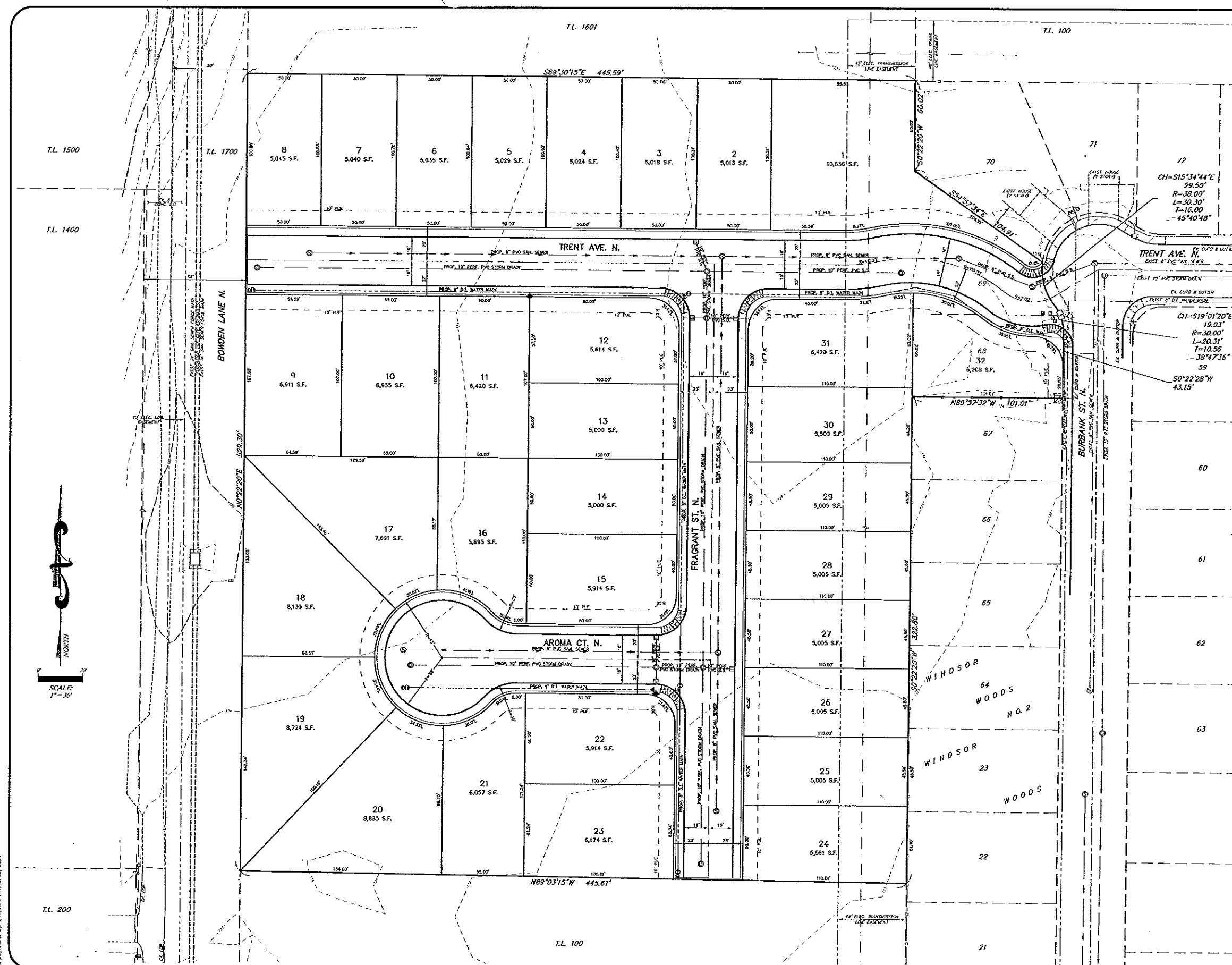
P.O. BOX 5248

SALEM, OREGON 97304

PARCEL SIZE:
DEVELOPABLE AREA 5.69 AC.
NUMBER OF UNITS 32
DENSITY 5.62 UNITS/ACRE
LARGEST 10,856 SQ. FT.
SMALLEST 5,000 SQ. FT.
AVERAGE 6,033 SQ. FT.

EXISTING ZONE Single Family Residential
COMPREHENSIVE DESG. Low Density Residential

UTILITIES:
CABLE COMCAST CABLE SERVICES
POWER P.G.E.
PHONE CENTURY LINK
GAS N.W. NATURAL
STORM DRAIN & CITY OF KEIZER
DOMESTIC WATER
SANITARY SEWER CITY OF SALEM



MULTI/TECH
ENGINEERING SERVICES, INC.
1355 13th ST. S.E., SALEM, OR, 97302
PH. (503) 363-9227 FAX (503) 364-1260
www.mtengineering.net office@mtengineering.net

MULTI/TECH ENGINEERING EXEMPT FROM
LIABILITY IF NOT STAMPED APPROVED
**NOT FOR
CONSTRUCTION
UNLESS STAMPED
APPROVED HERE**

REGISTERED PROFESSIONAL ENGINEER
MARK D. GREENE
MAY 14, 1978
EXPIRES 06-30-2015

NO CHANGES, MODIFICATIONS OR
REPRODUCTIONS TO BE MADE TO
THESE DRAWINGS WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.

Design: M.D.G.
Drawn: D.G.S.
Checked: B.M.G.
Date: MAY 2015
Scale: AS SHOWN
As-Built:

**BOWDEN
ESTATES**

**PRELIMINARY
PLAN**

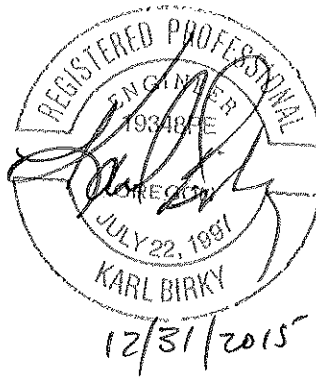
Project Number
6088
Sheet Number
1 of 2

Exhibit '3'

Traffic Impact Analysis

Bowden Estates

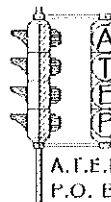
Keizer, Oregon



5/19/2015

completed with
Multi/Tech Engineering Inc.

Prepared by:
Associated Transportation Engineering & Planning, Inc.
Salem, Oregon



ASSOCIATED
TRANSPORTATION
ENGINEERING &
PLANNING Inc.

A.T.E.P., Inc. Tel.: 503.364.5066
P.O. Box 3047 FAX: 503.364.1260
Salem, OR. 97302 e-mail: kbirky@atepinc.com

Table of Contents

Introduction:	3
Summary of Findings:	3
Existing and Background Conditions:	3
Developed Traffic Conditions:	4
Future (2025) Traffic Conditions:	5
Findings and Summary:	5

Figures

Figure 1 - Vicinity Map.....	3
Figure 2 - Preliminary Plan	4
Figure 3 - Study Area.....	7
Figure 4 - Lane Configuration and Traffic Controls	7
Figure 5 - Existing AM Peak hour Counts and Metrics	8
Figure 6 - Existing PM Peak hour Counts and Metrics.....	8
Figure 7 - AM and PM Site Generated Traffic	9
Figure 8 - Developed AM Peak hour Counts and Metrics	9
Figure 9 - Developed PM Peak hour Counts and Metrics.....	10
Figure 10 - Future AM Peak hour Counts and Metrics.....	10
Figure 11 - Future PM Peak hour Counts and Metrics.....	11

Appendices

Turning Movement Counts

Computer Modeling Printouts

Traffic Impact Analysis Bowden Estates Subdivision Keizer, OR

Introduction:

Bowden Estates Subdivision is in preliminary planning stages for construction in NW Keizer. West of the Burbank at Trent Avenue intersection, the subdivision will extend Trent Ave to the west and include 31 single family home lots when complete. The intent of this analysis is to estimate the traffic impact the residents of the planned subdivision will have on the City of Keizer transportation system and recommend improvements to the system if the City's performance metrics are not met. Associated Transportation Engineering and Planning, Inc. has provided professional traffic engineering consulting and analysis in Oregon for more than 30 years and is pleased to provide this information to the City of Keizer.

Summary of Findings:

Bowden Estates Subdivision will add 31 home sites in the City of Keizer and additional traffic on the City's transportation system. This analysis finds the system can carry the additional traffic without causing the performance of nearby intersections to fall below the City's standards. The City's continuing planning and improvement of its roadway system continues to encourage growth and serve residents of the City. The transportation system development charges (TSDCs), that developments like Bowden Estates pays, continues to fund improvements to the infrastructure away from the development site and serve all the residents of the City. The intersection of Trent Avenue at Windsor Island Road will function at LOS B when the development is complete and the intersection of Lockhaven Dr. at Windsor Island Rd. will function at LOS B. All the intersections will be functioning within generally accepted performance standards and standards adopted by the City of Keizer.

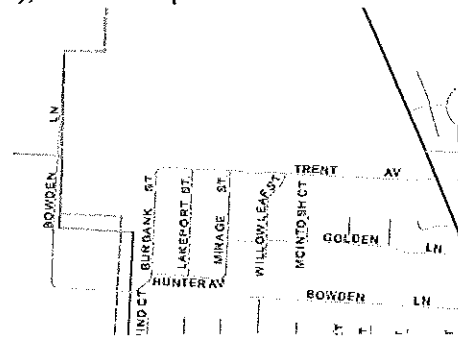


Figure 1 - Vicinity Map

Existing and Background Conditions:

The project site is tax lot 1600 of tax map 6S 3W Sec33 and includes 5.4 acres. Located east of Willow Lake, the site slopes generally to the west. The parcel is zoned EFU-Limited Use. 31 single family home lots will be built on the site. The site is currently farmland and woods.

This traffic impact analysis will examine performance metrics at the intersections of Trent Avenue at Willow Leaf, Trent Avenue at Windsor Island Road, Lockhaven Drive at Windsor Island Road and

Chemawa Road at Windsor Island Road. Traffic Counts were obtained by Quality Counts in April 2015 at the studied intersections.

When the 31 homes are built and occupied on the site they will generate new traffic. Traffic engineers have found that the average single family home generates 0.75 AM Peak hour trips, 1.0 PM Peak hour trips and 9.52 trips per day. These averages, from the 9th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers, will be used in this analysis to estimate the impact of this new traffic on the roadway system. This study will assume existing traffic will grow 2% each year in the future to estimate the traffic impacts in 2025.

Traffic counts were conducted at the studied intersections in April 2015 for this study. A computer model was constructed to evaluate the performance levels of the studied intersections with the adjusted, existing traffic volumes. It is the assumption of this analysis that the existing performance levels are the background traffic performance levels since there are no approved, unbuilt subdivisions in the neighborhood. Results of the computer modeling are incorporated into this report and can also be found in the Appendix. Existing performance metrics of the studied intersections are shown in Table 1.

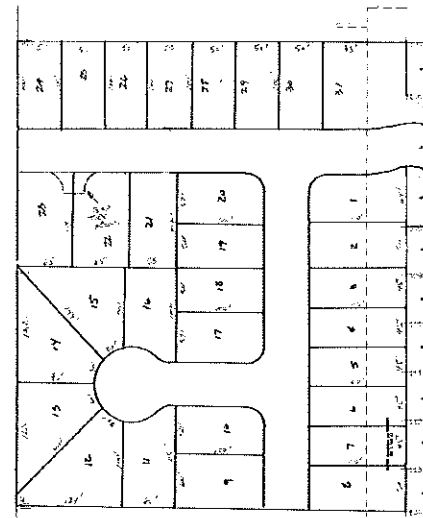


Figure 2 - Preliminary Plan

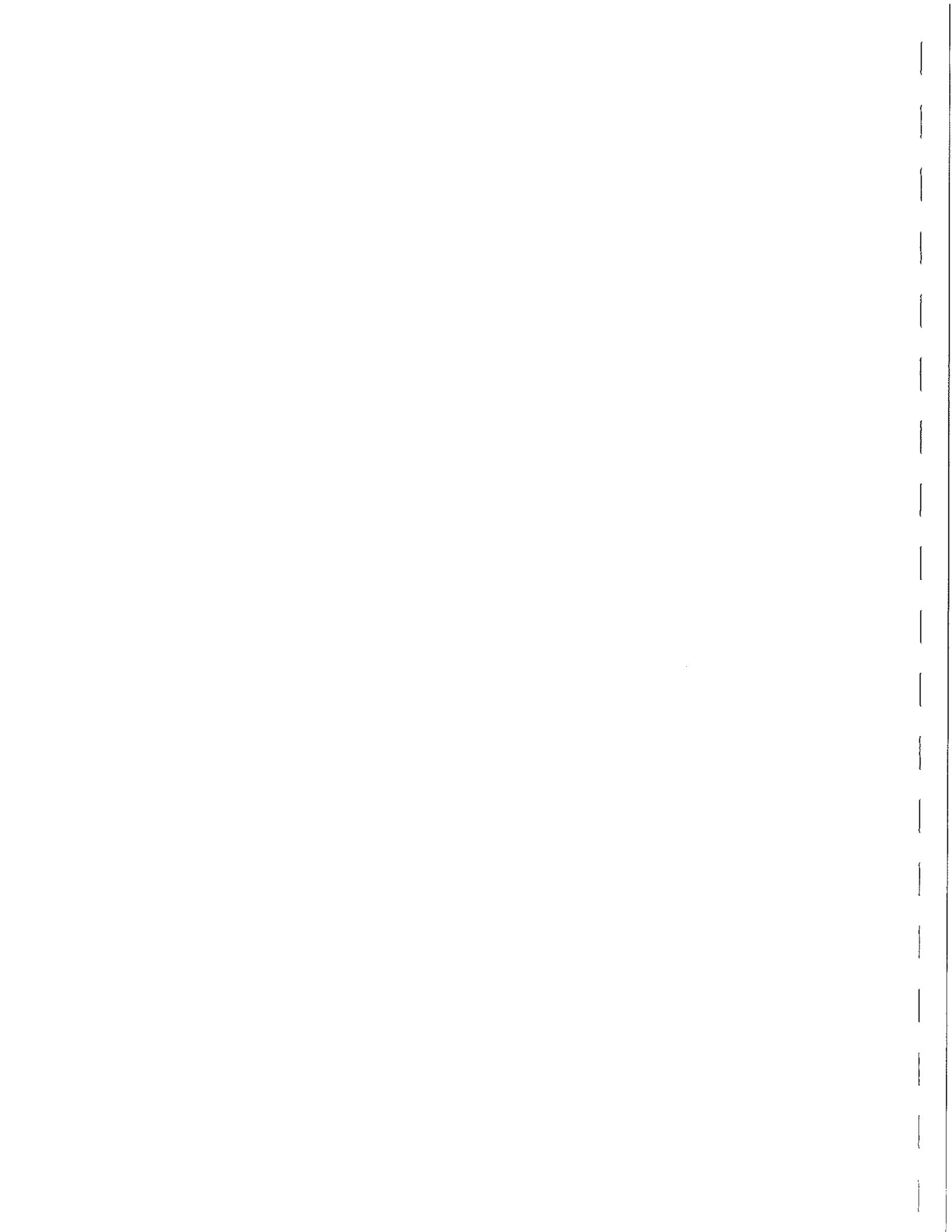
Table 1 - Existing and Background Traffic Conditions

Intersection	AM LOS	PM LOS	AM delay (sec)	PM delay (sec)
Trent at Windsor Island	B	B	10.50	11.74
Lockhaven at Windsor Island	A	B	9.70	11.61
Chemawa at Windsor Island	A	B	8.77	10.01
Trent at Willow Leaf	A	A	8.77	8.85

Figure 1 is a vicinity map locating the project in the City of Keizer, Figure 2 is a preliminary site map of the subdivision. Figure 3 is the study area highlighting the studied intersections. Figure 4 existing AM Peak hour turning movement counts and Figure 5 is the existing PM Peak hour turning movement counts. Figure 6 is the lane configuration and traffic control measures in the studied intersections. Figure 7 shows the AM and PM site generated trips through the studied intersections. Figures 8 and 9 show the total traffic through the intersections when the site is developed. Figures 10 and 11 show the total estimated traffic, including the trips from Bowden Estates, in the future (2025).

This study assumes that 5% of the traffic will travel to or from the north on Windsor Island Rd north of Lockhaven, 60% will travel to or from Lockhaven Dr, 30% will travel to or from Chemawa Rd east of Windsor Island Rd and 5% will travel on Winsor Island Rd south of Chemawa Rd.

Developed Traffic Conditions:



The site will generate 23 AM Peak hour trips and 31 trips in the PM Peak hour (63% are inbound to homes). It is the assumption of this analysis that 60% of the traffic will travel to and from the north on Lockhaven Dr, that 30% will travel to and from the south on Windsor Island Road to Chemawa Road. 5% of the traffic is assumed to travel on Windsor Island Rd north of Lockhaven Dr and 5% on Windsor Island Rd south of Chemawa Dr.

The preliminary site plan shows the primary access to be an extension of Trent Ave. west to Bowden Estates. All Bowden Estates traffic will use the Trent Ave. at Windsor Island Road intersection to access the roadway system. Traffic will be stopped on Trent Ave. at its intersections with Windsor Island Road. There is adequate stopping and intersection sight distance at the intersection in all directions. The speed limit on Trent Ave. is 25 mph and the speed limit on Windsor Island Road is 45 mph. Traffic performance metrics at full build out in 2015 are shown in Table 2.

Table 2 - Developed Traffic Conditions

Intersection	AM LOS	PM LOS	AM delay	PM delay
Trent at Windsor Island	B	B	10.60	11.98
Lockhaven at Windsor Island	A	B	9.74	11.67
Chemawa at Windsor Island	A	B	8.82	10.06
Trent at Willow Leaf	A	A	8.85	8.93

Future (2025) Traffic Conditions:

The City of Keizer Guidelines for TIAs requires an estimate of traffic conditions at the studied intersections 10 years in the future. Estimating the performance metrics of intersections in 2025 requires making some assumptions about traffic growth in the intervening years. As noted earlier, this analysis will assume that traffic increases 2% each year for the next 10 years. The traffic performance metrics at the studied intersections in 2025 are shown in Table 3.

Table 3 - Future (2025) Traffic Conditions

Intersection	AM LOS	PM LOS	AM delay	PM delay
Trent at Windsor Island	B	B	11.00	12.71
Lockhaven at Windsor Island	B	B	10.03	12.88
Chemawa at Windsor Island	A	B	9.46	11.63
Trent at Willow Leaf	A	A	8.90	9.01

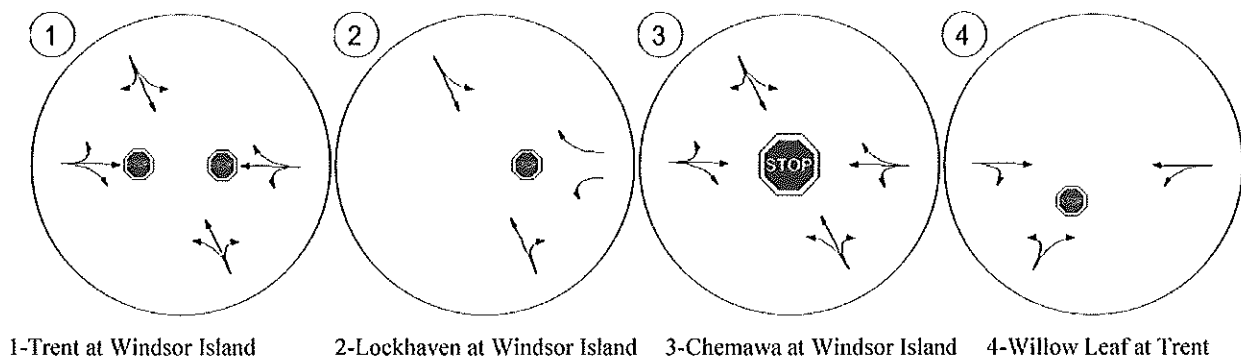
Findings and Summary:

Residents of the planned Bowden Estates subdivision will use the City of Keizer street system and will add additional traffic to the system. It is the finding of this analysis that the additional traffic will not cause the studied intersections to perform at levels below the standards the City of Keizer has adopted for its intersections. The City of Keizer has established a Transportation System Development Charge (TSDC) paid by developers to the City to improve the transportation system not fronting a subdivision like Bowden Estates. The developer should and will be required to pay these charges to make improvements to the larger transportation system. No significant mitigation measures are required as a

result of this analysis, though all design and construction of Bowden Estates should be completed consistent with current City of Keizer design and construction standards.



Figure 3 - Study Area



1-Trent at Windsor Island

2-Lockhaven at Windsor Island

3-Chemawa at Windsor Island

4-Willow Leaf at Trent

Figure 4 - Lane Configuration and Traffic Controls

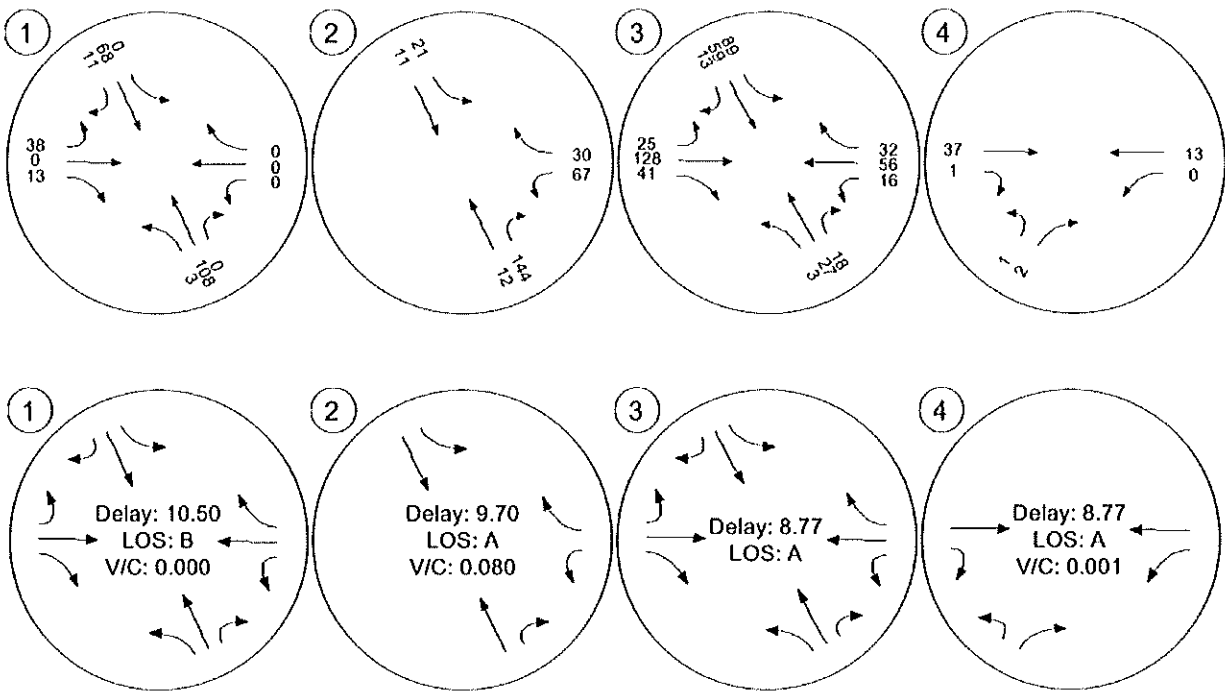


Figure 5 - Existing AM Peak hour Counts and Metrics

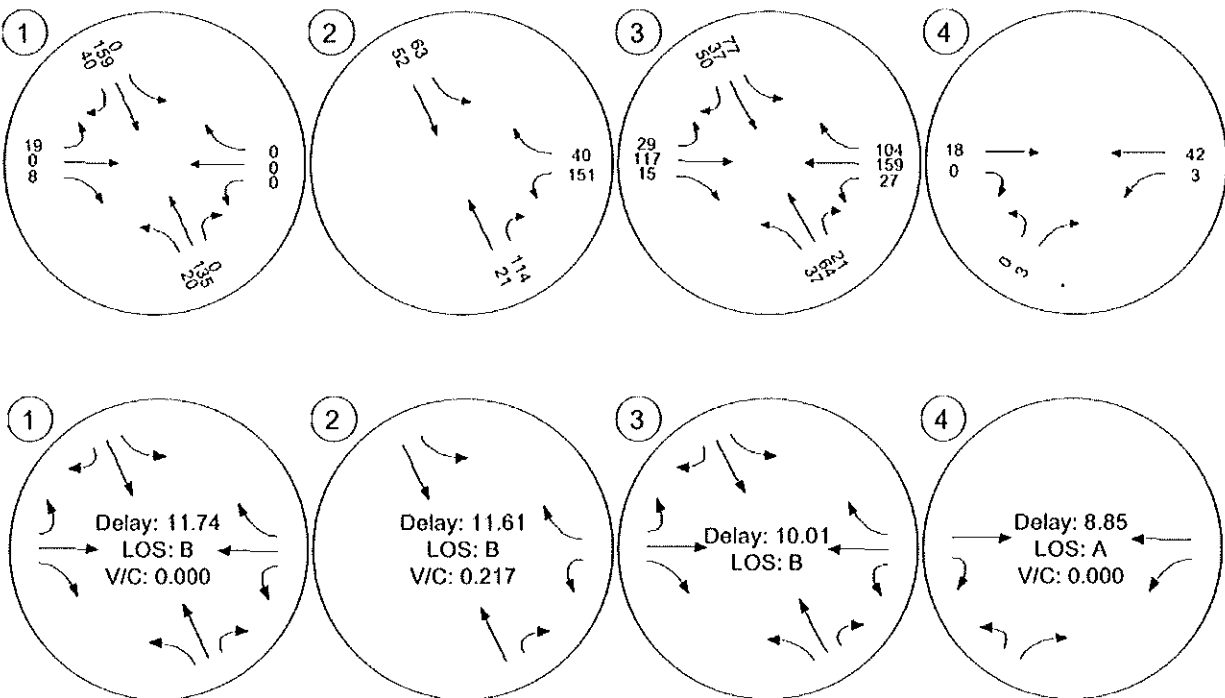
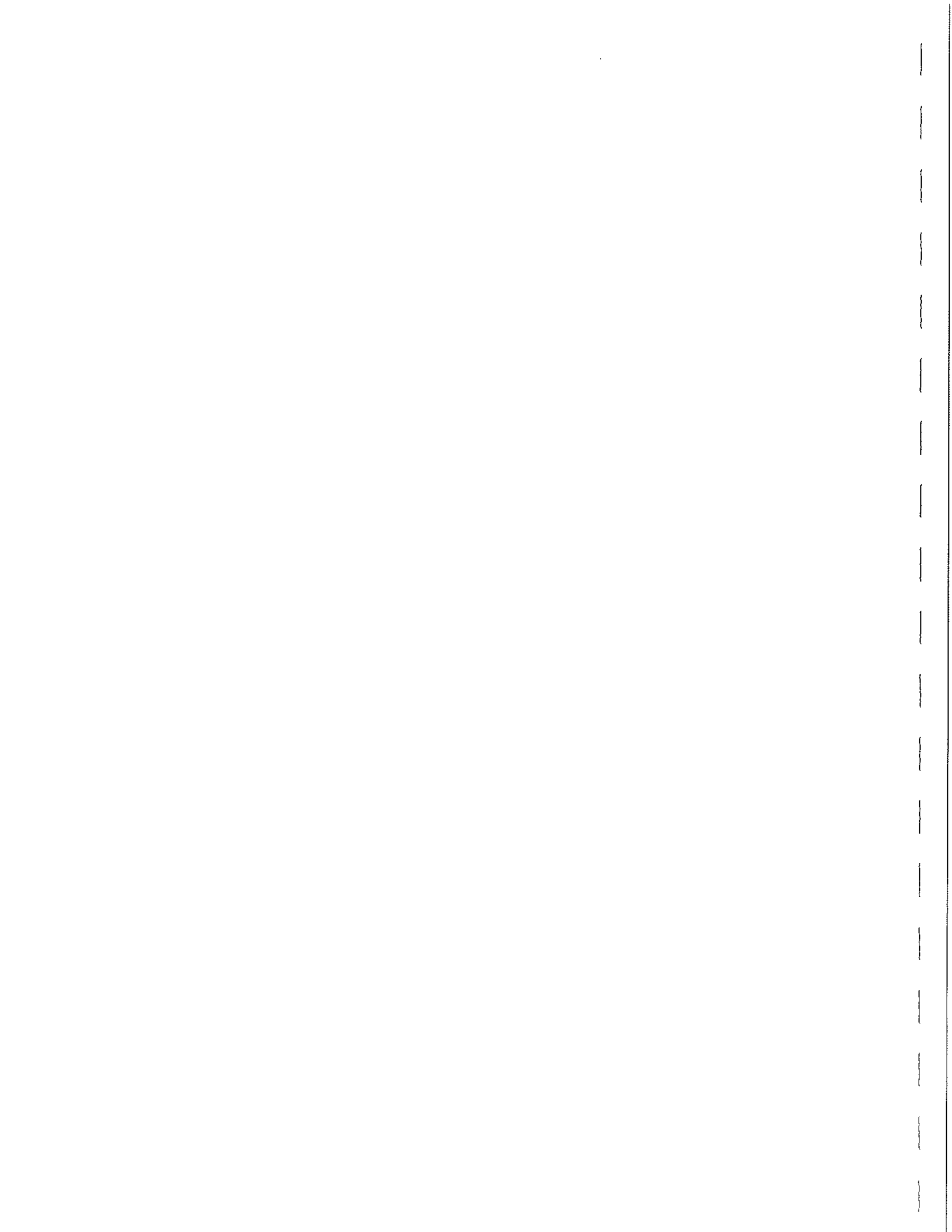
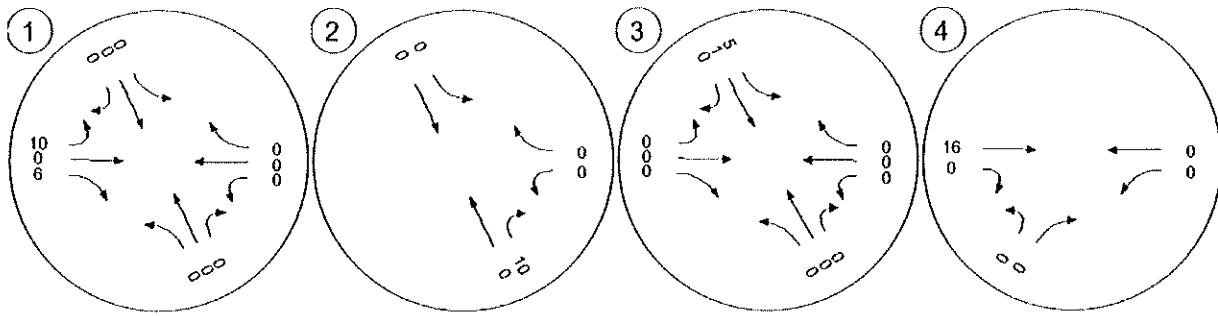
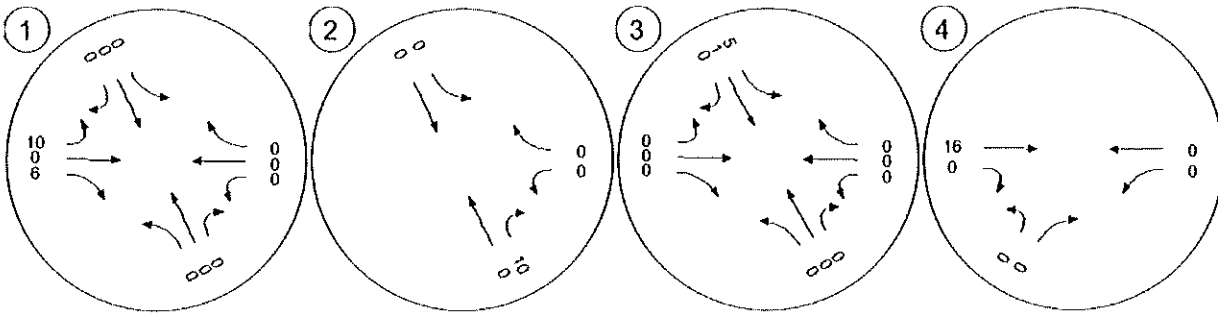


Figure 6 - Existing PM Peak hour Counts and Metrics





AM Site Generated Counts



PM Site Generated Counts

Figure 7 - AM and PM Site Generated Traffic

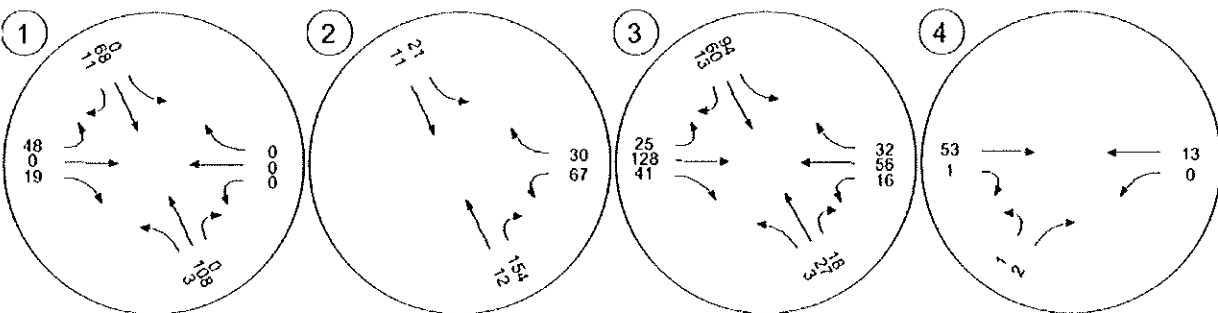


Figure 8 - Developed AM Peak hour Counts and Metrics

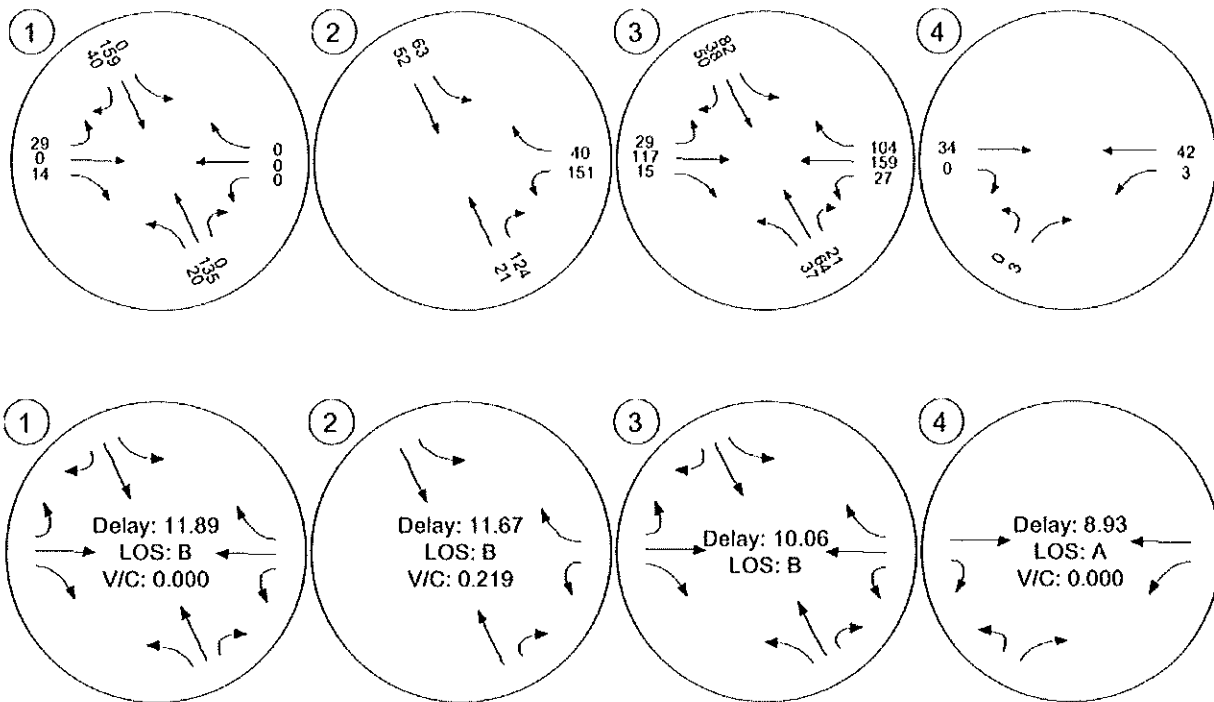


Figure 9 - Developed PM Peak hour Counts and Metrics

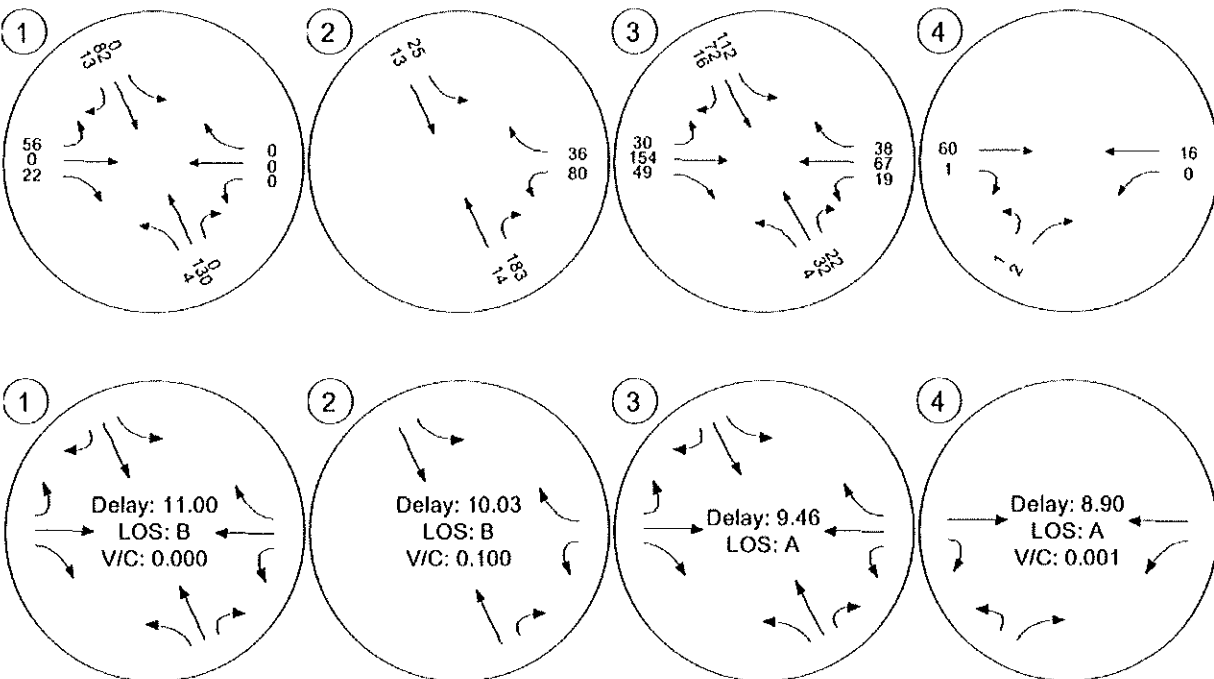


Figure 10 - Future AM Peak hour Counts and Metrics

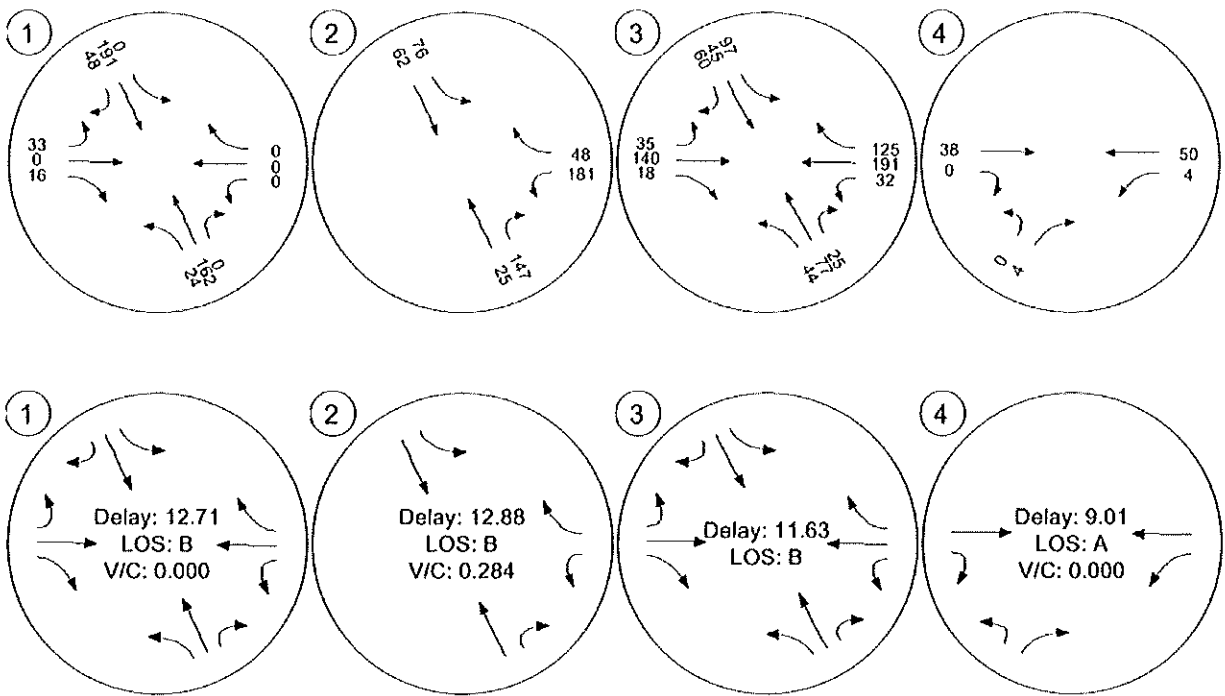
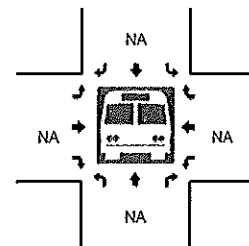
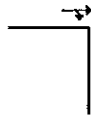
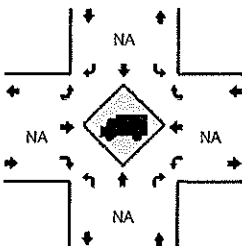
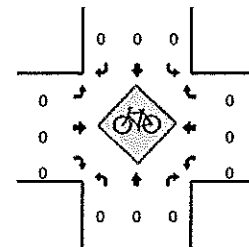
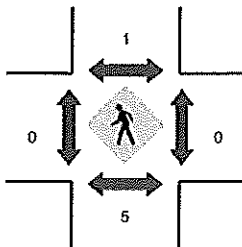
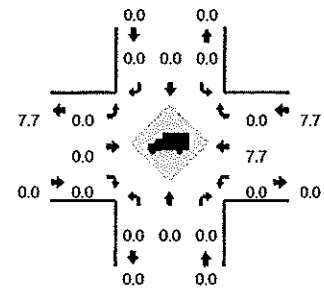
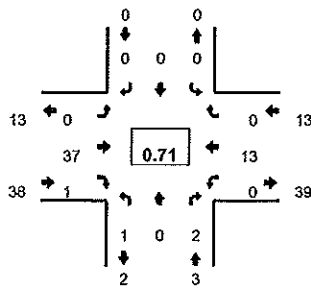


Figure 11 - Future PM Peak hour Counts and Metrics

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Leaf St N -- Trent Ave N
CITY/STATE: Keizer, ORQC JOB #: 13354501
DATE: Thu, Apr 09 2015Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

5-Min Count Period	Willow Leaf St N (Northbound)				Willow Leaf St N (Southbound)				Trent Ave N (Eastbound)				Trent Ave N (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
7:05 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	
7:10 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
7:15 AM	0	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	5	
7:20 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
7:25 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	
7:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
7:35 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	3	0	0	9	
7:40 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	
7:45 AM	0	0	1	1	0	0	0	0	0	5	0	0	0	0	0	0	7	
7:50 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	54
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	53
8:05 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	51
8:10 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	51
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	48
8:20 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	48
8:25 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	46
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	47
8:35 AM	0	0	3	0	0	0	0	0	0	5	0	0	0	1	0	0	9	47
8:40 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	46
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	42
8:50 AM	0	0	1	0	0	0	0	0	0	4	0	0	0	0	0	0	5	41
8:55 AM	0	0	1	0	0	0	0	0	0	5	0	0	0	2	0	0	8	48
Peak 16-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	4	4	0	0	0	0	0	52	0	0	0	16	0	0	76	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

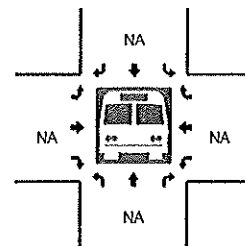
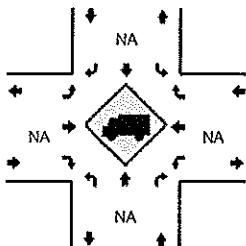
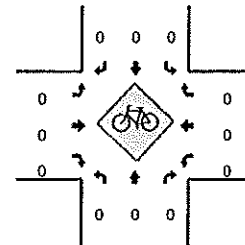
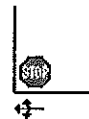
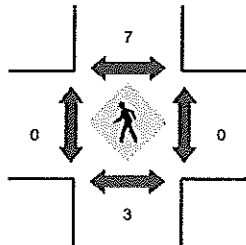
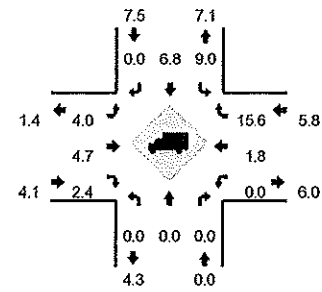
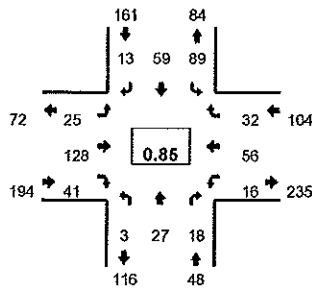
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Windsor Island Rd N/Shoreline Dr N -- Chemawa Rd N
CITY/STATE: Keizer, OR

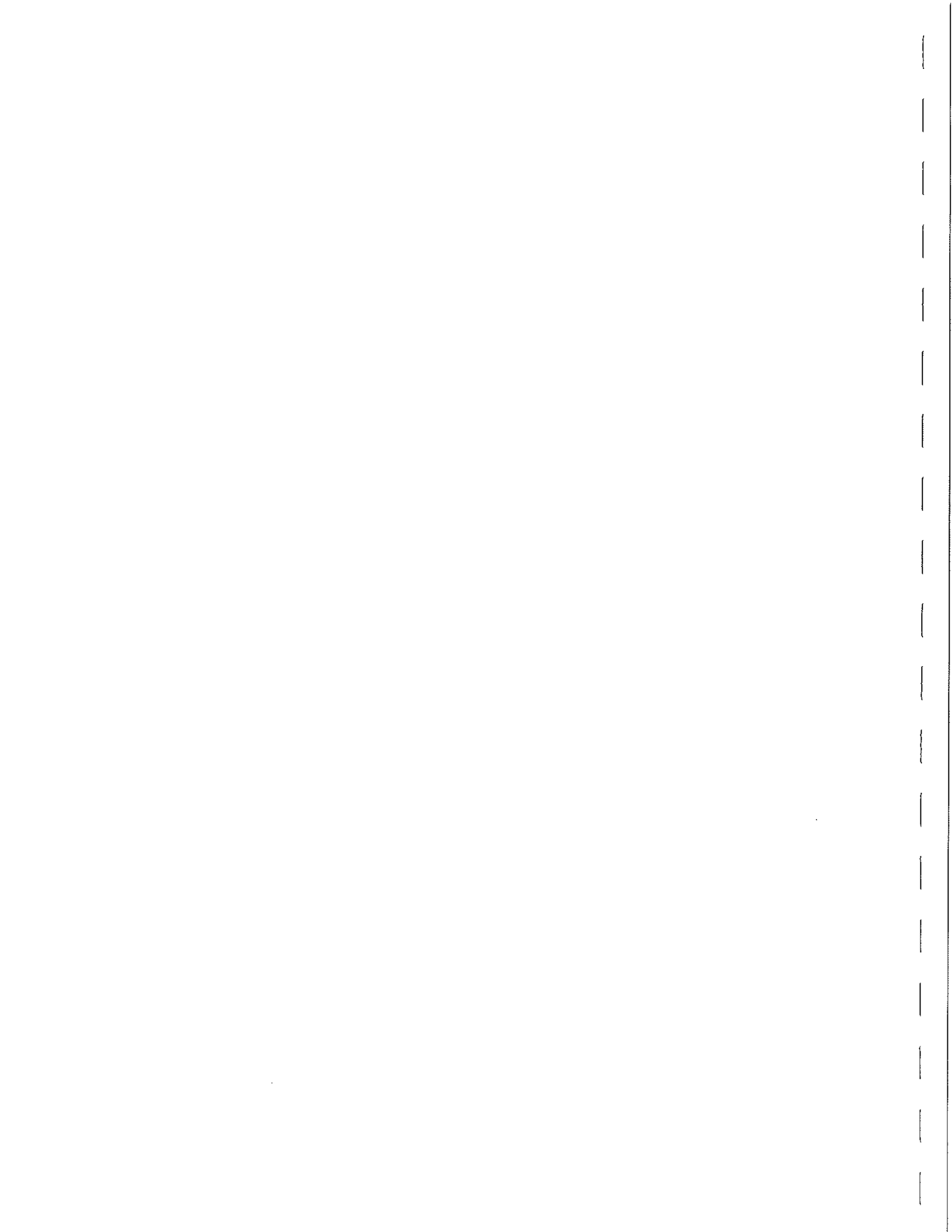
QC JOB #: 13354503
DATE: Thu, Apr 09 2015

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:25 AM -- 7:40 AM



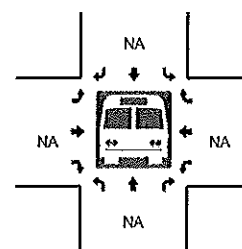
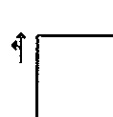
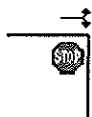
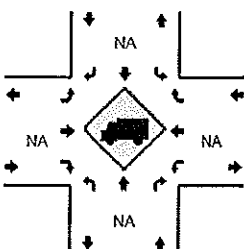
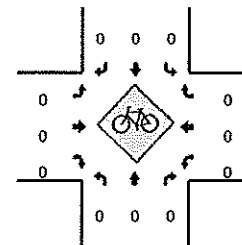
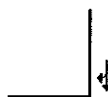
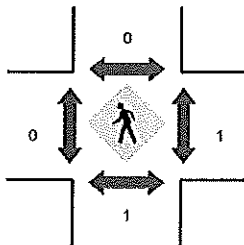
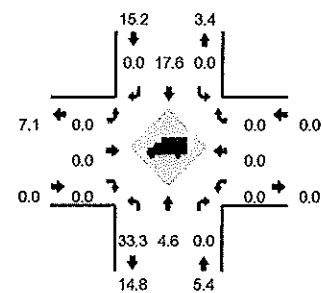
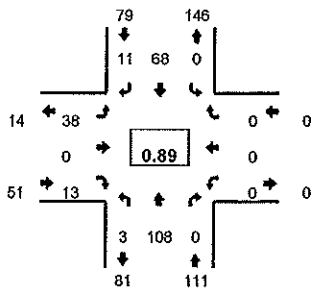
6-Min Count Period	Windsor Island Rd N/Shoreline Dr N (Northbound)				Windsor Island Rd N/Shoreline Dr N (Southbound)				Chemawa Rd N (Eastbound)				Chemawa Rd N (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	9	6	1	0	3	15	3	0	2	7	1	0	47	
7:05 AM	0	3	1	0	9	8	0	0	2	10	5	0	2	3	4	0	47	
7:10 AM	0	3	3	0	9	3	1	0	1	11	3	0	0	1	1	0	36	
7:15 AM	0	0	3	0	5	2	2	0	1	15	3	0	1	4	3	0	39	
7:20 AM	0	3	1	0	3	4	1	0	0	6	2	0	6	4	3	0	33	
7:25 AM	0	3	0	0	6	8	2	0	0	8	5	0	0	12	5	0	49	
7:30 AM	1	4	2	0	7	5	2	0	4	13	4	0	2	3	1	0	48	
7:35 AM	0	2	2	0	11	7	1	0	6	12	5	0	0	5	1	0	52	
7:40 AM	1	1	2	0	8	9	1	0	3	6	4	0	1	2	2	0	40	
7:45 AM	0	3	2	0	9	3	0	0	2	11	2	0	0	3	5	0	40	
7:50 AM	0	3	1	0	6	2	1	0	0	13	1	0	0	9	4	0	40	
7:55 AM	1	2	1	0	7	2	1	0	3	8	4	0	2	3	2	0	36	507
8:00 AM	1	2	2	0	2	3	1	0	1	13	0	0	0	7	1	0	33	493
8:05 AM	2	1	1	0	5	4	5	0	1	11	0	0	0	5	0	0	35	481
8:10 AM	0	0	0	0	3	3	1	0	2	11	1	0	0	3	6	0	30	475
8:15 AM	0	2	1	0	3	1	0	0	3	3	3	0	0	5	2	0	23	459
8:20 AM	0	1	0	0	3	3	2	0	1	4	2	0	0	2	1	0	19	445
8:25 AM	1	1	0	0	5	0	0	0	2	5	0	0	2	4	4	0	24	420
8:30 AM	1	1	2	0	3	1	0	0	1	7	3	0	2	3	1	0	25	397
8:35 AM	0	3	1	0	5	4	6	0	2	11	2	0	1	4	5	0	44	389
8:40 AM	3	2	0	0	2	3	1	0	1	9	2	0	1	4	5	0	33	382
8:45 AM	0	2	0	0	4	3	1	0	2	8	3	0	0	4	2	0	29	371
8:50 AM	1	4	1	0	6	6	1	0	2	7	0	0	0	4	6	0	38	369
8:55 AM	4	3	0	0	9	5	0	0	2	11	4	0	0	2	5	0	45	378
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	4	36	16	0	96	80	20	0	40	132	56	0	8	80	28	0	596	
Heavy Trucks	0	0	0		4	8	0		0	12	0		0	0	0		24	
Pedestrians	0	8			4	4			0	0			0	0			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

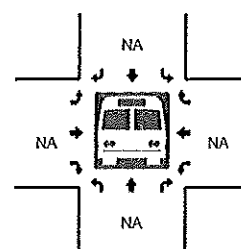
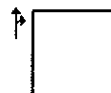
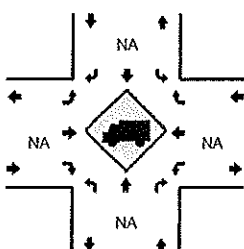
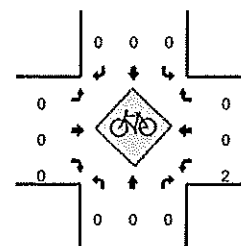
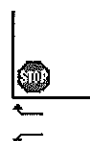
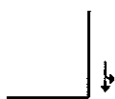
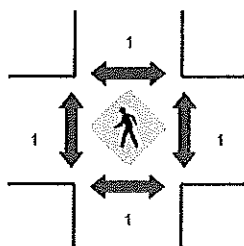
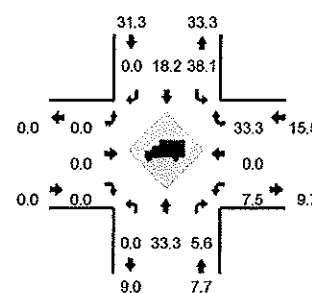
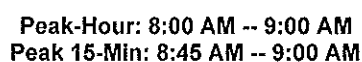
LOCATION: Windsor Island Rd N -- Trent Ave N
CITY/STATE: Keizer, ORQC JOB #: 13354505
DATE: Thu, Apr 09 2015Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

5-Min Count Period Beginning At	Windsor Island Rd N (Northbound)				Windsor Island Rd N (Southbound)				Trent Ave N (Eastbound)				Trent Ave N (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	3	0	0	0	2	0	0	5	0	3	0	0	0	0	0	13	
7:05 AM	0	10	0	0	0	5	0	0	3	0	2	0	0	0	0	0	20	
7:10 AM	0	14	0	0	0	8	1	0	5	0	1	0	0	0	0	0	29	
7:15 AM	1	4	0	0	0	4	1	0	4	0	1	0	0	0	0	0	15	
7:20 AM	0	5	0	0	0	9	1	0	5	0	1	0	0	0	0	0	21	
7:25 AM	0	12	0	0	0	5	3	0	2	0	1	0	0	0	0	0	23	
7:30 AM	0	12	0	0	0	4	1	0	2	0	0	0	0	0	0	0	19	
7:35 AM	0	9	0	0	0	10	1	0	5	0	1	0	0	0	0	0	26	
7:40 AM	0	8	0	0	0	8	1	0	1	0	0	0	0	0	0	0	18	
7:45 AM	0	8	0	0	0	0	0	0	5	0	2	0	0	0	0	0	15	
7:50 AM	2	4	0	0	0	2	1	0	3	0	2	0	0	0	0	0	14	
7:55 AM	0	8	0	0	0	7	1	0	0	0	1	0	0	0	0	0	17	230
8:00 AM	0	14	0	0	0	6	0	0	3	0	1	0	0	0	0	0	24	241
8:05 AM	0	4	0	0	0	11	1	0	1	0	2	0	0	0	0	0	19	240
8:10 AM	0	5	0	0	0	0	2	0	4	0	1	0	0	0	0	0	12	223
8:15 AM	0	6	0	0	0	5	0	0	2	0	0	0	0	0	0	0	13	221
8:20 AM	0	8	0	0	0	6	3	0	0	0	0	0	0	0	0	0	17	217
8:25 AM	1	10	0	0	0	4	0	0	1	0	1	0	0	0	0	0	17	211
8:30 AM	0	7	0	0	0	4	0	0	3	0	1	0	0	0	0	0	15	207
8:35 AM	0	9	0	0	0	8	1	0	7	0	0	0	0	0	0	0	25	206
8:40 AM	0	9	0	0	0	4	1	0	2	0	0	0	0	0	0	0	16	204
8:45 AM	0	7	0	0	0	7	1	0	3	0	0	0	0	0	0	0	18	207
8:50 AM	0	15	0	0	0	5	0	0	4	0	3	0	0	0	0	0	27	220
8:55 AM	1	19	0	0	0	9	2	0	6	0	0	0	0	0	0	0	37	240
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	132	0	0	0	76	20	0	36	0	8	0	0	0	0	0	272	
Heavy Trucks	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	24	
Pedestrians	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	8	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

Method for determining peak hour: Total Entering Volume

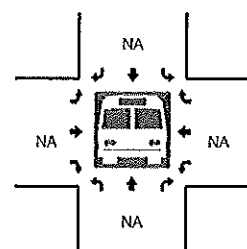
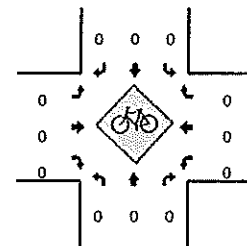
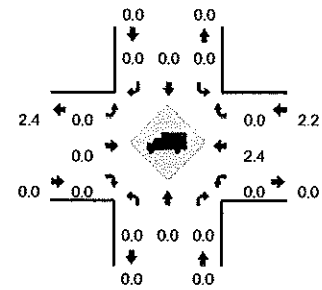
QC JOB #: 13354507
DATE: Thu, Apr 09 2015

[illegible]

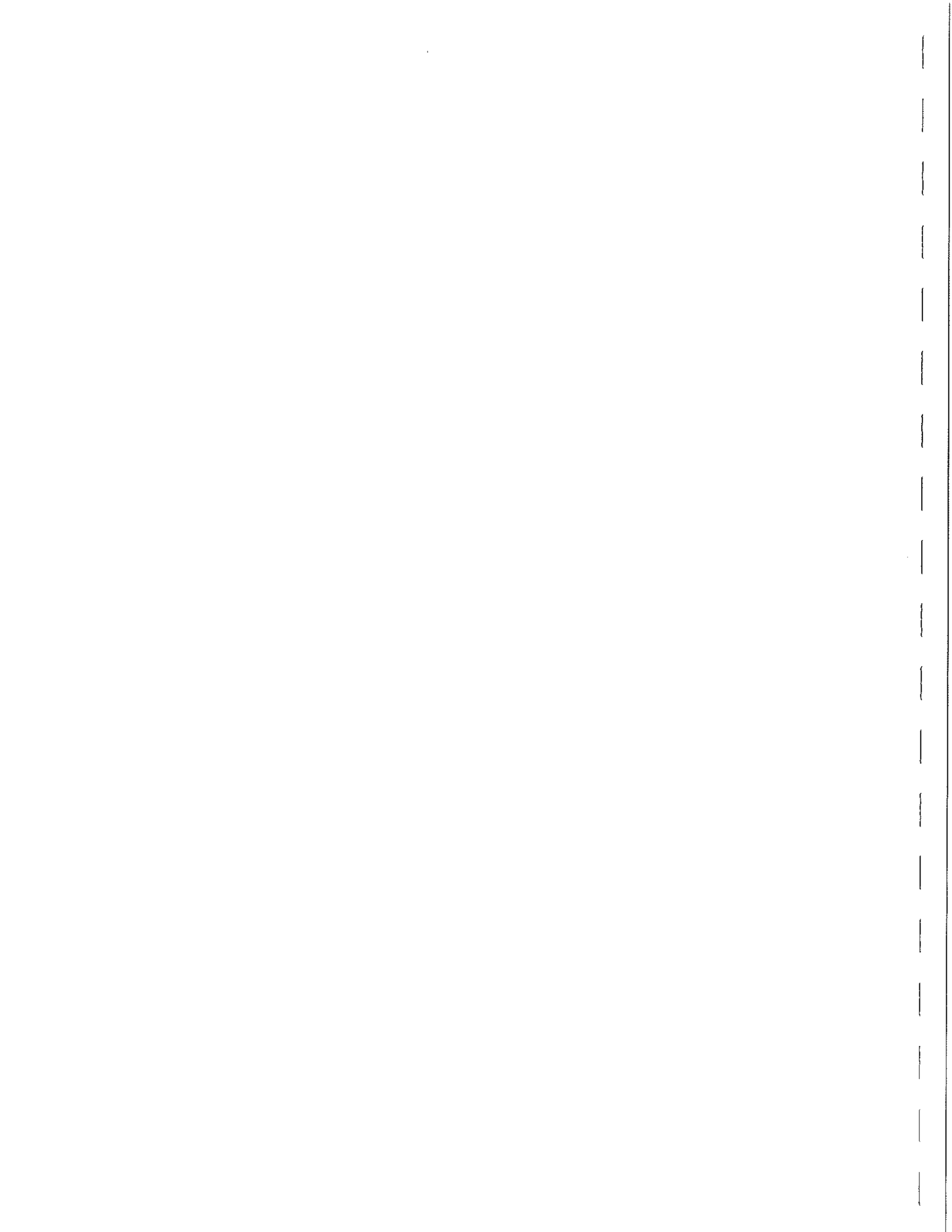
Comments:

Method for determining peak hour: Total Entering Volume

QC JOB #: 13354502
DATE: Thu, Apr 09 2015

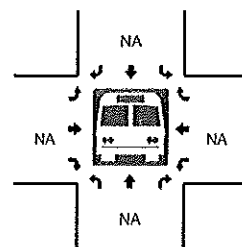
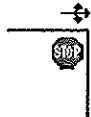
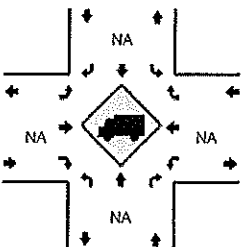
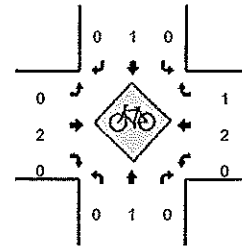
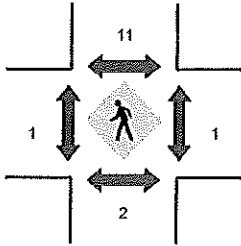
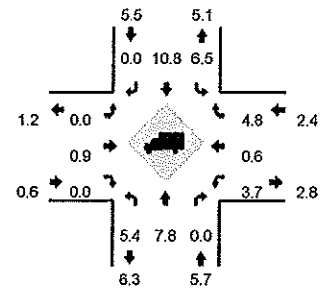
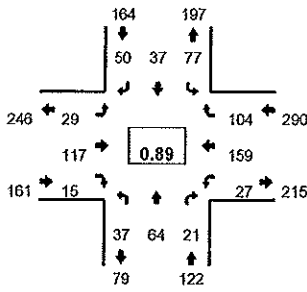


Comments:



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

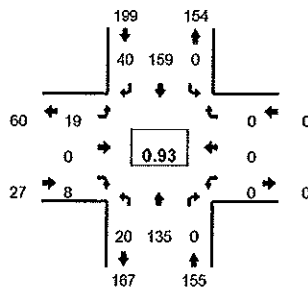
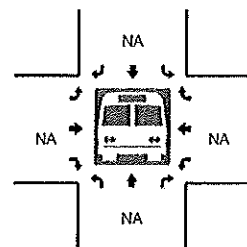
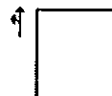
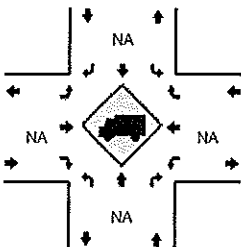
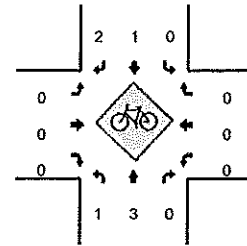
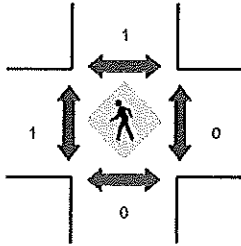
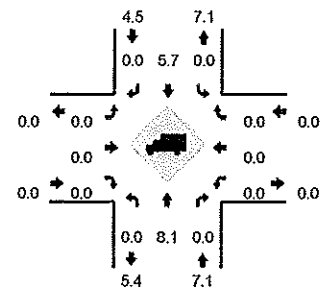
LOCATION: Windsor Island Rd N/Shoreline Dr N -- Chemawa Rd N
CITY/STATE: Keizer, ORQC JOB #: 13354504
DATE: Thu, Apr 09 2015Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:25 PM -- 5:40 PM

5-Min Count Period	Windsor Island Rd N/Shoreline Dr N (Northbound)				Windsor Island Rd N/Shoreline Dr N (Southbound)				Chemawa Rd N (Eastbound)				Chemawa Rd N (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	3	2	0	7	2	4	0	1	9	3	0	1	6	8	0	49	
4:05 PM	2	2	3	0	8	4	4	0	2	13	2	0	2	15	6	0	63	
4:10 PM	1	1	3	0	4	3	3	0	3	5	2	0	1	7	11	0	44	
4:15 PM	1	7	1	0	5	2	4	0	1	3	4	0	0	17	6	0	51	
4:20 PM	1	2	2	0	4	4	7	0	2	9	2	0	2	12	12	0	59	
4:25 PM	2	2	1	0	6	5	3	0	3	13	2	0	2	13	7	0	59	
4:30 PM	4	3	0	0	9	6	3	0	3	13	1	0	2	10	10	0	64	
4:35 PM	4	6	2	0	8	3	5	0	3	6	0	0	1	11	6	0	55	
4:40 PM	3	6	3	0	8	6	2	0	2	8	1	0	1	6	8	0	56	
4:45 PM	0	5	2	0	7	1	1	0	2	13	3	0	0	15	9	0	58	
4:50 PM	1	2	3	0	6	1	4	0	3	14	1	0	5	18	10	0	68	
4:55 PM	5	7	1	0	4	2	3	0	3	5	3	0	4	8	12	0	57	683
5:00 PM	1	5	2	0	5	3	6	0	2	13	1	0	1	9	5	0	53	687
5:05 PM	2	6	1	0	3	4	4	0	4	14	1	0	2	11	7	0	59	683
5:10 PM	4	8	0	0	9	2	4	0	2	12	0	0	2	14	4	0	61	700
5:15 PM	3	11	0	0	8	5	3	0	0	6	1	0	2	14	8	0	61	710
5:20 PM	5	2	0	0	7	4	7	0	1	8	1	0	2	10	10	0	57	708
5:25 PM	5	4	1	0	5	3	4	0	4	6	0	0	3	14	10	0	59	708
5:30 PM	2	5	4	0	6	1	5	0	1	5	1	0	4	21	12	0	67	711
5:35 PM	6	3	4	0	9	3	7	0	5	13	2	0	1	19	9	0	81	737
5:40 PM	1	6	3	0	5	2	2	0	1	9	2	0	1	15	9	0	56	737
5:45 PM	1	5	1	0	6	2	1	0	1	7	4	0	3	6	7	0	44	723
5:50 PM	2	5	4	0	4	3	3	0	5	10	2	0	2	13	4	0	57	712
5:55 PM	6	5	1	0	2	10	6	0	2	11	2	0	0	13	8	0	66	721
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	52	48	36	0	80	28	64	0	40	96	12	0	32	216	124	0	828	
Heavy Trucks	8	4	0		0	4	0		0	4	0		0	0	0		20	
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	2	0		0	0	0		2	
Railroad																		
Stopped Buses																		

Comments:

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

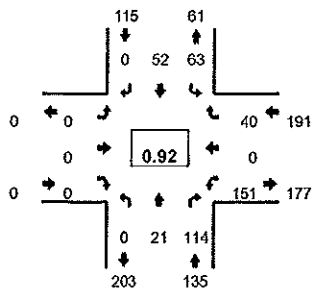
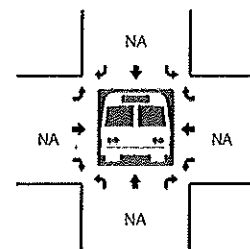
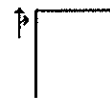
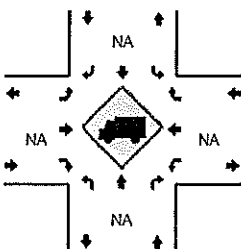
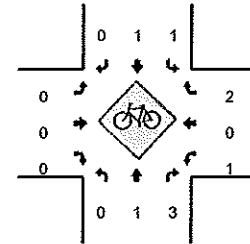
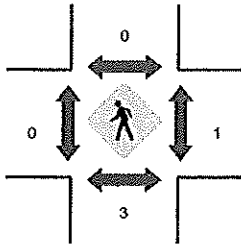
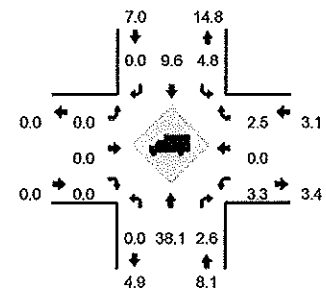
LOCATION: Windsor Island Rd N -- Trent Ave N
CITY/STATE: Keizer, ORQC JOB #: 13354506
DATE: Thu, Apr 09 2015Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

5-Min Count Period	Windsor Island Rd N (Northbound)				Windsor Island Rd N (Southbound)				Trent Ave N (Eastbound)				Trent Ave N (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	16	0	0	0	9	4	0	1	0	1	0	0	0	0	0	33	
4:05 PM	0	1	0	0	0	11	3	0	3	0	0	0	0	0	0	0	18	
4:10 PM	2	8	0	0	0	10	2	0	0	0	1	0	0	0	0	0	23	
4:15 PM	1	9	0	0	0	11	1	0	1	0	2	0	0	0	0	0	25	
4:20 PM	0	11	0	0	0	19	0	0	2	0	0	0	0	0	0	0	32	
4:25 PM	0	8	0	0	0	10	4	0	1	0	1	0	0	0	0	0	24	
4:30 PM	1	4	0	0	0	13	3	0	0	0	1	0	0	0	0	0	22	
4:35 PM	3	8	0	0	0	14	2	0	2	0	1	0	0	0	0	0	30	
4:40 PM	2	9	0	0	0	13	2	0	1	0	2	0	0	0	0	0	29	
4:45 PM	0	12	0	0	0	7	2	0	0	0	0	0	0	0	0	0	21	
4:50 PM	1	10	0	0	0	16	3	0	0	0	0	0	0	0	0	0	30	
4:55 PM	4	16	0	0	0	15	4	0	1	0	0	0	0	0	0	0	40	327
5:00 PM	0	8	0	0	0	14	4	0	2	0	0	0	0	0	0	0	28	322
5:05 PM	0	18	0	0	0	11	3	0	1	0	1	0	0	0	0	0	34	338
5:10 PM	3	6	0	0	0	11	4	0	2	0	2	0	0	0	0	0	28	343
5:15 PM	2	9	0	0	0	9	1	0	2	0	3	0	0	0	0	0	26	344
5:20 PM	1	8	0	0	0	21	3	0	1	0	0	0	0	0	0	0	34	346
5:25 PM	2	12	0	0	0	19	3	0	1	0	0	0	0	0	0	0	37	359
5:30 PM	2	5	0	0	0	16	2	0	2	0	0	0	0	0	0	0	27	364
5:35 PM	3	13	0	0	0	9	3	0	1	0	1	0	0	0	0	0	30	364
5:40 PM	1	11	0	0	0	13	4	0	1	0	0	0	0	0	0	0	30	365
5:45 PM	2	13	0	0	0	10	4	0	2	0	1	0	0	0	0	0	32	376
5:50 PM	0	16	0	0	0	11	5	0	3	0	0	0	0	0	0	0	35	381
5:55 PM	2	11	0	0	0	11	6	0	0	0	2	0	0	0	0	0	32	373
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	168	0	0	0	160	44	0	16	0	4	0	0	0	0	0	408	
Heavy Trucks	0	16	0	0	0	12	0	0	0	0	0	0	0	0	0	0	28	
Pedestrians	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

Comments:

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Windsor Island Rd N -- Lockhaven Dr N
CITY/STATE: Keizer, ORQC JOB #: 13354508
DATE: Thu, Apr 09 2015Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

5-Min Count Period	Windsor Island Rd N (Northbound)				Windsor Island Rd N (Southbound)				Lockhaven Dr N (Eastbound)				Lockhaven Dr N (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	4	14	0	3	1	0	0	0	0	0	0	12	0	4	0	38	
4:05 PM	0	0	3	0	5	3	0	0	0	0	0	0	11	0	3	0	25	
4:10 PM	0	2	6	0	4	1	0	0	0	0	0	0	11	0	3	0	27	
4:15 PM	0	3	7	0	2	3	0	0	0	0	0	0	9	0	2	0	26	
4:20 PM	0	2	11	0	3	3	0	0	0	0	0	0	17	0	7	0	43	
4:25 PM	0	2	7	0	4	2	0	0	0	0	0	0	12	0	6	0	33	
4:30 PM	0	1	5	0	7	4	0	0	0	0	0	0	13	0	4	0	34	
4:35 PM	0	3	7	0	15	9	0	0	0	0	0	0	8	0	3	0	45	
4:40 PM	0	1	8	0	9	6	0	0	0	0	0	0	11	0	4	0	39	
4:45 PM	0	3	9	0	2	1	0	0	0	0	0	0	8	0	3	0	26	
4:50 PM	0	1	9	0	7	5	0	0	0	0	0	0	16	0	2	0	40	
4:55 PM	0	1	16	0	2	4	0	0	0	0	0	0	14	0	4	0	41	417
5:00 PM	0	0	11	0	7	2	0	0	0	0	0	0	16	0	3	0	39	418
5:05 PM	0	4	14	0	1	2	0	0	0	0	0	0	12	0	2	0	35	428
5:10 PM	0	2	7	0	4	5	0	0	0	0	0	0	10	0	5	0	33	434
5:15 PM	0	1	11	0	6	6	0	0	0	0	0	0	5	0	3	0	32	440
5:20 PM	0	4	3	0	1	5	0	0	0	0	0	0	19	0	2	0	34	431
5:25 PM	0	1	10	0	6	5	0	0	0	0	0	0	17	0	2	0	41	439
5:30 PM	0	0	9	0	3	2	0	0	0	0	0	0	15	0	7	0	36	441
5:35 PM	0	2	12	0	7	5	0	0	0	0	0	0	9	0	2	0	37	433
5:40 PM	0	4	7	0	1	2	0	0	0	0	0	0	16	0	1	0	31	425
5:45 PM	0	3	12	0	2	2	0	0	0	0	0	0	10	0	3	0	32	431
5:50 PM	0	2	19	0	3	2	0	0	0	0	0	0	15	0	3	0	44	435
5:55 PM	0	2	9	0	2	0	0	0	0	0	0	0	15	0	1	0	29	423
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	8	144	0	64	44	0	0	0	0	0	0	184	0	36	0	480	
Heavy Trucks	0	4	0	0	0	4	0	0	0	0	0	0	8	0	4	0	20	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
Railroad																		
Stopped Buses																		

Comments:

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 1: AM Existing

Report File: J:\...\AM Existing - Bowden Estates.pdf

4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	10.5	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.080	9.7	A
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	SEBL		8.8	A
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.001	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
#1: Windsor Island Rd at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 10.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	38	0	13	0	0	0	3	108	0	0	68	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	0	13	0	0	0	3	108	0	0	68	11
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	4	0	0	0	1	30	0	0	19	3
Total Analysis Volume [veh/h]	43	0	15	0	0	0	3	121	0	0	76	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.06	10.50	9.02	9.87	10.23	8.88	7.44	0.00	0.00	7.50	0.00	0.00
Movement LOS	B	B	A	A	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.20	0.20	0.20	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.10	5.10	5.10	0.00	0.00	0.00	6.10	6.10	6.10	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.80			9.66			0.20			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.17											
Intersection LOS	B											

Intersection Level Of Service Report #2: Windsor Island Rd at Lockhaven Dr

Control Type: Two-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 9.7
Level Of Service: A
Volume to Capacity (v/c): 0.080

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	67	30	12	144	21	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.60	6.60	6.60	6.60	6.60	6.60
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	30	12	144	21	11
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	10	4	46	7	4
Total Analysis Volume [veh/h]	86	38	15	185	27	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.70	8.86	0.00	0.00	7.62	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.26	0.10	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	6.56	2.41	0.00	0.00	1.76	1.76
d_A, Approach Delay [s/veh]	9.44		0.00		5.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.77					
Intersection LOS	A					

Intersection Level Of Service Report #3: Windsor Island Rd at Chemawa Rd

Control Type: All-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 8.8
Level Of Service: A

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	25	128	41	16	56	32	3	27	18	89	59	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	128	41	16	56	32	3	27	18	89	59	13
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	37	12	5	16	9	1	8	5	26	17	4
Total Analysis Volume [veh/h]	29	149	48	19	65	37	3	31	21	103	69	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.96	0.46	0.20	0.82
95th-Percentile Queue Length [ft]	24.05	11.39	4.98	20.42
Approach Delay [s/veh]	8.97	8.26	7.98	9.10
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.77			
Intersection LOS	A			

**Intersection Level Of Service Report
#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	37	1	0	13	1	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1	0	13	1	2
Peak Hour Factor	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	0	5	0	1
Total Analysis Volume [veh/h]	52	1	0	18	1	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	8.77	8.49
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.22	0.22
d_A, Approach Delay [s/veh]	0.00		0.00		8.58	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 1: AM Existing

Report File: J:\...\AM Existing - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	38	0	13	0	0	0	3	108	0	0	68	11	241

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	67	30	12	144	21	11	285

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	25	128	41	16	56	32	3	27	18	89	59	13	507

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	37	1	0	13	1	2	54

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 1: AM Existing

Report File: J:\...IAM Existing - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	38	0	13	0	0	0	3	108	0	0	68	11	241
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	38	0	13	0	0	0	3	108	0	0	68	11	241

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	67	30	12	144	21	11	285
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	67	30	12	144	21	11	285

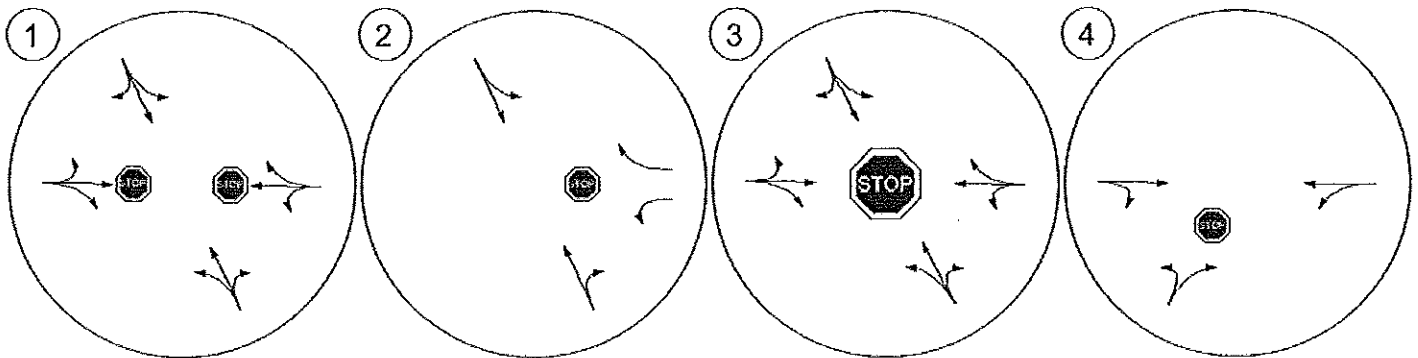
ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	25	128	41	16	56	32	3	27	18	89	59	13	507
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	25	128	41	16	56	32	3	27	18	89	59	13	507

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	37	1	0	13	1	2	54
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	37	1	0	13	1	2	54

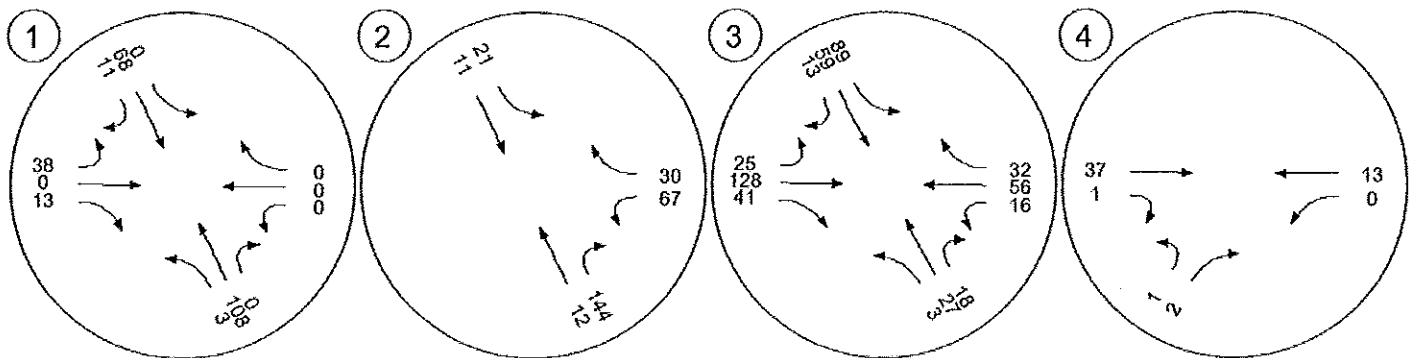
Study Intersections



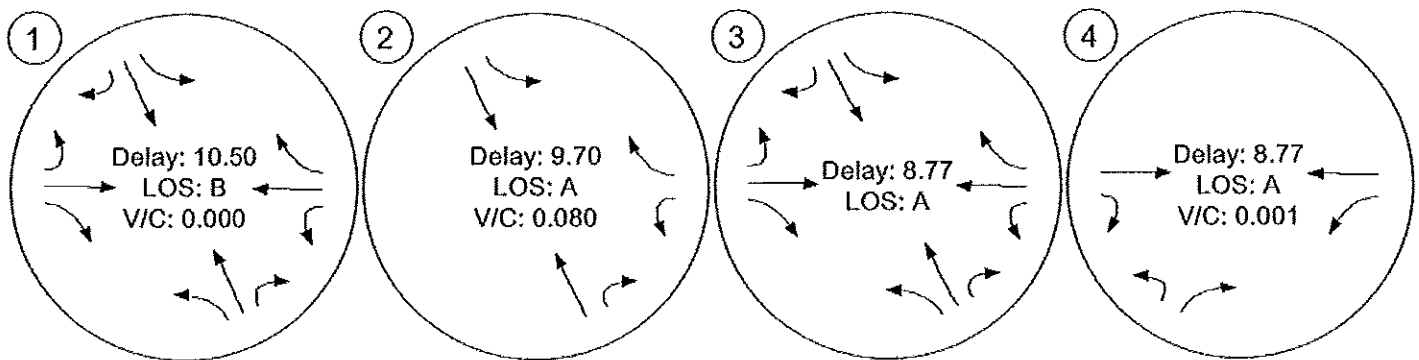
Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Traffic Conditions



Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 2: PM Existing

Report File: J:\...\PM Existing - Bowden Estates.pdf

4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	11.7	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.217	11.6	B
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	WBT		10.0	B
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
#1: Windsor Island Rd at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 11.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	19	0	8	0	0	0	20	135	0	0	159	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	8	0	0	0	20	135	0	0	159	40
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	2	0	0	0	5	36	0	0	43	11
Total Analysis Volume [veh/h]	20	0	9	0	0	0	22	145	0	0	171	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.40	11.74	9.47	11.26	11.67	9.00	7.72	0.00	0.00	7.54	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.13	0.13	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	3.28	3.28	3.28	0.00	0.00	0.00	9.77	9.77	9.77	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.83			10.64			1.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.17											
Intersection LOS	B											

Intersection Level Of Service Report
#2: Windsor Island Rd at Lockhaven Dr

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 11.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.217

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	151	40	21	114	63	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	40	21	114	63	52
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	11	6	31	17	14
Total Analysis Volume [veh/h]	164	43	23	124	68	57
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.04	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	11.61	8.84	0.00	0.00	7.62	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.83	0.13	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft]	20.74	3.20	0.00	0.00	6.52	6.52
d_A, Approach Delay [s/veh]	11.03		0.00		4.17	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.87					
Intersection LOS	B					

Intersection Level Of Service Report
#3: Windsor Island Rd at Chemawa Rd

Control Type: All-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 10.0
 Level Of Service: B

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	29	117	15	27	159	104	37	64	21	77	37	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	117	15	27	159	104	37	64	21	77	37	50
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	4	8	45	29	10	18	6	22	10	14
Total Analysis Volume [veh/h]	33	131	17	30	179	117	42	72	24	87	42	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.88	1.84	0.65	0.92
95th-Percentile Queue Length [ft]	21.96	45.94	16.29	22.99
Approach Delay [s/veh]	9.57	10.66	9.42	9.75
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	10.01			
Intersection LOS	B			

Intersection Level Of Service Report**#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration	1		1		1	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	18	0	3	42	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	0	3	42	0	3
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	1	12	0	1
Total Analysis Volume [veh/h]	21	0	3	48	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.85	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.09	0.09	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	2.17	2.17	0.21	0.21
d_A, Approach Delay [s/veh]	0.00		0.48		8.40	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.71					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 2: PM Existing

Report File: J:\...\PM Existing - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	19	0	8	0	0	0	20	135	0	0	159	40	381

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	151	40	21	114	63	52	441

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	29	117	15	27	159	104	37	64	21	77	37	50	737

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	18	0	3	42	0	3	66

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 2: PM Existing

Report File: J:\...\PM Existing - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

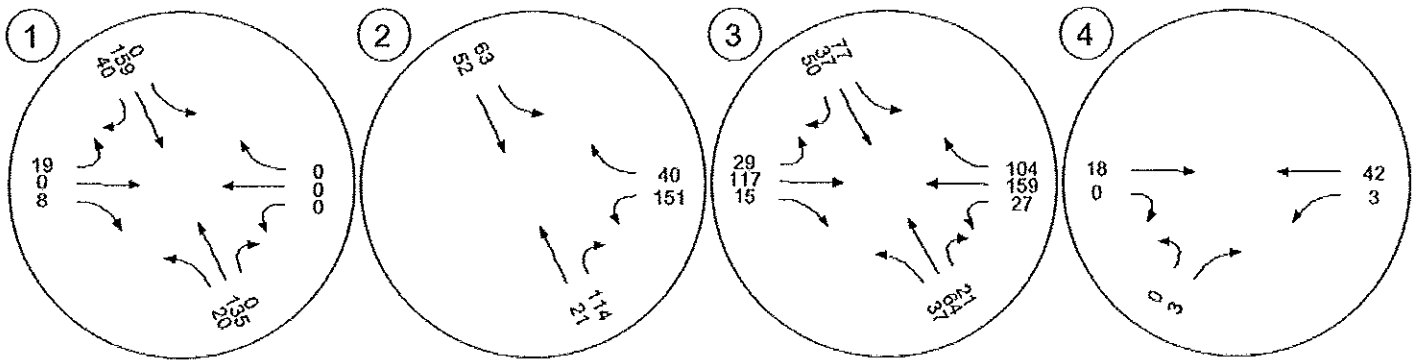
ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	19	0	8	0	0	0	20	135	0	0	159	40	381
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	19	0	8	0	0	0	20	135	0	0	159	40	381

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	151	40	21	114	63	52	441
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	151	40	21	114	63	52	441

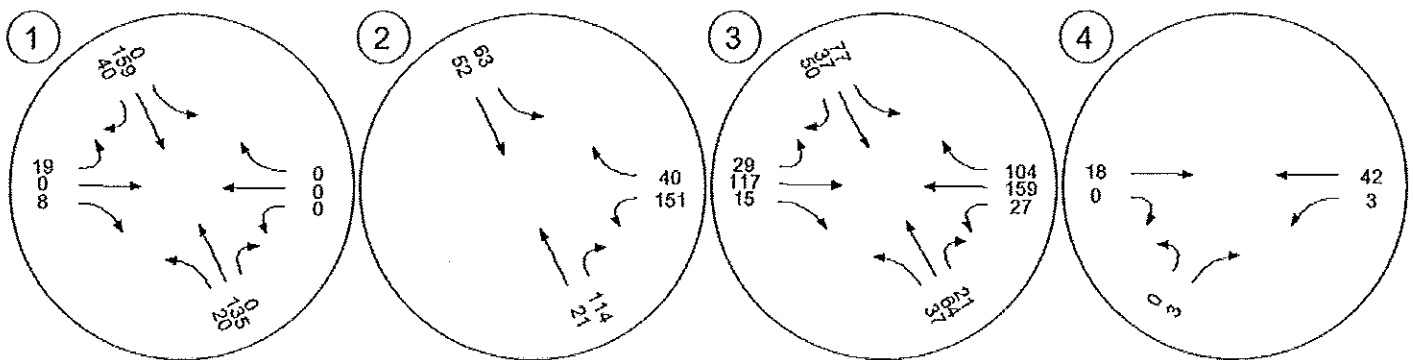
ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	29	117	15	27	159	104	37	64	21	77	37	50	737
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	29	117	15	27	159	104	37	64	21	77	37	50	737

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	18	0	3	42	0	3	66
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	18	0	3	42	0	3	66

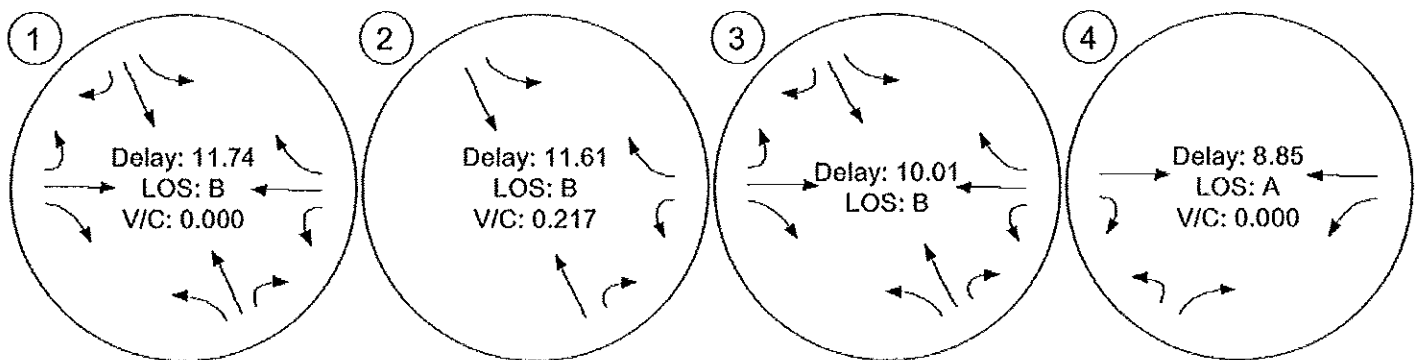
Traffic Volume - Base Volume



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 5: AM Developed

Report File: J:\...\AM Developed - Bowden Estates.pdf

4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	10.6	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.081	9.7	A
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	SEBL		8.8	A
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.001	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
#1: Windsor Island Rd at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 10.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	38	0	13	0	0	0	3	108	0	0	68	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	6	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	19	0	0	0	3	108	0	0	68	11
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	5	0	0	0	1	30	0	0	19	3
Total Analysis Volume [veh/h]	54	0	21	0	0	0	3	121	0	0	76	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.16	10.60	9.12	9.92	10.23	8.88	7.44	0.00	0.00	7.50	0.00	0.00
Movement LOS	B	B	A	A	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.27	0.27	0.27	0.00	0.00	0.00	0.24	0.24	0.24	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	6.79	6.79	6.79	0.00	0.00	0.00	6.10	6.10	6.10	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.87			9.68			0.20			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.66											
Intersection LOS	B											

**Intersection Level Of Service Report
#2: Windsor Island Rd at Lockhaven Dr**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 9.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.081

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration	1/1		1		1	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	67	30	12	144	21	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.60	6.60	6.60	6.60	6.60	6.60
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	30	12	154	21	11
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	10	4	49	7	4
Total Analysis Volume [veh/h]	86	38	15	197	27	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.74	8.89	0.00	0.00	7.64	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.26	0.10	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	6.61	2.43	0.00	0.00	1.77	1.77
d_A, Approach Delay [s/veh]	9.47		0.00		5.01	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.66					
Intersection LOS	A					

Intersection Level Of Service Report #3: Windsor Island Rd at Chemawa Rd

Control Type: All-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 8.8
Level Of Service: A

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	25	128	41	16	56	32	3	27	18	89	59	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	5	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	128	41	16	56	32	3	27	18	94	60	13
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	37	12	5	16	9	1	8	5	27	17	4
Total Analysis Volume [veh/h]	29	149	48	19	65	37	3	31	21	109	70	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.97	0.46	0.20	0.86
95th-Percentile Queue Length [ft]	24.17	11.44	4.99	21.43
Approach Delay [s/veh]	9.00	8.29	8.00	9.18
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.82			
Intersection LOS	A			

**Intersection Level Of Service Report
#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	37	1	0	13	1	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	1	0	13	1	2
Peak Hour Factor	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	0	5	0	1
Total Analysis Volume [veh/h]	75	1	0	18	1	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	8.85	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.23	0.23
d_A, Approach Delay [s/veh]	0.00		0.00		8.66	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 5: AM Developed

Report File: J:\...\AM Developed - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	48	0	19	0	0	0	3	108	0	0	68	11	257

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	67	30	12	154	21	11	295

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	25	128	41	16	56	32	3	27	18	94	60	13	513

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	53	1	0	13	1	2	70

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 5: AM Developed

Report File: J:\...AM Developed - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	38	0	13	0	0	0	3	108	0	0	68	11	241
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	10	0	6	0	0	0	0	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	48	0	19	0	0	0	3	108	0	0	68	11	257

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	67	30	12	144	21	11	285
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	10	0	0	10
		Other	0	0	0	0	0	0	0
		Future Total	67	30	12	154	21	11	295

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	25	128	41	16	56	32	3	27	18	89	59	13	507
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	5	1	0	6
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	25	128	41	16	56	32	3	27	18	94	60	13	513

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	37	1	0	13	1	2	54
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	16	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0
		Future Total	53	1	0	13	1	2	70

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 5: AM Developed

Report File: J:\...\AM Developed - Bowden Estates.pdf

4/17/2015

Trip generation summary**Added Trips**

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total trips	% of Total Trips
1: Zone	Single Family Homes	ITE 210	Dwellin g Unit	0.750	31.000	25.00	75.00	6	17	23	100.00
Added Trips Total								6	17	23	100.00

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 5: AM Developed

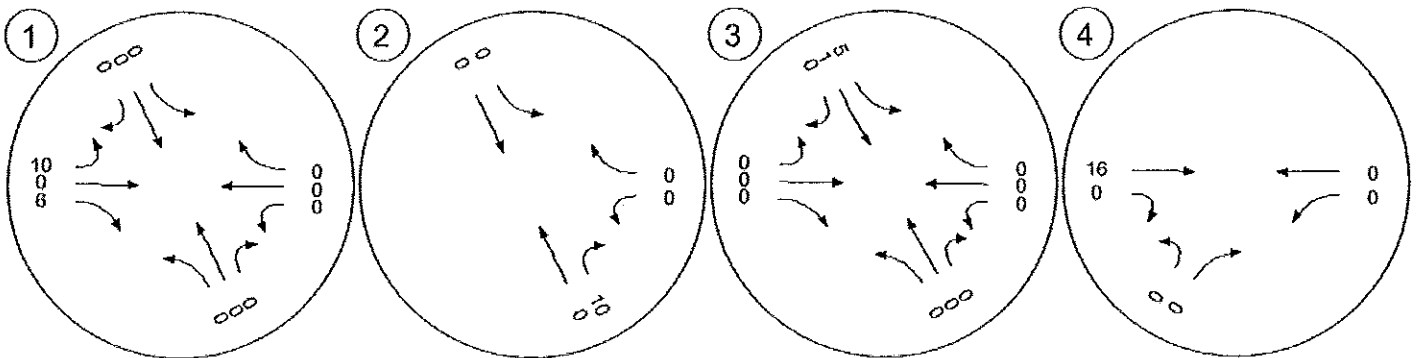
Report File: J:\...\AM Developed - Bowden Estates.pdf

4/17/2015

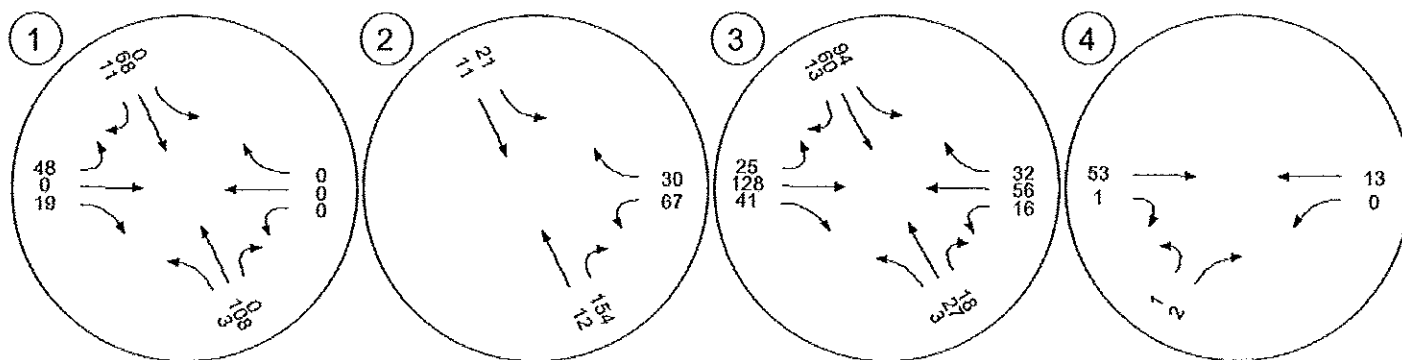
Trip distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Gate	5.00	0	5.00	1
3: Gate	60.00	4	60.00	10
4: Gate	0.00	0	0.00	0
5: Gate	30.00	2	30.00	5
6: Gate	5.00	0	5.00	1
7: Gate	0.00	0	0.00	0
8: Gate	0.00	0	0.00	0
Total	100.00	6	100.00	17

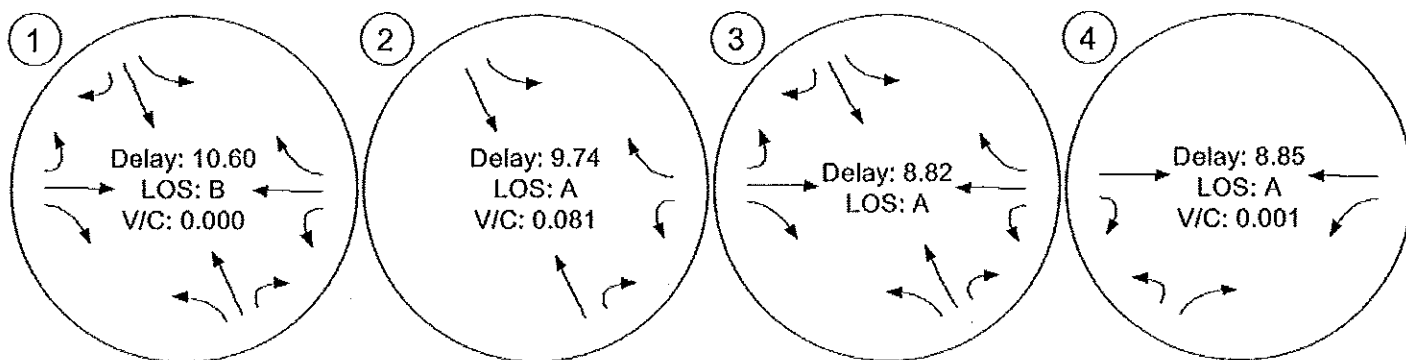
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 6: PM Developed

Report File: J:\...\PM Developed - Bowden Estates.pdf

4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	11.9	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.219	11.7	B
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	WBT		10.1	B
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.000	8.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
#1: Windsor Island Rd at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	19	0	8	0	0	0	20	135	0	0	159	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	6	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	14	0	0	0	20	135	0	0	159	40
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	4	0	0	0	5	36	0	0	43	11
Total Analysis Volume [veh/h]	31	0	15	0	0	0	22	145	0	0	171	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.55	11.89	9.62	11.33	11.67	9.00	7.72	0.00	0.00	7.54	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.21	0.21	0.21	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.30	5.30	5.30	0.00	0.00	0.00	9.77	9.77	9.77	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.92			10.66			1.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	B											

Intersection Level Of Service Report #2: Windsor Island Rd at Lockhaven Dr

Control Type: Two-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 11.7
Level Of Service: B
Volume to Capacity (v/c): 0.219

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration	1/1		1		1	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	151	40	21	114	63	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	40	21	124	63	52
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	11	6	34	17	14
Total Analysis Volume [veh/h]	164	43	23	135	68	57
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.04	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	11.67	8.87	0.00	0.00	7.64	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.84	0.13	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft]	20.92	3.22	0.00	0.00	6.58	6.58
d_A, Approach Delay [s/veh]	11.08		0.00		4.19	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.76					
Intersection LOS	B					

**Intersection Level Of Service Report
#3: Windsor Island Rd at Chemawa Rd**

Control Type: All-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 10.1
 Level Of Service: B

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	29	117	15	27	159	104	37	64	21	77	37	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	5	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	117	15	27	159	104	37	64	21	82	38	50
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	4	8	45	29	10	18	6	23	11	14
Total Analysis Volume [veh/h]	33	131	17	30	179	117	42	72	24	92	43	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.88	1.85	0.65	0.97
95th-Percentile Queue Length [ft]	22.07	46.24	16.35	24.18
Approach Delay [s/veh]	9.60	10.71	9.45	9.85
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	10.06			
Intersection LOS	B			

**Intersection Level Of Service Report
#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 8.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration	↑		↓		↗	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trend Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	18	0	3	42	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	0	3	42	0	3
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	12	0	1
Total Analysis Volume [veh/h]	39	0	3	48	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	8.93	8.47
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.09	0.09	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	2.20	2.20	0.22	0.22
d_A, Approach Delay [s/veh]	0.00		0.49		8.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 6: PM Developed

Report File: J:\...\PM Developed - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	29	0	14	0	0	0	20	135	0	0	159	40	397

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	151	40	21	124	63	52	451

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	29	117	15	27	159	104	37	64	21	82	38	50	743

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	34	0	3	42	0	3	82

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 6: PM Developed

Report File: J:\...\PM Developed - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	19	0	8	0	0	0	20	135	0	0	159	40	381
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	10	0	6	0	0	0	0	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	29	0	14	0	0	0	20	135	0	0	159	40	397

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	151	40	21	114	63	52	441
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	10	0	0	10
		Other	0	0	0	0	0	0	0
		Future Total	151	40	21	124	63	52	451

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	29	117	15	27	159	104	37	64	21	77	37	50	737
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	5	1	0	6
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	29	117	15	27	159	104	37	64	21	82	38	50	743

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	18	0	3	42	0	3	66
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	16	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0
		Future Total	34	0	3	42	0	3	82

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 6: PM Developed

Report File: J:\...\PM Developed - Bowden Estates.pdf

4/17/2015

Trip generation summary**Added Trips**

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total trips	% of Total Trips
1: Zone	Single Family Homes	ITE 210	Dwellin g Unit	0.750	31.000	25.00	75.00	6	17	23	100.00
Added Trips Total								6	17	23	100.00

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 6: PM Developed

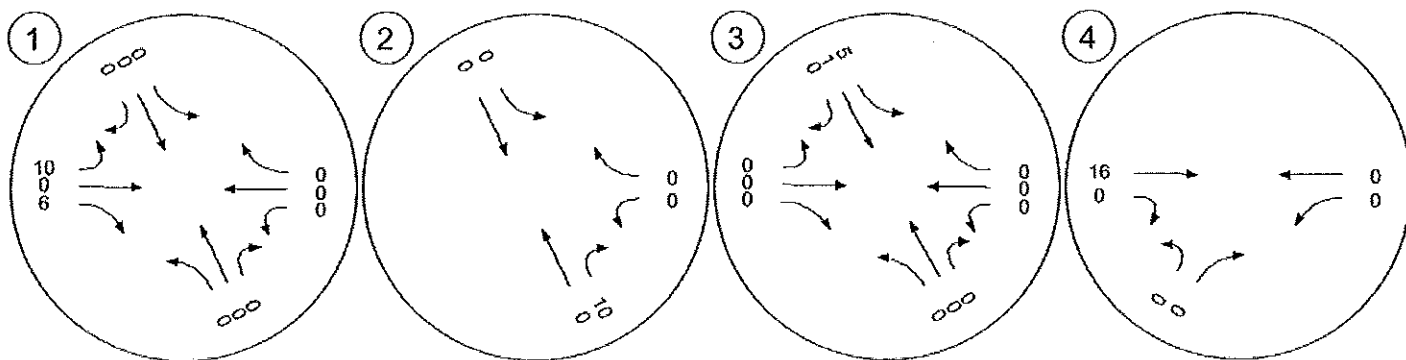
Report File: J:\...\PM Developed - Bowden Estates.pdf

4/17/2015

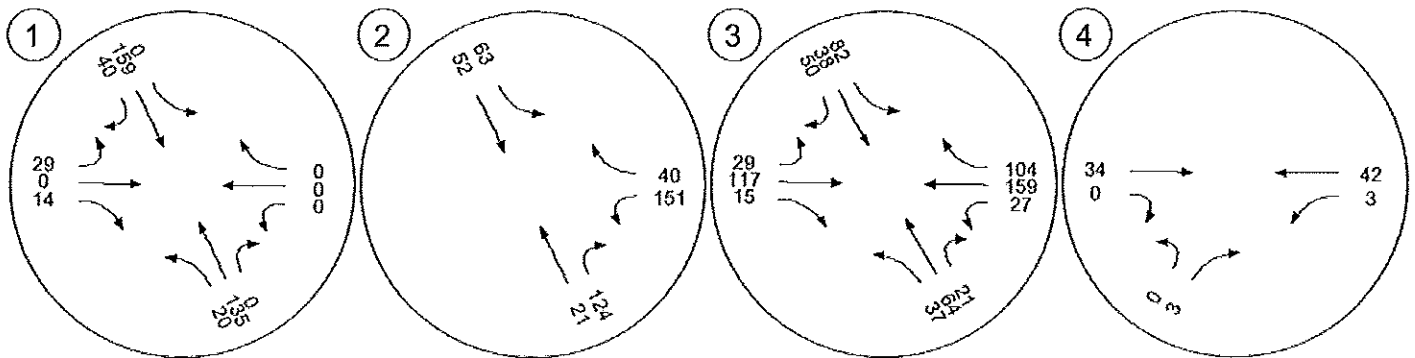
Trip distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Gate	5.00	0	5.00	1
3: Gate	60.00	4	60.00	10
4: Gate	0.00	0	0.00	0
5: Gate	30.00	2	30.00	5
6: Gate	5.00	0	5.00	1
7: Gate	0.00	0	0.00	0
8: Gate	0.00	0	0.00	0
Total	100.00	6	100.00	17

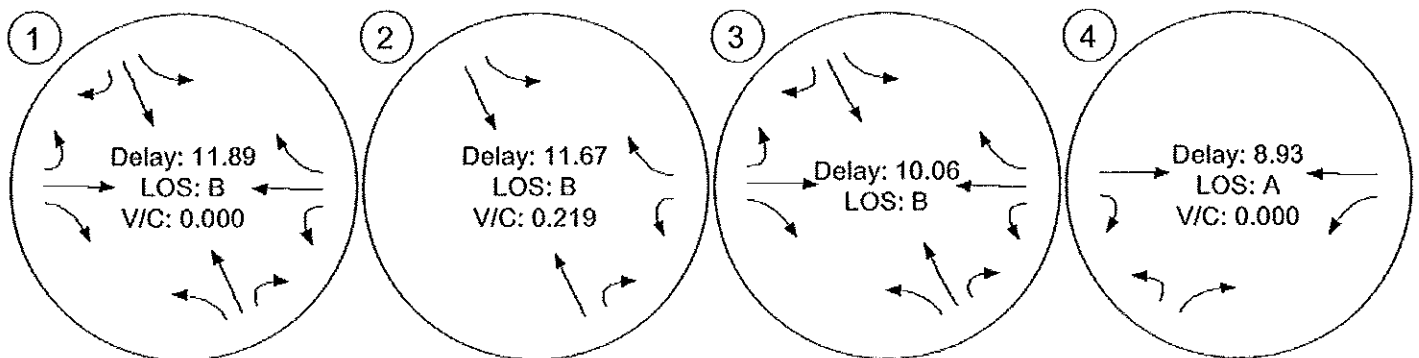
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: J:\...\Bowden Estates TIA 6088.vistro
Report File: J:\...\AM Future - Bowden Estates.pdf

Scenario 3: AM Future
4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	11.0	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.100	10.0	B
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	SEBL		9.5	A
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.001	8.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report**#1: Windsor Island Rd at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 11.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	38	0	13	0	0	0	3	108	0	0	68	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	6	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	0	22	0	0	0	4	130	0	0	82	13
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	6	0	0	0	1	37	0	0	23	4
Total Analysis Volume [veh/h]	63	0	25	0	0	0	4	146	0	0	92	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.58	11.00	9.32	10.26	10.51	8.99	7.48	0.00	0.00	7.55	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.34	0.34	0.34	0.00	0.00	0.00	0.30	0.30	0.30	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	8.49	8.49	8.49	0.00	0.00	0.00	7.60	7.60	7.60	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.23			9.92			0.22			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	2.70											
Intersection LOS	B											

**Intersection Level Of Service Report
#2: Windsor Island Rd at Lockhaven Dr**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.100

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	67	30	12	144	21	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.60	6.60	6.60	6.60	6.60	6.60
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	36	14	183	25	13
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	12	4	59	8	4
Total Analysis Volume [veh/h]	103	46	18	235	32	17
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.04	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.03	9.00	0.00	0.00	7.72	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.33	0.12	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft]	8.37	3.00	0.00	0.00	2.17	2.17
d_A, Approach Delay [s/veh]	9.71		0.00		5.08	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.76					
Intersection LOS	B					

Intersection Level Of Service Report #3: Windsor Island Rd at Chemawa Rd

Control Type: All-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 9.5
Level Of Service: A

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	25	128	41	16	56	32	3	27	18	89	59	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	5	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	154	49	19	67	38	4	32	22	112	72	16
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	45	14	6	19	11	1	9	6	33	21	5
Total Analysis Volume [veh/h]	35	179	57	22	78	44	5	37	26	130	84	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.30	0.59	0.26	1.14
95th-Percentile Queue Length [ft]	32.62	14.77	6.45	28.59
Approach Delay [s/veh]	9.75	8.73	8.34	9.89
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.46			
Intersection LOS	A			

**Intersection Level Of Service Report
#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 8.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	37	1	0	13	1	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1	0	16	1	2
Peak Hour Factor	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	0	0	6	0	1
Total Analysis Volume [veh/h]	85	1	0	23	1	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.33	0.00	8.90	8.59
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.23	0.23
d_A, Approach Delay [s/veh]	0.00		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 3: AM Future

Report File: J:\...\AM Future - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	56	0	22	0	0	0	4	130	0	0	82	13	307

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	80	36	14	183	25	13	351

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	30	154	49	19	67	38	4	32	22	112	72	16	615

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	60	1	0	16	1	2	80

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 3: AM Future

Report File: J:\...AM Future - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	38	0	13	0	0	0	3	108	0	0	68	11	241
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	10	0	6	0	0	0	0	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	56	0	22	0	0	0	4	130	0	0	82	13	307

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	67	30	12	144	21	11	285
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	10	0	0	10
		Other	0	0	0	0	0	0	0
		Future Total	80	36	14	183	25	13	351

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	25	128	41	16	56	32	3	27	18	89	59	13	507
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	5	1	0	6
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	154	49	19	67	38	4	32	22	112	72	16	615

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	37	1	0	13	1	2	54
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	16	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0
		Future Total	60	1	0	16	1	2	80

Vistro File: J:\...\Bowden Estates TIA 6088.vistro
Report File: J:\...\AM Future - Bowden Estates.pdf

Scenario 3: AM Future
4/17/2015

Trip generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total trips	% of Total Trips
1: Zone	Single Family Homes	ITE 210	Dwellin g Unit	0.750	31.000	25.00	75.00	6	17	23	100.00
Added Trips Total								6	17	23	100.00

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 3: AM Future

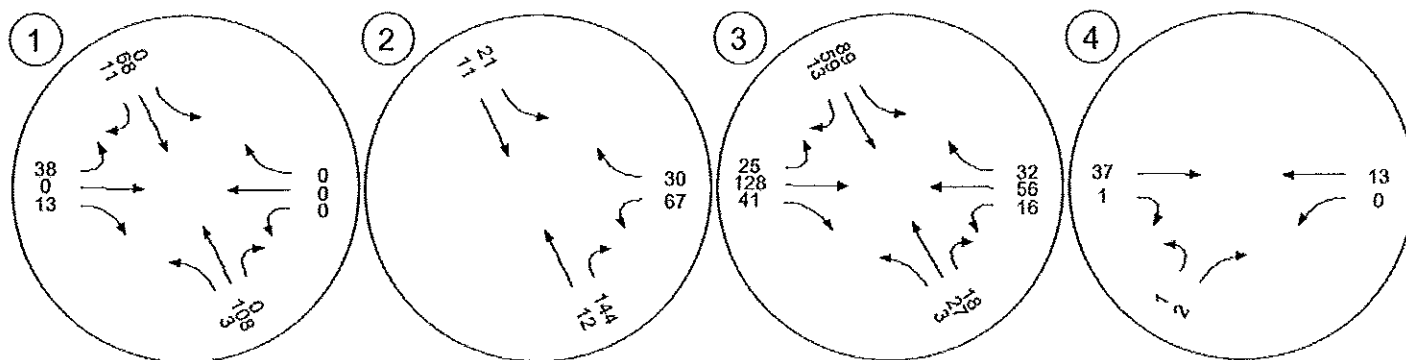
Report File: J:\...\AM Future - Bowden Estates.pdf

4/17/2015

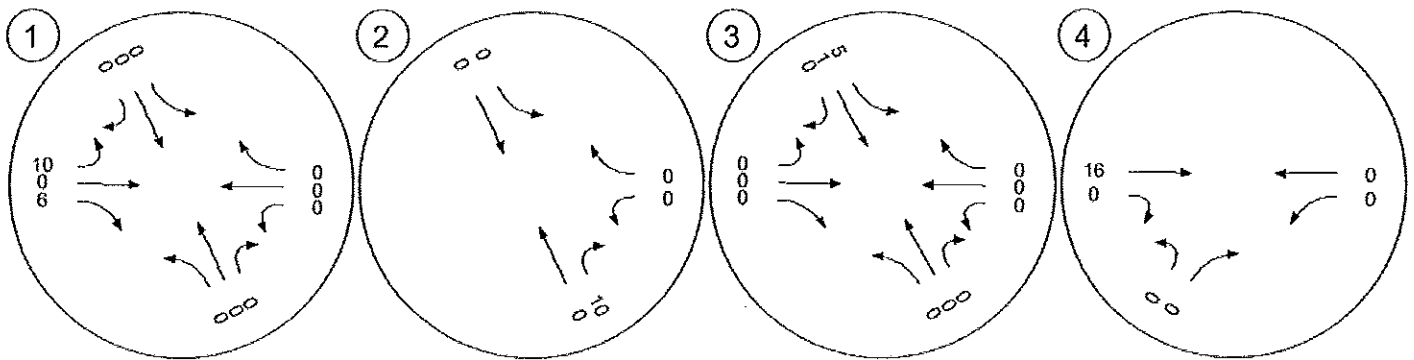
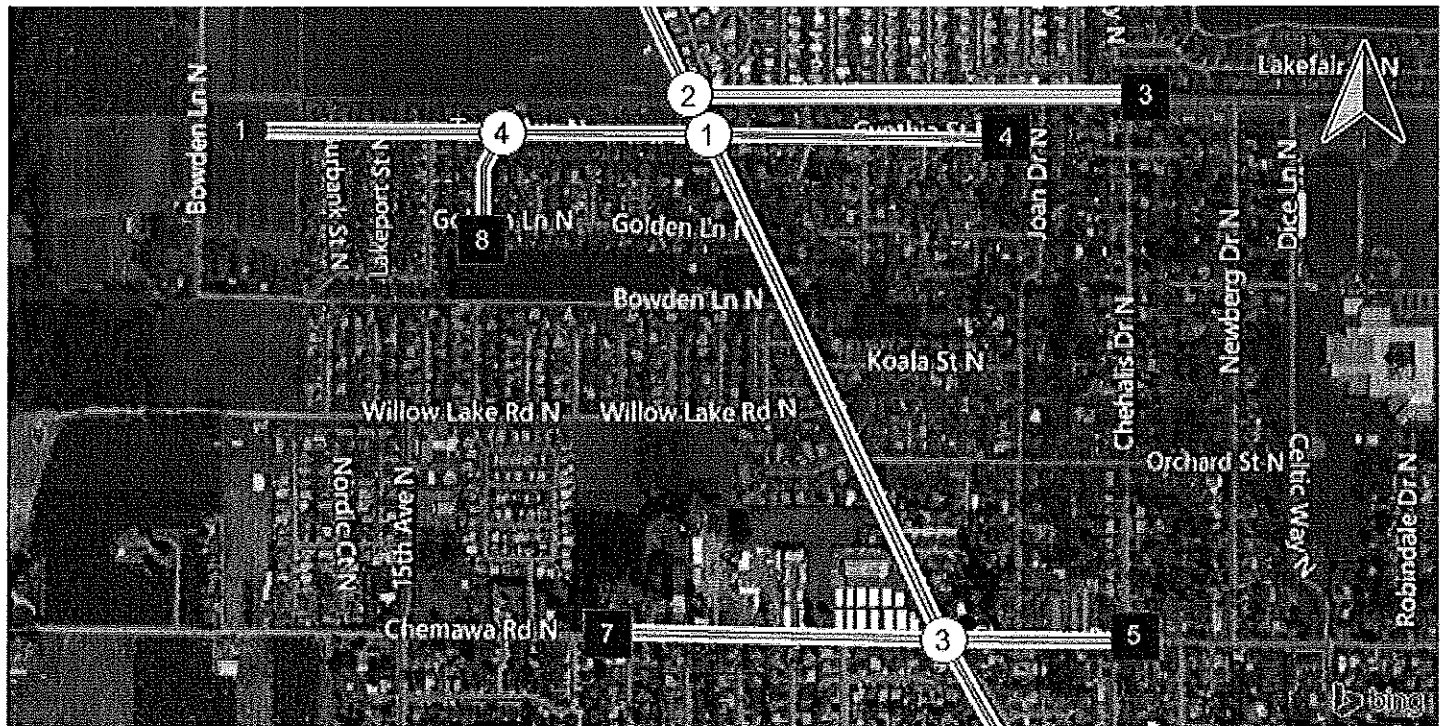
Trip distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Gate	5.00	0	5.00	1
3: Gate	60.00	4	60.00	10
4: Gate	0.00	0	0.00	0
5: Gate	30.00	2	30.00	5
6: Gate	5.00	0	5.00	1
7: Gate	0.00	0	0.00	0
8: Gate	0.00	0	0.00	0
Total	100.00	6	100.00	17

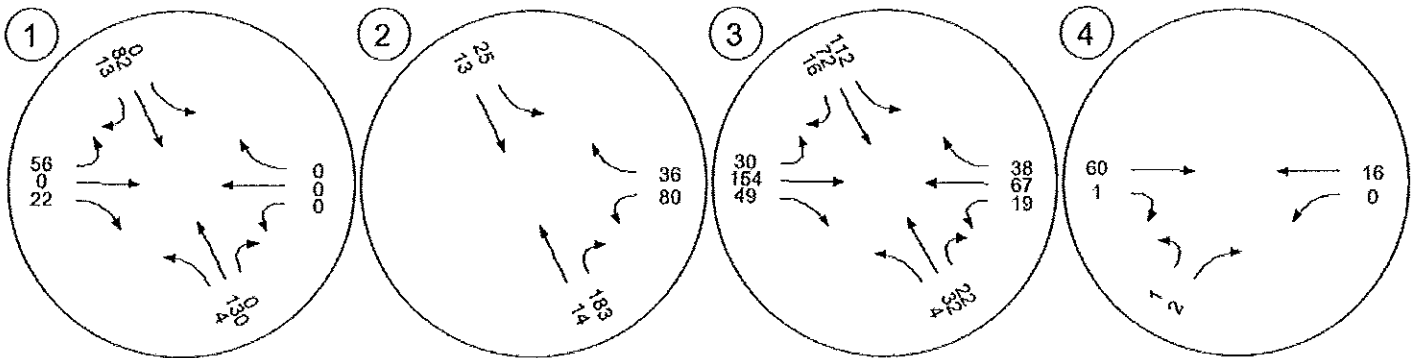
Traffic Volume - Base Volume



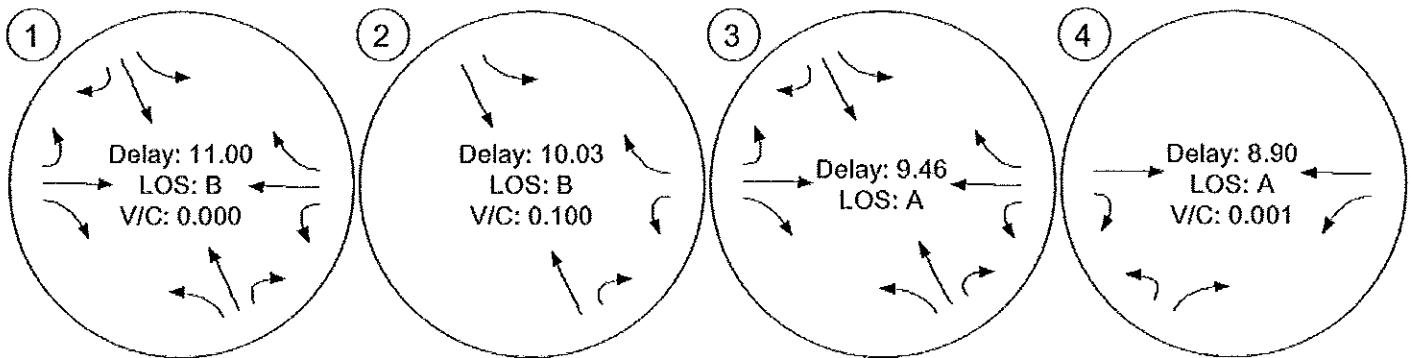
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 4: PM Future

Report File: J:\...\IPM Future - Bowden Estates.pdf

4/17/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Windsor Island Rd at Trent Ave	Two-way stop	HCM2010	EBT	0.000	12.7	B
2	Windsor Island Rd at Lockhaven Dr	Two-way stop	HCM2010	WBL	0.284	12.9	B
3	Windsor Island Rd at Chemawa Rd	All-way stop	HCM2010	WBT		11.6	B
4	Willow Leaf St at Trent Ave	Two-way stop	HCM2010	NEBL	0.000	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report #1: Windsor Island Rd at Trent Ave

Control Type: Two-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 12.7
Level Of Service: B
Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Trent Ave.			Trent Ave.			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	19	0	8	0	0	0	20	135	0	0	159	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	6	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	16	0	0	0	24	162	0	0	191	48
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	4	0	0	0	6	44	0	0	51	13
Total Analysis Volume [veh/h]	35	0	17	0	0	0	26	174	0	0	205	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	no	no		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	no	no		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.44	12.71	9.98	12.11	12.38	9.14	7.82	0.00	0.00	7.60	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.27	0.27	0.27	0.00	0.00	0.00	0.50	0.50	0.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	6.77	6.77	6.77	0.00	0.00	0.00	12.52	12.52	12.52	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.64			11.21			1.01			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.60											
Intersection LOS	B											

Intersection Level Of Service Report #2: Windsor Island Rd at Lockhaven Dr

Control Type: Two-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 12.9
Level Of Service: B
Volume to Capacity (v/c): 0.284

Intersection Setup

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Approach	Westbound		Northwestbound		Southeastbound	
Lane Configuration	1/		T		1	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	no		no		no	

Volumes

Name	Lockhaven Dr.		Windsor Island Rd.		Windsor Island Rd.	
Base Volume Input [veh/h]	151	40	21	114	63	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	181	48	25	147	76	62
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	13	7	40	21	17
Total Analysis Volume [veh/h]	197	52	27	160	83	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	no		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	12.88	8.98	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.18	0.16	0.00	0.00	0.33	0.33
95th-Percentile Queue Length [ft]	29.57	3.98	0.00	0.00	8.24	8.24
d_A, Approach Delay [s/veh]	12.06		0.00		4.26	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.21					
Intersection LOS	B					

Intersection Level Of Service Report #3: Windsor Island Rd at Chemawa Rd

Control Type: All-way stop
Analysis Method: HCM2010
Analysis Period: 1 hour

Delay (sec / veh): 11.6
Level Of Service: B

Intersection Setup

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Approach	Eastbound			Westbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Volumes

Name	Chemawa Rd			Chemawa Rd			Windsor Island Rd.			Windsor Island Rd.		
Base Volume Input [veh/h]	29	117	15	27	159	104	37	64	21	77	37	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	5	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	140	18	32	191	125	44	77	25	97	45	60
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	39	5	9	54	35	12	22	7	27	13	17
Total Analysis Volume [veh/h]	39	157	20	36	215	140	49	87	28	109	51	67
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes****Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.24	2.84	0.90	1.36
95th-Percentile Queue Length [ft]	31.00	71.06	22.57	33.93
Approach Delay [s/veh]	10.75	12.93	10.45	11.11
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.63			
Intersection LOS	B			

**Intersection Level Of Service Report
#4: Willow Leaf St at Trent Ave**

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 1 hour

Delay (sec / veh): 9.0
 Level Of Service: A
 Volume to Capacity (v/c): 0.000

Intersection Setup

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Approach	Eastbound		Westbound		Northeastbound	
Lane Configuration	↑		↓		↗	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	yes		yes		yes	

Volumes

Name	Trent Ave		Trent Ave.		Willow Leaf St	
Base Volume Input [veh/h]	18	0	3	42	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	0	4	50	0	4
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	1	14	0	1
Total Analysis Volume [veh/h]	44	0	5	57	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			no
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.30	0.00	9.01	8.50
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.11	0.11	0.01	0.01
95th-Percentile Queue Length [ft]	0.00	0.00	2.67	2.67	0.29	0.29
d_A, Approach Delay [s/veh]	0.00		0.54		8.50	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	A					

Vistro File: J:\...\Bowden Estates TIA 6088.vistro
 Report File: J:\...\PM Future - Bowden Estates.pdf

Scenario 4: PM Future
 4/17/2015

Turning Movement Volume: Summary

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	33	0	16	0	0	0	24	162	0	0	191	48	474

ID	Intersection Name	Westbound		Northwestbound		Southeastbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	181	48	25	147	76	62	539

ID	Intersection Name	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	35	140	18	32	191	125	44	77	25	97	45	60	889

ID	Intersection Name	Eastbound		Westbound		Northeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	38	0	4	50	0	4	96

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 4: PM Future

Report File: J:\...\PM Future - Bowden Estates.pdf

4/17/2015

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Windsor Island Rd at Trent Ave	Final Base	19	0	8	0	0	0	20	135	0	0	159	40	381
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	10	0	6	0	0	0	0	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	33	0	16	0	0	0	24	162	0	0	191	48	474

ID	Intersection Name	Volume Type	Westbound		Northwestbound		Southeastbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
2	Windsor Island Rd at Lockhaven Dr	Final Base	151	40	21	114	63	52	441
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	10	0	0	10
		Other	0	0	0	0	0	0	0
		Future Total	181	48	25	147	76	62	539

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Windsor Island Rd at Chemawa Rd	Final Base	29	117	15	27	159	104	37	64	21	77	37	50	737
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	5	1	0	6
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	35	140	18	32	191	125	44	77	25	97	45	60	889

ID	Intersection Name	Volume Type	Eastbound		Westbound		Northeastbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	Willow Leaf St at Trent Ave	Final Base	18	0	3	42	0	3	66
		Growth Rate	1.20	1.20	1.20	1.20	1.20	1.20	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	16	0	0	0	0	0	16
		Other	0	0	0	0	0	0	0
		Future Total	38	0	4	50	0	4	96

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 4: PM Future

Report File: J:\...\PM Future - Bowden Estates.pdf

4/17/2015

Trip generation summary**Added Trips**

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total trips	% of Total Trips
1: Zone	Single Family Homes	ITE 210	Dwelling Unit	0.750	31.000	25.00	75.00	6	17	23	100.00
Added Trips Total								6	17	23	100.00

Vistro File: J:\...\Bowden Estates TIA 6088.vistro

Scenario 4: PM Future

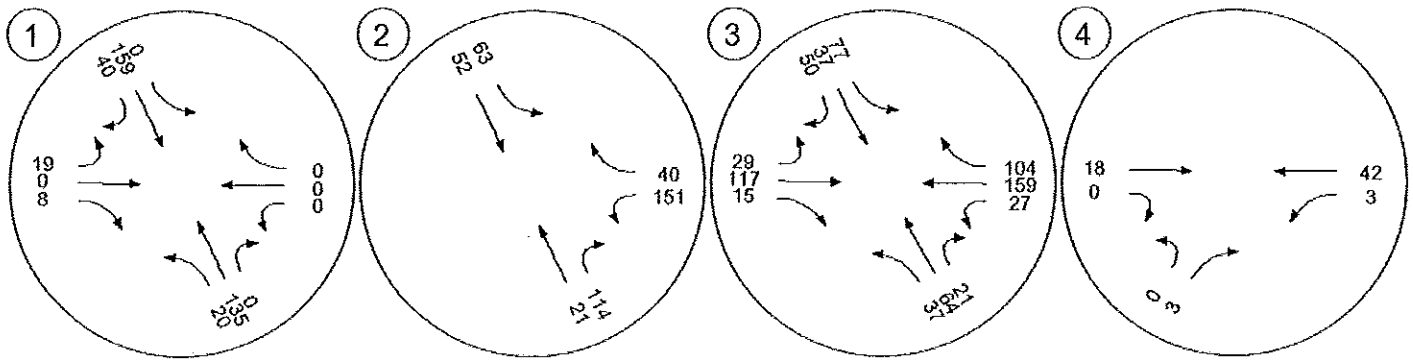
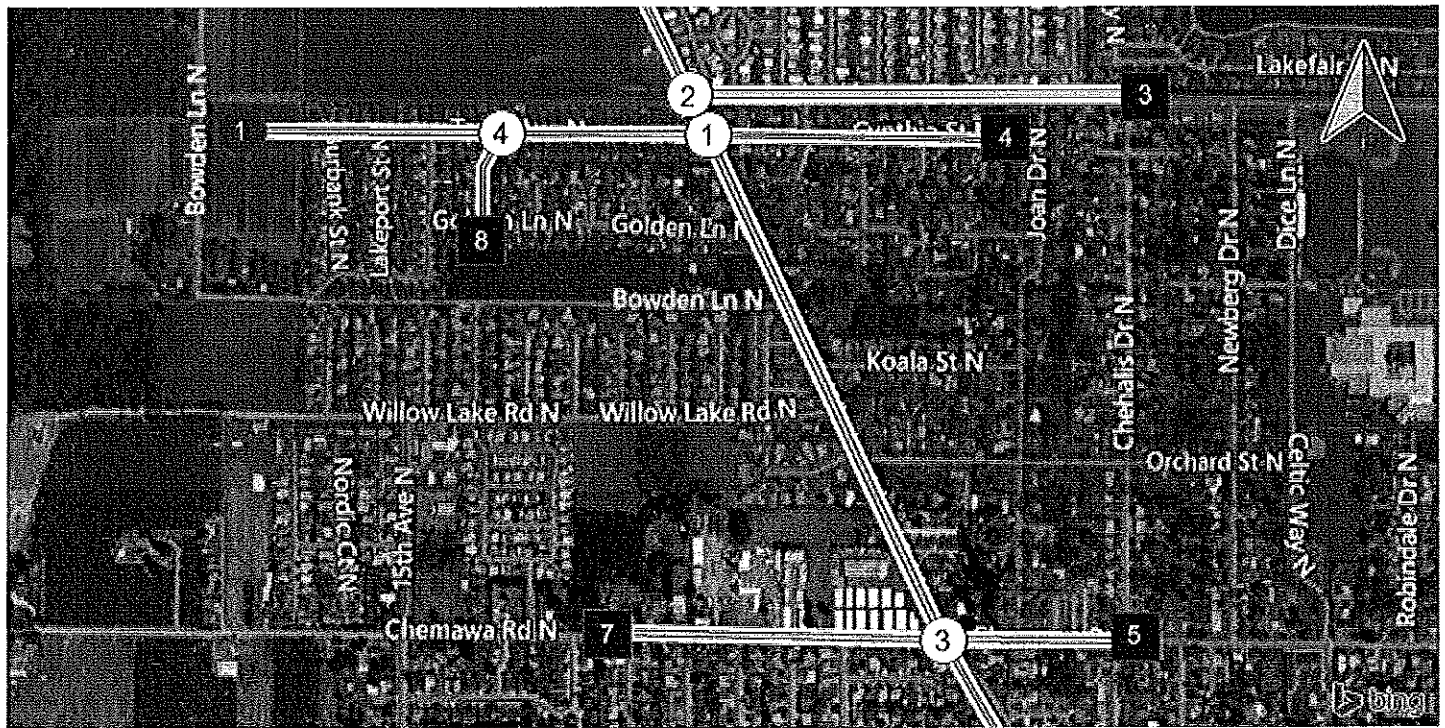
Report File: J:\...\PM Future - Bowden Estates.pdf

4/17/2015

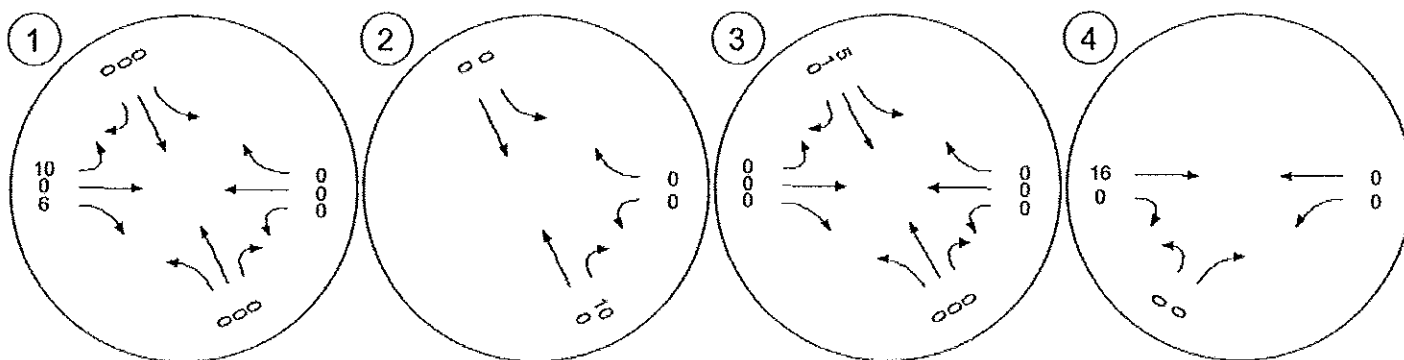
Trip distribution summary

Zone / Gate	Zone 1: Zone			
	To Zone:		From Zone:	
	Share %	Trips	Share %	Trips
2: Gate	5.00	0	5.00	1
3: Gate	60.00	4	60.00	10
4: Gate	0.00	0	0.00	0
5: Gate	30.00	2	30.00	5
6: Gate	5.00	0	5.00	1
7: Gate	0.00	0	0.00	0
8: Gate	0.00	0	0.00	0
Total	100.00	6	100.00	17

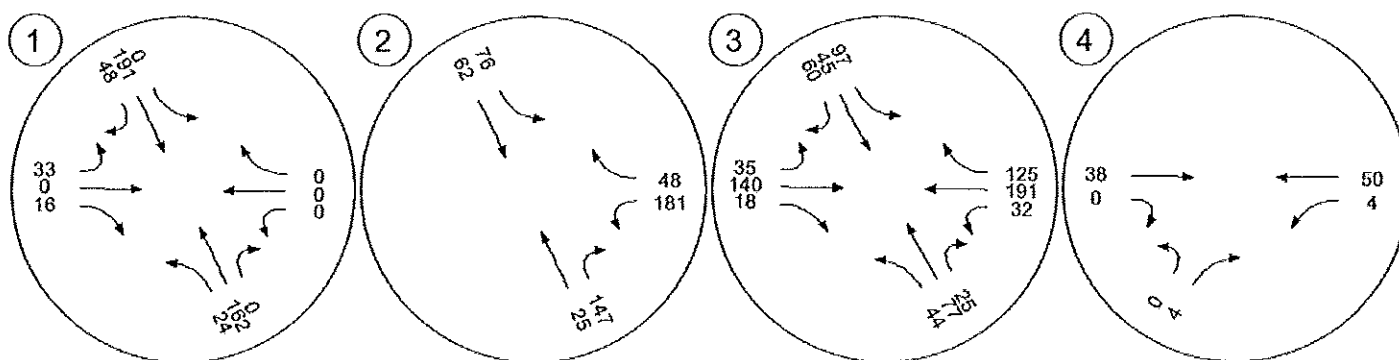
Traffic Volume - Base Volume



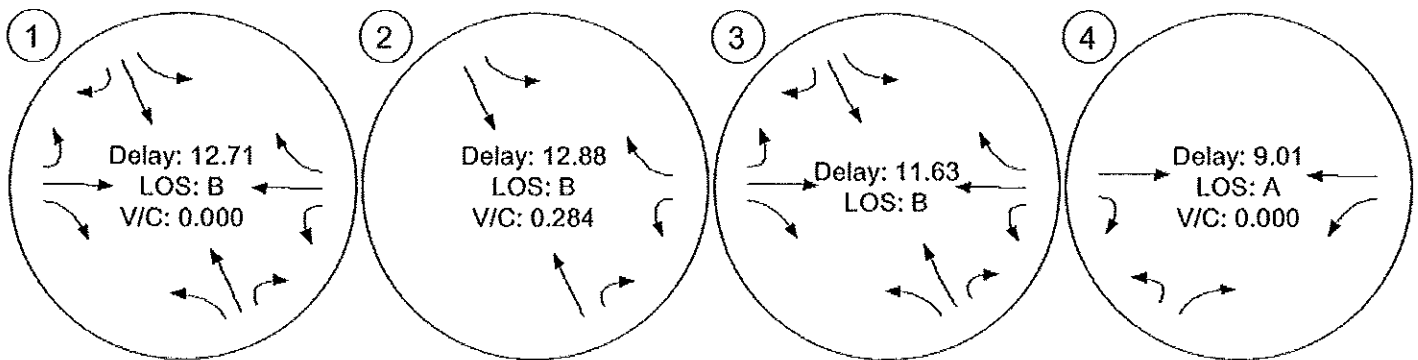
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



TO: Sam Litke, Senior Planner
RE: Subdivision 2015-11, Bowden Estates (Mart Farrow)
Date: February 19, 2015

PUBLIC WORKS DEPARTMENT REQUIREMENTS:

The application is for 32 lots on 5.69 acres.

SANITARY SEWERS:

The subject property is located outside the original Keizer Sewer District. Therefore a sanitary sewer trunk line acreage fee will be required unless the applicant can provide evidence that an acreage fee has been previously paid.

- a.) City of Salem approval for local sewer permits will need to be issued prior to construction. Prior to submitting plans to the City of Salem for approval, the developer's engineer shall submit plans to the City of Keizer for review and determination of compliance with the City's Master Sewer Plan for the area.
- b.) Connecting to existing sewers that serve the general area will be the responsibility of the developer of the property. Appropriate easements for any public sewer mains located within the subject property, if located outside platted right of ways, will need to be recorded in a form which meets the City of Salem Design Standards and shown on the subdivision plat.
- c.) It will be the responsibility of the developers engineer to locate any existing wells (including on adjacent property) in the vicinity of the proposed new sanitary sewer lines for the subject property. The developer, prior to platting of the proposed subdivision, shall eliminate any conflicts between existing wells and proposed sanitary sewers.

WATER SYSTEM:

- a.) A master water system plan showing proposed routes of public water mains, fire hydrants and individual services shall be prepared prior to submission of construction plans for the development. Appropriate easements for all public water mains and fire hydrants will be required if construction is to be outside of public right of ways. Any system development charges for water system improvements will be those in place at the time of individual service connections.
- b.) Final development plans shall be reviewed by the Keizer Fire District with regard to access and adequate location of fire hydrants prior to any issuance of building permits by the City of Keizer. All required fire hydrants shall be served by an 8 inch water main.

- c.) Any existing wells on the subject property are to be abandoned. The developer shall provide evidence that any abandonment of existing wells has been completed in accordance with the rules of the Oregon State Water Resources Department.
- d.) Location of all meters to be approved by Keizer Water Department.

STREET AND DRAINAGE IMPROVEMENTS:

- a.) The developers engineer shall submit an overall storm drainage plan that will provide service to this development consistent with the City's Master Storm Drain Plan for this area of Keizer.
- b.) Storm water detention will be required and storm water quality improvements will be required in conformance with the City of Keizer Public Works Department Design Standards. The developer's engineer shall conduct on-site percolation tests, (the location and frequency of tests to be determined by the City of Keizer) to determine the suitability of the soils for the proposed disposal system. The percolation test and soil analysis shall be performed by a qualified geotechnical engineer. Storm Water calculations shall be submitted to the City of Keizer Public Works Department, prior to or with the project design drawings, indicating how the development complies with the Public Works Design Standards for the basin. All storm water runoff from the proposed streets are to be connected to an approved system.
- c.) The proposed subdivision will be served by a new street connected to the intersection of Trent Ave. N. and Burbank St. N. The proposed new intersection shall be as close to a "T" intersection as possible. The most recent plan submitted to the Public Works Department needs to be revised at the proposed new intersection to meet the Public Works Department requirements.

A previously approved subdivision, (Bowden Estates), of the subject property provided for access to the Trent Ave. N. - Burbank St. N. intersection in a manner that was acceptable to the City of Keizer Public Works Department. The proposed new subdivision will be required to provide a similar access. Attached to this report are two exhibits from the originally approved Bowden Estates for reference.

A private access easement is being proposed at the west end of Aroma Ct. N. which will furnish access to the existing Bowden Lane to the west of the subject property. The width and structural depth of the proposed access easement shall meet the requirements of the Keizer Fire District, including any signage and access control features. The west end of the access easement shall be gated with an improvement acceptable to the Fire District.

The applicant will be required to obtain U.I.C. permits (Underground Injection Control) from the Oregon State Department of Environmental Quality and each individual lot will be required to furnish evidence that a Registered U.I.C. has been obtained for all roof drains.

d.) A grading and drainage plan shall be developed for the subject property. Details shall include adequate conveyance of storm water from adjacent property across the subject property and shall include existing elevations and proposed lot corner elevations. This plan shall be submitted and approved by the Public Works Department prior to the issuance of any permits for street or storm drainage for the subject property. Grading and drainage plans shall be in conformance with the City of Keizer Public Works Standards. Additional information regarding street grades, site grading, inverts, etc., will be required for review prior to any plan approval.

OTHER

- a.) A street lighting district shall be created at the expense of the applicant to provide for adequate street lights along the frontage of all proposed new lots.
- b.) Construction permits are required by the Public Works Department prior to any public facility construction.
- c.) A Pre-design meeting with the City of Keizer Public Works Department will be required prior to the Developer's Engineer submitting plans to either the city of Keizer or the City of Salem for review.
- d.) Street opening permits are required for any work within the City Right of Way that is not covered by a Construction Permit.
- e.) A Pre-construction conference shall be required prior to commencement of any construction under permits issued by the city.
- f.) An improvement agreement shall be executed between the developer and the City of Keizer prior to recording of the subdivision plat.
- g.) A master utility plan including all proposed power, telephone, gas and cable TV. lines shall be submitted to the Public Works Department for review prior to the Department issuing construction permits for the proposed project.
- h.) Erosion control permits shall be obtained from the City of Keizer prior to the disturbance of any soil on the subject property. Additionally, if required by the Oregon Department of Environmental Quality, a 1200-C permit will be required from the Oregon Department of Environmental Quality and furnished to the City of Keizer by the developer prior to issuance of an erosion control permit.
- i.) Mailbox details indicating proposed locations and approved by the U.S. Post Office shall be submitted to the Public Works Department.



THIS PLAN IS PREPARED BY MULTI/TECH ENGINEERING & PLANNING, INC. FOR THE PROJECT DESCRIBED HEREIN. IT IS THE PROPERTY OF MULTI/TECH ENGINEERING & PLANNING, INC. AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF MULTI/TECH ENGINEERING & PLANNING, INC.

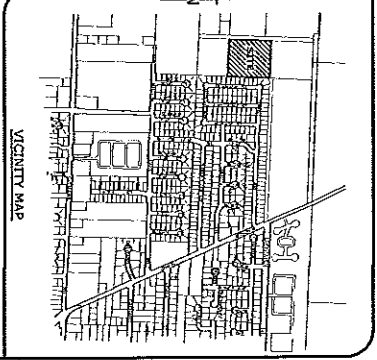
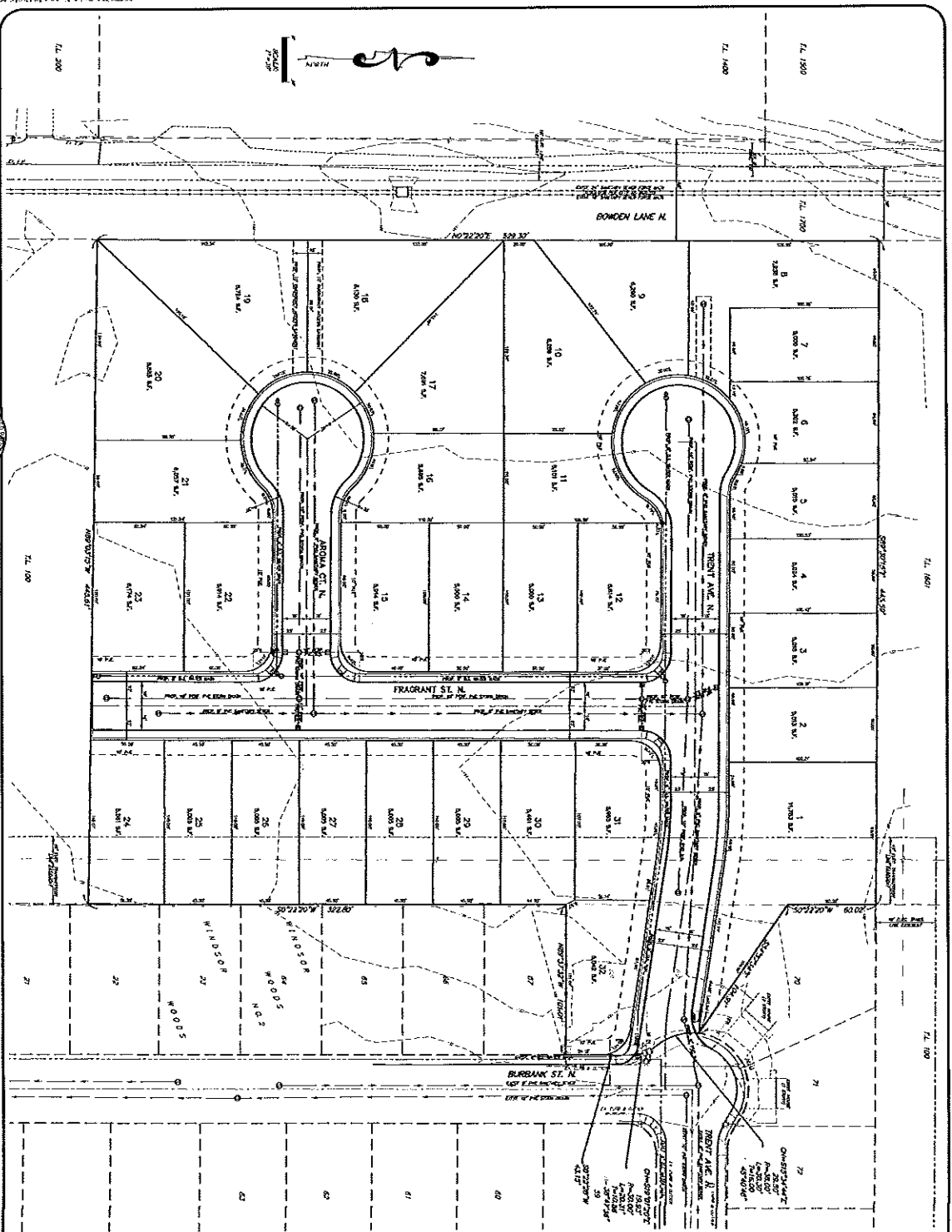


THIS PLAN IS PREPARED BY MULTI/TECH ENGINEERING & PLANNING, INC. FOR THE PROJECT DESCRIBED HEREIN. IT IS THE PROPERTY OF MULTI/TECH ENGINEERING & PLANNING, INC. AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF MULTI/TECH ENGINEERING & PLANNING, INC.

BOWDEN ESTATES

PRELIMINARY PLAN

Project Number
6088
Sheet Number
1 of 2



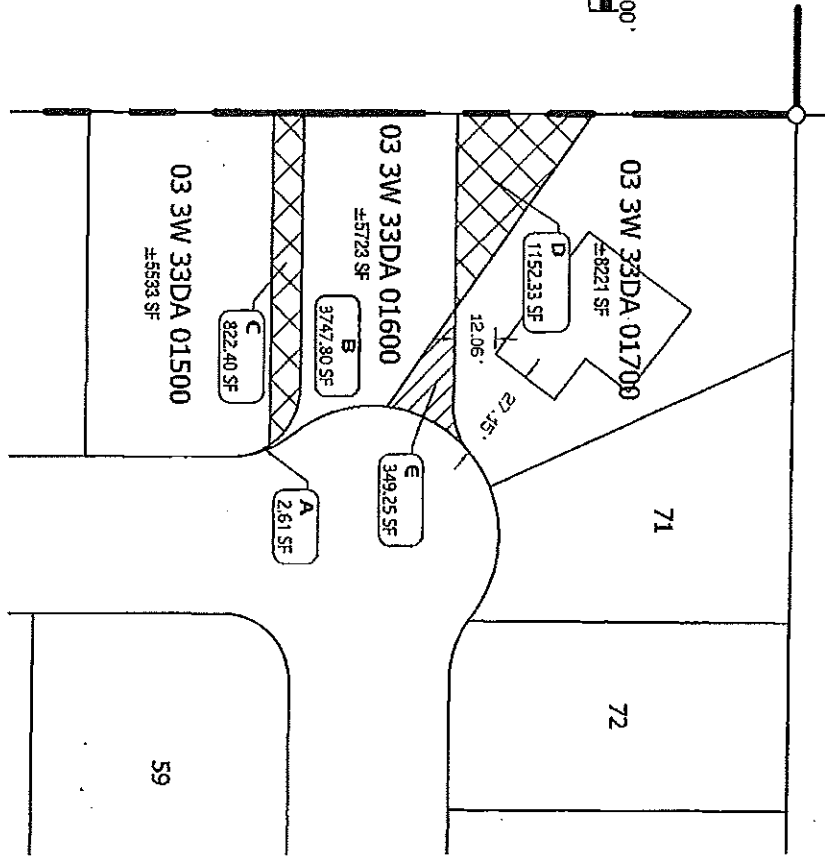
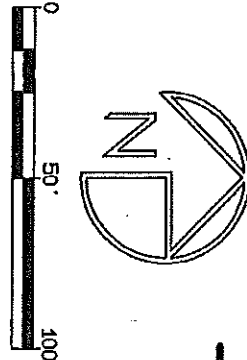
BOWDEN ESTATES
SEC. 33, T. 6 S., R. 3 W., W.M.
CITY OF KEIZER
MARION COUNTY, OREGON

Owner / Developer:
TRADEMARK ENTERPRISES, LLC
P.O. BOX 5248
SALEM, OREGON 97304

PARCEL SIZE: 5.69 AC.
DEVELOPABLE AREA: 3.62 UNITS/ACRE
DENSITY: 1.5 UNITS/ACRE
SMALLEST: 5,000 S.F.
AVERAGE: 5,423 S.F.

EXISTING ZONE: Single Family Residential
COMPREHENSIVE DESG.: Low Density Residential

UTILITIES:
CABLE _____ COMCAST CABLE SERVICES
POWER _____ COLE
SEWER _____ SOUTHERN LINK
GAS _____ N.W. NATURAL
STORM DRAIN & DOMESTIC WATER _____ CITY OF KEIZER
SANITARY SEWER _____ CITY OF SALEM



2

EXISTING LOTS AT PROPOSED ACCESS

Scale: 1" = 50'

P.O. Box 536 Dunbar, Oregon 97115-0536
503-537-9950 Fax: 503-537-9952

PRELIMINARY
SUBDIVISION PLAN

Date	Feb 2006
Scale	Noted
Drawn	CL
Job	07-4-B
Sheet	SDI

APPLICANTS REPRESENTATIVE
THE SAUNDERS COMPANY INC.
ENGINEERING DIVISION
901 N. BRUTSCHER STREET, SUITE 201
NEWBERG, OREGON 97132
503-537-9950
Project Manager: Chuck Gregory, P.E.

UTILITY AND SERVICE PROVIDERS

WATER: CITY OF KEIZER
STORM: CITY OF KEIZER
SEWER: CITY OF SALEM
POWER: PORTLAND GENERAL ELECTRIC
GAS: NORTHWEST NATURAL
FIRE: CITY OF KEIZER FIRE DEPT.
POLICE: CITY OF KEIZER POLICE DEPT.
SCHOOLS: SALEM-KEIZER SCHOOL DISTRICT
PARKS: CITY OF KEIZER

SITE
SITE AREA: 10.7 ACRES
ZONING: EFU-UNITED USE
TAX MAP: 6 JW 33
TAX LOT: 1600

[illegible]

BENCHMARK

BASIS OF ELEVATION: STORM
MANHOLE RIM AT INTERSECTION
OF BURENBANK AND HUNTER
ELEV: 129.90

EXISTING SITE RUNOFF

- SOIL TYPE:
 - CM = CLOAGLO (GROUP 6)
 - NU = NEWBERG (GROUP 8)
 - NMA ATLAS 2 VOLUME X
- 2TR 24HR RAINFALL = 2.5"
 - 10R 24HR RAINFALL = 3.5"
 - To = 54.6 MIN (7R-25 METHOD)
- AVERAGE GROUND SLOPE
- FIRST 300' SHALD FLOW = 0.4%
- NEXT 100' UNPAVED = 1.0%
- GROUND COVER = CULTIVATED SOIL
- RESIDUE COVER
- 10TR PAVED/DEVELOPED RUNOFF = 1.2%

1 **PROPOSED PLAN**

Exhibit '5'

Comments on Planning Action: Subdivision Case No. 2015-11

Date 6 / 4 / 2015 Person Commenting Phil Jones

Subdivision:

- X 1. Subdivision name must be approved per ORS 92.090.
- X 2. Must be surveyed and platted per ORS 92.050.
- X 3. Subdivision plat must be submitted for review.
- X 4. Checking fee and recording fees required.
- X 5. Per ORS 92.065 - Remaining monumentation bond may be required if some of the plat monuments have not been set and/or the installation of street and utility improvements has not been completed, or other conditions or circumstances cause the delay (or resetting) of monumentation.
- X 6. A current or updated title report must be submitted at the time of review.
Title reports shall be no less than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

Partition:

- 1. No survey required on parcels created over ten acres.
- 2. Parcels ten acres and less must be surveyed.
- 3. Per ORS 92.050, plat must be submitted for review.
- 4. Checking fee and recording fees required.
- 5. A current or updated title report must be submitted at the time of review.
Title reports shall be no less than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

Property Line Adjustment:

- 1. No survey required. The resultant property is greater than ten acres.
- 2. Must be surveyed per ORS 92.060 (7) and the survey submitted for review.
- 3. Survey checking fee required at the time of review.
- 4. Property line adjustment deed shall be recorded with the county clerk.
Marion County Planning requires perimeter descriptions of the resultant properties.

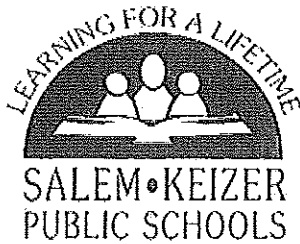
Per ORS 92.190 (4): The deed shall contain the names of the parties, the description of the adjusted line, references to original recorded documents and signatures of all parties with proper acknowledgment.
- 5. Property Line Adjustment within a recorded subdivision or partition plat
(Requires a Replat)

Replat: (Reconfiguration of lots or parcels and public easements within a recorded plat.)

- ____ 1. Must comply with all provisions per ORS 92.185 (6)
- ____ 2. Must be surveyed and platted per ORS 92.050, and the plat submitted for review.
- ____ 3. Checking fee and recording fees required.
- ____ 4. A current or updated title report must be submitted at the time of review.
- ____ 5. The portion of the subdivision or partition plat proposed for replatting contains utility easement(s) that will need to be addressed. Per ORS 92.185 (4), when a utility easement is proposed to be realigned, reduced in width or omitted by a replat, all affected utility companies or public agencies shall be notified, consistent with a governing body's notice to owners of property contiguous to the proposed plat. Any utility company that desires to maintain an easement subject to vacation must notify the governing body in writing within 14 days of the mailing or other service of the notice.

If it is necessary to re-configure the utility easement created by this partition plat (see map), then it will be the responsibility of the applicant to determine the names of all of the utility companies affected by the proposed re-configuration, and give this list of names to the Marion County Surveyor's Office. Letters of notice will be sent by this office to the affected utility companies, who will determine whether or not the easement is to be maintained.

Other comments specific to this Planning Action:



DAVID FRIDENMAKER, Manager
Facility Rental, Planning, Property Services
3630 State Street, Bldg. C • Salem, Oregon 97301-5316
503-399-3335 • FAX: 503-375-7847

Christy Perry, Superintendent

June 5, 2015

Sam Litke, Senior Planner
Keizer Community Development Department
PO Box 21000
Keizer OR 97307-1000

RE: Land Use Activity
Keizer Subdivision Case No. 2015-11, Bowden Ln. N

SUMMARY OF COMMENTS

School Assignment: The subject property is served by Keizer Elementary, Claggett Creek Middle and McNary High School

School Capacity: Sufficient school capacity to serve the proposed development exists at the elementary and middle school, but not at the high school.

School Transportation Services: Students residing at the subject property location are eligible for school transportation services at the elementary and middle school level, and are within the walk zone at the high school level.

Please find below information and comments regarding the proposed land use activity identified above. If you have questions, please call at (503) 399-3335.

ELEMENTARY SCHOOL INFORMATION (GRADES K TO 5)

1. School Name: Keizer Elementary Schools
2. Estimated change in student enrollment due to proposed development: 6
3. Current school capacity: 735
4. Estimate of school enrollment including new development: 663
5. Ratio of estimated school enrollment to total capacity including new development: 90%.
6. Walk Zone Review: Eligible for transportation to Elementary School.
7. Estimate of additional students due to previous 2014 land use applications: 10
8. Estimate of additional students due to previous 2015 land use applications: 1
9. Estimated cumulative impact of 2014-2015 land use actions on school capacity: 92% of capacity.

MIDDLE SCHOOL INFORMATION (GRADES 6 TO 8)

1. School Name: Claggett Creek Middle School
2. Estimated change in student enrollment due to proposed development: 3
3. Current school capacity: 1,040
4. Estimate of school enrollment including new development: 929
5. Ratio of estimated school enrollment to total capacity including new development: 89%
6. Walk Zone Review: Eligible for transportation to Middle School.
7. Estimate of additional students due to previous 2014 land use applications: 16

8. Estimate of additional students due to previous 2015 land use applications: 1
9. Estimated cumulative impact of 2014-2015 land use actions on school capacity: 91% of capacity.

HIGH SCHOOL INFORMATION (GRADES 9 TO 12)

1. School Name: McNary High School
2. Estimated change in student enrollment due to proposed development: 5
3. Current school capacity: 1,964
4. Estimate of school enrollment including new development: 2,067
5. Ratio of estimated school enrollment to total capacity including new development: 105%
6. Walk Zone Review: Within walk zone of High School.
7. Estimate of additional students due to previous 2014 land use applications: 25
8. Estimate of additional students due to previous 2015 land use applications: 2
9. Estimated cumulative impact of 2014-2015 land use actions on school capacity: 107% of capacity.

ESTIMATE SUMMARY (GRADES K TO 12):

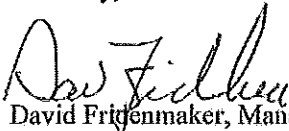
1. Total estimated change in student enrollment: 14
2. Total estimated student enrollment over capacity: 5
3. Total estimated cost to District for new facilities, beyond current facility capacity, due to change in student enrollment: \$ 77,000
4. Total estimated additional income to District for new facilities due to change in student enrollment: \$ 0

Developer should provide paved walk route(s) to allow pedestrian and bicycle access to school(s) from all residences within the new development and should provide all improvements required by the City of Keizer where new transportation routes are established or existing transportation routes change, such as school flashers, crosswalks, and signage. As per ORS 195.115, when the walk zone review indicates "eligible for transportation due to hazard" the District requests that the City initiate a planning process with the District to identify the barriers and hazards to children walking or bicycling to and from school, determine if the hazards can be eliminated by physical or policy changes and include the hazard elimination in the City's planning and budgeting process.

ASSUMPTIONS:

1. When land use request is granted, 32 additional residences will be built.
2. Estimates are computed using the Student Rate per Dwelling Method described in the District's Long-term Facilities Plan for years 2008-2015.
3. If current capacity exists at the schools currently serving the parcel then an estimate of zero cost, or no significant impact, is made.
4. If current capacity does not exist at the schools currently serving the parcel then an estimate of cost for one-time capital improvements is made.
5. Income from the proposed land use for capital improvement is assumed to be zero since capital improvement funds come from voter approved bond measures that can be an unpredictable and irregular source of income.
6. Income from a State School Facilities grant may be available depending on state funding. The grant amount ranges from 0% to 8% of the construction cost. Since the funding is unpredictable, it has not been included as income. The current 2011-13 biennium facilities grant funding for the District was \$5,450,719.
7. General Fund Budget Amount for the 2013-14 school year is \$9,241 per student (ADMw). The State School Fund Revenue for 2013-14 is estimated to be \$8,021 per student (ADMw). ADMw is "Average daily membership" as defined in ORS 327.006 (3).

Sincerely,



David Fridgenmaker, Manager
Facilities and Planning Dept.
Planning and Property Services

c: Mike Wolfe, Chief Operations Office
Jim Jenney, Manager – Custodial and Property Services
William White, Manager – Risk Management
Michael Shields, Manager - Transportation



Keizer Fire District
661 Chemawa RD NE
Keizer, OR 97303

Date: June 15, 2015
To: Sam Litke, Senior Planner
From: Rod J Conway/Deputy Fire Marshal
 Email: rconway@keizerfire.com Phone: 503-390-9111

Fire District - Comments

I have received the information for the project summarized below and completed a review of the submittal on 06/15/2015. A summary of the review has been provided. Please feel free to contact me directly if you have any questions, comments or concerns regarding this information.

Case File/Permit No.: Subdivision Case No. 2015-11

Project Location: Bowden LN N (Northwest of Golden LN N)

Scope of Project: The applicant is requests to subdivide the subject site into an 32 lot single family home subdivision.

FIRE DEPARTMENT ACCESS

503.1.2 Additional Access Required

Additional access. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

2014 Oregon Fire Code - D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads, and shall meet the requirements of Section D104.3.

Exceptions:

1. Where there are more than 30 dwelling units on a single public or private apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the International Fire Code, access from two directions shall not be required.

2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

2014 Oregon Fire Code D104.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

503.2.5 Dead Ends

Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fire apparatus.

The extension of Trent Ave N is in excess of 150 feet from the proposed intersection of "Trent Ave N" and proposed road of "Fragrant ST N."

503.3 Fire Lane Marking

Marking. Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING -- FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

D103.6 Parking Signs and Requirements

Fire lane signs to be required on both sides as proposed street is 26 feet wide.

D103.6 Signs. Where required by the fire code official, fire apparatus access roads shall be marked with permanent NO PARKING - FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.

D103.6.1 Roads 20 to 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on both sides of apparatus access roads that are 20 to 26 feet wide (6096 to 7925 mm).

D103.6.2 Roads more than 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on side of fire apparatus access roads more than 26 feet wide (7925 mm) and less than 32 feet wide (9754)

WATER FLOW FOR FIRE PROTECTION

WS-0004 Additional Fire Hydrant Required

Two additional fire hydrants will be required in an approved locations.

WS-0010 Complete Review to be Completed

An in-depth plan review for public hydrants will occur during the project plan review phase or before.

Hydrant locations to be approved by Keizer Fire District.

GENERAL COMMENTS

Additional Items

ADDITIONAL Additional Items

The proposed project appears to possibly having connectivity in the future. Discussion will need to take place prior to construction of water supply and access to meet Oregon Fire Code requirements as noted previously.



REQUEST FOR COMMENTS

June 3, 2015

TO: Staff, Agencies & Utilities

FROM: Sam Litke, Senior Planner

CASE: Subdivision Case No. 2015-11

RESPONSE DATE: **June 17, 2015**

APPLICATION: The applicant is requests to subdivide the subject site into an 32 lot single family home subdivision.

APPLICANT: Mark Farrow

ADDRESS: Bowden Ln N (Northwest of Golden Lane)

ZONE: Residential Single Family (RS)

The Community Development Department is soliciting comments from affected agencies on the above referenced land use application. These comments will be considered as part of the staff report. Please return your comments to our office by **June 17, 2015** in order that we may process the application in a timely manner. Phone calls are acceptable if it is not possible to respond in writing by this date. If we receive no response, we will assume your agency has no concerns. You may use this response form, or, attach a separate letter. Please return your written responses to the Keizer Community Development Department, P.O. Box 21000, Keizer, Oregon 97307-1000. Questions regarding the application may be directed to Sam Litke, Senior Plannerr, at (503) 856-3442. Thank you for your assistance.

PLEASE CHECK THE APPROPRIATE ITEMS:

- _____ Our agency reviewed the proposal and determined we have no comment.
- _____ Our agency would like to receive a copy of the staff decision/report and notice of any public hearings in this case.
- _____ Our comments are in the attached letter.
- _____ Our Agency's comments are: _____
- _____ Development cost per current tariff and service requirements. 10' PUE required on all front street lots. _____

Response Date: _____

Person commenting: _____

Lem Amzon

PLG

ATTACHMENTS

- Applicant's Statement
- Vicinity Map
- Proposed Site Plan

JUN 11 2015

PLEASE CHECK THE APPROPRIATE ITEMS:

Comments submitted will be made a part of the decision and are confidential.

☐ I/we reviewed the proposal and determined I/we have no comment.

☐ My/our comments are in the attached letter.

☒ My/our comments are: I have no problem with this as long as it's not a mobile home park.

Response Date: 6/11/15 Person commenting: Mary Banfield
Phone No. (not required) 503-990-4335 Address 5426 Burbank St N

Comments submitted regarding this Subdivision, PUD, or Manufactured Home Park must address the following criteria:

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

- A. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.
- B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.
- C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.
- D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Copies of the Keizer Development Code are available for viewing at the Community Development Department or on the web at <http://www.keizer.org/commdev/Publications/code-web.pdf>.

Exhibit '10'

PLEASE CHECK THE APPROPRIATE ITEMS:

Comments submitted will be made a part of the decision and are not confidential.

JUN 17 2015

COMMUNITY DEVELOPMENT

☐ I/we reviewed the proposal and determined I/we have no comment.

☐ My/our comments are in the attached letter.

☒ My/our comments are: ^{proposed} On the application for the Bowden Meadows-Subdivision on pg. 5 under Natural Features it states "there are no trees located throughout the subject property... a tree removal plan is not required." I reside on the property adjacent to lots 60/69. Currently there are (2) trees growing up against my fence that are overhanging onto my roof + property. There is also a large root from the tree that has grown under my fence + is less than 1 1/2 feet from my house foundation. I addressed this issue with the owner ^{last} ~~of~~ summer. Nothing has been done to fix this problem. So I oppose this application until a solution can be reached. I do not want to see legal counsel if necessary.

Response Date: 6/17/15

Person commenting: Kristin Sold

Phone No. (not required) _____

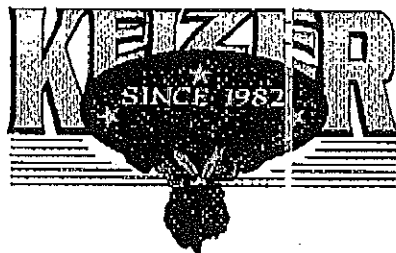
Address 5437 Burbank St. N.
Keizer, OR 97303

Comments submitted regarding this Subdivision, PUD, or Manufactured Home Park must address the following criteria:

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

- The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.
- Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.
- Adequate public facilities shall be available and shall serve the existing and newly created parcels.
- Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Copies of the Keizer Development Code are available for viewing at the Community Development Department or on the web at <http://www.keizer.org/commdev/Publications/code-web.pdf>.



REQUEST FOR COMMENTS

June 3, 2015

TO: Area Property Owner(s)
FROM: Sam Litke, Senior Planner
CASE: Subdivision Case No. 2015-11

RESPONSE DATE: June 17, 2015

APPLICATION: The applicant is requests to subdivide the subject site into an 32 lot single family home subdivision.

APPLICANT: Mark Farrow

LOCATION: The subject property is located on Bowden Ln N (Northwest of Golden Lane); Marion County Tax Assessor's Map No. 063W33 Tax Lot 01600 & Map No. 063W33DA Tax Lots 01500 & 01600.

The City of Keizer, Planning Department is soliciting comments from affected property owners on the above referenced land use application. Your comments should address the criteria listed on the reverse side of this request. These comments will be considered as part of the staff report. Please return your comments to our office by **June 17, 2015** in order that we may process the application in a timely manner. If we receive no response, we will assume you have no concerns. You may use this response form, or, attach a separate letter. Please return your written responses to the Keizer Planning Department, P.O. Box 21000, Keizer, Oregon 97307-1000. Questions regarding the application may be directed to Sam Litke, Senior Planner, at (503) 856-3442. Thank you for your assistance.

Please see reverse side for comment information

PLEASE CHECK THE APPROPRIATE ITEMS:

Comments submitted will be made a part of the decision and are not considered confidential.RECEIVED
CITY OF KEIZER

JUN 17 2015

COMMUNITY DEVELOPMENT

☐ I/we reviewed the proposal and determined I/we have no comment.☐ My/our comments are in the attached letter.

☒ My/our comments are: 1) Traffic and on-street parking on Trent St. is already very heavy. On Mon. 6/15/15 I observed from 6:00 - 6:30pm 32 cars entering Trent at corner of Windsor Isl. Rd. This does not include cars leaving the neighborhood. There are also many young children who play in street and on sidewalks along Trent. I'm concerned about safety of children and other pedestrians, as well as wear and tear on road. 2) Keizer Elementary school had a 7.3% increase in students in the 2013-14 school year. How will a new development impact this school, which is already notorious for being overcrowded? 3) There are already at least 3 other housing developments in the area - one at Windsor Isl. & Lydia St, one on Willow Lake Rd., and one on Chemawa, near Windsor Isl. Rd. at old Palma Cua pool. Can Keizer afford so many brand new homes within a couple of miles of each other? This will have a huge impact on the schools, too.

Response Date: 6/17/15 Person commenting: Karen Bajpai See attached →

Phone No. (not required) 503-735-4296 Address 5397 Burbank St N, Keizer

Comments submitted regarding this Subdivision, PUD, or Manufactured Home Park must address the following criteria:

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

- A. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.
- B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.
- C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.
- D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Copies of the Keizer Development Code are available for viewing at the Community Development Department or on the web at <http://www.keizer.org/commdev/Publications/code-web.pdf>.

4) I'm concerned about the wildlife that frequent this lot. Where will they go? What about the Canadian Geese, Red Wing Blackbirds, and others that are protected under the Migratory Bird Treaty Act?

5) Prior to buying our home in 2004 on Burbank St. N, we were not aware of the ~~water~~ Willow Lake Wastewater Treatment Plant being located so close to the homes. We were unpleasantly surprised to discover the foul odors that fill the neighborhood, so bad that we cannot keep our windows open. Same goes for the noise from the plant during the day and night. Our home value is finally bouncing back from the recession. We would have moved ~~several~~ several years ago due to the stench & noise but could not financially do so. I hope that if the development goes through that A) homebuyers are very clearly aware of the noise and the odors from the plant, and B) Change the proposed street names from "Aroma" and "Fragrant" to something else. If I were to buy a home on this lot on a street with one of those names, it would feel like it was the butt of a very expensive joke. :)

6) Suburban sprawl is so 1990s, Keizer! Let's be forward thinking with our land use. We need green belts, protected farms and wildlife areas. With the sprawl we create less emphasis on using public transportation, healthy lifestyle, protecting our environment. What about turning some of the vacant buildings or ridiculous amount of space at Keizer Station into townhomes, create a community like Belhagy Village in Beaverton. We don't need another broke Jantzen Beach. Let's put Keizer on the map for our creativity and ingenuity, not just a community of mass suburban sprawl.

I am opposed to this housing development also because of the history of these farmlands and Keizer families that first settled here. This also needs to be considered.

Sincerely

Karen Baypai 503-735-4296

JUN 10 2015

PLEASE CHECK THE APPROPRIATE ITEMS:

Comments submitted will be made a part of the decision and are not considered confidential.

☐ I/we reviewed the proposal and determined I/we have no comment.

☐ My/our comments are in the attached letter.

☒ My/our comments are: _____

JDC Homes, Inc Recommends this
Application be Approved

Response Date: 6-6-15 Person commenting: Doug Harnar, member

Phone No. (not required) _____ Address 901 N. Brutscher St Ste 201 Newberg
Or 97132

Comments submitted regarding this Subdivision, PUD, or Manufactured Home Park must address the following criteria:

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

- A. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities.
- B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved.
- C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.
- D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Copies of the Keizer Development Code are available for viewing at the Community Development Department or on the web at <http://www.keizer.org/commdev/Publications/code-web.pdf>.

From: mteller <mteller@aol.com>

Date: Sat, Jun 20, 2015 5:11 pm

June 19, 2015

RECEIVED
CITY OF KEIZER

JUN 22 2015

COMMUNITY DEVELOPMENT

To: Sam Litke, Senior Planner

From: Residents of Bowden Ln. N.

Case: Subdivision Case No. 2015-11

We three residents of Bowden Ln. N. have reviewed the proposed subdivision. Our major concern is:

- + There is no mention of fencing around the subdivision property being provided by the developer. Nor, is there mention that stub streets will be totally blocked off with assurances that only special chains and locks will contain the property and could only be opened by the Fire Dept. in case of emergency.

The approval of the previous plan of the subdivision some 8 years ago by another developer assured that would happen at the maximum height allowable. There was sufficient concern by all owners of the surrounding properties to warrant that. Most significantly, new residents (and their children) could easily be inclined to think the lands were accessible. There are many safety issues with unauthorized people trespassing on private farm land; it is near Willow Lake, the gravel pits, major equipment and eventually the Willamette River. Tragedies and liability suits could easily happen.

It was also agreed that new property owners would have built into their deeds the requirement they must maintain their fences. We are assuming that would require the City to be responsible for the maintenance of any barriers on the stub streets.

- + Stub streets. The original plan included only one stub street which was on Bowden Ln. to the west side. There was no stub street against the property just south of the subdivision which is farm land -- not just a single family dwelling - and therefore not next to Bowden Ln on the south which is designated private. The preference is that it not be a stub street, but rather designed as "dead end". As the current owner -- in life estate -- Marilee Teller objects to

the wording that the property is viewed as future development. Additionally, her step daughter, the next owner of the property, plans to keep the property as a fourth generation Bowden. It seems presumptuous on the City's part to assume such future development since that property is outside the City of Keizer's boundaries.

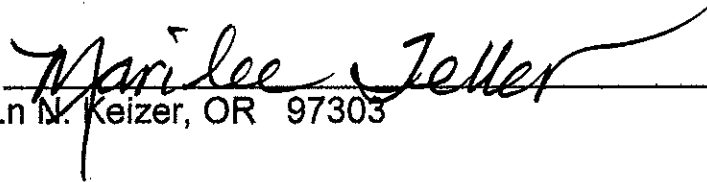
General considerations are that the storm and sewage drain plans stay as they are currently designed - ending at Trent and Burbank since there is already the capability to do that. There will be no use of any adjacent private property for any building materials, etc. And, there will be a completely accurate survey of land defined by the boundaries as stated in the all property deeds.

Thank you for the opportunity to comment.

Residents of Bowden Ln.

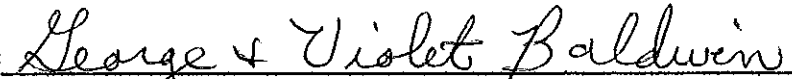
Marilee Teller

525 Bowden Ln N. Keizer, OR 97303



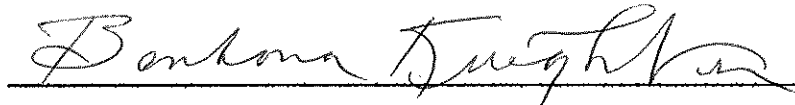
George and Violet Baldwin

645 Bowden Ln N. Keizer, OR 97303



Barbara Knighton

615 Bowden Ln N. Keizer, OR 97303



CITY COUNCIL MEETING: September 21, 2015

AGENDA ITEM NUMBER:_____

TO: MAYOR CLARK AND COUNCIL MEMBERS

THROUGH: CHRISTOPHER C. EPPLEY
CITY MANAGER

FROM: BILL LAWYER
PUBLIC WORKS DIRECTOR

SUBJECT: APPLICATION OF KS REIM, LLC FOR REIMBURSEMENT
DISTRICT FORMATION

This matter is before the City Council for public hearing to consider the establishment of a reimbursement district in Keizer Station Area C. KS Reim, LLC (the company established by the developers of the senior living and apartment projects) has filed a formal application for the establishment of a reimbursement district for the public improvements being installed in Keizer Station Area C pursuant to the Reimbursement District Ordinance (Ordinance No. 2015-716). Pursuant to the Ordinance, I issued the Public Works Director's Report on September 8, 2015. I have attached copies of the developer's matrix of costs and a map of Keizer Station Area C. I have also attached a copy of my report and the complete application, as well as Ordinance No. 2015-716.

As detailed in my report, staff generally agrees with the developer's request. The four public infrastructure improvement categories (water, sanitary sewer, storm drain, and transportation improvements) have three different types of methodologies, as indicated in my report in Section 4. Please review the report for more detail.

One item that the staff disagreed with the applicant on was the McLeod extension reimbursement. The new McLeod extension connects Chemawa Road with Ridge Drive. The applicant requested that all of Keizer Station Area C property be required to reimburse the developer for such costs. My attached report indicates that the property labeled areas C-1 and Future Commercial (all property "east" of Chemawa Road) should not be required to pay for the McLeod extension since very few cars would use such road to access that property.

After issuance of the report, we met with the developers' representatives. They provided additional detailed information on the number of vehicle trips to the areas labeled C-1 and Future Commercial that will actually use the new McLeod extension. This information shows that the trips generated from the areas labeled C-1 and Future Commercial contribute approximately 12.08% of the traffic along the McLeod extension.

Due to this new information, I can state that I believe it is justifiable to include areas labeled C-1 and Future Commercial and those areas have a responsibility for a portion of the new extension costs, but not at the level requested. The original reimbursement district application matrix included the areas labeled C-1 and Future Commercial being assessed at 24.45% of the total cost and staff recommends this be modified in the matrix to 12.08% of the total cost. The narrative and justification provided by the developers for this modification is included as an attachment.

The developers have also requested reimbursement for the "backbone" installation of private utilities, such as cable, phone, power, and natural gas. These are the central conduits where the private utilities will place their equipment and other facilities. However, the Reimbursement District Ordinance is clear that districts are limited to only the four public infrastructure improvements listed above.

At the meeting with the developer representatives, they suggested the term "street improvements" could include these "franchised utilities" because the street improvements listed in the ordinance has the phrase "including, but not limited to..." Though the council has discretion in interpreting its ordinances, the interpretation must be reasonable. It seems hard to include the utilities as street improvements as they are actually located outside of the street right of way.

If the council does not agree with the developers' suggested interpretation, their other option in this regard is to request a possible amendment of the Ordinance at a later date and go through a separate reimbursement process for the private utilities if Council allows such an amendment.

Another issue to consider is the allowance for reimbursement of the costs of the right-of-way ground. In a normal development, the developers are required to build the public street and dedicate it to the public because they need the street for their own development. In this case, other properties will access the public street. The issue is an interesting one because essentially the street would be required anyway because of the location of the senior living and apartment complexes. However, it is true that other properties would access this public right-of-way.

The issue was discussed at length during the development of the Reimbursement District

Ordinance. You may remember that the Council determined that it would be appropriate to allow review of this issue on a case-by-case basis and the following language was adopted: “Developer may be reimbursed all or a portion of the land costs for dedicated right-of-way if appropriate based on proportionality, and the equitable costs, impact, and function in the sole discretion of the City Council. Costs to be reimbursed for dedications/easements shall be limited to the reasonable market value of land or easements.”

Staff is neutral on this issue, but if the Council determines that reimbursement for the costs of the right-of-way is appropriate, staff would recommend that the costs be limited to the developer’s purchase price, and would remind Council that such costs should be spread to the areas labeled as C-1 and Future Commercial property using the same percentage as used for the street improvements mentioned earlier.

Two remaining issues for Council consideration are the administration fee charged by the City and the discretionary annual reimbursement adjustment, or indexing factor. My report indicates that the recommendation is to charge \$750 per reimbursement request; in other words, each time a new development in the area asks for a building permit, the City will calculate the amounts owed, review the matter and deduct from the reimbursement \$750. With regard to the annual inflationary or indexing charge, the Finance Director has recommended a three percent (3%) annual rate. The Ordinance calls for a simple interest (non-compounding) rate to be adopted in the discretion of the Council.

RECOMMENDATION:

Staff recommends that the Council open the public hearing and take testimony. If there are no questions or concerns, the hearing should be closed and Council should consider the matter.

I have provided some decision points for the Council’s consideration:

1. Should the reimbursement district be established? The Reimbursement District Ordinance provides that the Council shall approve, reject or modify the recommendations contained in the Public Works Director’s Report. The primary and initial consideration for Council is whether it is fair and in the public interest to create a reimbursement district. Staff recommends the Council create the district, subject to the provisions discussed in this staff report.
2. Should franchised utilities costs be reimbursed in this proceeding? Council has discretion to interpret its own ordinance, but staff recommends that the franchised utilities do not constitute “street improvements” and should not be

included. Though this may seem unfair to the developers, we are obliged to follow the language of the ordinance.

3. Should the McLeod extension costs be limited? Staff recommends the Council determine that the McLeod extension costs be spread to the areas labeled C-1 and Future Commercial at 12.08% of the total cost instead of 24.45% of the total cost as shown in the matrix included with the application.
4. Should the land costs for the right-of-way areas be reimbursed? As indicated above, staff is neutral on this question. If Council does determine the right-of-way costs are entitled to reimbursement, staff recommends the costs be limited to the developer's actual costs and that the costs be spread to the areas labeled C-1 and Future Commercial using the same percentage as used for the street improvements mentioned earlier.
5. Should the administrative charge of \$750 and the reimbursement adjustment rate of three percent be adopted? Staff recommends Council adopt both of these provisions.

Staff recommends that after making the above determinations, Council direct staff to prepare an appropriate Resolution incorporating the above issues, removing the private utilities costs, and preparing a Reimbursement District Agreement.

Please contact myself or Shannon Johnson if you have any questions in this regard. Thank you.

Appendix "C"

Keizer Station - Area "C"

Reimbursement District

Cost Allocations

July 20th, 2015

Costs All costs shown are based on the latest estimates prepared by our office. They will be adjusted as we evaluate the costs provide from the budget bids received.

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements	ROW Costs	McLeod Lane Extension Improvements	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Construction Costs			\$ 290,390.54	\$ 350,759.48	\$ 61,750.80	\$ 434,750.40	\$ 50,000.00	\$ 84,545.75	\$ 411,520.07	\$ 589,204.16	\$ 180,462.96	\$ 105,777.83	\$ 249,911.43	\$ 3,233,931.96
Permit Costs			\$ 17,423.43	\$ 21,045.57	\$ 3,705.05	\$ 26,085.02		\$ 5,072.75		\$ 35,352.25	\$ 10,827.78	\$ 6,346.67	\$ 14,994.69	
Engineering Costs 10%			\$ 29,039.05	\$ 35,075.95	\$ 6,175.08	\$ 43,475.04		\$ 8,454.58		\$ 58,920.42	\$ 18,046.30	\$ 10,577.78	\$ 24,991.14	
Total Costs		\$ 49,250.00	\$ 336,853.03	\$ 406,881.00	\$ 71,630.93	\$ 504,310.46	\$ 50,000.00	\$ 98,073.07	\$ 411,520.07	\$ 683,476.83	\$ 209,337.03	\$ 122,702.28	\$ 289,897.26	
Unit Cost		\$ 1,695.41	\$ 11,596.03	\$ 518.32	\$ 91.25	\$ 642.43	\$ 63.69	\$ 124.93	\$ 524.23	\$ 870.67	\$ 266.67	\$ 4,061.91	\$ 9,596.70	

Area C3 - Bonaventure Senior Living

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Senior Living Building 150 Units 31.08% 45 Trips 156	23400			\$ 23,324.99	\$ 4,106.23	\$ 28,909.52	\$ 2,866.24	\$ 5,622.02	\$ 23,590.32	\$ 39,180.20	\$ 12,000.21	\$ 38,140.72	\$ 90,111.53	\$ 327,264.12
Properties														
063W36CB-8900 0.72 Acres 16.11%		\$ 1,223.70	\$ 8,349.14	\$ 3,756.95	\$ 661.41	\$ 4,656.57	\$ 461.68	\$ 205.53	\$ 3,799.78	\$ 6,310.90	\$ 1,932.92	\$ 6,143.47	\$ 14,514.61	
063W36CB-5800 0.05 Acres 1.12%		\$ 24.77	\$ 579.30	\$ 260.50	\$ 45.93	\$ 323.37	\$ 32.06	\$ 62.89	\$ 263.87	\$ 438.26	\$ 134.23	\$ 426.63	\$ 1,007.96	
063W36CB-2900 0.52 Acres 11.63%		\$ 981.61	\$ 6,029.93	\$ 2,710.35	\$ 477.68	\$ 3,369.08	\$ 333.43	\$ 650.02	\$ 2,744.29	\$ 4,557.88	\$ 1,396.00	\$ 4,436.95	\$ 10,482.77	
063W36CB-8900 3.18 Acres 71.14%		\$ 5,391.41	\$ 36,075.97	\$ 16,559.19	\$ 2,921.21	\$ 20,566.50	\$ 2,039.07	\$ 3,999.56	\$ 16,762.96	\$ 27,873.16	\$ 8,537.06	\$ 27,133.67	\$ 64,106.19	
Total Area 4.47		\$ 7,578.49	\$ 51,834.25	\$ 23,324.39	\$ 4,106.23	\$ 28,909.50	\$ 2,866.24	\$ 5,622.02	\$ 23,590.32	\$ 39,180.20	\$ 12,000.21	\$ 38,140.72	\$ 90,111.53	

Area C3 - Muliti-family Site

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Apartment Buildings 78 Units 16.16% 50 Trips 156	12168			\$ 25,915.99	\$ 4,562.48	\$ 32,121.69	\$ 3,184.71	\$ 6,246.69	\$ 26,211.47	\$ 43,533.56	\$ 13,333.57	\$ 19,833.17	\$ 46,857.99	\$ 268,055.53
Properties														
063W36CB-8900 2.49 71.55%		\$ 4,221.57	\$ 28,874.11	\$ 18,543.34	\$ 3,264.53	\$ 22,983.62	\$ 2,278.72	\$ 4,469.62	\$ 18,754.76	\$ 31,149.01	\$ 9,540.40	\$ 14,190.98	\$ 33,527.70	
063W36CB-2601 0.11 3.16%		\$ 186.50	\$ 1,275.56	\$ 819.18	\$ 144.22	\$ 1,015.34	\$ 100.67	\$ 197.45	\$ 828.52	\$ 1,376.06	\$ 421.46	\$ 626.91	\$ 1,481.14	
063W36CA-2900 0.88 25.29%		\$ 1,491.96	\$ 10,204.50	\$ 6,553.47	\$ 1,153.73	\$ 8,122.73	\$ 805.33	\$ 1,579.62	\$ 6,628.19	\$ 11,008.49	\$ 3,371.71	\$ 5,015.29	\$ 11,849.15	
Total 3.48		\$ 5,900.03	\$ 40,354.18	\$ 25,915.99	\$ 4,562.48	\$ 32,121.69	\$ 3,184.71	\$ 6,246.69	\$ 26,211.47	\$ 43,533.56	\$ 13,333.57	\$ 19,833.17	\$ 46,857.99	

Area C2 - Multi-family Site

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Apartment Buildings																	
	102 Units	21.14%	65 Trips 156	15912			\$ 33,690.78	\$ 5,931.22	\$ 41,758.19	\$ 4,140.13	\$ 8,120.70	\$ 34,074.91	\$ 56,593.62	\$ 17,333.64	\$ 25,935.69	\$ 61,275.84	
Properties																	
	063W36CA-2601		0.588 Acres	12.00%	\$ 996.90	\$ 6,818.46	\$ 4,042.89	\$ 711.75	\$ 5,010.98	\$ 496.82	\$ 974.48	\$ 4,088.99	\$ 6,791.23	\$ 2,080.04	\$ 3,112.28	\$ 7,353.10	
	063W36CA-1100		1.65 Acres	33.67%	\$ 2,797.43	\$ 19,133.45	\$ 11,344.86	\$ 1,997.25	\$ 14,061.43	\$ 1,394.12	\$ 2,734.52	\$ 11,474.20	\$ 19,057.04	\$ 5,836.84	\$ 8,733.45	\$ 20,633.70	
	063W36CA-2600		0.12 Acres	2.45%	\$ 203.45	\$ 1,391.52	\$ 825.08	\$ 145.25	\$ 1,022.65	\$ 101.39	\$ 198.87	\$ 834.49	\$ 1,385.97	\$ 424.50	\$ 635.16	\$ 1,500.63	
	063W36CA-1200		0.042 Acres	0.86%	\$ 71.21	\$ 487.03	\$ 288.78	\$ 50.84	\$ 357.93	\$ 35.49	\$ 69.61	\$ 292.07	\$ 485.09	\$ 148.57	\$ 222.31	\$ 525.22	
	063W36CA-800		2.24 Acres	45.71%	\$ 3,797.72	\$ 25,975.10	\$ 15,401.50	\$ 2,711.42	\$ 19,089.46	\$ 1,892.63	\$ 3,712.32	\$ 15,577.10	\$ 25,871.37	\$ 7,923.95	\$ 11,856.32	\$ 28,011.81	
	063W36CA-2900		0 Acres	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	Ridge Road Right-of-way		0.26 Acres	5.31%	\$ 440.81	\$ 3,014.97	\$ 1,787.67	\$ 314.72	\$ 2,215.74	\$ 219.68	\$ 430.89	\$ 1,808.06	\$ 3,002.93	\$ 919.74	\$ 1,376.18	\$ 3,251.37	
Total Area				4.9	\$ 8,307.51	\$ 56,820.54	\$ 33,690.78	\$ 5,931.22	\$ 41,758.19	\$ 4,140.13	\$ 8,120.70	\$ 34,074.91	\$ 56,593.62	\$ 17,333.64	\$ 25,935.69	\$ 61,275.84	\$ 353,982.78

Area C1 - Commercial

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
	Retail 1	8000	1.70%	30	1280		\$ 15,549.59	\$ 2,737.49	\$ 19,273.01	\$ 1,910.83	\$ 3,748.02	\$ 15,726.88	\$ 26,120.13	\$ 8,000.14	\$ 2,086.33	\$ 4,929.18	
	Office 2	37500	3.99%	120	3000		\$ 62,198.37	\$ 10,949.95	\$ 77,092.05	\$ 7,643.31	\$ 14,992.06	\$ 62,907.53	\$ 104,480.53	\$ 32,000.57	\$ 4,889.84	\$ 11,552.76	
Properties																	
	063W36CB-300		0.01 Acres	0.29%	\$ 16.95	\$ 115.96	\$ 226.01	\$ 39.79	\$ 280.13	\$ 27.77	\$ 54.48	\$ 228.59	\$ 379.65	\$ 116.28	\$ 20.28	\$ 47.91	
	063W36CB-200		1.47 Acres	42.73%	\$ 2,492.25	\$ 17,046.16	\$ 33,223.69	\$ 5,848.99	\$ 41,179.25	\$ 4,082.73	\$ 8,008.11	\$ 33,602.49	\$ 55,809.01	\$ 17,093.33	\$ 2,981.09	\$ 7,043.15	
	063W36CB-100		0.23 Acres	6.69%	\$ 389.94	\$ 2,667.09	\$ 5,198.26	\$ 915.15	\$ 6,443.01	\$ 638.79	\$ 1,252.97	\$ 5,257.53	\$ 8,732.02	\$ 2,674.47	\$ 466.43	\$ 1,101.99	
	063W36CA-3100		0.21	6.10%	\$ 356.04	\$ 2,435.17	\$ 4,746.24	\$ 835.57	\$ 5,882.75	\$ 583.25	\$ 1,144.02	\$ 4,800.36	\$ 7,972.72	\$ 2,441.90	\$ 425.87	\$ 1,006.16	
	063W36CA-3000		0.36	10.47%	\$ 610.35	\$ 4,174.57	\$ 8,136.41	\$ 1,432.41	\$ 10,084.72	\$ 999.85	\$ 1,961.17	\$ 8,229.18	\$ 13,667.51	\$ 4,186.12	\$ 730.06	\$ 1,724.85	
	063W36CA-3200		0.43	12.50%	\$ 729.03	\$ 4,986.29	\$ 9,718.50	\$ 1,710.93	\$ 12,045.63	\$ 1,194.27	\$ 2,342.51	\$ 9,829.30	\$ 16,325.08	\$ 5,000.09	\$ 872.02	\$ 2,060.24	
	063W36CA-3300		0.37	10.76%	\$ 627.30	\$ 4,290.53	\$ 8,362.43	\$ 1,472.20	\$ 10,364.85	\$ 1,027.63	\$ 2,015.65	\$ 8,457.77	\$ 14,047.16	\$ 4,302.40	\$ 750.34	\$ 1,772.77	
	063W36CA-3400		0.28	8.14%	\$ 474.72	\$ 3,246.89	\$ 6,328.32	\$ 1,114.09	\$ 7,843.67	\$ 777.66	\$ 1,525.36	\$ 6,400.48	\$ 10,630.29	\$ 3,255.87	\$ 567.83	\$ 1,341.55	
	063W36CA-3500		0.08	2.33%	\$ 135.63	\$ 927.68	\$ 1,808.09	\$ 318.31	\$ 2,241.05	\$ 222.19	\$ 435.82	\$ 1,828.71	\$ 3,037.22	\$ 930.25	\$ 162.24	\$ 383.30	
Total Area				3.44	\$ 5,832.21	\$ 39,890.34	\$ 77,747.96	\$ 13,687.44	\$ 96,365.06	\$ 9,554.14	\$ 18,740.08	\$ 78,634.41	\$ 130,600.67	\$ 40,000.71	\$ 6,976.17	\$ 16,481.94	\$ 534,511.11

Area C2a - Commercial

					Area Based Costs			Trip Generation Based								Usage Based		Totals
					Water Consumption (gpd)	Stormwater Analysis City of Kelzer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																		
Restaurant 3	5000	2.13%	55		1600			\$ 28,507.59	\$ 5,018.73	\$ 35,333.85	\$ 3,503.18	\$ 6,871.36	\$ 28,832.62	\$ 47,886.91	\$ 14,666.93	\$ 2,607.91	\$ 6,161.47	
Retail 4	5000	1.06%	19		800			\$ 9,848.08	\$ 1,733.74	\$ 12,206.24	\$ 1,210.19	\$ 2,373.74	\$ 9,960.36	\$ 16,542.75	\$ 5,066.76	\$ 1,303.96	\$ 3,080.74	
Retail 5	3000	0.64%	11		480			\$ 5,701.52	\$ 1,003.75	\$ 7,066.77	\$ 700.64	\$ 1,374.27	\$ 5,766.52	\$ 9,577.38	\$ 2,933.39	\$ 782.37	\$ 1,848.44	
Properties																		
063W36CA-2800			0.065 Acres		2.22%	\$ 110.20	\$ 753.74	\$ 977.38	\$ 172.07	\$ 1,211.42	\$ 120.11	\$ 235.58	\$ 988.52	\$ 1,641.79	\$ 502.85	\$ 104.14	\$ 246.04	
063W36CA-2100			0.26 Acres		8.87%	\$ 440.81	\$ 3,014.97	\$ 3,909.51	\$ 688.26	\$ 4,845.66	\$ 480.42	\$ 942.33	\$ 3,954.09	\$ 6,567.18	\$ 2,011.41	\$ 416.55	\$ 984.15	
063W36CA-1800			0.205 Acres		7.00%	\$ 347.56	\$ 2,377.19	\$ 3,082.50	\$ 542.67	\$ 3,820.62	\$ 378.80	\$ 742.99	\$ 3,117.64	\$ 5,177.97	\$ 1,585.92	\$ 328.44	\$ 775.97	
063W36CA-1900			0.16		5.46%	\$ 271.27	\$ 1,855.36	\$ 2,405.85	\$ 423.55	\$ 2,981.94	\$ 295.65	\$ 579.90	\$ 2,433.28	\$ 4,041.34	\$ 1,237.79	\$ 256.34	\$ 605.63	
063W36CA-2000			0.32		10.92%	\$ 542.53	\$ 3,710.73	\$ 4,811.71	\$ 847.10	\$ 5,963.89	\$ 591.29	\$ 1,159.80	\$ 4,866.57	\$ 8,082.68	\$ 2,475.58	\$ 512.68	\$ 1,211.27	
063W36CA-200			0.95		32.42%	\$ 1,610.64	\$ 11,016.23	\$ 14,284.75	\$ 2,514.81	\$ 17,705.30	\$ 1,755.40	\$ 3,443.14	\$ 14,447.62	\$ 23,995.46	\$ 7,349.39	\$ 1,522.02	\$ 3,595.94	
Right-of-way			0.78		26.62%	\$ 1,322.42	\$ 9,044.90	\$ 11,728.53	\$ 2,064.79	\$ 14,536.98	\$ 1,441.27	\$ 2,827.00	\$ 11,862.26	\$ 19,701.53	\$ 6,034.24	\$ 1,249.66	\$ 2,952.46	
063W36CA-3501			0.19		6.48%	\$ 322.13	\$ 2,203.25	\$ 2,856.95	\$ 502.96	\$ 3,541.06	\$ 351.08	\$ 688.63	\$ 2,889.52	\$ 4,799.09	\$ 1,469.88	\$ 304.40	\$ 719.19	
Total Area					2.93	\$ 4,967.55	\$ 33,976.36	\$ 44,057.18	\$ 7,756.22	\$ 54,606.87	\$ 5,414.01	\$ 10,619.38	\$ 44,559.50	\$ 74,007.04	\$ 22,667.07	\$ 4,694.24	\$ 11,090.65	\$ 318,416.07

Area C2b - Commercial

					Area Based Costs			Trip Generation Based								Usage Based		Totals
					Water Consumption (gpd)	Stormwater Analysis City of Kelzer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																		
Retail 8	6500	1.38%	24		1040			\$ 12,439.67	\$ 2,189.99	\$ 15,418.41	\$ 1,528.66	\$ 2,998.41	\$ 12,581.51	\$ 20,896.11	\$ 6,400.11	\$ 1,695.14	\$ 4,004.96	
Retail 9	6500	1.38%	24		1040			\$ 12,439.67	\$ 2,189.99	\$ 15,418.41	\$ 1,528.66	\$ 2,998.41	\$ 12,581.51	\$ 20,896.11	\$ 6,400.11	\$ 1,695.14	\$ 4,004.96	
Properties																		
063W36CA-2800			0.415 Acres		22.84%	\$ 703.60	\$ 4,812.35	\$ 5,682.40	\$ 1,000.38	\$ 7,043.08	\$ 698.29	\$ 1,369.67	\$ 5,747.19	\$ 9,545.28	\$ 2,923.55	\$ 774.34	\$ 1,829.45	
063W36CA-2700			0.57 Acres		31.37%	\$ 966.38	\$ 6,609.74	\$ 7,804.75	\$ 1,374.02	\$ 9,673.63	\$ 959.09	\$ 1,881.23	\$ 7,893.73	\$ 13,110.38	\$ 4,015.48	\$ 1,063.55	\$ 2,512.74	
063W36CA-2600			0.4 Acres		22.01%	\$ 678.16	\$ 4,638.41	\$ 5,477.02	\$ 964.22	\$ 6,788.51	\$ 673.05	\$ 1,320.16	\$ 5,539.46	\$ 9,200.27	\$ 2,817.88	\$ 746.35	\$ 1,763.33	
063W36CA-2900			0.39		21.46%	\$ 661.21	\$ 4,522.45	\$ 5,340.09	\$ 940.12	\$ 6,618.80	\$ 656.22	\$ 1,287.16	\$ 5,400.98	\$ 8,970.26	\$ 2,747.43	\$ 727.69	\$ 1,719.24	
063W36CB-9000			0.042		2%	\$ 71.21	\$ 487.03	\$ 575.09	\$ 101.24	\$ 712.79	\$ 70.67	\$ 138.62	\$ 581.64	\$ 966.03	\$ 295.88	\$ 78.37	\$ 185.15	
Total Area					1.817	\$ 3,080.56	\$ 21,069.98	\$ 24,879.35	\$ 4,379.98	\$ 30,836.82	\$ 3,057.32	\$ 5,996.82	\$ 25,163.01	\$ 41,792.21	\$ 12,800.23	\$ 3,390.29	\$ 8,009.91	\$ 184,456.49

Area C2c - Commercial

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
Retail 6	32500	6.91%	122	5200			\$ 63,235.01	\$ 11,132.45	\$ 78,376.91	\$ 7,770.70	\$ 15,241.93	\$ 63,955.99	\$ 106,221.88	\$ 32,533.91	\$ 8,475.72	\$ 20,024.78	
Retail 7	47500	10.10%	178	7600			\$ 92,260.91	\$ 16,242.43	\$ 114,353.20	\$ 11,337.58	\$ 22,238.22	\$ 93,312.83	\$ 154,979.46	\$ 47,467.51	\$ 12,387.58	\$ 29,266.99	
Properties																	
063W36CA-2500		0.36 Acres		5.52%	\$ 610.35	\$ 4,174.57	\$ 8,583.03	\$ 1,511.03	\$ 10,638.28	\$ 1,054.73	\$ 2,068.82	\$ 8,680.89	\$ 14,417.74	\$ 4,415.90	\$ 1,151.61	\$ 2,720.80	
063W36CA-2400		0.21 Acres		3.22%	\$ 356.04	\$ 2,435.17	\$ 5,006.77	\$ 881.44	\$ 6,205.66	\$ 615.26	\$ 1,206.81	\$ 5,063.85	\$ 8,410.35	\$ 2,575.94	\$ 671.77	\$ 1,587.13	
063W36CA-2300		0.25 Acres		3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-2200		0.25		3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-2100		0.11		1.69%	\$ 186.50	\$ 1,275.56	\$ 2,622.59	\$ 461.70	\$ 3,250.58	\$ 322.28	\$ 632.14	\$ 2,652.49	\$ 4,405.42	\$ 1,349.30	\$ 351.88	\$ 831.35	
063W36CA-1800		0.075		1.15%	\$ 127.16	\$ 869.70	\$ 1,788.13	\$ 314.80	\$ 2,216.31	\$ 219.74	\$ 431.00	\$ 1,808.52	\$ 3,003.70	\$ 919.98	\$ 239.92	\$ 566.83	
063W36CA-1700		0.28		4.29%	\$ 474.72	\$ 3,246.89	\$ 6,675.69	\$ 1,175.25	\$ 8,274.22	\$ 820.35	\$ 1,609.08	\$ 6,751.80	\$ 11,213.80	\$ 3,434.59	\$ 895.70	\$ 2,116.18	
063W36CA-1500		0.33		5.06%	\$ 559.49	\$ 3,826.69	\$ 7,867.78	\$ 1,385.11	\$ 9,751.75	\$ 966.84	\$ 1,896.42	\$ 7,957.48	\$ 13,216.26	\$ 4,047.91	\$ 1,055.64	\$ 2,494.06	
063W36CA-1400		0.25		3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-1300		0.25		3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-600		0.13		1.99%	\$ 220.40	\$ 1,507.48	\$ 3,099.43	\$ 545.65	\$ 3,841.60	\$ 380.88	\$ 747.07	\$ 3,134.77	\$ 5,206.41	\$ 1,594.63	\$ 415.86	\$ 982.51	
063W36CA-700		0.34		5.21%	\$ 576.44	\$ 3,942.65	\$ 8,106.20	\$ 1,427.09	\$ 10,047.26	\$ 996.14	\$ 1,953.89	\$ 8,198.62	\$ 13,616.75	\$ 4,170.57	\$ 1,087.63	\$ 2,569.64	
063W36CA-500		1.45		22.23%	\$ 2,458.35	\$ 16,814.24	\$ 34,570.54	\$ 6,086.10	\$ 42,848.61	\$ 4,248.24	\$ 8,332.75	\$ 34,964.70	\$ 58,071.44	\$ 17,786.27	\$ 4,638.42	\$ 10,958.77	
063W36CA-400		0.44		6.75%	\$ 745.98	\$ 5,102.25	\$ 10,490.37	\$ 1,846.82	\$ 13,002.34	\$ 1,289.12	\$ 2,528.56	\$ 10,609.98	\$ 17,621.68	\$ 5,397.21	\$ 1,407.52	\$ 3,325.42	
063W36CA-300		0.6		9.20%	\$ 1,017.25	\$ 6,957.62	\$ 14,305.05	\$ 2,518.39	\$ 17,730.46	\$ 1,757.89	\$ 3,448.04	\$ 14,468.15	\$ 24,029.56	\$ 7,359.84	\$ 1,919.35	\$ 4,534.66	
063W36CA-1200		0.186		2.85%	\$ 315.35	\$ 2,156.86	\$ 4,434.57	\$ 780.70	\$ 5,496.44	\$ 544.95	\$ 1,068.89	\$ 4,485.13	\$ 7,449.16	\$ 2,281.55	\$ 595.00	\$ 1,405.75	
063W36CA-800		0.041		0.63%	\$ 69.51	\$ 475.44	\$ 977.51	\$ 172.09	\$ 1,211.58	\$ 120.12	\$ 235.62	\$ 988.66	\$ 1,642.02	\$ 502.92	\$ 131.16	\$ 309.87	
Right-of-way		0.97		14.87%	\$ 1,644.55	\$ 11,248.15	\$ 23,126.50	\$ 4,071.39	\$ 28,664.25	\$ 2,841.92	\$ 5,574.33	\$ 23,390.18	\$ 38,847.79	\$ 11,898.40	\$ 3,102.94	\$ 7,331.04	
Total Area				6.522	\$ 11,057.47	\$ 75,629.30	\$ 155,495.92	\$ 27,374.88	\$ 192,730.11	\$ 19,108.28	\$ 37,480.15	\$ 157,268.82	\$ 261,201.33	\$ 80,001.41	\$ 20,863.30	\$ 49,291.78	\$ 1,087,502.76

Future Commercial Area

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
North Building	6000	1.28%	23	960			\$ 11,921.35	\$ 2,098.74	\$ 14,775.98	\$ 1,464.97	\$ 2,873.48	\$ 12,057.28	\$ 20,025.44	\$ 6,133.44	\$ 1,564.75	\$ 3,696.88	
South Building	5000	1.06%	19	800			\$ 9,848.08	\$ 1,733.74	\$ 12,206.24	\$ 1,210.19	\$ 2,373.74	\$ 9,960.36	\$ 16,542.75	\$ 5,066.76	\$ 1,303.96	\$ 3,080.74	
Properties																	
063W36CB-400		0.36 Acres		24.16%	\$ 610.35	\$ 4,174.57	\$ 5,259.73	\$ 925.97	\$ 6,519.19	\$ 646.35	\$ 1,267.79	\$ 5,319.70	\$ 8,835.27	\$ 2,706.09	\$ 693.11	\$ 1,637.55	
063W36CB-402		0.45 Acres		30.20%	\$ 762.94	\$ 5,218.21	\$ 6,574.66	\$ 1,157.46	\$ 8,148.99	\$ 807.93	\$ 1,584.73	\$ 6,649.62	\$ 11,044.08	\$ 3,382.61	\$ 866.39	\$ 2,046.93	
063W36CB-403		0.68 Acres		45.64%	\$ 1,152.88	\$ 7,885.30	\$ 9,935.04	\$ 1,749.05	\$ 12,314.03	\$ 1,220.88	\$ 2,394.71	\$ 10,048.32	\$ 16,688.84	\$ 5,111.50	\$ 1,309.21	\$ 3,093.14	
Total Area				1.49	\$ 2,526.16	\$ 17,278.08	\$ 21,769.43	\$ 3,832.48	\$ 26,982.22	\$ 2,675.16	\$ 5,247.22	\$ 22,017.63	\$ 36,568.19	\$ 11,200.20	\$ 2,868.70	\$ 6,777.62	\$ 159,743.10

Appendix "D"

Keizer Station - Area "C"

Reimbursement District

Cost Allocations

July 6th, 2015

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based										Totals	
		Stormwater Analysis	Storm Drainage Improvements	Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements	ROW Costs	McLeod Lane Extension Improvements	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements		
Construction Costs			\$ 290,390.54	\$ 350,759.48	\$ 61,750.80	\$ 434,750.40	\$ 50,000.00	\$ 84,545.75	\$ 411,520.07	\$ 589,204.16	\$ 180,462.96	\$ 105,777.83	\$ 249,911.43	\$ 3,233,931.96	
Permit Costs			\$ 17,423.43	\$ 21,045.57	\$ 3,705.05	\$ 26,085.02		\$ 5,072.75		\$ 35,352.25	\$ 10,827.78	\$ 6,346.67	\$ 14,994.69		
Engineering Costs			\$ 29,039.05	\$ 35,075.95	\$ 6,175.08	\$ 43,475.04		\$ 8,454.58		\$ 58,920.42	\$ 18,046.30	\$ 10,577.78	\$ 24,991.14		
Total Costs		\$ 49,250.00	\$ 336,853.03	\$ 406,881.00	\$ 71,630.93	\$ 504,310.46	\$ 50,000.00	\$ 98,073.07	\$ 411,520.07	\$ 683,476.83	\$ 209,337.03	\$ 122,702.28	\$ 289,897.26		
Unit Cost		\$ 1,695.41	\$ 11,596.03	\$ 518.32	\$ 91.25	\$ 642.43	\$ 63.69	\$ 124.93	\$ 524.23	\$ 870.67	\$ 266.67	\$ 4,061.91	\$ 9,596.70		

					Area Based Costs		Trip Generation Based																				
				Water Consumption (gpd)		Stormwater Analysis City of Keizer	Storm Drainage Improvements		Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements		Totals							
Area C3 - Bonaventure Senior Living																											
Senior Living Building				45 Trips					\$	23,324.39	\$	4,106.23	\$	28,909.52	\$	2,866.24	\$	5,622.02	\$	23,590.32	\$	39,180.20	\$	12,000.21			
150 Units				156	23400																						
Total Area				4.47																						\$	122,292.42
Area C3 - Multiti-family Site																											
Apartment Buildings				50 Trips					\$	25,915.99	\$	4,562.48	\$	32,121.69	\$	3,184.71	\$	6,246.69	\$	26,211.47	\$	43,533.56	\$	13,333.57			
78 Units				156	12168																						
Total				3.48																						\$	72,700.28
Area C2 - Multi-family Site																											
Apartment Buildings				65 Trips					\$	33,690.78	\$	5,931.22	\$	41,758.19	\$	4,140.13	\$	8,120.70	\$	34,074.91	\$	56,593.62	\$	17,333.64			
102 Units				156	15912																						
Total Area				4.9																						\$	288,854.73
Area C1 - Commercial																											
Bld. Area																											
Retail 1				8000	1280				\$	15,549.59	\$	2,737.49	\$	19,273.01	\$	1,910.83	\$	3,748.02	\$	15,726.88	\$	26,120.13	\$	8,000.14			
Office 2				37500	3000				\$	62,198.37	\$	10,949.95	\$	77,092.05	\$	7,643.31	\$	14,992.06	\$	62,907.53	\$	104,480.53	\$	32,000.57			
Total Area				3.44																						\$	351,542.52
Area C2a - Commercial																											
Bld. Area																											
Restaurant 3				5000	1600				\$	28,507.59	\$	5,018.73	\$	35,333.85	\$	3,503.18	\$	6,871.36	\$	28,832.62	\$	47,886.91	\$	14,666.93			
Retail 4				5000	800				\$	9,848.08	\$	1,733.74	\$	12,206.24	\$	1,210.19	\$	2,373.74	\$	9,960.36	\$	16,542.75	\$	5,066.76			
Retail 5				3000	480				\$	5,701.52	\$	1,009.75	\$	7,066.77	\$	700.64	\$	1,374.27	\$	5,766.52	\$	9,577.38	\$	2,933.39			
Total Area				2.93																						\$	408,488.40
Area C2b - Commercial																											
Bld. Area																											
Retail 8				6500	1040				\$	12,439.67	\$	2,189.99	\$	15,418.41	\$	1,528.66	\$	2,998.41	\$	12,581.51	\$	20,896.11	\$	6,400.11			
Retail 9				6500	1040				\$	12,439.67	\$	2,189.99	\$	15,418.41	\$	1,528.66	\$	2,998.41	\$	12,581.51	\$	20,896.11	\$	6,400.11			
Total Area				1.817																						\$	156,934.95
Area C2c - Commercial																											
Bld. Area																											
Retail 6				32500	5200				\$	63,235.01	\$	11,132.45	\$	78,376.91	\$	7,770.70	\$	15,241.93	\$	63,955.99	\$	106,221.88	\$	32,533.91			
Retail 7				47500	7600				\$	92,260.91	\$	16,242.43	\$	114,353.20	\$	11,337.58	\$	22,238.22	\$	93,312.83	\$	154,979.46	\$	47,467.51			
Total Area				6.522																						\$	1,575,524.87
Future Commercial Area																											
Bld. Area																											
North Building				6000	960				\$	11,921.35	\$	2,098.74	\$	14,775.98	\$	1,464.97	\$	2,873.48	\$	12,057.28	\$	20,025.44	\$	6,133.44			
South Building				5000	800				\$	9,848.08	\$	1,733.74	\$	12,206.24	\$	1,210.19	\$	2,373.74	\$	9,960.36	\$	16,542.75	\$	5,066.76			
Total Area				1.49																						\$	246,507.49
Misc. Properties																											
Keizer Christian Church				0	0																						
Deckard				0	0																						

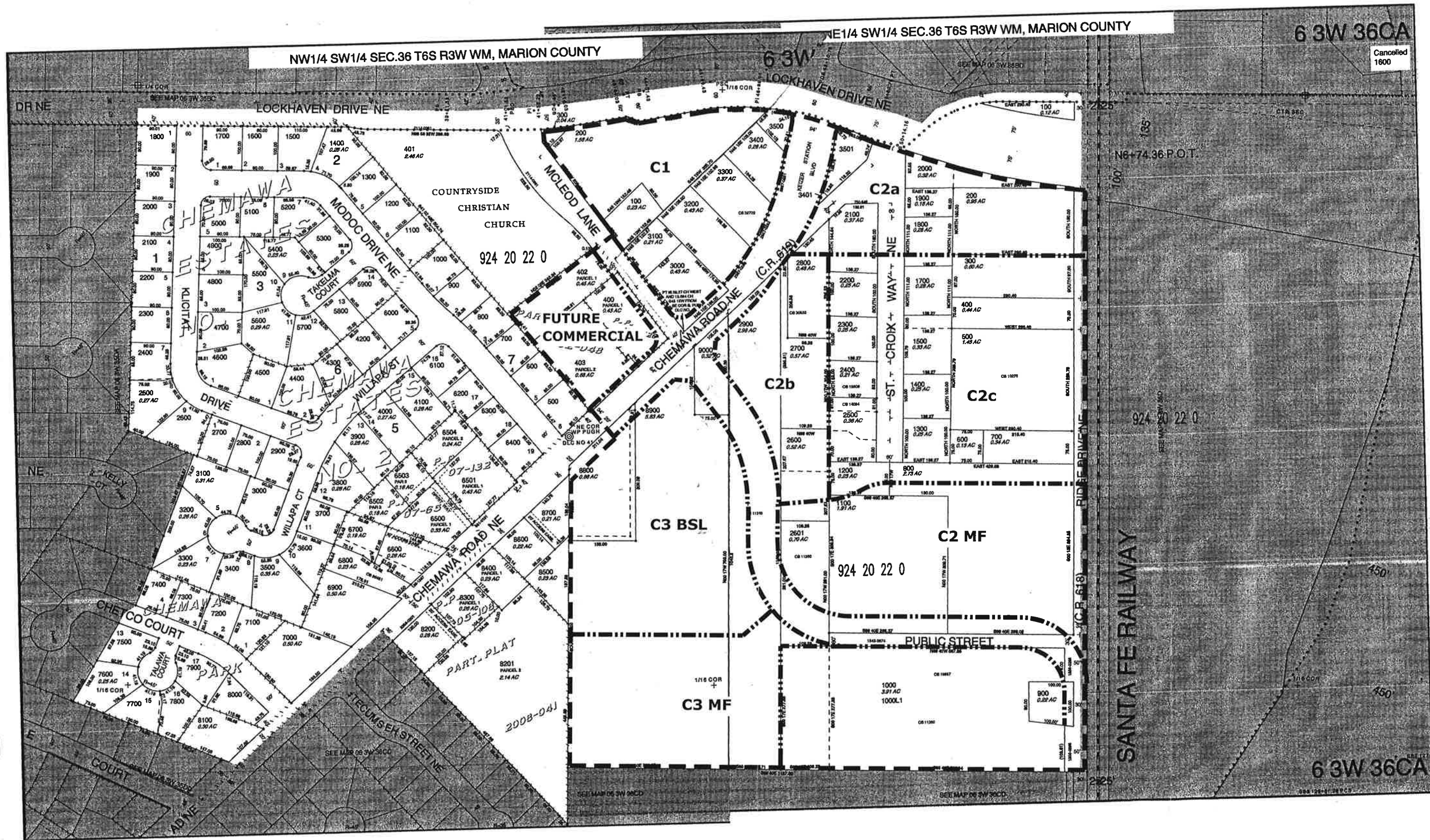
Total Water Consumption	75280	gpd
Total Trips for Development	785	
Total Area of Development	29,049	

				Stormwater Analysis City of Kelzer	Storm Drainage Improvements		Chemawa Rd Improvements	Chemawa/Lock Interiors Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	Totals
063W36CA-1100	1.65 Acres	33.67%		\$ 2,797.43	\$ 19,133.45		\$ 11,344.86	\$ 1,997.25	\$ 14,061.43	\$ 1,394.12	\$ 2,734.52	\$ 11,474.20	\$ 19,057.04	\$ 5,836.84	\$ 8,733.45	\$ 20,633.70	\$ 119,198.28
063W36CA-1200	0.042 Acres	0.86%		\$ 71.21	\$ 487.03		\$ 288.78	\$ 50.84	\$ 357.93	\$ 35.49	\$ 69.61	\$ 292.07	\$ 485.09	\$ 148.57	\$ 222.31	\$ 525.22	
063W36CA-1200	0.186 Acres	2.85%		\$ 315.35	\$ 2,156.86		\$ 4,434.57	\$ 780.70	\$ 5,496.44	\$ 544.95	\$ 1,068.89	\$ 4,485.13	\$ 7,449.16	\$ 2,281.55	\$ 595.00	\$ 1,405.75	\$ 34,048.48
063W36CA-1300	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-1400	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-1500	0.39 Acres	5.06%		\$ 559.49	\$ 3,826.69		\$ 7,867.78	\$ 1,385.11	\$ 9,751.75	\$ 966.84	\$ 1,896.42	\$ 7,957.48	\$ 13,216.26	\$ 4,047.91	\$ 1,055.64	\$ 2,494.06	\$ 55,025.44
063W36CA-1700	0.28 Acres	4.29%		\$ 474.72	\$ 3,246.89		\$ 6,675.69	\$ 1,175.25	\$ 8,274.22	\$ 820.35	\$ 1,609.08	\$ 6,751.80	\$ 11,213.80	\$ 3,434.59	\$ 895.70	\$ 2,116.18	\$ 46,688.25
063W36CA-1800	0.205 Acres	7.00%		\$ 347.56	\$ 2,377.19		\$ 3,082.50	\$ 542.67	\$ 3,820.62	\$ 378.80	\$ 742.99	\$ 3,117.64	\$ 5,177.97	\$ 1,585.92	\$ 328.44	\$ 775.97	
063W36CA-1800	0.075 Acres	1.15%		\$ 127.16	\$ 869.70		\$ 1,788.13	\$ 314.80	\$ 2,216.31	\$ 219.74	\$ 431.00	\$ 1,808.52	\$ 3,003.70	\$ 919.98	\$ 239.92	\$ 566.83	\$ 34,784.04
063W36CA-1900	0.16 Acres	5.46%		\$ 271.27	\$ 1,855.36		\$ 2,405.85	\$ 423.55	\$ 2,981.94	\$ 295.65	\$ 579.90	\$ 2,433.28	\$ 4,041.34	\$ 1,237.79	\$ 256.34	\$ 605.63	\$ 17,387.91
063W36CA-200	0.95 Acres	32.42%		\$ 1,610.64	\$ 11,016.23		\$ 14,284.75	\$ 2,514.81	\$ 17,705.30	\$ 1,755.40	\$ 3,443.14	\$ 14,447.62	\$ 23,995.46	\$ 7,349.39	\$ 1,522.02	\$ 3,595.94	\$ 103,240.70
063W36CA-2000	0.32 Acres	10.92%		\$ 542.53	\$ 3,710.73		\$ 4,811.71	\$ 847.10	\$ 5,963.89	\$ 591.29	\$ 1,159.80	\$ 4,866.57	\$ 8,082.68	\$ 2,475.58	\$ 512.68	\$ 1,211.27	\$ 34,775.82
063W36CA-2100	0.26 Acres	8.87%		\$ 440.81	\$ 3,014.97		\$ 3,909.51	\$ 688.26	\$ 4,845.66	\$ 480.42	\$ 942.93	\$ 3,954.09	\$ 6,567.18	\$ 2,011.41	\$ 416.55	\$ 984.15	
063W36CA-2100	0.11 Acres	1.69%		\$ 186.50	\$ 1,275.56		\$ 2,622.59	\$ 461.70	\$ 3,250.58	\$ 322.28	\$ 632.14	\$ 2,652.49	\$ 4,405.42	\$ 1,349.30	\$ 351.88	\$ 831.35	\$ 46,597.16
063W36CA-2200	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-2300	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-2400	0.21 Acres	3.22%		\$ 356.04	\$ 2,435.17		\$ 5,006.77	\$ 881.44	\$ 6,205.66	\$ 615.26	\$ 1,206.81	\$ 5,063.85	\$ 8,410.35	\$ 2,575.94	\$ 671.77	\$ 1,587.13	\$ 35,016.19
063W36CA-2500	0.36 Acres	5.52%		\$ 610.35	\$ 4,174.57		\$ 8,583.03	\$ 1,511.03	\$ 10,638.28	\$ 1,054.73	\$ 2,068.82	\$ 8,680.89	\$ 14,417.74	\$ 4,415.90	\$ 1,151.61	\$ 2,720.80	\$ 60,027.75
063W36CA-2600	0.12 Acres	2.45%		\$ 203.45	\$ 1,391.52		\$ 825.08	\$ 145.25	\$ 1,022.65	\$ 101.39	\$ 198.87	\$ 834.49	\$ 1,385.97	\$ 424.50	\$ 635.16	\$ 1,500.63	
063W36CA-2600	0.4 Acres	22.01%		\$ 678.16	\$ 4,638.41		\$ 5,477.02	\$ 964.22	\$ 6,788.51	\$ 673.05	\$ 1,320.16	\$ 5,539.46	\$ 9,200.27	\$ 2,817.88	\$ 746.35	\$ 1,763.33	\$ 49,275.79
063W36CA-2601	0.588 Acres	12.00%		\$ 996.90	\$ 6,818.46		\$ 4,042.89	\$ 711.75	\$ 5,010.98	\$ 496.82	\$ 974.48	\$ 4,088.99	\$ 6,791.23	\$ 2,080.04	\$ 3,112.28	\$ 7,353.10	\$ 42,477.93
063W36CA-2700	0.57 Acres	31.37%		\$ 966.38	\$ 6,609.74		\$ 7,804.75	\$ 1,374.02	\$ 9,673.63	\$ 959.09	\$ 1,881.23	\$ 7,893.73	\$ 13,110.38	\$ 4,015.48	\$ 1,063.55	\$ 2,512.74	\$ 57,864.72
063W36CA-2800	0.065 Acres	2.22%		\$ 110.20	\$ 753.74		\$ 977.38	\$ 172.07	\$ 1,211.42	\$ 120.11	\$ 235.58	\$ 988.52	\$ 1,641.79	\$ 502.85	\$ 104.14	\$ 246.04	
063W36CA-2800	0.415 Acres	22.84%		\$ 703.60	\$ 4,812.35		\$ 5,682.40	\$ 1,000.38	\$ 7,043.08	\$ 698.29	\$ 1,369.67	\$ 5,747.19	\$ 9,545.28	\$ 2,923.55	\$ 774.34	\$ 1,829.45	\$ 49,193.42
063W36CA-2900	0.88 Acres	25.29%		\$ 1,491.96	\$ 10,204.50		\$ 6,553.47	\$ 1,153.73	\$ 8,122.73	\$ 805.33	\$ 1,579.62	\$ 6,628.19	\$ 11,008.49	\$ 3,371.71	\$ 5,015.29	\$ 11,849.15	
063W36CA-2900	0 Acres	0.00%		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
063W36CA-2900	0.39 Acres	21.46%		\$ 661.21	\$ 4,522.45		\$ 5,340.09	\$ 940.12	\$ 6,618.80	\$ 656.22	\$ 1,287.16	\$ 5,400.98	\$ 8,970.26	\$ 2,747.43	\$ 727.69	\$ 1,719.24	
063W36CB-2900	0.52 Acres	11.63%		\$ 881.61	\$ 6,029.93		\$ 2,713.35	\$ 477.68	\$ 3,363.08	\$ 333.43	\$ 654.02	\$ 2,744.29	\$ 4,557.88	\$ 1,396.00	\$ 4,436.95	\$ 10,482.77	\$ 145,446.80

			Stormwater Analysis City of Kelzer	Storm Drainage Improvements		Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Off-site Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	Totals
063W36CA-300	0.6 Acres	9.20%	\$ 1,017.25	\$ 6,957.62		\$ 14,905.05	\$ 2,518.39	\$ 17,730.46	\$ 1,757.89	\$ 3,448.04	\$ 14,468.15	\$ 24,029.56	\$ 7,359.84	\$ 1,919.35	\$ 4,534.66	\$ 100,046.25
063W36CA-3000	0.36 Acres	10.47%	\$ 610.35	\$ 4,174.57		\$ 8,136.41	\$ 1,432.41	\$ 10,084.72	\$ 999.85	\$ 1,961.17	\$ 8,229.18	\$ 13,667.51	\$ 4,186.12	\$ 730.06	\$ 1,724.85	\$ 55,937.21
063W36CA-3100	0.21 Acres	6.10%	\$ 356.04	\$ 2,435.17		\$ 4,746.24	\$ 835.57	\$ 5,882.75	\$ 583.25	\$ 1,144.02	\$ 4,800.36	\$ 7,972.72	\$ 2,441.90	\$ 425.87	\$ 1,006.16	\$ 32,630.04
063W36CA-3200	0.43 Acres	12.50%	\$ 729.03	\$ 4,986.29		\$ 9,718.50	\$ 1,710.93	\$ 12,045.63	\$ 1,194.27	\$ 2,342.51	\$ 9,829.30	\$ 16,325.08	\$ 5,000.09	\$ 872.02	\$ 2,060.24	\$ 66,813.89
063W36CA-3300	0.37 Acres	10.76%	\$ 627.30	\$ 4,290.53		\$ 8,362.43	\$ 1,472.20	\$ 10,364.85	\$ 1,027.63	\$ 2,015.65	\$ 8,457.77	\$ 14,047.16	\$ 4,302.40	\$ 750.34	\$ 1,772.77	\$ 57,491.02
063W36CA-3400	0.28 Acres	8.14%	\$ 474.72	\$ 3,246.89		\$ 6,328.32	\$ 1,114.09	\$ 7,843.67	\$ 777.66	\$ 1,525.36	\$ 6,400.48	\$ 10,630.29	\$ 3,255.87	\$ 567.83	\$ 1,341.55	\$ 43,506.72
063W36CA-3500	0.08 Acres	2.33%	\$ 135.63	\$ 927.68		\$ 1,808.09	\$ 318.31	\$ 2,241.05	\$ 222.19	\$ 435.82	\$ 1,828.71	\$ 3,037.22	\$ 930.25	\$ 162.24	\$ 983.30	\$ 12,430.49
063W36CA-3501	0.19 Acres	6.48%	\$ 322.13	\$ 2,203.25		\$ 2,856.95	\$ 502.96	\$ 3,541.06	\$ 351.08	\$ 688.63	\$ 2,889.52	\$ 4,799.09	\$ 1,469.88	\$ 304.40	\$ 719.19	\$ 20,648.14
063W36CA-400	0.44 Acres	6.75%	\$ 745.98	\$ 5,102.25		\$ 10,490.37	\$ 1,846.82	\$ 13,002.34	\$ 1,289.12	\$ 2,528.56	\$ 10,609.98	\$ 17,621.68	\$ 5,397.21	\$ 1,407.52	\$ 3,325.42	\$ 73,367.25
063W36CA-500	1.45 Acres	22.23%	\$ 2,458.35	\$ 16,814.24		\$ 34,570.54	\$ 6,086.10	\$ 42,848.61	\$ 4,248.24	\$ 8,332.75	\$ 34,964.70	\$ 58,071.44	\$ 17,786.27	\$ 4,638.42	\$ 10,958.77	\$ 241,778.44
063W36CA-600	0.13 Acres	1.99%	\$ 220.40	\$ 1,507.48		\$ 3,099.43	\$ 545.65	\$ 3,841.60	\$ 380.88	\$ 747.07	\$ 3,134.77	\$ 5,206.41	\$ 1,594.63	\$ 415.86	\$ 982.51	\$ 21,676.69
063W36CA-700	0.34 Acres	5.21%	\$ 576.44	\$ 3,942.65		\$ 8,106.20	\$ 1,427.09	\$ 10,047.26	\$ 996.14	\$ 1,953.89	\$ 8,198.62	\$ 13,616.75	\$ 4,170.57	\$ 1,087.63	\$ 2,569.64	\$ 56,692.88
063W36CA-800	2.24 Acres	45.71%	\$ 3,797.72	\$ 25,975.10		\$ 15,401.50	\$ 2,711.42	\$ 19,089.46	\$ 1,892.63	\$ 3,712.32	\$ 15,577.10	\$ 25,871.37	\$ 7,929.95	\$ 11,856.32	\$ 28,011.81	\$ 168,657.19
063W36CA-800	0.041 Acres	0.63%	\$ 69.51	\$ 475.44		\$ 977.51	\$ 172.09	\$ 1,211.58	\$ 120.12	\$ 235.62	\$ 988.66	\$ 1,642.02	\$ 502.92	\$ 131.16	\$ 309.87	
063W36CA-900	0 Acres			No Benefit Assigned		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No Benefit Assigned (Serviced)		\$ -
063W36CA-1000	0 Acres			No Benefit Assigned		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No Benefit Assigned (Serviced)		\$ -
063W36CB-100	0.23 Acres	6.69%	\$ 389.94	\$ 2,667.09		\$ 5,198.26	\$ 915.15	\$ 6,443.01	\$ 638.79	\$ 1,252.97	\$ 5,257.53	\$ 8,732.02	\$ 2,674.47	\$ 466.43	\$ 1,101.99	\$ 35,737.66
063W36CB-200	1.47 Acres	42.73%	\$ 2,492.25	\$ 17,046.16		\$ 33,223.69	\$ 5,848.99	\$ 41,179.25	\$ 4,082.73	\$ 8,008.11	\$ 33,602.49	\$ 55,809.01	\$ 17,093.33	\$ 2,981.09	\$ 7,043.15	\$ 228,410.27
063W36CB-2601	0.11 Acres	3.16%	\$ 186.50	\$ 1,275.56		\$ 819.18	\$ 144.22	\$ 1,015.34	\$ 100.67	\$ 197.45	\$ 828.52	\$ 1,376.06	\$ 421.46	\$ 626.91	\$ 1,481.14	\$ 8,473.02
063W36CB-300	0.01 Acres	0.29%	\$ 16.95	\$ 115.96		\$ 226.01	\$ 39.79	\$ 280.13	\$ 27.77	\$ 54.48	\$ 228.59	\$ 379.65	\$ 116.28	\$ 20.28	\$ 47.91	\$ 1,553.81
063W36CB-400	0.36 Acres	24.16%	\$ 610.35	\$ 4,174.57		\$ 5,259.73	\$ 925.97	\$ 6,519.19	\$ 646.35	\$ 1,267.79	\$ 5,319.70	\$ 8,835.27	\$ 2,706.09	\$ 693.11	\$ 1,637.55	\$ 38,595.65
063W36CB-402	0.45 Acres	30.20%	\$ 762.94	\$ 5,218.21		\$ 6,574.66	\$ 1,157.46	\$ 8,148.99	\$ 807.93	\$ 1,584.73	\$ 6,649.62	\$ 11,044.08	\$ 3,382.61	\$ 866.39	\$ 2,046.93	\$ 48,244.56
063W36CB-403	0.68 Acres	45.64%	\$ 1,152.88	\$ 7,885.30		\$ 9,935.04	\$ 1,749.05	\$ 12,314.03	\$ 1,220.88	\$ 2,394.71	\$ 10,048.32	\$ 16,688.84	\$ 5,111.50	\$ 1,309.21	\$ 3,093.14	\$ 72,902.89
063W36CB-8800	0.72 Acres	16.11%	\$ 1,220.70	\$ 8,349.14		\$ 3,756.95	\$ 661.41	\$ 4,656.57	\$ 461.68	\$ 905.56	\$ 3,799.78	\$ 6,310.90	\$ 1,932.92	\$ 6,143.47	\$ 14,514.61	\$ 52,713.68
063W36CB-8900	3.18 Acres	71.14%	\$ 5,391.41	\$ 36,875.37		\$ 16,599.19	\$ 2,921.21	\$ 20,566.50	\$ 2,039.07	\$ 3,999.56	\$ 16,782.38	\$ 27,873.16	\$ 8,537.06	\$ 27,193.67	\$ 64,106.19	\$ 424,617.12
063W36CB-8900	2.49 Acres	71.55%	\$ 4,221.57	\$ 28,874.11		\$ 18,543.34	\$ 3,264.53	\$ 22,983.62	\$ 2,278.72	\$ 4,469.62	\$ 18,754.76	\$ 31,149.01	\$ 9,540.40	\$ 14,190.98	\$ 33,527.70	
063W36CB-9000	0.092 Acres	2.08%	\$ 155.98	\$ 1,066.83		\$ 480.05	\$ 84.51	\$ 595.01	\$ 58.99	\$ 115.71	\$ 485.53	\$ 806.39	\$ 246.98	\$ 785.00	\$ 1,854.64	\$ 6,735.64
Ridge Road Right-of-way	0.26 Acres	5.31%	\$ 440.81	\$ 3,014.97		\$ 1,787.67	\$ 314.72	\$ 2,215.74	\$ 219.68	\$ 430.89	\$ 1,808.06	\$ 3,002.93	\$ 919.74	\$ 1,376.18	\$ 3,251.37	\$ 18,782.76
Right-of-way	0.78 Acres	26.62%	\$ 1,322.42	\$ 9,044.90		\$ 11,728.53	\$ 2,064.79	\$ 14,536.98	\$ 1,441.27	\$ 2,827.00	\$ 11,862.26	\$ 19,701.53	\$ 6,034.24	\$ 1,249.66	\$ 2,952.46	\$ 84,766.05
Right-of-way	0.97 Acres	14.87%	\$ 1,644.55	\$ 11,248.15		\$ 23,126.50	\$ 4,071.39	\$ 28,664.25	\$ 2,841.92	\$ 5,574.33	\$ 23,390.18	\$ 38,847.79	\$ 11,898.40	\$ 3,102.94	\$ 7,331.04	\$ 161,741.44

\$ 3,232,743.20

Appendix "A"



MULTI/TECH
ENGINEERING SERVICES, INC.
115N 13TH ST, S.E., SALEM, OR 97302
PH: (503) 363-9227 FAX: (503) 364-1260
www.mtengineering.net office@mtengineering.net

MULTITECH ENGINEERING EXEMPT FROM
LIABILITY IF NOT STAMPED APPROVED
**NOT FOR
CONSTRUCTION**
UNLESS STAMPED
APPROVED HERE

REGISTERED PROFESSIONAL ENGINEER
Mark D. Greer
JULY 14, 1978
EXPIRES: 06-30-2015

NO CHANGES, MODIFICATIONS OR
REPRODUCTIONS TO BE MADE TO
THESE DRAWINGS WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.

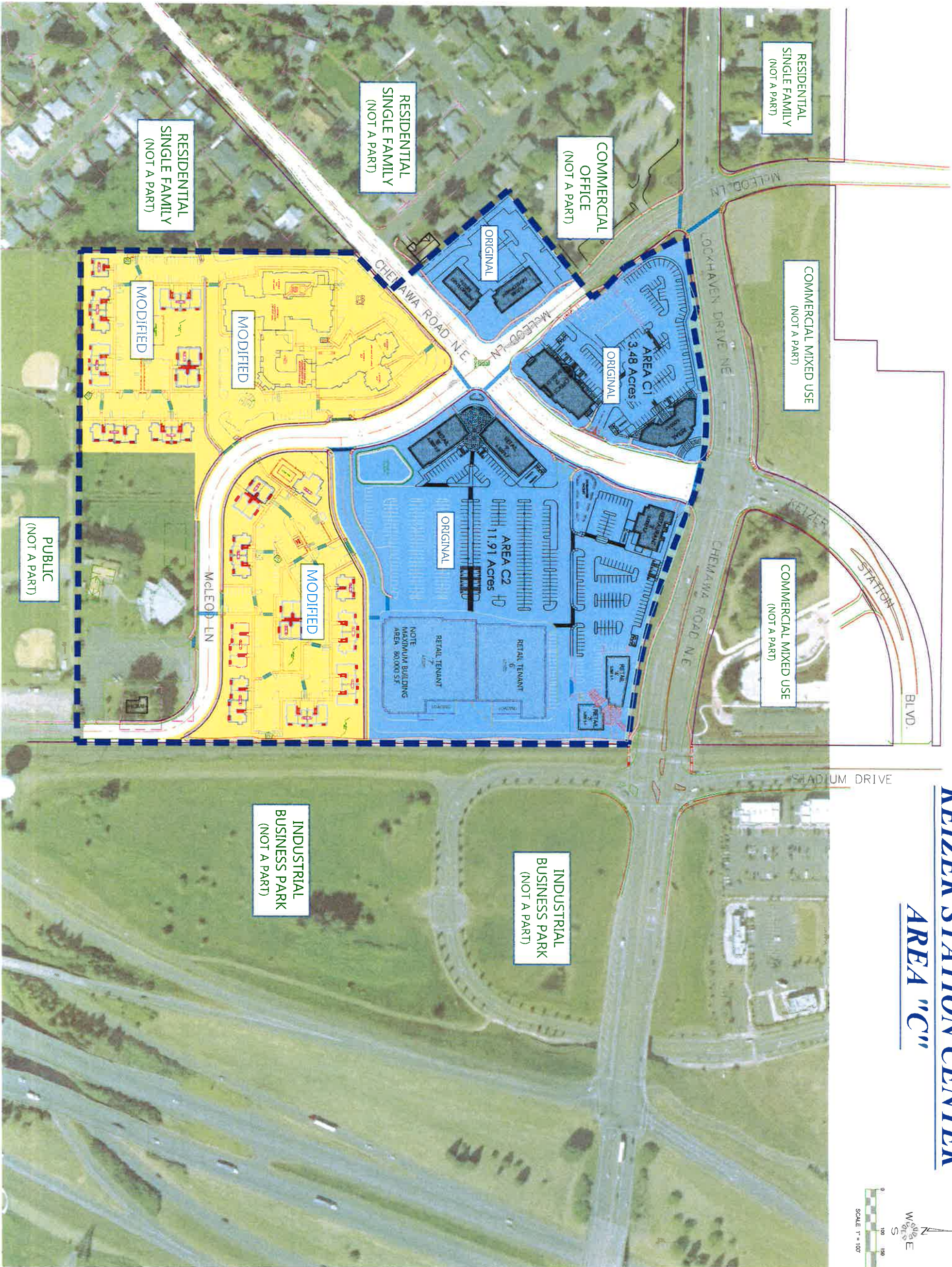
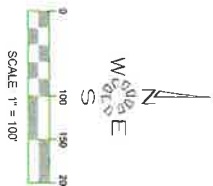
6018b (PLAT) 1 R06
Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built: _____

**KEIZER STATION CENTER
AREA "C"**

**REIMBURSEMENT DISTRICT
MAP**

Project Number
6018
Sheet Number
1 of 1

KEIZER STATION CENTER AREA "C"





City of Keizer - Public Works Department

930 Chemawa Rd. N.E., Keizer, OR 97303

PO Box 21000, Keizer, OR 97307

(503)390-3700 fax (503) 393-9437

www.keizer.org

September 8, 2015

An application for a Public Improvement Reimbursement District consistent with Ordinance No. 2015-716 was received by the Public Works Department on April 30, 2015 from KS REIM LLC for the Keizer Station Area C development. The application materials were reviewed by the Public Works Director and the City Engineer for accuracy and completeness as outlined in the Ordinance. The application was deemed complete by the Public Works Director on July 10, 2015.

Pursuant to the Ordinance, I have addressed the following items below:

1. Developer Financing. The developer of the public improvements, KS REIM LLC, has secured private financing for the cost of all of the required public improvements for the development as required by the City Council Master Plan/Lot Line Adjustment Order adopted on February 17, 2015 and became final after the appeal period on March 13, 2015. The Order requires significant public improvements be constructed that will serve the properties not owned or controlled by KS REIM LLC and will benefit to some degree some or all of Keizer Station Area C development.
2. Boundary and Size of the Reimbursement District. The boundary of the proposed reimbursement district is shown on Exhibit A and matches the boundary included with the Master Plan/Lot Line Adjustment Order. Included in the application materials is a listing for all of the property owners, tax lot size, and tax lot identification information at the time of the application submittal. The total size of the proposed district is 29.049 acres.
3. Estimated Costs of the Public Improvements and Developer's Share. The application materials include engineered drawings for the required public improvements that are at least 85% complete. These drawings were reviewed by staff and prior to July 10, 2015 the plans were refined to allow for revised cost estimates to be provided in the application materials. These cost estimates were created by the developer's engineer based on bids that were received from the contractor that will be performing the work for the developer. As such the estimates included in the application materials are considered to be an accurate representation of the costs of construction. See Appendix "B" of the application.
4. Methodology for Spreading the Costs. The application materials also included a detailed matrix showing the methodology used for each type of improvement and the costs per individual tax lot for each type of required public improvement to be reimbursed to KS REIM LLC. The matrix

was created based on three approaches using a differing methodology for each. One methodology was based on Site Area and was used for the storm drainage improvements. This method bases the costs on the size of the parcels; the larger the parcel, the larger the charge. The next was a Trip Based methodology and was used for the transportation related improvements. The more trips a particular use creates means that use pays more for the transportation improvements. The trips used in the methodology came from the approved Traffic Impact Analysis (TIA) for Keizer Station Area C which is included in the application materials. The third methodology is Demand Based and was used for the water and sanitary sewer improvements. This method bases the costs on the average water demand based on the type of use. Staff believes these differing methodologies to be a just and reasonable way of equitably spreading the costs to the properties within the proposed reimbursement district.

The matrix included with the application materials spreads the total costs for each type of public improvement amongst all of the properties within the boundary of the proposed reimbursement district. This approach was reviewed and considered on the basis of the benefits provided by these improvements to each identified area of the development. City management staff including the City Manager, City Attorney, Public Works Director, and Community Development Director discussed this approach and determined the areas C1 and Future Commercial, as shown on Exhibit A, do not directly benefit from the required public improvements associated with extension of McLeod Lane from Chemawa Road to Ridge Drive. Staff recommends the matrix be amended to remove area C1 and Future Commercial and to spread the costs of the required public improvements associated with the extension of McLeod Lane to areas C2a, C2b, C2c, C2MF, C3BSL, and C3MF only using the methodology proposed in the application. Staff believes the required public improvements along Chemawa Road and along McLeod Lane between Lockhaven Drive and Chemawa Road benefit all areas of the development consistent with the matrix.

5. Administration Charge. Ordinance 2015-716 provides for a fee to be charged by the City for administration of the reimbursement district. The fee may be a percentage of the total reimbursement fee or a flat fee per unit and shall be fixed by the City Council. Staff recommends a flat fee to be assessed on each sub area of the Keizer Station Area C development, as shown on the Reimbursement District Map included in the application, and be set at \$750.00. This will cover city costs for administration of the five potential reimbursements to be processed by the city. If a smaller portion of a subarea requests an individual payoff, then the full fee would be charged.

6. City Public Works Standards. The required public improvements will meet all City of Keizer and City of Salem standards prior to being accepted by the respective cities. The City of Keizer will be accepting the storm drainage, water, and street improvements, and City of Salem will be accepting the sanitary sewer and traffic signal improvements.

7. Fairness and Best Interests to the Public. Staff believes it is fair and in the public's best interest to create this reimbursement district to provide for cost sharing responsibility to all properties within the boundary of the development. All property owners will have an opportunity

to be aware of the obligation to the individual properties for payment to KS REIM LLC when considering development of their property.

In addition to the above required elements of the Public Works Director's report, the following issues are additional questions for the Council.

First, the application submitted includes a request for KS REIM LLC to be reimbursed for the value of the property dedicated to the public as right of way for the street system, primarily the property associated with the extension of McLeod Lane, but also along Chemawa Road and Ridge Dr. This request is new in that all previous development in the City, including Area A of Keizer Station, have dedicated all necessary right of ways as a part of the development without being reimbursed or credited for any property value. Staff believes this is a policy issue for the City Council to consider as a part of forming the reimbursement district. Should the City Council decide to include this into the reimbursement district, staff recommends the actual cost of the property paid by the developer be verified and used in the matrix. Staff also recommends the City Council determine if there should there be a credit provided to other property owners within the reimbursement district that will be required to dedicate property for right of ways as they develop in the future.

Second, the developer has also requested a discretionary annual reimbursement fee adjustment in accordance with Section 2.E.6 of the Ordinance. If the City Council grants this adjustment it will be administered per Section 13 of the Ordinance with the interest rate determined by the Council upon the recommendation of the Finance Director.

If you have any questions, please contact me.

Keizer Station

Area "C"

Reimbursement District Application Packet

April 29th, 2015

prepared by

KS REIM LLC

*3425 Boone Rd. SE
Salem, OR 97317*

Keizer Station Plan Area "C" Master Plan

Application for Reimbursement District

Up-dated May 22nd, 2015

Request

KS REIM LLC, a joint venture between Bonaventure Senior Housing and Mountain West Investments Corporation, the Developer¹ of Area C3 and the Public Improvements, requests the formation of a Reimbursement District for Public Improvements associated with Keizer Station Plan Area C Master Plan. Case No. 2014-20 (the "Master Plan" or "Area C").

The Public Improvements included in the Project are detailed in Appendix F, and include stormwater, water, transportation and sanitary sewer improvements. The geographic scope of the Reimbursement District includes the total limits of that represented in the Area "C" Master plan approval documents. .

The Public Improvements have not yet been installed. The Developer requests that the Reimbursement District be formed based upon the estimated costs and proposed methodology included in this application. Appendix B, C, & D. The estimated date of Project completion is December 1st, 2015. Once the Project is complete, the Developer will provide the City with notice of the final actual Eligible Public Improvement Costs. The Developer requests a discretionary annual reimbursement fee adjustment, as provided by Section 2.E.6. of Ordinance No. 2015-716.

The Public Improvements Provide Benefit to the All of Area C

In February 2015, the City Council approved the Master Plan. The Master Plan is a mixed use development which includes office, restaurants, retail, multi-family and senior living housing, which is consistent with the property's Mixed Use (MU) and Commercial Retail (CR) zoning. Although the Master Plan is divided into three subareas (Areas C1, C2, and C3), consistent with the Keizer Station Plan, the Master Plan is intended to function as a single site.

All of the Public Improvements included in the Reimbursement District are required as conditions of approval to the Master Plan, and are shared improvements that will provide service to all of the properties within Area C. The Master Plan conditions of approval require the installation of the Public Improvements for the entire Master Plan at the time the first subarea develops.

Area C3 is will be the first subarea of the Master Plan to develop. The Public Improvements are sized greater than what would be required to serve only Area C3, and will be available to

¹ All capitalized terms are defined in Ordinance No. 2015-716.

provide service to the other properties within the Master Plan. The Public Improvements are being privately financed by the Developer, will be built in advance of the development of Areas C1 and C2, and will provide infrastructure that will alleviate existing traffic and stormwater concerns. For these reasons, both the owners/developers of Areas C1 and C2 and the public will benefit from the Public Improvements. For example, the McLeod Lane corridor extension from Chemawa Road to Ridge Drive is the backbone of all of Master Plan. It includes a 3-lane cross section for a portion for the corridor and provides a new connection that will alleviate existing congestion in the area, as well as serving all of the properties within the Master Plan.

Cost Distribution Methodology

Serving the Master Plan requires the installation of stormwater, water, transportation and sanitary sewer improvements. The suggested cost distribution methodology reflects the variety of Public Improvements that will be included in the Reimbursement District. We have developed three (3) separate methodologies to apportion the cost of the Public Improvements based open the benefits to properties within the reimbursement district.

The three approaches involve the use of "Site Area" for those improvements that are apportioned based upon site size, "PM Peak Transportation Trips" generated by the proposed uses for transportation improvements, and "Water Demand" using gallons per day per square foot of the proposed uses. The uses and demands assumed for each property are based upon the approved Master Plan and the evidence, engineering and analysis in support of the Master Plan.

Area Based (Storm Drainage)

Storm drainage and related facilities are most fairly allocated based upon property size, or "area", which correlates to the expected amount of post-development impervious surface. The land areas are based upon the current Marion County Tax Records. Appendix E.

Trips Based (Transportation Related Improvements)

The cost of transportation improvements (including right of way costs) necessary for the movement of vehicles, bicycles and pedestrians throughout the Master Plan are allocated based upon a property's proportionate share of the total trips generated by the Master Plan. The trip generation and distribution assumptions are based upon the Master Plan and supporting Traffic Impact Analysis conducted by DKS in January 2015 (the "TIA"). Appendix F. The TIA was the basis for the imposition of the Master Plan's conditions of approval requiring transportation improvements. As part of the Master Plan approval process, the TIA was reviewed and approved by the City Council, City staff, the City's outside consultants, and ODOT.

Demand Based (Water and Sanitary Sewer Facilities)

The impacts and benefits received from the Domestic Water and Sanitary Sewer facilities are directly related to the water consumption of the different uses approved by the Master Plan. The assumed demands of each building type in the Master Plan includes:

Apartments -- 156 gpd per unit

Senior Living Facility -- 156 gpd per unit

Commercial Office -- 0.08 gpd per square foot of building area

Commercial Retail -- 0.16 gdp per square foot of building area

Restaurant -- 0.32 gpd per square foot of building area

The assumed gallons per day and "unit" for allocating gpd are based upon the current design amounts set out in reference text Wastewater Engineering by Metcalf & Eddy, Inc.

Public Improvements Included in the Reimbursement District

The Public Improvements included in the Reimbursement District are described below and detailed in Appendix F. Each Public Improvement is sized greater than would be required to support Area C3, are available to service the other properties in the Master Plan, and are not eligible for SDC credits.

Area Based

Storm Drainage Analysis

A condition of approval of the Master Plan requires Area C to finance a City-conducted analysis of the drainage capacity for both the Tecumseh/Allendale drainage basin and Lockhaven Drive drainage basin. The downstream drainage analysis will determine the extent of capacity that exists to serve all of Area C. The findings of the downstream drainage analysis will be reflected in the overall Storm Drainage Master Plan, which the Developer is developing to serve all properties in the Master Plan. Both the downstream analysis and Storm Drainage Master Plan are construction engineering costs.

Storm Drainage Public Improvements

The Developer will construct a public drainage system that will provide service to the new public streets and development parcels within the Master Plan (12" Drainage pipe systems and associated infiltration and treatment systems). All of the property within the Master Plan will have the opportunity to connect to this system, and will benefit from the improvement. The location, type and size of the

storm drainage facilities are set out in the construction plans included in Appendix "F" on Sheets 301 and 302. Table 1 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

Trip Based

All of the transportation related Public Improvements are sized to benefit all of the properties within Area C, but are required to be installed at the time of the first development within the Master Plan.

Chemawa Road Improvements

This task covers the proposed improvements to Chemawa Road from the western limits of the Master Plan to Lockhaven Drive. The improvements include the construction of an arterial street section of 4 travel lanes, bike lanes, and associated turning lanes. The location, type and size of the proposed street improvements within the Chemawa Road area are set out in the construction plans included in Appendix "F" on Sheet 401 and related sheets. Table 2 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

Chemawa/Lockhaven Intersection Modifications

During the Master Plan approval process, some modifications to the existing Chemawa Road/Lockhaven Drive intersection were identified as being possible. At present, the improvements needed include the installation of an additional "right turn" signal head for the second north bound right turn lane, modifications to the striping to include the additional turn lane, and associated modifications and adjustments to the signal controller and other minor elements. The location, type and size of such facilities are set out in the construction plans included in Appendix "F" on Sheets 801, 802, and 803. Table 3 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

Chemawa/McLeod Lane Traffic Signal Costs

This task is for the future installation of the traffic signal in interconnects at the Chemawa Road/McLeod Lane intersection. These improvements will not be made until the retail uses in subarea C2 develop. The costs have been included with this

request to insure that development groups that precede the retail area have contributed their share of this future cost. The improvements are a benefit to all of Area "C". Table 4 within Appendix "B" sets out the size, type and cost of the facilities included in this item.

McLeod Lane Improvements

This task covers the proposed improvements to McLeod Lane from Chemawa Road back to Lockhaven Drive, including the construction to two travel lanes and dedicated left turn lane at the intersection with Chemawa Road. included in this will be the continuation of a bike lane on the southwest side and continuation of the sidewalk system on this side as well. The location, type and size of such facilities are set out in the construction plans included in Appendix "F" on Sheet 402 and associated sheets. Table 5 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

McLeod Lane Extension

The conditions of approval require the construction of the McLeod Lane extension from Chemawa Road to Ridge Road at the north side of the Little League park. The new McLeod Lane corridor a collector street that includes a minimum of two travel lanes, center turn lane, bike lanes, and associated improvements. The location, type and size of such facilities are set out in the construction plans included in Appendix "F" on Sheets 402, 403, and associated sheets. Table 6 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

Right-of-Way Costs

The realigned, expanded and new street network that will be installed by the Developer requires the acquisition of right of way, including:

- *67,730 sf for the creation of the new McLeod Lane extension*
- *2,768 sf for widening of McLeod Lane, north of Chemawa*
- *8,979 sf for widening of Chemawa Road*

The costs included in the reimbursement district are based on the actual costs paid for the property acquired for right of way. For property that is part of a larger area purchase, the costs shall be based on the per square foot costs incurred to acquire the land, including closing costs. Table 7 of Appendix "B" sets

out the projected/actual costs for the required right-of-way to be acquired for the project.

Developer requests that the reasonable market value of all of the dedicated right-of-way detailed above be included in the Reimbursement District. The street network that will be constructed by the Developer is a shared circulation system that will provide access to all of Area C and will disperse traffic generated by Area C. As a shared roadway system, the cost of the dedicated land should be shared, just like how construction costs are shared. The area of dedicated land is dictated by the required street width, which in turn is tied to the volume of traffic that the roadway must accommodate. This causal link between the impact of traffic volumes and land area is why it is equitable to allocate right of way costs based upon a property's proportional share of the traffic generated by Area C.

Settlement Agreement Sidewalk Costs

The Master Plan conditions of approval require the fulfillment of a term of a settlement agreement between community members and a previous developer/owner in Area C. Specifically, the entire Master Plan area is required to pay a total of \$50,000 the City of Keizer, which will be used by the City (along with other funds) to construct a walkway from Area "C" to the Chemawa Road/Verda Lane intersection. Because vehicle trips generated reflect the intensity of activity at a particular use, it is reasonable and fair to correlate pedestrian demand with trips generated.

Street Lights and Franchise Utilities (undergrounding as well)

While a separate "line item," all street improvements are required to have street lights and franchise utilities. As a component of transportation related infrastructure, it is reasonable and fair to allocate these costs in the same manner as street construction. The undergrounding of the existing facilities will be completed in accordance with the requirements of PGE. The street lights for the project as set out on sheet 701 of the construction plans included in Appendix "F". The projected costs for this work, including size and types of elements are set out in Table 8 within Appendix "B".

Demand Based (Usage Based)

Public Sanitary Sewer Improvements

As part of the construction of the public street improvements, it is necessary to complete the extension of the Public Sanitary Sewer Facilities that are located

within the limits of the new or improved streets. These improvements are proposed so each of subarea of the Master Plan will have sewer service available to their site. Allocating sanitary sewer costs based upon water demand is fair and reasonable. (8 inch public sanitary sewer mains and related facilities.) The location, type and size of such facilities are set out in the construction plans included in Appendix "F" on Sheet 201 and associated sheets. Table 9 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements.

Public Domestic Water Improvements

As part of the construction of the public street improvements, it is necessary to complete the extension of the Domestic Water Facilities that are located within the limits of the new or improved streets. These improvements are proposed so each of the development groups will have water service available to their site. Allocating water distribution facilities based upon water demand is fair and equitable. (12 inch public water mains and related facilities to complete looped system as set out in the water master plan.) The districts allocation of the improvement costs is limited to those elements that are "not" SDC eligible. (The oversized costs). The oversize costs have been identified and subtracted from the total to reflect the 8" equivalent costs. The location, type and size of such facilities are set out in the construction plans included in Appendix "F" on Sheets 501 and 502, and associated sheets. Table 8 within Appendix "B" sets out the size, type and cost of the facilities included in the public improvements. Noted in Table 10 are the oversize costs that are SDC eligible. These oversize costs are not included in the districts costs.

There are two properties included in the District Boundary as Misc. Properties. They are the Keizer Christian Church and the Deckard properties. They have been assigned a trip value of zero (0) due to the fact that their properties and uses existed prior to the approval of the Keizer Station Master Plan for Area "C". Should these properties redevelop in the future, they will then be assigned a trip value and may have to participate in future reimbursements to other development areas.

They were not assigned any benefit from the Storm Drainage, Sanitary Sewer, or Domestic Water facilities as well, due to the fact that they are presently serviced by those facilities. Again should these properties redevelop in the future and they take advantage of the facilities that are being constructed and part of the proposed reimbursement district, they may have to participate in future reimbursements to other development areas.

Application Appendices

Appendix "A" is a map depicting the boundaries of proposed Reimbursement District. Individual tax lots and acreage are shown. The map also indicates the boundaries of each subarea within the approved Area C Master Plan. Also included here is a copy of the Overall Site Plan that shows the Building identifications noted in the above text and costs.

Appendix "B" includes the detailed Engineers estimates of the costs for the proposed facilities, including size, type, and unit costs. Tables 1 thru 10.

Appendix "C" includes the estimated costs of the Public Improvements, and distributes those costs by subarea, as approved in the Area C Master Plan. The cost per tax lot is also included.

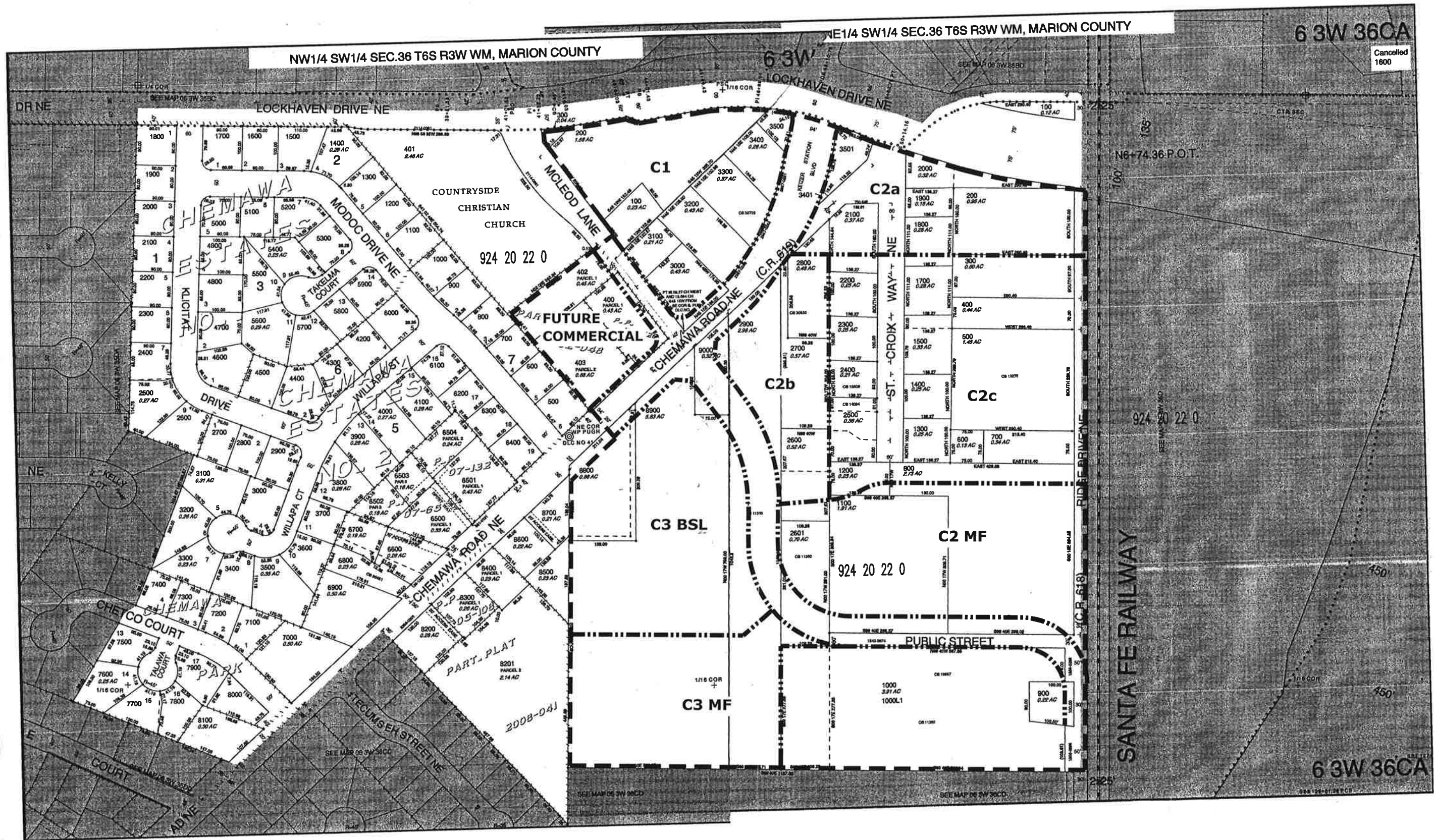
Appendix "D" includes the same costs as Appendix "B" but has the total costs identified for each of the parcels from its involvement with all of the development groups that it is part of.

Appendix "E" includes the tax identification sheets for each of the parcels within the limits of the proposed Reimbursement District. These sheets include the names and mailing addresses of property owners. The source of these sheets is the Marion County Assessor's Office.

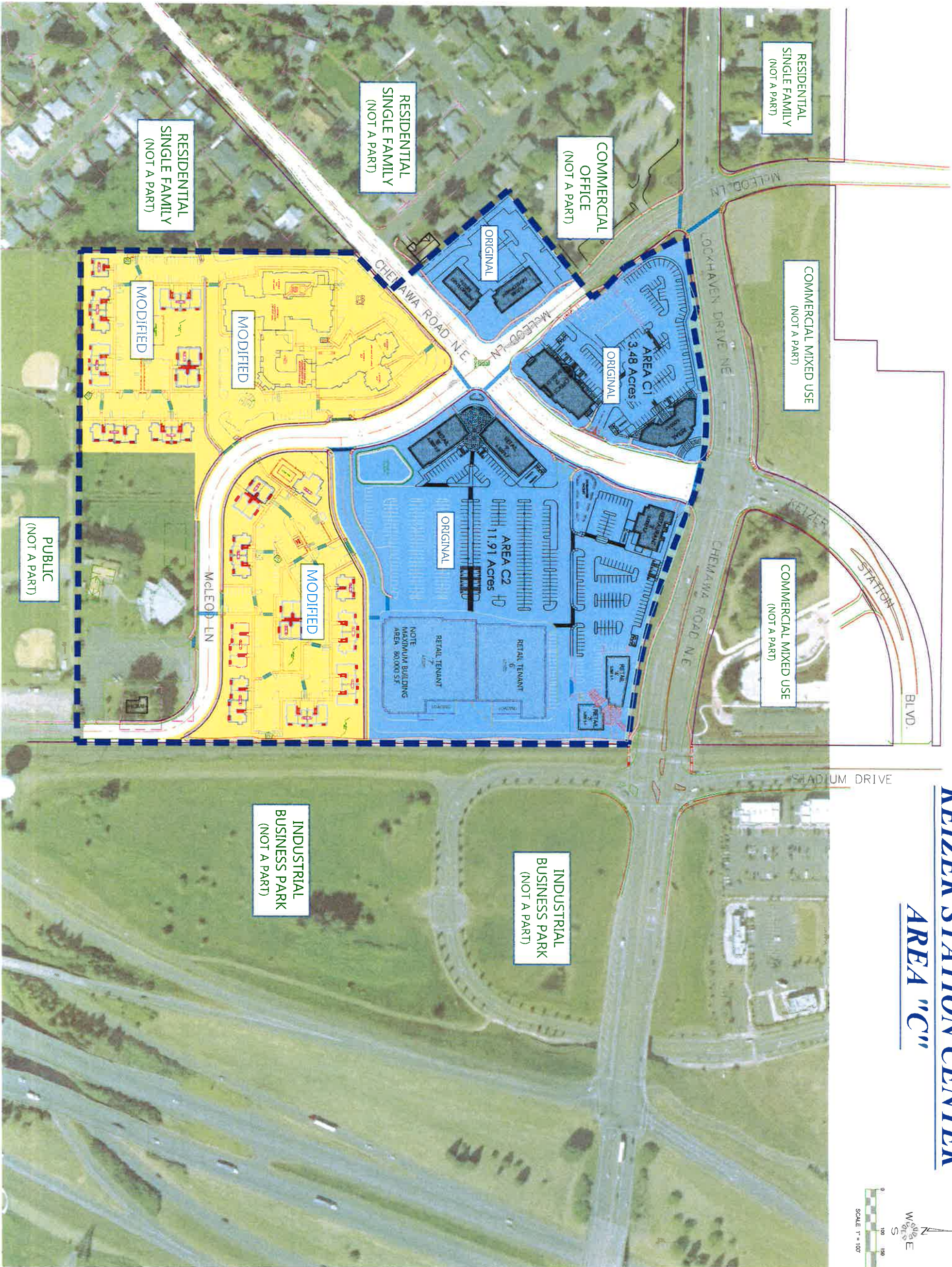
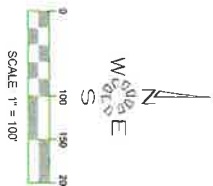
Appendix "F" includes detailed construction drawings and descriptions of the location, type, and size of the Public Improvements proposed for reimbursement.

Appendix "G" includes the Traffic Impact Analysis conducted by DKS in January 2015.

Appendix "A"



KEIZER STATION CENTER AREA "C"



Appendix "B"

Keizer Station Center Area "C"

Engineers Estimate
July 20th, 2015
Job # 6018

Table 1

Schedule B - Public Storm Drainage

Item	Quantity	Units	Unit Price	Item Total
6" Perforated Pipe	0	Ln. Ft.	\$6.00	\$0.00
12" Perforated Pipe	3474	Ln. Ft.	\$55.18	\$191,695.32
Perforated Pipe Backfill	2805	Ln. Ft.	\$0.00	\$0.00
Gravel Shoulder Drain	1600	Ln. Ft.	\$4.19	\$6,704.00
Type 1 Catch Basin	0	Each	\$0.00	\$0.00
Type 2 Catch Basin	10	Each	\$1,113.00	\$11,130.00
Type 4 Catch Basin				
Standard Manhole	13	Each	\$2,735.72	\$35,564.36
Extra Depth Manhole	11	Ln. Ft.	\$0.00	\$0.00
AC Remove & Replace	56	Ln. Ft.	\$0.00	\$0.00
Maintenance Bond	1	Lump Sum	\$1,000.00	\$1,000.00
		Construction Total		\$246,093.68
Contingencies	1	Lump Sum	\$44,296.86	\$44,296.86
		Schedule B TOTAL		\$290,390.54

Keizer Station Center Area "C"

Engineers Estimate
July 20th, 2015
Job # 6018

Table 2

Schedule A-3 - Chemawa Road Improvements

Item	Quantity	Units	Unit Price	Item Total
Mobilization	1	Lump Sum	\$12,750.00	\$12,750.00
Clear & Grub	1	Lump Sum	\$4,250.00	\$4,250.00
Excavation	2441	Cubic Yards	\$12.00	\$29,292.00
Compacted Subgrade	1	Lump Sum	\$2,115.00	\$2,115.00
Leveling Course	425	Ton	\$15.65	\$6,651.25
Base Rock	2875	Ton	\$15.65	\$44,993.75
Curb & Gutter	903	Ln. Ft.	\$10.19	\$9,201.57
AC	1,475	Ton	\$62.42	\$92,069.50
AC Overlay	455	Ton	\$78.70	\$35,808.50
Street Signs	15	Each	\$200.00	\$3,000.00
Street Lights	4	Lump Sum	\$200.00	\$800.00
Striping	1	Lump Sum	\$4,575.00	\$4,575.00
Street Trees	20	Each	\$100.00	\$2,000.00
Concrete Sidewalk	547	Ln. Ft.	\$30.00	\$16,410.00
AC Sidewalk	0	Ln. Ft.	\$9.00	\$0.00
Handicap Ramps	2	Each	\$1,100.00	\$2,200.00
AC Ramps	2	Each	\$400.00	\$400.00
Driveway Drop/Approach	2	Each	\$1,400.00	\$2,800.00
Sawcut	952	Ln. Ft.	\$4.00	\$3,808.00
Future Signal Conduits	60	Ln. Ft.	\$42.00	\$2,520.00
Traffic Control	1	Lump Sum	\$9,255.00	\$9,255.00
Erosion Control	1	Lump Sum	\$4,200.00	\$4,200.00
Maintenance Bond	1	Lump Sum	\$3,200.00	\$3,200.00
Construction Costs				\$292,299.57
Contingencies	1	Lump Sum	\$58,459.91	\$58,459.91
Schedule A TOTAL				\$350,759.48

Keizer Station Center Area "C"

Engineers Estimate

July 20th, 2015

Job # 6018

Table 3

Schedule A-4 - Chemawa/Lockhaven Intersection

Item	Quantity	Units	Unit Price	Item Total
Mobilization	1	Lump Sum	<u>\$3,500.00</u>	<u>\$3,500.00</u>
Clear & Grub	1	Lump Sum	<u>\$1,100.00</u>	<u>\$1,100.00</u>
Additional Signal Head	1	Each	<u>\$24,750.00</u>	<u>\$19,750.00</u>
Controller Adjustments	1	Each	<u>\$2,100.00</u>	<u>\$2,100.00</u>
Possible Conduit Extension	2	Each	<u>\$4,200.00</u>	<u>\$8,400.00</u>
Street Signs	2	Each	<u>\$200.00</u>	<u>\$400.00</u>
Striping	1	Lump Sum	<u>\$4,234.00</u>	<u>\$4,234.00</u>
Street Trees	4	Each	<u>\$100.00</u>	<u>\$400.00</u>
Concrete Sidewalk	15	Ln. Ft.	<u>\$45.00</u>	<u>\$675.00</u>
Traffic Control	1	Lump Sum	<u>\$8,500.00</u>	<u>\$8,500.00</u>
Erosion Control	1	Lump Sum	<u>\$1,950.00</u>	<u>\$1,950.00</u>
Maintenance Bond	1	Lump Sum	<u>\$450.00</u>	<u>\$450.00</u>
		Construction Costs		\$51,459.00
Contengencies	1	Lump Sum	<u>\$10,291.80</u>	<u>\$10,291.80</u>
		Schedule A TOTAL		<u>\$61,750.80</u>

Keizer Station Center Area "C"

Engineers Estimate
July 20th, 2015
Job # 6018

Table 4

Schedule F - Traffic Signal Improvements

Item	Quantity	Units	Unit Price	Item Total
Signal Poles	4	Each	\$45,750.00	\$183,000.00
Pole Foundations	4	Each	\$9,500.00	\$38,000.00
Ped Access Poles	4	Each	\$3,575.00	\$14,300.00
Controller	1	Each	\$65,000.00	\$65,000.00
Conduits	1	Lump Sum	\$6,525.00	\$6,525.00
Electrical Service	1	Lump Sum	\$4,575.00	\$4,575.00
Interconnect	1	Lump Sum	\$9,975.00	\$9,975.00
Intersection Mod.	1	Lump Sum	\$26,942.00	\$26,942.00
Street Signs	5	Each	\$250.00	\$1,250.00
Stripping Mod.	1	Lump Sum	\$5,200.00	\$5,200.00
Traffic Control	1	Lump Sum	\$7,525.00	\$7,525.00
Construction Total				\$362,292.00
Contengencie	1	Lump Sum	\$72,458.40	\$72,458.40
Schedule C TOTAL				\$434,750.40

Keizer Station Center Area "C"

Engineers Estimate

July 20th, 2015

Job # 6018

Table 5

Schedule A-1 - McLeod Lane Improvements

Item	Quantity	Units	Unit Price	Item Total
Mobilization	1	Lump Sum	\$3,000.00	\$3,000.00
Clear & Grub	1	Lump Sum	\$2,100.00	\$2,100.00
Excavation	975	Cubic Yards	\$12.00	\$11,700.00
Compacted Subgrade	1	Lump Sum	\$1,800.00	\$1,800.00
Leveling Course	44	Ton	\$15.65	\$688.60
Base Rock	284	Ton	\$15.65	\$4,444.60
Gravel Shoulder	55	Ton	\$0.00	\$0.00
Curb & Gutter	265	Ln. Ft.	\$10.19	\$2,700.35
AC	143	Ton	\$62.42	\$8,926.06
AC Overlay	119	Ton	\$62.42	\$7,427.98
Street Signs	2	Each	\$200.00	\$400.00
Street Lights	2	Lump Sum	\$200.00	\$400.00
Striping	1	Lump Sum	\$1,975.00	\$1,975.00
Street Trees	4	Each	\$100.00	\$400.00
Concrete Sidewalk	259	Ln. Ft.	\$25.80	\$6,682.20
Driveway Drop/Approach	2	Each	\$1,400.00	\$2,800.00
Sawcut	260	Ln. Ft.	\$4.00	\$1,040.00
Traffic Control	1	Lump Sum	\$8,500.00	\$8,500.00
Erosion Control	1	Lump Sum	\$2,200.00	\$2,200.00
Future Signal Conduits	60	Ln. Ft.	\$42.00	\$2,520.00
Maintenance Bond	1	Lump Sum	\$750.00	\$750.00
Construction Costs				\$70,454.79
Contingencies	1	Lump Sum	\$14,090.96	\$14,090.96
Schedule A TOTAL				\$84,545.75

Keizer Station Center Area "C"

Engineers Estimate

July 20th, 2015

Job # 6018

Table 6

Schedule A-2 - McLeod Lane Extension

Item	Quantity	Units	Unit Price	Item Total
Mobilization	1	Lump Sum	\$12,750.00	\$12,750.00
Clear & Grub	1	Lump Sum	\$16,525.00	\$16,525.00
Stripping to Stockpile	2773	Cubic Yards	\$8.16	\$22,627.68
Excavation	2750	Cubic Yards	\$4.80	\$13,200.00
Embankment	1334	Cubic Yards	\$4.17	\$5,562.78
Compacted Subgrade	0	Lump Sum	\$7,500.00	\$0.00
Leveling Course	0	Ton	\$16.00	\$0.00
Base Rock	6702	Ton	\$15.65	\$104,886.30
Gravel Shoulder	0	Ton	\$12.00	\$0.00
Curb & Gutter	2,777	Ln. Ft.	\$10.19	\$28,297.63
AC	3,329	Ton	\$62.42	\$207,796.18
AC Overlay	608	Ton	\$0.00	\$0.00
Street Signs	15	Each	\$200.00	\$3,000.00
Street Lights	12	Lump Sum	\$200.00	\$2,400.00
Striping	1	Lump Sum	\$3,985.00	\$3,985.00
Street Trees	54	Each	\$100.00	\$5,400.00
Concrete Sidewalk	8,455	Sq Ft.	\$4.30	\$36,356.50
Concrete Crosswalks	1,685	Sq Ft.	\$5.44	\$9,166.40
Driveway Drop/Approach	2	Each	\$1,400.00	\$2,800.00
Traffic Control	1	Lump Sum	\$9,250.00	\$9,250.00
Erosion Control	1	Lump Sum	\$7,000.00	\$7,000.00
Maintenance Bond	1	Lump Sum	\$0.00	\$0.00
Construction Costs				\$491,003.47
Contingencies	1	Lump Sum	\$98,200.69	\$98,200.69
Schedule A TOTAL				\$589,204.16

Keizer Station

Table 7

Area "C"

Right-of-way Costs

(based on latest numbers for required right Of way)

July 20th, 2015

	Area	Per Sq. Ft.	Value
Deckard	598	\$ 15.00	\$ 24,750.00
Church	2081	\$ 15.00	\$ 31,215.00
Shrewsbury	2768	\$ 15.00	\$ 41,520.00
Epping	74030	\$ 4.25	\$ 314,627.50
Total Costs			\$ 412,112.50

Keizer Station Center Area "C"

Engineers Estimate

July 20th, 2015

Job # 6018

Table 8

Schedule E - Franchise Utilities

Item	Quantity	Units	Unit Price	Item Total
2" Conduit	1275	Ln. Ft.	\$2.75	\$3,506.25
4" Conduit	2875	Ln. Ft.	\$4.25	\$12,218.75
6" Conduit	1260	Ln. Ft.	\$8.50	\$10,710.00
Native Backfill	2505	Ln. Ft.	\$8.11	\$20,315.55
Granular Bacfill	1275	Ln. Ft.	\$19.10	\$24,352.50
Install Phone Conduit	1	Lump Sum	\$9,975.00	\$9,975.00
Install Cable Conduit	1	Lump Sum	\$8,782.00	\$8,782.00
Street Crossings	4	Each	\$1,700.00	\$6,800.00
Power Vaults	5	Ln. Ft.	\$3,875.00	\$19,375.00
Switch Vault	1	Each	\$18,750.00	\$18,750.00
Set Street Light Bases	14	Each	\$200.50	\$2,807.00
Street Light Conduit	14	Lump Sum	\$75.00	\$1,050.00
J-Boxes	14	Lump Sum	\$75.00	\$1,050.00
Traffic Control	1	Lump Sum	\$15,250.00	\$15,250.00
Construction Total				\$150,385.80
Contengencie	1	Lump Sum	\$30,077.16	\$30,077.16
Schedule C TOTAL				\$180,462.96

Keizer Station Center Area "C"

Engineers Estimate
 July 20th, 2015
 Job # 6018

Table 9**Schedule C - Sanitary Sewer**

Item	Quantity	Units	Unit Price	Item Total
4" PVC with Backfill	81	Ln. Ft.	\$85.70	\$6,941.70
6" PVC with Backfill	47	Ln. Ft.	\$79.53	\$3,737.91
8" PVC with Bckfill	753	Ln. Ft.	\$62.01	\$46,693.53
Standard Manhole	3	Each	\$3,144.86	\$9,434.58
Monitoring Manhole	4	Each	\$3,144.70	\$12,578.80
Tie to Existing Sewer Line	3	Ln. Ft.	\$908.44	\$2,725.32
Sanitary Sewer Cleanouts	4	Each	\$903.62	\$3,614.48
Connect to Existing	1	Lump Sum	\$1,857.65	\$1,857.65
Traffic Control	1	Lump Sum	\$8,500.00	\$8,500.00
Maintenance Bond	1	Lump Sum	\$500.00	\$500.00
Construction Total				\$89,642.27
Contengencie	1	Lump Sum	\$16,135.61	\$16,135.61
Schedule C TOTAL				\$105,777.88
SDC Sewer				
8" PVC	743	Ln. Ft.	\$62.01	\$46,073.43
6" PVC	36	Ln. Ft.	\$79.53	\$2,863.08
Standard Manhole	2	Each	\$3,144.86	\$6,289.72
Manhole over Existing	1	Each	\$4,317.42	\$4,317.42
Sanitary Sewer Cleanouts	1	Each	\$903.62	\$903.62
Construction Total				\$60,447.27
Contengencie	1	Lump Sum	\$10,880.51	\$10,880.51
SDC	Schedule C TOTAL			\$72,231.40

Keizer Station Center Area "C"

Engineer Estimate
 July 20th, 2015
 Job # 6018

Table 10**Schedule D - Public Water****Oversize Costs**

Item	Quantity	Units	Unit Price	Item Total	Unit Price	Item Total
6" Ductile Iron Pipe and Backfill	102	Ln. Ft.	\$62.96	\$6,421.92		
8" Ductile Iron Pipe and Backfill	683	Ln. Ft.	\$52.10	\$35,584.30		
12" Ductile Iron Pipe and Backfill	2257	Ln. Ft.	\$63.34	\$142,958.38	\$11.24	\$ 25,368.68
6" Gate Valve	6	Each	\$1,282.37	\$7,694.22		
8" Gate Valve	5	Each	\$1,678.56	\$8,392.80		
12" Butterfly Valve	4	Each	\$2,520.90	\$10,083.60	\$842.34	\$ 3,369.36
2" Blow Off Assembly	1	Each	\$1,535.97	\$1,535.97		
Chlorination Tap	1	Lump Sum	\$0.00	\$0.00		
Fire Hydrant Assembly	6	Each	\$3,523.58	\$21,141.48		
2" Blow Off Assembly	1	Each	\$1,535.97	\$1,535.97		
Tapping Fees	1	Each	\$2,200.00	\$2,200.00	\$ 400.00	\$ 400.00
Connect to Existing	3	Each	\$826.23	\$2,478.69		
Traffic Control	1	Lump Sum	\$6,200.00	\$6,200.00	\$ 750.00	\$ 750.00
Maintenance Bond	1	Lump Sum	\$1,200.00	\$1,200.00	\$ 225.00	\$ 225.00
Construction Costs				\$247,427.33		\$30,113.04
Contengencies	1	Lump Sum	\$37,114.10	\$37,114.10	\$4,516.96	\$ 4,516.96
Schedule D TOTAL				\$284,541.43		\$34,630.00
Net without Oversize Costs					\$249,911.43	

Appendix "C"

Keizer Station - Area "C"

Reimbursement District

Cost Allocations

July 20th, 2015

Costs All costs shown are based on the latest estimates prepared by our office. They will be adjusted as we evaluate the costs provide from the budget bids received.

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements	ROW Costs	McLeod Lane Extension Improvements	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Construction Costs			\$ 290,390.54	\$ 350,759.48	\$ 61,750.80	\$ 434,750.40	\$ 50,000.00	\$ 84,545.75	\$ 411,520.07	\$ 589,204.16	\$ 180,462.96	\$ 105,777.83	\$ 249,911.43	\$ 3,233,931.96
Permit Costs			\$ 17,423.43	\$ 21,045.57	\$ 3,705.05	\$ 26,085.02		\$ 5,072.75		\$ 35,352.25	\$ 10,827.78	\$ 6,346.67	\$ 14,994.69	
Engineering Costs 10%			\$ 29,039.05	\$ 35,075.95	\$ 6,175.08	\$ 43,475.04		\$ 8,454.58		\$ 58,920.42	\$ 18,046.30	\$ 10,577.78	\$ 24,991.14	
Total Costs		\$ 49,250.00	\$ 336,853.03	\$ 406,881.00	\$ 71,630.93	\$ 504,310.46	\$ 50,000.00	\$ 98,073.07	\$ 411,520.07	\$ 683,476.83	\$ 209,337.03	\$ 122,702.28	\$ 289,897.26	
Unit Cost		\$ 1,695.41	\$ 11,596.03	\$ 518.32	\$ 91.25	\$ 642.43	\$ 63.69	\$ 124.93	\$ 524.23	\$ 870.67	\$ 266.67	\$ 4,061.91	\$ 9,596.70	

Area C3 - Bonaventure Senior Living

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Senior Living Building 150 Units 31.08% 45 Trips 156	23400			\$ 23,324.99	\$ 4,106.23	\$ 28,909.52	\$ 2,866.24	\$ 5,622.02	\$ 23,590.32	\$ 39,180.20	\$ 12,000.21	\$ 38,140.72	\$ 90,111.53	\$ 327,264.12
Properties														
063W36CB-8900 0.72 Acres 16.11%		\$ 1,223.70	\$ 8,349.14	\$ 3,756.95	\$ 661.41	\$ 4,656.57	\$ 461.68	\$ 205.53	\$ 3,799.78	\$ 6,310.90	\$ 1,932.92	\$ 6,143.47	\$ 14,514.61	
063W36CB-SR00 0.05 Acres 1.12%		\$ 24.77	\$ 579.30	\$ 260.50	\$ 45.93	\$ 323.37	\$ 32.06	\$ 62.89	\$ 263.87	\$ 438.26	\$ 134.23	\$ 426.63	\$ 1,007.96	
063W36CB-2900 0.52 Acres 11.63%		\$ 981.61	\$ 6,029.93	\$ 2,710.35	\$ 477.68	\$ 3,369.08	\$ 333.43	\$ 650.02	\$ 2,744.29	\$ 4,557.88	\$ 1,396.00	\$ 4,436.95	\$ 10,482.77	
063W36CB-8900 3.18 Acres 71.14%		\$ 5,391.41	\$ 36,075.97	\$ 16,559.19	\$ 2,921.21	\$ 20,566.50	\$ 2,039.07	\$ 3,999.56	\$ 16,762.96	\$ 27,873.16	\$ 8,537.06	\$ 27,133.67	\$ 64,106.19	
Total Area 4.47		\$ 7,578.49	\$ 51,834.25	\$ 23,324.39	\$ 4,106.23	\$ 28,909.50	\$ 2,866.24	\$ 5,622.02	\$ 23,590.32	\$ 39,180.20	\$ 12,000.21	\$ 38,140.72	\$ 90,111.53	

Area C3 - Multi-family Site

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
		Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Apartment Buildings 78 Units 16.16% 50 Trips 156	12168			\$ 25,915.99	\$ 4,562.48	\$ 32,121.69	\$ 3,184.71	\$ 6,246.69	\$ 26,211.47	\$ 43,533.56	\$ 13,333.57	\$ 19,833.17	\$ 46,857.99	\$ 268,055.53
Properties														
063W36CB-8900 2.49 71.55%		\$ 4,221.57	\$ 28,874.11	\$ 18,543.34	\$ 3,264.53	\$ 22,983.62	\$ 2,278.72	\$ 4,469.62	\$ 18,754.76	\$ 31,149.01	\$ 9,540.40	\$ 14,190.98	\$ 33,527.70	
063W36CB-2601 0.11 3.16%		\$ 186.50	\$ 1,275.56	\$ 819.18	\$ 144.22	\$ 1,015.34	\$ 100.67	\$ 197.45	\$ 828.52	\$ 1,376.06	\$ 421.46	\$ 626.91	\$ 1,481.14	
063W36CA-2900 0.88 25.29%		\$ 1,491.96	\$ 10,204.50	\$ 6,553.47	\$ 1,153.73	\$ 8,122.73	\$ 805.33	\$ 1,579.62	\$ 6,628.19	\$ 11,008.49	\$ 3,371.71	\$ 5,015.29	\$ 11,849.15	
Total 3.48		\$ 5,900.03	\$ 40,354.18	\$ 25,915.99	\$ 4,562.48	\$ 32,121.69	\$ 3,184.71	\$ 6,246.69	\$ 26,211.47	\$ 43,533.56	\$ 13,333.57	\$ 19,833.17	\$ 46,857.99	

Area C2 - Multi-family Site

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Apartment Buildings																	
	102 Units	21.14%	65 Trips 156	15912			\$ 33,690.78	\$ 5,931.22	\$ 41,758.19	\$ 4,140.13	\$ 8,120.70	\$ 34,074.91	\$ 56,593.62	\$ 17,333.64	\$ 25,935.69	\$ 61,275.84	
Properties																	
	063W36CA-2601		0.588 Acres	12.00%	\$ 996.90	\$ 6,818.46	\$ 4,042.89	\$ 711.75	\$ 5,010.98	\$ 496.82	\$ 974.48	\$ 4,088.99	\$ 6,791.23	\$ 2,080.04	\$ 3,112.28	\$ 7,353.10	
	063W36CA-1100		1.65 Acres	33.67%	\$ 2,797.43	\$ 19,133.45	\$ 11,344.86	\$ 1,997.25	\$ 14,061.43	\$ 1,394.12	\$ 2,734.52	\$ 11,474.20	\$ 19,057.04	\$ 5,836.84	\$ 8,733.45	\$ 20,633.70	
	063W36CA-2600		0.12 Acres	2.45%	\$ 203.45	\$ 1,391.52	\$ 825.08	\$ 145.25	\$ 1,022.65	\$ 101.39	\$ 198.87	\$ 834.49	\$ 1,385.97	\$ 424.50	\$ 635.16	\$ 1,500.63	
	063W36CA-1200		0.042 Acres	0.86%	\$ 71.21	\$ 487.03	\$ 288.78	\$ 50.84	\$ 357.93	\$ 35.49	\$ 69.61	\$ 292.07	\$ 485.09	\$ 148.57	\$ 222.31	\$ 525.22	
	063W36CA-800		2.24 Acres	45.71%	\$ 3,797.72	\$ 25,975.10	\$ 15,401.50	\$ 2,711.42	\$ 19,089.46	\$ 1,892.63	\$ 3,712.32	\$ 15,577.10	\$ 25,871.37	\$ 7,923.95	\$ 11,856.32	\$ 28,011.81	
	063W36CA-2900		0 Acres	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	Ridge Road Right-of-way		0.26 Acres	5.31%	\$ 440.81	\$ 3,014.97	\$ 1,787.67	\$ 314.72	\$ 2,215.74	\$ 219.68	\$ 430.89	\$ 1,808.06	\$ 3,002.93	\$ 919.74	\$ 1,376.18	\$ 3,251.37	
Total Area				4.9	\$ 8,307.51	\$ 56,820.54	\$ 33,690.78	\$ 5,931.22	\$ 41,758.19	\$ 4,140.13	\$ 8,120.70	\$ 34,074.91	\$ 56,593.62	\$ 17,333.64	\$ 25,935.69	\$ 61,275.84	\$ 353,982.78

Area C1 - Commercial

				Area Based Costs			Trip Generation Based								Usage Based		Totals
				Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
	Retail 1	8000	1.70%	30	1280		\$ 15,549.59	\$ 2,737.49	\$ 19,273.01	\$ 1,910.83	\$ 3,748.02	\$ 15,726.88	\$ 26,120.13	\$ 8,000.14	\$ 2,086.33	\$ 4,929.18	
	Office 2	37500	3.99%	120	3000		\$ 62,198.37	\$ 10,949.95	\$ 77,092.05	\$ 7,643.31	\$ 14,992.06	\$ 62,907.53	\$ 104,480.53	\$ 32,000.57	\$ 4,889.84	\$ 11,552.76	
Properties																	
	063W36CB-300		0.01 Acres	0.29%	\$ 16.95	\$ 115.96	\$ 226.01	\$ 39.79	\$ 280.13	\$ 27.77	\$ 54.48	\$ 228.59	\$ 379.65	\$ 116.28	\$ 20.28	\$ 47.91	
	063W36CB-200		1.47 Acres	42.73%	\$ 2,492.25	\$ 17,046.16	\$ 33,223.69	\$ 5,848.99	\$ 41,179.25	\$ 4,082.73	\$ 8,008.11	\$ 33,602.49	\$ 55,809.01	\$ 17,093.33	\$ 2,981.09	\$ 7,043.15	
	063W36CB-100		0.23 Acres	6.69%	\$ 389.94	\$ 2,667.09	\$ 5,198.26	\$ 915.15	\$ 6,443.01	\$ 638.79	\$ 1,252.97	\$ 5,257.53	\$ 8,732.02	\$ 2,674.47	\$ 466.43	\$ 1,101.99	
	063W36CA-3100		0.21	6.10%	\$ 356.04	\$ 2,435.17	\$ 4,746.24	\$ 835.57	\$ 5,882.75	\$ 583.25	\$ 1,144.02	\$ 4,800.36	\$ 7,972.72	\$ 2,441.90	\$ 425.87	\$ 1,006.16	
	063W36CA-3000		0.36	10.47%	\$ 610.35	\$ 4,174.57	\$ 8,136.41	\$ 1,432.41	\$ 10,084.72	\$ 999.85	\$ 1,961.17	\$ 8,229.18	\$ 13,667.51	\$ 4,186.12	\$ 730.06	\$ 1,724.85	
	063W36CA-3200		0.43	12.50%	\$ 729.03	\$ 4,986.29	\$ 9,718.50	\$ 1,710.93	\$ 12,045.63	\$ 1,194.27	\$ 2,342.51	\$ 9,829.30	\$ 16,325.08	\$ 5,000.09	\$ 872.02	\$ 2,060.24	
	063W36CA-3300		0.37	10.76%	\$ 627.30	\$ 4,290.53	\$ 8,362.43	\$ 1,472.20	\$ 10,364.85	\$ 1,027.63	\$ 2,015.65	\$ 8,457.77	\$ 14,047.16	\$ 4,302.40	\$ 750.34	\$ 1,772.77	
	063W36CA-3400		0.28	8.14%	\$ 474.72	\$ 3,246.89	\$ 6,328.32	\$ 1,114.09	\$ 7,843.67	\$ 777.66	\$ 1,525.36	\$ 6,400.48	\$ 10,630.29	\$ 3,255.87	\$ 567.83	\$ 1,341.55	
	063W36CA-3500		0.08	2.33%	\$ 135.63	\$ 927.68	\$ 1,808.09	\$ 318.31	\$ 2,241.05	\$ 222.19	\$ 435.82	\$ 1,828.71	\$ 3,037.22	\$ 930.25	\$ 162.24	\$ 383.30	
Total Area				3.44	\$ 5,832.21	\$ 39,890.34	\$ 77,747.96	\$ 13,687.44	\$ 96,365.06	\$ 9,554.14	\$ 18,740.08	\$ 78,634.41	\$ 130,600.67	\$ 40,000.71	\$ 6,976.17	\$ 16,481.94	\$ 534,511.11

Area C2a - Commercial

					Area Based Costs			Trip Generation Based								Usage Based		Totals
					Water Consumption (gpd)	Stormwater Analysis City of Kelzer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																		
Restaurant 3	5000	2.13%	55		1600			\$ 28,507.59	\$ 5,018.73	\$ 35,333.85	\$ 3,503.18	\$ 6,871.36	\$ 28,832.62	\$ 47,886.91	\$ 14,666.93	\$ 2,607.91	\$ 6,161.47	
Retail 4	5000	1.06%	19		800			\$ 9,848.08	\$ 1,733.74	\$ 12,206.24	\$ 1,210.19	\$ 2,373.74	\$ 9,960.36	\$ 16,542.75	\$ 5,066.76	\$ 1,303.96	\$ 3,080.74	
Retail 5	3000	0.64%	11		480			\$ 5,701.52	\$ 1,003.75	\$ 7,066.77	\$ 700.64	\$ 1,374.27	\$ 5,766.52	\$ 9,577.38	\$ 2,933.39	\$ 782.37	\$ 1,848.44	
Properties																		
063W36CA-2800			0.065 Acres		2.22%	\$ 110.20	\$ 753.74	\$ 977.38	\$ 172.07	\$ 1,211.42	\$ 120.11	\$ 235.58	\$ 988.52	\$ 1,641.79	\$ 502.85	\$ 104.14	\$ 246.04	
063W36CA-2100			0.26 Acres		8.87%	\$ 440.81	\$ 3,014.97	\$ 3,909.51	\$ 688.26	\$ 4,845.66	\$ 480.42	\$ 942.33	\$ 3,954.09	\$ 6,567.18	\$ 2,011.41	\$ 416.55	\$ 984.15	
063W36CA-1800			0.205 Acres		7.00%	\$ 347.56	\$ 2,377.19	\$ 3,082.50	\$ 542.67	\$ 3,820.62	\$ 378.80	\$ 742.99	\$ 3,117.64	\$ 5,177.97	\$ 1,585.92	\$ 328.44	\$ 775.97	
063W36CA-1900			0.16		5.46%	\$ 271.27	\$ 1,855.36	\$ 2,405.85	\$ 423.55	\$ 2,981.94	\$ 295.65	\$ 579.90	\$ 2,433.28	\$ 4,041.34	\$ 1,237.79	\$ 256.34	\$ 605.63	
063W36CA-2000			0.32		10.92%	\$ 542.53	\$ 3,710.73	\$ 4,811.71	\$ 847.10	\$ 5,963.89	\$ 591.29	\$ 1,159.80	\$ 4,866.57	\$ 8,082.68	\$ 2,475.58	\$ 512.68	\$ 1,211.27	
063W36CA-200			0.95		32.42%	\$ 1,610.64	\$ 11,016.23	\$ 14,284.75	\$ 2,514.81	\$ 17,705.30	\$ 1,755.40	\$ 3,443.14	\$ 14,447.62	\$ 23,995.46	\$ 7,349.39	\$ 1,522.02	\$ 3,595.94	
Right-of-way			0.78		26.62%	\$ 1,322.42	\$ 9,044.90	\$ 11,728.53	\$ 2,064.79	\$ 14,536.98	\$ 1,441.27	\$ 2,827.00	\$ 11,862.26	\$ 19,701.53	\$ 6,034.24	\$ 1,249.66	\$ 2,952.46	
063W36CA-3501			0.19		6.48%	\$ 322.13	\$ 2,203.25	\$ 2,856.95	\$ 502.96	\$ 3,541.06	\$ 351.08	\$ 688.63	\$ 2,889.52	\$ 4,799.09	\$ 1,469.88	\$ 304.40	\$ 719.19	
Total Area					2.93	\$ 4,967.55	\$ 33,976.36	\$ 44,057.18	\$ 7,756.22	\$ 54,606.87	\$ 5,414.01	\$ 10,619.38	\$ 44,559.50	\$ 74,007.04	\$ 22,667.07	\$ 4,694.24	\$ 11,090.65	\$ 318,416.07

Area C2b - Commercial

					Area Based Costs			Trip Generation Based								Usage Based		Totals
					Water Consumption (gpd)	Stormwater Analysis City of Kelzer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																		
Retail 8	6500	1.38%	24		1040			\$ 12,439.67	\$ 2,189.99	\$ 15,418.41	\$ 1,528.66	\$ 2,998.41	\$ 12,581.51	\$ 20,896.11	\$ 6,400.11	\$ 1,695.14	\$ 4,004.96	
Retail 9	6500	1.38%	24		1040			\$ 12,439.67	\$ 2,189.99	\$ 15,418.41	\$ 1,528.66	\$ 2,998.41	\$ 12,581.51	\$ 20,896.11	\$ 6,400.11	\$ 1,695.14	\$ 4,004.96	
Properties																		
063W36CA-2800			0.415 Acres		22.84%	\$ 703.60	\$ 4,812.35	\$ 5,682.40	\$ 1,000.38	\$ 7,043.08	\$ 698.29	\$ 1,369.67	\$ 5,747.19	\$ 9,545.28	\$ 2,923.55	\$ 774.34	\$ 1,829.45	
063W36CA-2700			0.57 Acres		31.37%	\$ 966.38	\$ 6,609.74	\$ 7,804.75	\$ 1,374.02	\$ 9,673.63	\$ 959.09	\$ 1,881.23	\$ 7,893.73	\$ 13,110.38	\$ 4,015.48	\$ 1,063.55	\$ 2,512.74	
063W36CA-2600			0.4 Acres		22.01%	\$ 678.16	\$ 4,638.41	\$ 5,477.02	\$ 964.22	\$ 6,788.51	\$ 673.05	\$ 1,320.16	\$ 5,539.46	\$ 9,200.27	\$ 2,817.88	\$ 746.35	\$ 1,763.33	
063W36CA-2900			0.39		21.46%	\$ 661.21	\$ 4,522.45	\$ 5,340.09	\$ 940.12	\$ 6,618.80	\$ 656.22	\$ 1,287.16	\$ 5,400.98	\$ 8,970.26	\$ 2,747.43	\$ 727.69	\$ 1,719.24	
063W36CB-9000			0.042		2%	\$ 71.21	\$ 487.03	\$ 575.09	\$ 101.24	\$ 712.79	\$ 70.67	\$ 138.62	\$ 581.64	\$ 966.03	\$ 295.88	\$ 78.37	\$ 185.15	
Total Area					1.817	\$ 3,080.56	\$ 21,069.98	\$ 24,879.35	\$ 4,379.98	\$ 30,836.82	\$ 3,057.32	\$ 5,996.82	\$ 25,163.01	\$ 41,792.21	\$ 12,800.23	\$ 3,390.29	\$ 8,009.91	\$ 184,456.49

Area C2c - Commercial

				Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
					Stormwater Analysis City of Kelzer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
Retail 6	32500	6.91%	122	5200			\$ 63,235.01	\$ 11,132.45	\$ 78,376.91	\$ 7,770.70	\$ 15,241.93	\$ 63,955.99	\$ 106,221.88	\$ 32,533.91	\$ 8,475.72	\$ 20,024.78	
Retail 7	47500	10.10%	178	7600			\$ 92,260.91	\$ 16,242.43	\$ 114,353.20	\$ 11,337.58	\$ 22,238.22	\$ 93,312.83	\$ 154,979.46	\$ 47,467.51	\$ 12,387.58	\$ 29,266.99	
Properties																	
063W36CA-2500			0.36 Acres	5.52%	\$ 610.35	\$ 4,174.57	\$ 8,583.03	\$ 1,511.03	\$ 10,638.28	\$ 1,054.73	\$ 2,068.82	\$ 8,680.89	\$ 14,417.74	\$ 4,415.90	\$ 1,151.61	\$ 2,720.80	
063W36CA-2400			0.21 Acres	3.22%	\$ 356.04	\$ 2,435.17	\$ 5,006.77	\$ 881.44	\$ 6,205.66	\$ 615.26	\$ 1,206.81	\$ 5,063.85	\$ 8,410.35	\$ 2,575.94	\$ 671.77	\$ 1,587.13	
063W36CA-2300			0.25 Acres	3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-2200			0.25	3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-2100			0.11	1.69%	\$ 186.50	\$ 1,275.56	\$ 2,622.59	\$ 461.70	\$ 3,250.58	\$ 322.28	\$ 632.14	\$ 2,652.49	\$ 4,405.42	\$ 1,349.30	\$ 351.88	\$ 831.35	
063W36CA-1800			0.075	1.15%	\$ 127.16	\$ 869.70	\$ 1,788.13	\$ 314.80	\$ 2,216.31	\$ 219.74	\$ 431.00	\$ 1,808.52	\$ 3,003.70	\$ 919.98	\$ 239.92	\$ 566.83	
063W36CA-1700			0.28	4.29%	\$ 474.72	\$ 3,246.89	\$ 6,675.69	\$ 1,175.25	\$ 8,274.22	\$ 820.35	\$ 1,609.08	\$ 6,751.80	\$ 11,213.80	\$ 3,434.59	\$ 895.70	\$ 2,116.18	
063W36CA-1500			0.33	5.06%	\$ 559.49	\$ 3,826.69	\$ 7,867.78	\$ 1,385.11	\$ 9,751.75	\$ 966.84	\$ 1,896.42	\$ 7,957.48	\$ 13,216.26	\$ 4,047.91	\$ 1,055.64	\$ 2,494.06	
063W36CA-1400			0.25	3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-1300			0.25	3.83%	\$ 423.85	\$ 2,899.01	\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	
063W36CA-600			0.13	1.99%	\$ 220.40	\$ 1,507.48	\$ 3,099.43	\$ 545.65	\$ 3,841.60	\$ 380.88	\$ 747.07	\$ 3,134.77	\$ 5,206.41	\$ 1,594.63	\$ 415.86	\$ 982.51	
063W36CA-700			0.34	5.21%	\$ 576.44	\$ 3,942.65	\$ 8,106.20	\$ 1,427.09	\$ 10,047.26	\$ 996.14	\$ 1,953.89	\$ 8,198.62	\$ 13,616.75	\$ 4,170.57	\$ 1,087.63	\$ 2,569.64	
063W36CA-500			1.45	22.23%	\$ 2,458.35	\$ 16,814.24	\$ 34,570.54	\$ 6,086.10	\$ 42,848.61	\$ 4,248.24	\$ 8,332.75	\$ 34,964.70	\$ 58,071.44	\$ 17,786.27	\$ 4,638.42	\$ 10,958.77	
063W36CA-400			0.44	6.75%	\$ 745.98	\$ 5,102.25	\$ 10,490.37	\$ 1,846.82	\$ 13,002.34	\$ 1,289.12	\$ 2,528.56	\$ 10,609.98	\$ 17,621.68	\$ 5,397.21	\$ 1,407.52	\$ 3,325.42	
063W36CA-300			0.6	9.20%	\$ 1,017.25	\$ 6,957.62	\$ 14,305.05	\$ 2,518.39	\$ 17,730.46	\$ 1,757.89	\$ 3,448.04	\$ 14,468.15	\$ 24,029.56	\$ 7,359.84	\$ 1,919.35	\$ 4,534.66	
063W36CA-1200			0.186	2.85%	\$ 315.35	\$ 2,156.86	\$ 4,434.57	\$ 780.70	\$ 5,496.44	\$ 544.95	\$ 1,068.89	\$ 4,485.13	\$ 7,449.16	\$ 2,281.55	\$ 595.00	\$ 1,405.75	
063W36CA-800			0.041	0.63%	\$ 69.51	\$ 475.44	\$ 977.51	\$ 172.09	\$ 1,211.58	\$ 120.12	\$ 235.62	\$ 988.66	\$ 1,642.02	\$ 502.92	\$ 131.16	\$ 309.87	
Right-of-way			0.97	14.87%	\$ 1,644.55	\$ 11,248.15	\$ 23,126.50	\$ 4,071.39	\$ 28,664.25	\$ 2,841.92	\$ 5,574.33	\$ 23,390.18	\$ 38,847.79	\$ 11,898.40	\$ 3,102.94	\$ 7,331.04	
Total Area				6.522	\$ 11,057.47	\$ 75,629.30	\$ 155,495.92	\$ 27,374.88	\$ 192,730.11	\$ 19,108.28	\$ 37,480.15	\$ 157,268.82	\$ 261,201.33	\$ 80,001.41	\$ 20,863.30	\$ 49,291.78	\$ 1,087,502.76

Future Commercial Area

				Water Consumption (gpd)	Area Based Costs		Trip Generation Based								Usage Based		Totals
					Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvement	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Offsite	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	
Bld. Area																	
North Building	6000	1.28%	23	960			\$ 11,921.35	\$ 2,098.74	\$ 14,775.98	\$ 1,464.97	\$ 2,873.48	\$ 12,057.28	\$ 20,025.44	\$ 6,133.44	\$ 1,564.75	\$ 3,696.88	
South Building	5000	1.06%	19	800			\$ 9,848.08	\$ 1,733.74	\$ 12,206.24	\$ 1,210.19	\$ 2,373.74	\$ 9,960.36	\$ 16,542.75	\$ 5,066.76	\$ 1,303.96	\$ 3,080.74	
Properties																	
063W36CB-400			0.36 Acres	24.16%	\$ 610.35	\$ 4,174.57	\$ 5,259.73	\$ 925.97	\$ 6,519.19	\$ 646.35	\$ 1,267.79	\$ 5,319.70	\$ 8,835.27	\$ 2,706.09	\$ 693.11	\$ 1,637.55	
063W36CB-402			0.45 Acres	30.20%	\$ 762.94	\$ 5,218.21	\$ 6,574.66	\$ 1,157.46	\$ 8,148.99	\$ 807.93	\$ 1,584.73	\$ 6,649.62	\$ 11,044.08	\$ 3,382.61	\$ 866.39	\$ 2,046.93	
063W36CB-403			0.68 Acres	45.64%	\$ 1,152.88	\$ 7,885.30	\$ 9,935.04	\$ 1,749.05	\$ 12,314.03	\$ 1,220.88	\$ 2,394.71	\$ 10,048.32	\$ 16,688.84	\$ 5,111.50	\$ 1,309.21	\$ 3,093.14	
Total Area			1.49		\$ 2,526.16	\$ 17,278.08	\$ 21,769.43	\$ 3,832.48	\$ 26,982.22	\$ 2,675.16	\$ 5,247.22	\$ 22,017.63	\$ 36,568.19	\$ 11,200.20	\$ 2,868.70	\$ 6,777.62	\$ 159,743.10

Appendix "D"

Keizer Station - Area "C"

Reimbursement District

Cost Allocations

July 6th, 2015

	Water Consumption (gpd)	Area Based Costs		Trip Generation Based										Totals	
		Stormwater Analysis	Storm Drainage Improvements	Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements	ROW Costs	McLeod Lane Extension Improvements	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements		
Construction Costs			\$ 290,390.54	\$ 350,759.48	\$ 61,750.80	\$ 434,750.40	\$ 50,000.00	\$ 84,545.75	\$ 411,520.07	\$ 589,204.16	\$ 180,462.96	\$ 105,777.83	\$ 249,911.43	\$ 3,233,931.96	
Permit Costs			\$ 17,423.43	\$ 21,045.57	\$ 3,705.05	\$ 26,085.02		\$ 5,072.75		\$ 35,352.25	\$ 10,827.78	\$ 6,346.67	\$ 14,994.69		
Engineering Costs			\$ 29,039.05	\$ 35,075.95	\$ 6,175.08	\$ 43,475.04		\$ 8,454.58		\$ 58,920.42	\$ 18,046.30	\$ 10,577.78	\$ 24,991.14		
Total Costs		\$ 49,250.00	\$ 336,853.03	\$ 406,881.00	\$ 71,630.93	\$ 504,310.46	\$ 50,000.00	\$ 98,073.07	\$ 411,520.07	\$ 683,476.83	\$ 209,337.03	\$ 122,702.28	\$ 289,897.26		
Unit Cost		\$ 1,695.41	\$ 11,596.03	\$ 518.32	\$ 91.25	\$ 642.43	\$ 63.69	\$ 124.93	\$ 524.23	\$ 870.67	\$ 266.67	\$ 4,061.91	\$ 9,596.70		

					Area Based Costs		Trip Generation Based																						
					Water Consumption (gpd)	Stormwater Analysis City of Keizer	Storm Drainage Improvements	Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements				Domestic Water Improvements									
Area C3 - Bonaventure Senior Living					23400			\$	23,324.39	\$	4,106.23	\$	28,909.52	\$	2,866.24	\$	5,622.02	\$	23,590.32	\$	39,180.20	\$	12,000.21	\$	38,140.72	\$	90,111.53	\$	122,292.42
Senior Living Building 150 Units 31.08% 45 Trips Total Area 156 4.47																													
Area C3 - Multiti-family Site																													
Apartment Buildings 78 Units 16.16% 50 Trips Total 156 3.48					12168			\$	25,915.99	\$	4,562.48	\$	32,121.69	\$	3,184.71	\$	6,246.69	\$	26,211.47	\$	43,533.56	\$	13,333.57	\$	19,833.17	\$	46,857.99	\$	72,700.28
Area C2 - Multi-family Site																													
Apartment Buildings 102 Units 21.14% 65 Trips Total Area 156 4.9																													
Area C1 - Commercial					1280	3000		\$	15,549.59	\$	2,737.49	\$	19,273.01	\$	1,910.83	\$	3,748.02	\$	15,726.88	\$	26,120.13	\$	8,000.14	\$	2,086.33	\$	4,929.18	\$	351,542.52
Retail 1 Bld. Area 8000 1.70% 30 Office 2 37500 3.99% 120 Total Area 3.44																													
Area C2a - Commercial																													
Restaurant 3 Bld. Area 5000 2.13% 55 Retail 4 5000 1.06% 19 Retail 5 3000 0.64% 11 Total Area 2.93					1600	800	480	\$	28,507.59	\$	5,018.73	\$	35,333.85	\$	3,503.18	\$	6,871.36	\$	28,832.62	\$	47,886.91	\$	14,666.93	\$	2,607.91	\$	6,161.47	\$	408,488.40
Area C2b - Commercial					1040	1040		\$	12,439.67	\$	2,189.99	\$	15,418.41	\$	1,528.66	\$	2,998.41	\$	12,581.51	\$	20,896.11	\$	6,400.11	\$	1,695.14	\$	4,004.96	\$	156,934.95
Retail 8 Bld. Area 6500 1.38% 24 Retail 9 6500 1.38% 24 Total Area 1.817																													
Area C2c - Commercial					5200	7600		\$	63,235.01	\$	11,132.45	\$	78,376.91	\$	7,770.70	\$	15,241.93	\$	63,955.99	\$	106,221.88	\$	32,533.91	\$	8,475.72	\$	20,024.78	\$	1,575,524.87
Retail 6 Bld. Area 32500 6.91% 122 Retail 7 47500 10.10% 178 Total Area 6.522																													
Future Commercial Area																													
North Building Bld. Area 6000 1.28% 23 South Building 5000 1.06% 19 Total Area 1.49					960	800		\$	11,921.35	\$	2,098.74	\$	14,775.98	\$	1,464.97	\$	2,873.48	\$	12,057.28	\$	20,025.44	\$	6,133.44	\$	1,564.75	\$	3,696.88	\$	246,507.49
Misc. Properties					0	0																							
Keizer Christian Church 0																													
Deckard 0																													

Total Water Consumption	75280	gpd
Total Trips for Development	785	
Total Area of Development	29,049	

				Stormwater Analysis City of Kelzer	Storm Drainage Improvements		Chemawa Rd Improvements	Chemawa/Lock Interiors Mod	Traffic Signal	Settlement Agreement Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements	Totals
063W36CA-1100	1.65 Acres	33.67%		\$ 2,797.43	\$ 19,133.45		\$ 11,344.86	\$ 1,997.25	\$ 14,061.43	\$ 1,394.12	\$ 2,734.52	\$ 11,474.20	\$ 19,057.04	\$ 5,836.84	\$ 8,733.45	\$ 20,633.70	\$ 119,198.28
063W36CA-1200	0.042 Acres	0.86%		\$ 71.21	\$ 487.03		\$ 288.78	\$ 50.84	\$ 357.93	\$ 35.49	\$ 69.61	\$ 292.07	\$ 485.09	\$ 148.57	\$ 222.31	\$ 525.22	
063W36CA-1200	0.186 Acres	2.85%		\$ 315.35	\$ 2,156.86		\$ 4,434.57	\$ 780.70	\$ 5,496.44	\$ 544.95	\$ 1,068.89	\$ 4,485.13	\$ 7,449.16	\$ 2,281.55	\$ 595.00	\$ 1,405.75	\$ 34,048.48
063W36CA-1300	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-1400	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-1500	0.39 Acres	5.06%		\$ 559.49	\$ 3,826.69		\$ 7,867.78	\$ 1,385.11	\$ 9,751.75	\$ 966.84	\$ 1,896.42	\$ 7,957.48	\$ 13,216.26	\$ 4,047.91	\$ 1,055.64	\$ 2,494.06	\$ 55,025.44
063W36CA-1700	0.28 Acres	4.29%		\$ 474.72	\$ 3,246.89		\$ 6,675.69	\$ 1,175.25	\$ 8,274.22	\$ 820.35	\$ 1,609.08	\$ 6,751.80	\$ 11,213.80	\$ 3,434.59	\$ 895.70	\$ 2,116.18	\$ 46,688.25
063W36CA-1800	0.205 Acres	7.00%		\$ 347.56	\$ 2,377.19		\$ 3,082.50	\$ 542.67	\$ 3,820.62	\$ 378.80	\$ 742.99	\$ 3,117.64	\$ 5,177.97	\$ 1,585.92	\$ 328.44	\$ 775.97	
063W36CA-1800	0.075 Acres	1.15%		\$ 127.16	\$ 869.70		\$ 1,788.13	\$ 314.80	\$ 2,216.31	\$ 219.74	\$ 431.00	\$ 1,808.52	\$ 3,003.70	\$ 919.98	\$ 239.92	\$ 566.83	\$ 34,784.04
063W36CA-1900	0.16 Acres	5.46%		\$ 271.27	\$ 1,855.36		\$ 2,405.85	\$ 423.55	\$ 2,981.94	\$ 295.65	\$ 579.90	\$ 2,433.28	\$ 4,041.34	\$ 1,237.79	\$ 256.34	\$ 605.63	\$ 17,387.91
063W36CA-200	0.95 Acres	32.42%		\$ 1,610.64	\$ 11,016.23		\$ 14,284.75	\$ 2,514.81	\$ 17,705.30	\$ 1,755.40	\$ 3,443.14	\$ 14,447.62	\$ 23,995.46	\$ 7,349.39	\$ 1,522.02	\$ 3,595.94	\$ 103,240.70
063W36CA-2000	0.32 Acres	10.92%		\$ 542.53	\$ 3,710.73		\$ 4,811.71	\$ 847.10	\$ 5,963.89	\$ 591.29	\$ 1,159.80	\$ 4,866.57	\$ 8,082.68	\$ 2,475.58	\$ 512.68	\$ 1,211.27	\$ 34,775.82
063W36CA-2100	0.26 Acres	8.87%		\$ 440.81	\$ 3,014.97		\$ 3,909.51	\$ 688.26	\$ 4,845.66	\$ 480.42	\$ 942.93	\$ 3,954.09	\$ 6,567.18	\$ 2,011.41	\$ 416.55	\$ 984.15	
063W36CA-2100	0.11 Acres	1.69%		\$ 186.50	\$ 1,275.56		\$ 2,622.59	\$ 461.70	\$ 3,250.58	\$ 322.28	\$ 632.14	\$ 2,652.49	\$ 4,405.42	\$ 1,349.30	\$ 351.88	\$ 831.35	\$ 46,597.16
063W36CA-2200	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-2300	0.25 Acres	3.83%		\$ 423.85	\$ 2,899.01		\$ 5,960.44	\$ 1,049.33	\$ 7,387.69	\$ 732.45	\$ 1,436.68	\$ 6,028.40	\$ 10,012.32	\$ 3,066.60	\$ 799.73	\$ 1,889.44	\$ 41,685.94
063W36CA-2400	0.21 Acres	3.22%		\$ 356.04	\$ 2,435.17		\$ 5,006.77	\$ 881.44	\$ 6,205.66	\$ 615.26	\$ 1,206.81	\$ 5,063.85	\$ 8,410.35	\$ 2,575.94	\$ 671.77	\$ 1,587.13	\$ 35,016.19
063W36CA-2500	0.36 Acres	5.52%		\$ 610.35	\$ 4,174.57		\$ 8,583.03	\$ 1,511.03	\$ 10,638.28	\$ 1,054.73	\$ 2,068.82	\$ 8,680.89	\$ 14,417.74	\$ 4,415.90	\$ 1,151.61	\$ 2,720.80	\$ 60,027.75
063W36CA-2600	0.12 Acres	2.45%		\$ 203.45	\$ 1,391.52		\$ 825.08	\$ 145.25	\$ 1,022.65	\$ 101.39	\$ 198.87	\$ 834.49	\$ 1,385.97	\$ 424.50	\$ 635.16	\$ 1,500.63	
063W36CA-2600	0.4 Acres	22.01%		\$ 678.16	\$ 4,638.41		\$ 5,477.02	\$ 964.22	\$ 6,788.51	\$ 673.05	\$ 1,320.16	\$ 5,539.46	\$ 9,200.27	\$ 2,817.88	\$ 746.35	\$ 1,763.33	\$ 49,275.79
063W36CA-2601	0.588 Acres	12.00%		\$ 996.90	\$ 6,818.46		\$ 4,042.89	\$ 711.75	\$ 5,010.98	\$ 496.82	\$ 974.48	\$ 4,088.99	\$ 6,791.23	\$ 2,080.04	\$ 3,112.28	\$ 7,353.10	\$ 42,477.93
063W36CA-2700	0.57 Acres	31.37%		\$ 966.38	\$ 6,609.74		\$ 7,804.75	\$ 1,374.02	\$ 9,673.63	\$ 959.09	\$ 1,881.23	\$ 7,893.73	\$ 13,110.38	\$ 4,015.48	\$ 1,063.55	\$ 2,512.74	\$ 57,864.72
063W36CA-2800	0.065 Acres	2.22%		\$ 110.20	\$ 753.74		\$ 977.38	\$ 172.07	\$ 1,211.42	\$ 120.11	\$ 235.58	\$ 988.52	\$ 1,641.79	\$ 502.85	\$ 104.14	\$ 246.04	
063W36CA-2800	0.415 Acres	22.84%		\$ 703.60	\$ 4,812.35		\$ 5,682.40	\$ 1,000.38	\$ 7,043.08	\$ 698.29	\$ 1,369.67	\$ 5,747.19	\$ 9,545.28	\$ 2,923.55	\$ 774.34	\$ 1,829.45	\$ 49,193.42
063W36CA-2900	0.88 Acres	25.29%		\$ 1,491.96	\$ 10,204.50		\$ 6,553.47	\$ 1,153.73	\$ 8,122.73	\$ 805.33	\$ 1,579.62	\$ 6,628.19	\$ 11,008.49	\$ 3,371.71	\$ 5,015.29	\$ 11,849.15	
063W36CA-2900	0 Acres	0.00%		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
063W36CA-2900	0.39 Acres	21.46%		\$ 661.21	\$ 4,522.45		\$ 5,340.09	\$ 940.12	\$ 6,618.80	\$ 656.22	\$ 1,287.16	\$ 5,400.98	\$ 8,970.26	\$ 2,747.43	\$ 727.69	\$ 1,719.24	
063W36CB-2900	0.52 Acres	11.63%		\$ 881.61	\$ 6,029.93		\$ 2,713.35	\$ 477.68	\$ 3,363.08	\$ 333.43	\$ 654.02	\$ 2,744.29	\$ 4,557.88	\$ 1,396.00	\$ 4,436.95	\$ 10,482.77	\$ 145,446.80

			Stormwater Analysis City of Kelzer	Storm Drainage Improvements		Chemawa Rd Improvements	Chemawa/Lock Inters Mod	Traffic Signal	Off-site Sidewalk Costs	McLeod Lane Improvements Off-site	ROW Costs	McLeod Lane Improvements New Section	Street Lights & Franchise Utilities (Undergrounding)	Sanitary Sewer Improvements	Domestic Water Improvements		Totals
063W36CA-300	0.6 Acres	9.20%	\$ 1,017.25	\$ 6,957.62		\$ 14,905.05	\$ 2,518.39	\$ 17,730.46	\$ 1,757.89	\$ 3,448.04	\$ 14,468.15	\$ 24,029.56	\$ 7,359.84	\$ 1,919.35	\$ 4,534.66		\$ 100,046.25
063W36CA-3000	0.36 Acres	10.47%	\$ 610.35	\$ 4,174.57		\$ 8,136.41	\$ 1,432.41	\$ 10,084.72	\$ 999.85	\$ 1,961.17	\$ 8,229.18	\$ 13,667.51	\$ 4,186.12	\$ 730.06	\$ 1,724.85		\$ 55,937.21
063W36CA-3100	0.21 Acres	6.10%	\$ 356.04	\$ 2,435.17		\$ 4,746.24	\$ 835.57	\$ 5,882.75	\$ 583.25	\$ 1,144.02	\$ 4,800.36	\$ 7,972.72	\$ 2,441.90	\$ 425.87	\$ 1,006.16		\$ 32,630.04
063W36CA-3200	0.43 Acres	12.50%	\$ 729.03	\$ 4,986.29		\$ 9,718.50	\$ 1,710.93	\$ 12,045.63	\$ 1,194.27	\$ 2,342.51	\$ 9,829.30	\$ 16,325.08	\$ 5,000.09	\$ 872.02	\$ 2,060.24		\$ 66,813.89
063W36CA-3300	0.37 Acres	10.76%	\$ 627.30	\$ 4,290.53		\$ 8,362.43	\$ 1,472.20	\$ 10,364.85	\$ 1,027.63	\$ 2,015.65	\$ 8,457.77	\$ 14,047.16	\$ 4,302.40	\$ 750.34	\$ 1,772.77		\$ 57,491.02
063W36CA-3400	0.28 Acres	8.14%	\$ 474.72	\$ 3,246.89		\$ 6,328.32	\$ 1,114.09	\$ 7,843.67	\$ 777.66	\$ 1,525.36	\$ 6,400.48	\$ 10,630.29	\$ 3,255.87	\$ 567.83	\$ 1,341.55		\$ 43,506.72
063W36CA-3500	0.08 Acres	2.33%	\$ 135.63	\$ 927.68		\$ 1,808.09	\$ 318.31	\$ 2,241.05	\$ 222.19	\$ 435.82	\$ 1,828.71	\$ 3,037.22	\$ 930.25	\$ 162.24	\$ 983.30		\$ 12,430.49
063W36CA-3501	0.19 Acres	6.48%	\$ 322.13	\$ 2,203.25		\$ 2,856.95	\$ 502.96	\$ 3,541.06	\$ 351.08	\$ 688.63	\$ 2,889.52	\$ 4,799.09	\$ 1,469.88	\$ 304.40	\$ 719.19		\$ 20,648.14
063W36CA-400	0.44 Acres	6.75%	\$ 745.98	\$ 5,102.25		\$ 10,490.37	\$ 1,846.82	\$ 13,002.34	\$ 1,289.12	\$ 2,528.56	\$ 10,609.98	\$ 17,621.68	\$ 5,397.21	\$ 1,407.52	\$ 3,325.42		\$ 73,367.25
063W36CA-500	1.45 Acres	22.23%	\$ 2,458.35	\$ 16,814.24		\$ 34,570.54	\$ 6,086.10	\$ 42,848.61	\$ 4,248.24	\$ 8,332.75	\$ 34,964.70	\$ 58,071.44	\$ 17,786.27	\$ 4,638.42	\$ 10,958.77		\$ 241,778.44
063W36CA-600	0.13 Acres	1.99%	\$ 220.40	\$ 1,507.48		\$ 3,099.43	\$ 545.65	\$ 3,841.60	\$ 380.88	\$ 747.07	\$ 3,134.77	\$ 5,206.41	\$ 1,594.63	\$ 415.86	\$ 982.51		\$ 21,676.69
063W36CA-700	0.34 Acres	5.21%	\$ 576.44	\$ 3,942.65		\$ 8,106.20	\$ 1,427.09	\$ 10,047.26	\$ 996.14	\$ 1,953.89	\$ 8,198.62	\$ 13,616.75	\$ 4,170.57	\$ 1,087.63	\$ 2,569.64		\$ 56,692.88
063W36CA-800	2.24 Acres	45.71%	\$ 3,797.72	\$ 25,975.10		\$ 15,401.50	\$ 2,711.42	\$ 19,089.46	\$ 1,892.63	\$ 3,712.32	\$ 15,577.10	\$ 25,871.37	\$ 7,929.95	\$ 11,856.32	\$ 28,011.81		\$ 168,657.19
063W36CA-800	0.041 Acres	0.63%	\$ 69.51	\$ 475.44		\$ 977.51	\$ 172.09	\$ 1,211.58	\$ 120.12	\$ 235.62	\$ 988.66	\$ 1,642.02	\$ 502.92	\$ 131.16	\$ 309.87		
063W36CA-900	0 Acres			No Benefit Assigned		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No Benefit Assigned (Serviced)			\$ -
063W36CA-1000	0 Acres			No Benefit Assigned		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No Benefit Assigned (Serviced)			\$ -
063W36CB-100	0.23 Acres	6.69%	\$ 389.94	\$ 2,667.09		\$ 5,198.26	\$ 915.15	\$ 6,443.01	\$ 638.79	\$ 1,252.97	\$ 5,257.53	\$ 8,732.02	\$ 2,674.47	\$ 466.43	\$ 1,101.99		\$ 35,737.66
063W36CB-200	1.47 Acres	42.73%	\$ 2,492.25	\$ 17,046.16		\$ 33,223.69	\$ 5,848.99	\$ 41,179.25	\$ 4,082.73	\$ 8,008.11	\$ 33,602.49	\$ 55,809.01	\$ 17,093.33	\$ 2,981.09	\$ 7,043.15		\$ 228,410.27
063W36CB-2601	0.11 Acres	3.16%	\$ 186.50	\$ 1,275.56		\$ 819.18	\$ 144.22	\$ 1,015.34	\$ 100.67	\$ 197.45	\$ 828.52	\$ 1,376.06	\$ 421.46	\$ 626.91	\$ 1,481.14		\$ 8,473.02
063W36CB-300	0.01 Acres	0.29%	\$ 16.95	\$ 115.96		\$ 226.01	\$ 39.79	\$ 280.13	\$ 27.77	\$ 54.48	\$ 228.59	\$ 379.65	\$ 116.28	\$ 20.28	\$ 47.91		\$ 1,553.81
063W36CB-400	0.36 Acres	24.16%	\$ 610.35	\$ 4,174.57		\$ 5,259.73	\$ 925.97	\$ 6,519.19	\$ 646.35	\$ 1,267.79	\$ 5,319.70	\$ 8,835.27	\$ 2,706.09	\$ 693.11	\$ 1,637.55		\$ 38,595.65
063W36CB-402	0.45 Acres	30.20%	\$ 762.94	\$ 5,218.21		\$ 6,574.66	\$ 1,157.46	\$ 8,148.99	\$ 807.93	\$ 1,584.73	\$ 6,649.62	\$ 11,044.08	\$ 3,382.61	\$ 866.39	\$ 2,046.93		\$ 48,244.56
063W36CB-403	0.68 Acres	45.64%	\$ 1,152.88	\$ 7,885.30		\$ 9,935.04	\$ 1,749.05	\$ 12,314.03	\$ 1,220.88	\$ 2,394.71	\$ 10,048.32	\$ 16,688.84	\$ 5,111.50	\$ 1,309.21	\$ 3,093.14		\$ 72,902.89
063W36CB-8800	0.72 Acres	16.11%	\$ 1,220.70	\$ 8,349.14		\$ 3,756.95	\$ 661.41	\$ 4,656.57	\$ 461.68	\$ 905.56	\$ 3,799.78	\$ 6,310.90	\$ 1,932.92	\$ 6,143.47	\$ 14,514.61		\$ 52,713.68
063W36CB-8900	3.18 Acres	71.14%	\$ 5,391.41	\$ 36,875.37		\$ 16,599.19	\$ 2,921.21	\$ 20,566.50	\$ 2,039.07	\$ 3,999.56	\$ 16,782.38	\$ 27,873.16	\$ 8,537.06	\$ 27,193.67	\$ 64,106.19		\$ 424,617.12
063W36CB-8900	2.49 Acres	71.55%	\$ 4,221.57	\$ 28,874.11		\$ 18,543.34	\$ 3,264.53	\$ 22,983.62	\$ 2,278.72	\$ 4,469.62	\$ 18,754.76	\$ 31,149.01	\$ 9,540.40	\$ 14,190.98	\$ 33,527.70		
063W36CB-9000	0.092 Acres	2.08%	\$ 155.98	\$ 1,066.83		\$ 480.05	\$ 84.51	\$ 595.01	\$ 58.99	\$ 115.71	\$ 485.53	\$ 806.39	\$ 246.98	\$ 785.00	\$ 1,854.64		\$ 6,735.64
Ridge Road Right-of-way	0.26 Acres	5.31%	\$ 440.81	\$ 3,014.97		\$ 1,787.67	\$ 314.72	\$ 2,215.74	\$ 219.68	\$ 430.89	\$ 1,808.06	\$ 3,002.93	\$ 919.74	\$ 1,376.18	\$ 3,251.37		\$ 18,782.76
Right-of-way	0.78 Acres	26.62%	\$ 1,322.42	\$ 9,044.90		\$ 11,728.53	\$ 2,064.79	\$ 14,536.98	\$ 1,441.27	\$ 2,827.00	\$ 11,862.26	\$ 19,701.53	\$ 6,034.24	\$ 1,249.66	\$ 2,952.46		\$ 84,766.05
Right-of-way	0.97 Acres	14.87%	\$ 1,644.55	\$ 11,248.15		\$ 23,126.50	\$ 4,071.39	\$ 28,664.25	\$ 2,841.92	\$ 5,574.33	\$ 23,390.18	\$ 38,847.79	\$ 11,898.40	\$ 3,102.94	\$ 7,331.04		\$ 161,741.44

\$ 3,232,743.20

Appendix "E"

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20592	Manufactured Home ID:	
Situs Address:	5695 RIDGE DR NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA00200		

Owner Information

Owner:	SM3KZR LLC PO BOX 970 MEDFORD, OR 97501

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.95	Apex Sketches:	None Available

Value Information

RMV Land:	\$558,660	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$558,660		
Assessed Value:	\$93,710		

Tax Information

Taxes Levied 2014-15:	\$1,465.71	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	4/4/2014	Deed Number:	35940397
Sales Price:	\$155,769	Deed Type:	WD
Sale Type:	06	Property IDs Included in Sale:	R20588 R20592

Sales Date:	1/29/2013	Deed Number:	34670460
Sales Price:	\$125,000	Deed Type:	WD
Sale Type:	06	Property IDs Included in Sale:	R20592 R20588

Sales Date:	4/14/2008	Deed Number:	29430130
Sales Price:	\$769,587	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20592

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20588	Manufactured Home ID:	
Situs Address:	5655 RIDGE DR NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA00300		

Owner Information

Owner:	SM3KZR LLC PO BOX 970 MEDFORD, OR 97501

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.6	Apex Sketches:	None Available

Value Information

RMV Land:	\$294,030	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$294,030		
Assessed Value:	\$105,100		

Tax Information

Taxes Levied 2014-15:	\$1,643.85	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	4/4/2014	Deed Number:	35940397
Sales Price:	\$155,769	Deed Type:	WD
Sale Type:	06	Property IDs Included in Sale:	R20588 R20592

Sales Date:	1/29/2013	Deed Number:	34670460
Sales Price:	\$125,000	Deed Type:	WD
Sale Type:	06	Property IDs Included in Sale:	R20592 R20588

Sales Date:	9/17/2007	Deed Number:	28680211
Sales Price:	\$470,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20584 R20588

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20584	Manufactured Home ID:	
Situs Address:	5635 RIDGE DR NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA00400		

Owner Information

Owner:	PERMANENT I LLC PO BOX 970 MEDFORD, OR 97501

Property Details

Year Built:	1972	Property Code:	R33
Living Area:	1474	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.44	Apex Sketches:	1

Value Information

RMV Land:	\$215,620	Exemption Description:	None
RMV Improvements:	\$96,020		
RMV Total:	\$311,640		
Assessed Value:	\$138,220		

Tax Information

Taxes Levied 2014-15:	\$2,161.88	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	3/10/2015	Deed Number:	36790196
Sales Price:	\$22,739	Deed Type:	BS
Sale Type:	06	Property IDs Included in Sale:	R20584

Sales Date:	2/23/2015	Deed Number:	36740327
Sales Price:	\$22,739	Deed Type:	QC
Sale Type:	03	Property IDs Included in Sale:	R20584

Sales Date:	10/7/2014	Deed Number:	36410303
Sales Price:		Deed Type:	MI
Sale Type:	03	Property IDs Included in Sale:	R20584

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20572	Manufactured Home ID:	
Situs Address:	5545 RIDGE DR NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA00500		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	1.45	Apex Sketches:	None Available

Value Information

RMV Land:	\$663,200	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$663,200		
Assessed Value:	\$124,640		

Tax Information

Taxes Levied 2014-15:	\$1,949.49	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547

Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547

Sales Date:	6/8/2004	Deed Number:	23290099
Sales Price:	\$200,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20572

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20569	Manufactured Home ID:	
Situs Address:		Legal Description:	
Map Tax Lot:	063W36CA00600		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.13	Apex Sketches:	None Available

Value Information

RMV Land:	\$63,710	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$63,710		
Assessed Value:	\$4,290		

Tax Information

Taxes Levied 2014-15:	\$67.12	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	7/6/2005	Deed Number:	25030359
Sales Price:	\$42,900	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20569

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20568	Manufactured Home ID:	
Situs Address:	5535 RIDGE DR NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA00700		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.34	Apex Sketches:	None Available

Value Information

RMV Land:	\$166,610	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$166,610		
Assessed Value:	\$87,220		

Tax Information

Taxes Levied 2014-15:	\$1,364.19	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	6/8/2004	Deed Number:	23290101
Sales Price:	\$390,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20552 R20568

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20552	Manufactured Home ID:	
Situs Address:		Legal Description:	
Map Tax Lot:	063W36CA00800		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	G60
Living Area:	0	Property Class:	201
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	2.73	Apex Sketches:	None Available

Value Information

RMV Land:	\$1,337,840	Exemption Description:	None
RMV Improvements:	\$26,800		
RMV Total:	\$1,364,640		
Assessed Value:	\$96,950		

Tax Information

Taxes Levied 2014-15:	\$1,516.37	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	6/8/2004	Deed Number:	23290101
Sales Price:	\$390,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20552 R20568

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20553	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 1.91, //93-94: 1.91 AC DISQ FARM USE
Map Tax Lot:	063W36CA01100		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	1.91	Apex Sketches:	None Available

Value Information

RMV Land:	\$869,380	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$869,380		
Assessed Value:	\$33,790		

Tax Information

Taxes Levied 2014-15:	\$528.51	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	3/9/2004	Deed Number:	22850481
Sales Price:	\$227,173	Deed Type:	WD
Sale Type:	21	Property IDs Included in Sale:	R334549 R20553

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20566	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.23, //93-94: 23 AC DISQ FARM USE
Map Tax Lot:	063W36CA01200		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.23	Apex Sketches:	None Available

Value Information

RMV Land:	\$105,200	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$105,200		
Assessed Value:	\$3,980		

Tax Information

Taxes Levied 2014-15:	\$62.27	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	3/4/2005	Deed Number:	24470424
Sales Price:	\$90,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20545 R20566

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20570	Manufactured Home ID:	
Situs Address:	5530 ST CROIX WY NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA01300		

Owner Information

Owner:	E-VILLAGE LLC PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1945	Property Code:	R31
Living Area:	1246	Property Class:	201
Bedrooms:	2	Levy Code Area:	92420220
Bathrooms:	1	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.25	Apex Sketches:	1

Value Information

RMV Land:	\$114,350	Exemption Description:	None
RMV Improvements:	\$77,180		
RMV Total:	\$191,530		
Assessed Value:	\$113,330		

Tax Information

Taxes Levied 2014-15:	\$2,210.04	Tax Payoff Amount:	\$2,298.44
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	8/20/2009	Deed Number:	30960457
Sales Price:	\$149,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20570

Sales Date:	7/6/2005	Deed Number:	25030361
Sales Price:	\$100,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20570

Sales Date:	4/1/1999	Deed Number:	15840618
Sales Price:	\$109,500	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20570 R20569

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20573	Manufactured Home ID:	
Situs Address:	5540 ST CROIX WY NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CA01400		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1980	Property Code:	R31
Living Area:	1064	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	1.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.25	Apex Sketches:	1

Value Information

RMV Land:	\$114,350	Exemption Description:	None
RMV Improvements:	\$74,230		
RMV Total:	\$188,580		
Assessed Value:	\$114,460		

Tax Information

Taxes Levied 2014-15:	\$2,227.72	Tax Payoff Amount:	\$7,261.75
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	8/27/2007	Deed Number:	28580349
Sales Price:	\$296,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20573
Sales Date:	2/27/1989	Deed Number:	06750464
Sales Price:	\$52,500	Deed Type:	RD
Sale Type:	00	Property IDs Included in Sale:	R20573
Sales Date:	2/27/1989	Deed Number:	06750463
Sales Price:	\$32,010	Deed Type:	WD
Sale Type:	12	Property IDs Included in Sale:	R20573

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20580	Manufactured Home ID:	
Situs Address:	5580 ST CROIX WY NE KEIZER, OR 97303	Legal Description:	ACRES 0.33
Map Tax Lot:	063W36CA01500		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1952	Property Code:	R31
Living Area:	1122	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	1	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.33	Apex Sketches:	1

Value Information

RMV Land:	\$152,090	Exemption Description:	None
RMV Improvements:	\$80,670		
RMV Total:	\$232,760		
Assessed Value:	\$110,140		

Tax Information

Taxes Levied 2014-15:	\$1,722.70	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	1/15/2008	Deed Number:	29100279
Sales Price:	\$280,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20580

Sales Date:	6/9/2005	Deed Number:	24890431
Sales Price:	\$111,900	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20580

Sales Date:	12/15/1999	Deed Number:	16560605
Sales Price:		Deed Type:	BS
Sale Type:	20	Property IDs Included in Sale:	R20580 R20585

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20587	Manufactured Home ID:	
Situs Address:	5400 BLK ST CROIX WY NE KEIZER, OR 97303	Legal Description:	ACRES 0.28
Map Tax Lot:	063W36CA01700		

Owner Information

Owner:	YARBROUGH, JACK R PO BOX 20756 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.28	Apex Sketches:	None Available

Value Information

RMV Land:	\$128,060	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$128,060		
Assessed Value:	\$12,810		

Tax Information

Taxes Levied 2014-15:	\$200.36	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/17/1996	Deed Number:	13620154
Sales Price:	\$24,000	Deed Type:	RD
Sale Type:	33	Property IDs Included in Sale:	R20587 R20591 R20594

Sales Date:	3/7/1996	Deed Number:	12950226
Sales Price:	\$24,000	Deed Type:	BS
Sale Type:	15	Property IDs Included in Sale:	R20587

Sales Date:	7/25/1995	Deed Number:	12630483
Sales Price:	\$35,000	Deed Type:	DE
Sale Type:	15	Property IDs Included in Sale:	R20587

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20591	Manufactured Home ID:	
Situs Address:	5400 BLK ST CROIX WY NE KEIZER, OR 97303	Legal Description:	ACRES 0.28
Map Tax Lot:	063W36CA01800		

Owner Information

Owner:	YARBROUGH, JACK R PO BOX 20756 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.28	Apex Sketches:	None Available

Value Information

RMV Land:	\$128,060	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$128,060		
Assessed Value:	\$12,810		

Tax Information

Taxes Levied 2014-15:	\$200.36	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/17/1996	Deed Number:	13620154
Sales Price:	\$24,000	Deed Type:	RD
Sale Type:	33	Property IDs Included in Sale:	R20587 R20591 R20594

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20594	Manufactured Home ID:	
Situs Address:	2360 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.16
Map Tax Lot:	063W36CA01900		

Owner Information

Owner:	YARBROUGH, JACK R PO BOX 20756 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.16	Apex Sketches:	None Available

Value Information

RMV Land:	\$78,410	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$78,410		
Assessed Value:	\$10,070		

Tax Information

Taxes Levied 2014-15:	\$157.49	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/17/1996	Deed Number:	13620154
Sales Price:	\$24,000	Deed Type:	RD
Sale Type:	33	Property IDs Included in Sale:	R20587 R20591 R20594

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20597	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.32
Map Tax Lot:	063W36CA02000		

Owner Information

Owner:	STATE OF OREGON-ODOT 355 CAPITOL ST NE #411 SALEM, OR 97301

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C40
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.32	Apex Sketches:	None Available

Value Information

RMV Land:	\$188,660	Exemption Description:	STATE GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$188,660		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales information not found.

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20589	Manufactured Home ID:	
Situs Address:	2290 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.37
Map Tax Lot:	063W36CA02100		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1947	Property Code:	R32
Living Area:	1434	Property Class:	201
Bedrooms:	2	Levy Code Area:	92420220
Bathrooms:	1	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.37	Apex Sketches:	1

Value Information

RMV Land:	\$169,230	Exemption Description:	None
RMV Improvements:	\$73,950		
RMV Total:	\$243,180		
Assessed Value:	\$113,850		

Tax Information

Taxes Levied 2014-15:	\$1,780.72	Tax Payoff Amount:	\$593.57
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/28/2006	Deed Number:	27540101
Sales Price:	\$350,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20589 R20586 R20581

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20586	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.25
Map Tax Lot:	063W36CA02200		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.25	Apex Sketches:	None Available

Value Information

RMV Land:	\$114,350	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$114,350		
Assessed Value:	\$5,500		

Tax Information

Taxes Levied 2014-15:	\$86.04	Tax Payoff Amount:	\$298.08
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/28/2006	Deed Number:	27540101
Sales Price:	\$350,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20589 R20586 R20581

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20581	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.25
Map Tax Lot:	063W36CA02300		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.25	Apex Sketches:	None Available

Value Information

RMV Land:	\$114,350	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$114,350		
Assessed Value:	\$5,500		

Tax Information

Taxes Levied 2014-15:	\$86.04	Tax Payoff Amount:	\$298.08
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/28/2006	Deed Number:	27540101
Sales Price:	\$350,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20589 R20586 R20581

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20579	Manufactured Home ID:	
Situs Address:	5565 ST CROIX WY NE KEIZER, OR 97303	Legal Description:	ACRES 0.21
Map Tax Lot:	063W36CA02400		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1937	Property Code:	R31
Living Area:	897	Property Class:	201
Bedrooms:	2	Levy Code Area:	92420220
Bathrooms:	1	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.21	Apex Sketches:	1

Value Information

RMV Land:	\$96,040	Exemption Description:	None
RMV Improvements:	\$63,030		
RMV Total:	\$159,070		
Assessed Value:	\$82,560		

Tax Information

Taxes Levied 2014-15:	\$1,662.53	Tax Payoff Amount:	\$5,665.60
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	9/13/2007	Deed Number:	28660057
Sales Price:	\$272,000	Deed Type:	WD
Sale Type:	01	Property IDs Included in Sale:	R20579
Sales Date:	7/6/2004	Deed Number:	23430383
Sales Price:	\$120,150	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20579
Sales Date:	6/11/2003	Deed Number:	21490150
Sales Price:	\$40,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20579

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20571	Manufactured Home ID:	
Situs Address:	5525 ST CROIX WY NE KEIZER, OR 97303	Legal Description:	ACRES 0.36
Map Tax Lot:	063W36CA02500		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:	1930	Property Code:	R31
Living Area:	1431	Property Class:	201
Bedrooms:	2	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.36	Apex Sketches:	1

Value Information

RMV Land:	\$164,660	Exemption Description:	None
RMV Improvements:	\$84,910		
RMV Total:	\$249,570		
Assessed Value:	\$122,840		

Tax Information

Taxes Levied 2014-15:	\$2,358.78	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	12/29/2005	Deed Number:	25880028
Sales Price:	\$155,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20571

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20545	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.52
Map Tax Lot:	063W36CA02600		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.52	Apex Sketches:	1

Value Information

RMV Land:	\$238,280	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$238,280		
Assessed Value:	\$65,110		

Tax Information

Taxes Levied 2014-15:	\$1,018.39	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547

Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547

Sales Date:	3/4/2005	Deed Number:	24470424
Sales Price:	\$90,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20545 R20566

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R334549	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.70
Map Tax Lot:	063W36CA02601		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.70	Apex Sketches:	None Available

Value Information

RMV Land:	\$322,580	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$322,580		
Assessed Value:	\$50,870		

Tax Information

Taxes Levied 2014-15:	\$795.64	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547

Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547

Sales Date:	3/9/2004	Deed Number:	22850481
Sales Price:	\$227,173	Deed Type:	WD
Sale Type:	21	Property IDs Included in Sale:	R334549 R20553

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20567	Manufactured Home ID:	
Situs Address:	2200 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.57
Map Tax Lot:	063W36CA02700		

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1970	Property Code:	R41
Living Area:	2660	Property Class:	201
Bedrooms:	4	Levy Code Area:	92420220
Bathrooms:	2.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.57	Apex Sketches:	1

Value Information

RMV Land:	\$260,700	Exemption Description:	None
RMV Improvements:	\$248,510		
RMV Total:	\$509,210		
Assessed Value:	\$232,970		

Tax Information

Taxes Levied 2014-15:	\$4,081.32	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	12/26/2006	Deed Number:	27540099
Sales Price:	\$400,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20567
Sales Date:	1/4/2006	Deed Number:	25990404
Sales Price:	\$256,204	Deed Type:	MI
Sale Type:	10	Property IDs Included in Sale:	R20567
Sales Date:	12/23/2005	Deed Number:	25840457
Sales Price:	\$0	Deed Type:	BS
Sale Type:	13	Property IDs Included in Sale:	R20567

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20582	Manufactured Home ID:
Situs Address:	2230 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:
Map Tax Lot:	063W36CA02800	

Owner Information

Owner:	E-VILLAGE LLC C/O CHARLES SIDES PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:	1955	Property Code:	R41
Living Area:	1570	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.48	Apex Sketches:	1

Value Information

RMV Land:	\$219,540	Exemption Description:	None
RMV Improvements:	\$102,790		
RMV Total:	\$322,330		
Assessed Value:	\$158,490		

Tax Information

Taxes Levied 2014-15:	\$2,478.94	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	1/19/2007	Deed Number:	27640171
Sales Price:	\$330,000	Deed Type:	WD
Sale Type:	01	Property IDs Included in Sale:	R20582
Sales Date:	11/9/2006	Deed Number:	27460147
Sales Price:	\$75,000	Deed Type:	BS
Sale Type:	06	Property IDs Included in Sale:	R20582
Sales Date:	10/18/1993	Deed Number:	11130613
Sales Price:	\$75,000	Deed Type:	RD
Sale Type:	40	Property IDs Included in Sale:	R20582

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20546	Manufactured Home ID:	
Situs Address:	2140 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 2.98
Map Tax Lot:	063W36CA02900		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	2.98	Apex Sketches:	None Available

Value Information

RMV Land:	\$1,362,980	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$1,362,980		
Assessed Value:	\$175,680		

Tax Information

Taxes Levied 2014-15:	\$2,747.79	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	2/27/2004	Deed Number:	22850483
Sales Price:	\$335,000	Deed Type:	WD
Sale Type:	09	Property IDs Included in Sale:	R20546

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20590	Manufactured Home ID:	
Situs Address:	2115 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.43
Map Tax Lot:	063W36CA03000		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	R31
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.43	Apex Sketches:	1

Value Information

RMV Land:	\$196,680	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$196,680		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	3/4/2003	Deed Number:	20810206
Sales Price:	\$135,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20590
Sales Date:	7/26/1999	Deed Number:	16200324
Sales Price:	\$109,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20590
Sales Date:	3/11/1986	Deed Number:	04480404
Sales Price:	\$40,450	Deed Type:	RD
Sale Type:	00	Property IDs Included in Sale:	R20590

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20593	Manufactured Home ID:	
Situs Address:	5620 MCLEOD LN NE KEIZER, OR 97303	Legal Description:	ACRES 0.21
Map Tax Lot:	063W36CA03100		

Owner Information

Owner:	NORTH PACIFIC TR & BATZER,JOHN E TRE 190 N ROSS LN MEDFORD, OR 97501

Property Details

Year Built:	1962	Property Code:	R31
Living Area:	1256	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	1.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.21	Apex Sketches:	1

Value Information

RMV Land:	\$96,050	Exemption Description:	None
RMV Improvements:	\$76,520		
RMV Total:	\$172,570		
Assessed Value:	\$114,520		

Tax Information

Taxes Levied 2014-15:	\$1,791.21	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	5/11/2007	Deed Number:	28140112
Sales Price:	\$185,632	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20593
Sales Date:	8/30/2006	Deed Number:	27020444
Sales Price:	\$163,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20593
Sales Date:	2/19/2004	Deed Number:	22780371
Sales Price:	\$137,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20593

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20595	Manufactured Home ID:	
Situs Address:	2125 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.43
Map Tax Lot:	063W36CA03200		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.43	Apex Sketches:	1

Value Information

RMV Land:	\$197,250	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$197,250		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	2/22/2006	Deed Number:	26100260
Sales Price:	\$235,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20595

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20598	Manufactured Home ID:	
Situs Address:	2235 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.37
Map Tax Lot:	063W36CA03300		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.37	Apex Sketches:	None Available

Value Information

RMV Land:	\$181,790	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$181,790		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	12/7/2005	Deed Number:	25770462
Sales Price:	\$250,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20598
Sales Date:	3/14/2005	Deed Number:	25240157
Sales Price:		Deed Type:	BS
Sale Type:	13	Property IDs Included in Sale:	R20598
Sales Date:	9/15/1998	Deed Number:	15240376
Sales Price:	\$112,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20598

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20599	Manufactured Home ID:	
Situs Address:	2285 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.28
Map Tax Lot:	063W36CA03400		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.28	Apex Sketches:	None Available

Value Information

RMV Land:	\$137,840	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$137,840		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	3/10/2006	Deed Number:	26180398
Sales Price:	\$275,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20599
Sales Date:	11/17/1993	Deed Number:	11220356
Sales Price:	\$72,500	Deed Type:	RD
Sale Type:	00	Property IDs Included in Sale:	R20599
Sales Date:	12/29/1989	Deed Number:	07670031
Sales Price:	\$47,500	Deed Type:	BS
Sale Type:	33	Property IDs Included in Sale:	R20599

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R344100	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.01
Map Tax Lot:	063W36CA03401		

Owner Information

Owner:	NORTHWEST NATIONAL LLC PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.01	Apex Sketches:	None Available

Value Information

RMV Land:	\$3,400	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$3,400		
Assessed Value:	\$1,870		

Tax Information

Taxes Levied 2014-15:	\$29.25	Tax Payoff Amount:	\$64.58
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	5/3/2011	Deed Number:	32820021
Sales Price:	\$104,544	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R344096 R344100

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20492	Manufactured Home ID:	
Situs Address:	2289 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.11
Map Tax Lot:	063W36CA03500		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.11	Apex Sketches:	None Available

Value Information

RMV Land:	\$67,580	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$67,580		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	11/1/2005	Deed Number:	25630086
Sales Price:	\$465,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20492

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R344096	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.21
Map Tax Lot:	063W36CA03501		

Owner Information

Owner:	NORTHWEST NATIONAL LLC PO BOX 2087 SALEM, OR 97308

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.21	Apex Sketches:	None Available

Value Information

RMV Land:	\$124,310	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$124,310		
Assessed Value:	\$67,040		

Tax Information

Taxes Levied 2014-15:	\$1,048.57	Tax Payoff Amount:	\$5,103.29
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	5/3/2011	Deed Number:	32820021
Sales Price:	\$104,544	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R344096 R344100

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20489	Manufactured Home ID:	
Situs Address:	5660 MCLEOD LN NE KEIZER, OR 97303	Legal Description:	
Map Tax Lot:	063W36CB00100		

Owner Information

Owner:	AYALA, MILDRED E 5660 MCLEOD LN NE KEIZER, OR 97303

Property Details

Year Built:	1959	Property Code:	R31
Living Area:	884	Property Class:	201
Bedrooms:	2	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.23	Apex Sketches:	1

Value Information

RMV Land:	\$112,710	Exemption Description:	None
RMV Improvements:	\$56,110		
RMV Total:	\$168,820		
Assessed Value:	\$99,820		

Tax Information

Taxes Levied 2014-15:	\$1,561.28	Tax Payoff Amount:	\$520.42
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	5/23/1997	Deed Number:	13970495
Sales Price:	\$74,900	Deed Type:	RD
Sale Type:	00	Property IDs Included in Sale:	R20489

Sales Date:	7/17/1995	Deed Number:	12500095
Sales Price:	\$65,000	Deed Type:	RC
Sale Type:	00	Property IDs Included in Sale:	R20489

Sales Date:	7/17/1995	Deed Number:	14280009
Sales Price:	\$0	Deed Type:	WD
Sale Type:	12	Property IDs Included in Sale:	R20489

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20490	Manufactured Home ID:	
Situs Address:	5780 MCLEOD LN NE KEIZER, OR 97303	Legal Description:	ACRES 1.56
Map Tax Lot:	063W36CB00200		

Owner Information

Owner:	SM3KZR LLC PO BOX 970 MEDFORD, OR 97501

Property Details

Year Built:	1962	Property Code:	R43
Living Area:	2912	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	1.56	Apex Sketches:	1

Value Information

RMV Land:	\$764,480	Exemption Description:	None
RMV Improvements:	\$172,610		
RMV Total:	\$937,090		
Assessed Value:	\$232,470		

Tax Information

Taxes Levied 2014-15:	\$3,636.05	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	11/21/2012	Deed Number:	34460224
Sales Price:	\$234,000	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20490

Sales Date:	10/1/2012	Deed Number:	34290173
Sales Price:	\$288,000	Deed Type:	MI
Sale Type:	10	Property IDs Included in Sale:	R20490

Sales Date:	11/30/2001	Deed Number:	18710270
Sales Price:	\$280,000	Deed Type:	WD
Sale Type:	15	Property IDs Included in Sale:	R20490 R20504

**Marion County Assessor's Property Records
Property Summary****Property Identification**

Property ID:	R20491	Manufactured Home ID:	
Situs Address:		Legal Description:	ACRES 0.04
Map Tax Lot:	063W36CB00300		

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.04	Apex Sketches:	None Available

Value Information

RMV Land:	\$26,130	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$26,130		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	10/12/1992	Deed Number:	09960043
Sales Price:	\$117,400	Deed Type:	RD
Sale Type:	03	Property IDs Included in Sale:	R20491 R20500 R20501

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20575	Manufactured Home ID:	
Situs Address:	5615 MCLEOD LN NE KEIZER, OR 97303	Legal Description:	P.P. 1991-126, PARCEL 1, ACRES 0.43
Map Tax Lot:	063W36CB00400		

Owner Information

Owner:	ERIC M SHREWSBURY JR RLT & SHREWSBURY, ERIC M JR TRE 5615 MCLEOD LN NE KEIZER, OR 97303

Property Details

Year Built:	1901	Property Code:	R31
Living Area:	1489	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	1.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.43	Apex Sketches:	1

Value Information

RMV Land:	\$196,670	Exemption Description:	None
RMV Improvements:	\$76,910		
RMV Total:	\$273,580		
Assessed Value:	\$123,820		

Tax Information

Taxes Levied 2014-15:	\$1,936.65	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	11/4/2004	Deed Number:	23980205
Sales Price:	\$145,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20575
Sales Date:	12/31/1991	Deed Number:	14700161
Sales Price:	\$55,000	Deed Type:	WD
Sale Type:	12	Property IDs Included in Sale:	R20575
Sales Date:	12/31/1991	Deed Number:	09120369
Sales Price:	\$55,000	Deed Type:	RC
Sale Type:	21	Property IDs Included in Sale:	R20575

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20577	Manufactured Home ID:	
Situs Address:	5625 MCLEOD LN NE KEIZER, OR 97303	Legal Description:	P.P. 1992-048, PARCEL 1, ACRES 0.45
Map Tax Lot:	063W36CB00402		

Owner Information

Owner:	SINGH,JUSTINDER BHATIA & SINGH,ALICIA 1057 E IMPERIAL HY #324 PLACENTIA, CA 92870

Property Details

Year Built:	1960	Property Code:	R31
Living Area:	690	Property Class:	201
Bedrooms:	1	Levy Code Area:	92420220
Bathrooms:	1	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.45	Apex Sketches:	1

Value Information

RMV Land:	\$204,320	Exemption Description:	None
RMV Improvements:	\$54,100		
RMV Total:	\$258,420		
Assessed Value:	\$100,920		

Tax Information

Taxes Levied 2014-15:	\$2,015.92	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	7/29/1998	Deed Number:	15110541
Sales Price:	\$72,169	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20577
Sales Date:	7/21/1998	Deed Number:	15110540
Sales Price:		Deed Type:	WD
Sale Type:	12	Property IDs Included in Sale:	R20577
Sales Date:	12/15/1997	Deed Number:	14480300
Sales Price:	\$0	Deed Type:	RC
Sale Type:	19	Property IDs Included in Sale:	R20577

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20578	Manufactured Home ID:	
Situs Address:	2045 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	P.P. 1992-048, PARCEL 2, ACRES 0.68
Map Tax Lot:	063W36CB00403		

Owner Information

Owner:	SINGH,ALICIA & SINGH,JUSTINDER 2045 CHEMAWA RD NE KEIZER, OR 97303

Property Details

Year Built:	1969	Property Code:	R45
Living Area:	2216	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.68	Apex Sketches:	1

Value Information

RMV Land:	\$248,820	Exemption Description:	None
RMV Improvements:	\$166,220		
RMV Total:	\$415,040		
Assessed Value:	\$235,540		

Tax Information

Taxes Levied 2014-15:	\$3,785.49	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	9/25/2002	Deed Number:	20030054
Sales Price:	\$183,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20578

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20561	Manufactured Home ID:	
Situs Address:	2030 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 0.86
Map Tax Lot:	063W36CB08800		

Owner Information

Owner:	EGNER, KATHLEEN H & EGNER, JEROLD E 2030 CHEMAWA RD NE KEIZER, OR 97303

Property Details

Year Built:	1966	Property Code:	R41
Living Area:	1710	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.86	Apex Sketches:	1

Value Information

RMV Land:	\$393,350	Exemption Description:	None
RMV Improvements:	\$138,990		
RMV Total:	\$532,340		
Assessed Value:	\$191,130		

Tax Information

Taxes Levied 2014-15:	\$2,989.43	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	10/30/2000	Deed Number:	17290555
Sales Price:	\$185,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20561

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20547	Manufactured Home ID:	
Situs Address:	2040 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:	ACRES 5.83
Map Tax Lot:	063W36CB08900		

Owner Information

Owner:	OREGON TERRITORY DEVELOPMENT LLC 2485 LANCASTER DR NE SALEM, OR 97305

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	200
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	5.83	Apex Sketches:	None Available

Value Information

RMV Land:	\$2,399,870	Exemption Description:	None
RMV Improvements:	\$0		
RMV Total:	\$2,399,870		
Assessed Value:	\$274,470		

Tax Information

Taxes Levied 2014-15:	\$4,292.96	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	2/6/2015	Deed Number:	36700419
Sales Price:		Deed Type:	BS
Sale Type:	10	Property IDs Included in Sale:	R20571 R20545 R20546 R20572 R20569 R20568 R20552 R20553 R20566 R334549 R20547
Sales Date:	4/21/2009	Deed Number:	30590234
Sales Price:	\$5,800,000	Deed Type:	RC
Sale Type:	01	Property IDs Included in Sale:	R20571 R20546 R20545 R334549 R20572 R20569 R20568 R20552 R20553 R20566 R20547
Sales Date:	5/30/2003	Deed Number:	21350127
Sales Price:	\$400,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20547

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20574	Manufactured Home ID:
Situs Address:	2110 CHEMAWA RD NE KEIZER, OR 97303	Legal Description:
Map Tax Lot:	063W36CB09000	

Owner Information

Owner:	CITY OF KEIZER PO BOX 21000 KEIZER, OR 97307

Property Details

Year Built:		Property Code:	
Living Area:		Property Class:	C90
Bedrooms:		Levy Code Area:	92420220
Bathrooms:		Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.32	Apex Sketches:	1

Value Information

RMV Land:	\$146,360	Exemption Description:	CITY GOV'T OWNED PROPERTY, FULL EXEMPT
RMV Improvements:	\$0		
RMV Total:	\$146,360		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	7/3/2003	Deed Number:	21540430
Sales Price:	\$135,000	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20574
Sales Date:	11/6/1998	Deed Number:	15400163
Sales Price:	\$124,500	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20574
Sales Date:	4/9/1997	Deed Number:	13840785
Sales Price:	\$51,710	Deed Type:	RD
Sale Type:	06	Property IDs Included in Sale:	R20574

**Marion County Assessor's Property Records
Property Summary****Property Identification**

Property ID:	R20548	Manufactured Home ID:	
Situs Address:	5401 RIDGE DR NE KEIZER, OR 97303	Legal Description:	ACRES 0.22
Map Tax Lot:	063W36CA00900		

Owner Information

Owner:	DECKARD,JEFFREY & DECKARD,TERESA 5401 RIDGE DR NE KEIZER, OR 97303

Property Details

Year Built:	1960	Property Code:	R35
Living Area:	1600	Property Class:	201
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2	Zoning:	Contact Local Jurisdiction
Legal Acreage:	0.22	Apex Sketches:	1

Value Information

RMV Land:	\$107,810	Exemption Description:	None
RMV Improvements:	\$93,090		
RMV Total:	\$200,900		
Assessed Value:	\$124,570		

Tax Information

Taxes Levied 2014-15:	\$1,948.40	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	2014-15 Tax Statement

Sales Information

Sales Date:	11/3/1999	Deed Number:	16470328
Sales Price:	\$78,000	Deed Type:	WD
Sale Type:	00	Property IDs Included in Sale:	R20548

Sales Date:	8/27/1996	Deed Number:	13350777
Sales Price:	\$64,900	Deed Type:	RD
Sale Type:	00	Property IDs Included in Sale:	R20548

Sales Date:	8/23/1990	Deed Number:	07940257
Sales Price:	\$35,500	Deed Type:	WD
Sale Type:	20	Property IDs Included in Sale:	R20548

Marion County Assessor's Property Records Property Summary

Property Identification

Property ID:	R20544	Manufactured Home ID:	
Situs Address:	5405 RIDGE DR NE KEIZER, OR 97303	Legal Description:	ACRES 3.91
Map Tax Lot:	063W36CA01000		

Owner Information

Owner:	KEIZER CHURCH OF CHRIST 5405 RIDGE DR N KEIZER, OR 97303

Property Details

Year Built:	1999	Property Code:	X
Living Area:	10486	Property Class:	C20
Bedrooms:	3	Levy Code Area:	92420220
Bathrooms:	2.5	Zoning:	Contact Local Jurisdiction
Legal Acreage:	3.91	Apex Sketches:	1

Value Information

RMV Land:	\$1,916,150	Exemption Description:	RELIGIOUS ORGANIZATIONS, FULL EXEMPT
RMV Improvements:	\$1,452,620		
RMV Total:	\$3,368,770		
Assessed Value:	\$0		

Tax Information

Taxes Levied 2014-15:	\$0.00	Tax Payoff Amount:	\$0.00
Tax Rate:	15.6409	Tax Statement:	Tax Statement Not Available

Sales Information

Sales Date:	8/20/2003	Deed Number:	21820341
Sales Price:	\$56,000	Deed Type:	WD
Sale Type:	05	Property IDs Included in Sale:	R20544
Sales Date:	1/7/1999	Deed Number:	E15580298
Sales Price:	\$0	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20544
Sales Date:	8/3/1998	Deed Number:	E15430674
Sales Price:	\$0	Deed Type:	WD
Sale Type:	03	Property IDs Included in Sale:	R20544

Appendix "F"

KEIZER STATION CENTER AREA 'C'

SEC. 36, T. 6 S., R. 3 W., W.M.
CITY OF KEIZER
MARION COUNTY, OREGON

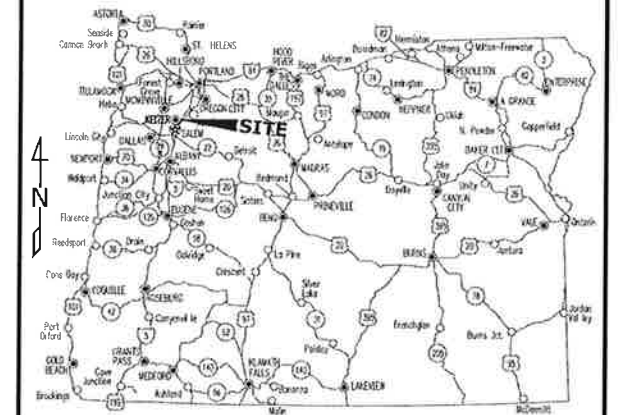
Owner / Developer:

BONAVENTURE SENIOR LIVING

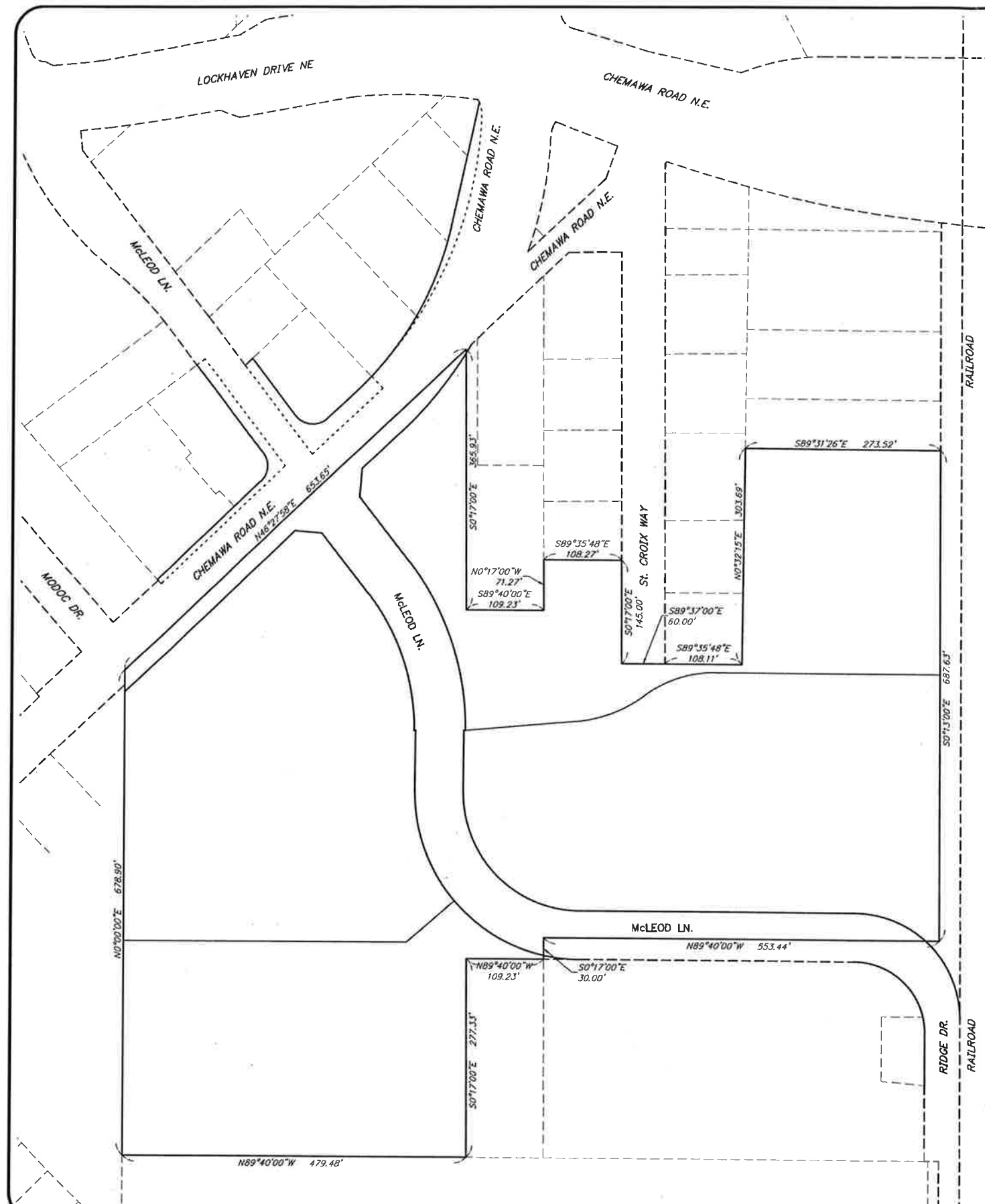
3425 BOONE ROAD S.E.
SALEM, OREGON 97317

B.M. 149.68

MARION COUNTY BENCHMARK DESIGNATED 9658
PER MARION COUNTY SURVEYOR'S OFFICE LOCATED
AT THE SOUTHWEST CORNER OF THE INTERSECTION
OF CHEMAWA RD. NE & MCLEOD LN. NE



VICINITY MAP



SHEET INDEX

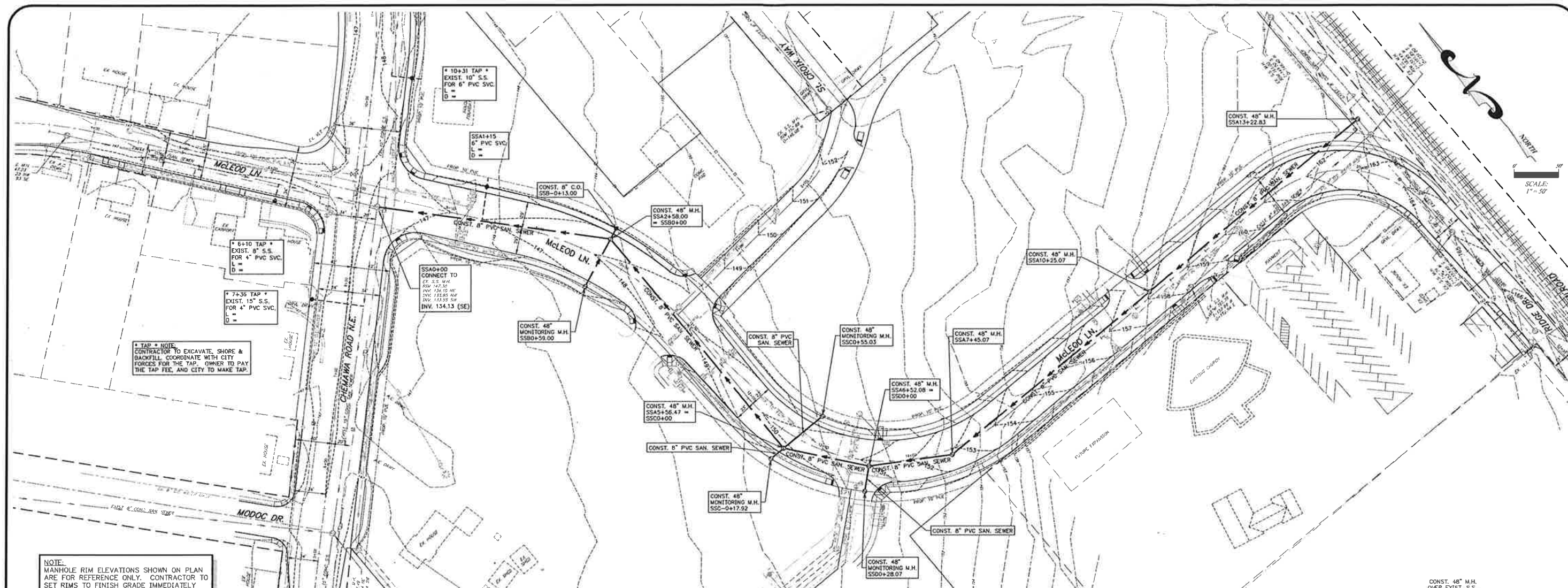
SHEET 101	COVER SHEET	
SHEET 201	SANITARY SEWER IMPROVEMENTS	A-LINE
SHEET 202	SANITARY SEWER IMPROVEMENTS	B-LINE, C-LINE & D-LINE
SHEET 301	STORM DRAIN IMPROVEMENTS	A-LINE & B-LINE
SHEET 302	STORM DRAIN IMPROVEMENTS	CHEMAWA RD. ST. CROIX WAY ACCESS
SHEET 303	STORM DRAIN IMPROVEMENTS	McLEOD LN. 1+00 - 14+00
SHEET 304	STORM DRAIN IMPROVEMENTS	McLEOD LN. 14+00 - 23+00
SHEET 401	STREET IMPROVEMENTS	CHEMAWA RD.
SHEET 402	STREET IMPROVEMENTS	McLEOD LN. 1+00 - 14+00
SHEET 403	STREET IMPROVEMENTS	McLEOD LN. 14+00 - 23+00 ST. CROIX WAY ACCESS
SHEET 404	TYPICAL STREET SECTIONS	CHEMAWA RD.
SHEET 501	DOMESTIC WATER IMPROVEMENTS	McLEOD LN. & FUTURE ACCESS
SHEET 502	DOMESTIC WATER IMPROVEMENTS	McLEOD LN. & FUTURE ACCESS
SHEET 601	EROSION CONTROL PLAN	
SHEET 602	EROSION CONTROL NOTES & DETAILS	
SHEET 701	STREET LIGHTING, STREET TREE & SIDEWALK PLAN	
SHEET 801	STRIPING & SIGNING PLAN	
SHEET 802	STRIPING & SIGNING DETAILS	
SHEET 803	SIGNAL UPGRADE PLAN	LOCKHAVEN DR. & CHEMAWA RD.
SHEET 901	DETAIL SHEET & KEIZER GENERAL CONSTRUCTION NOTES	
SHEET 902	DETAIL SHEET	
SHEET 903	DETAIL SHEET	
SHEET 904	DETAIL SHEET & SALEM GENERAL CONSTRUCTION NOTES	

ABBREVIATIONS

A.C.	ASPHALTIC CONCRETE	L.P.	LIGHT POLE
ALUM.	ALUMINIZED C/P	M	METER, MAIN
ASSY.	ASSEMBLY	M.H.	MANHOLE
B.O.	BLOW OFF	MTL	METAL
B.F.V.	BUTTERFLY VALVE	O.H.	OVERHEAD
C.A.G.	CURB & GUTTER	P.C.	POINT OF CURVE
CAV	CABLE TELEVISION	P.C.C.	POINT OF CONTINUING CURVE
C.B.	CATCH BASIN	PED.	PEDESTAL
C.B.C.O.	CATCH BASIN CLEANOUT	PRC	POINT OF REVERSE CURVE
C.B.I.	CATCH BASIN INLET	PROP.	PROPOSED
C.L.	CENTERLINE	PT	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	PUB.	PUBLIC
C.O.	CLEANOUT	PUE	PUBLIC UTILITY EASMT.
CONC.	CONCRETE	PVC	POLYVINYL CHLORIDE
CONST.	CONSTRUCT	PVT.	PRIVATE
D.I.	DUCTILE IRON	P.P.	POWER POLE
DIA.	DIAMETER	P.L.	PROPERTY LINE
DWG.	DRAWING	R	RADIUS
EASMT.	EASEMENT	R-	RIB
E.G.	EXIST. GRADE / GROUND	RD	ROAD DRAIN
EOP, E.P.	EDGE OF PAVEMENT	R.O.W.	RIGHT-OF-WAY
ELEC.	ELECTRIC	SAN.S. or S.S.	SANITARY SEWER
ELEV. or EL.	ELEVATION	S	SLOPE
EX. or EXIST.	EXISTING	STA.	STATION
FT.	FEET	STD.	STANDARD
F.F.	FINISH FLOOR	STL	STEEL
F.G.	FINISH GRADE	STN.DRN.	STORM DRAIN
F.H.	FIRE HYDRANT	SVC.	SERVICE
F.M.	FORCE MAIN	SW	SIDEWALK
GUT. or GTR.	GUTTER	T.C.	TOP OF CURB
G.V.	GATE VALVE	TEL.	TELEPHONE
IMP.	IMPROVEMENT	TYP.	TYPICAL
INSET	INSET	U.G.	UNDERGROUND
INV. or I.	INVERT	VLT.	VAULT
L	LENGTH, LINE	W.M.	WATER MAIN

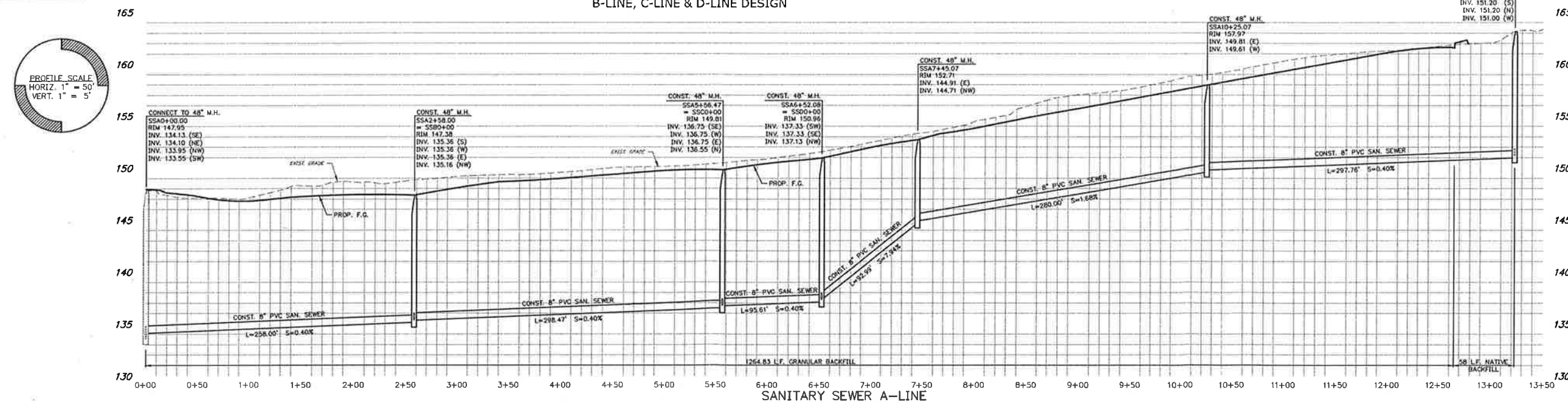
SYMBOLS

EXIST. PROP.		EXIST. PROP.	
⊙	BLOW OFF ASSY.	⊙	MANHOLE SAN. SEWER
⊞	CATCH BASIN	⊞	MANHOLE STORM DRAIN
⊞	CATCH BASIN CLEANOUT	②	2' DIA. C.O./M.H.
⊞	CATCH BASIN INLET	①	MANHOLE TELEPHONE
⊞	CATV PED. / BOX	⊞	MANHOLE WATER
○	CLEANOUT	▷	REDUCER / INCREASER
⊞	ELEC. PED. / BOX	⊞	TEL. PED. / BOX
⊞	FIRE HYDRANT	⊞	TRAFFIC PED. / BOX
⊞	GAS LOCATION MARKER	⊞	UTILITY / POWER POLE
⊞	GAS VALVE	⊞	WATER METER
⊞	MAIL BOX	⊞	WATER VALVE
---	CABLE TELEVISION	---	SANITARY SEWER EXIST.
---	CENTERLINE	---	SANITARY SEWER PROP.
---	DITCH C.L.	---	STORM DRAIN EXIST.
---	ELECTRICAL LINE	---	STORM DRAIN PROP.
---	GAS MAIN	---	WATER MAIN EXIST.
---	TELEPHONE LINE	---	WATER MAIN PROP.



NOTE:
MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE FOR REFERENCE ONLY. CONTRACTOR TO SET RIMS TO FINISH GRADE IMMEDIATELY AFTER COMPLETION OF BASE ROCK GRADING.

SEE SHEET 202 FOR SANITARY SEWER B-LINE, C-LINE & D-LINE DESIGN



MULTI/TECH
ENGINEERING SERVICES, INC.
1185 13th ST. S.E. SALEM, OR 97302
PH. (503) 363-9227 FAX (503) 364-1260
www.mtengr.com office@mtengr.com

MULTI/TECH ENGINEERING EXEMPT FROM LIABILITY IF NOT STAMPED APPROVED
NOT FOR CONSTRUCTION
UNLESS STAMPED APPROVED HERE

REGISTERED PROFESSIONAL ENGINEER
MAY 14, 1978
MARK D. GREY
EXPIRES: 06-30-2015

NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER.
DIMENSIONS & NOTES TAKE PRECEDENCE OVER GRAPHICAL REPRESENTATION.

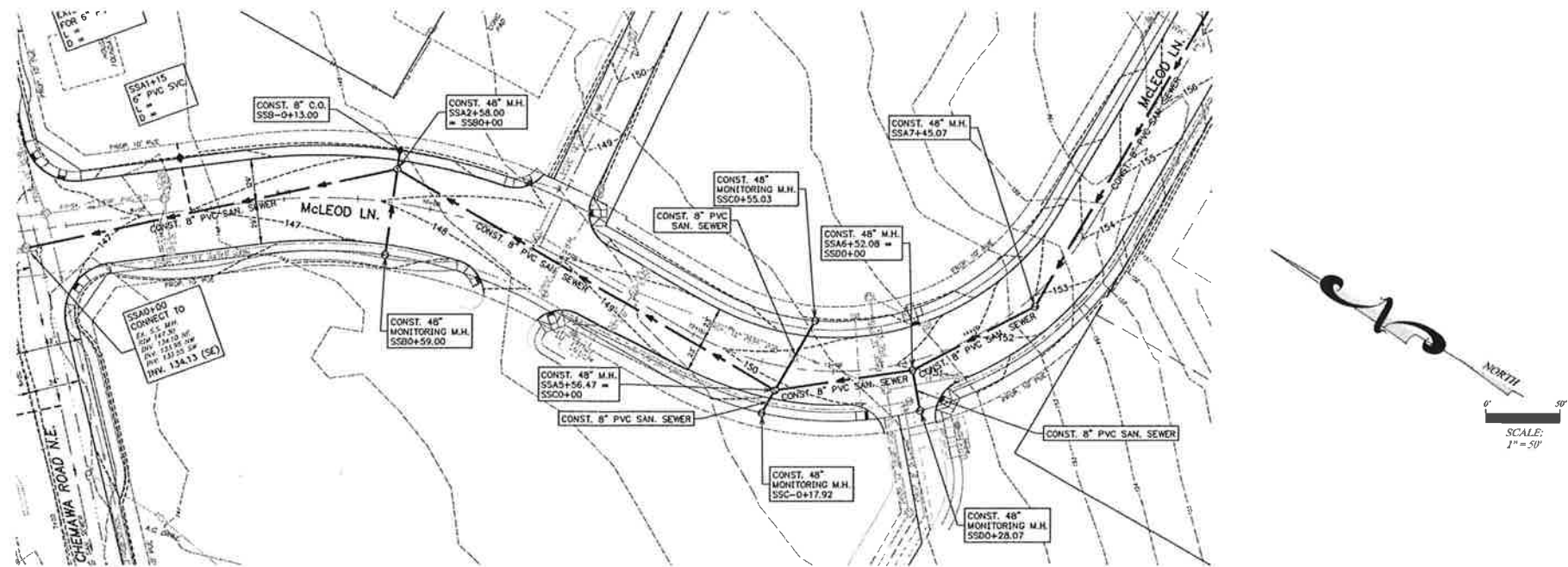
Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built:

KEIZER STATION CENTER AREA "C"

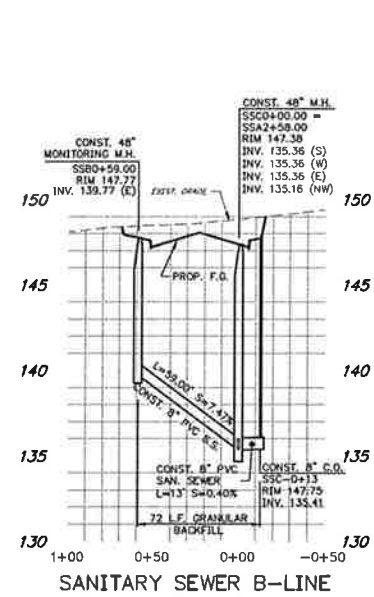
SANITARY SEWER IMPROVEMENTS

Project Number
6018
Sheet Number
201

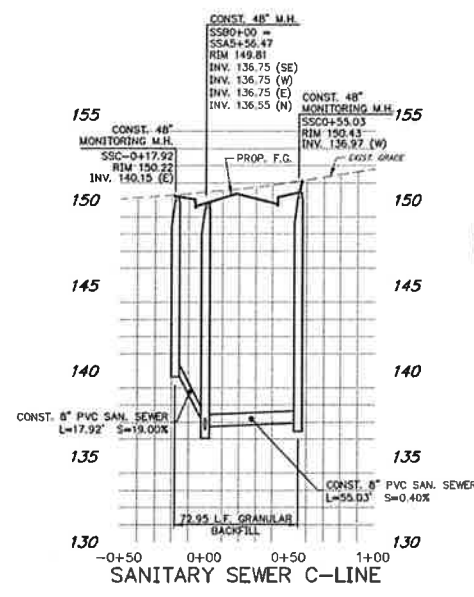
SEE SHEET 201 FOR SANITARY SEWER
A-LINE DESIGN



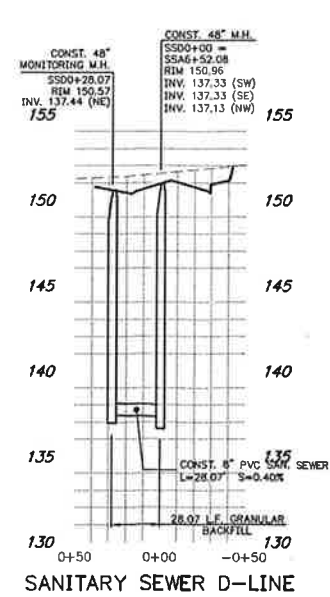
NOTE:
MANHOLE RIM ELEVATIONS SHOWN ON PLAN
ARE FOR REFERENCE ONLY. CONTRACTOR TO
SET RIMS TO FINISH GRADE IMMEDIATELY
AFTER COMPLETION OF BASE ROCK GRADING.



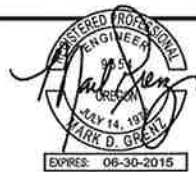
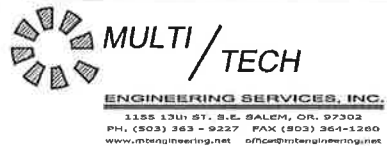
SANITARY SEWER B-LINE



SANITARY SEWER C-LINE



SANITARY SEWER D-LINE



NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER.

**DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.**

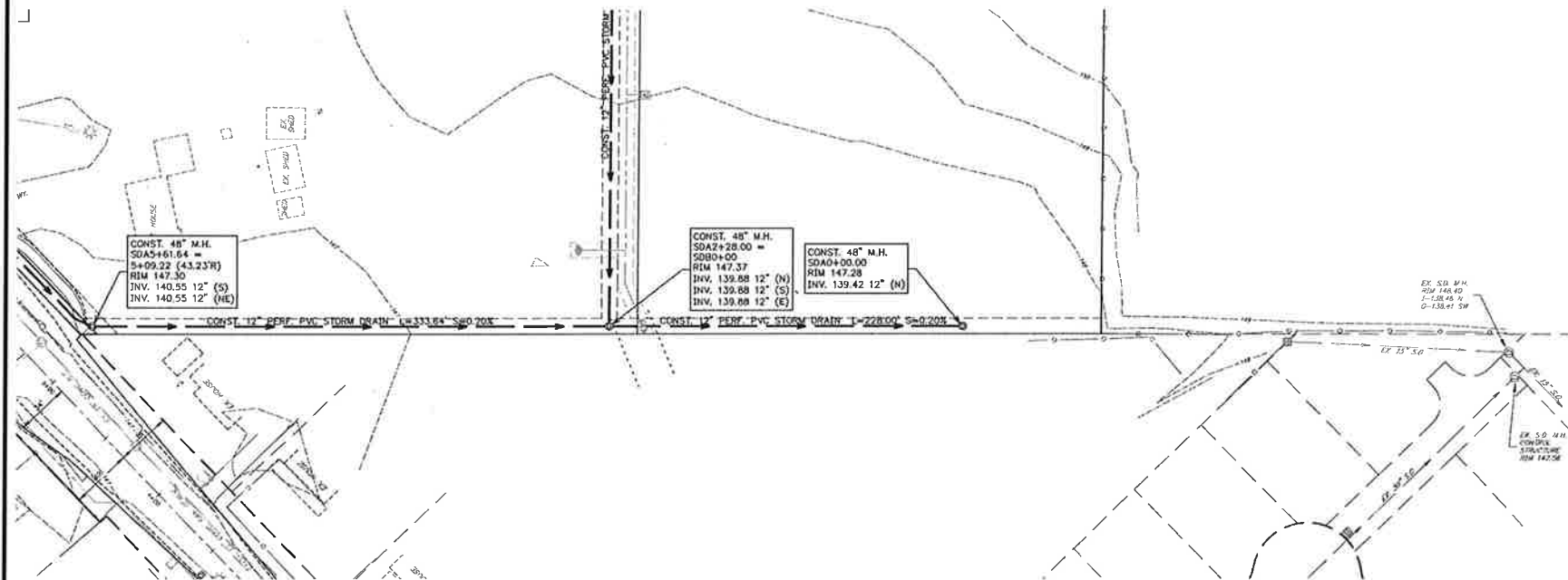
Design: M.D.G.
 Drawn: D.G.G.
 Checked: B.M.G.
 Date: MARCH 2015
 Scale: AS SHOWN
 As-Built: _____

KEIZER STATION CENTER AREA "C"

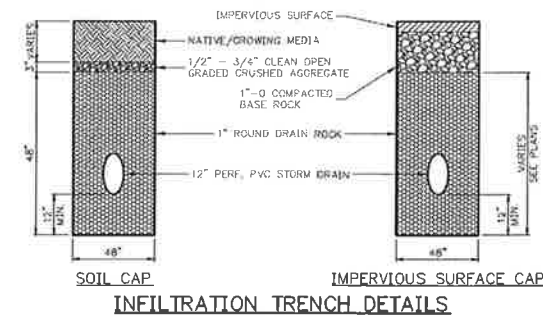
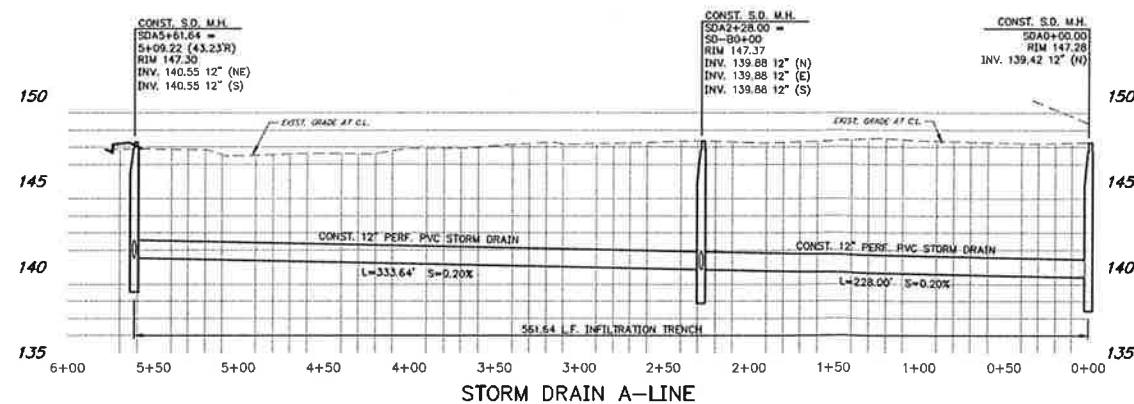
SANITARY SEWER IMPROVEMENTS

Project Number
6018
Sheet Number
202

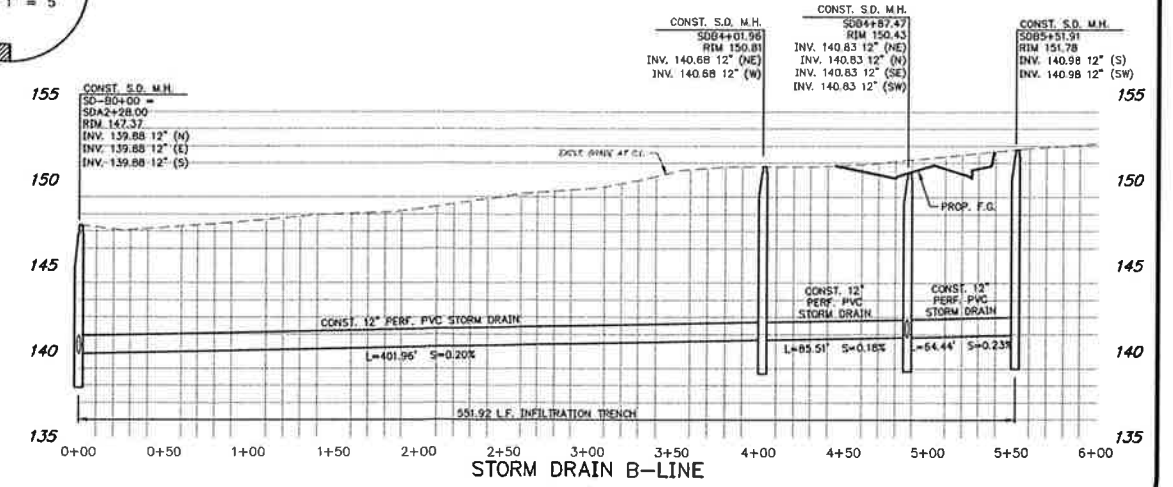
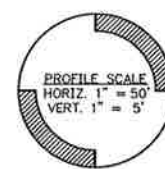
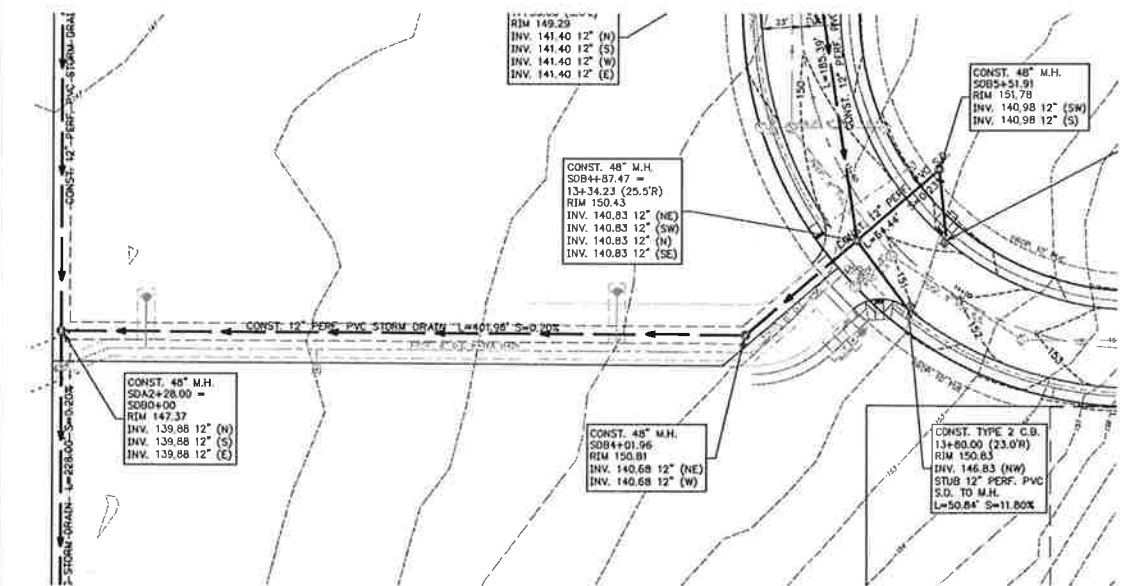
SEE SHEET 302 FOR S.D. DESIGN
IN CHEMAWA RD.

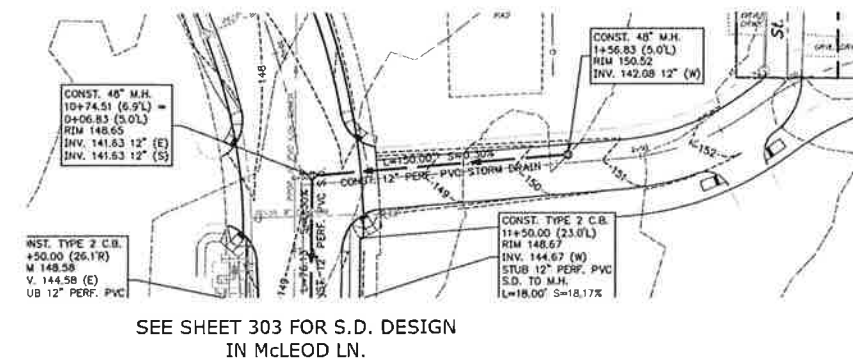


NOTE:
MANHOLE RIM ELEVATIONS SHOWN ON PLAN
ARE FOR REFERENCE ONLY. CONTRACTOR TO
SET RIMS TO FINISH GRADE IMMEDIATELY
AFTER COMPLETION OF BASE ROCK GRADING.

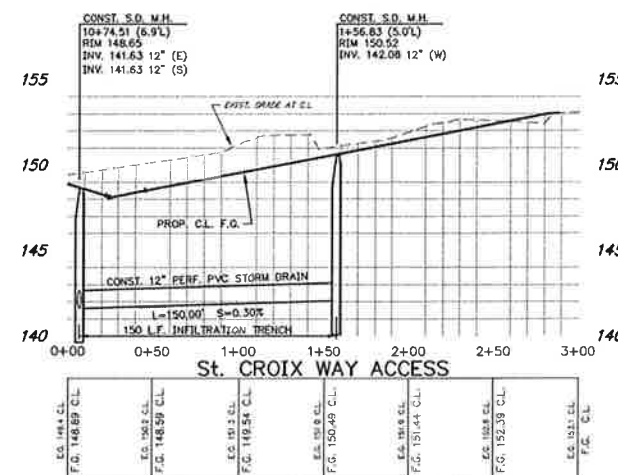
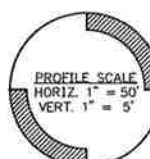


SEE SHEET 303 FOR S.D. DESIGN
IN McLEOD LN.



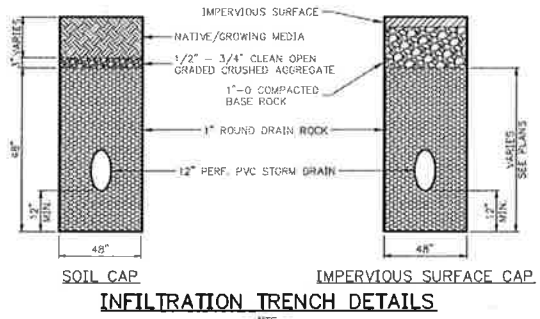
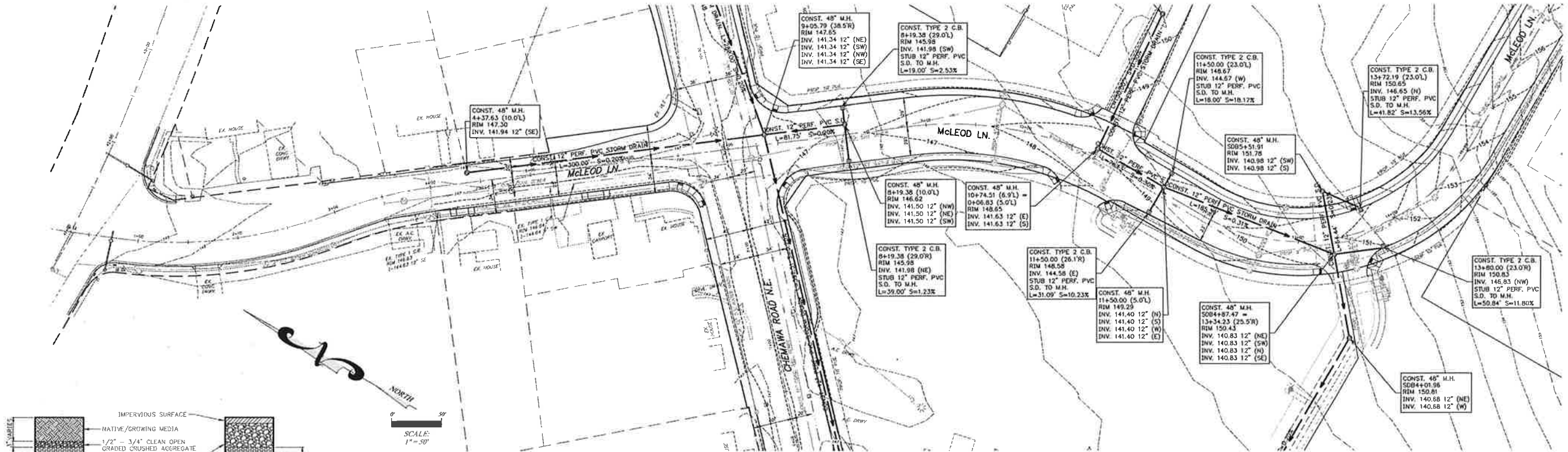


SEE SHEET 303 FOR S.D. DESIGN
IN McLEOD LN.



SEE SHEET 302 FOR S.D. DESIGN
IN St. CROIX WAY ACCESS

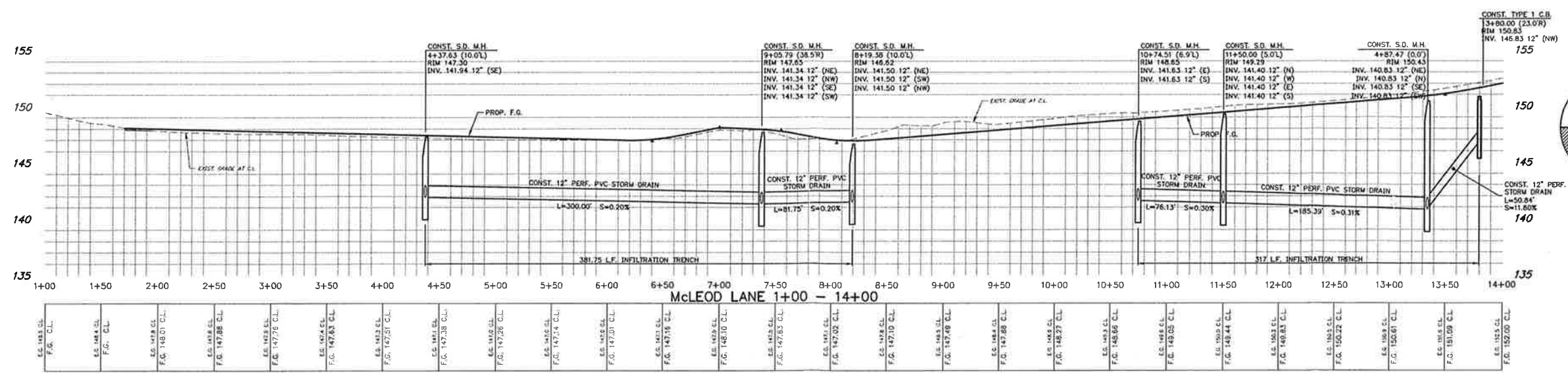
SEE SHEET 304 FOR CONTINUATION
OF S.D. DESIGN IN McLEOD LN.



SEE SHEET 302 FOR S.D. DESIGN
IN CHEMAWA RD.

SEE SHEET 301 FOR S.D. B-LINE DESIGN

NOTE:
MANHOLE RIM ELEVATIONS SHOWN ON PLAN
ARE FOR REFERENCE ONLY. CONTRACTOR TO
SET RIMS TO FINISH GRADE IMMEDIATELY
AFTER COMPLETION OF BASE ROCK GRADING.



MULTI/TECH
ENGINEERING SERVICES, INC.
1125 N. 12th ST., S.E. ALBANY, OR 97302
PH: (503) 363-9227 FAX (503) 364-2260
www.mtengineering.net office@mtengineering.net

NOT FOR
CONSTRUCTION
UNLESS STAMPED
APPROVED HERE

REGISTERED PROFESSIONAL
ENGINEER
9%
MAY 14, 1991
MARK D. GREY
EXPIRES 06-30-2015

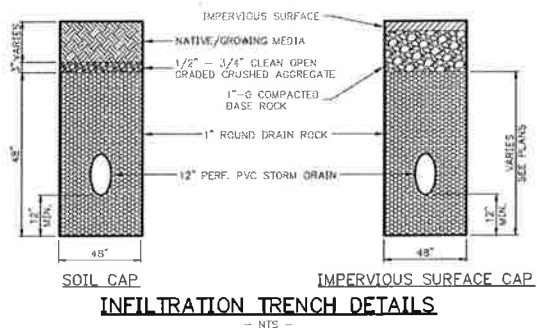
NO CHANGES, MODIFICATIONS OR
REPRODUCTIONS TO BE MADE TO
THESE DRAWINGS WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.

Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built:

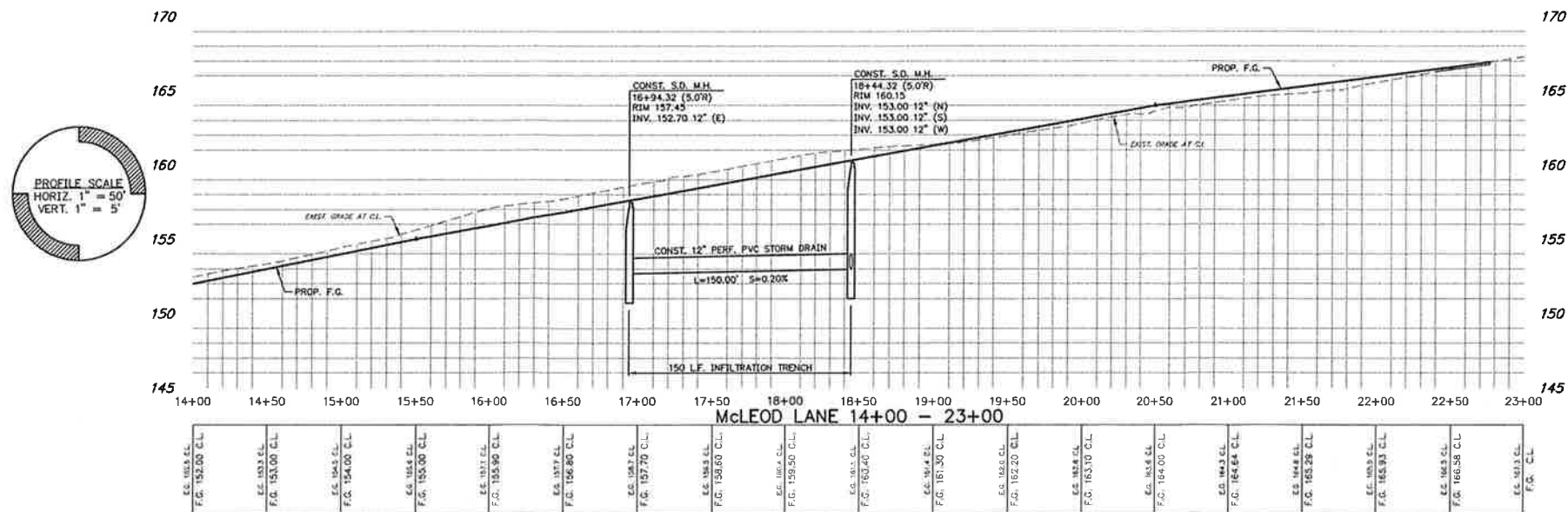
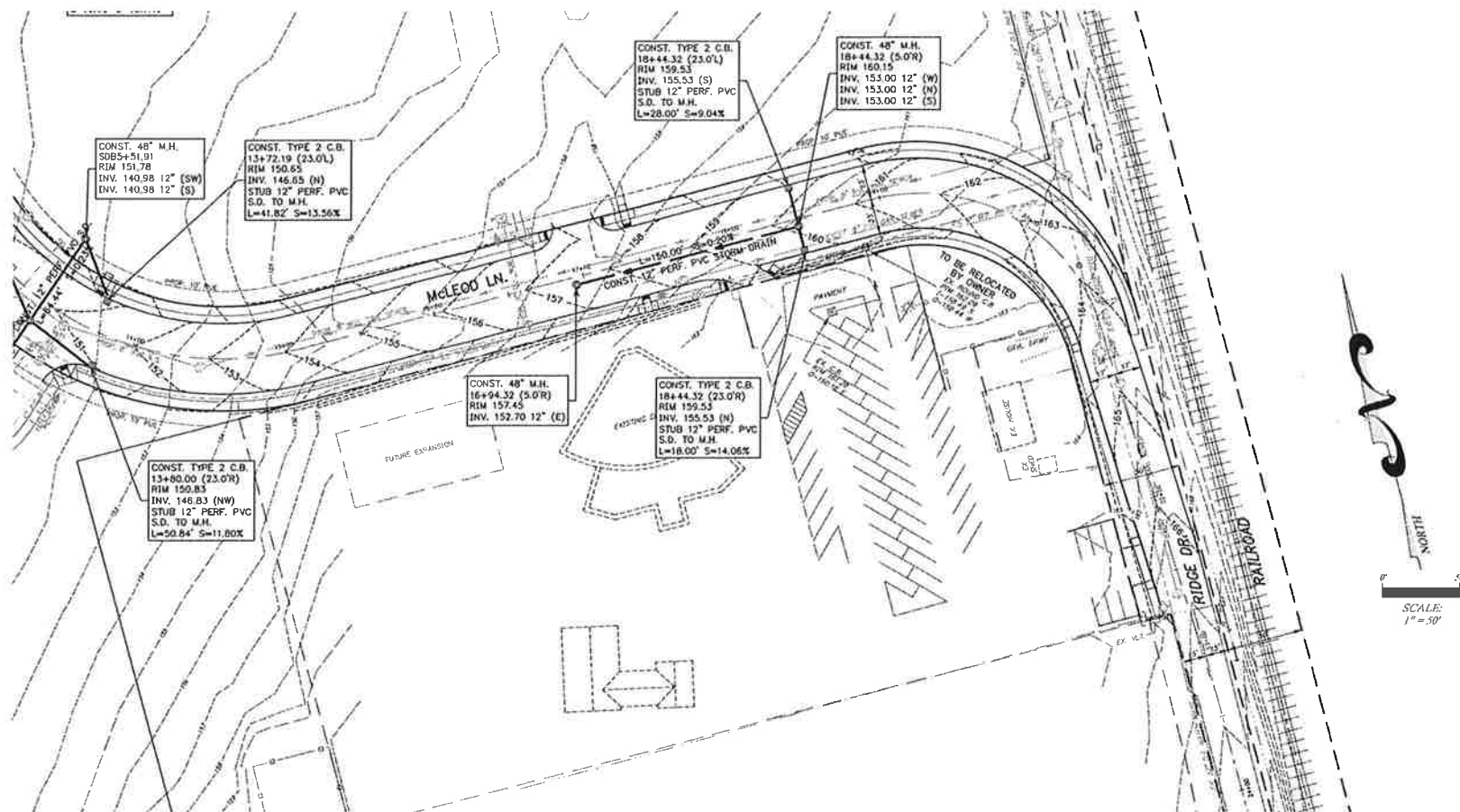
**KEIZER STATION CENTER
AREA "C"**

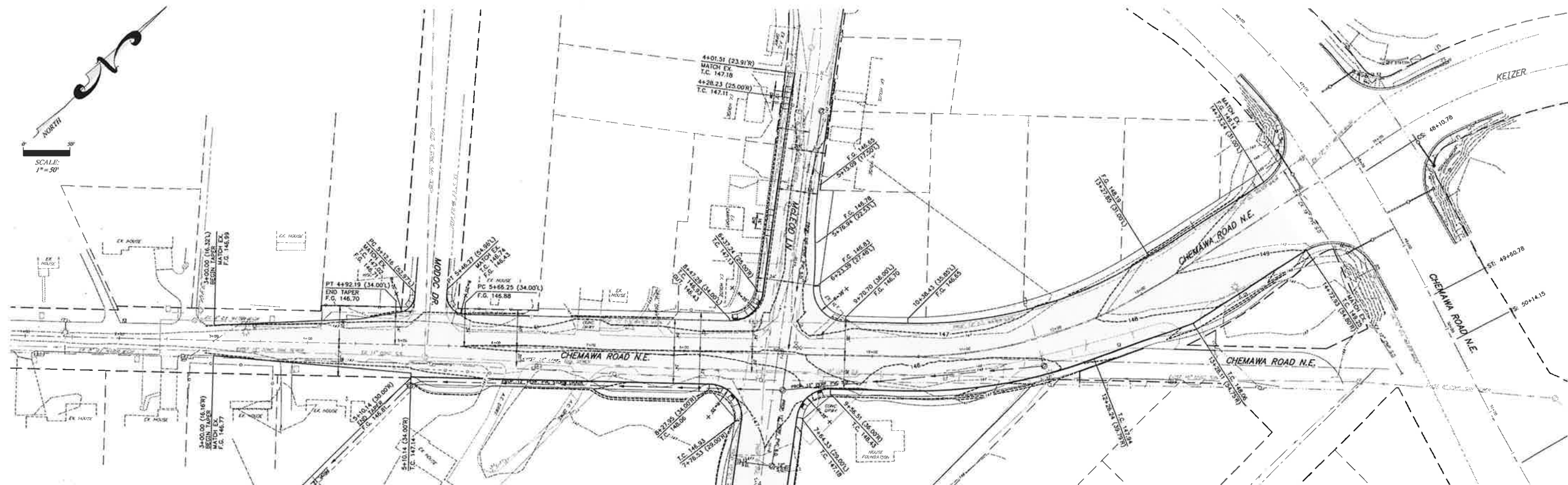
**STORM DRAIN
IMPROVEMENTS**

Project Number
6018
Sheet Number
303

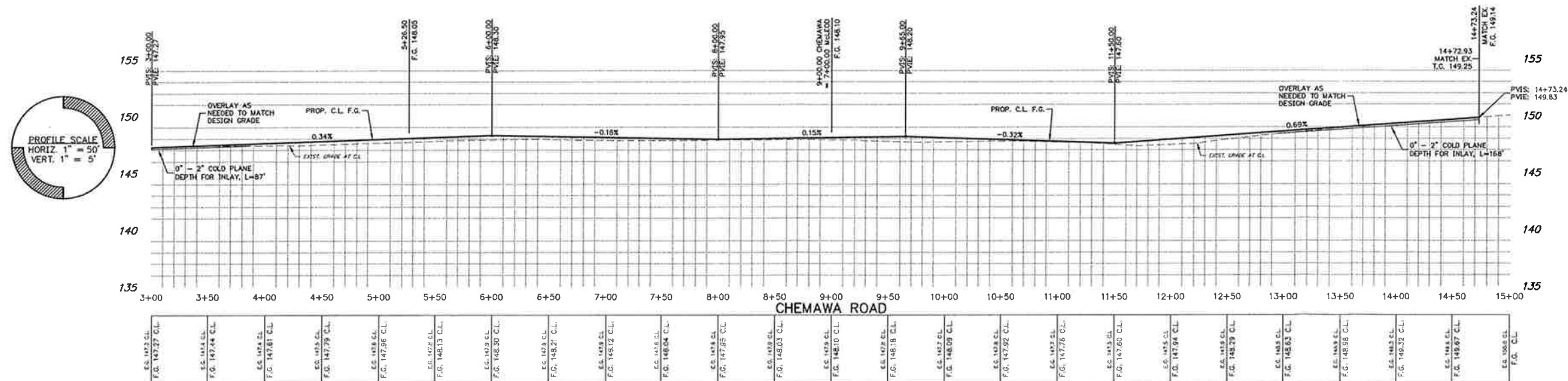


SEE SHEET 303 FOR CONTINUATION
OF S.D. DESIGN IN McLEOD LN.



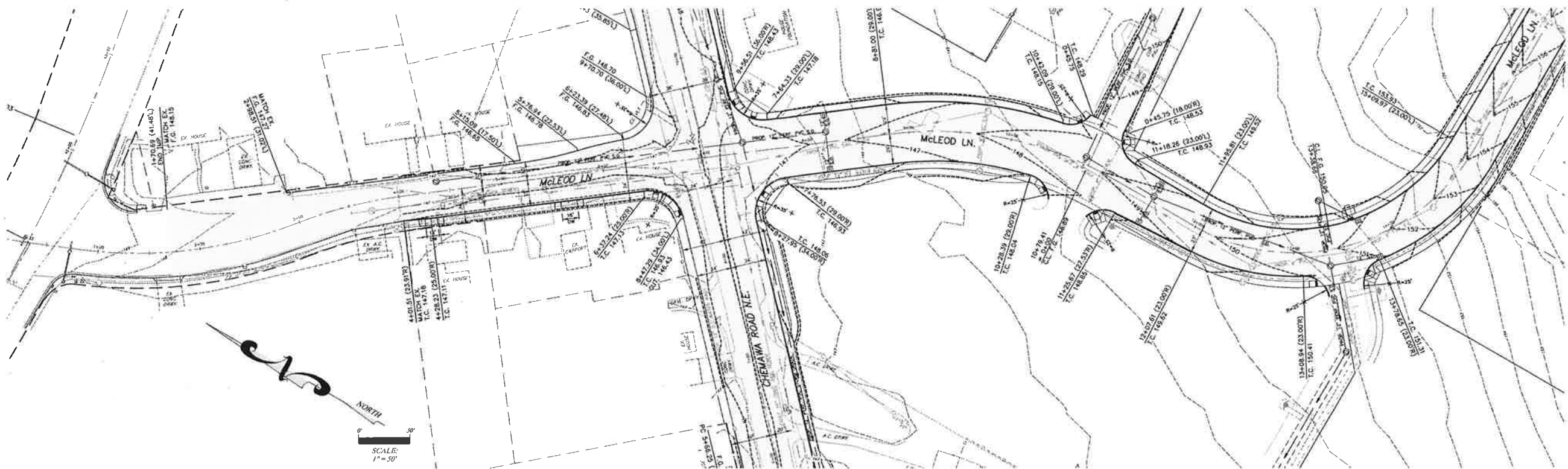


SEE SHEET 402 FOR
MCLEOD LN. DESIGN

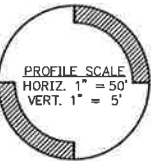
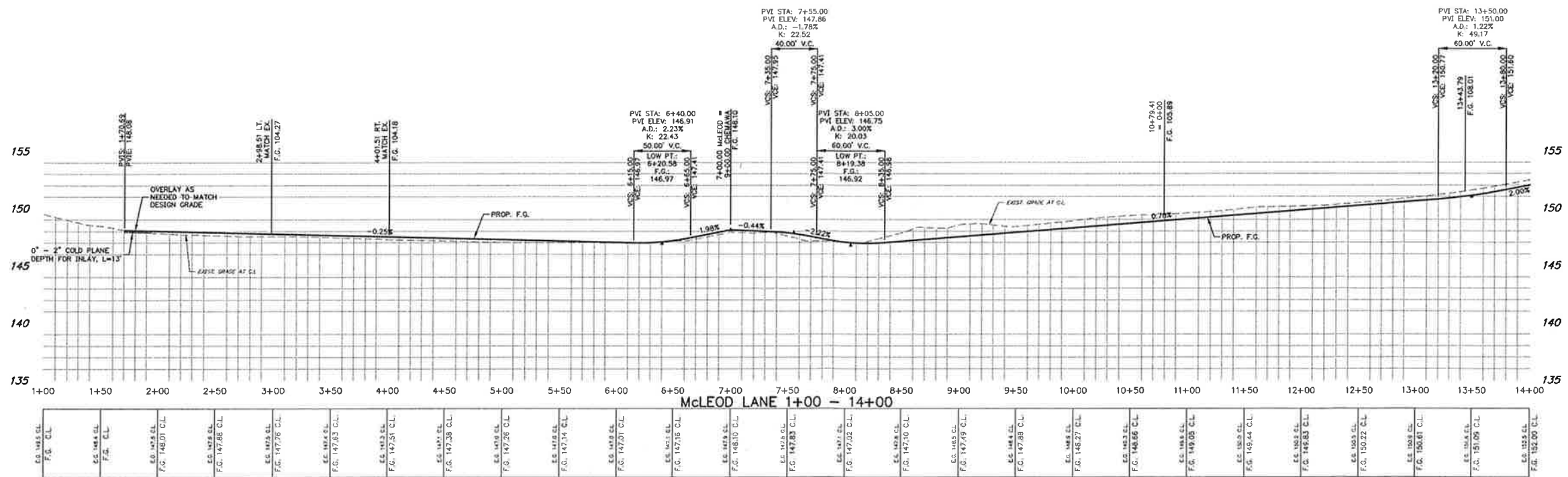


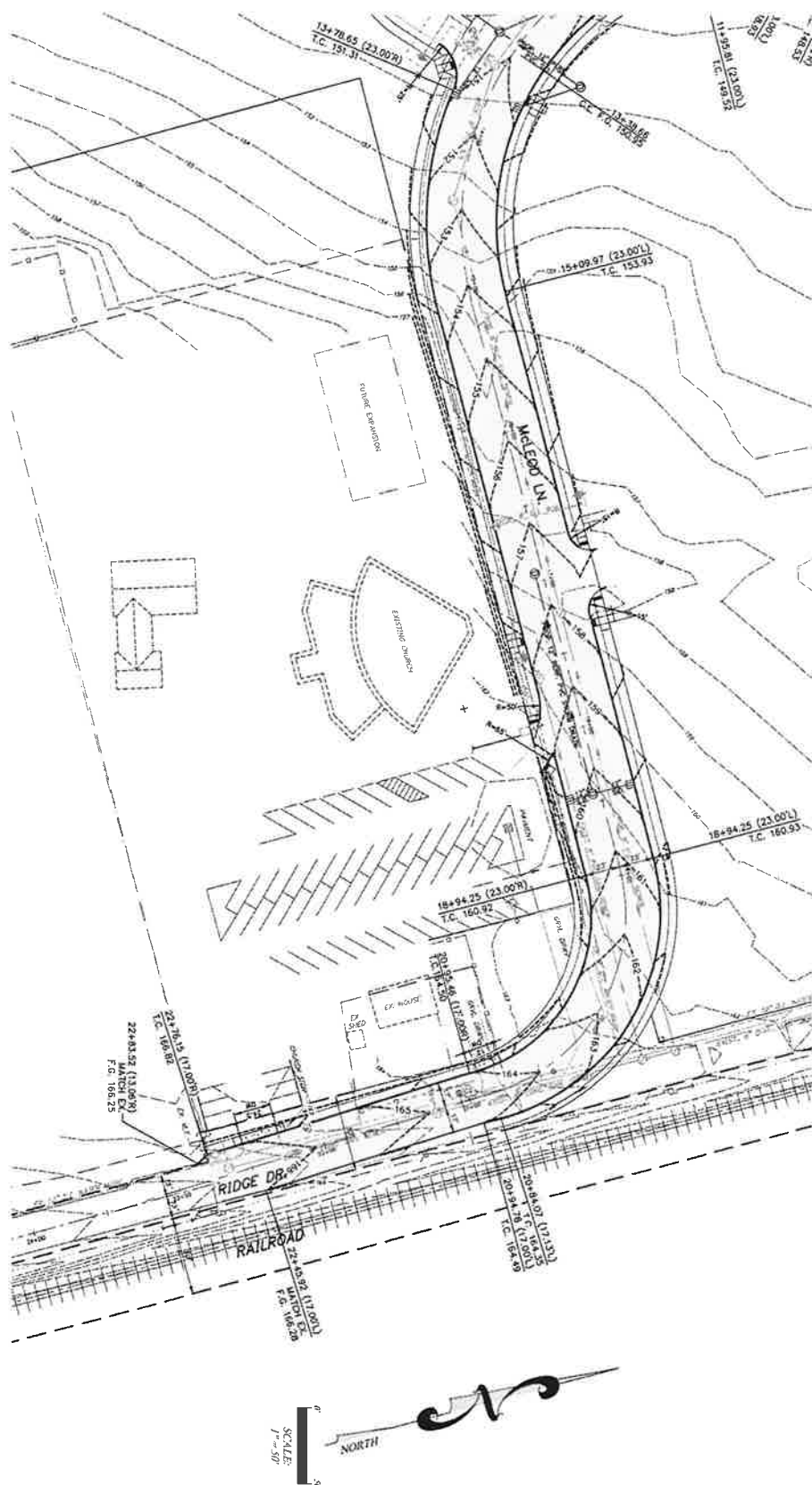
SEE SHEET 403 FOR
ST. CROIX WAY ACCESS DESIGN

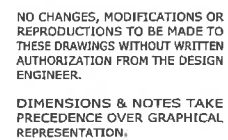
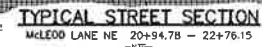
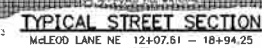
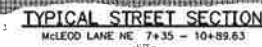
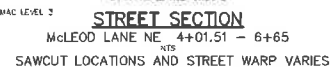
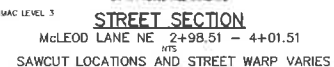
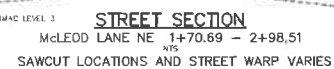
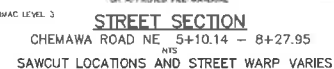
SEE SHEET 403 FOR CONTINUATION
OF McLEOD LN. DESIGN



SEE SHEET 401 FOR
CHEMAWA RD. DESIGN







KEIZER STATION CENTER AREA "C"

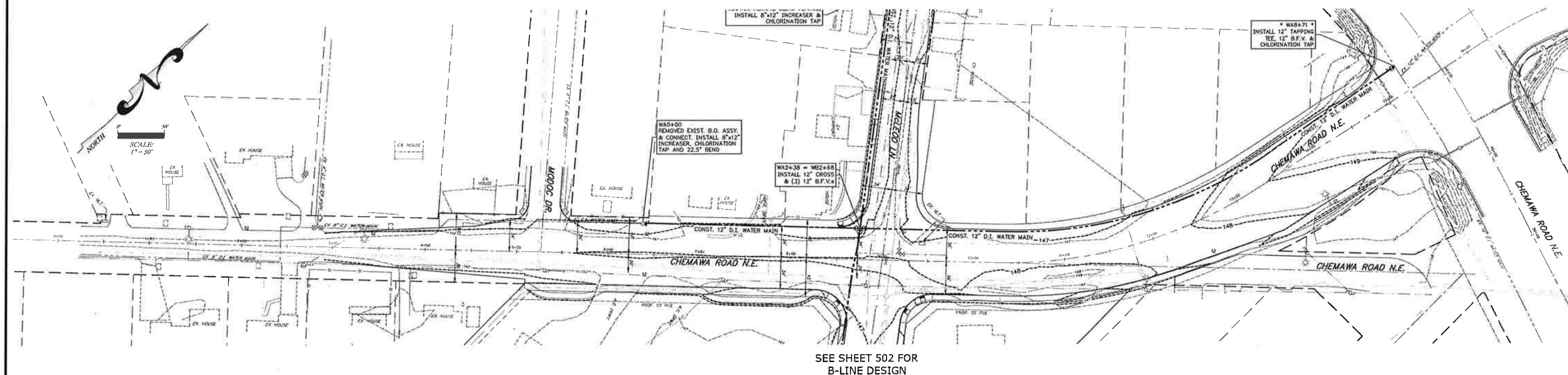
Project Number
6018
Sheet Number
404

ALL M.J. JOINTS TO BE
RESTRAINED JOINTS

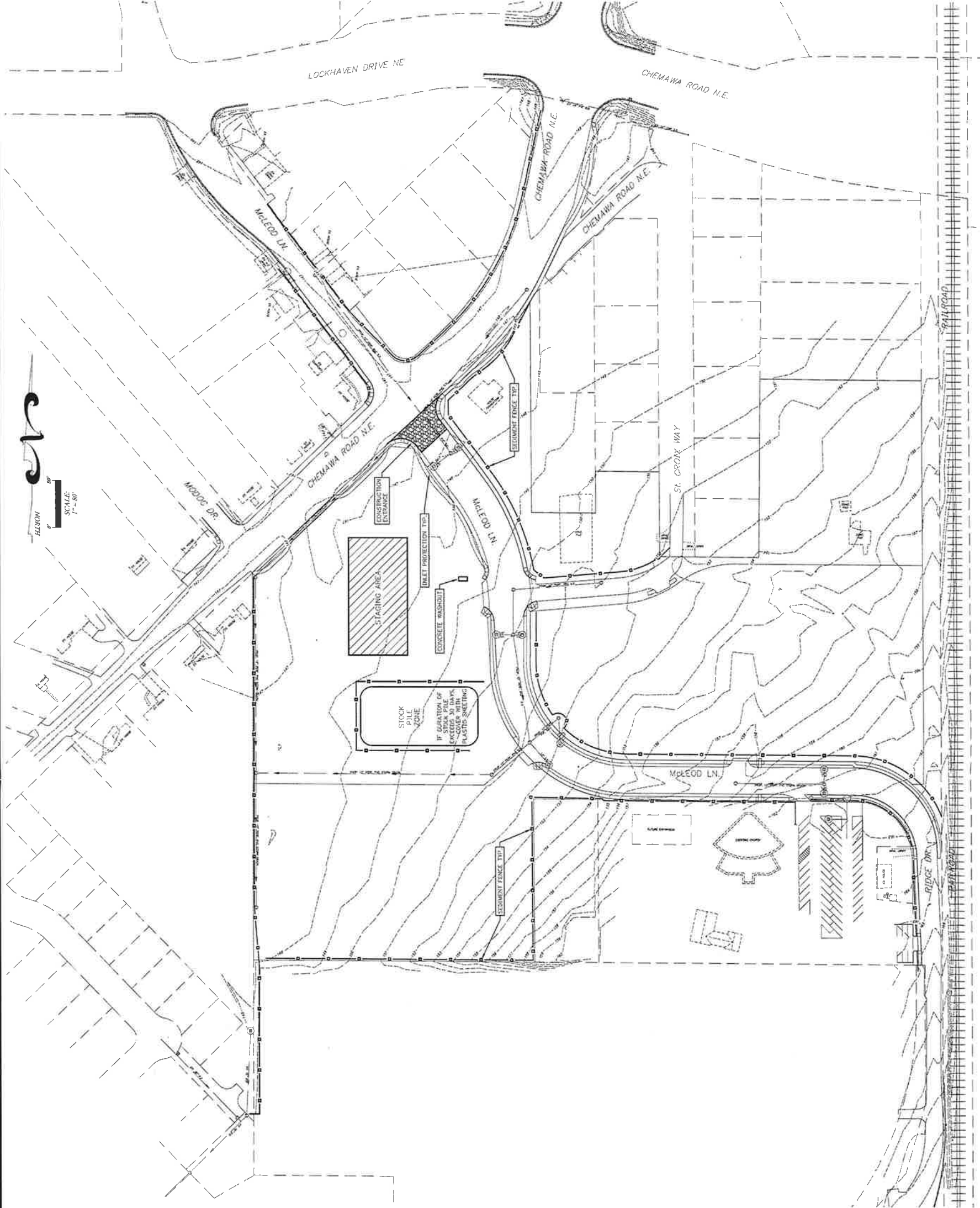
ALL WATER MAINS TO BE POLY
WRAPPED (SEE DETAIL W-32)

* NOTE: *
CONTRACTOR TO EXCAVATE, SHORE &
BACKFILL COORDINATE WITH CITY
FORCES FOR THE TAP. OWNER TO PAY
THE TAP FEE, AND CITY TO MAKE TAP.
IF APPLICABLE CONTRACTOR TO PATCH
EXISTING STREET AREA AND USE
CONTROLLED DENSITY BACKFILL

SEE SHEET 502 FOR
B-LINE DESIGN



SEE SHEET 502 FOR
B-LINE DESIGN



Project Number
6018
Sheet Number
601

**EROSION CONTROL
PLAN**

**KEIZER STATION CENTER
AREA "C"**

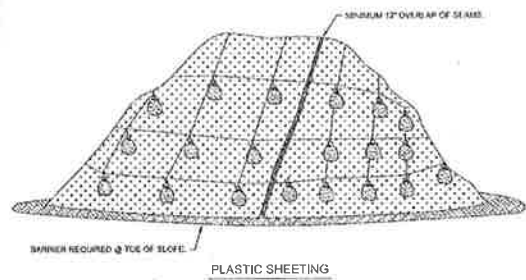
Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built:

NO CHANGES, MODIFICATIONS OR
REVISIONS TO BE MADE TO
THESE DRAWINGS WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.



MULTITECT ENGINEERING EXEMPT FROM
LIABILITY IF NOT STAMPED APPROVED
**NOT FOR
CONSTRUCTION
UNLESS STAMPED
APPROVED HERE**

MULTI / TECH
ENGINEERING SERVICES, INC.
3355 3RD ST. S.E. SUITE 200, SALEM, OR 97302
PH: (503) 343-9227 FAX (503) 344-1240
www.multitecengineering.net office@multitecengineering.net

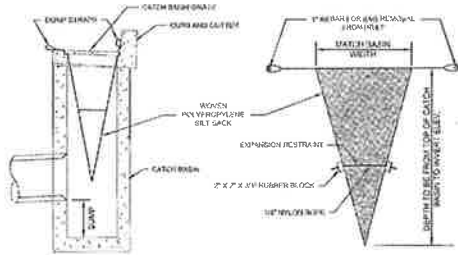


NOTES:

1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED @ TOE OF SLOPE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING CANDLELAYS OR TIRES ON ROPE WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.

CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD PLAN PLASTIC SHEET COVERING

APPROVED: *[Signature]* DATE: 3/10/14 DRAWN BY: DFN 1/20/14 CHECKED BY: HLL 1/20/14 **NO.908**

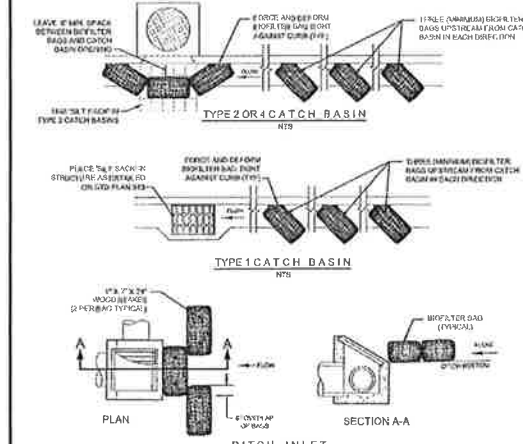


NOTES:

1. EMPTY SILT SACK WHEN ACCUMULATED SEDIMENT HAS FILLED OVER 1/2 OF THE DEPTH OF SACK.
2. SILT SACK SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIRONMENTAL AND SUPPLIED BY ACF WEST (800-771-5151) OR APPROVED EQUAL.
3. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD PLAN SILT SACK

APPROVED: *[Signature]* DATE: 3/10/14 DRAWN BY: DFN 1/20/14 CHECKED BY: HLL 1/20/14 **NO.913**



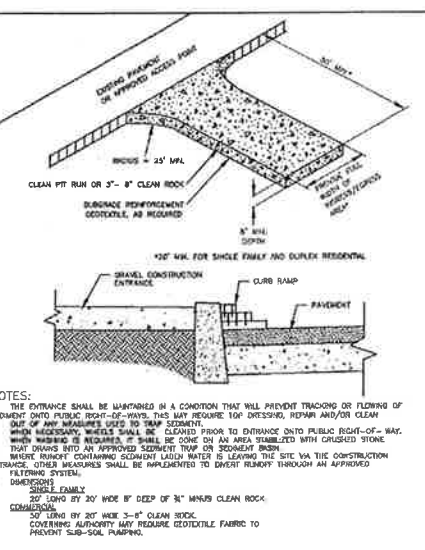
NOTES:

1. LOCATION OF INDIVIDUAL PROTECTION DEVICES TO BE FIELD LOCATED PRIOR TO START OF ANY CONSTRUCTION.
2. IF FLOW IS IN THE OPPOSITE DIRECTION SHOWN OR FROM BOTH DIRECTIONS, REVERSE THE PLACEMENT OF THE BIOFILTER BAGS TO THE UPWIND SIDE (ON BOTH SIDES OF CATCH BASIN).
3. OVERLAP BIOFILTER BAGS A MINIMUM OF 6" IN ALL CASES WHERE OVERLAP IS SHOWN.
4. STAKE BIOFILTER BAGS WHEN INSTALLED ON NON HARD SURFACE AREAS. ANCHOR ON HARD SURFACES WITH SANDBAGS OR OTHER APPROVED METHODS.

CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD PLAN BIOFILTER BAG INLET PROTECTION

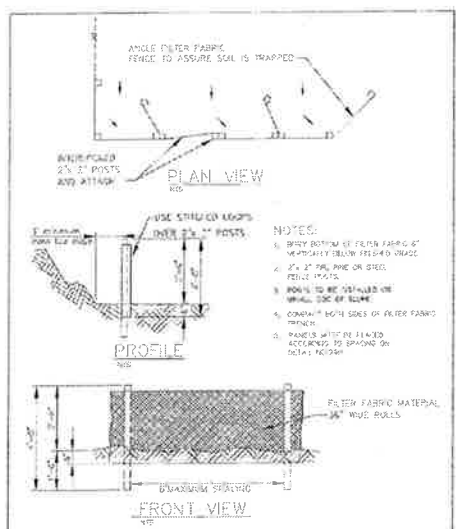
APPROVED: *[Signature]* DATE: 3/10/14 DRAWN BY: DFN 1/20/14 CHECKED BY: HLL 1/20/14 **NO.914**

DETAILS SHALL NOT SUPERSEDE ANY CITY OF KEIZER STANDARD DESIGN CRITERIA, SPECIFICATIONS OR DRAWINGS.



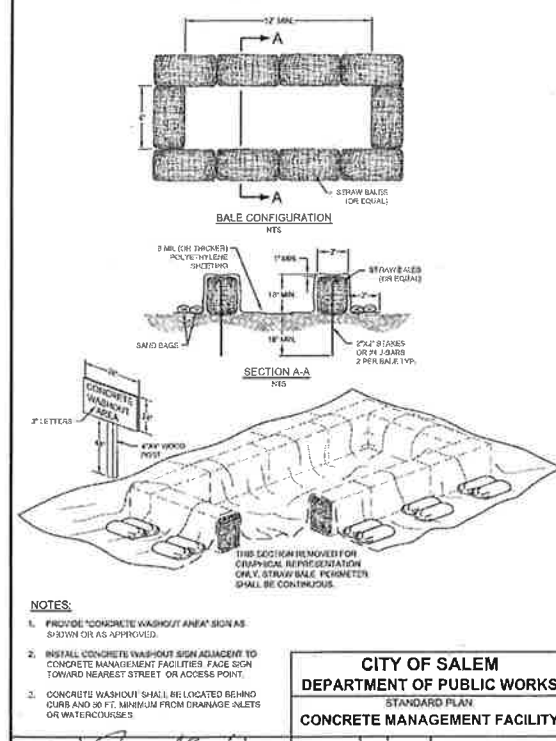
- NOTES:
1. THE ENTRANCE SHALL BE GUARDED IN A MANNER THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN-UP OF ANY MATERIALS USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, SEDIMENT SHALL BE CLEANED PRIOR TO DRIVING ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN NECESSARY, SEDIMENT SHALL BE CLEANED PRIOR TO DRIVING ONTO PUBLIC RIGHT-OF-WAY.
 4. MAINTENANCE OF SEDIMENT TRAP SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT POND.
 5. MAINTENANCE OF SEDIMENT TRAP SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT POND.

CONSTRUCTION ENTRANCE



- NOTES:
1. SPECIFY BOTTOM OF FENCE FABRIC AT MINIMUM 12" BELOW FENCE GRADE.
 2. 2" x 2" POLYPROPYLENE OR STEEL FENCE POSTS.
 3. FENCE TO BE INSTALLED ON MINIMUM 12" OF FILL.
 4. CONSTRUCT BOTH SIDES OF FENCE FABRIC FENCE.
 5. FENCE MUST BE PLACED ACCORDING TO SPACING ON SCHED 100/50.

SEDIMENT FENCE



NOTES:

1. PROVIDE "CONCRETE WASHOUT AREA" SIGN AS SHOWN OR AS APPROVED.
2. INSTALL CONCRETE WASHOUT SIGN ADJACENT TO CONCRETE MANAGEMENT FACILITY FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT.
3. CONCRETE WASHOUT SHALL BE LOCATED BEHIND CURB AND 10' MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD PLAN CONCRETE MANAGEMENT FACILITY

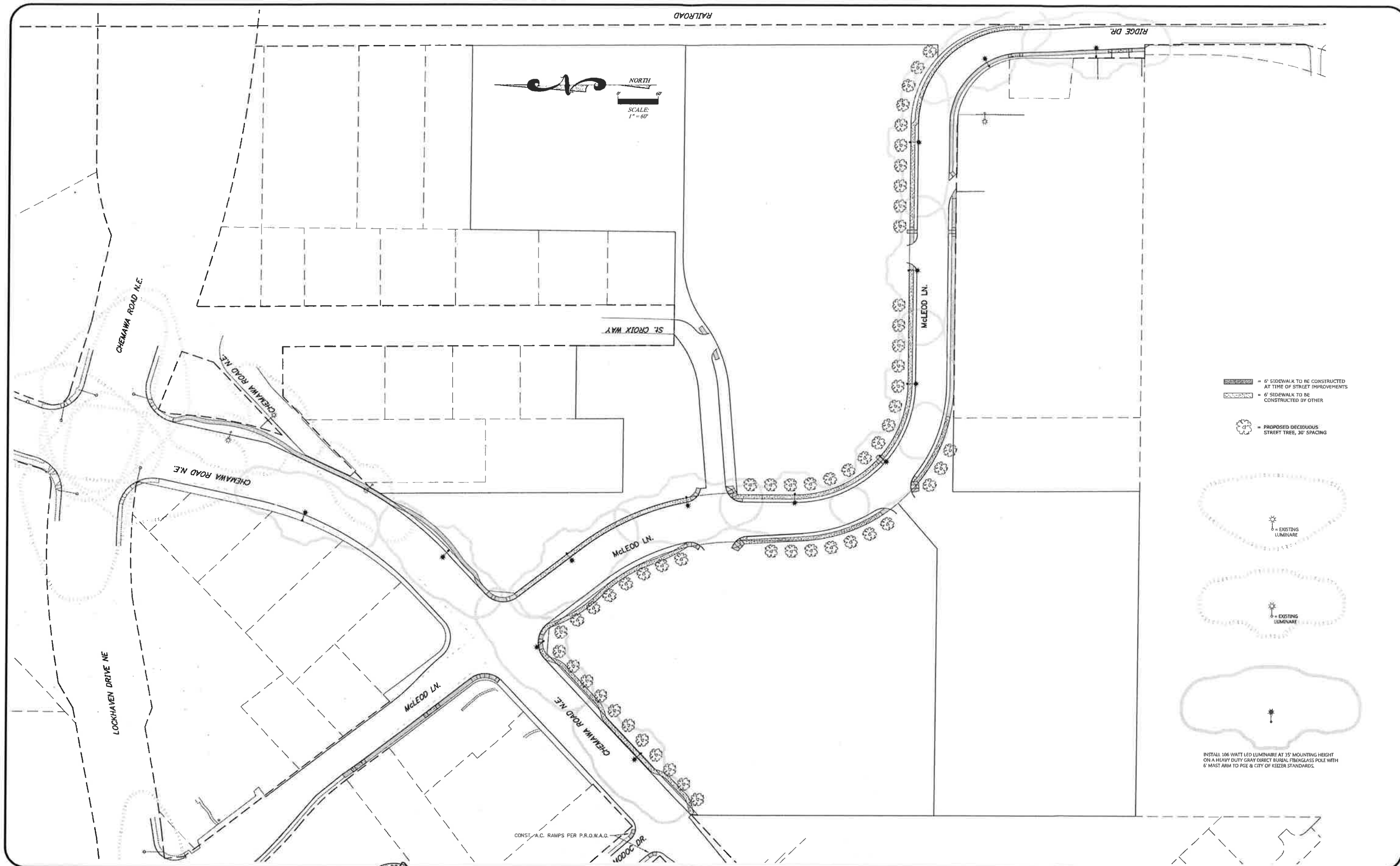
APPROVED: *[Signature]* DATE: 3/10/14 DRAWN BY: DFN 1/20/14 CHECKED BY: HLL 1/20/14 **NO.917**

2. Required ESCP Drawing Standard Notes

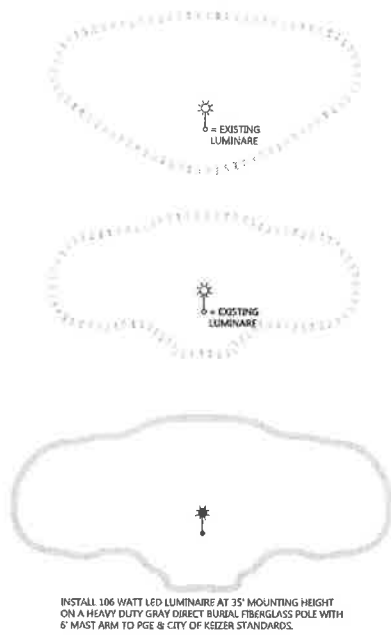
When submitting an ESCP as drawings only, include the following notes (including the inspection table):

Site Condition	Minimum Frequency
1. Active Period	Daily when stormwater runoff, including runoff from snowmelt, is occurring. At least once every two weeks, regardless of whether or not runoff is occurring.
2. Prior to the site becoming inactive or in anticipation of site inaccessibility	Once to ensure that erosion and sediment control measures are in working order. Any necessary maintenance and repair must be made prior to leaving the site.
3. Inactive periods greater than fourteen (14) calendar days	Once every two (2) weeks.
4. Periods during which the site is inaccessible due to inclement weather	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.

1. Hold a pre-construction meeting of project construction personnel that includes the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A 8 c.i. (3))
2. All inspections must be made in accordance with DEQ 1200-C permit requirements.
3. Inspection logs must be kept in accordance with DEQ's 1200-C permit requirements.
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, retain the ESCP at the construction site or at another location. (Schedule A 8 a)
5. All permit registrants must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Schedule A 8 a)
6. The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations. (Schedule A 8 c.i. (1)(c))
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent. (Schedule A 12 c.ii)
8. Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Schedule A 8 c.i. (1)(d))
9. Identify, mark, and protect (by fencing off or other means) critical riparian areas and vegetation including important trees and associated root zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Schedule A 8 c.i. (1) & (2))
10. Preserve existing vegetation when practical and no-vegetate open areas. Re-vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Schedule A 7.b.iii(1) and A 7.b.iii(3))
11. Erosion and sediment control measures including perimeter sediment control must be in place before vegetation is disturbed and must remain in place and be maintained, repaired, and promptly implemented following procedures established for the duration of construction, including protection for active storm drain inlets and catch basins and appropriate non-stormwater pollution controls. (Schedule A 7.d.i. (1) and A 8 c.ii)
12. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Schedule A 8 c.ii (8))
13. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses and for all roadways including gravel roadways. (Schedule A 8 c.ii (2))
14. Establish material and waste storage areas, and other non-stormwater controls. (Schedule A 8 c.ii (7))
15. Prevent tracking of sediment onto public or private roads using BMPs such as: gravelled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land-disturbing activities. (Schedule A 7.d.ii(1) and A 8 c.ii(4))
16. When trucking saturated soils from the site, either use water-tight trucks or drain loads on site. (Schedule A 7.d.ii(3))
17. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage, other cleaning and maintenance activities; and waste handling activities. These pollutants include: hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations. (Schedule A 7.e.i(2))
18. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Sch A 7 e.ii)
19. Use water, rock-binding agent or other dust control technique as needed to avoid wind-blown soil. (Schedule A 7.b.ii)
20. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any waterway riparian zone. (Schedule A 9.b.ii)
21. If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain plan approval before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Schedule A 9.d)
22. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Schedule A 7.b)
23. At the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Schedule A 7.e.ii(2))
24. Construction activities must avoid or minimize excavation and creation of bare ground during wet weather. (Schedule A 7.a.ii)
25. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Schedule A 9.c.i)
26. Other sediment barriers (such as btiobags) remove sediment before it reaches two inches depth above ground height and before BMP removal. (Schedule A 9.c.ii)
27. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediment before design capacity has been reduced by fifty percent and at completion of project. (Schedule A 9.c.ii & iv)
28. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean up of sediment shall be performed according to the Oregon Division of State Lands required lineframe. (Schedule A 9.b.i)
29. The intentional washing of sediment into storm sewers or drainages ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediment. (Schedule A 9.b.ii)
30. The entire site must be temporarily stabilized using vegetation or a heavy mulch layer, temporary seeding, or other method should all construction activities cease for 30 days or more. (Schedule A 7.f.i)
31. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Schedule A 7.f.ii)
32. Provide permanent erosion control measures on all exposed areas. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. However, do remove all temporary erosion control measures as exposed areas become stabilized, unless doing so conflicts with local requirements. Properly dispose of construction materials and waste, including sediment retained by temporary BMPs. (Schedule A 7.b.iii(2) and A 8 c.ii)



- [Pattern] = 6' SIDEWALK TO BE CONSTRUCTED AT TIME OF STREET IMPROVEMENTS
- [Pattern] = 6' SIDEWALK TO BE CONSTRUCTED BY OTHER
- [Tree Symbol] = PROPOSED DECIDUOUS STREET TREES, 30' SPACING



INSTALL 100 WATT LED LUMINAIRE AT 35' MOUNTING HEIGHT ON A HEAVY DUTY GRAY DIRECT BURIAL FIBERGLASS POLE WITH 6' MAST ARM TO PGE & CITY OF KEIZER STANDARDS.

MULTI / TECH
ENGINEERING SERVICES, INC.
1155 13th ST. S.E. SALEM, OR. 97302
PH. (503) 363-9227 FAX (503) 364-1260
www.mtengineering.net office@mtengineering.net

MULTI/TECH ENGINEERING EXEMPT FROM LIABILITY IF NOT STAMPED APPROVED
NOT FOR CONSTRUCTION UNLESS STAMPED APPROVED HERE

REGISTERED PROFESSIONAL ENGINEER
MARK D. GREFF
NO. 9754
STATE OF OREGON
EXPIRES: 06-30-2015

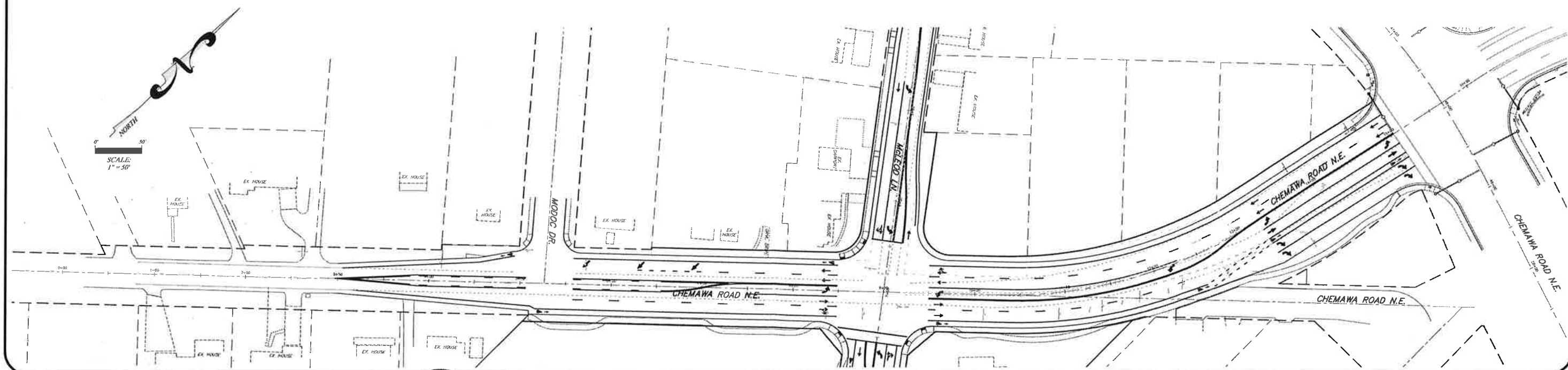
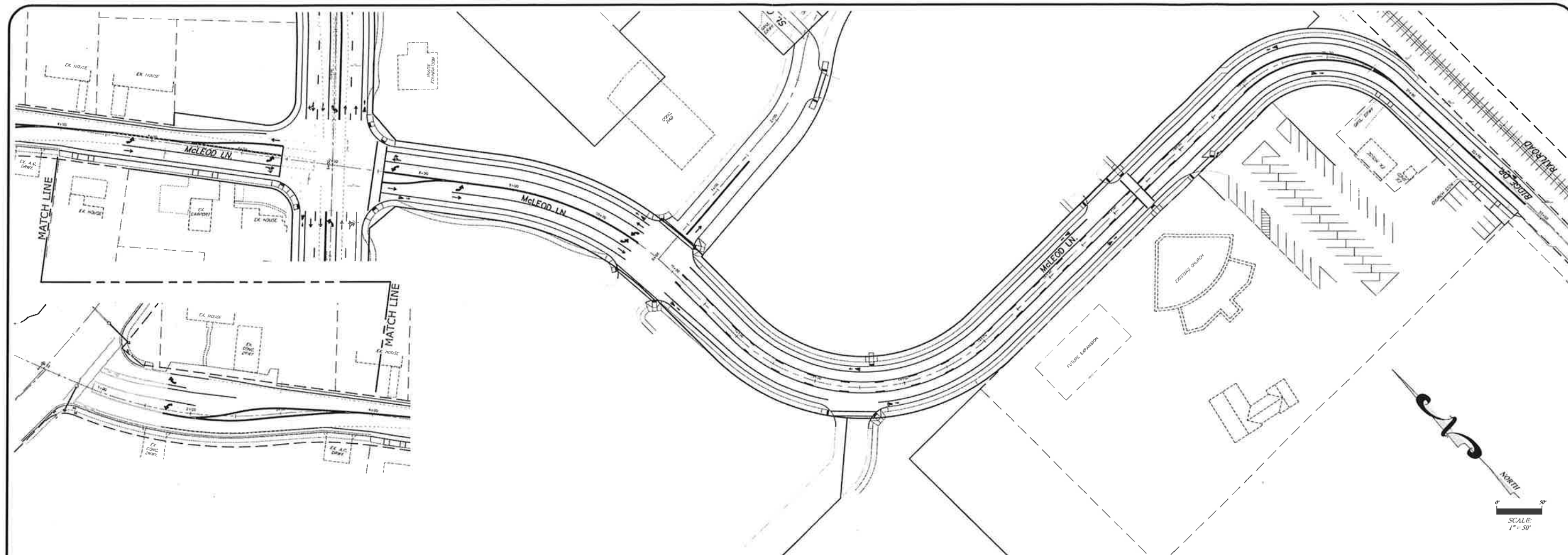
NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER.
DIMENSIONS & NOTES TAKE PRECEDENCE OVER GRAPHICAL REPRESENTATION.

DESIGN/PLT/1 701-LITER
Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built: _____

KEIZER STATION CENTER AREA "C"

STREET LIGHTING, STREET TREE & SIDEWALK PLAN

Project Number
6018
Sheet Number
701



MULTI/TECH
ENGINEERING SERVICES, INC.
1155 13th ST. S.E. SALEM, OR. 97302
PH. (503) 363-0227 FAX (503) 364-1360
www.mtengr.com office@mtengr.com

MULTITECH ENGINEERING EXEMPT FROM
LIABILITY IF NOT STAMPED APPROVED
CONSTRUCTION
UNLESS STAMPED
APPROVED HERE

REGISTERED PROFESSIONAL
ENGINEER
Mark D. Greer
MARK D. GREER
EXPIRES: 06-30-2015

NO CHANGES, MODIFICATIONS OR
REPRODUCTIONS TO BE MADE TO
THESE DRAWINGS WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
DIMENSIONS & NOTES TAKE
PRECEDENCE OVER GRAPHICAL
REPRESENTATION.

DESIGN: M.D.G.
DRAWN: D.G.G.
CHECKED: B.M.G.
DATE: MARCH 2015
SCALE: AS SHOWN
AS-BUILT:

**KEIZER STATION CENTER
AREA "C"**

**STRIPING & SIGNING
PLAN**

Project Number
6018
Sheet Number
801

STRIPING DETAILS LEGEND

(A) CROSSWALK - TWO 12" WIDE LINES AT 12' SPACING. CROSSWALK SHALL BE WHITE THERMOPLASTIC MATERIAL.	(B) SCHOOL CROSSWALK - 2" WHITE LINES AT 2' SPACING. CROSSWALK SHALL BE WHITE THERMOPLASTIC MATERIAL. W=12' (SIGNALIZED CROSSWALK) W=9' (NON-SIGNALIZED CROSSWALK)	(C) STOP BAR - ONE 12" WIDE LINE AND SHALL BE WHITE THERMOPLASTIC MATERIAL.	(D) LANE LINE SKIP STRIPE - 4" WHITE DURABLE STRIPING LINE, WITH WHITE, TYPE 1 MONO-DIRECTIONAL, RAISED PAVEMENT MARKERS.	(E) CENTER LINE SKIP STRIPE - 4" YELLOW DURABLE STRIPING LINE, WITH YELLOW, TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS.	(F) CENTER LINES - TWO 4" YELLOW DURABLE STRIPING LINES, WITH YELLOW, TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS.	(G) TURN LANE LINE - 8" WHITE DURABLE STRIPING LINE, WITH WHITE, TYPE 1 MONO-DIRECTIONAL RAISED PAVEMENT MARKERS.
(H) TWO WAY LEFT TURN STRIPE - 4" YELLOW DURABLE STRIPING LINES, WITH YELLOW TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS. OUTSIDE LINE IS SOLID, INSIDE AT 10' / 30' PATTERN.	(I) MEDIAN STRIPE - TWO 4" YELLOW DURABLE STRIPING LINES WITH TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS.	(J) DOUBLE YELLOW LINE - TWO 4" YELLOW DURABLE STRIPE LINES.	(K) FOG LINE - 4" WHITE DURABLE STRIPING LINE.	(L) 4" YELLOW - 4" YELLOW DURABLE STRIPING LINE.	(M) BIKE LANE LINE (VNL-SKIP STRIPE) - 8" WIDE, WHITE DURABLE STRIPING LINE.	(N) BIKE LANE LINE - 8" WIDE WHITE DURABLE STRIPING LINE.
(O) BICYCLE LANE MARKING - SHALL BE WHITE THERMOPLASTIC MATERIAL.	(P) THRU LANE MARKINGS - SEE MUTCD FOR DETAILS. ARROWS SHALL BE WHITE THERMOPLASTIC MATERIAL.	(Q) RIGHT TURN LANE MARKINGS - SEE MUTCD FOR DETAILS. ARROWS SHALL BE WHITE THERMOPLASTIC MATERIAL.	(R) LEFT TURN LANE MARKINGS - SEE MUTCD FOR DETAILS. ARROWS SHALL BE WHITE THERMOPLASTIC MATERIAL.	(S) THRU AND TURN LANE MARKINGS - SEE MUTCD FOR DETAILS. ARROWS SHALL BE WHITE THERMOPLASTIC MATERIAL.	NOTES: 1. ALL PAVEMENT MARKINGS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS CONTAINED IN THE LATEST EDITION OF THE OREGON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION INCLUDING ANY SUPPLEMENTAL GUIDES REFERENCED OR SPECIFIED AND ALL SPECIAL PROVISIONS AND ADDENDUMS TO THESE SPECIFICATIONS. 2. ALL PAVEMENT MARKING DESIGNS SHALL COMPLY WITH THE LATEST EDITION OF THE OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC LINE MANUAL, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE OREGON SUPPLEMENTS TO THE MUTCD, AND ANY SUPPLEMENTAL GUIDES REFERENCED OR SPECIFIED, INCLUDING ANY SPECIAL PROVISIONS OR ADDENDUMS TO THESE SPECIFICATIONS. 3. DURABLE STRIPING IS SYNONYMOUS WITH METHYL METHACRYLATE MATERIAL STRIPING. 4. LOCATE STOP BARS 10' BACK OF THE EXTENDED FOG LINE, EDGE OF PAVEMENT OR CURB FACE. VERIFY SIGHT DISTANCE. LOCATIONS TO BE VERIFIED IN THE FIELD BY TRAFFIC ENGINEER. 5. REMOVAL OF EXISTING STRIPING IS TO BE DETERMINED IN THE FIELD AND IS CONSIDERED INCIDENTAL WORK. STRIPING SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. 6. ALL RAISED ISLANDS SHALL HAVE A MINIMUM OF ONE DELINEATOR POST. 7. ALL PAINTED PAVEMENT MARKINGS SHALL CONFORM TO THE MOST CURRENT ODOT SPECIFICATION FOR BEAD BINDER PAINT. COPIES OF THE MATERIALS SPECIFICATIONS ARE AVAILABLE FROM: ENGINEER OF MATERIALS AND RESEARCH HWY. MATERIALS LABORATORY 600 AIRPORT ROAD S.E. SALEM, OR. 97310 (503) 986-3100	
(T) MERGE ARROWS - SEE MUTCD FOR DETAILS. SHALL BE WHITE THERMOPLASTIC MATERIAL.	(U) LANE CLOSURE - 4" WHITE DURABLE STRIPING LINES.	(V) MEDIAN SEPARATION - TWO 4" YELLOW DURABLE STRIPING LINES, WITH YELLOW, TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS.	(W) PARKING STALL STRIPING - 4" WHITE DURABLE STRIPING OR THERMOPLASTIC MATERIAL.	(X) ISLAND STRIPING - 4" YELLOW DURABLE STRIPING LINE, WITH YELLOW, TYPE 1 BI-DIRECTIONAL, RAISED PAVEMENT MARKERS.	LEGEND (LTR) INSTALL STRIPING DETAIL (X) AS SHOWN ON SHEET XX. LTR = STRIPE LETTER SHOWN	
(Y) DELINEATORS POSTS SHALL BE ROUND 42" TALL, BRIGHT YELLOW WITH FOUR 3M HIGH INTENSITY REFLECTIVE BANDS	(Z) ISLAND NOSE PAINTING PAINT THE RAISED MEDIAN NOSE CURB REFLECTORIZED YELLOW.	(AA) DURABLE PAVEMENT MARKINGS METHOD "G", SURRATED, EXTRUDED				

LEGEND

- N = SIGN NUMBER SHOWN
M = MATERIAL SHOWN
S - STEEL
W - WOOD
LP - LUMINAIRE POLE
PP - PEDESTRIAN PEDESTAL
VP - VEHICLE PEDESTAL
PGE - POWER POLE
MP - MAST POLE
MA - MAST ARM
MPL - MAST POLE W/ LUMINAIRE EXTENSION(S)
- EXISTING SIGN AND SUPPORT
NEW SIGN AND SUPPORT

VIDEO DETECTION ZONE PLAN CHEMAWA RD/KEIZER STATION BLVD LOCKHAVEN DR



DESIGN MODIFICATIONS PROVIDED BY:
MULTI/TECH
ENGINEERING SERVICES, INC.
CONSULTANTS
1100 120th St. SE, Salem, OR 97331
PHONE: 503.586.1100 FAX: 503.586.1101

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY OF SALEM STANDARDS AND THE 2002 ODOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL DETECTION ZONES SHALL BE ILLUMINATED. THE DETECTOR ZONE ADJACENT TO THE INTERSECTION SHALL BE ILLUMINATED BY LUMINAIRES SHOWN IN THE SIGNAL PLAN. FOR ADVANCED DETECTOR ILLUMINATION, SEE ILLUMINATION PLAN.

LEGEND

- (C) CONTROLLER (SEE SIGNAL PLAN).
- (VDZ PH) PROGRAM VIDEO DETECTION ZONE FOR PHASE (PH).
- (V PH) INSTALL PHASE (PH) VEHICLE SIGNAL WITH LED'S ON ADJUSTABLE BRACKET MOUNTED TO POLE. 12"RRTA, 12"YLTA, 12"GLTA. CONNECT TO EXISTING WIRING THRU EXISTING CAP ATTACHMENT.

H:\proj\65800\dwg\design\AS-BUILT\65800sig3.dwg Jun 07, 2007 - 1:41 pm

VIDEO DETECTION WIRING DIAGRAM

ZONE NO.	PHASE	INPUT DEVICE	INPUT FILE
		VIDEO CARD	IN CONTROLLER
1	2		212U
2	2		212L
3	2		213U
4	2		213L
5	2		213L
6	2		214U
7 - BIKE	2	EXT. CARD	
8	5		5J1U
9	5	EXTENDER CARD	416U
10	4		416L
11	4		417L
12	4	VIP 3.1 CARD	417U
13	4		418U
14 - BIKE	4	EXTENDER CARD	
15	7	EXTENDER CARD	7J5U
16	6		6J2U
17	6		6J2L
18	6		6J3U
19	6	VIP 3.1 CARD	
20	6		6J3L
21	6		6J3L
22 - BIKE	6	EXT. CARD	6J4U
23	1		111U
24	1	EXTENDER CARD	8J6U
25	8		8J6L
26	8		8J6L
27/31	8/8	VIP 3.1 CARD	8J7L
28	8		8J7U/8J7U
29 - BIKE	8	EXT. CARD	8J6U
30	3	EXT. CARD	315U

CONTROLLER CABINET
C = CALL
E = EXTENSION
CT = COUNT
N DETECTION ZONE

MODIFICATIONS TO THESE "AS BUILT" PLANS ARE FOR THE ADDITION OF A NORTHBOUND RIGHT TURN ONLY LANE.
AS BUILT

ORIGINAL DESIGNERS:
KITTELSON & ASSOCIATES, INC.
610 S.W. ALDER, SUITE 700
PORTLAND, OREGON 97205
(503) 228-6230

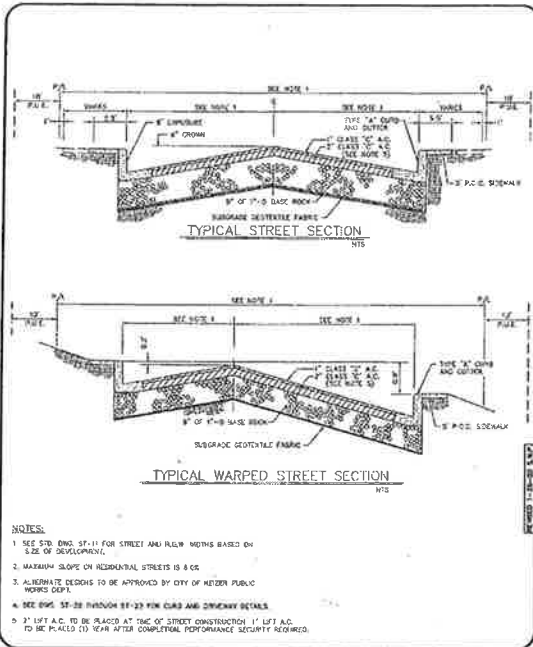
TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

NO.	REVISIONS	DESCRIPTION	DATE	BY	APP.

CITY OF SALEM
DEPARTMENT OF PUBLIC WORKS
KEIZER STATION - OFF-SITE
TRAFFIC SIGNAL PLAN
CHEMAWA RD AT
KEIZER STATION BLVD AND LOCKHAVEN DRIVE

DATE: 6/7/07
U.S.G.S. SURVEY: VAN PACIFIC
HORIZ. SCALE: AS SHOWN
VERT. SCALE: SHOWN
DRAWN: J. HENNINGSEN

PN: 6580
SHEET TS-13
CHKD: P. WARD
APPR:

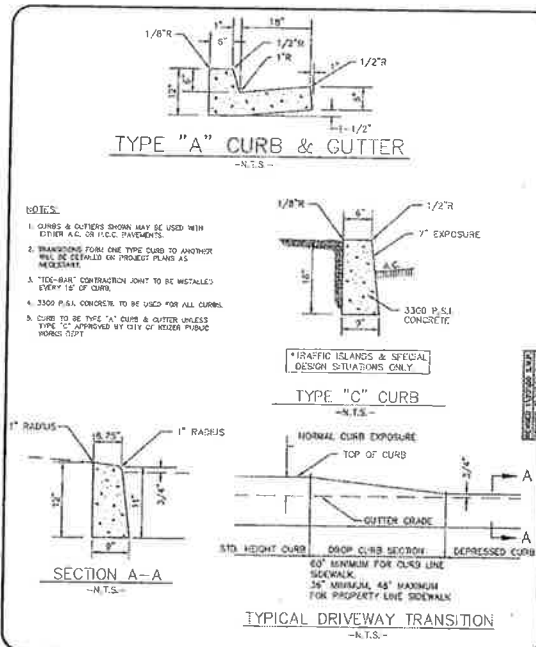


CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

STANDARD CROSS SECTIONS FOR RESIDENTIAL STREETS

DRAWN: T.A.K. DATE: 04-04-95
APPROVED: W.I.P. NUMBER: ST-12

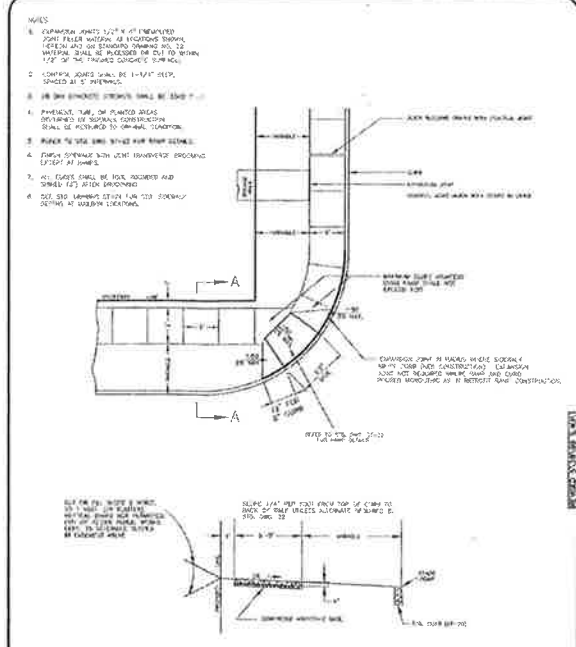


CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

CURB & CURB/GUTTER SECTIONS

DRAWN: T.A.K. DATE: 04-04-95
APPROVED: W.I.P. NUMBER: ST-20



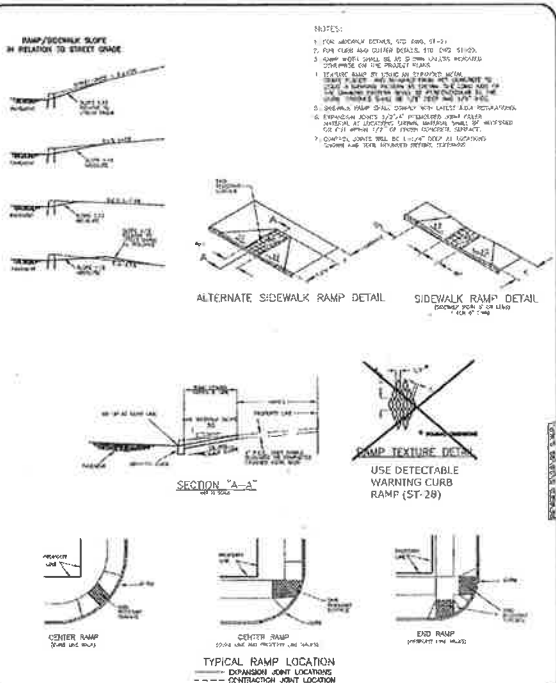
CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

STANDARD SIDEWALK DETAILS

DRAWN: T.A.K. DATE: 04-04-95
APPROVED: W.I.P. NUMBER: ST-21

DETAILS SHALL NOT SUPERSEDE ANY CITY OF KEIZER STANDARD DESIGN CRITERIA, SPECIFICATIONS OR DRAWINGS AS PERTAINING TO STREET, STORM DRAINAGE & WATER IMPROVEMENTS

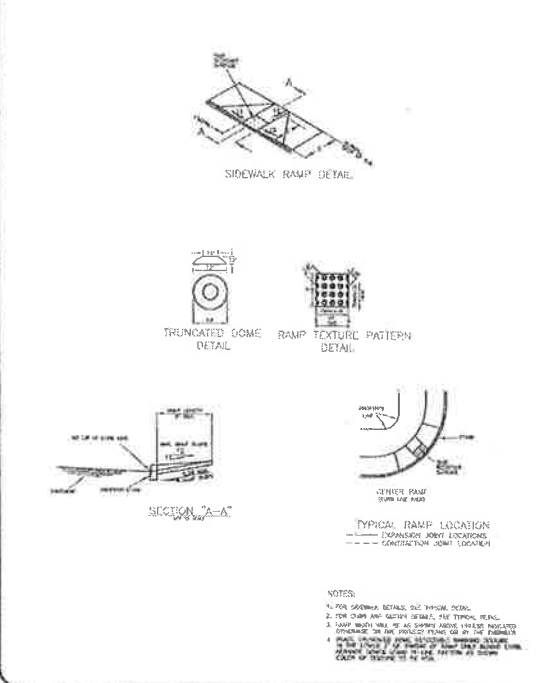


CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

STANDARD SIDEWALK RAMPS

DRAWN: T.A.K. DATE: 04-04-95
APPROVED: W.I.P. NUMBER: ST-22



CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

DETECTABLE WARNING CURB RAMP

DRAWN: K.L.C. DATE: 04-10-05
APPROVED: W.I.P. NUMBER: ST-28

- NOTES:**
- ALL WORKMANSHIP & MATERIALS TO BE TO CITY OF KEIZER STANDARDS (EXCEPT SANITARY SEWER TO BE TO CITY OF SALEM STANDARDS). ALL DETAILS TO CONFORM TO CITY OF KEIZER STANDARD DRAWINGS (EXCEPT SANITARY SEWER TO BE TO CITY OF SALEM STANDARDS), HERETO DESIGNATED AS (DWG.XXX).
 - COORDINATION WITH UTILITIES:
 - THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE CITY OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS.
 - THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ORS 757.541 TO 757.571. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATING, BORING, OR FORTHOLING. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
 - PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION.
 - UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES.
 - ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-232-1987.)
 - CONTRACTOR TO NOTIFY ENGINEER 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
 - ALL TRENCHES TO BE COMPACTED BY MECHANICAL MEANS.
 - R/W ELEVATIONS SHOWN ON PLANS ARE FOR REFERENCE ONLY. CONTRACTOR TO SET MANHOLE RIMS TO FINISH GRADE IMMEDIATELY AFTER COMPLETION OF BASE ROCK GRADING.
 - CONTRACTOR TO HYDRO-SEED ALL EXPOSED SURFACES AS DIRECTED BY THE ENGINEER.
 - PRIOR TO FINAL PAYMENT, CONTRACTOR TO SUPPLY ENGINEER WITH A COMPLETE SET OF "AS BUILT" DRAWINGS SHOWING SERVICE LENGTHS & DEPTHS, LENGTHS BETWEEN STRUCTURES, AND SERVICE ENDS TIED TO PROPERTY LINE, OR TEES OR CORP. STOPS.
 - CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM CITY OF KEIZER PUBLIC WORKS ENGINEERING & SHALL CONTACT CITY HALL @ 503.390.3700, (DURING WORKING HOURS) 48 HOURS (EXCLUDING HOLIDAYS & WEEKENDS) PRIOR TO STARTING WORK.
 - CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM CITY OF SALEM PUBLIC WORKS ENGINEERING & SHALL CONTACT CONSTRUCTION MANAGEMENT @ 503.588.6211, (DURING WORKING HOURS) 48 HOURS (EXCLUDING HOLIDAYS & WEEKENDS) PRIOR TO STARTING WORK.
 - ENGINEER TO SUBMIT APPROVED "AS-BUILTS" AND RECORDED COPIES OF ALL EASEMENTS & RIGHT-OF-WAY DEDICATIONS TO CITY OF SALEM CONST. INSPECTION DEPT. AS PART OF FINAL ACCEPTANCE BY THE CITY OF SALEM.
- SANITARY SEWER NOTES:**
- GRANULAR BACKFILL (DWG.601) TO BE USED FOR ALL SANITARY SEWER MAINS & SERVICES IN IMPROVED PORTION OF ROADWAY AND/OR TRAVELED PARKING AREA UNLESS CONTROLLED DENSITY BACKFILL IS REQUIRED.
 - CLASS "B" PIPE BEDDING (DWG.605) TO BE USED FOR ALL SANITARY SEWER MAINS UNLESS NOTED OTHERWISE.
 - ALL EXISTING SEPTIC TANK SYSTEMS SHALL BE ABANDONED (SRC 73.110).
 - SEE (DWG.106) FOR SANITARY SEWER SERVICE CONNECTIONS TO MAIN.
 - ALL SERVICE CONNECTIONS TO MAIN TO BE MADE WITH WYE, TEE OR TAP (DWG.105).
 - ALL PIPE & FITTINGS TO BE P.V.C.-A.S.T.M. 3034, S.O.R. 35 UNLESS NOTED OTHERWISE.
 - ALL MANHOLES (DWG.101) OUTSIDE OF STREET R.O.W. TO HAVE STANDARD LOCK DOWN, TAMPER PROOF LIDS (DWG.117).
 - EMBANKMENTS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CITY OF SALEM. MATERIALS TO BE COMPACTED TO 95% OF RELATIVE MAXIMUM DENSITY.
 - SEWER SERVICE TO BE EXTENDED INTO LOT (TO P.U.E. LINE IF IT EXISTS) OR AS DIRECTED BY ENGINEER. SERVICES TO BE MINIMUM 4" DEEP AT THE PROPERTY LINE. MINIMUM SLOPE ON SEWER SERVICE SHALL BE 1/4" PER FOOT. AT CROSSINGS OF SEWER SERVICE & PUBLIC WATER MAIN, CONTRACTOR SHALL CENTER AN 18" SECTION OF 4" DUCTILE IRON PIPE FOR THE SEWER SERVICE ON THE CROSSING IF THERE IS LESS THAN 18" OF VERTICAL SEPARATION BETWEEN THE PIPES (EDGE TO EDGE). MARK ENDS OF THE LATERALS WITH A 2X4 PAINTED WHITE. MARK IN BLACK THE LETTERS "S.S." (SANITARY SEWER). PROVIDE "L" = " (LENGTH) AND "D" = " (DEPTH) INFORMATION. TRACER WIRE TO EXTEND TO TOP OF 2X4.
- STREET & STORM DRAIN NOTES:**
- ALL STREETS TO BE PUBLIC.
 - ALL POWER POLES, FENCES, TREES ETC. WITHIN PUBLIC RIGHT-OF-WAY WHICH CONFLICTS WITH STREET IMPROVEMENTS TO BE REMOVED.
 - ALL STORM DRAIN PIPE IN IMPROVED AREAS OF ROADWAY AND OR PARKING LOTS TO BE CONCRETE ASTM C-14 CLASS 3 UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. FOR STORM DRAIN PIPE WITH 3 FEET OF COVER OR MORE, PVC ASTM 3034 SDR-35 MAY BE USED IF APPROVED BY ENGINEER AND THE CITY OF KEIZER.
 - ALL CATCH BASINS TO BE TYPE 2 (DWG. ST-31) UNLESS NOTED OTHERWISE.
 - CONSTRUCT 4" PVC (SCH. 40) ROOF DRAINS TO PLUMBING CODE. MARK ENDS OF THE LATERALS WITH A 2X4 PAINTED WHITE. MARK IN BLACK THE LETTERS "S.D." (STORM DRAIN). PROVIDE "L" = " (LENGTH) AND "D" = " (DEPTH) INFORMATION. TRACER WIRE TO EXTEND TO TOP OF 2X4.
 - TWO 3" WEEP HOLES SHALL BE CONSTRUCTED IN CURB FOR EACH LOT OR AS DIRECTED BY ENGINEER.
 - GRANULAR BACKFILL (DWG.ST-55) TO BE USED FOR ALL SANITARY SEWER MAINS & SERVICES IN IMPROVED PORTION OF ROADWAY AND/OR TRAVELED PARKING AREA UNLESS CONTROLLED DENSITY BACKFILL IS REQUIRED.
 - EMBANKMENTS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CITY OF KEIZER. MATERIALS TO BE COMPACTED TO 95% OF RELATIVE MAXIMUM DENSITY.
- DOMESTIC WATER NOTES:**
- THE CITY OF KEIZER REQUIRES A PRE-CONSTRUCTION CONFERENCE. CALL ALL AFFECTED UTILITIES 48 HOURS PRIOR TO START OF CONSTRUCTION TO REQUEST FIELD LOCATES. NOTIFY ENGINEER & CITY OF KEIZER 24 HOURS PRIOR TO START OF CONSTRUCTION.
 - CONSTRUCT WATER MAIN PRIOR TO PLACEMENT OF ANY COMPACTED STREET FILL.
 - ALL EXISTING WELLS SHALL BE PERMANENTLY ABANDONED TO MEET OREGON STATE BOARD OF WATER RESOURCES REQUIREMENTS.
 - WATER MAINS TO BE DUCTILE IRON (AWWA C 151) CONCRETE LINED, CLASS 50, (4" D.I. PIPE TO BE CLASS 51), SERVICES (DWG.410) TO BE 3/4" TYPE "K" COPPER, UNLESS NOTED OTHERWISE.
 - WATER MAINS TO MAINTAIN 36" MIN. COVER FROM FINISHED GRADE, 30" MIN. COVER UNDER PAVED AREAS (BASED ON STREET DESIGN FINISH GRADE FOR NEW CONSTRUCTION).
 - MAIN LINE VALVES TO BE:

MAIN SIZE	TYPE	SPEC.
2" TO 10"	GATE VALVE (RESILIENT SEAT NRS)	AWWA C 509
12" & LARGER	BUTTERFLY (RUBBER GASKETED)	AWWA C 504
 - GRANULAR BACKFILL (DWG.W-30) TO BE USED FOR ALL SANITARY SEWER MAINS & SERVICES IN IMPROVED PORTION OF ROADWAY AND/OR TRAVELED PARKING AREA UNLESS CONTROLLED DENSITY BACKFILL IS REQUIRED.
 - EMBANKMENTS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CITY OF KEIZER. MATERIALS TO BE COMPACTED TO 95% OF RELATIVE MAXIMUM DENSITY.
 - ANCHOR BLOCKS & THRUST BLOCKS ARE INCIDENTAL TO THE CONSTRUCTION
 - FLUSH, PRESSURE TEST & DISINFECT NEW MAIN PRIOR TO ACTIVATING OR RECONNECTING SERVICES. PRESSURE TEST TO BE WITNESSED BY CITY OF KEIZER. COORDINATE WITH CITY & PROVIDE TEMPORARY WATER SERVICE IN ANY CASEWHERE SHUTDOWN MAY EXCEED FOUR (4) HOURS. ALL VALVES UNDER PRESSURE TO BE OPERATED ONLY BY CITY OF KEIZER WATER DEPARTMENT.
 - WHERE NOTED, PROVIDE POLYWRAP ON MAINS IN ACCORDANCE WITH ANSI/AWWA C-105.
 - SAW CUT ALL EXISTING PAVED AREAS.
 - ALL LIVE TAPS TO BE FURNISHED BY CITY OF KEIZER. CALL 503.390.3700 TO OBTAIN COSTS & ARRANGE SCHEDULING.
 - INSTALL METERS LARGER THAN 2" IN CAST IN PLACE METER VAULTS. SUBMIT PLANS & DETAILS TO CITY FOR APPROVAL PRIOR TO INSTALLATION.

MULTI/TECH

ENGINEERING SERVICES, INC.

1155 13th ST. S.E. SALEM, OR 97302
PH: (503) 363-9227 FAX (503) 364-1260
www.mtengr.com office@mtengr.com

MULTI/TECH ENGINEERING EXEMPT FROM LIABILITY IF NOT STAMPED APPROVED HERE

NOT FOR CONSTRUCTION UNLESS STAMPED APPROVED HERE

REGISTERED PROFESSIONAL ENGINEER

Mark D. Greig

EXPIRES: 06-30-2015

NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN ENGINEER.

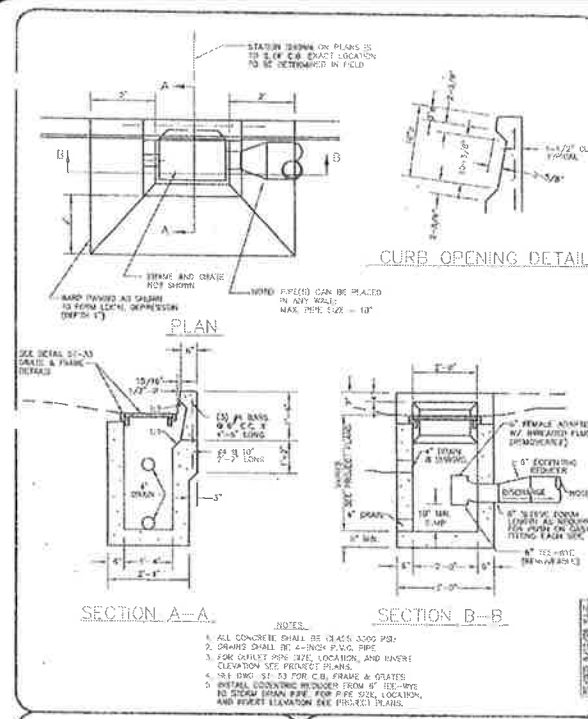
DIMENSIONS & NOTES TAKE PRECEDENCE OVER GRAPHICAL REPRESENTATION.

Design: M.D.G.
Drawn: D.G.G.
Checked: B.M.G.
Date: MARCH 2015
Scale: AS SHOWN
As-Built: _____

KEIZER STATION CENTER AREA "C"

DETAIL SHEET

Project Number
6018
Sheet Number
901



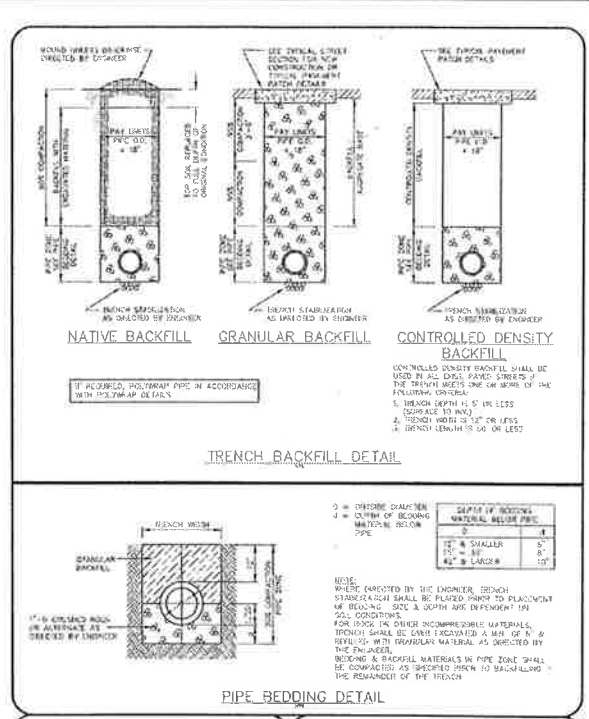
CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

TYPE 2 CATCH BASIN

DRAWN: L.A.S. DATE: 04-04-05

APPROVED: W.L.P. NUMBER: ST-31



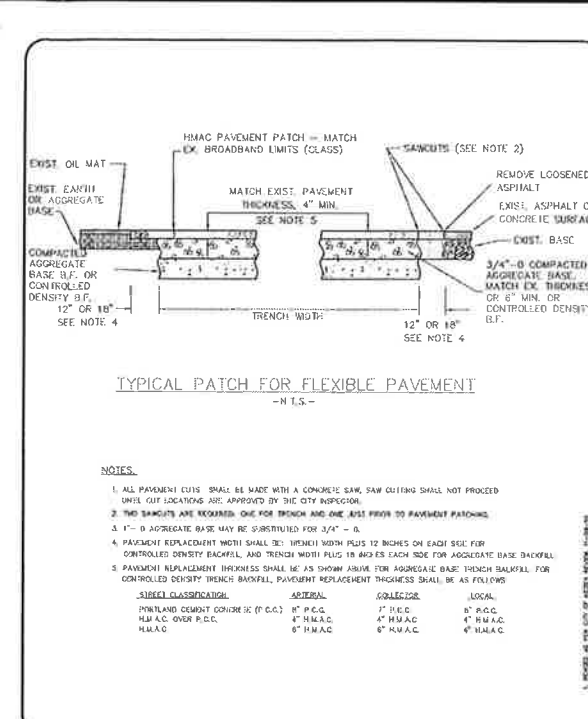
CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

TRENCH BACKFILL & PIPE BEDDING

DRAWN: J.M.M. DATE: 01-25-00

APPROVED: W.L.P. NUMBER: ST-55



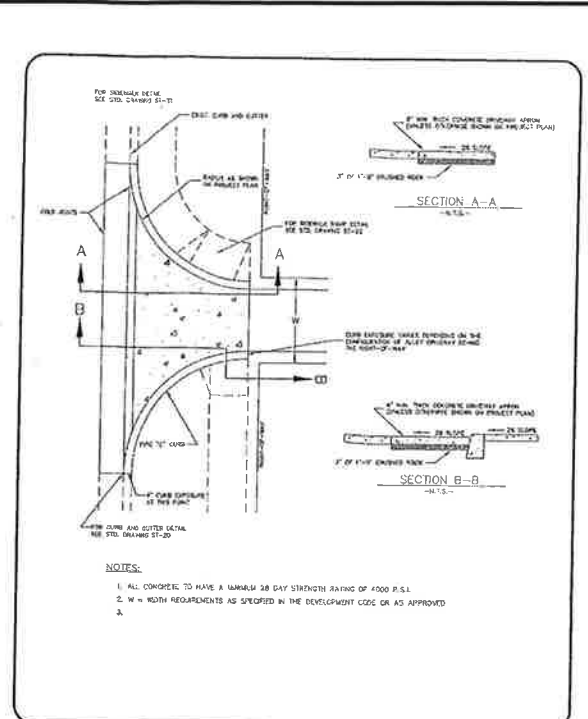
CITY OF KEIZER

DEPARTMENT OF PUBLIC WORKS

PAVEMENT PATCHING

DRAWN: S.W.P. DATE: 01-25-00

APPROVED: W.L.P. NUMBER: ST-56



CITY OF KEIZER

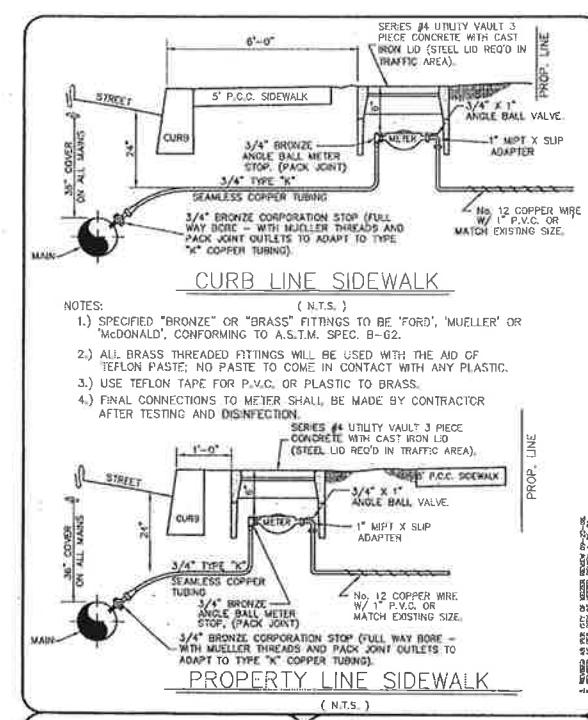
DEPARTMENT OF PUBLIC WORKS

CONCRETE APPROACH FOR PUBLIC/PRIVATE SEPARATION

DRAWN: S.W.P. DATE: 01-25-00

APPROVED: W.L.P. NUMBER: ST-57

DETAILS SHALL NOT SUPERSEDE ANY CITY OF KEIZER STANDARD DESIGN CRITERIA, SPECIFICATIONS OR DRAWINGS AS PERTAINING TO STREET, STORM DRAINAGE & WATER IMPROVEMENTS



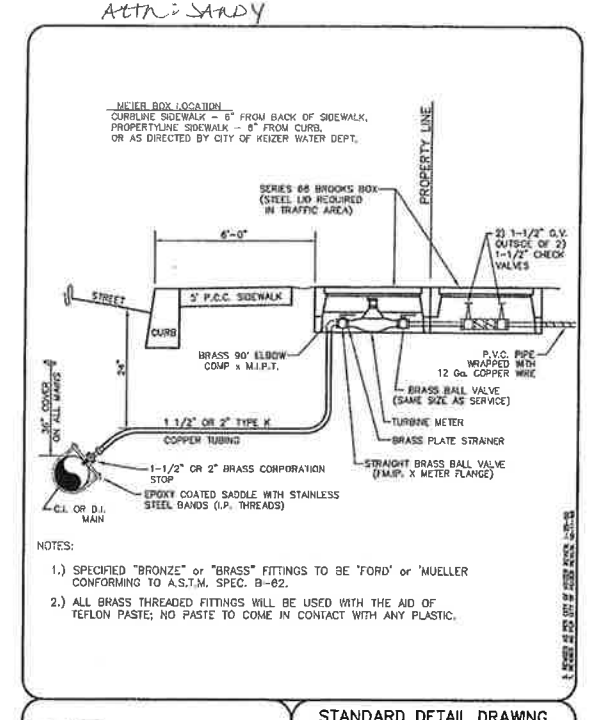
CITY OF KEIZER

STANDARD DETAIL DRAWING

3/4" DOMESTIC WATER SERVICE

DRAWN: D.G.G. DATE: 10-11-90

APPROVED: W.L.P. NUMBER: W-11



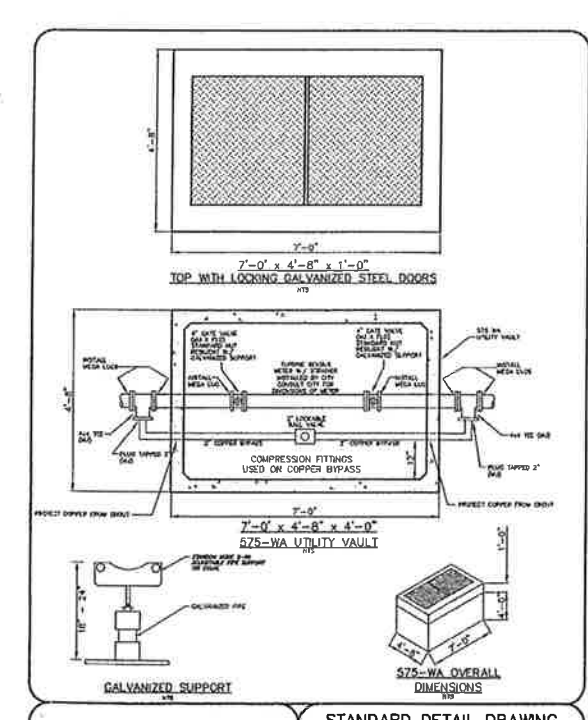
CITY OF KEIZER

STANDARD DETAIL DRAWING

1-1/2" AND 2" DOMESTIC WATER SERVICE

DRAWN: T.A.K. DATE: 10-11-90

APPROVED: W.L.P. NUMBER: W-13



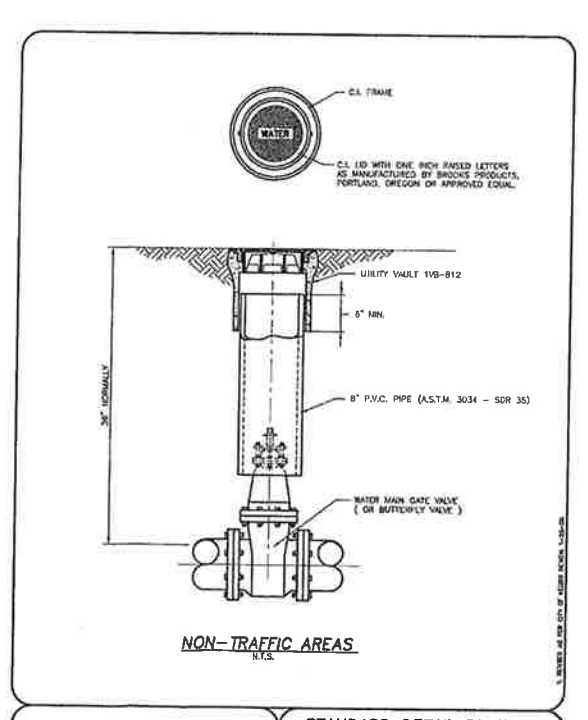
CITY OF KEIZER

STANDARD DETAIL DRAWING

4" WATER METER

DRAWN: S.G.S. DATE: 09-25-00

APPROVED: W.L.P. NUMBER: W-16



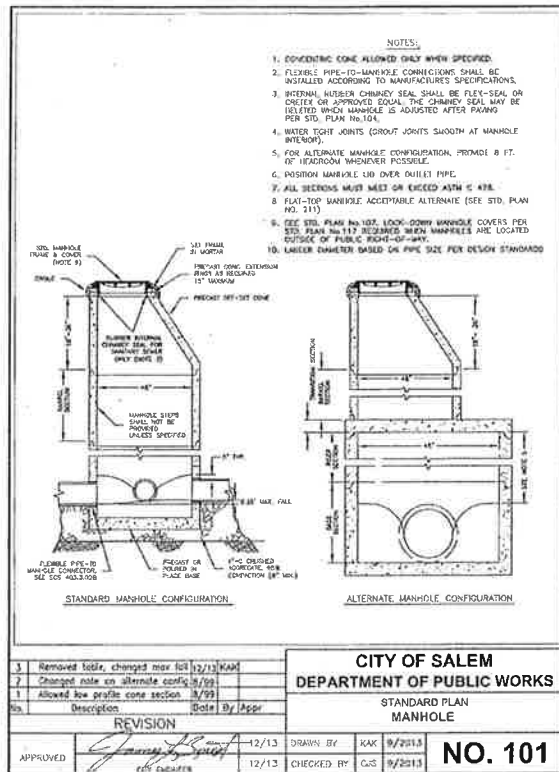
CITY OF KEIZER

STANDARD DETAIL DRAWING

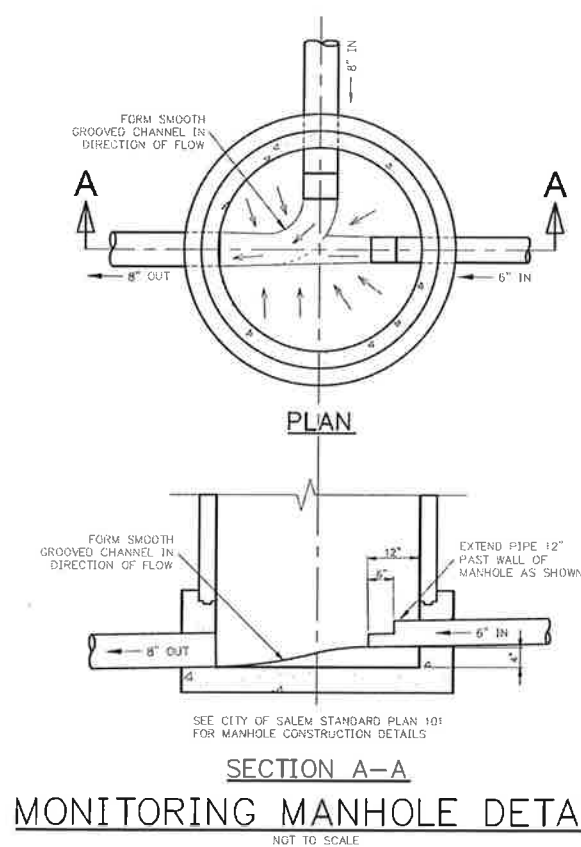
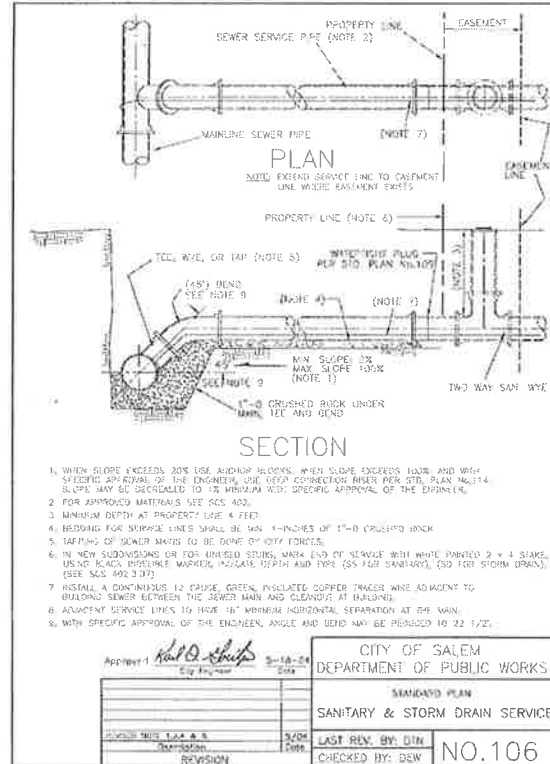
WATER VALVE BOX IN NON-TRAFFIC AREAS

DRAWN: J.M.M. DATE: 10-29-99

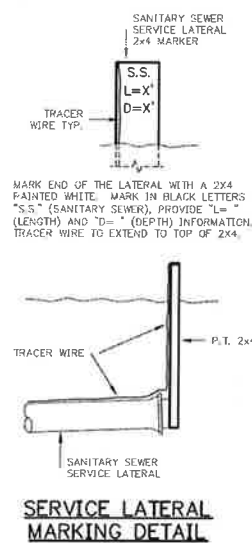
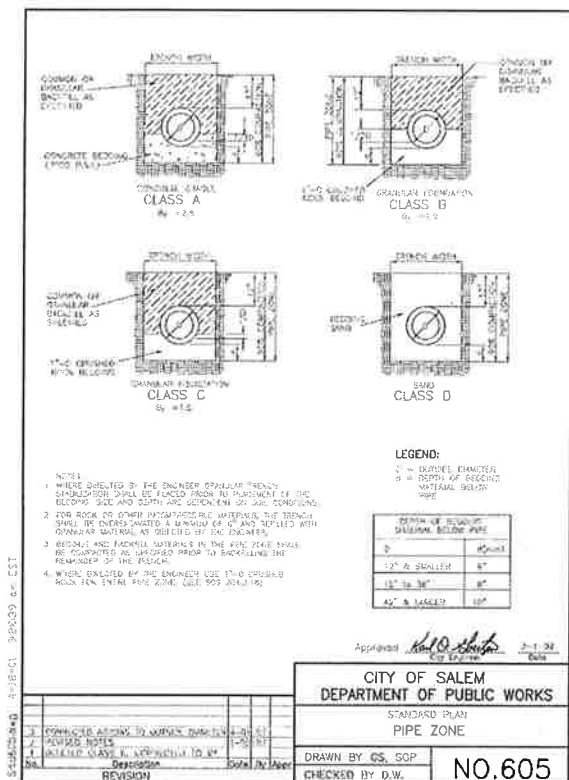
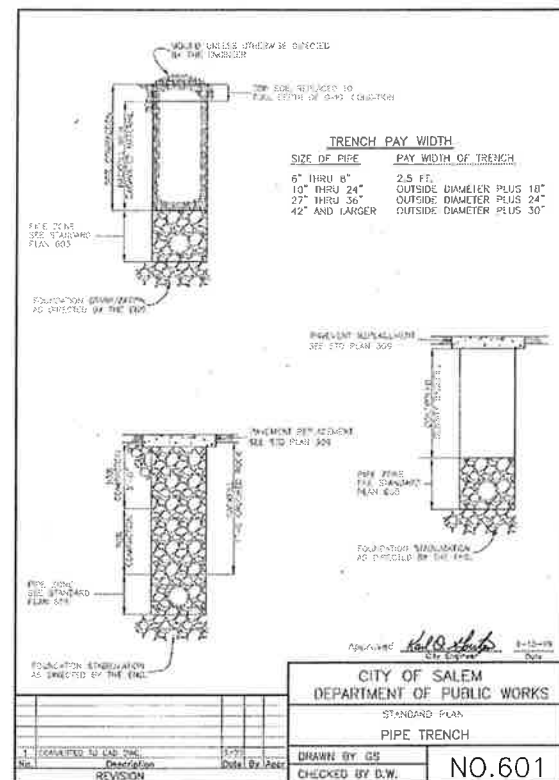
APPROVED: W.L.P. NUMBER: W-20



DETAILS SHALL NOT SUPERSEDE ANY CITY OF SALEM STANDARD DESIGN CRITERIA, SPECIFICATIONS OR DRAWINGS AS PERTAINING TO SANITARY SEWER IMPROVEMENTS



- NOTES:
1. ALL SANITARY SEWER WORKMANSHIP & MATERIALS TO BE TO CITY OF SALEM STANDARDS.
 2. CONTRACTOR TO NOTIFY ENGINEER 24 HOURS PRIOR TO START OF ANY CONSTRUCTION.
 3. COORDINATION WITH UTILITIES:
 4. THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE CITY OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS.
 5. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ORS 757.541 TO 757.571. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATING, BORING, OR POTHOLES. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
 6. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION.
 7. UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES.
 8. OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (503-232-1987)
 9. SEE (DWG.106) FOR SERVICE CONNECTIONS TO MAIN.
 10. ALL PIPE & FITTINGS TO BE P.V.C.-A.S.T.M. 3034, S.D.R. 35 UNLESS OTHERWISE NOTED.
 11. RIM ELEVATIONS SHOWN ON PLAN ARE FOR REFERENCE ONLY. CONTRACTOR TO SET MANHOLE RIMS TO FINISH GRADE IMMEDIATELY AFTER COMPLETION OF BASE ROCK GRADING.
 12. ALL MANHOLES (DWG.101) OUTSIDE OF STREET R.O.W. TO HAVE STANDARD LOCK DOWN, TAMPER PROOF LIDS (DWG.117).
 13. ALL TRENCHES TO BE COMPACTED BY MECHANICAL MEANS.
 14. PRIOR TO FINAL PAYMENT, CONTRACTOR TO SUPPLY ENGINEER WITH A COMPLETE SET OF "AS BUILT" DRAWINGS SHOWING SERVICE LENGTHS & DEPTHS, LENGTHS BETWEEN STRUCTURES, AND SERVICE LOCATIONS, OR TEES OR CORP. STOPS.
 15. USE GRANULAR BACKFILL (DWG.601) FOR ALL SANITARY SEWER MAINS & SERVICES CONSTRUCTED IN IMPROVED PORTION OF ROADWAY AND/OR TRAVELED PARKING AREAS UNLESS CONTROL DENSITY BACKFILL IS REQUIRED.
 16. USE CLASS 'B' PIPE BEDDING (DWG.605) FOR ALL SANITARY SEWER UNLESS OTHERWISE NOTED.
 17. CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM CITY OF SALEM PUBLIC WORKS ENGINEERING & SHALL CONTACT CONSTRUCTION MANAGEMENT @ 588-6211, (DURING WORKING HOURS) 48 HOURS (EXCLUDING HOLIDAYS & WEEKENDS) PRIOR TO STARTING WORK.



Appendix "G"

KEIZER STATION AREA C TRAFFIC IMPACT STUDY UPDATE

Prepared for:

Multi/Tech Engineering Services, Inc.

Prepared By:



January 2015

January 13, 2015

Natalie Janney
Multi/Tech Engineering Services, Inc.
1155 13th Street SE
Salem, OR 97302

Subject: Keizer Station Area C Update Traffic Impact Analysis

Dear Natalie:

DKS Associates is pleased to submit this update to the *Keizer Station Area C Master Plan Transportation Impact Analysis (October 2010)* to evaluate impacts resulting from proposed land use changes to the Keizer Station Area C development in Keizer, Oregon. Please feel free to call if you have any questions or comments regarding this study.

Sincerely,

DKS Associates



Tegan Enloe, P.E.

Transportation Engineer



TABLE OF CONTENTS

LIST OF FIGURES.....	ii
LIST OF TABLES	ii
CHAPTER 1: INTRODUCTION AND SUMMARY	1
Introduction	1
Project Description	1
Project Traffic Impact	3
CHAPTER 2: METHODS & ASSUMPTIONS.....	5
Assumptions	5
Methodology	5
Analysis Scenarios.....	6
CHAPTER 3: EXISTING CONDITIONS (2010).....	7
CHAPTER 4: BACKGROUND TRAFFIC (2020).....	8
Land Use and Trip Generation Assumptions	8
Transportation Improvement Assumptions	17
Operating Standards.....	17
Intersection Operations.....	17
CHAPTER 5: PROJECT IMPACTS	19
Trip Generation.....	19
Trip Distribution.....	21
Future Traffic Volumes with Area C Development.....	22
Future Operations.....	27
Mitigations.....	28
Traffic Signal Sensitivity	33
Queuing.....	34
Site Access and Circulation	34
Chemawa Road/Mcleod Lane Partial Build Configuration and Safety	35
CHAPTER 6: PROJECT RECOMMENDATIONS	36

Appendix

- Appendix A: Proposed Site Plan
- Appendix B: Keizer Station Area A Land Uses
- Appendix C: Synchro Reports – 2020 Background PM
- Appendix D: September 2012 Keizer Station Area C Submittal Letter
- Appendix E: Synchro Reports – 2020 Partial Build PM
- Appendix F: Synchro Reports – 2020 Full Build PM
- Appendix G: Synchro Reports – 2020 Partial Build PM Mitigated
- Appendix H: Synchro Reports – 2020 Full Build PM Mitigated
- Appendix I: Traffic Signal and Turn Lane Warrants
- Appendix J: Partial Build Queuing
- Appendix K: Sight Distance Calculations
- Appendix L: Chemawa Road/McLeod Lane Partial Build Configuration

LIST OF FIGURES

Figure 1: Study Area.....	2
Figure 2: 2020 Original Background Traffic Volumes	9
Figure 3: Adjustments to Area A Trips.....	12
Figure 4: In-Process Area B Trips	14
Figure 5: 2020 Total Background Traffic Volumes.....	16
Figure 6: Trip Distribution	22
Figure 7: Area C Partial Build Project Trips	23
Figure 8: Area C Full Build Project Trips.....	24
Figure 9: 2020 Partial Build Traffic Volumes	25
Figure 10: 2020 Full Build Traffic Volumes	26

LIST OF TABLES

Table 1: Key Study Area and Proposed Development Characteristics	3
Table 2: 2010 Existing Intersection Operations ^a	7
Table 3: Original Area A In-Process/Build-Out Land Use and Trip Generation ^a	10
Table 4: Revised Area A In-Process/Build-Out Land Use and Trip Generation	11
Table 5: Original Area B Build-Out Land Use and Trip Generation ^a	13

Table 6: Original Area D Build-Out Land Use and Trip Generation ^a	15
Table 7: 2020 Total Background Intersection Operations.....	18
Table 8: Area C Trip Comparison	20
Table 9: Trip Generation Summary.....	21
Table 10: 2020 Intersection Operations with Build Options	27
Table 11: Recommended Mitigations for Area C	29
Table 12: 2020 Intersection Operations with Build Options Mitigated	32
Table 13: 2020 Intersection Operations with Partial Build Mitigated –Lockhaven Dr/Keizer Station Blvd Variation (with Single Southbound Left Turn Lane)	32
Table 14. Traffic Signal Sensitivity for Chemawa Rd/McLeod Ln	33
Table 15: Chemawa Road/McLeod Lane Queuing	34

CHAPTER 1: INTRODUCTION AND SUMMARY

Introduction

This report is an update to the *Keizer Station Area C Master Plan Transportation Impact Analysis* that was prepared in October 2010.¹ It documents the impacts that the following revised land use changes in Area C are expected to have on the nearby transportation network compared to the original analysis assumptions. The proposed land use changes include:

- Remove the Medical-Dental Office Building (53,000 SQFT)
- Remove the Free Standing Discount Superstore (116,882 SQFT)
- Reduce the High Turnover Sit-Down Restaurant from 5,800 SQFT to 5,000 SQFT
- Increase the Shopping Center (i.e., general retail) from 33,090 SQFT to 120,000 SQFT (replacing the Free Standing Discount Superstore)
- Increase the General Office from 18,468 SQFT to 37,500 SQFT
- Increase the number of units in the Apartment complex from 117 units to 180 units
- Add Senior Adult Housing and Assisted Living uses (i.e., residential care facility) with 156 units (replacing the Medical-Dental Office Building)

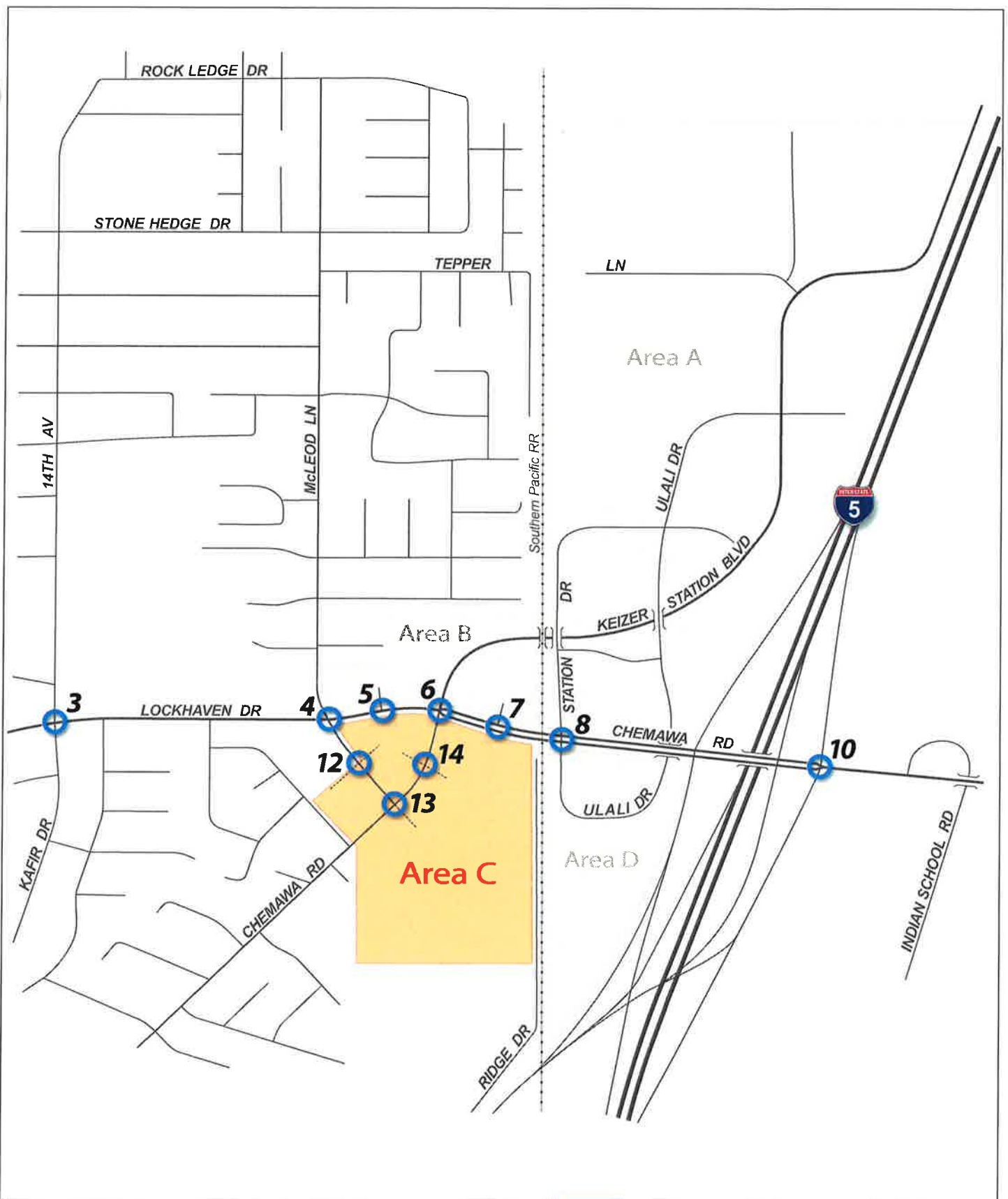
These land use changes are expected to result in a net decrease of 270 weekday PM peak hour trips. A detailed breakdown of trips is provided Chapter 5 of this report.

Project Description

The Keizer Station study area comprises four areas—A, B, C, and D. The intent of this report is to confirm the previously identified mitigations for Area C Full Build scenario are still sufficient for the new proposed uses, and identify which mitigations are triggered specifically by newly proposed phasing for Area C development. As part of the proposed revision to Area C, the other areas were further examined with additional information available since the previous 2010 study. Area A has experienced additional development since 2010; mostly in restaurants rather than retail as had been assumed in the previous study. The Area A in-process/build-out land use and trip generation assumptions have subsequently been revised to account for the additional restaurant traffic. Additionally, Area B has been moved from project trips (as it was in the previous study) to in-process trips as part of the background traffic conditions to clearly identify impacts associated with Area C. **Appendix A** provides the site plan of the proposed Area C development.

Figure 1 on the next page shows the study area and intersections, which were determined with guidance from City of Keizer and the Oregon Department of Transportation (ODOT) staff, and the locations of Keizer Station Areas A, B, C, and D. Table 1 lists important characteristics of the study area and proposed development.

¹ *Keizer Station Area C Master Plan Transportation Impact Analysis*, Kittelson & Associates, October 2010.



LEGEND

- #  - Study Intersection
(Numbering is consistent with previous TIA)
- - Future Roadway

DKS



No Scale

Figure 1

Study Area

Table 1: Key Study Area and Proposed Development Characteristics

Characteristics	Information
Study Area	
Number of Study Intersections	Ten
Analysis Period	Weekday PM Peak Hour
Analysis Scenarios	2020 Background Traffic, PM Peak Hour (assumes full build-out of Keizer Station Areas A, B, and D, but leaves Area C vacant) 2020 Partial Build, PM Peak Hour (only includes apartments and residential care facility in Area C) 2020 Full Build, PM Peak Hour (includes full build-out of Area C)
Project Site	
Existing Land Use	Vacant
Original 2010 TIA Development Trips	1,055 PM peak hour trips
Revised Development Trips	785 PM peak hour trips (270 less than originally proposed)

Project Traffic Impact

Project traffic impacts were evaluated for Area C by performing operations analysis under a 2020 Background scenario (which includes Areas A, B, and D) and comparing the results with two different scenarios representing the phasing of Area C (Partial Build and a Full Build scenarios). The traffic operations at the study intersections are determined based on the 2010 Highway Capacity Manual methodology for unsignalized intersections and the 2000 Highway Capacity Manual (HCM) methodology for signalized intersections.^{2,3} Additional details for each of the scenarios are provided later in this report.

Three study intersections will exceed applicable mobility targets or standards for the partial and full build scenarios and will require transportation system improvements. The *Keizer Station Area C Master Plan TIA* (October 2010) identified recommended improvements throughout the study area. These improvements were tested in the partial and full build scenarios to determine whether they still support the newly proposed Area C land use changes. It is determined that less mobility based mitigation is now required for the Partial Build because fewer trips are expected from development of Area C than were originally planned as part of the Full Build. The Full Build scenario now also experiences less trips than the Full Build scenario in the *Keizer Station Area C Master Plan Transportation Impact Analysis*. The previously established mitigations for the Full Build analysis will continue to support the new Area C Full Build scenario.

² 2010 Highway Capacity Manual, Transportation Research Board, Washington DC, 2010.

³ 2000 Highway Capacity Manual, Transportation Research Board, Washington DC, 2000.

The following transportation system improvements are needed to mitigate traffic impacts from Keizer Station Area C. The mitigations are listed by whether they are recommended in conjunction with the partial build or full build scenario.

Partial Build Mitigation Recommendations

- **McLeod Lane Corridor:** Extend McLeod Lane southeast of Chemawa Road and widen to a three-lane cross section from Lockhaven Drive to Chemawa Road.
- **Chemawa Road Corridor:** Widen to a five-lane section (two northbound and southbound through lanes with a center left-turn lane) from Lockhaven Drive to approximately 400 feet south of the McLeod Lane intersection.
- **Lockhaven Drive/14th Avenue:** Install westbound right-turn lane
- **Chemawa Rd/I-5 Northbound Ramps:** Improvements are needed, but require further coordination with ODOT and the City of Keizer to determine recommended mitigations due to the inconsistencies between the *Keizer Station Area C Master Plan TIA (October 2010)* and the *Chemawa Road Interchange Access Management Plan*.
- **Chemawa Road/Area C Right-In/Right-Out Access:** Construct new access, maintain access assumptions per *Keizer Station Area C Master Plan TIA (October 2010)*, see the access location in the site plan in **Appendix A**
- **McLeod Lane/Area C Full Access:** Construct new access, maintain access assumptions per *Keizer Station Area C Master Plan TIA (October 2010)*, see the access location in the site plan in **Appendix A**
- **Chemawa Road/McLeod Lane:** Install left-turn lanes on all four approaches
- **Lockhaven Drive/Keizer Station Boulevard:** Install a second northbound right-turn lane

Full Build Mitigation Recommendations

All of the mitigations from the Partial Build in addition to the following:

- **Chemawa Road/McLeod Lane:** Install a traffic signal

CHAPTER 2: METHODS & ASSUMPTIONS

This section outlines the study assumptions and methodologies used for the Keizer Station Area C TIA Update.

Assumptions

The update involves the following proposed changes to Area C:

- The medical-dental office building has been replaced with a residential care facility.
- The number of units for the apartment complex has increased.
- The size of the sit-down restaurant has been decreased.
- The size of the office building has been increased.
- The free standing discount superstore has been replaced with general retail, and the overall amount of retail area has been decreased.
- Some of the retail space has been moved across the street to a new future development area located south of McLeod Lane and west of Chemawa Road.

The following assumptions were used to guide the analysis:

- Count and forecasted volumes from the *Keizer Station Area C Master Plan TIA* (October 2010) will be used to be consistent with findings from the Land Use Board of Appeal (LUBA).
- There will be no update to the existing conditions analysis prepared for the *Keizer Station Area C Master Plan TIA* (October 2010).
- The same trip distribution will be applied from the *Keizer Station Area C Master Plan TIA* (October 2010).
- The adjustments to Area C are considered a “land use” change as opposed to a “zone change.”
- New Synchro files will be prepared based on current geometry, signal timing, and updated in-process volumes.
- Assess site circulation will be reviewed.
- The access points will remain the same, so access spacing will not be reevaluated.
- Limited queuing analysis will be prepared.
- Warrant analysis will be done to determine mitigations for both partial and full build scenarios.

Methodology

The update will use a limited set of study intersections from the *Keizer Station Area C Master Plan TIA* (October 2010). These are:

- Lockhaven Drive/14th Avenue
- Lockhaven Drive/McLeod Lane
- Lockhaven Drive/Area B West RI/RO

- Lockhaven Drive/Chemawa Road/Keizer Station Boulevard
- Lockhaven Drive/Area B East RI/RO
- Chemawa Road/Stadium Drive/Ulali Road
- Chemawa Road/I-5 NB Ramp
- Chemawa Road/McLeod Lane
- McLeod Lane/Area C Full Access
- Chemawa Road/Area C RI/RO Access

The Chemawa Road/I-5 SB Ramp intersection will not be included since no mitigations were recommended in the *Keizer Station Area C Master Plan TIA* (October 2010) and there will be no increase in volume at this location.

The analysis time period is the PM peak, which occurs between 4:30 p.m. to 5:30 p.m. This time period is consistent with the *Keizer Station Area C Master Plan TIA* (October 2010).

The following parameters will be maintained from the *Keizer Station Area C Master Plan TIA* (October 2010): saturation flow rate, peak hour factors, heavy vehicle percentages, and bicycle and pedestrian volumes.

Analysis Scenarios

The following three scenarios are for the horizon year 2020, which is the build year designated in the *Keizer Station Area C Master Plan TIA* (October 2010).

- 2020 Background PM Peak Hour
 - Uses original 2020 background volumes with adjustments to in-process volumes based on built conditions of Area A
 - Adds Area B to background
 - Updated for new timings and differences in built geometry from original analysis
- 2020 Partial Build Out PM Peak Hour
 - Includes senior living center and apartments
- 2020 Total Full Build Out PM Peak Hour
 - Includes general office, restaurants, shopping center, senior living center, and apartments

CHAPTER 3: EXISTING CONDITIONS (2010)

The existing conditions analysis was conducted as part of the *Keizer Station Area C Master Plan TIA* (October 2010), which identified site conditions and the study area roadways' operational and geometric characteristics in the year 2010. No new counts were collected as part of this TIA update. However, the applicable mobility targets and standards for some of the study intersections have changed since 2010. As part of the City's adopted Transportation System Plan,⁴ the study intersections that are within the Chemawa Interchange Overlay (CIO) Zone have new targets and standards, as reflected in this report.

The 2010 existing conditions analysis used traffic volumes to establish current traffic operations, as well as cataloging each roadway for its functional classification, number of lanes, posted speed, sidewalks, bicycle lanes, and on-street parking. These traffic volumes were based on a combination of seasonally adjusted counts conducted in July of 2010 and counts from the *Chemawa Road Interchange Access Management Plan*.⁵ The PM system peak hour was established as 4:30 p.m. to 5:30 p.m.

Table 2 shows the existing traffic operations at the study intersections as reflected in the *Keizer Station Area C Master Plan TIA* (October 2010). All study intersections meet mobility standards under 2010 existing conditions. Further detail regarding the existing roadway network and more details on the volume development can be found in the *Keizer Station Area C Master Plan TIA* (October 2010).

Table 2: 2010 Existing Intersection Operations^a

No.	Intersection	Traffic Control	Mobility Target or Standard	P.M. Peak Hour	
				V/C	LOS
3	Lockhaven Dr/14th Ave	Signalized	V/C < 1.0	0.87	C
4	Lockhaven Dr/McLeod Ln	Signalized	V/C < 1.0	0.58	B
6	Lockhaven Dr/Keizer Station Blvd	Signalized	V/C < 1.0	0.56	C
8	Chemawa Rd/Stadium Dr	Signalized	V/C ≤ 0.87 ± 0.02	0.58	B
10	Chemawa Rd/I-5 NB Ramps	Signalized	V/C ≤ 0.87 ± 0.02	0.80	C
13	Chemawa Rd/McLeod Ln	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.11	B

Two-Way Stop:

LOS = Level of Service of Minor Street

V/C = Volume-to-Capacity Ratio of Worst Movement

Signalized:

LOS = Level of Service for Intersection

V/C = Volume-to-Capacity Ratio for Intersection

^a Note: The values in this table are reproduced from the *Keizer Station Area C Master Plan TIA* (October 2010).

⁴ City of Keizer, *Transportation System Plan*, April 2009, Revised June 2014.

⁵ Chemawa Road Interchange Access Management Plan, Technical Memorandum 5.1, Existing Conditions, CH2M Hill, July 2008.

CHAPTER 4: BACKGROUND TRAFFIC (2020)

Background traffic volumes for the year 2020 were developed as part of this traffic study to establish a baseline for isolating the project impacts associated with the Area C update. The 2020 background scenario assumes full build-out of Keizer Station Areas A, B, and D, but leaves Area C vacant. This chapter documents the 2020 background land use and trip generation assumptions, transportation improvement assumptions, and resulting operations.

Land Use and Trip Generation Assumptions

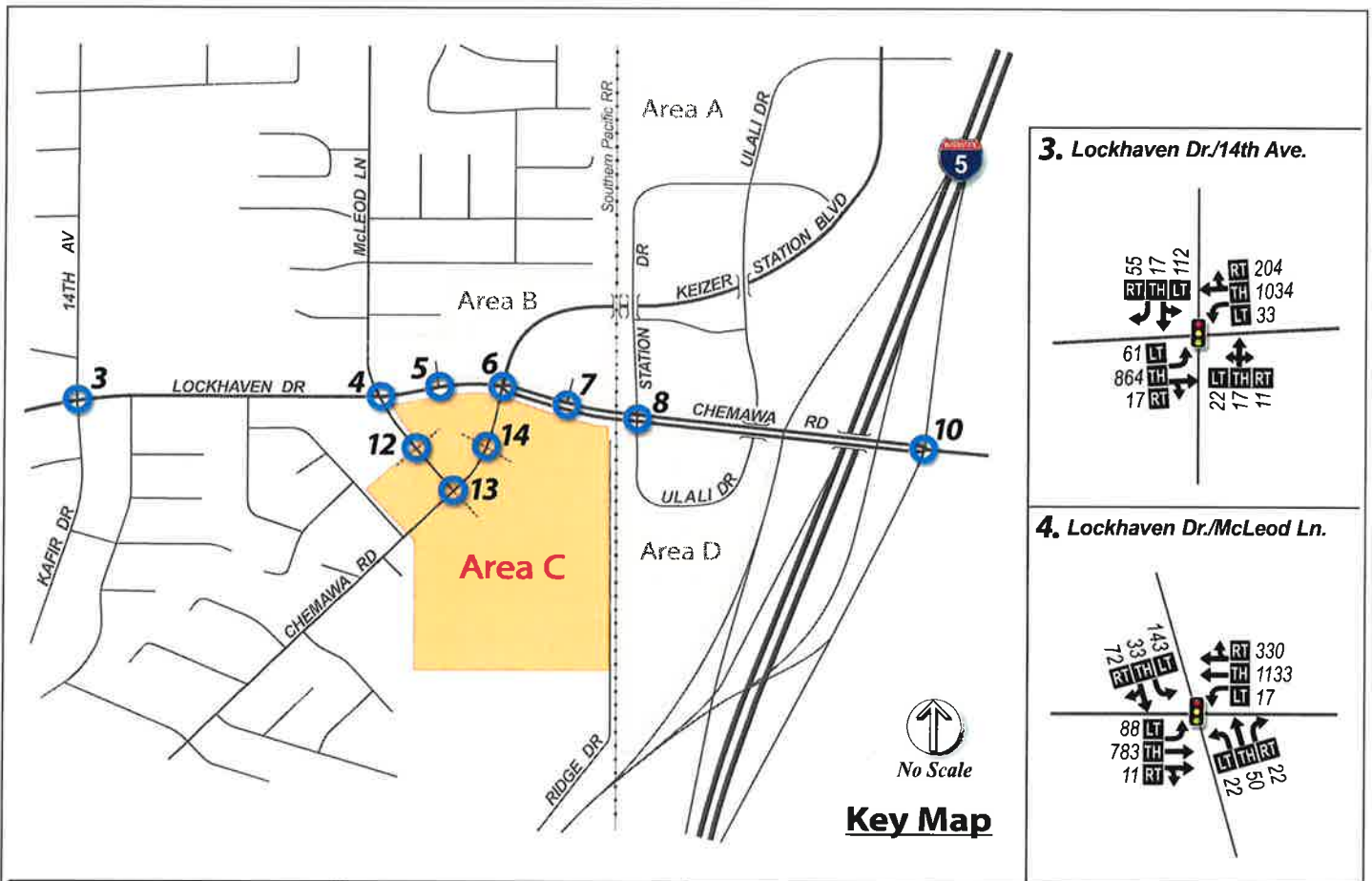
Assumptions from the *Keizer Station Area C Master Plan TIA* (October 2010) were used as the starting point for developing 2020 Background volumes, and Figure 2 on the next page shows the original 2020 Background volumes assumed in the prior study⁶. The following information from the *Keizer Station Area C Master Plan TIA* (October 2010) is assumed for this update:

- 2020 background volumes remain the same with the exception of these key changes:
 - Area A's remaining in-process land use assumptions have been updated to account for the recent increase in built restaurants as opposed to assumptions for the previous study.
 - Area B is included in the 2020 Background scenario along with in-process portions of Areas A and D. The *Keizer Station Area C Master Plan TIA* (October 2010) included Areas B in the 2020 Total scenario along with Area C.
- Heavy vehicle factors, peak hour factors, and pedestrian and bicycle counts remain the same.

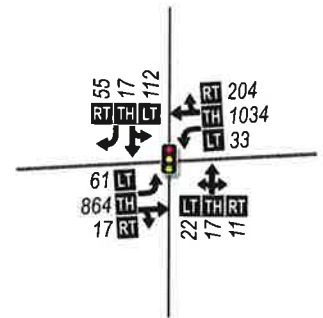
Revised Area A Traffic Assumptions

Table 3 lists the original Area A in-process/build-out land use and trip generation assumptions from the *Keizer Station Area C Master Plan TIA* (October 2010). These trips were originally included in the 2020 background scenario to account for the remaining portions of Area A that had not been built as of 2010 but were expected to occur for the area to reach full build-out.

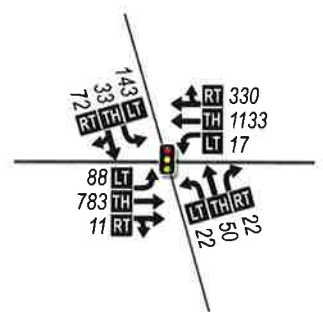
⁶ The volumes match the original background analysis (from Synchro files) and are not rounded to the nearest five vehicles



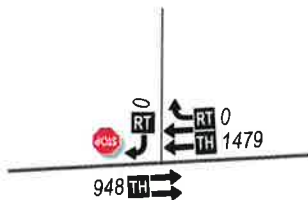
3. Lockhaven Dr./14th Ave.



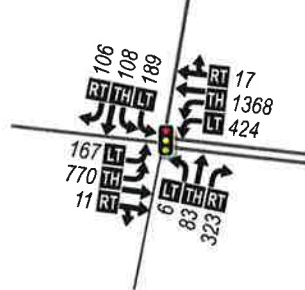
4. Lockhaven Dr./McLeod Ln.



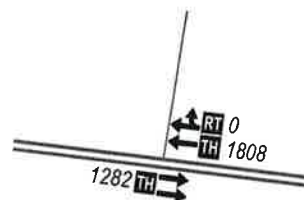
5. Lockhaven Dr./Area B West RI/RO



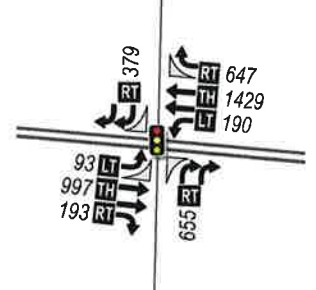
6. Lockhaven Dr./Keizer Station Blvd.



7. Chemawa Rd./Area B East RI



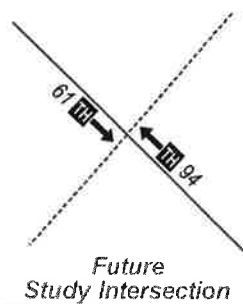
8. Chemawa Rd./Stadium Dr.



10. Chemawa Rd./I-5 NB Ramps



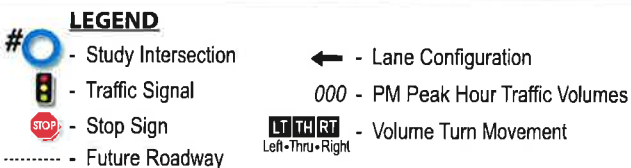
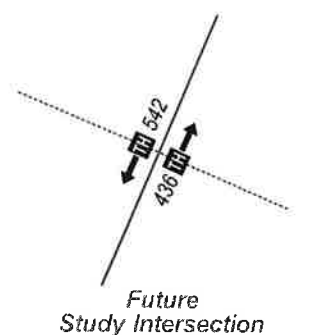
12. McLeod Ln./Area C Full Access



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO



DKS

Figure 2

**2020 Background
(From 2010 TIA Study)
PM Peak Hour Traffic Volumes**

Table 3: Original Area A In-Process/Build-Out Land Use and Trip Generation^a

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			In	Out	Total
Area A In-Process/Build-Out Trips					
Retail	Existing trip rate of the built portion of Area A	180,713	250	235	485
Office	ITE 710	100,000	25	125	150
Motel	ITE 320	70 rooms	20	15	35
Total Trips for Area A			295	375	670
Internal Trips			(10)	(10)	(20)
Pass-by and Diverted Trips			(80)	(80)	(160)
Primary Trips			205	285	490

^a Note: The values in this table are reproduced from the *Keizer Station Area C Master Plan TIA* (October 2010).

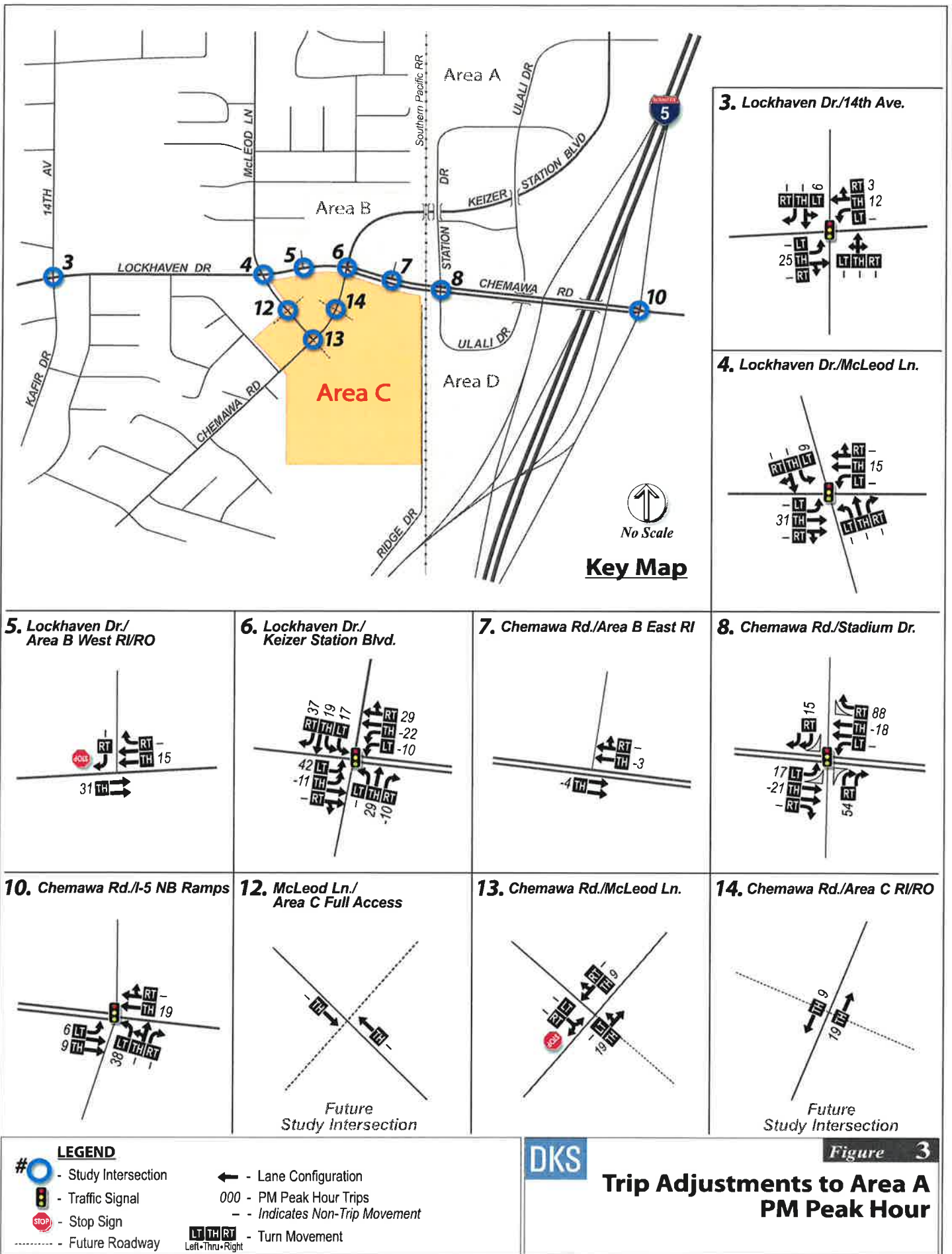
Since adoption of the *Keizer Station Area C Master Plan TIA* (October 2010), Area A has experienced additional development. This new development differs from the assumptions in the previous study. Specifically, a significant portion of recent uses in Area A has been for restaurants (approximately 80% of new square footage between 2010 and 2014, as documented in **Appendix B**). The original trip generation assumptions did not account for restaurants as a specific land use but had included them in a custom rate based on existing Area A build-out. The custom rate assumed only a very small portion of the build-out would be restaurants (less than 5% of total square footage prior to 2010).

The Area A in-process/build-out assumptions were adjusted in this update to include 17,600 SQFT of High Turnover Sit-Down Restaurant and 7,200 SQFT of Fast Food Restaurant with Drive-Thru, in lieu of previously planned retail space. These sizes are consistent with the developments that have occurred between 2010 and 2014. The internal, pass-by/diverted, and primary trip estimates are adjusted using similar assumptions as the *Keizer Station Area C Master Plan TIA* (October 2010). A 10% internal trip reduction was assumed for all but the retail land use (which already accounts for it in the custom trip generation previously developed), and pass-by/diverted trip rates provided by the Institute of Transportation Engineers (ITE) were used for the other uses.

Table 4 provides the revised Area A trip generation assumptions. As shown, the revised land uses generate 675 PM peak hour primary trips (185 more than the original 490 trips) and 330 PM peak hour pass-by/diverted trips (170 more than the original 160 trips). Figure 3 shows the resulting adjustments that need to be made to the original volumes for 2020 Background scenario to account for the additional Area A traffic that is expected to use the study intersections. Keizer Station Area A can also be accessed from the north using Keizer Station Boulevard, which passes by Volcanoes Stadium and connects to 35th Avenue NE. Because there are no study intersections along this roadway, the new Area A trips assumed to use this roadway are not specifically shown in Figure 3.

Table 4: Revised Area A In-Process/Build-Out Land Use and Trip Generation

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			In	Out	Total
Retail	Existing trip rate of the built portion of Area A	155,900	215	205	420
High Turnover Sit-Down Restaurant	ITE 932	17,600	115	80	195
Fast Food Restaurant with Drive-Thru	ITE 934	7,200	130	120	250
Medical-Dental Office Building	ITE 720	50,200	50	125	175
Motel	ITE 320	70 rooms	20	15	35
Total Trips for Area A			530	545	1,075
Internal Trips			(35)	(35)	(70)
Pass-by and Diverted Trips			(165)	(165)	(330)
Primary Trips			330	345	675
Net Change in Primary Trips (Original vs Revised)			+125	+60	+185



Area B Traffic Assumptions Now Included in 2020 Background Scenario

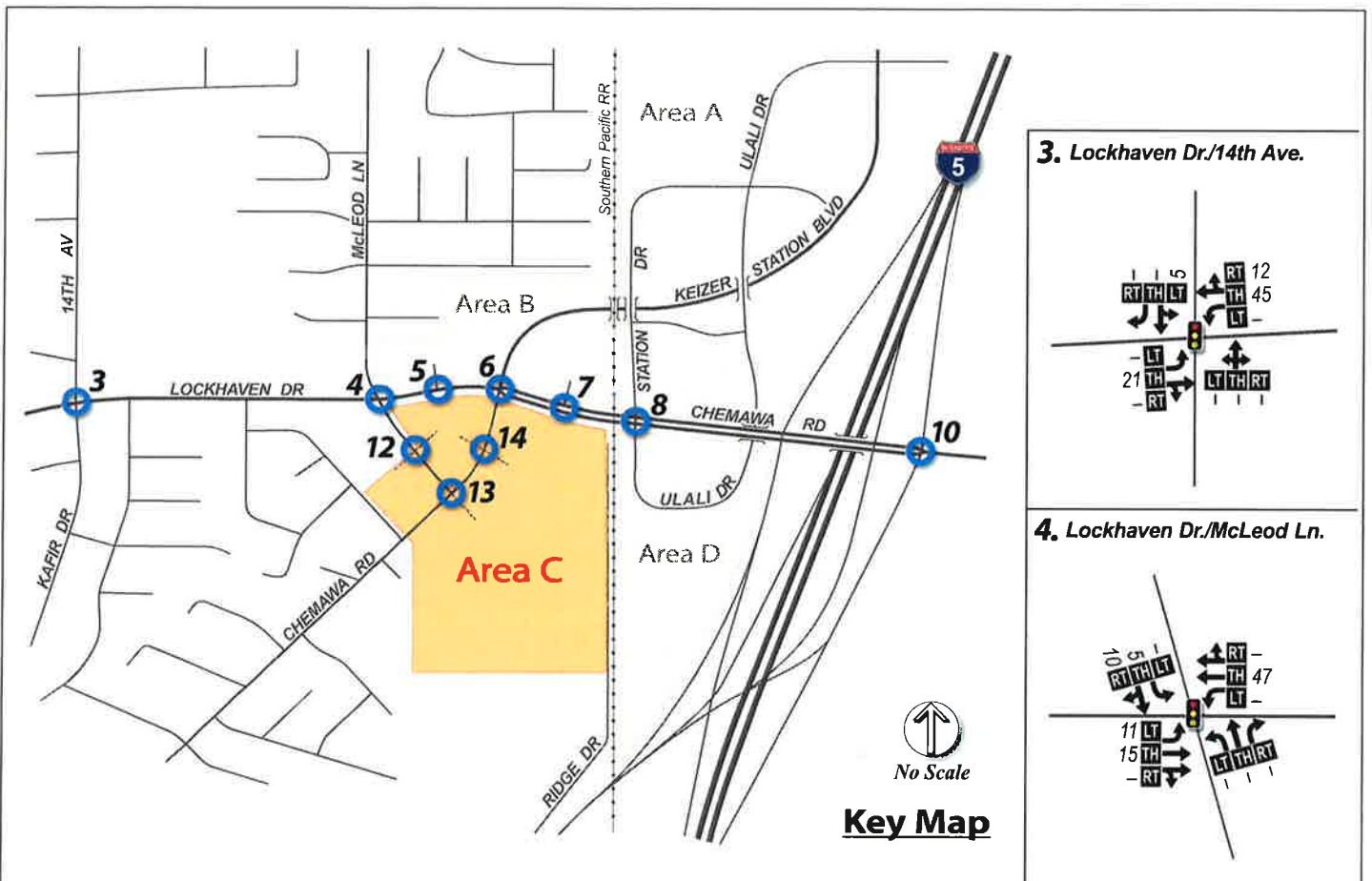
Another change from the *Keizer Station Area C Master Plan TIA* (October 2010) is that the Area B traffic will now be included in the 2020 Background scenario along with the in-process portions of Areas A and D. This will allow isolation of impacts associated specifically to Area C within this update.

Table 5 lists the land uses and PM peak hour trip generation associated with full build-out of Area B, and Figure 4 shows the associated traffic volumes as they are routed through the study area intersections. No changes have been made to these land use and trip generation quantities.

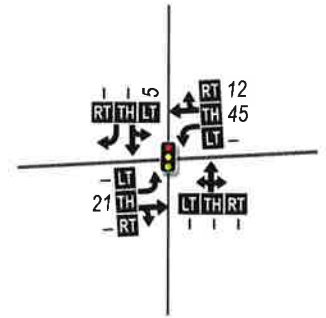
Table 5: Original Area B Build-Out Land Use and Trip Generation^a

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			In	Out	Total
Transit Center	Estimated based on expected operations	10 bus bays, 70 park-and-ride stalls	55	110	165
Medical-Dental Office	ITE 720	28,000	20	50	70
Office	ITE 710	20,000	5	25	30
Shopping Center	ITE 820	16,000	30	30	60
Office (east side of Area)	ITE 710	15,000	5	20	25
Total Trips for Area B			115	235	350
Internal Trips			5	5	10
Pass-by and Diverted Trips			5	5	10
Primary Trips			105	225	330

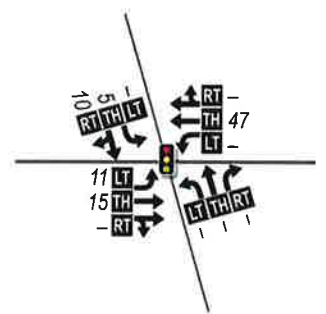
^a Note: The values in this table are reproduced from the *Keizer Station Area C Master Plan TIA* (October 2010).



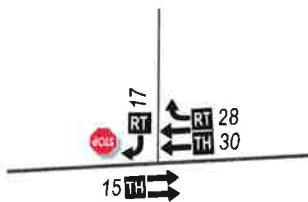
3. Lockhaven Dr/14th Ave.



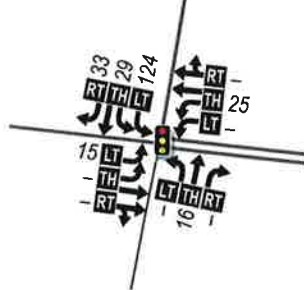
4. Lockhaven Dr/McLeod Ln.



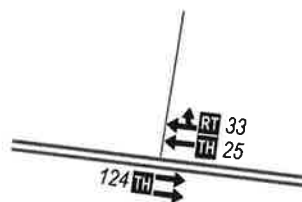
**5. Lockhaven Dr/
Area B West RI/RO**



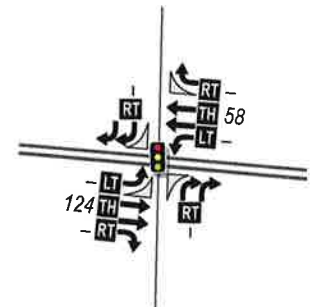
**6. Lockhaven Dr/
Keizer Station Blvd.**



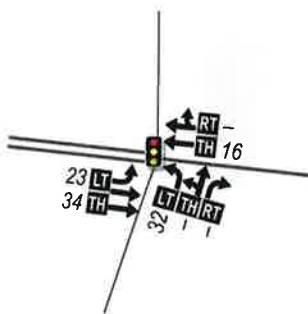
7. Chemawa Rd./Area B East RI



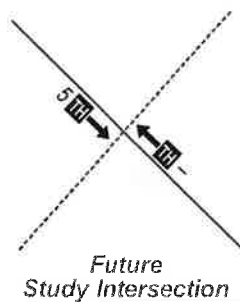
8. Chemawa Rd./Stadium Dr.



10. Chemawa Rd./I-5 NB Ramps



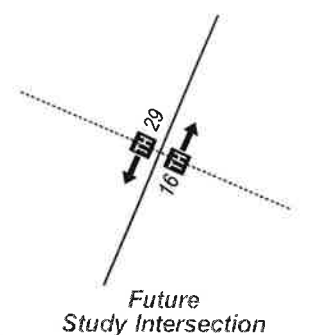
**12. McLeod Ln./
Area C Full Access**



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO



- LEGEND**
- # - Study Intersection
 - 🚦 - Traffic Signal
 - 🛑 - Stop Sign
 - - Future Roadway
 - ← - Lane Configuration
 - 000 - PM Peak Hour Trips
 - - - - - Indicates Non-Trip Movement
 - LT TH RT - Turn Movement
Left-Thru-Right

DKS

Figure 4

**In Process Trips for Area B
PM Peak Hour**

Area D Traffic Assumptions

Table 6 lists the original Area D build-out land use and trip generation, which are included in the 2020 background scenario analyzed in this report. No changes have been made to these land use and trip generation quantities, which were also previously estimated in the prior *Keizer Station Area C Master Plan TIA* (October 2010). These are provided for reference purposes only and are accounted for in Figure 2.

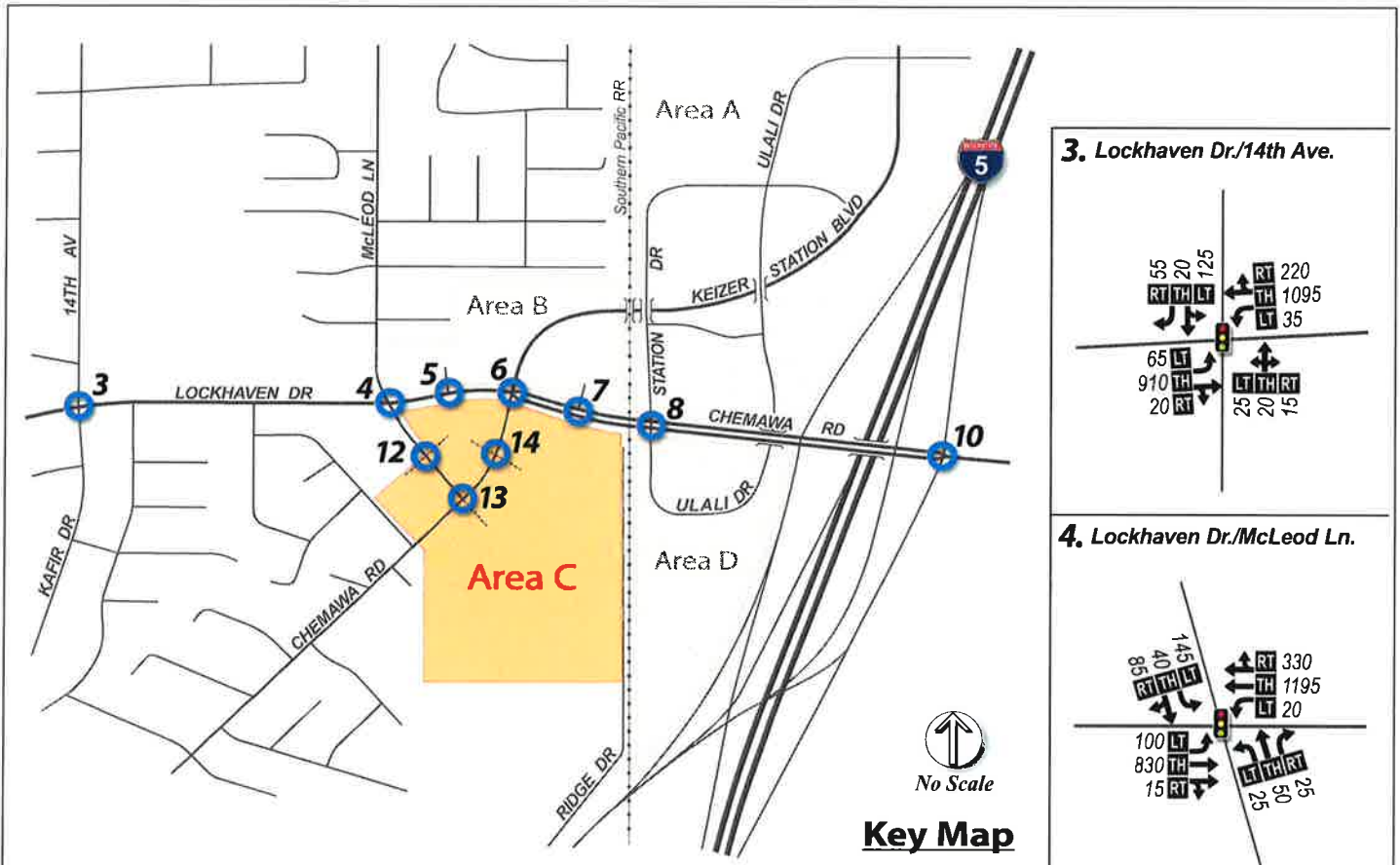
Table 6: Original Area D Build-Out Land Use and Trip Generation^a

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			In	Out	Total
Motel	ITE 320	100 rooms	25	20	45
Restaurant	ITE 932	8,000	55	35	90
Fuel Station	ITE 946	12 fueling positions	85	80	165
Professional Offices	ITE 710	42,000	10	50	60
Retail Stores	ITE 820	13,000	80	80	160
Fast Food Outlets	ITE 934	6,000	105	100	205
Light Manufacturing	ITE 110	2 acres	5	10	15
Total Trips for Area D			365	375	740
Internal Trips			40	40	80
Pass-by and Diverted Trips			125	125	250
Primary Trips			200	210	410

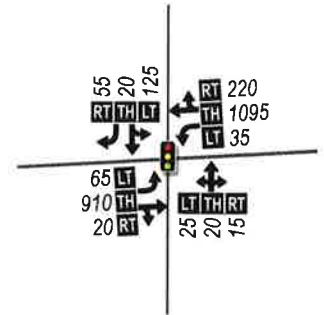
^a Note: The values in this table are reproduced from the *Keizer Station Area C Master Plan TIA* (October 2010).

Revised 2020 Background Traffic Volumes

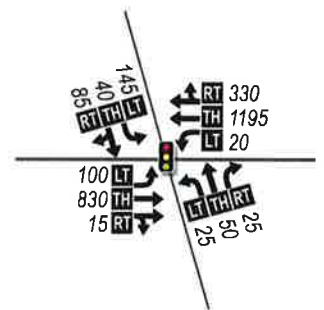
Figure 5 shows the revised 2020 background traffic volumes, which were developed by adding the new Area A trips and the in-process trips from Area B to the original 2020 background volumes documented in the *Keizer Station Area C Master Plan TIA* (October 2010).



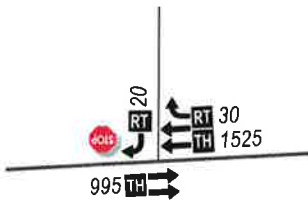
3. Lockhaven Dr./14th Ave.



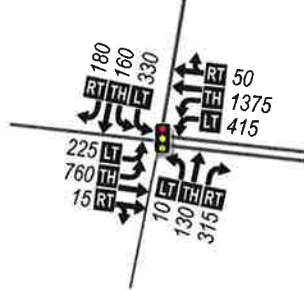
4. Lockhaven Dr./McLeod Ln.



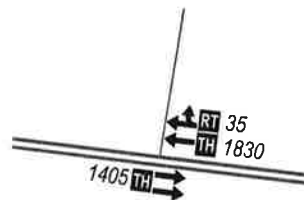
5. Lockhaven Dr./Area B West RI/RO



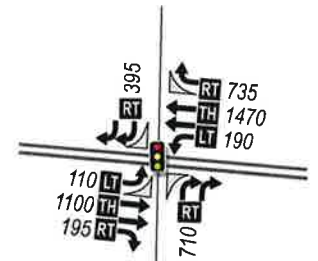
6. Lockhaven Dr./Keizer Station Blvd.



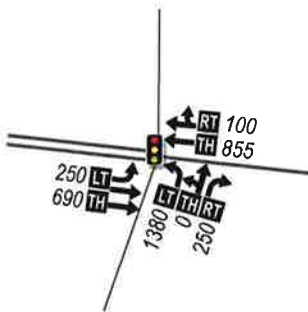
7. Chemawa Rd./Area B East RI



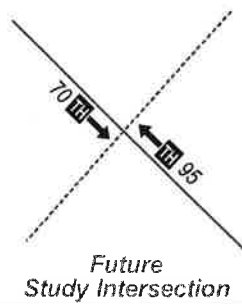
8. Chemawa Rd./Stadium Dr.



10. Chemawa Rd./I-5 NB Ramps



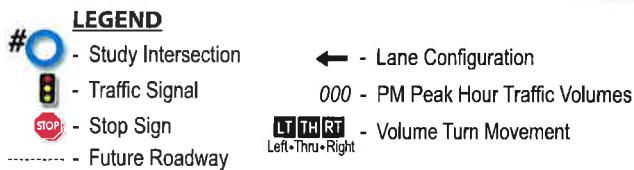
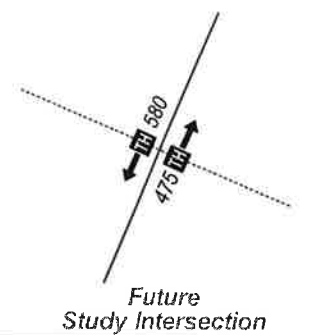
12. McLeod Ln./Area C Full Access



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO



DKS

Figure 5

2020 Total Background PM Peak Hour Traffic Volumes

Transportation Improvement Assumptions

The *Keizer Station Area C Master Plan TIA* (October 2010) recommended improvements to mitigate the development of Area B. Since Area B is now analyzed as part of the 2020 background scenario, these corresponding improvements are included in the 2020 background transportation network. The Area B improvements include:

- Provide a right-in only driveway on Chemawa Road to serve Area B East (located between the Keizer Station Boulevard and Stadium Road intersections).
- Provide a right-in/right-out driveway on Lockhaven Drive to serve Area B West (located between the Keizer Station Boulevard and McLeod Lane intersections). This driveway includes a westbound right-turn lane.
- Install a second southbound left-turn lane at the Lockhaven Drive/Chemawa Road/Keizer Station Boulevard intersection. This recommended improvement from the original study has now been further refined to assume protected left turn signal phasing for this movement.

Operating Standards

Operating standards for traffic operational analysis are set by the City of Keizer and ODOT for their respective facilities. For signalized intersections in the City of Keizer, the minimum acceptable operational level is LOS D and unsignalized intersections are LOS E. The City of Keizer has a volume-to-capacity ratio standard of 0.95 for when two arterial roadways intersect with each other. For facilities within the Chemawa Interchange Overlay (CIO) Zone, the City's adopted Transportation System Plan operational standard is a volume-to-capacity ratio of 1.0.⁷ For ODOT facilities in the vicinity of the I-5 interchange, the mobility target is 0.87 plus or minus two percent, which is from the *Intergovernmental Agreement for Keizer Station*,⁸ developed by the City of Keizer and the Oregon Department of Transportation.

Intersection Operations

Background traffic operations at the study intersections are determined based on the 2010 HCM methodology for unsignalized intersections and the 2000 HCM methodology for signalized intersections.^{9,10} The 2020 background traffic analysis includes updated traffic signal timings, while all other parameters are kept the same as the *Keizer Station Area C Master Plan TIA* (October 2010) for consistency with the previous study.¹¹

Table 7 lists the 2020 background study intersection operations. As shown, all but two of the study intersections are expected to operate at acceptable levels under future (2020) background conditions. The Lockhaven

⁷ City of Keizer, *Transportation System Plan*, April 2009, Revised June 2014.

⁸ City of Keizer/ODOT, *Intergovernmental Agreement Keizer Station*, January 2008.

⁹ 2010 *Highway Capacity Manual*, Transportation Research Board, Washington DC, 2010.

¹⁰ 2000 *Highway Capacity Manual*, Transportation Research Board, Washington DC, 2000.

¹¹ Parameters that remained the same include: peak hour factor, heavy vehicle percentage, and bicycle and pedestrian volumes.

Drive/14th Avenue intersection will have a volume-to-capacity ratio of 1.06 in 2020 under background conditions, which is over the operating standard of 1.0. This indicates a need for the City or developers of the other Keizer Station parcels to mitigate the Lockhaven Drive/14th Avenue intersection. Additionally, the Chemawa Road/I-5 northbound ramp intersection will have a volume-to-capacity ratio of 1.02, which is over the operating standard of 0.87 plus or minus two percent. This also indicates a need for mitigation independent of the Area C development. **Appendix C** provides the detailed reports for the traffic operations of the 2020 total background scenario.

Table 7: 2020 Total Background Intersection Operations

No.	Intersection	Traffic Control	Mobility Target or Standard	P.M. Peak Hour	
				V/C	LOS
3	Lockhaven Dr/14th Ave	Signalized	V/C < 1.0	1.06	E
4	Lockhaven Dr/McLeod Ln	Signalized	V/C < 1.0	0.70	B
5	Lockhaven Dr/Area B West RI/RO	Unsignalized (Two way stop)	LOS E	0.07	C
6	Lockhaven Dr/Keizer Station Blvd	Signalized	V/C < 1.0	0.82	D
7	Chemawa Rd/Area B East RI	Unsignalized (Two way stop)	LOS E	0.40*	A
8	Chemawa Rd/Stadium Dr	Signalized	V/C ≤ 0.87 ± 0.02	0.69	B
10	Chemawa Rd/I-5 NB Ramps	Signalized	V/C ≤ 0.87 ± 0.02	1.02	E
13	Chemawa Rd/McLeod Ln	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.23	C

Bolded and Shaded indicates intersection exceeds mobility target

*HCM 2000 unsignalized intersection methodology used

Two-Way Stop:

LOS = Level of Service of Minor Street

V/C = Volume-to-Capacity Ratio of Worst Movement

Signalized:

LOS = Level of Service for Intersection

V/C = Volume-to-Capacity Ratio for Intersection

CHAPTER 5: PROJECT IMPACTS

This chapter reviews the impacts that the Keizer Station Area C development update would have on the study area's transportation system.

Trip Generation

The Area C trip generation assumptions are updated from the *Keizer Station Area C Master Plan TIA* (October 2010) based on the following land use changes:

- Remove the medical-dental office building (53,000 SQFT)
- Remove the Free Standing Discount Superstore (116,882 SQFT)
- Reduce the High Turnover Sit-Down Restaurant from 5,800 SQFT to 5,000 SQFT
- Increase the Shopping Center (i.e., general retail) from 33,090 SQFT to 120,000 SQFT (replacing the Free Standing Discount Superstore); the 120,000 SQFT includes 101,000 SQFT east of Chemawa Road (which assumes the maximum allowed 80,000 SQFT anchor retail building, though recognizes this is conservative), 8,000 SQFT in the triangle area between Chemawa Road and McLeod Lane, and 11,000 SQFT of future development (assumed as retail) in a new development area south of McLeod Lane that was not included in the prior TIA (this area is shown in the new site plan provided in **Appendix A**). This 120,000 SQFT of shopping area exceeds the original SQFT provided in the *September 2012 Keizer Station Area C Submittal*, by Kittelson & Associates (**Appendix D**) because it accounts for the full build out of the anchor retail and the additional retail in the new development south of McLeod Lane.
- Increase the General Office from 18,468 SQFT to 37,500 SQFT
- Increase the number of units in the apartment complex from 117 units to 180 units
- Add Senior Adult Housing and Assisted Living uses (i.e., residential care facility) with 156 units (replacing the Medical-Dental Office Building)

Additionally, two development scenarios are considered: a partial build including only the apartments and senior living center and a full build-out of Area C.

Table 8 lists the original PM peak hour vehicle trip generation estimates for the development from the *Keizer Station Area C Master Plan TIA* (October 2010),¹² as well as the trip generation estimates for the partial and full build scenarios with updated land uses. The peak trips are established using trip generation methodology, which may consist of fitted-curve equations or average rates.¹³ Both the fitted-curve equations and average rates are appropriate in different situations. While the average rates are more appropriate for most of the land uses in

¹² The number of trips were established using the 8th edition and were not changed for consistency.

¹³ *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

Keizer Station Area C, ODOT staff requested the fitted-curve equation be used for the General Office land use.¹⁴ With specific respect to the retail shopping area, the average rate was selected based on a previous study conducted as part of the *Keizer Station Area C Master Plan TIA* (October 2010), which created a custom trip rate for the partially developed Area A. Keizer Station Area A, which was almost exclusively retail use at the time, was documented in the 2010 TIA as having a trip rate of 2.68 p.m. peak hour trips per 1,000 SQFT (or 2.98 trips prior to accounting for the 10% internal trip reduction). This rate is less than the ITE's average trip rate of 3.73 p.m. peak hour trips per 1,000 SQFT. Therefore, the average rate is considered to be sufficiently conservative as it exceeds the custom rate developed for shopping area within the study area.

Table 8: Area C Trip Comparison

Land Use	Number of Units		Unit	PM Peak Hour Trips Total (In, Out)		
	October 2010 TIA	Full Build		October 2010 TIA	Partial Build	Full Build
General Office	18,486	37,500	SQ FT	30 (5, 25)	0 (0, 0)	120 (20, 100)
High Turnover Sit-Down Restaurant	5,800	5,000	SQ FT	65 (40, 25)	0 (0, 0)	55 (35, 20)
Shopping Center	33,090	120,000	SQ FT	130 (60, 70)	0 (0, 0)	450 (215, 235)
Medical Dental Office Building	53,000	0	SQ FT	185 (50, 135)	0 (0, 0)	0 (0, 0)
Free Standing Discount Superstore	116,882	0	SQ FT	540 (265, 275)	0 (0, 0)	0 (0, 0)
Residential Condo/Townhouse	60	0	UNITS	30 (20, 10)	0 (0, 0)	0 (0, 0)
Apartments	117	180	UNITS	75 (50, 25)	115 (75, 40)	115 (75, 40)
Senior Adult Housing - Attached	0	70	UNITS	0 (0, 0)	20 (10, 10)	20 (10, 10)
Assisted Living	0	86	BEDS	0 (0, 0)	25 (15, 10)	25 (15, 10)
Total Trips for Area C				1,055 (490, 565)	160 (100, 60)	785 (370, 415)
Internal Trips				110 (50, 60)	0 (0, 0)	75 (35, 40)
Pass-by and Diverted Trips				140 (70, 70)	0 (0, 0)	80 (40, 40)
Primary Trips				805 (370, 435)	160 (100, 60)	630 (295, 335)

The assumptions for estimating internal and pass-by/diverted trips associated with the partial and full build scenarios are consistent with the *Keizer Station Area C Master Plan TIA* (October 2010). The partial build does not include any retail uses, and so it does not include any internal or pass-by/diverted trips. The full build has ten percent internal trips and uses the same 15% pass-by/diverted trip rate for retail uses as discussed in the

¹⁴ Email received on December 4, 2014 from Bill Lawyer at City of Keizer including comments from November 17, 2014 from ODOT

Keizer Station Area C Master Plan TIA (October 2010). This is more conservative than the ITE Trip Generation Manual would suggest for use, but was previously agreed upon by ODOT and the City of Keizer as part of the *Keizer Station Area C Master Plan TIA* (October 2010). This same value is used in this update to be consistent with the previous work. Since the retail square footage in this proposed update is lower than what was assumed in the original TIA, the full build scenario experiences a decrease in the amount of pass-by and diverted trips. With the exception of the proposed new use (Senior Living Center), all other assumed ITE use codes are consistent with those assumed in the *Keizer Station Area C Master Plan TIA* (October 2010).

Table 9 provides further detail for the parts of Area C that are updated, including the additional apartments and a senior living center. The senior living center will comprise independent living units as well as assisted living and memory care residents. The trip generation for the senior living center is based on two ITE codes: Senior Adult Housing – Attached (252) and Assisted Living (254). For the assisted living use, one bed per unit was assumed. This approach is used in lieu of the combined ITE code for a Continuing Care Retirement Community (255) since the ITE code is relatively new and has a small sample size. Additionally, the separate calculation using ITE codes 252 and 255 is more conservative and resulted in twenty more trips than the combined code.

Table 9: Trip Generation Summary

Land Use (ITE Code)	Size	Time Period	Trip Generation Rate	Peak Hour Trips (Rounded)		
				In	Out	Total
Apartments (220)	180 units	PM Peak	0.62 trips/unit	75	40	115
Senior Adult Housing – Attached (252)	70 units	PM Peak	0.25 trips/unit	10	10	20
Assisted Living (254)	86 beds	PM Peak	0.29 trips/bed	15	10	25

Trip Distribution

Trip distribution is an estimation of where project trips come from and go to. It is given as percentages at key gateways to the study area and used to route project trips through the study intersections. The trip distribution used is from the *Keizer Station Area C Master Plan TIA* (October 2010) to provide consistency between the analysis results. The trip distribution percentages are shown in Figure 6, which are used for both the partial build-out and full build-out scenarios. The resulting site distributed trips are shown in Figure 7 for the Area C partial build-out scenario and Figure 8 for the Area C full build-out scenario.

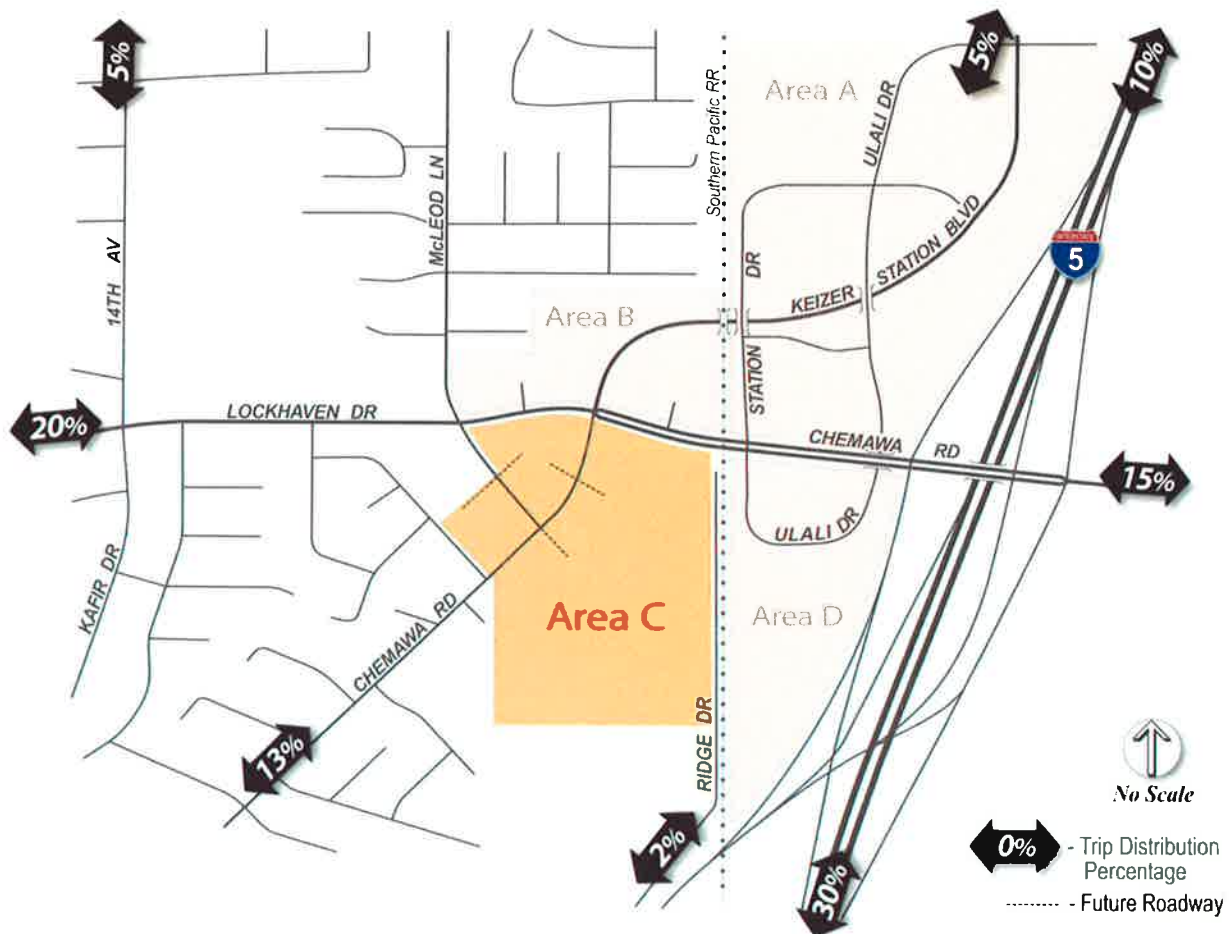
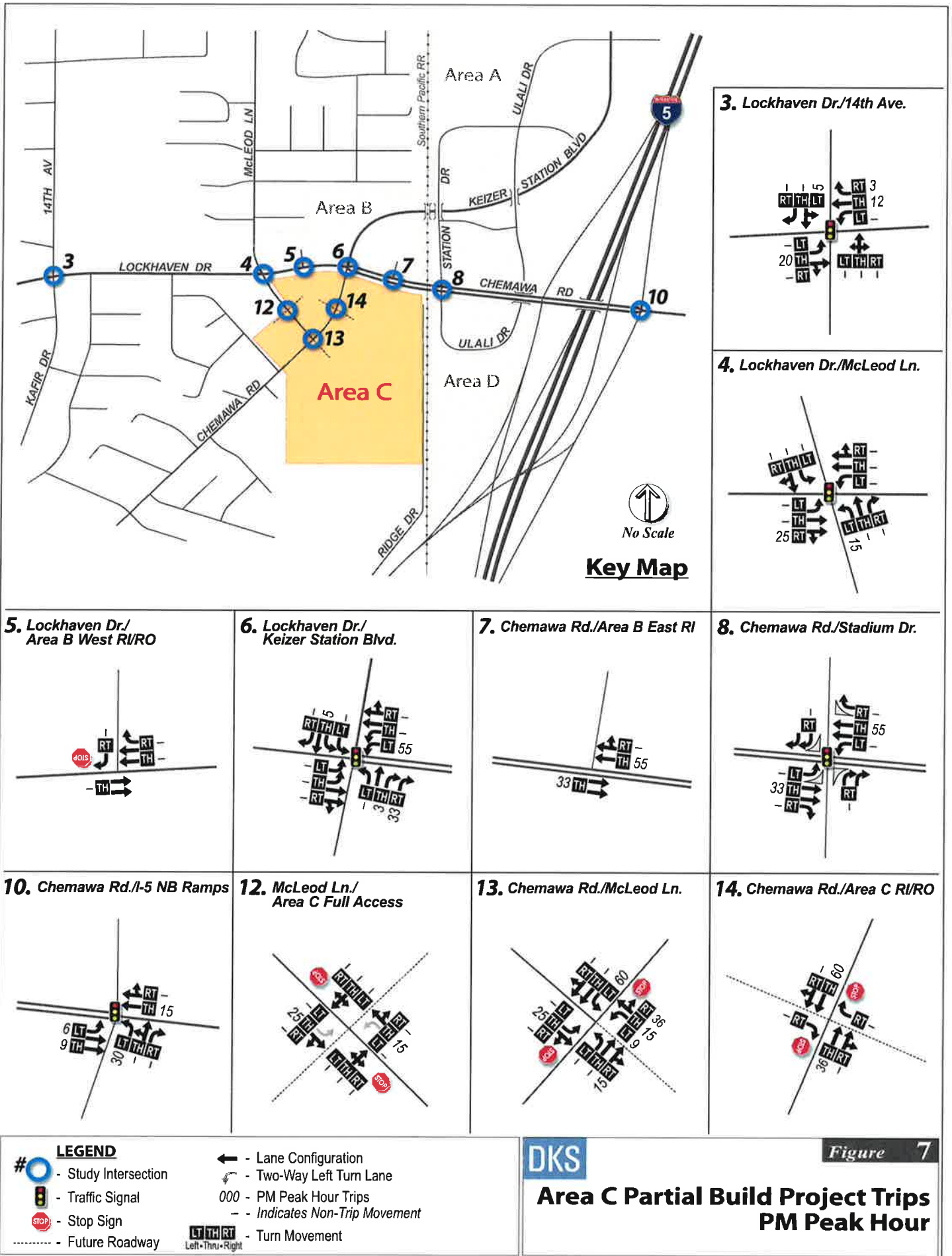


Figure 6. Trip Distribution

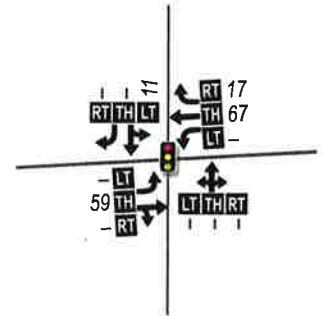
Future Traffic Volumes with Area C Development

The estimated trips associated with Area C are added to the background volumes to estimate the total traffic volumes for both a partial and a full build-out scenario. Figure 9 shows the 2020 partial build-out traffic volumes, while Figure 10 shows the full build-out traffic volumes used for analysis.

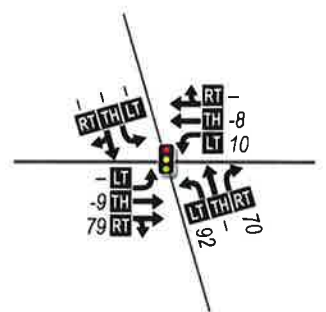




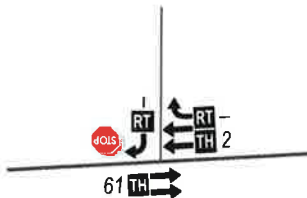
3. Lockhaven Dr./14th Ave.



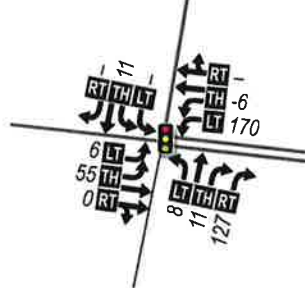
4. Lockhaven Dr./McLeod Ln.



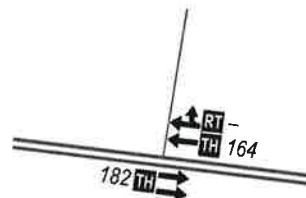
5. Lockhaven Dr./Area B West RI/RO



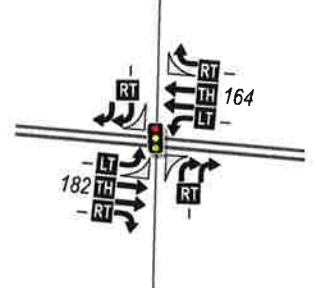
6. Lockhaven Dr./Keizer Station Blvd.



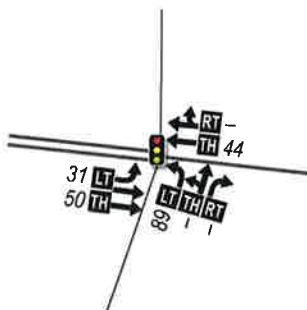
7. Chemawa Rd./Area B East RI



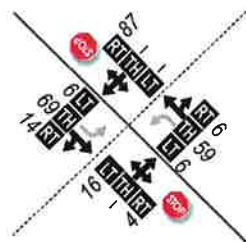
8. Chemawa Rd./Stadium Dr.



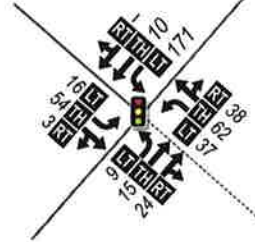
10. Chemawa Rd./I-5 NB Ramps



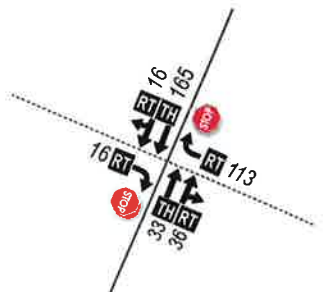
12. McLeod Ln./Area C Full Access



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO

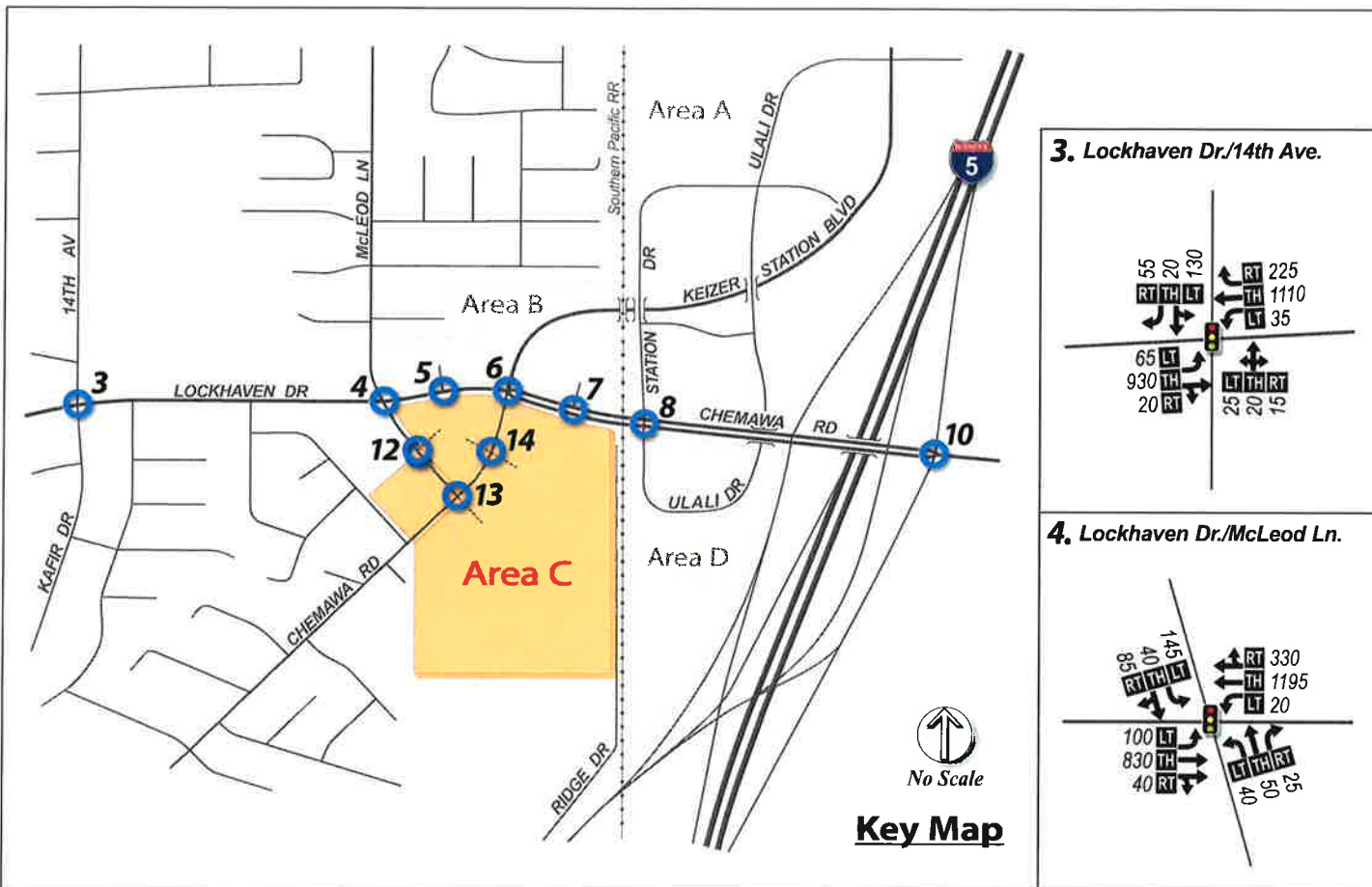


- LEGEND**
- # - Study Intersection
 - 🚦 - Traffic Signal
 - STOP - Stop Sign
 - - Future Roadway
 - ← - Lane Configuration
 - ↔ - Two-Way Left Turn Lane
 - 000 - PM Peak Hour Trips
 - - Indicates Non-Trip Movement
 - LT TH RT - Turn Movement
- Left+Thru+Right

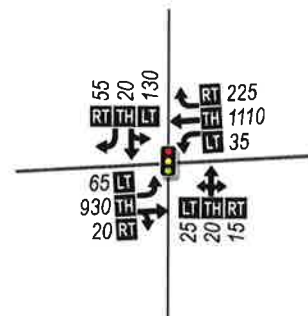
DKS

Figure 8

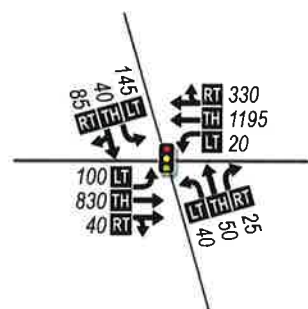
**Area C Full Build Project Trips
PM Peak Hour**



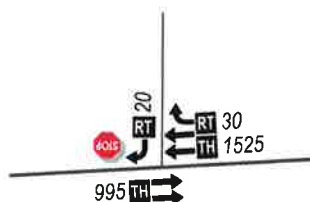
3. Lockhaven Dr./14th Ave.



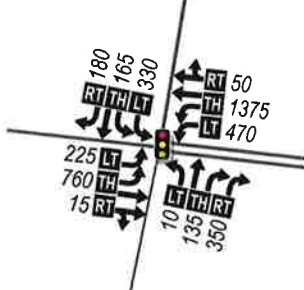
4. Lockhaven Dr./McLeod Ln.



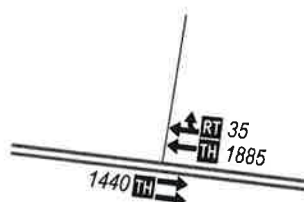
5. Lockhaven Dr./Area B West RI/RO



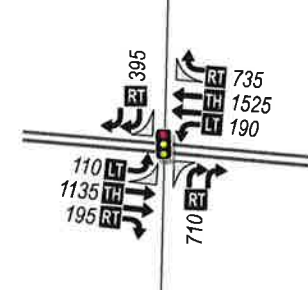
6. Lockhaven Dr./Keizer Station Blvd.



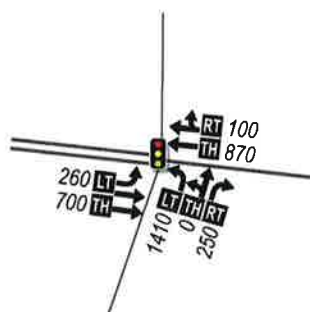
7. Chemawa Rd./Area B East RI



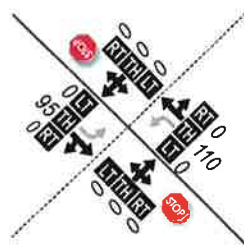
8. Chemawa Rd./Stadium Dr.



10. Chemawa Rd./I-5 NB Ramps



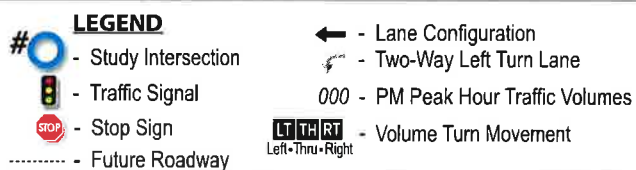
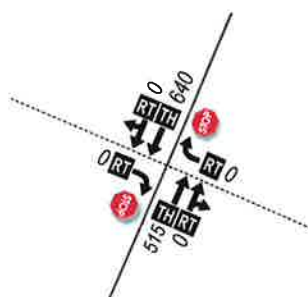
12. McLeod Ln./Area C Full Access



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO



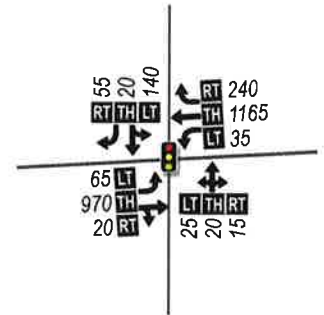
DKS

Figure 9

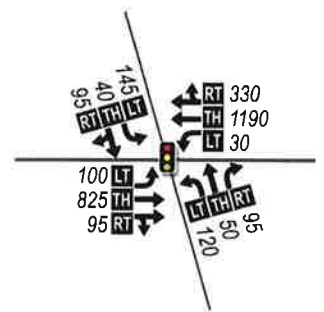
**2020 Partial Build
PM Peak Hour Traffic Volumes**



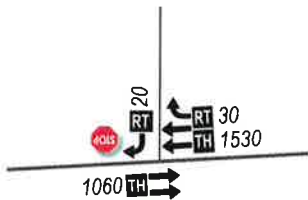
3. Lockhaven Dr./14th Ave.



4. Lockhaven Dr./McLeod Ln.



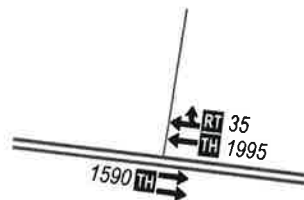
5. Lockhaven Dr./Area B West RI/RO



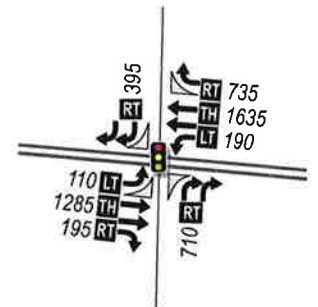
6. Lockhaven Dr./Keizer Station Blvd.



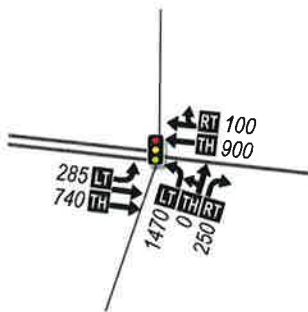
7. Chemawa Rd./Area B East RI



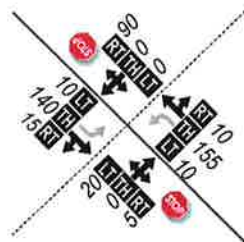
8. Chemawa Rd./Stadium Dr.



10. Chemawa Rd./I-5 NB Ramps



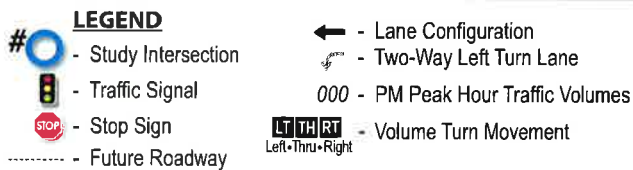
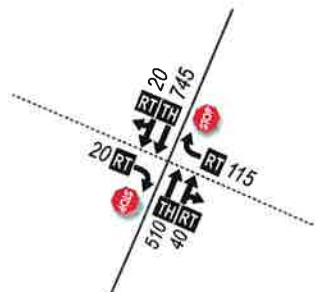
12. McLeod Ln./Area C Full Access



13. Chemawa Rd./McLeod Ln.



14. Chemawa Rd./Area C RI/RO



DKS

Figure 10

**2020 Full Build
PM Peak Hour Traffic Volumes**

Future Operations

Future operations analysis is performed for the study intersections with the addition of the revised Area C PM peak hour project trips. These results assume the same roadway configuration as studied in the 2020 Background Analysis (Table 7) with the addition of the following two access points:

- Construct a right-in/right-out access on Chemawa Road
- Construct an access on McLeod Lane

Table 10 lists the study intersection operating conditions, and **Appendix E and F** provide detailed reports for the operational results. Under future 2020 partial and full build conditions, the study intersections are expected to experience traffic operating levels similar to the 2020 Background scenario.

Table 10: 2020 Intersection Operations with Build Options

No.	Intersections	Traffic Control	Mobility Target or Standard	P.M. Peak Hour			
				Partial Build		Full Build	
				V/C	LOS	V/C	LOS
3	Lockhaven Dr/14th Ave	Signalized	V/C < 1.0	1.08	E	1.14	E
4	Lockhaven Dr/McLeod Ln	Signalized	V/C < 1.0	0.70	B	0.69	B
5	Lockhaven Dr/Area B West RI/RO	Unsignalized (Two way stop)	LOS E	0.07	C	0.07	C
6	Lockhaven Dr/Keizer Station Blvd	Signalized	V/C < 1.0	0.83	D	0.92	D
7	Chemawa Rd/Area B East RI	Unsignalized (Two way stop)	LOS E	0.41*	A	0.49*	A
8	Chemawa Rd/Stadium Dr	Signalized	V/C ≤ 0.87 ± 0.02	0.71	B	0.75	C
10	Chemawa Rd/I-5 NB Ramps	Signalized	V/C ≤ 0.87 ± 0.02	1.04	E	1.09	F
12	McLeod Ln/Area C Full Access	Unsignalized (Two way stop)	LOS E	0.00*	A	0.12	B
13	Chemawa Rd/McLeod Ln	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.62	F	>2.0	F
14	Chemawa Rd/Area C RI/RO	Unsignalized (Two way stop)	LOS E	0.00*	A	0.27	C

Bolded and Shaded indicates intersection exceeds mobility target

*HCM 2000 unsignalized intersection methodology used

Two-Way Stop:

LOS = Level of Service of Minor Street

V/C = Volume-to-Capacity Ratio of Worst Movement

Signalized:

LOS = Level of Service for Intersection

V/C = Volume-to-Capacity Ratio for Intersection

There are two study intersections expected to exceed mobility targets or standards that already exceeded the target in the 2020 background condition. The Lockhaven Drive/14th Avenue intersection would operate with a volume-to-capacity ratio of 1.08 in the partial build and a volume-to-capacity ratio of 1.14 in the full build, which exceeds the operating standard of 1.0. Additionally, the Chemawa Road/I-5 northbound ramp intersection will have a volume-to-capacity ratio of 1.04 in the partial build and a volume-to-capacity of 1.09 in the full build, which is over the operating standard of 0.87 plus or minus two percent.

The third study intersection that exceeds mobility targets or standards is the Chemawa Road/McLeod Lane intersection. It would have a volume-to-capacity ratio of 0.62 and a LOS F in the partial build and a volume-to-capacity ratio over 2.0 and a LOS F in the full build.

Mitigations

The *Keizer Station Area C Master Plan TIA* (October 2010) identified recommended improvements throughout the study area, as summarized in Table 11. These improvements were included in the full build scenario since these mitigations are part of the adopted master plan. However, only a subset of these improvements are required in the partial build to meet mobility targets given Area C land use changes.

As shown in Table 11, a subset of mitigations are now required in the partial build due to a reduction in trips from the full build scenario. Namely, a traffic signal at the Chemawa Road/McLeod Lane intersection is not recommended for the partial build scenario.

Table 11: Recommended Mitigations for Area C

Intersection/ Road Segment	Improvements (by Scenario)		
	October 2010 TIA	Area C	
		Partial Build	Full Build
Corridor			
Chemawa Rd Corridor	- Five-lane section (two northbound and southbound through lanes with a center left-turn lane) from Lockhaven Dr to approximately 400 feet south of the McLeod Ln intersection - Install a raised median along Chemawa Rd. between Lockhaven Dr and McLeod Ln	Roadway widening is included for both build scenarios for consistency with the adopted master plan.	
McLeod Ln Corridor	- Widen to three-lane cross section (between Lockhaven Dr and Chemawa Rd) - Extend McLeod Lane southeast of Chemawa Rd	Roadway widening and extension are included for both build scenarios for consistency with the adopted master plan.	
Intersection			
Lockhaven Dr/ 14th Ave	Westbound right-turn lane	Installation of the westbound right-turn lane is recommended for both build scenarios to meet mobility targets. This turn lane is required to meet mobility standards as a result of background traffic operations and Area C build out.	
Chemawa Rd/ McLeod Ln	- Traffic signal - Eastbound left-turn lane - Westbound left-turn lane - Northbound left-turn lane - Southbound left-turn lane	Updated analysis shows the traffic signal is not required when the turn lanes are included in the partial build scenario.	Updated analysis shows traffic signal is needed to meet mobility standards in the full build scenario, in addition to the turn lanes.
Lockhaven Dr/ Keizer Station Blvd	Second northbound right-turn lane	Installation of the turn lane is included in both build scenarios for consistency with the adopted master plan.	
Chemawa Rd/ I-5 NB Ramps	- Second eastbound left-turn lanes (and accompanying northbound on-ramp lane widening) - Westbound right-turn lane	Updated analysis results are consistent with <i>Keizer Station Area C Master Plan TIA (October 2010)</i> ; however, the original study is now inconsistent with the Chemawa IAMP. Further discussion is provided below.	
McLeod Ln/Area C Full Access	Full access driveway to serve the west section of Area “C”		Both the partial and full build scenarios maintain the previous access assumptions
Chemawa Rd/ Area C RI/RO	Limited access driveway to serve the east and west sections of Area “C”		

Out of the proposed mitigations, three intersection mitigations require additional context on how they work to meet mobility standards. These mitigations, which are summarized in Table 11, are explained below.

- **Lockhaven Drive/14th Avenue:** The original mitigation (installation of a westbound right-turn lane) is a viable solution to address the mobility needs in the background and build scenarios. The *Chemawa Road Interchange Access Management Plan* recommends widening Lockhaven Drive between Verda Road/14th Avenue,¹⁵ which would be the other improvement option to address mobility at this intersection. These improvements are needed to support background operations (without the Area C development), as well as with the partial and full build out from the Area C development.
- **Chemawa Road/McLeod Lane:** The original mitigation (installation of a traffic signal and left-turn lanes on all four approaches) is still necessary to mitigate the expected intersection impacts and to maintain consistency with the adopted master plan. In the partial build scenario, this intersection does not need a traffic signal, but does require the turn lanes as a mitigation to operate within the mobility standard. In the full build scenario, a traffic signal and the installation of turn lanes are recommended to meet mobility standards. However, the traffic signal installation does not meet MUTCD signal warrants in the full build, with the installation of turn lanes. **Appendix I** provides the results from the traffic signal warrant and the left turn lane warrant.
- **Chemawa Road/I-5 Northbound Ramps:** The original mitigation (including adding a second eastbound left-turn lane, widening the northbound on-ramp, and adding a westbound right-turn lane) will bring the operations to the mobility standard for the partial build and close for the full build. Both of these operational results are an improvement to the volume-to-capacity ratio of 1.02 identified in the 2020 background scenario at this location. The volumes at this study intersection are now less than those from the *Keizer Station Area C Master Plan TIA* (October 2010). The change in the estimated volume-to-capacity ratio that now results in the location exceeding operational standards for the full build scenario, as opposed to those documented in the *Keizer Station Area C Master Plan TIA* (October 2010) where it showed a volume-to-capacity ratio of 0.89 for the mitigated scenario, is likely the result of updated versions of the analysis software, rather than additional impacts to the intersection itself. As was assumed in the *Keizer Station Area C Master Plan TIA* (October 2010), the cycle length will need to be changed to 150 seconds. These findings, although consistent with the *Keizer Station Area C Master Plan TIA* (October 2010), now conflict with the *Chemawa Road Interchange Access Management Plan*, which recommends installation of a partial cloverleaf at the interchange. The discrepancy in the mitigation at this location needs to be further discussed between the City of Keizer and ODOT. For the Area C update, a potential strategy is the developer could provide funding for improvements consistent with the recommended mitigation from the *Keizer Station Area C Master Plan TIA* (October 2010), and that the City and ODOT use these funds to construct the solution they deem most appropriate between the *Keizer*

¹⁵ Chemawa Road Interchange Access Management Plan, Technical Memorandum 5.1, Existing Conditions, CH2M Hill, July 2008.

Station Area C Master Plan TIA (October 2010) and the Chemawa Road Interchange Access Management Plan.

Table 12 provides a summary of the traffic operations for both the partial and full build scenarios assuming the following recommended mitigations from Table 11. These mitigations include:

- **McLeod Lane Corridor:** Widen to a three-lane cross section
- **Chemawa Road Corridor:** Widen to a five-lane section
- **Lockhaven Drive/14th Avenue:** Install westbound right-turn lane
- **Chemawa Rd/I-5 Northbound Ramps:** Improvements are needed, but require further coordination. For the purposes of reporting analysis results, the installation of the second eastbound left turn lane and a westbound right turn lane are included in the analysis files.
- **Chemawa Road/McLeod Lane:** Install a traffic signal (full build) and left-turn lanes on all four approaches (both partial and full build)
- **Lockhaven Drive/Keizer Station Boulevard:** Install a second northbound right-turn lane

Table 12 lists the study intersection operating conditions under the mitigated build options. Additionally, **Appendix G and H** provide the detailed reports for the traffic operations of the 2020 partial and full build-out scenarios with mitigations. The only intersection that does not meet mobility targets is the Chemawa Road/I-5 NB Ramps intersection in the full build scenario. As previously discussed, the full build scenario assumes less trips to this study intersection than those in the *Keizer Station Area C Master Plan TIA* (October 2010) study, and the failure to meet mobility standards between this TIA and the previous is likely the result of updated versions of the analysis software, rather than additional impacts to the intersection itself.

Table 12: 2020 Intersection Operations with Build Options Mitigated

No.	Intersection	Traffic Control	Mobility Target or Standard	P.M. Peak Hour			
				Partial Build		Full Build	
				V/C	LOS	V/C	LOS
3	Lockhaven Dr/14th Ave	Signalized	V/C < 1.0	0.91	C	0.95	C
6	Lockhaven Dr/Keizer Station Blvd	Signalized	V/C < 1.0	0.79	D	0.79	D
10	Chemawa Rd/I-5 NB Ramps	Signalized	V/C ≤ 0.87 ± 0.02	0.88	D	0.91	D
12	McLeod Ln/Area C Full Access	Unsignalized (Two way stop)	LOS E	0.00*	A	0.12*	B
13	Chemawa Rd/McLeod Ln	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.38	D	N/A	N/A
		Signalized	LOS D V/C ≤ 0.95	N/A	N/A	0.39	A
14	Chemawa Rd/Area C RI/RO	Unsignalized (Two way stop)	LOS E	0.00*	A	0.17*	B

Bolded and Shaded indicates intersection exceeds mobility target

*HCM 2000 unsignalized intersection methodology used

Two-Way Stop:

LOS = Level of Service of Minor Street

V/C = Volume-to-Capacity Ratio of Worst Movement

Signalized:

LOS = Level of Service for Intersection

V/C = Volume-to-Capacity Ratio for Intersection

One of the improvements that is assumed in the background scenario may not be built by the time the partial build development is completed. Therefore, this improvement was removed as a test to verify that the mobility targets would still be met. After running additional operational analysis, the installation of the second southbound left turn lane at the Lockhaven Drive/Keizer Station Boulevard intersection is not critical for mobility purposes in the partial build scenario, as shown in Table 13.

Table 13: 2020 Intersection Operations with Partial Build Mitigated –Lockhaven Dr/Keizer Station Blvd Variation (with Single Southbound Left Turn Lane)

No.	Intersection	Traffic Control	Mobility Target or Standard	P.M. Peak Hour	
				Partial Build	
				V/C	LOS
6	Lockhaven Dr/Keizer Station Blvd	Signalized	V/C < 1.0	0.91	D

Bolded and Shaded indicates intersection exceeds mobility target

Signalized:

LOS = Level of Service for Intersection

V/C = Volume-to-Capacity Ratio for Intersection

Traffic Signal Sensitivity

The traffic signal at the Chemawa Road/McLeod Lane intersection is not required to meet mobility targets in the partial build, but will be required for the full build. It does not meet MUTCD signal warrants for either scenario. A traffic signal sensitivity analysis was conducted to determine when the traffic signal will be needed for mobility purposes in between the partial and full build conditions. The traffic signal will be needed when Area C adds an additional 335 trips above those included in the partial build scenario, or earlier as deemed appropriate by the City of Keizer. This threshold is approximately 28 percent between the partial and full build scenarios, in terms of trips added to Area C. When the number of trips exceeds that threshold, the Chemawa Road/McLeod Lane intersection will fail to operate under mobility targets, specifically LOS. These results are summarized in Table 14, including scenario, number of trips, and P.M. peak hour operations for the Chemawa Road/McLeod Lane intersection. **Appendix I** provides documentation for the traffic signal sensitivity from the Synchro analysis.

Table 14. Traffic Signal Sensitivity for Chemawa Rd/McLeod Ln

Scenario	Number of Trips (Ins, Outs)	Traffic Control	Mobility Target or Standard	P.M. Peak Hour	
				V/C	LOS
Partial Build	160 (100 in, 60 out)	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.38	D
28% Greater than Partial Build	335 (175 in, 160 out)	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.53	E
29% Greater than Partial Build	341 (178 in, 163 out)	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	0.55	F
Full Build	785 (370 in, 415 out)	Unsignalized (Two way stop)	LOS E V/C ≤ 0.95	>2.0	F

Bolded and Shaded indicates intersection exceeds mobility target

Two-Way Stop:

LOS = Level of Service of Minor Street

V/C = Volume-to-Capacity Ratio of Worst Movement

Queuing

An estimate of the 95th percentile vehicle queues for the Chemawa Road/McLeod Lane intersection was estimated by approach movement using Synchro. Queuing results are summarized in Table 15 and in Appendix J.

Table 15: Chemawa Road/McLeod Lane Queuing

Scenario	Direction	Movement	95 th Percentile Queue Length	Storage Length ²
P.M. Peak Hour Partial Build	SB	LT	25	100
		TH	- ¹	350
		TH/RT	- ¹	350
	NB	LT	25	100
		TH	- ¹	1,000
		TH/RT	- ¹	1,000
	EB	LT	25	100
		TH/RT	50	300
	WB	LT	25	100
		TH/RT	25	400

¹ The southbound and northbound through movements do not have queues that form since those are free movements, without stop control

² The storage length is the turn pocket length for the left turns, and is the distance until the next intersection for through movements

As indicated in Table 15, the proposed turn lane storage at the Chemawa Road/McLeod Lane intersection is sufficient for P.M. Peak Hour conditions under the partial build development scenario. Through traffic queues are also minimal, limiting the risk of queue blocked driveways.

A queuing analysis for the full build scenario is not included as the recommended traffic control (installation of a traffic signal and turn lanes) is consistent with the approved master plan.

Site Access and Circulation

The site plan was evaluated with consideration for circulation and site access. Circulation within the site is deemed appropriate based on the following findings:

- Parking lot layouts are designed to promote good circulation and pedestrian traffic
- The plan displays good overall interconnectivity
- Each parking area has at least two access points, which is important in emergency situations.
- Where possible, access is provided to McLeod Lane because it is the lower classification roadway.
- There are a few accesses onto Chemawa Road, but most of these are limited to right-in/right-out. This is important to reduce left-turn conflicts and vehicle delay.

The sight distance triangles at each access location along Chemawa Road and McLeod Lane were evaluated based on American Association of State Highway and Transportation Officials (AASHTO) sight distance requirements.¹⁶ The posted speed of 35 mph on Chemawa Road requires a sight distance of 390 feet for left-turn movement and 335 feet for right-turn movements, while a posted speed of 25 mph on McLeod Lane requires a sight distance of 280 feet for left-turns and 240 feet for right-turns. These distances are measured 14.5 feet back from the traveled way. All access points evaluated are deemed to have appropriate sight distance without obstruction based on the proposed design. One location, the first driveway on the new section of McLeod Lane east of Chemawa Road, is between two horizontal curves. While sight distance requirements can be met, it will require careful landscaping on the northwest and southeast frontages to avoid impacting sight lines. In addition, large objects (large signs, landscaping, parked cars, etc.) that could potentially limit vehicle sight distance should be avoided immediately adjacent to all driveways. After construction but prior to occupancy, sight distance at the access points should be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon. **Appendix K** provides the sight distance triangles for the Area C site plan.

Chemawa Road/McLeod Lane Partial Build Configuration and Safety

The *Keizer Station Area C Master Plan TIA* (October 2010) included geometry and striping for the full build scenario, which included the addition of turn lanes, roadway widening, and installation of a traffic signal at the intersection of Chemawa Road/McLeod Lane. These mitigations remain for the recommended full build scenario under the updated land use included in this TIA. The partial build scenario, however, does not include the installation of the traffic signal. **Appendix L** shows the proposed new configuration of the Chemawa Road/McLeod Lane intersection under partial and full builds.

Intersection sight distances for both left and right turns from the minor approaches (McLeod Lane) were evaluated based on American Association of State Highway and Transportation Officials (AASHTO) sight distance requirements.¹⁷ The posted speed of 35 mph on Chemawa Road requires a sight distance of 390 feet for left-turn movement and 335 feet for right-turn movements. These values were verified using a setback distance of 14.5 feet from the travel way and found to be adequate. **Appendix J** provides the sight distance triangles for verification. After construction but prior to occupancy, sight distance at the intersection should be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

In addition to intersection sight distance, the new proposed partial build configuration includes a two-way left turn. This allows for a two-stage crossing should drivers choose to split their crossing maneuvers during peak hours. While the traffic operational analysis did not assume a two-stage crossing (to be more conservative) the inclusion of the two-way left turn lane also provides operational benefits at the location as well.

¹⁶ *Geometric Design of Highways and Streets*, AASHTO, 2011; Case B1 for Left Turns, p. 9-38; Case B2 for Right Turns, p. 9-41

¹⁷ *Geometric Design of Highways and Streets*, AASHTO, 2011; Case B1 for Left Turns, p. 9-38; Case B2 for Right Turns, p. 9-41

CHAPTER 6: PROJECT RECOMMENDATIONS

The following transportation system improvements are needed to mitigate traffic impacts from Keizer Station Area C. The mitigations are listed by whether they are needed in conjunction with the partial build or full build scenario:

Partial Build Mitigation Recommendations

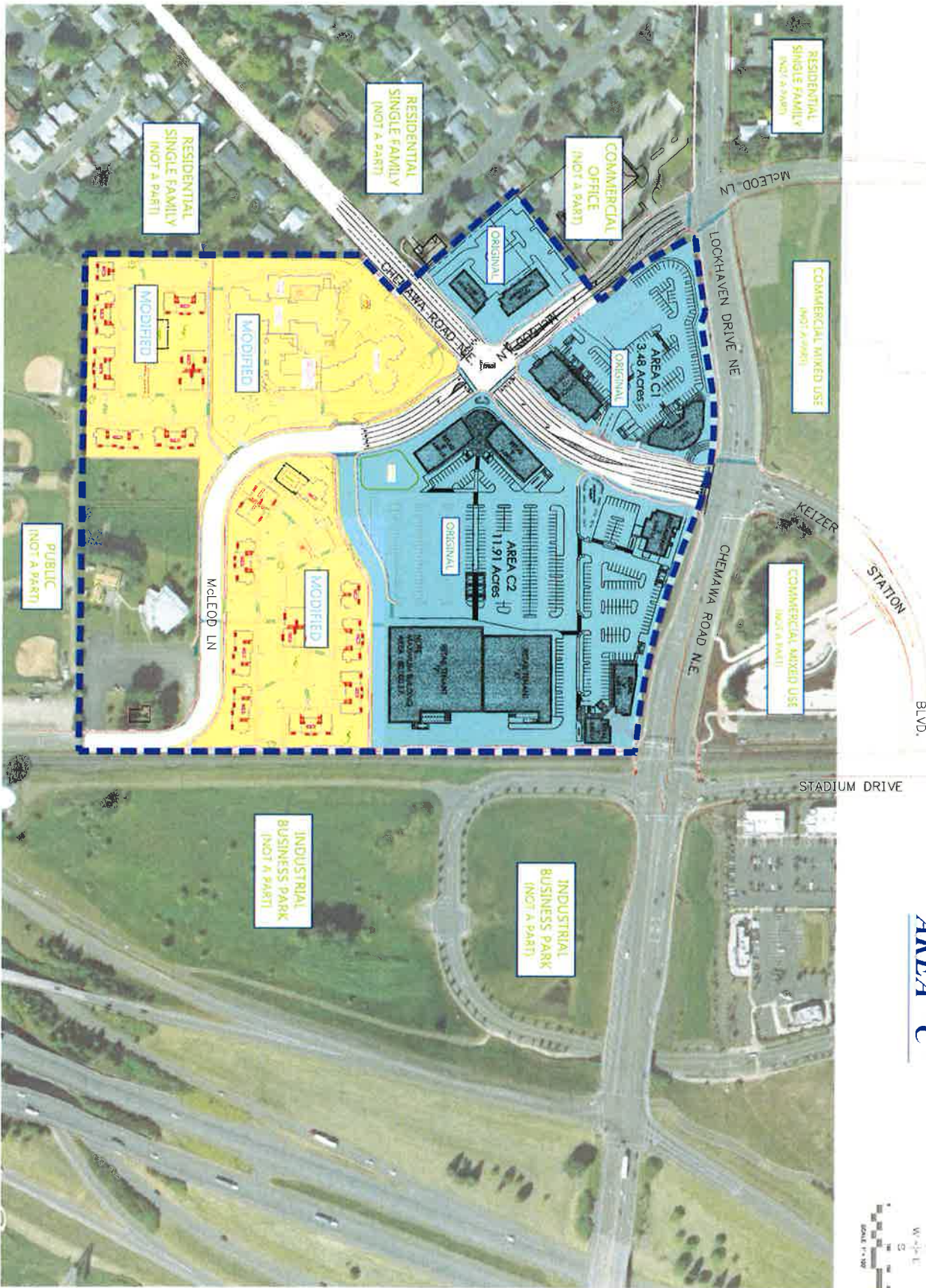
- **McLeod Lane Corridor:** Extend McLeod Lane southeast of Chemawa Road and widen to a three-lane cross section from Lockhaven Drive to Chemawa Road.
- **Chemawa Road Corridor:** Widen to a five-lane section (two northbound and southbound through lanes with a center left-turn lane) from Lockhaven Drive to approximately 400 feet south of the McLeod Lane intersection.
- **Lockhaven Drive/14th Avenue:** Install westbound right-turn lane
- **Chemawa Rd/I-5 Northbound Ramps:** Improvements are needed, but require further coordination with ODOT and the City of Keizer to determine recommended mitigations due to the inconsistencies between the *Keizer Station Area C Master Plan TIA (October 2010)* and the *Chemawa Road Interchange Access Management Plan*.
- **Chemawa Road/Area C Right-In/Right-Out Access:** Construct new access, maintain access assumptions per *Keizer Station Area C Master Plan TIA (October 2010)*, see the access location in the site plan in **Appendix A**
- **McLeod Lane/Area C Full Access:** Construct new access, maintain access assumptions per *Keizer Station Area C Master Plan TIA (October 2010)*, see the access location in the site plan in **Appendix A**
- **Chemawa Road/McLeod Lane:** Install left-turn lanes on all four approaches
- **Lockhaven Drive/Keizer Station Boulevard:** Install a second northbound right-turn lane

Full Build Mitigation Recommendations

All of the mitigations from the Partial Build in addition to the following:

- **Chemawa Road/McLeod Lane:** Install a traffic signal

APPENDIX A: PROPOSED SITE PLAN



KEIZER STATION CENTER AREA "C"



**SITE PLAN
w/ AERIAL
AREA 'C'**

**KEIZER STATION
CENTER
AREA "C"**

NO CHANGES, MODIFICATIONS OR
REPRODUCTION TO BE MADE TO
THIS DRAWING WITHOUT WRITTEN
AUTHORIZATION FROM THE DESIGN
ENGINEER.
EXEMPTIONS & NOTES TAKE
PRIORITY OVER GRAPHICAL
REPRESENTATION.

Design: M.D.G.
Drawn: P.B.S.
Checked: S.D.G.
Date: OCT 2015
Scale: AS SHOWN
As-Built:



MP4.0
00 - 1011

APPENDIX B:

KEIZER STATION AREA A LAND USES

Keizer Station Area A - Land Use Breakdown

Pad and size estimates are based on January 21, 2010 site plan and information from City of Keizer
Current businesses based on 2014 inventory, as provided by City of Keizer

Pad	Size	Land Use	Current Business (2014)	Year	Comments
Pad F-A	2,584	Restaurant	Starbucks, Jamba Juice		Estimated breakout of building
Pad G	1,945	Restaurant	Burger King		
Pad H	2,448	Restaurant	Panda Express		
Retail 1-B	2,000	Restaurant	Taco Del Mar		Estimated breakout of building
Retail 2	2,000	Restaurant	Adobe Republic Kitchen		Estimated breakout of building
Shops B	3,787	Restaurant	Roundtable Pizza		
Anchor 1	134,563	Retail	Lowe's		
Anchor 3	123,735	Retail	Target		
Anchor A	20,304	Retail	REI		
Garden Center	31,202	Retail	Lowe's		
Major 1	20,390	Retail	Staples		
Major 10	18,300	Retail	World Market		
Major 11	28,048	Retail	Bed Bath and Beyond		
Major 12	16,992	Retail	Old Navy		
Major 2	11,000	Retail	Guitar Center		
Major 3a	5,500	Retail	David's Bridal		
Major 3c	5,000	Retail	Ann Taylor Loft		
Major 4	43,743	Retail	Ulta, Marshalls		
Major 5	15,282	Retail	Petco		
Major 6	21,304	Retail	Michaels		
Major 7	30,187	Retail	Ross Dress for Less		
Major 8	7,000	Retail	Lane Bryant and Cacique		
Major 9	7,000	Retail	Famous Footwear		
Pad A	4,000	Retail	First Tech		
Pad B	2,940	Retail	Key Bank		
Pad E	6,475	Retail	Subway, FedEx/Kinkos, Aspen Dental		
Pad F-A	2,000	Retail	Supercuts, Phong Shui Nails		Estimated breakout of building
Retail 1-A	5,291	Retail	T-Mobile, American's Best Vision, Edward Jones		Estimated breakout of building
Retail 2	4,310	Retail	Carhartt, Game Stop		
Retail 3-A	8,478	Retail	Gentle Dental, Massage Envy, GNC, Kay Jewelers		Estimated breakout of building
Retail 4	3,777	Retail	Verizon		
Retail 5	3,777	Retail	Designer Nails, Great Clips, Smart Wireless		
Retail 6a	6,238	Retail	Sleep Country		
Retail 7-B	2,000	Retail	Beaver Fan Shop		Estimated breakout of building
Shops A	6,301	Retail	Sprint, Keizer Chamber, Mattress Discounters		
Shops C	5,200	Retail	Men's Wearhouse		
Pad C	4,449	Restaurant	McDonalds	2012	
Rest. 2	5,633	Restaurant	Outback Steakhouse	2012	
Rest. 5	4,200	Restaurant	Panera Bread	2012	
Pad I	2,671	Restaurant	Taco Bell	2014	
Rest. 4	5,500	Restaurant	Gustav's	2014	
Retail 8-B	2,240	Restaurant	Chipotle	2014	
Office Building	20,132	Office (Medical)	Kaiser Permanente	2013	
Retail 8-A	5,088	Retail	Maurices	2014	
Office Building	30,000	Office (Medical)	vacant		Vacant portion of Office site
Hotel	42,000	Hotel	vacant		
Rest. 1	5,000	Restaurant	vacant		
Rest. 3	6,350	Restaurant	vacant		
Pad D	6,568	Retail	vacant		
Anchor B	25,813	Retail	vacant		
Anchor C	5,084	Retail	vacant		
Major 3b	2,100	Retail	vacant		
Retail 7-A	2,000	Retail	vacant		Estimated breakout of building
Retail 3-B	2,000	Retail	vacant		Estimated breakout of building
Retail 6b	1,000	Retail	vacant		

Retail vs. Restaurants Split

Prior to 2012

Restaurants	14,764	2%
Retail	600,337	98%
Total	615,101	

Since 2012

Restaurants	24,693	83%
Retail	5,088	17%
Total	29,781	

Office (General vs. Medical)

Prior to 2012 (All General)

Existing (Office)	0
Planned (Office)	100,000
Total	100,000

Since 2012 (Now All Medical)

Office (Medical)	20,132
Planned (Medical)	30,000
Total	50,132

APPENDIX C:

SYNCHRO REPORTS – 2020 BACKGROUND PM

HCM Signalized Intersection Capacity Analysis

3: 14th Ave & Lockhaven Dr

10/21/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	910	20	35	1095	220	25	20	15	125	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	13	12	14	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Flt	1.00	1.00		1.00	0.97			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1947	1919		1888	1816			1905			1786	1583
Flt Permitted	0.07	1.00		0.17	1.00			0.65			0.76	1.00
Satd. Flow (perm)	134	1919		332	1816			1268			1417	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	68	948	21	37	1153	232	29	24	18	147	24	65
RTOR Reduction (vph)	0	1	0	0	5	0	0	14	0	0	0	55
Lane Group Flow (vph)	68	968	0	37	1380	0	0	57	0	0	171	10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	64.7	61.1		61.9	59.7			12.9			13.9	13.9
Effective Green, g (s)	64.7	61.1		61.9	59.7			12.9			13.9	13.9
Actuated g/C Ratio	0.72	0.68		0.69	0.66			0.14			0.15	0.15
Clearance Time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5			0.5			0.5	0.5
Lane Grp Cap (vph)	168	1299		265	1201			181			218	243
v/s Ratio Prot	c0.02	0.50		0.00	c0.76							
v/s Ratio Perm	0.27			0.09				0.05			c0.12	0.01
v/c Ratio	0.40	0.75		0.14	1.15			0.32			0.78	0.04
Uniform Delay, d1	22.4	9.5		9.0	15.2			34.7			36.7	32.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	2.1		0.1	77.0			0.4			15.5	0.0
Delay (s)	23.0	11.6		9.1	92.2			35.1			52.2	32.5
Level of Service	C	B		A	F			D			D	C
Approach Delay (s)		12.3			90.1			35.1			46.8	
Approach LOS		B			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			55.8			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			90.2			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			93.1%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: McLeod Ln & Lockhaven Dr

10/28/2014

	↖	→	↗	↙	←	↖	↗	↑	↘	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖		↖	↑	↗	↖	↖	
Volume (vph)	100	830	15	20	1195	330	25	50	25	145	40	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3565		1787	3458		1805	1900	1615	1787	1689	
Flt Permitted	0.09	1.00		0.30	1.00		0.66	1.00	1.00	0.45	1.00	
Satd. Flow (perm)	169	3565		567	3458		1260	1900	1615	849	1689	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	105	874	16	21	1258	347	29	59	29	171	47	100
RTOR Reduction (vph)	0	1	0	0	15	0	0	0	27	0	61	0
Lane Group Flow (vph)	105	889	0	21	1590	0	29	59	2	171	86	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	96.2	90.0		88.0	85.8		10.5	7.2	7.2	24.8	17.5	
Effective Green, g (s)	96.2	90.0		88.0	85.8		10.5	7.2	7.2	24.8	17.5	
Actuated g/C Ratio	0.74	0.69		0.68	0.66		0.08	0.06	0.06	0.19	0.13	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	204	2468		404	2282		115	105	89	260	227	
v/s Ratio Prot	c0.03	0.25		0.00	c0.46		0.01	0.03		c0.07	0.05	
v/s Ratio Perm	0.35			0.03			0.01		0.00	c0.06		
v/c Ratio	0.51	0.36		0.05	0.70		0.25	0.56	0.02	0.66	0.38	
Uniform Delay, d1	13.4	8.2		7.0	13.9		55.8	59.9	58.1	47.1	51.3	
Progression Factor	1.00	1.00		0.25	0.21		1.12	1.09	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.4		0.0	0.6		0.4	4.0	0.0	4.5	0.4	
Delay (s)	14.3	8.6		1.8	3.5		63.0	69.4	58.1	51.7	51.7	
Level of Service	B	A		A	A		E	E	E	D	D	
Approach Delay (s)		9.2			3.5			65.0			51.7	
Approach LOS		A			A			E			D	
Intersection Summary												
HCM 2000 Control Delay			12.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	995	1525	30	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1047	1605	32	0	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1605	0	2129
Stage 1	-	-	1605
Stage 2	-	-	524
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	403	-	43
Stage 1	-	-	150
Stage 2	-	-	559
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	403	-	43
Mov Cap-2 Maneuver	-	-	120
Stage 1	-	-	150
Stage 2	-	-	559

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	403	-	-	-	326
HCM Lane V/C Ratio	-	-	-	-	0.072
HCM Control Delay (s)	0	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/13/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SET	SEB
Lane Configurations												
Volume (vph)	225	760	15	415	1375	50	10	130	315	330	160	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3461		3467	3555		1770	1863	1583	3479	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	3461		3467	3555		1770	1863	1583	3479	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	800	16	437	1447	53	11	137	332	347	168	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	59	0	0	72
Lane Group Flow (vph)	237	815	0	437	1498	0	11	137	273	347	168	117
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases												4
Actuated Green, G (s)	12.1	55.1		18.7	61.7		2.0	21.7	44.4	17.5	37.2	49.3
Effective Green, g (s)	12.1	55.1		18.7	61.7		2.0	21.7	44.4	17.5	37.2	49.3
Actuated g/C Ratio	0.09	0.42		0.14	0.47		0.02	0.17	0.34	0.13	0.29	0.38
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	313	1466		498	1687		27	310	540	468	522	636
v/s Ratio Prot	0.07	0.24		c0.13	c0.42		0.01	0.07	c0.17	c0.10	0.09	0.02
v/s Ratio Perm												0.06
v/c Ratio	0.76	0.56		0.88	0.89		0.41	0.44	0.51	0.74	0.32	0.18
Uniform Delay, d1	57.5	28.2		54.5	31.0		63.4	48.7	34.1	54.1	36.5	26.9
Progression Factor	1.10	1.00		1.07	0.84		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	1.4		13.0	4.9		3.6	0.4	0.3	5.5	0.1	0.1
Delay (s)	71.5	29.8		71.3	30.8		67.0	49.1	34.3	59.6	36.6	27.0
Level of Service	E	C		E	C		E	D	C	E	D	C
Approach Delay (s)		39.1			39.9			39.3			45.3	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.6			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			76.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Ulali Dr/Stadium Dr & Chemawa Rd

10/21/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	1100	195	190	1470	735	0	0	710	0	0	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	4.0	5.0	5.0			4.0			5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00			0.88			0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	1752	3505	1568	1787	3574	1599			2814			2814
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	1752	3505	1568	1787	3574	1599			2814			2814
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.85	0.85	0.85
Adj. Flow (vph)	116	1158	205	200	1547	774	0	0	710	0	0	465
RTOR Reduction (vph)	0	0	55	0	0	240	0	0	541	0	0	17
Lane Group Flow (vph)	116	1158	150	200	1547	534	0	0	169	0	0	448
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			pt+ov			pt+ov
Protected Phases	5 9	2		1 13	6				1 13			5 9
Permitted Phases			2			6						
Actuated Green, G (s)	30.9	90.1	90.1	30.9	89.1	89.1			30.9			30.9
Effective Green, g (s)	26.9	90.1	90.1	30.9	89.1	89.1			30.9			26.9
Actuated g/C Ratio	0.21	0.69	0.69	0.24	0.69	0.69			0.24			0.21
Clearance Time (s)		5.0	5.0		5.0	5.0						
Vehicle Extension (s)		1.0	1.0		0.5	0.5						
Lane Grp Cap (vph)	362	2429	1086	424	2449	1095			668			582
v/s Ratio Prot	0.07	0.33		0.11	c0.43				0.06			c0.16
v/s Ratio Perm			0.10			0.33						
v/c Ratio	0.32	0.48	0.14	0.47	0.63	0.49			0.25			0.77
Uniform Delay, d1	43.8	9.1	6.8	42.5	11.3	9.7			40.2			48.6
Progression Factor	1.37	0.43	0.12	1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2	0.2	0.6	0.2	0.3	0.4	0.1			0.1			5.7
Delay (s)	60.1	4.6	1.0	42.8	11.7	9.8			40.3			54.3
Level of Service	E	A	A	D	B	A			D			D
Approach Delay (s)		8.4			13.6			40.3			54.3	
Approach LOS		A			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			19.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			62.8%				ICU Level of Service		B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

10: I-5 NB Ramps & Chemawa Rd

10/21/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	690	0	0	855	100	1380	0	250	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	1.00	0.95			0.95		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1752	3505			3417		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1752	3505			3417		1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	726	0	0	900	105	1453	0	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	123	0	0	0
Lane Group Flow (vph)	263	726	0	0	996	0	726	727	140	0	0	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	15.5	51.1			31.6		35.1	35.1	35.1			
Effective Green, g (s)	15.5	51.1			31.6		35.1	35.1	35.1			
Actuated g/C Ratio	0.16	0.53			0.33		0.36	0.36	0.36			
Clearance Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	0.5	2.0			2.0		0.5	0.5	0.5			
Lane Grp Cap (vph)	282	1861			1122		613	613	577			
v/s Ratio Prot	c0.15	0.21			c0.29							
v/s Ratio Perm							0.43	0.43	0.09			
v/c Ratio	0.93	0.39			0.89		1.18	1.19	0.24			
Uniform Delay, d1	39.8	13.3			30.6		30.6	30.6	21.3			
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	35.5	0.0			8.5		98.8	99.4	0.1			
Delay (s)	75.4	13.4			39.1		129.3	130.0	21.4			
Level of Service	E	B			D		F	F	C			
Approach Delay (s)		29.9			39.1			113.1			0.0	
Approach LOS		C			D			F			A	
Intersection Summary												
HCM 2000 Control Delay		70.9			HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio		1.02										
Actuated Cycle Length (s)		96.2			Sum of lost time (s)				14.0			
Intersection Capacity Utilization		90.6%			ICU Level of Service				E			
Analysis Period (min)		15										
c Critical Lane Group												

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	10	60	80	450	565	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	71	89	500	628	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1317	639	650
Stage 1	639	-	-
Stage 2	678	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	174	476	936
Stage 1	526	-	-
Stage 2	504	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	151	476	936
Mov Cap-2 Maneuver	151	-	-
Stage 1	526	-	-
Stage 2	437	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.8	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	936	-	364	-	-
HCM Lane V/C Ratio	0.095	-	0.226	-	-
HCM Control Delay (s)	9.2	0	17.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	-	-

**APPENDIX D:
SEPTEMBER 2012 KEIZER STATION AREA C
SUBMITTAL LETTER**



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

September 12, 2012

Project #: 8610

Nate Brown
City of Keizer
PO Box 21000
Keizer, OR 97307-1000

RE: September 2012 Keizer Station Area C Submittal

Dear Nate,

Kittel & Associates, Inc. has reviewed the revised Area "C" plans for the Keizer Station development that have been submitted under separate cover by the project team. These plans include modifications to the development plan that are different from the plans that were in place at the time the October 2010 *Keizer Station Area C Master Plan Transportation Impact Analysis* was prepared. As such, the purpose of this letter is to address how these modifications are still consistent with the original transportation impact analysis findings and recommendations and the City's related findings and conditions of approval.

AREA "C" DEVELOPMENT PLAN

The site layout for Area C as studied in the October 2010 *Area "C" Transportation Impact Analysis* assumed a mix of proposed land uses. The trip generation potential for these uses is outlined in Table 1 below.

The revised vision for Area "C" includes modifications to the overall development mix and square footage. The focal point of these changes is centered in Area C-2 where the previously assumed Free Standing Discount Superstore has been replaced with reduced square footage of Shopping Center uses¹. Other changes include an increase in the amount of office space, an increase in the number of apartment units, and the elimination of townhomes/condominiums. These changes are summarized along with their trip generation potential in Table 2.

¹ It should be noted that the trip generation rate used for the Free Standing Discount Superstore was a point of contention in the October 2010 *Keizer Station Area C Master Plan Transportation Impact Analysis* and related appeal of the approved Master Plan to LUBA. The updated version of the Area C proposal no longer assumes a Free Standing Discount Superstore. The proposed Shopping Center square footage in the latest proposal is a reasonable representation for trip generation purposes and is consistent with the ITE Trip Generation methodology.

TABLE 1 OCTOBER 2010 TRIP GENERATION ESTIMATE FOR AREA "C"

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			Total	In	Out
General Office	ITE 710	18,486	30	5	25
High Turnover Sit-Down Restaurant	ITE 932	5,800	65	40	25
Shopping Center	ITE 820	33,090	130	60	70
Medical Dental Office Building	ITE 720	53,000	185	50	135
Free Standing Discount Superstore	ITE 813	116,882	540	265	275
Residential Condominium/Townhouse	ITE 230	60 units	30	20	10
Apartments	220	117 units	75	50	25
Total Trips for Area C			1,055	490	565
<i>Internal Trips</i>			<i>110</i>	<i>50</i>	<i>60</i>
<i>Pass-by & Diverted Trips</i>			<i>140</i>	<i>70</i>	<i>70</i>
<i>Primary Trips</i>			<i>805</i>	<i>370</i>	<i>435</i>

TABLE 2 SEPTEMBER 2012 TRIP GENERATION ESTIMATE FOR AREA "C"

Land Use	Source	Size (sq. ft.)	Weekday PM Peak Hour Trips		
			Total	In	Out
General Office	ITE 710	37,500	55	10	45
High Turnover Sit-Down Restaurant	ITE 932	5,000	55	30	25
Shopping Center	ITE 820	101,000	640	315	325
Medical Dental Office Building	ITE 720	53,000	185	50	135
Apartments	ITE 220	156 units	105	70	35
Total Trips for Area C			1,040	475	565
<i>Internal Trips</i>			<i>105</i>	<i>50</i>	<i>55</i>
<i>Pass-by & Diverted Trips</i>			<i>130</i>	<i>65</i>	<i>65</i>
<i>Primary Trips</i>			<i>805</i>	<i>360</i>	<i>445</i>

As outlined in Table 2, the trip generation potential of the revised development layout is estimated to be approximately equal to the trip generation potential outlined in the October 2010 Keizer Station Area C Master Plan Transportation Impact Analysis. As such, we conclude that the traffic impacts associated with revised Area C development proposal are consistent with the previous output and findings in the October 2010 transportation impact study and the testimony we provided during the public hearings related to the Master Plan. As such, the overall set of

findings and recommendations from that study are still applicable. Furthermore, the City's findings, recommendations, and conditions are also still applicable and ensure compliance with the applicable approval criteria.

We trust that this letter adequately address the modifications to the Area "C" development assumptions and infrastructure layout. If you have any questions, please contact us.

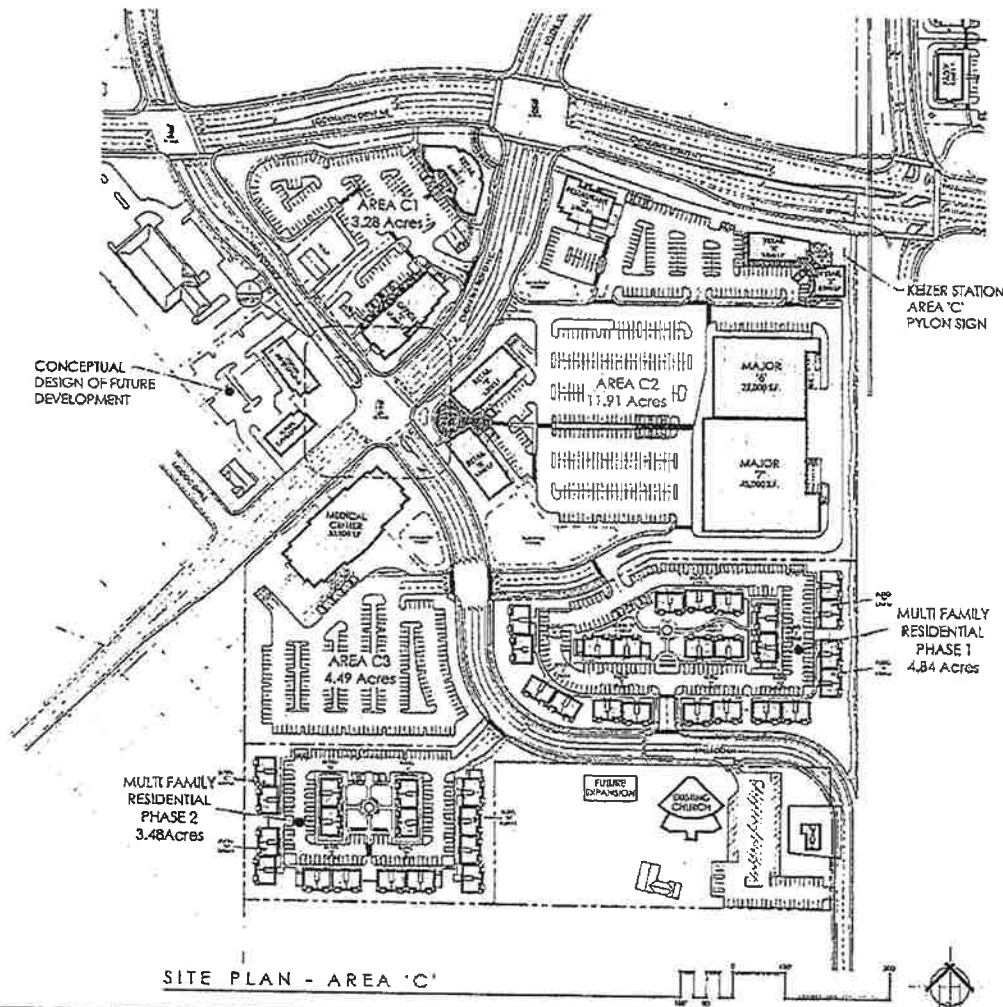
Sincerely,
KITTELSON & ASSOCIATES, INC.



Matt Hughart, AICP
Associate Planner



Hermanus Steyn, Pr.Eng., P.E.
Principal Engineer



SITE DATA - AREA C-1		
NET AREA	1.91 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		1.91 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

SITE DATA - AREA C-2		
NET AREA	3.28 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		3.28 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

SITE DATA - AREA C-3		
NET AREA	4.49 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		4.49 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

MULTI FAMILY RESIDENTIAL PHASE 1		
NET AREA	4.84 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		4.84 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

MULTI FAMILY RESIDENTIAL PHASE 2		
NET AREA	3.48 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		3.48 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

GROSS SITE DATA		
NET AREA	1.91 ACRES	NET DEVELOP. AREA
NET DEVELOP. AREA		1.91 ACRES
STANDARD PARKING PROVIDED		140 SPACES
COMPACT PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES
MAJOR PARKING PROVIDED		140 SPACES

Northwest National, LLC

243 13th Street NE
Salem, OR 97301
Phone: 503 588 7099 Fax: 503 588 6697

RPS Development Company, Inc.

2650 High Heaven Road
McMinnville, OR 97128
Phone: 503 435 4907 Fax: 503 435 4909

Keizer Station Center

Keizer, Oregon

September 9, 2012

BENNER
STANGE
ASSOCIATES
ARCHITECTS, INC.
5200 S.W. MEADOWS RD.
SUITE 8120
LAKE OSWEGO, OR 97035
(503) 670-0034
FAX (503) 670-0035
bbs@bbsarch.com



MP
3

APPENDIX E:

SYNCHRO REPORTS – 2020 PARTIAL BUILD PM

HCM Signalized Intersection Capacity Analysis

3: 14th Ave & Lockhaven Dr

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	930	20	35	1110	225	25	20	15	130	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	13	12	14	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.97			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1947	1919		1888	1816			1905			1786	1583
Flt Permitted	0.07	1.00		0.15	1.00			0.65			0.76	1.00
Satd. Flow (perm)	135	1919		301	1816			1270			1414	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	68	969	21	37	1168	237	29	24	18	153	24	65
RTOR Reduction (vph)	0	1	0	0	6	0	0	14	0	0	0	55
Lane Group Flow (vph)	68	989	0	37	1399	0	0	57	0	0	177	10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	64.2	60.7		61.6	59.4			13.3			14.3	14.3
Effective Green, g (s)	64.2	60.7		61.6	59.4			13.3			14.3	14.3
Actuated g/C Ratio	0.71	0.67		0.68	0.66			0.15			0.16	0.16
Clearance Time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5			0.5			0.5	0.5
Lane Grp Cap (vph)	166	1291		244	1195			187			224	250
v/s Ratio Prot	c0.02	0.52		0.00	c0.77						c0.13	0.01
v/s Ratio Perm	0.27			0.10				0.05				0.01
v/c Ratio	0.41	0.77		0.15	1.17			0.31			0.79	0.04
Uniform Delay, d1	22.3	10.0		9.9	15.4			34.3			36.5	32.1
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	2.5		0.1	86.1			0.3			16.0	0.0
Delay (s)	22.9	12.5		10.0	101.5			34.7			52.5	32.2
Level of Service	C	B		A	F			C			D	C
Approach Delay (s)		13.1			99.2			34.7			47.1	
Approach LOS		B			F			C			D	

Intersection Summary

HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: McLeod Ln & Lockhaven Dr

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	830	40	20	1195	330	40	50	25	145	40	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3550		1787	3458		1805	1900	1615	1787	1689	
Flt Permitted	0.09	1.00		0.29	1.00		0.66	1.00	1.00	0.44	1.00	
Satd. Flow (perm)	173	3550		551	3458		1260	1900	1615	824	1689	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	105	874	42	21	1258	347	47	59	29	171	47	100
RTOR Reduction (vph)	0	2	0	0	14	0	0	0	28	0	63	0
Lane Group Flow (vph)	105	914	0	21	1591	0	47	59	1	171	84	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	97.2	91.0		89.1	86.9		11.6	6.7	6.7	23.8	14.9	
Effective Green, g (s)	97.2	91.0		89.1	86.9		11.6	6.7	6.7	23.8	14.9	
Actuated g/C Ratio	0.75	0.70		0.69	0.67		0.09	0.05	0.05	0.18	0.11	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	207	2485		398	2311		132	97	83	247	193	
v/s Ratio Prot	c0.02	0.26		0.00	c0.46		0.01	0.03		c0.07	0.05	
v/s Ratio Perm	0.35			0.04			0.02		0.00	c0.06		
v/c Ratio	0.51	0.37		0.05	0.69		0.36	0.61	0.02	0.69	0.44	
Uniform Delay, d1	12.7	7.9		6.6	13.2		55.4	60.4	58.5	48.0	53.6	
Progression Factor	1.00	1.00		0.35	0.27		1.09	1.08	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.4		0.0	0.5		0.6	7.2	0.0	6.6	0.6	
Delay (s)	13.4	8.3		2.4	4.0		60.9	72.3	58.6	54.6	54.2	
Level of Service	B	A		A	A		E	E	E	D	D	
Approach Delay (s)		8.8			4.0			65.4			54.4	
Approach LOS		A			A			E			D	

Intersection Summary

HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	995	1525	30	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1047	1605	32	0	24

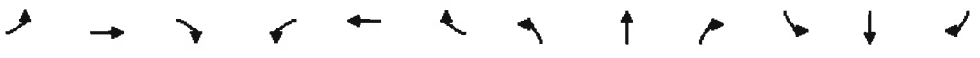
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1605	0	2129
Stage 1	-	-	1605
Stage 2	-	-	524
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	403	-	43
Stage 1	-	-	150
Stage 2	-	-	559
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	403	-	43
Mov Cap-2 Maneuver	-	-	120
Stage 1	-	-	150
Stage 2	-	-	559

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	403	-	-	-	326
HCM Lane V/C Ratio	-	-	-	-	0.072
HCM Control Delay (s)	0	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/13/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SET	SBR
Lane Configurations	↔↔	↕↕		↔↔	↕↕		↔	↕	↔	↔↔	↕	↔
Volume (vph)	225	760	15	470	1375	50	10	135	350	330	165	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3461		3467	3555		1770	1863	1583	3479	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	3461		3467	3555		1770	1863	1583	3479	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	800	16	495	1447	53	11	142	368	347	174	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	56	0	0	71
Lane Group Flow (vph)	237	815	0	495	1498	0	11	142	312	347	174	118
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases												4
Actuated Green, G (s)	12.1	52.4		20.4	60.7		2.0	23.2	47.6	17.0	38.2	50.3
Effective Green, g (s)	12.1	52.4		20.4	60.7		2.0	23.2	47.6	17.0	38.2	50.3
Actuated g/C Ratio	0.09	0.40		0.16	0.47		0.02	0.18	0.37	0.13	0.29	0.39
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	313	1395		544	1659		27	332	579	454	536	648
v/s Ratio Prot	0.07	0.24		c0.14	c0.42		0.01	0.08	c0.20	c0.10	0.10	0.02
v/s Ratio Perm												0.06
v/c Ratio	0.76	0.58		0.91	0.90		0.41	0.43	0.54	0.76	0.32	0.18
Uniform Delay, d1	57.5	30.3		53.9	31.9		63.4	47.5	32.5	54.6	35.8	26.3
Progression Factor	1.07	1.01		1.07	0.84		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	1.7		15.6	5.8		3.6	0.3	0.5	6.8	0.1	0.0
Delay (s)	70.0	32.2		73.4	32.6		67.0	47.8	33.0	61.3	36.0	26.3
Level of Service	E	C		E	C		E	D	C	E	D	C
Approach Delay (s)		40.7			42.7			37.8			45.8	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Chemawa Rd & Area B East RI

10/30/2014

	↖	→	←	↗	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Volume (veh/h)	0	1440	1885	35	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	0	1516	1984	37	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		399	314			
pX, platoon unblocked	0.73				0.85	0.73
vC, conflicting volume	2021				2761	1011
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1662				1432	280
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	280				107	524
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	758	758	1323	698		
Volume Left	0	0	0	0		
Volume Right	0	0	0	37		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.45	0.45	0.78	0.41		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			56.6%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

8: Ulali Dr/Stadium Dr & Chemawa Rd

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	1135	195	190	1525	735	0	0	710	0	0	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	4.0	5.0	5.0			4.0			5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00			0.88			0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	1752	3505	1568	1787	3574	1599			2814			2814
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	1752	3505	1568	1787	3574	1599			2814			2814
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.85	0.85	0.85
Adj. Flow (vph)	116	1195	205	200	1605	774	0	0	710	0	0	465
RTOR Reduction (vph)	0	0	54	0	0	235	0	0	538	0	0	13
Lane Group Flow (vph)	116	1195	151	200	1605	539	0	0	172	0	0	452
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			pt+ov			pt+ov
Protected Phases	5 9	2		1 13	6				1 13			5 9
Permitted Phases			2			6						
Actuated Green, G (s)	31.5	89.5	89.5	31.5	88.5	88.5			31.5			31.5
Effective Green, g (s)	27.5	89.5	89.5	31.5	88.5	88.5			31.5			27.5
Actuated g/C Ratio	0.21	0.69	0.69	0.24	0.68	0.68			0.24			0.21
Clearance Time (s)		5.0	5.0		5.0	5.0						
Vehicle Extension (s)		1.0	1.0		0.5	0.5						
Lane Grp Cap (vph)	370	2413	1079	433	2433	1088			681			595
v/s Ratio Prot	0.07	0.34		0.11	c0.45				0.06			c0.16
v/s Ratio Perm			0.10			0.34						
v/c Ratio	0.31	0.50	0.14	0.46	0.66	0.50			0.25			0.76
Uniform Delay, d1	43.3	9.6	7.0	42.0	12.0	10.0			39.7			48.1
Progression Factor	1.42	0.45	0.13	1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2	0.2	0.6	0.2	0.3	0.5	0.1			0.1			4.9
Delay (s)	61.5	4.9	1.1	42.3	12.5	10.1			39.8			53.1
Level of Service	E	A	A	D	B	B			D			D
Approach Delay (s)		8.7			14.1			39.8			53.1	
Approach LOS		A			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			19.5				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			64.3%				ICU Level of Service		C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

10: I-5 NB Ramps & Chemawa Rd

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	700	0	0	870	100	1410	0	250	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	1.00	0.95			0.95		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1752	3505			3418		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1752	3505			3418		1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	737	0	0	916	105	1484	0	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	120	0	0	0
Lane Group Flow (vph)	274	737	0	0	1012	0	742	742	143	0	0	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	16.0	52.1			32.1		35.1	35.1	35.1			
Effective Green, g (s)	16.0	52.1			32.1		35.1	35.1	35.1			
Actuated g/C Ratio	0.16	0.54			0.33		0.36	0.36	0.36			
Clearance Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	0.5	2.0			2.0		0.5	0.5	0.5			
Lane Grp Cap (vph)	288	1878			1128		607	607	571			
v/s Ratio Prot	c0.16	0.21			c0.30							
v/s Ratio Perm							c0.44	0.44	0.09			
v/c Ratio	0.95	0.39			0.90		1.22	1.22	0.25			
Uniform Delay, d1	40.2	13.3			31.0		31.1	31.1	21.8			
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	39.6	0.0			9.3		114.3	114.3	0.1			
Delay (s)	79.8	13.3			40.3		145.4	145.4	21.9			
Level of Service	E	B			D		F	F	C			
Approach Delay (s)		31.3			40.3			126.8			0.0	
Approach LOS		C			D			F			A	
Intersection Summary												
HCM 2000 Control Delay		77.9			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.04										
Actuated Cycle Length (s)		97.2			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		92.4%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: McLeod Ln & Area C Full Access

10/30/2014

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↖			↗
Volume (veh/h)	0	0	110	0	0	95
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	129	0	0	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						384
pX, platoon unblocked						
vC, conflicting volume	241	129			129	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	241	129			129	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	747	920			1456	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	129	112			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1456			
Volume to Capacity	0.00	0.08	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			9.1%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	25	60	10	15	40	80	450	15	60	565	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	29	71	12	18	47	89	500	17	67	628	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1490	1466	639	1508	1469	508	650	0	0	517	0	0
Stage 1	772	772	-	686	686	-	-	-	-	-	-	-
Stage 2	718	694	-	822	783	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	102	128	476	99	127	565	936	-	-	1049	-	-
Stage 1	392	409	-	438	448	-	-	-	-	-	-	-
Stage 2	420	444	-	368	404	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	67	100	476	55	99	565	936	-	-	1049	-	-
Mov Cap-2 Maneuver	67	100	-	55	99	-	-	-	-	-	-	-
Stage 1	339	368	-	379	388	-	-	-	-	-	-	-
Stage 2	318	385	-	260	364	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.6	46.1	1.4	0.8
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	936	-	-	181	161	1049	-	-
HCM Lane V/C Ratio	0.095	-	-	0.617	0.475	0.064	-	-
HCM Control Delay (s)	9.2	0	-	52.6	46.1	8.7	0	-
HCM Lane LOS	A	A	-	F	E	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	3.5	2.2	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Chemawa Rd & Area C RI/RO

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	515	0	0	640	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	0	0	572	0	0	711	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											316	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	1283	1283	711	1283	1283	572	711			572		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1264	1264	641	1264	1264	572	641			572		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	134	156	436	134	156	519	866			1001		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	0	572	711								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1700	1700	1700	1700								
Volume to Capacity	0.00	0.00	0.34	0.42								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			37.0%		ICU Level of Service					A		
Analysis Period (min)			15									

APPENDIX F:

SYNCHRO REPORTS – 2020 FULL BUILD PM

HCM Signalized Intersection Capacity Analysis

3: 14th Ave & Lockhaven Dr

12/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	970	20	35	1165	240	25	20	15	140	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	13	12	14	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.97			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1947	1919		1888	1815			1905			1785	1583
Flt Permitted	0.07	1.00		0.12	1.00			0.65			0.76	1.00
Satd. Flow (perm)	136	1919		243	1815			1262			1408	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	68	1010	21	37	1226	253	29	24	18	165	24	65
RTOR Reduction (vph)	0	1	0	0	6	0	0	14	0	0	0	54
Lane Group Flow (vph)	68	1030	0	37	1473	0	0	57	0	0	189	11
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	63.6	60.2		61.2	59.0			14.0			15.0	15.0
Effective Green, g (s)	63.6	60.2		61.2	59.0			14.0			15.0	15.0
Actuated g/C Ratio	0.70	0.67		0.68	0.65			0.15			0.17	0.17
Clearance Time (s)	4.0	5.0		4.0	5.0			5.0			4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5			0.5			0.5	0.5
Lane Grp Cap (vph)	163	1277		204	1184			195			233	262
v/s Ratio Prot	c0.02	0.54		0.00	c0.81						c0.13	0.01
v/s Ratio Perm	0.28			0.12				0.05				0.01
v/c Ratio	0.42	0.81		0.18	1.24			0.29			0.81	0.04
Uniform Delay, d1	22.2	10.9		11.8	15.7			33.8			36.3	31.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	3.6		0.2	117.1			0.3			18.0	0.0
Delay (s)	22.8	14.5		11.9	132.8			34.1			54.4	31.7
Level of Service	C	B		B	F			C			D	C
Approach Delay (s)		15.0			129.9			34.1			48.6	
Approach LOS		B			F			C			D	

Intersection Summary

HCM 2000 Control Delay	77.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.4	Sum of lost time (s)	14.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: McLeod Ln & Lockhaven Dr

12/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	825	95	30	1190	330	120	50	95	145	40	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3519		1787	3458		1805	1900	1615	1787	1689	
Flt Permitted	0.09	1.00		0.27	1.00		0.47	1.00	1.00	0.55	1.00	
Satd. Flow (perm)	169	3519		511	3458		884	1900	1615	1043	1689	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	105	868	100	32	1253	347	141	59	112	171	47	100
RTOR Reduction (vph)	0	5	0	0	15	0	0	0	105	0	65	0
Lane Group Flow (vph)	105	963	0	32	1585	0	141	59	7	171	82	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	95.8	89.4		87.8	85.4		18.8	8.6	8.6	23.6	11.0	
Effective Green, g (s)	95.8	89.4		87.8	85.4		18.8	8.6	8.6	23.6	11.0	
Actuated g/C Ratio	0.74	0.69		0.68	0.66		0.14	0.07	0.07	0.18	0.08	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	204	2419		368	2271		200	125	106	261	142	
v/s Ratio Prot	c0.03	0.27		0.00	c0.46		0.06	0.03		c0.06	0.05	
v/s Ratio Perm	0.35			0.06			0.05		0.00	c0.06		
v/c Ratio	0.51	0.40		0.09	0.70		0.70	0.47	0.07	0.66	0.58	
Uniform Delay, d1	13.5	8.7		7.2	14.1		51.7	58.5	56.9	48.2	57.3	
Progression Factor	1.00	1.00		0.66	0.53		1.02	1.02	1.12	1.00	1.00	
Incremental Delay, d2	0.9	0.5		0.0	0.5		8.9	1.0	0.1	4.5	3.5	
Delay (s)	14.4	9.2		4.8	7.9		61.6	60.8	63.7	52.6	60.8	
Level of Service	B	A		A	A		E	E	E	D	E	
Approach Delay (s)		9.7			7.9			62.2			56.4	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay			18.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			77.1%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	1060	1530	30	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1116	1611	32	0	24

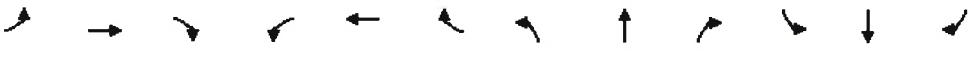
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1611	0	2169
Stage 1	-	-	1611
Stage 2	-	-	558
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	401	-	40
Stage 1	-	-	149
Stage 2	-	-	537
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	401	-	40
Mov Cap-2 Maneuver	-	-	118
Stage 1	-	-	149
Stage 2	-	-	537

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	401	-	-	-	325
HCM Lane V/C Ratio	-	-	-	-	0.072
HCM Control Delay (s)	0	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/13/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	↰
Volume (vph)	235	815	15	585	1370	50	20	145	445	330	175	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	1.00	0.97	1.00	1.00
Flt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3462		3467	3555		1770	1863	1583	3479	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	3462		3467	3555		1770	1863	1583	3479	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	858	16	616	1442	53	21	153	468	347	184	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	46	0	0	60
Lane Group Flow (vph)	247	873	0	616	1493	0	21	153	422	347	184	129
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases												4
Actuated Green, G (s)	12.5	51.5		21.2	60.2		3.3	25.3	50.5	15.0	37.0	49.5
Effective Green, g (s)	12.5	51.5		21.2	60.2		3.3	25.3	50.5	15.0	37.0	49.5
Actuated g/C Ratio	0.10	0.40		0.16	0.46		0.03	0.19	0.39	0.12	0.28	0.38
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	323	1371		565	1646		44	362	614	401	519	639
v/s Ratio Prot	0.07	0.25		c0.18	c0.42		0.01	0.08	c0.27	c0.10	0.10	0.02
v/s Ratio Perm												0.06
v/c Ratio	0.76	0.64		1.09	0.91		0.48	0.42	0.69	0.87	0.35	0.20
Uniform Delay, d1	57.3	31.7		54.4	32.3		62.5	45.9	33.2	56.5	37.0	27.0
Progression Factor	1.04	1.02		0.98	0.86		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.7	2.1		59.9	5.7		3.0	0.3	2.6	16.9	0.2	0.1
Delay (s)	68.5	34.4		113.3	33.6		65.5	46.2	35.7	73.4	37.2	27.1
Level of Service	E	C		F	C		E	D	D	E	D	C
Approach Delay (s)		42.0			56.8			39.2			52.0	
Approach LOS		D			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

7: Chemawa Rd & Area B East RI

12/16/2014

	↖	→	←	↗	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Volume (veh/h)	0	1590	1995	35	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	0	1674	2100	37	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		399	314			
pX, platoon unblocked	0.68				0.82	0.68
vC, conflicting volume	2137				2955	1068
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1729				1411	155
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	245				106	586
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	837	837	1400	737		
Volume Left	0	0	0	0		
Volume Right	0	0	0	37		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.49	0.49	0.82	0.43		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			59.6%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

8: Ulali Dr/Stadium Dr & Chemawa Rd

12/16/2014

	↖	→	↗	↙	←	↘	↖	↗	↑	↘	↙	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↗	↗			↗			↗
Volume (vph)	110	1285	195	190	1635	735	0	0	710	0	0	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	4.0	5.0	5.0			4.0			5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00			0.88			0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	1752	3505	1568	1787	3574	1599			2814			2814
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	1752	3505	1568	1787	3574	1599			2814			2814
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.85	0.85	0.85
Adj. Flow (vph)	116	1353	205	200	1721	774	0	0	710	0	0	465
RTOR Reduction (vph)	0	0	50	0	0	228	0	0	528	0	0	13
Lane Group Flow (vph)	116	1353	155	200	1721	546	0	0	182	0	0	452
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			pt+ov			pt+ov
Protected Phases	5 9	2		1 13	6				1 13			5 9
Permitted Phases			2			6						
Actuated Green, G (s)	33.3	87.7	87.7	33.3	86.7	86.7			33.3			33.3
Effective Green, g (s)	29.3	87.7	87.7	33.3	86.7	86.7			33.3			29.3
Actuated g/C Ratio	0.23	0.67	0.67	0.26	0.67	0.67			0.26			0.23
Clearance Time (s)		5.0	5.0		5.0	5.0						
Vehicle Extension (s)		1.0	1.0		0.5	0.5						
Lane Grp Cap (vph)	394	2364	1057	457	2383	1066			720			634
v/s Ratio Prot	0.07	0.39		0.11	c0.48				0.06			c0.16
v/s Ratio Perm			0.10			0.34						
v/c Ratio	0.29	0.57	0.15	0.44	0.72	0.51			0.25			0.71
Uniform Delay, d1	41.8	11.2	7.6	40.5	13.9	10.9			38.5			46.5
Progression Factor	1.23	0.85	0.63	1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2	0.1	0.8	0.2	0.2	0.9	0.2			0.1			3.2
Delay (s)	51.4	10.4	5.1	40.8	14.8	11.1			38.5			49.6
Level of Service	D	B	A	D	B	B			D			D
Approach Delay (s)		12.6			15.7			38.5			49.6	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			20.5				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			67.9%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

10: I-5 NB Ramps & Chemawa Rd

12/16/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	285	740	0	0	900	100	1470	0	250	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	1.00	0.95			0.95		0.95	0.95	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1752	3505			3419		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1752	3505			3419		1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	779	0	0	947	105	1547	0	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	109	0	0	0
Lane Group Flow (vph)	300	779	0	0	1043	0	773	774	154	0	0	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	16.0	52.7			32.7		35.0	35.0	35.0			
Effective Green, g (s)	16.0	52.7			32.7		35.0	35.0	35.0			
Actuated g/C Ratio	0.16	0.54			0.33		0.36	0.36	0.36			
Clearance Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	0.5	2.0			2.0		0.5	0.5	0.5			
Lane Grp Cap (vph)	286	1890			1144		602	602	567			
v/s Ratio Prot	c0.17	0.22			c0.31							
v/s Ratio Perm							0.46	0.46	0.10			
v/c Ratio	1.05	0.41			0.91		1.28	1.29	0.27			
Uniform Delay, d1	40.9	13.3			31.1		31.4	31.4	22.3			
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	66.6	0.1			10.7		140.2	140.9	0.1			
Delay (s)	107.5	13.4			41.9		171.5	172.2	22.4			
Level of Service	F	B			D		F	F	C			
Approach Delay (s)		39.5			41.9			150.1			0.0	
Approach LOS		D			D			F			A	
Intersection Summary												
HCM 2000 Control Delay		91.0			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.09										
Actuated Cycle Length (s)		97.7			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		96.2%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	20	0	5	0	0	90	10	155	10	10	140	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	85	92	85	92	85	85	85	85	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	0	5	0	0	106	11	182	12	12	165	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	459	412	173	409	415	188	181	0	0	194	0	0
Stage 1	196	196	-	210	210	-	-	-	-	-	-	-
Stage 2	263	216	-	199	205	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	512	530	871	553	528	854	1394	-	-	1379	-	-
Stage 1	806	739	-	792	728	-	-	-	-	-	-	-
Stage 2	742	724	-	803	732	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	442	520	871	542	518	854	1394	-	-	1379	-	-
Mov Cap-2 Maneuver	442	520	-	542	518	-	-	-	-	-	-	-
Stage 1	799	732	-	785	721	-	-	-	-	-	-	-
Stage 2	644	717	-	790	725	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	9.8	0.4	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1394	-	-	490	854	1379	-	-
HCM Lane V/C Ratio	0.008	-	-	0.055	0.124	0.009	-	-
HCM Control Delay (s)	7.6	0	-	12.8	9.8	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

HCM Unsignalized Intersection Capacity Analysis

13: Chemawa Rd & McLeod Ln

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SEB
Lane Configurations												
Volume (veh/h)	30	55	65	40	65	40	90	465	25	175	575	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	35	65	76	47	76	47	100	517	28	194	639	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											669	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	1855	1783	650	1878	1781	531	661			544		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1884	1807	580	1909	1804	531	592			544		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	84	0	0	91	89			81		
cM capacity (veh/h)	0	53	475	0	53	549	909			1025		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	176	171	644	856								
Volume Left	35	47	100	194								
Volume Right	76	47	28	22								
cSH	0	0	909	1025								
Volume to Capacity	Err	Err	0.11	0.19								
Queue Length 95th (ft)	Err	Err	9	17								
Control Delay (s)	Err	Err	2.8	4.4								
Lane LOS	F	F	A	A								
Approach Delay (s)	Err	Err	2.8	4.4								
Approach LOS	F	F										
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization			82.5%		ICU Level of Service					E		
Analysis Period (min)			15									

HCM 2010 TWSC
13: Chemawa Rd & McLeod Ln

12/16/2014

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	30	55	65	40	65	40	90	465	25	175	575	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	65	76	47	76	47	100	517	28	194	639	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1831	1783	650	1840	1781	531	661	0	0	544	0	0
Stage 1	1039	1039	-	731	731	-	-	-	-	-	-	-
Stage 2	792	744	-	1109	1050	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	82	469	58	82	548	927	-	-	1025	-	-
Stage 1	279	308	-	413	427	-	-	-	-	-	-	-
Stage 2	382	421	-	254	304	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 49	469	-	~ 49	548	927	-	-	1025	-	-
Mov Cap-2 Maneuver	-	~ 49	-	-	~ 49	-	-	-	-	-	-	-
Stage 1	236	216	-	349	361	-	-	-	-	-	-	-
Stage 2	233	356	-	104	213	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.5	2.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	-	-	1025	-	-
HCM Lane V/C Ratio	0.108	-	-	-	-	0.19	-	-
HCM Control Delay (s)	9.4	0	-	-	-	9.3	0	-
HCM Lane LOS	A	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.7	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC
14: Chemawa Rd & Area C RI/RO

12/16/2014

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	20	0	0	115	0	510	40	0	745	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	24	0	0	135	0	567	44	0	828	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1428	1450	839	1428	1439	589	850	0	0	611	0	0
Stage 1	839	839	-	589	589	-	-	-	-	-	-	-
Stage 2	589	611	-	839	850	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	113	131	366	113	133	508	788	-	-	968	-	-
Stage 1	360	381	-	494	495	-	-	-	-	-	-	-
Stage 2	494	484	-	360	377	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	131	366	106	133	508	788	-	-	968	-	-
Mov Cap-2 Maneuver	83	131	-	106	133	-	-	-	-	-	-	-
Stage 1	360	381	-	494	495	-	-	-	-	-	-	-
Stage 2	362	484	-	337	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	14.6	0	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	788	-	-	366	508	968	-	-
HCM Lane V/C Ratio	-	-	-	0.064	0.266	-	-	-
HCM Control Delay (s)	0	-	-	15.5	14.6	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.1	0	-	-

**APPENDIX G:
SYNCHRO REPORTS – 2020 PARTIAL BUILD PM
MITIGATED**

HCM Signalized Intersection Capacity Analysis

3: 14th Ave & Lockhaven Dr

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	930	20	35	1110	225	25	20	15	130	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	13	12	14	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0	5.0		5.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.96	1.00
Satd. Flow (prot)	1947	1919		1888	1863	1583		1905			1786	1583
Flt Permitted	0.07	1.00		0.15	1.00	1.00		0.65			0.76	1.00
Satd. Flow (perm)	135	1919		301	1863	1583		1270			1414	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	68	969	21	37	1168	237	29	24	18	153	24	65
RTOR Reduction (vph)	0	1	0	0	0	40	0	14	0	0	0	55
Lane Group Flow (vph)	68	989	0	37	1168	197	0	57	0	0	177	10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	64.2	60.7		61.6	59.4	59.4		13.3			14.3	14.3
Effective Green, g (s)	64.2	60.7		61.6	59.4	59.4		13.3			14.3	14.3
Actuated g/C Ratio	0.71	0.67		0.68	0.66	0.66		0.15			0.16	0.16
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0			4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5	0.5		0.5			0.5	0.5
Lane Grp Cap (vph)	166	1291		244	1226	1042		187			224	250
v/s Ratio Prot	c0.02	0.52		0.00	c0.63							
v/s Ratio Perm	0.27			0.10		0.12		0.05			c0.13	0.01
v/c Ratio	0.41	0.77		0.15	0.95	0.19		0.31			0.79	0.04
Uniform Delay, d1	20.6	10.0		9.9	14.1	6.0		34.3			36.5	32.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.6	2.5		0.1	15.5	0.0		0.3			16.0	0.0
Delay (s)	21.2	12.5		10.0	29.7	6.0		34.7			52.5	32.2
Level of Service	C	B		A	C	A		C			D	C
Approach Delay (s)		13.0			25.3			34.7			47.1	
Approach LOS		B			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			22.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			90.2				Sum of lost time (s)		14.0			
Intersection Capacity Utilization			80.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/13/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	760	15	470	1375	50	10	135	350	330	165	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3461		3467	3555		1770	1863	2787	3479	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	3461		3467	3555		1770	1863	2787	3479	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	800	16	495	1447	53	11	142	368	347	174	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	106	0	0	76
Lane Group Flow (vph)	237	815	0	495	1498	0	11	142	262	347	174	113
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases												4
Actuated Green, G (s)	12.1	55.8		22.6	66.3		2.0	15.3	41.9	19.3	32.6	44.7
Effective Green, g (s)	12.1	55.8		22.6	66.3		2.0	15.3	41.9	19.3	32.6	44.7
Actuated g/C Ratio	0.09	0.43		0.17	0.51		0.02	0.12	0.32	0.15	0.25	0.34
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	313	1485		602	1813		27	219	898	516	458	581
v/s Ratio Prot	0.07	0.24		c0.14	c0.42		0.01	c0.08	0.09	c0.10	0.10	0.02
v/s Ratio Perm												0.05
v/c Ratio	0.76	0.55		0.82	0.83		0.41	0.65	0.29	0.67	0.38	0.19
Uniform Delay, d1	57.5	27.7		51.8	27.0		63.4	54.8	32.9	52.4	40.3	30.0
Progression Factor	1.13	0.98		1.00	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	1.4		6.8	2.4		3.6	4.9	0.1	2.7	0.2	0.1
Delay (s)	73.1	28.4		58.6	24.2		67.0	59.7	33.0	55.1	40.5	30.0
Level of Service	E	C		E	C		E	E	C	E	D	C
Approach Delay (s)		38.5			32.7			41.0			44.8	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			37.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

10: I-5 NB Ramps & Chemawa Rd

10/30/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	700	0	0	870	100	1410	0	250	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0			5.0	5.0	5.0	5.0	5.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3400	3505			3471	1553	1681	1681	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3400	3505			3471	1553	1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	737	0	0	916	105	1484	0	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	58	0	0	64	0	0	0
Lane Group Flow (vph)	274	737	0	0	916	47	742	742	199	0	0	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	13.3	56.9			39.6	39.6	61.3	61.3	61.3			
Effective Green, g (s)	13.3	56.9			39.6	39.6	61.3	61.3	61.3			
Actuated g/C Ratio	0.10	0.44			0.31	0.31	0.48	0.48	0.48			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0	5.0			
Vehicle Extension (s)	0.5	2.0			2.0	2.0	0.5	0.5	0.5			
Lane Grp Cap (vph)	352	1555			1072	479	803	803	756			
v/s Ratio Prot	c0.08	0.21			c0.26							
v/s Ratio Perm						0.03	c0.44	0.44	0.13			
v/c Ratio	0.78	0.47			0.85	0.10	0.92	0.92	0.26			
Uniform Delay, d1	56.0	25.1			41.6	31.6	31.3	31.3	20.0			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	9.5	0.1			6.5	0.0	15.9	15.9	0.1			
Delay (s)	65.5	25.2			48.1	31.6	47.2	47.2	20.0			
Level of Service	E	C			D	C	D	D	C			
Approach Delay (s)		36.1			46.4			43.1			0.0	
Approach LOS		D			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		42.1			HCM 2000 Level of Service				D			
HCM 2000 Volume to Capacity ratio		0.88										
Actuated Cycle Length (s)		128.2			Sum of lost time (s)				14.0			
Intersection Capacity Utilization		82.2%			ICU Level of Service				E			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: McLeod Ln & Area C Full Access

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	110	0	0	95	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.85	0.92	0.85	0.92	0.85	0.85	0.85	0.85	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	129	0	0	112	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLT			TWLT	
Median storage (veh)								2			2	
Upstream signal (ft)											384	
pX, platoon unblocked												
vC, conflicting volume	241	241	112	241	241	129	112			129		
vC1, stage 1 conf vol	112	112		129	129							
vC2, stage 2 conf vol	129	129		112	112							
vCu, unblocked vol	241	241	112	241	241	129	112			129		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	807	733	941	807	733	920	1478			1456		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	0	129	112								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1700	1700	1478	1456								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			9.1%			ICU Level of Service				A		
Analysis Period (min)			15									

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	25	60	10	15	40	80	450	15	60	565	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	29	71	12	18	47	89	500	17	67	628	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1209	1466	325	1148	1469	258	650	0	0	517	0	0
Stage 1	772	772	-	686	686	-	-	-	-	-	-	-
Stage 2	437	694	-	462	783	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	139	127	671	154	126	741	932	-	-	1045	-	-
Stage 1	358	407	-	404	446	-	-	-	-	-	-	-
Stage 2	568	442	-	549	403	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	101	108	671	97	107	741	932	-	-	1045	-	-
Mov Cap-2 Maneuver	101	108	-	97	107	-	-	-	-	-	-	-
Stage 1	324	381	-	365	403	-	-	-	-	-	-	-
Stage 2	460	400	-	424	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.6	25.5	1.4	0.8
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	932	-	-	101	265	97	283	1045	-	-
HCM Lane V/C Ratio	0.095	-	-	0.116	0.377	0.121	0.229	0.064	-	-
HCM Control Delay (s)	9.3	-	-	45.3	26.6	47.2	21.5	8.7	-	-
HCM Lane LOS	A	-	-	E	D	E	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	1.7	0.4	0.9	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis

14: Chemawa Rd & Area C RI/RO

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	515	0	0	640	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	0	0	0	572	0	0	711	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)											316	
pX, platoon unblocked												
vC, conflicting volume	997	1283	356	928	1283	286	711			572		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	997	1283	356	928	1283	286	711			572		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	198	164	641	223	164	711	884			997		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	0	381	191	474	237						
Volume Left	0	0	0	0	0	0						
Volume Right	0	0	0	0	0	0						
cSH	1700	1700	1700	1700	1700	1700						
Volume to Capacity	0.00	0.00	0.22	0.11	0.28	0.14						
Queue Length 95th (ft)	0	0	0	0	0	0						
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0						
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0		0.0							
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			21.0%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/12/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	760	15	470	1375	50	10	135	350	330	165	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3461		3467	3555		1770	1863	2787	1793	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.65	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	3367	3461		3467	3555		1206	1863	2787	622	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	800	16	495	1447	53	11	142	368	347	174	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	113	0	0	86
Lane Group Flow (vph)	237	815	0	495	1498	0	11	142	255	347	174	103
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	pt+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	12.1	54.0		22.6	64.5		17.2	15.4	42.0	40.4	34.6	46.7
Effective Green, g (s)	12.1	54.0		22.6	64.5		17.2	15.4	42.0	40.4	34.6	46.7
Actuated g/C Ratio	0.09	0.42		0.17	0.50		0.13	0.12	0.32	0.31	0.27	0.36
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	313	1437		602	1763		167	220	900	382	486	605
v/s Ratio Prot	0.07	0.24		c0.14	c0.42		0.00	0.08	0.09	c0.15	0.10	0.02
v/s Ratio Perm							0.01			c0.14		0.05
v/c Ratio	0.76	0.57		0.82	0.85		0.07	0.65	0.28	0.91	0.36	0.17
Uniform Delay, d1	57.5	29.1		51.8	28.5		49.2	54.7	32.8	39.0	38.7	28.4
Progression Factor	1.12	0.98		1.02	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	1.5		6.8	3.1		0.1	4.8	0.1	24.2	0.2	0.0
Delay (s)	73.1	30.1		59.3	26.3		49.3	59.5	32.8	63.2	38.9	28.5
Level of Service	E	C		E	C		D	E	C	E	D	C
Approach Delay (s)		39.8			34.5			40.5			48.0	
Approach LOS		D			C			D			D	

Intersection Summary

HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX H: SYNCHRO REPORTS – 2020 FULL BUILD PM MITIGATED

HCM Signalized Intersection Capacity Analysis

3: 14th Ave & Lockhaven Dr

12/16/2014

	↖	→	↗	↖	←	↗	↖	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↕			↗	↗
Volume (vph)	65	970	20	35	1165	240	25	20	15	140	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	13	12	14	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0	5.0		5.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.96	1.00
Satd. Flow (prot)	1947	1919		1888	1863	1583		1905			1785	1583
Flt Permitted	0.07	1.00		0.12	1.00	1.00		0.65			0.76	1.00
Satd. Flow (perm)	136	1919		243	1863	1583		1262			1408	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	68	1010	21	37	1226	253	29	24	18	165	24	65
RTOR Reduction (vph)	0	1	0	0	0	41	0	14	0	0	0	54
Lane Group Flow (vph)	68	1030	0	37	1226	212	0	57	0	0	189	11
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	63.6	60.2		61.2	59.0	59.0		14.0			15.0	15.0
Effective Green, g (s)	63.6	60.2		61.2	59.0	59.0		14.0			15.0	15.0
Actuated g/C Ratio	0.70	0.67		0.68	0.65	0.65		0.15			0.17	0.17
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0			4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5	0.5		0.5			0.5	0.5
Lane Grp Cap (vph)	163	1277		204	1215	1033		195			233	262
v/s Ratio Prot	c0.02	0.54		0.00	c0.66							
v/s Ratio Perm	0.28			0.12		0.13		0.05			c0.13	0.01
v/c Ratio	0.42	0.81		0.18	1.01	0.21		0.29			0.81	0.04
Uniform Delay, d1	22.2	10.9		11.8	15.7	6.3		33.8			36.3	31.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.6	3.6		0.2	28.1	0.0		0.3			18.0	0.0
Delay (s)	22.8	14.5		11.9	43.8	6.3		34.1			54.4	31.7
Level of Service	C	B		B	D	A		C			D	C
Approach Delay (s)		15.0			36.7			34.1			48.6	
Approach LOS		B			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			29.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			90.4				Sum of lost time (s)		14.0			
Intersection Capacity Utilization			84.3%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 6: Chemawa Rd & Lockhaven Dr & Keizer Station Blvd

1/13/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	815	15	585	1370	50	20	145	445	330	175	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	13	12	12
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	3462		3467	3555		1770	1863	2787	3479	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	3462		3467	3555		1770	1863	2787	3479	1827	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	858	16	616	1442	53	21	153	468	347	184	189
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	80	0	0	64
Lane Group Flow (vph)	247	873	0	616	1493	0	21	153	388	347	184	125
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	5
Permitted Phases												4
Actuated Green, G (s)	12.5	47.6		30.6	65.7		3.3	16.3	50.9	18.5	31.5	44.0
Effective Green, g (s)	12.5	47.6		30.6	65.7		3.3	16.3	50.9	18.5	31.5	44.0
Actuated g/C Ratio	0.10	0.37		0.24	0.51		0.03	0.13	0.39	0.14	0.24	0.34
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	323	1267		816	1796		44	233	1091	495	442	573
v/s Ratio Prot	0.07	0.25		c0.18	c0.42		0.01	c0.08	0.14	c0.10	0.10	0.02
v/s Ratio Perm												0.06
v/c Ratio	0.76	0.69		0.75	0.83		0.48	0.66	0.36	0.70	0.42	0.22
Uniform Delay, d1	57.3	34.9		46.2	27.4		62.5	54.2	28.0	53.1	41.5	30.7
Progression Factor	1.09	0.98		0.98	0.94		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.7	2.8		2.6	2.4		3.0	5.0	0.1	3.7	0.2	0.1
Delay (s)	71.1	37.1		48.0	28.3		65.5	59.2	28.0	56.8	41.7	30.8
Level of Service	E	D		D	C		E	E	C	E	D	C
Approach Delay (s)		44.6			34.1			36.7			46.1	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			38.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

10: I-5 NB Ramps & Chemawa Rd

12/16/2014

	↖	→	↗	↙	←	↖	↗	↑	↙	↘	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖			↖↖	↖	↖	↖	↖			
Volume (vph)	285	740	0	0	900	100	1470	0	250	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0			5.0	5.0	5.0	5.0	5.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3400	3505			3471	1553	1681	1681	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3400	3505			3471	1553	1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	779	0	0	947	105	1547	0	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	56	0	0	52	0	0	0
Lane Group Flow (vph)	300	779	0	0	947	49	773	774	211	0	0	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	13.7	59.2			41.5	41.5	66.1	66.1	66.1			
Effective Green, g (s)	13.7	59.2			41.5	41.5	66.1	66.1	66.1			
Actuated g/C Ratio	0.10	0.44			0.31	0.31	0.49	0.49	0.49			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0	5.0			
Vehicle Extension (s)	0.5	2.0			2.0	2.0	0.5	0.5	0.5			
Lane Grp Cap (vph)	344	1533			1064	476	821	821	773			
v/s Ratio Prot	c0.09	0.22			c0.27							
v/s Ratio Perm						0.03	0.46	0.46	0.13			
v/c Ratio	0.87	0.51			0.89	0.10	0.94	0.94	0.27			
Uniform Delay, d1	59.9	27.5			44.7	33.6	32.8	32.8	20.4			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	20.2	0.1			9.3	0.0	18.5	18.7	0.1			
Delay (s)	80.2	27.6			54.0	33.6	51.3	51.5	20.5			
Level of Service	F	C			D	C	D	D	C			
Approach Delay (s)		42.2			51.9			46.9			0.0	
Approach LOS		D			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		47.0			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.92										
Actuated Cycle Length (s)		135.3			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		85.4%			ICU Level of Service			E				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

12: McLeod Ln & Area C Full Access

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	0	5	0	0	90	10	155	10	10	140	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.85	0.92	0.85	0.92	0.85	0.85	0.85	0.85	0.92
Hourly flow rate (vph)	22	0	5	0	0	106	11	182	12	12	165	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLT			TWLT	
Median storage (veh)								2			2	
Upstream signal (ft)								283			384	
pX, platoon unblocked												
vC, conflicting volume	512	412	173	412	415	188	181			194		
vC1, stage 1 conf vol	196	196		210	210							
vC2, stage 2 conf vol	316	216		202	205							
vCu, unblocked vol	512	412	173	412	415	188	181			194		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	99	100	100	88	99			99		
cM capacity (veh/h)	555	637	871	684	637	854	1394			1379		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	27	106	205	193								
Volume Left	22	0	11	12								
Volume Right	5	106	12	16								
cSH	598	854	1394	1379								
Volume to Capacity	0.05	0.12	0.01	0.01								
Queue Length 95th (ft)	4	11	1	1								
Control Delay (s)	11.3	9.8	0.5	0.5								
Lane LOS	B	A	A	A								
Approach Delay (s)	11.3	9.8	0.5	0.5								
Approach LOS	B	A										
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			26.6%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

13: Chemawa Rd & McLeod Ln

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	55	65	40	65	40	90	465	25	175	575	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Flt	1.00	0.92		1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1712		1770	1756		1770	3512		1770	3522	
Flt Permitted	0.68	1.00		0.67	1.00		0.40	1.00		0.45	1.00	
Satd. Flow (perm)	1263	1712		1243	1756		746	3512		836	3522	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	35	65	76	47	76	47	100	517	28	194	639	22
RTOR Reduction (vph)	0	54	0	0	29	0	0	8	0	0	5	0
Lane Group Flow (vph)	35	87	0	47	94	0	100	537	0	194	656	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	7.4	7.4		7.4	7.4		14.8	14.8		14.8	14.8	
Effective Green, g (s)	7.4	7.4		7.4	7.4		14.8	14.8		14.8	14.8	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	309	419		304	430		365	1721		409	1726	
v/s Ratio Prot		0.05			c0.05			0.15			0.19	
v/s Ratio Perm	0.03			0.04			0.13			c0.23		
v/c Ratio	0.11	0.21		0.15	0.22		0.27	0.31		0.47	0.38	
Uniform Delay, d1	8.9	9.1		8.9	9.1		4.5	4.6		5.1	4.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.2	0.3		0.4	0.1		0.9	0.1	
Delay (s)	9.0	9.3		9.2	9.4		4.9	4.7		6.0	5.0	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		9.3			9.3			4.8			5.2	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		5.8					HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		30.2					Sum of lost time (s)		8.0			
Intersection Capacity Utilization		42.2%					ICU Level of Service		A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

14: Chemawa Rd & Area C RI/RO

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	20	0	0	115	0	510	40	0	745	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	24	0	0	135	0	567	44	0	828	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								353			316	
pX, platoon unblocked	0.96	0.96		0.96	0.96	0.96				0.96		
vC, conflicting volume	1122	1450	425	1003	1439	306	850			611		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1039	1381	425	914	1370	186	850			505		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	83	100			100		
cM capacity (veh/h)	147	137	578	209	139	789	784			1011		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	24	135	378	233	552	298						
Volume Left	0	0	0	0	0	0						
Volume Right	24	135	0	44	0	22						
cSH	578	789	1700	1700	1700	1700						
Volume to Capacity	0.04	0.17	0.22	0.14	0.32	0.18						
Queue Length 95th (ft)	3	15	0	0	0	0						
Control Delay (s)	11.5	10.5	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	11.5	10.5	0.0		0.0							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			31.2%			ICU Level of Service				A		
Analysis Period (min)			15									

APPENDIX I:

TRAFFIC SIGNAL AND TURN LANE WARRANTS

Oregon Department of Transportation Transportation Development Branch Transportation Planning Analysis Unit					
Preliminary Traffic Signal Warrant Analysis¹					
Major Street: Chemawa Rd			Minor Street: McLeod Ln		
Project: Keizer Station Area C Update			City/County: Keizer		
Year: 2020			Alternative: Partial Build		
Preliminary Signal Warrant Volumes					
Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	Percent of standard warrants 70	Percent of standard warrants 100	Percent of standard warrants 70
Case A: Minimum Vehicular Traffic					
1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500
Case B: Interruption of Continuous Traffic					
1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250
X	100 percent of standard warrants				
	70 percent of standard warrants ²				
Preliminary Signal Warrant Calculation					
	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	2	10600	11900	N
	Minor	1	2650	950	
Case B	Major	2	15900	11900	N
	Minor	1	1350	950	
Analyst and Date: DKS 10-30-2014			Reviewer and Date:		

¹ Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. When preliminary signal warrants are met, project analysts need to coordinate with Region Traffic to initiate the traffic signal engineering investigation as outlined in the Traffic Manual. Before a signal can be installed, the engineering investigation must be conducted or reviewed by the Region Traffic Manager who will forward signal recommendations to headquarters. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

² Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

Left Turn Lane Warrant Analysis

Project: Keizer Station Area C Update
 Scenario(s): 2020 Partial Build

Future PM Peak

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Advancing (Va)	LT Vol	LT %	Volume Opposing (Vo)	Warrant Factor	5% Warrant Va	Va Warrant Threshold	HRB Warrant Met?	ODOT Volume	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Chemawa Road-McLeod Lane	NB	1	1	545	80	15%	585	0.62	413	254	Yes	1130	10	Yes	#N/A	#N/A
Chemawa Road-McLeod Lane	SB	1	1	645	60	9%	465	0.75	472	354	Yes	1110	10	Yes	#N/A	#N/A
Chemawa Road-McLeod Lane	WB	1	1	65	10	15%	85	0.60	721	436	No	150	#N/A	#N/A	#N/A	#N/A
Chemawa Road-McLeod Lane	EB	1	1	95	10	11%	55	0.71	745	529	No	150	#N/A	#N/A	#N/A	#N/A

*The "Consider" note applies when there are high through volumes but less than 10 left turning vehicles.

ODOT LEFT TURN CRITERIA IS BASED ON THE 8-13-03 LEFT TURN CRITERIA
 MAX QUEUE AND STORAGE ESTIMATES BASED ON GARD METHOD

Oregon Department of Transportation
Transportation Development Branch
Transportation Planning Analysis Unit

Preliminary Traffic Signal Warrant Analysis¹

Major Street: Chemawa Rd	Minor Street: McLeod Ln
Project: Keizer Station Area C Update	City/County: Keizer
Year: 2020	Alternative: Full Build

Preliminary Signal Warrant Volumes

Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	Percent of standard warrants 70	Percent of standard warrants 100	Percent of standard warrants 70

Case A: Minimum Vehicular Traffic

1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500

Case B: Interruption of Continuous Traffic

1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250

X 100 percent of standard warrants

70 percent of standard warrants²

Preliminary Signal Warrant Calculation

	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	2	10600	13500	N
	Minor	1	2650	1500	
Case B	Major	2	15900	13500	N
	Minor	1	1350	1500	

Analyst and Date: DKS 11-4-2014

Reviewer and Date:

¹ Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. When preliminary signal warrants are met, project analysts need to coordinate with Region Traffic to initiate the traffic signal engineering investigation as outlined in the Traffic Manual. Before a signal can be installed, the engineering investigation must be conducted or reviewed by the Region Traffic Manager who will forward signal recommendations to headquarters. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

² Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC SIGNAL WARRANT COMPARISON Chemawa Road at McLeod Ln 0 M.P. 0 Keizer														Analysis by: DKS Associates Phone: 0	
Count Date (am) 1/0/1900 Count Date (pm) 1/0/1900		DRAFT												Major Street has two approaching lanes Minor Street has one approaching lane 100% Warrants	
VOLUME DATA															
Time 14 Hours	6:00 - 7:00	7:00 - 8:00	8:00 - 9:00	9:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	18:00 - 19:00	19:00 - 20:00	
Hourly Volumes on Major Street	0	0	0	0	0	0	0	0	0	0	0	1350	0	0	
Hourly Volumes on Minor Street	0	0	0	0	0	0	0	0	0	0	0	150	0	0	
Hourly Volumes other Minor St.	0	0	0	0	0	0	0	0	0	0	0	145	0	0	

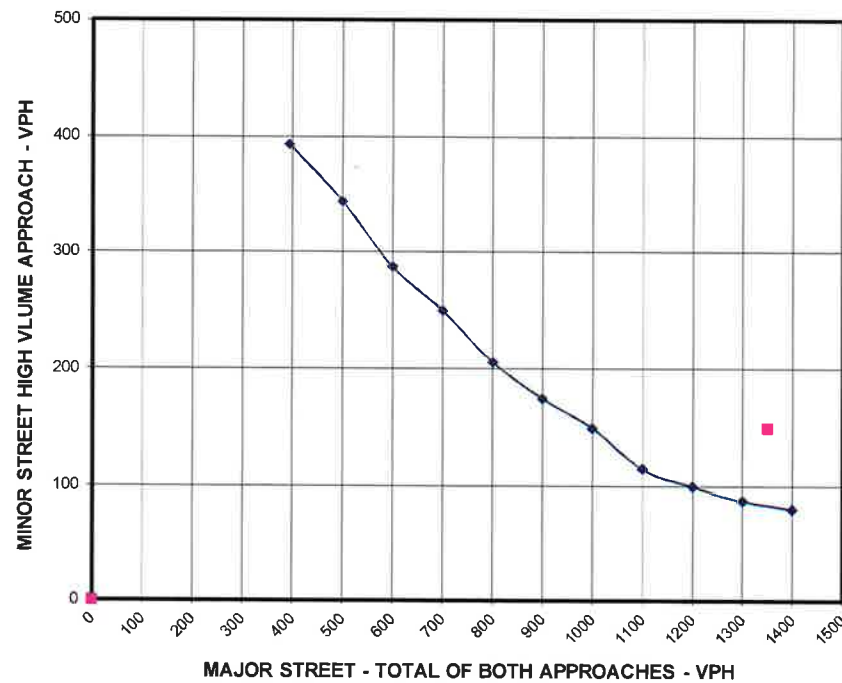
Warrants	Minimum Volume Warrant	Number of Hours Warrant is Met	Warrants met	Weight Value
1. Eight-Hour Vehicular Volume:				
Condition A: Minimum Vehicular Volume				
Major Street (total of both approaches)	600			
Minor Street (one direction only)	150	1		(8 hours required)
Condition B: Interruption of Continuous Traffic				
Major Street (total of both approaches)	900			
Minor Street (one direction only)	75	1		(8 hours required)
**Condition A: Minimum Vehicular Volume, 80%				
Major Street (total of both approaches)	480			
Minor Street (one direction only)	120	1		(8 hours required)
**Condition B: Interruption of Continuous Traffic, 80%				
Major Street (total of both approaches)	720			
Minor Street (one direction only)	60	1		(8 hours required)
2. Four-Hour Vehicular Volume:				
	Graph attached	1		(4 hours required)
3. Peak Hour:				
Condition A:				
1.) Total stopped time delay on one minor street approach	4	4		vehicle-hours
2.) Minor Street (one direction only)	100	0		(1 hour required)
3.) Total entering volume serviced during the hour	800	0		(1 hour required)
Condition B:				
	Graph attached	0		(1 hour required)
4. Pedestrian Volume:				
Condition A:				
1.) Pedestrian Volume for each of any four hours	N/A			
2.) Pedestrian Volume during any hour	N/A			
Condition B:				
1.) Number of gaps per hour of adequate length:	N/A			
Condition C:				
1.) Distance to nearest traffic signal along major street (ft):	N/A			

OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC SIGNAL WARRANT COMPARISON Chemawa Road at McLeod Ln Keizer 0 M.P. 0				Analysis by: DKS Associates Phone: 0
Count Date (am)	1/0/1900	DRAFT	Major Street has two approaching lanes Minor Street has one approaching lane 100% Warrants	
Count Date (pm)	1/0/1900		0 % Reduction in minor st right turn volume 0.00 % growth per year for 0 years	
Warrants	Minimum Volume Warrant	Number of Hours Warrant is Met	Warrants met	Weight Value
5. School Crossing				
Condition A:				
1.) Frequency and adequacy of gaps is not acceptable:	N/A	_____		
2.) Students crossing during the highest hour:	N/A	_____		
3.) Other remedial measures have been considered:	N/A	_____		
4.) Distance to nearest traffic signal along major street (ft):	N/A	_____		
6. Coordinated Signal System:				
Condition A:				
1.) Existing traffic signals do not provide the necessary degree of platooning:		_____		
Condition B:				
1.) Existing traffic signals and proposed traffic signal will collectively provide a progressive operation:		_____		
2.) Distance to nearest traffic signal along major street (ft):	N/A	_____		
7. Accident Experience:				
Condition A:				
1.) Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency:		NO		(required) see attached analysis
Condition B:				
1.) Preventable Crashes within a 12 month period:	5	0		(5 crashes required)
Condition C:				
1.) 80% Vehicular Volume: Condition A (SEE WARRANT 1 FOR VOLUMES):		1		(8 hours required)
80% Vehicular Volume: Condition B (SEE WARRANT 1 FOR VOLUMES):		1		(8 hours required)
2.) 80% Pedestrian Volume:	80	0		(4 hours required)
	152	0		(1 hour required)
8. Roadway Network:				
Condition A:				
1.) Entering Volume (Weekday Peak Hour):	N/A	_____		
2.) 5-year projected volumes: Warrant 1				
Condition A: Minimum Vehicular Volume				
Major Street (total of both approaches):	N/A	_____		
Minor Street (one direction only):	N/A	_____		
Condition B: Interruption of Continuous Traffic				
Major Street (total of both approaches):	N/A	_____		
Minor Street (one direction only):	N/A	_____		
**Condition A: Minimum Vehicular Volume, 80%				
Major Street (total of both approaches):	N/A	_____		
Minor Street (one direction only):	N/A	_____		
**Condition B: Interruption of Continuous Traffic, 80%				
Major Street (total of both approaches):	N/A	_____		
Minor Street (one direction only):	N/A	_____		
3.) 5-year projected volumes: Warrant 2				
4.) 5-year projected volumes: Warrant 3				
Condition A:				
1. Total stopped time delay on one minor street approach:	N/A	_____		
2. Minor Street (one direction only):	N/A	_____		
3. Total entering volume serviced during the hour:	N/A	_____		
Condition B:				
Condition B:				
1.) Entering Volume (Non-normal business day):	N/A	_____		
The hourly warrants are those prescribed in the National Manual on Uniform Traffic Control Devices for Streets and Highways, millenium edition.				Total Value 0
XX Standard warrants used.				
70% of standard warrants used due to 85 percentile speed in excess of 40 MPH or isolated community with population less than 10,000.				

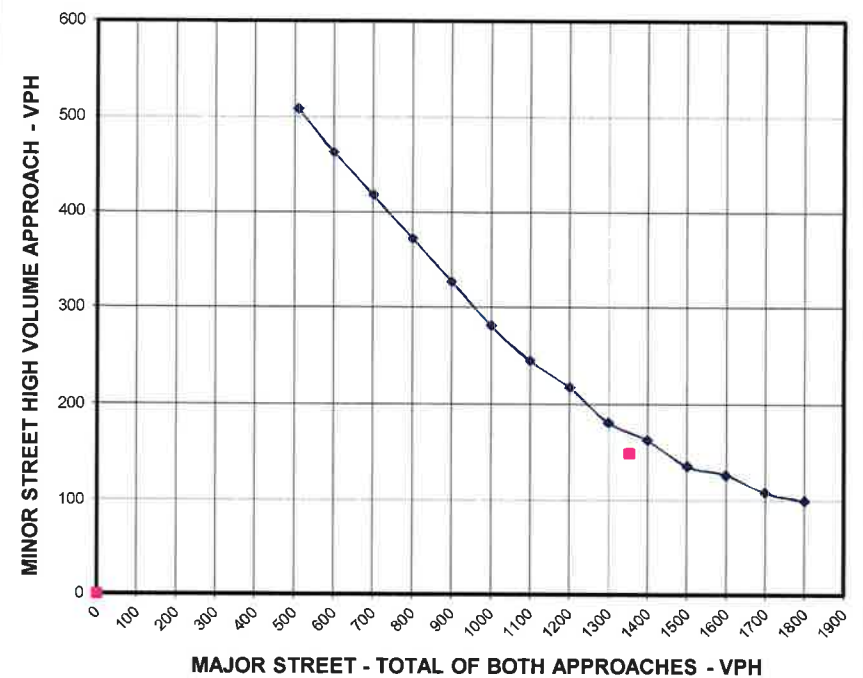
100% OF WARRANTS: MAJOR 2 x MINOR 1 INPUT

0 % Reduction in minor street right turn volume 0.00 % growth per year, 0 year projection

4-HOUR MET														
PEAK HR MET														
Time 14 Hours	6:00 - 7:00	7:00 - 8:00	8:00 - 9:00	9:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	18:00 - 19:00	19:00 - 20:00
Volumes on Major Street	0	0	0	0	0	0	0	0	0	0	0	1350	0	0
Volumes on Minor Street	0	0	0	0	0	0	0	0	0	0	0	150	0	0

DRAFTFigure 4C-1 (Figure 4C-2 if using 70% Factor)
Warrant 2 - Four-Hour Vehicular Volume

HOURS MET: 1

Figure 4C-3 (Figure 4C-4 if using 70% Factor)
Warrant 3 - Peak Hour

HOURS MET: 0

Left Turn Lane Warrant Analysis

Project: Keizer Station Area C Update
Scenario(s): 2020 Full Build

Future PM Peak

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Advancing (Va)	LT Vol	LT %	Volume Opposing (Vo)	Warrant Factor	5% Warrant Va	Va Warrant Threshold	HRB Warrant Met?	ODOT Volume	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Chemawa Road-McLeod Lane	NB	1	1	580	90	16%	590	0.60	411	247	Yes	1170	10	Yes	#N/A	#N/A
Chemawa Road-McLeod Lane	SB	1	1	765	175	23%	490	0.52	459	238	Yes	1255	10	Yes	#N/A	#N/A
Chemawa Road-McLeod Lane	WB	1	1	145	40	28%	120	0.49	694	339	No	265	50	No	#N/A	
Chemawa Road-McLeod Lane	EB	1	1	150	30	20%	105	0.54	706	385	No	255	51	No	#N/A	

*The "Consider" note applies when there are high through volumes but less than 10 left turning vehicles.

ODOT LEFT TURN CRITERIA IS BASED ON THE 8-13-03 LEFT TURN CRITERIA
MAX QUEUE AND STORAGE ESTIMATES BASED ON GARD METHOD

HCM 2010 TWSC
13: Chemawa Rd & McLeod Ln

12/17/2014

Intersection

Int Delay, s/veh 8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Vol, veh/h	16	34	61	19	30	40	83	454	18	93	568	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	40	72	22	35	47	92	504	20	103	631	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1303	1558	327	1241	1559	262	653	0	0	524	0	0
Stage 1	849	849	-	699	699	-	-	-	-	-	-	-
Stage 2	454	709	-	542	860	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	118	111	669	131	111	737	930	-	-	1039	-	-
Stage 1	322	375	-	397	440	-	-	-	-	-	-	-
Stage 2	555	435	-	492	371	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	66	90	669	66	90	737	930	-	-	1039	-	-
Mov Cap-2 Maneuver	66	90	-	66	90	-	-	-	-	-	-	-
Stage 1	290	338	-	358	396	-	-	-	-	-	-	-
Stage 2	426	392	-	349	334	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.9	50.1	1.4	1.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	66	203	66	181	1039	-	-
HCM Lane V/C Ratio	0.099	-	-	0.285	0.551	0.339	0.455	0.099	-	-
HCM Control Delay (s)	9.3	-	-	80	42.5	85.3	40.5	8.8	-	-
HCM Lane LOS	A	-	-	F	E	F	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1	2.9	1.2	2.1	0.3	-	-

Intersection

Int Delay, s/veh 7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	16	33	61	18	29	40	83	454	18	92	568	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	39	72	21	34	47	92	504	20	102	631	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1301	1556	327	1238	1557	262	653	0	0	524	0	0
Stage 1	847	847	-	699	699	-	-	-	-	-	-	-
Stage 2	454	709	-	539	858	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	118	112	669	132	112	737	930	-	-	1039	-	-
Stage 1	323	376	-	397	440	-	-	-	-	-	-	-
Stage 2	555	435	-	494	372	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	68	91	669	68	91	737	930	-	-	1039	-	-
Mov Cap-2 Maneuver	68	91	-	68	91	-	-	-	-	-	-	-
Stage 1	291	339	-	358	396	-	-	-	-	-	-	-
Stage 2	428	392	-	352	335	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	46	47.5	1.4	1.2
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	68	207	68	185	1039	-	-
HCM Lane V/C Ratio	0.099	-	-	0.277	0.534	0.311	0.439	0.098	-	-
HCM Control Delay (s)	9.3	-	-	77.1	40.7	80.3	38.9	8.8	-	-
HCM Lane LOS	A	-	-	F	E	F	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1	2.8	1.1	2	0.3	-	-

APPENDIX J: PARTIAL BUILD QUEUING

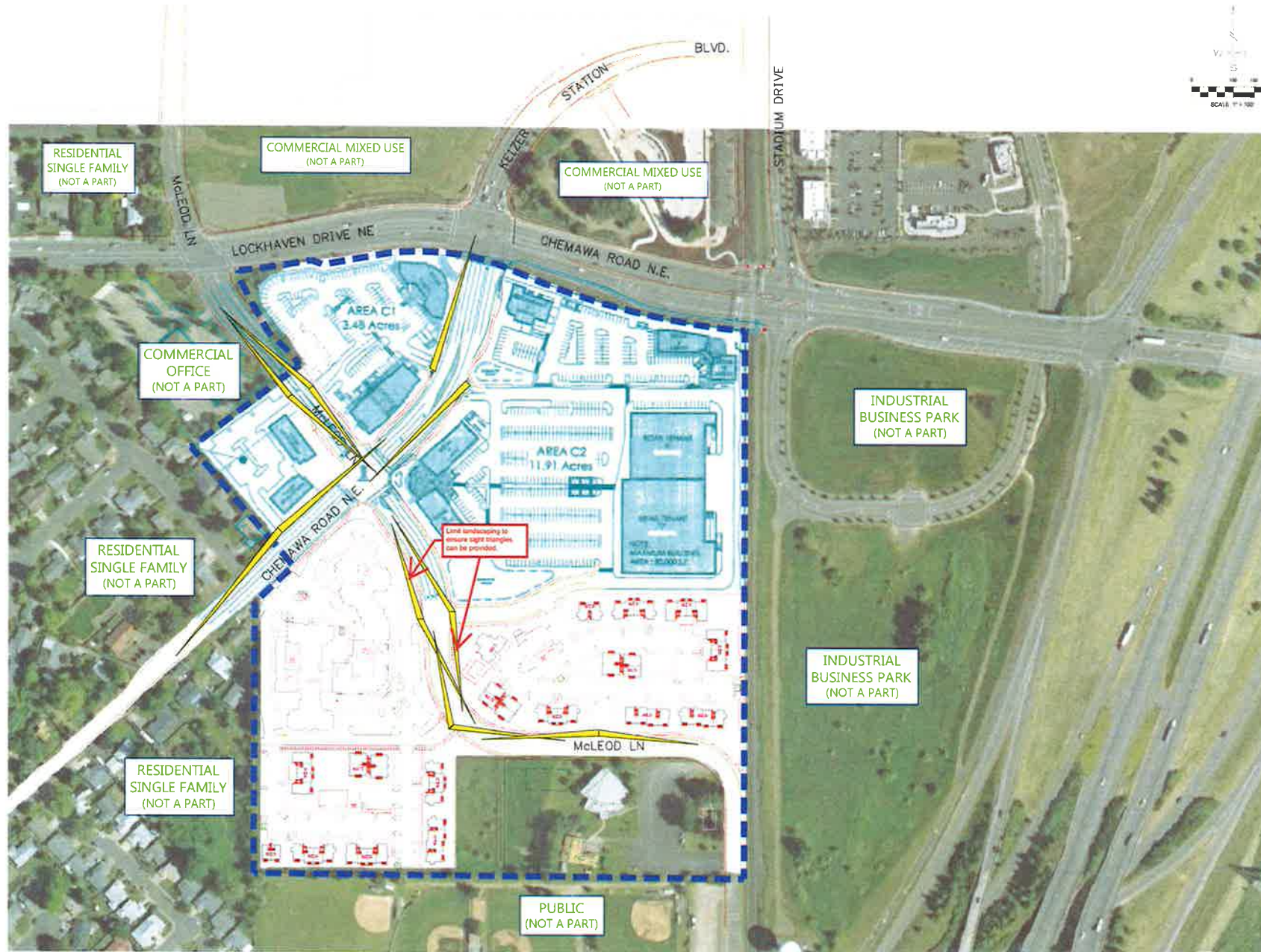
HCM Unsignalized Intersection Capacity Analysis

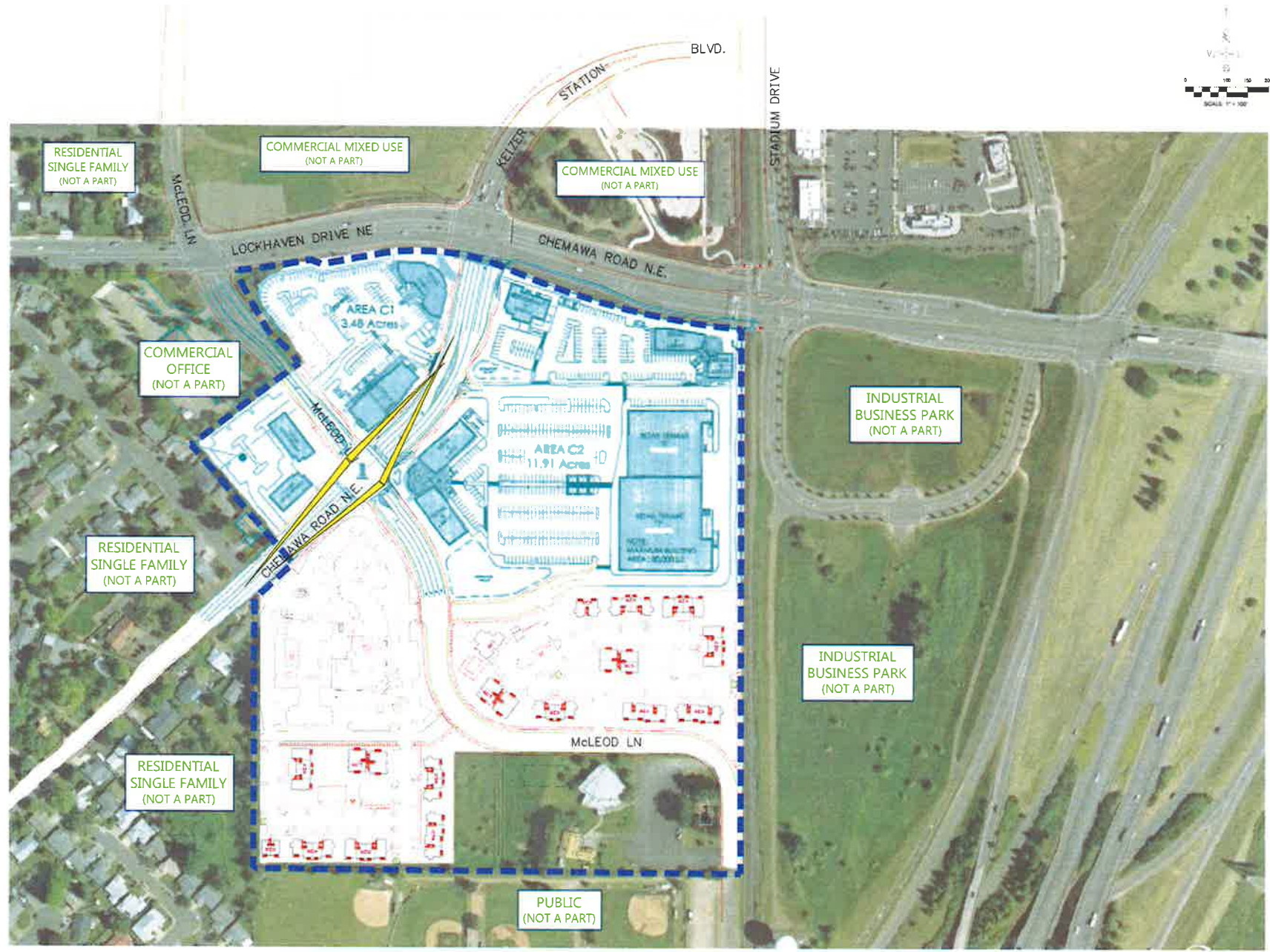
13: Chemawa Rd & McLeod Ln

12/15/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SBR
Lane Configurations												
Volume (veh/h)	10	25	60	10	15	40	80	450	15	60	565	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	12	29	71	12	18	47	89	500	17	67	628	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											669	
pX, platoon unblocked												
vC, conflicting volume	1256	1467	325	1219	1469	258	650			517		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1256	1467	325	1219	1469	258	650			517		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	73	89	86	84	94	90			94		
cM capacity (veh/h)	93	107	671	85	107	741	932			1045		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	12	100	12	65	89	333	183	67	419	231		
Volume Left	12	0	12	0	89	0	0	67	0	0		
Volume Right	0	71	0	47	0	0	17	0	0	22		
cSH	93	264	85	283	932	1700	1700	1045	1700	1700		
Volume to Capacity	0.13	0.38	0.14	0.23	0.10	0.20	0.11	0.06	0.25	0.14		
Queue Length 95th (ft)	10	42	11	22	8	0	0	5	0	0		
Control Delay (s)	49.4	26.8	53.8	21.4	9.3	0.0	0.0	8.7	0.0	0.0		
Lane LOS	E	D	F	C	A			A				
Approach Delay (s)	29.1		26.4		1.4			0.8				
Approach LOS	D		D									
Intersection Summary												
Average Delay			4.4									
Intersection Capacity Utilization			37.9%			ICU Level of Service				A		
Analysis Period (min)			15									

APPENDIX K: SIGHT DISTANCE CALCULATIONS





RESIDENTIAL
SINGLE FAMILY
(NOT A PART)

COMMERCIAL MIXED USE
(NOT A PART)

COMMERCIAL MIXED USE
(NOT A PART)

COMMERCIAL
OFFICE
(NOT A PART)

INDUSTRIAL
BUSINESS PARK
(NOT A PART)

RESIDENTIAL
SINGLE FAMILY
(NOT A PART)

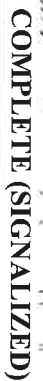
INDUSTRIAL
BUSINESS PARK
(NOT A PART)

RESIDENTIAL
SINGLE FAMILY
(NOT A PART)

PUBLIC
(NOT A PART)

APPENDIX L: CHEMAWA ROAD/MCLEOD LANE PARTIAL BUILD CONFIGURATION

KEIZER STATION CENTER - AREA 'C'



NO CHANGES, MODIFICATIONS OR REPRODUCTIONS TO BE MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM THE DESIGN REPRESENTATIVE.

DIMENSIONS & NOTES TAKE PRECEDENCE OVER GRAPHICAL REPRESENTATION.

INTERSECTION DETAIL



1 BILL NO. 695

A BILL

ORDINANCE NO.

2015- 716

3 FOR

4
5 AN ORDINANCE

6
7 ESTABLISHING A PROCESS FOR THE FORMATION OF
8 PUBLIC IMPROVEMENT REIMBURSEMENT DISTRICTS;
9 DECLARING AN EMERGENCY; **REPEAL OF ORDINANCE**
10 **NO. 2003-485 AND ORDINANCE NO. 2003-493**
11

12 WHEREAS, developers provide for public improvements which can benefit and
13 be used by properties other than the property owned by developer; and

14 WHEREAS, the City Council finds that establishing a process for the formation
15 of a reimbursement district will provide a mechanism whereby the benefitted properties
16 will share in the cost of the public improvements constructed by developers; and

17 WHEREAS, the City Council further finds that it has a duty to safeguard and
18 protect the public against any costs or litigation related to private development;

19 NOW, THEREFORE, the City of Keizer ordains as follows:

20 Section 1. Definitions. The following definitions apply in this Ordinance:

21 A. **City** means the City of Keizer, Oregon.

22 B. **Developer** means a person who is required or chooses to finance some or
23 all of the cost of a public improvement and who applies to the City for
24 reimbursement for the expense(s) of the public improvement(s) under the
25 provisions of this Ordinance.

26 C. **Development permit** means any final land use decision, limited land use
27 decision, expedited land division decision, partition, subdivision, or
28 planned unit development.
29

- 1 D. **Director** means the Public Works Director of the City of Keizer or the
2 Director's designee.
- 3 E. **Eligible public improvement** means that public improvement approved
4 for reimbursement by the City Council.
- 5 F. **Person** means a natural person, the person's heirs, executors,
6 administrators or assigns; a firm, partnership, corporation, association or
7 legal entity, its or their successors or assigns; and any agent, employee, or
8 representative thereof.
- 9 G. **Project** means all of the Public improvements included in a
10 Reimbursement district.
- 11 H. **Public improvement** means any construction, reconstruction, or
12 upgrading of public water, stormwater, sanitary sewer, or street
13 improvements, and any other public improvements accepted by the
14 Director. Street improvements include but are not limited to all
15 improvements of the street surface, gutters, sidewalks, planting strips,
16 traffic control facilities including signals and striping, public street
17 furniture, street lamps, and public vehicle and bicycle parking areas.
- 18 I. **Reimbursement agreement** means the agreement between the Developer
19 and the City which is authorized by the City Council and executed by the
20 City Manager, providing for the installation of and payment for eligible
21 public improvements.
- 22 J. **Reimbursement district** means the area which is determined by the City
23 Council to derive a benefit from the construction of eligible public
24 improvements and includes properties that have the opportunity to utilize
25 the improvement(s).
- 26 K. **Reimbursement fee** means the fee required to be paid by a resolution of
27 the City Council and the reimbursement agreement. The term
28 "reimbursement fee" does not include any local improvement district
29 assessment or any system development charge established under Oregon
30 law.

31 Section 2. Application.

- 32 A. Any person who constructs or proposes to construct a public improvement
33 to City standards and specifications and conveys or proposes to convey the

1 public improvement(s) to the City or the public may by written application
2 request that the City establish a reimbursement district covering properties
3 that will benefit from the public improvement(s). The public improvement
4 must be of a size greater than that which would otherwise ordinarily be
5 required in connection with Developer's property or must be available to
6 provide service to property other than property owned by the Developer,
7 so that the public will benefit by making the improvement.

8 B. Properties included in a reimbursement district must be reasonably
9 expected to benefit from the public improvement(s) proposed for
10 reimbursement. The City may allow reimbursement for public
11 improvements located outside of the reimbursement district if it finds that
12 persons within the reimbursement district benefit from such public
13 improvements.

14 C. The application may be submitted to the City prior to the installation of the
15 public improvement(s), but not later than one (1) year after acceptance by
16 the City of the last public improvement. This time period may be
17 extended at the sole discretion of the City Manager for good cause shown,
18 not to exceed two years after formal acceptance.

19 D. The application shall be accompanied by a fee, as established by
20 resolution, sufficient to cover the cost of administrative review, including
21 the Director's report, and notice pursuant to this Ordinance, as well as
22 engineering and staff time.

23 E. The application shall include the following:

24 1. Detailed construction drawings and descriptions of the location,
25 type, size and cost of the public improvement(s) proposed for
26 reimbursement. Drawings shall be at least 85 percent complete to
27 assure cost estimates are as accurate as possible.

28 2. A map showing the boundaries of the proposed reimbursement
29 district, the tax account number of each property, its size and
30 boundaries.

31 3. A map showing the properties to be included in the proposed
32 reimbursement district; the zoning district for the properties; the
33 front footage or square footage of said properties, or similar data
34 necessary for calculating the apportionment of the cost; the
35 property or properties owned by the Developer; and the names and

mailing addresses of owners of all properties to be included in the proposed reimbursement district.

4. The estimated or actual cost of the public improvement(s), as described in Section 4B, as evidenced by bids, projections of the cost of labor and materials, invoices, or other evidence satisfactory to the Director. Developer may propose reasonable contingencies based on the type or size of the Project according to industry standards.

5. The estimated or actual date of completion of the public improvement(s).

6. The Developer may request a discretionary annual reimbursement fee adjustment, which, if granted, will be administered pursuant to Section 13.

Section 3. Public Works Director's Report.

A. The Director shall review the application for the proposed reimbursement district and evaluate whether the establishment of a reimbursement district should be recommended to the City Council. The Director may require the submittal of other relevant information from the Developer in order to assist in the evaluation. Within sixty (60) days after complete submittal of requested information, the Director shall prepare a written report for the City Council, considering and making recommendations concerning the following factors:

1. Whether the Developer will finance or has financed some or all of the cost of a public improvement, thereby making service available to property not owned by the Developer;

2. The proposed boundary and size of the reimbursement district;

3. The actual or estimated cost of the public improvement(s) serving the area of the proposed reimbursement district and the portion of the cost for which the Developer should be reimbursed for each public improvement.

4. A methodology for spreading the cost among the parcels within the reimbursement district and where appropriate, defining a "unit" for applying the reimbursement fee to property which may, with City

1 approval, be partitioned, altered, modified, or subdivided at some
2 future date. The City may use any methodology for apportioning
3 costs for benefitted properties that is just and reasonable.

4 5. The amount to be charged by the City for administration of the
5 reimbursement district. The administration fee shall be fixed by
6 the City Council and will be included in the resolution approving
7 and forming the reimbursement district. The administration fee
8 may be a percentage of the total reimbursement fee expressed as an
9 interest figure, or may be a flat fee per unit to be deducted from the
10 total reimbursement fee.

11 6. Whether public improvements will or have met City standards.

12 7. Whether it is fair and in the public interest to create a
13 reimbursement district.

14 Section 4. Amount of Reimbursement.

15 A. A reimbursement fee shall be computed by the City for all properties
16 within the reimbursement district which have the opportunity to use the
17 public improvement(s), including the property of the Developer. The
18 reimbursement fee shall be calculated separately for each public
19 improvement. The Developer shall not be reimbursed for the portion of
20 the reimbursement fee computed for the property of the Developer.

21 B. The cost to be reimbursed to the Developer shall be limited to the cost of
22 construction engineering, construction, and permit fees. Developer may
23 be reimbursed all or a portion of the land costs for dedicated right-of-way
24 if appropriate based on proportionality, and the equitable cost, impact, and
25 function in the sole discretion of the City Council. Costs to be reimbursed
26 for dedications/easements shall be limited to the reasonable market value
27 of land or easements. Construction engineering shall include surveying
28 and inspection costs and shall not exceed 10% of the eligible public
29 improvement construction cost.

30 C. No reimbursement shall be allowed for the cost of legal expenses, design
31 engineering, financing costs, land or easements dedicated by the
32 Developer (except as noted above), the portion of costs which are eligible
33 for systems development charge credits or any costs which cannot be
34 clearly documented.

1 Section 5. Public Hearing. Within thirty (30) days after the Director has
2 completed the report, the City Council shall hold an informational public hearing in
3 which any person shall be given the opportunity to comment on the proposed
4 reimbursement district. Because formation of the reimbursement district does not result
5 in an assessment against property or lien against property, the public hearing is for
6 informational purposes only and is not subject to termination because of remonstrances
7 or objections. The City Council has the sole discretion after the public hearing to decide
8 whether a resolution approving and forming the reimbursement district shall be adopted.

9 Section 6. Notice of Public Hearing. Not less than fourteen (14) days prior to
10 any public hearing held pursuant to this Ordinance, the Developer and all owners of
11 property within the proposed reimbursement district shall be notified of the hearing.
12 Notice shall be accomplished by either mail or personal service. Mail shall be sent both
13 First Class and Certified mail to owners' address as shown in the county tax records.
14 Notice shall be deemed effective on the date that the notice is mailed. Failure of the
15 Developer or any affected property owner to receive notice shall not invalidate or
16 otherwise affect any reimbursement district resolution or the City Council's action to
17 approve the same.

18 Section 7. City Council Action.

19 A. After the public hearing, the City Council shall approve, reject or modify
20 the recommendations contained in the Director's report. The City
21 Council's decision shall be embodied in a resolution. If a reimbursement
22 district is established, the resolution shall include the Director's report as

1 approved or modified, and specify that payment of the reimbursement fee,
2 as designated for each parcel, is a precondition of receiving any City
3 permits required for development of that parcel as provided in subsection
4 12.A.

5 B. The City Council resolution and reimbursement agreement shall determine
6 the boundaries of the reimbursement district and shall determine the
7 methodology for imposing a reimbursement fee which considers the cost
8 of reimbursing the Developer for construction of the public
9 improvement(s) within the reimbursement district.

10 C. If the City Council establishes the proposed reimbursement district, the
11 date of the formation of the reimbursement district shall be the date that
12 the City Council adopts the resolution forming the reimbursement district.

13 D. The resolution shall instruct the City Manager to enter into a
14 reimbursement agreement with the Developer pertaining to the eligible
15 public improvement(s). If the reimbursement agreement is entered into
16 prior to construction, the reimbursement agreement shall be contingent
17 upon the eligible public improvement(s) being accepted by the City. The
18 reimbursement agreement, at a minimum, shall contain the following
19 provisions:

20 1. The eligible public improvement(s) shall meet all applicable City
21 standards.

22 2. The actual or estimated amount of costs potentially reimbursable to
23 the Developer.

24 3. The total amount of maximum potential reimbursement shall not
25 exceed the actual cost of the public improvement(s).

26 4. The Developer shall guarantee the eligible public improvement(s)
27 for a period of one (1) year after the date of acceptance.

28 5. Certification of the eligible public improvement reimbursement
29 costs shall be completed by the Director.

30 ///

31 ///

32 ///

- 1 6. If the actual costs of the eligible public improvement(s) are not
2 known at the time of the reimbursement agreement, the Developer
3 shall provide notice of the final costs according to Section 11 of
4 this Ordinance.
- 5 7. A clause in a form acceptable to the City Attorney stating that the
6 Developer shall defend, indemnify and hold harmless the City, its
7 agents and contractors, from any and all losses, claims, damage,
8 judgments or other costs or expense arising as a result of or related
9 to the City's establishment of the reimbursement district, including
10 any City costs, expenses and attorney fees related to collection of
11 the reimbursement fee should the City Council pursue collection of
12 an unpaid reimbursement fee under subsection 12.I.
- 13 8. A clause in a form acceptable to the City Attorney stating that the
14 Developer agrees that the City cannot be held liable for any of the
15 Developer's alleged damages, including all costs and attorney fees,
16 under the reimbursement agreement or as a result of any aspect of
17 the formation of the reimbursement district, or the reimbursement
18 district process, and that the Developer waives, and is estopped
19 from bringing, any claim of any kind, including a claim in inverse
20 condemnation, because the Developer has benefitted by the City's
21 approval of its development and the required public improvements.
- 22 9. Other provisions that the Council determines appropriate to carry
23 out the provisions of this Ordinance.

24 Section 8. Notice of Adoption of Resolution. The City shall notify all property
25 owners within the reimbursement district and the Developer of the adoption of a
26 reimbursement district resolution. The notice shall include a copy of the resolution, the
27 date it was adopted and a short explanation of when the property owner is obligated to
28 pay and the amount of the estimated or actual reimbursement fee.

29 Section 9. Recordation. The City shall cause notice of the formation and
30 nature of the reimbursement district to be filed in the office of the County Recorder so as

1 to provide notice to potential purchasers of property within the reimbursement district.
2 The recording shall not create a lien. Failure to record shall not affect the legality of the
3 resolution or the obligation to pay the reimbursement fee.

4 Section 10. Contesting the Reimbursement District. No legal action intended to
5 contest the formation of the reimbursement district or the reimbursement fee, including
6 the amount of the charge designated for each parcel, shall be filed after sixty (60) days
7 following adoption of a resolution establishing a reimbursement district. Legal challenge
8 shall only be by writ of review.

9 Section 11. Approval of Final Cost Amount.

10 A. If the actual cost(s) of the eligible public improvement(s) are not known
11 when the resolution is adopted, within six (6) months after completion and
12 acceptance of the last eligible public improvement for the project, the
13 Developer shall provide the City notice of the final actual cost(s) of the
14 eligible public improvement(s) with itemized detail, invoices, and proof of
15 payment. This time period may be extended at the sole discretion of the
16 City Manager for good cause shown, however, in no event shall the total
17 period be more than one year after completion and acceptance of the last
18 eligible public improvement.

19 B. City shall notify the other owners in the District of the final costs in
20 writing. Any notice recipient may object to the cost(s) by filing a written
21 objection within twenty-one (21) days to the City Manager. If no
22 objections to the costs are received within twenty-one (21) days of the
23 notice, the cost(s) as stated in the notice shall not be subject to challenge.
24 If written objections are received, the final cost(s) shall be determined by
25 the City Council after a duly noticed public hearing. The public hearing
26 shall address only the final cost(s) of the eligible public improvement(s)
27 and shall not address aspects of the reimbursement district set forth in the
28 resolution creating the reimbursement district or the reimbursement
29 agreement.

30

1 C. The total final cost shall not exceed by more than 10 percent the total cost
2 estimated at the time of reimbursement district formation, unless an
3 exception is approved by the City Council. The City Council may grant an
4 exception after a duly noticed public hearing if the Developer can show
5 that legitimate circumstances beyond the control of the applicant caused
6 the cost increase. The public hearing shall address only the final cost(s) of
7 the eligible public improvement(s) and shall not address aspects of the
8 reimbursement district set forth in the resolution creating the
9 reimbursement district or the reimbursement agreement.

10 D. If the actual cost(s) of the eligible public improvement(s) are lower than
11 the cost(s) estimated at the time of reimbursement district formation, the
12 final cost(s) shall be the actual cost(s).

13 Section 12. Obligation to Pay Reimbursement Fee.

14 A. The applicant for a City approval related to property within any
15 reimbursement district shall pay the City, in addition to any other
16 applicable fees and charges, the reimbursement fee established by the
17 Council, if within the time specified in the resolution establishing the
18 reimbursement district the person applies for and receives approval from
19 the City for any of the following activities:

- 20 1. A building permit for a new building;
- 21 2. Building permit(s) for any addition(s), modification(s), repair(s) or
22 alteration(s) of a building, which cumulatively exceed 25 percent
23 of the value of the building within any 36-month period. This
24 subsection shall not apply to repairs made necessary due to damage
25 or destruction by fire or other natural disaster;
- 26 3. A Development Permit, as that term is defined in this Ordinance;
27 and
- 28 4. A City-issued permit for connection to a public improvement,
29 including but not limited to a street, sanitary sewer, stormwater, or
30 water service.

31 ///

32 ///

- 1 B. No permit shall be issued for any of the activities listed in subsection 12.A
2 unless the reimbursement fee, together with the amount of accrued
3 interest, has been paid in full. No person shall be required to pay the
4 reimbursement fee on an application or on property for which the
5 reimbursement fee has been previously paid.
- 6 C. The reimbursement fee is immediately due and payable to the City by
7 property owners prior to connection to an eligible public improvement as
8 provided by this Ordinance in subsection 12.A. If a connection is made or
9 construction commenced without City permits, then the reimbursement fee
10 is immediately due and payable upon the earliest date that any such permit
11 was required.
- 12 D. The City Manager's determination of who shall pay the reimbursement fee
13 is final. In no instance shall the City, any officer, employee, contractor or
14 agent of the City, be liable for payment of any reimbursement fee, or
15 portion thereof, as a result of the City's determination of who should pay
16 the reimbursement fee.
- 17 E. Only those payments which the City has received from or on behalf of
18 those properties within a reimbursement district shall be payable to the
19 Developer. The City shall not be liable for any uncollected payment.
- 20 F. A permit applicant whose property is subject to payment of a
21 reimbursement fee receives a benefit from the construction of street public
22 improvements, regardless of whether access is taken or provided directly
23 onto such street at any time.
- 24 G. Nothing in this Ordinance is intended to modify or limit the authority of
25 the City to provide or require access management, or impose or enforce
26 development conditions against specific properties.
- 27 H. The right of reimbursement shall be for a term of twenty (20) years from
28 the reimbursement district formation date.
- 29 I. Whenever the full reimbursement fee has not been paid and collected for
30 any reason after it is due, the City Manager shall report to the City Council
31 the amount of the uncollected reimbursement fee, the legal description of
32 the property on which the reimbursement fee is due, the date upon which
33 the reimbursement fee was due and the property owner's name or names.
34 The City Council shall then, by motion, set a public hearing date and direct
35 the City Manager to give notice of that hearing to each of the identified

property owners, together with a copy of the City Manager's report concerning the unpaid reimbursement fee. Such notice may be by certified mail or personal service. At the public hearing, the City Council may accept, reject or modify the City Manager's report. If the City Council determines that the reimbursement fee is due but has not been paid for whatever reason, the City Council may, at its sole discretion, act, by resolution, to take any action it deems appropriate, including all legal or equitable means necessary to collect the unpaid amount. The Developer shall have a private cause of action against the person legally responsible for paying the reimbursement fee.

- J. The Developer bears the risk that the City may not collect from benefited property owners their respective share of the cost(s) of the eligible public improvement(s), and that the total amount collected may be less than anticipated. The City is under no obligation to institute legal proceedings to collect unpaid amounts that may be due to the Developer. The Developer must institute and pay for any proceeding(s) it brings under its private right of action. The City Council may choose, in its sole discretion, to share litigation costs or otherwise participate in the Developer's proceeding(s) as allowed by law.

Section 13. Annual Fee Adjustment.

- A. The City Council may grant an annual reimbursement fee adjustment at the time of application for formation of a reimbursement district.
- B. If granted, an annual adjustment shall be applied to the reimbursement fee beginning on the first anniversary of the date of the reimbursement agreement as a return on the investment. The annual reimbursement fee adjustment shall be fixed and computed against the reimbursement fee as simple interest and will not compound. The amount of the adjustment shall be determined at the time that a reimbursement district is formed and shall be the same each year. The interest rate will be determined by the Council upon the recommendation of the Finance Director.

Section 14. Administration.

- A. The right of reimbursement may be transferred with written approval from the City Manager, which shall not be unreasonably withheld.
- B. The City shall establish separate accounts for each reimbursement district. Except for administrative charges and collection costs, the Developer

1 shall receive all reimbursements collected by the City for eligible public
2 improvements. Such reimbursements shall be delivered to the Developer
3 at their last known address for as long as the reimbursement agreement is
4 in effect. Such payments shall be made by the City within 90 days of
5 receipt of the reimbursements.

6 C. The reimbursement fee is not intended to replace or limit any other fee or
7 charge collected by the City.

8 Section 15. Ownership of Public Improvements. Public improvements for which
9 reimbursement is granted under this Ordinance shall become and remain the sole property of the
10 City or public agency owning the improved public system.

11 Section 16. Nature of the Fees. The City Council finds that the fees imposed by this
12 Ordinance are not taxes subject to the property tax limitations of Article XI, Section 11(b) of the
13 Oregon Constitution.

14 Section 17. Severability. If any section, phrase, clause, or part of this Ordinance
15 is found to be invalid by a court of competent jurisdiction, the remaining phrases,
16 clauses, and parts shall remain in full force and effect.

17 Section 18. Repeal of Ordinance No. 2003-485 and Ordinance No. 2003-493.
18 Ordinance No. 2003-485 (An Ordinance Establishing a Process for the Formation of Public
19 Improvement Reimbursement Districts, and Declaring an Emergency) and Ordinance No. 2003-
20 493 (Amending the Reimbursement District Ordinance; Declaring an Emergency (Amending
21 Ordinance No. 2003-485)) are hereby repealed in their entirety, but such Ordinances shall
22 remain in force for the purpose of any reimbursement district formed under such Ordinances.
23 However, nothing contained herein shall be interpreted to extend the term of reimbursement
24 districts or agreements that existed prior to the date of this Ordinance.

1 Section 19. Effective Date. This Ordinance being necessary for the immediate
2 preservation of the public health, safety and welfare, an emergency is declared to exist
3 and this Ordinance shall take effect immediately upon its passage.

4 PASSED this 20th day of April, 2015.

5
6 SIGNED this 23rd day of April, 2015.

Mayor Cathy Clark


City Recorder

KEIZER STATION REIMBURSEMENT DISTRICT

Area C1 and Future Development McLeod Traffic Extension Distribution

September 17, 2015



1155 13th Street SE
Salem OR 97302
mtengineering.net

PHONE: (503) 363-9227
FAX: (503) 364-1260
EMAIL: MGrenz@mtengineering.net



Some questions have arisen as the share of Area C1 and the Future Development Area in the McLeod Lane Extension. The methodology for allocating costs for all of the traffic improvements as a part of Area C used the trips generated from each area as determined by the DKS Associates Traffic Impact Analysis (TIA). This methodology distributes cost for all of the traffic costs were based on the percentage of trips compared to the total totals calculated for Area C.

Area C1 and the Future Development account for 192 of the 785 total PM Peak trips for Area C. This accounts for 24.45% of the total traffic for Area C. This means that, according to the prescribed methodology for traffic improvements, Area C1 and the Future Development Area will be responsible for 24.45% of the costs for the McLeod Lane Extension. The Reimbursement District Matrix reflects this allocation. According to the matrix, the total estimated costs for the McLeod Lane Extension is approximately \$683,476.83. Of this, Area C1 and the Future Development Area are responsible for \$167,110.08.

$$\text{Area C1 and Future Development \% of McLeod Lane Extension} = \frac{\$167,110.08}{\$683,476.83} = 24.45\%$$

However, the City of Keizer has raised some concerns that this percentage is not equitable. The City of Keizer was concerned that Area C1 and the Future Development Area would not generate 24.45% of the traffic travelling along the McLeod Lane extension, thereby not warranting a financial responsibility of 24.45%.

Based on these concerns, the TIA was looked at again, this time to determine what Area C generated trips would be travelling from the McLeod Lane extension to Area C1 and the Future Development area, as well as from those areas across Chemawa to the McLeod Lane extension. An example of these movements would be people travelling from the apartment sites to the businesses located in Area C1 or vice versa.

To generate these traffic pattern numbers, we consulted Figure 8 from the TIA. A copy of this figure can be seen attached. As a part of the TIA analysis, traffic distributions and patterns were assumed using the ITE manual. Because the TIA followed standard practice for analysis and was reviewed and accepted as a part of the Area C Master Plan, these traffic pattern/s distributions will be used for this analysis. From this, we were able to glean how many trips were travelling to and from Area C1 which would be utilizing the McLeod Lane Extension. This analysis was broken into two segments: (1) traffic travelling northbound on the McLeod Lane Extension and (2) traffic travelling southbound on the McLeod Lane Extension.



NORTHBOUND ALONG MCLEOD LANE EXTENSION

Figure 8 of the TIA had numerically identified various intersections along McLeod and Chemawa. For the Northbound traffic, the intersections of concern are the McLeod Lane/Area C Full access intersection where Area C1 and the Future Development area will have their driveways (Intersection No. 12) and the Chemawa Road/McLeod Lane intersection (Intersection No. 13).

Intersection 13 shows 62 trips travelling from the east portion of Area C and crossing Chemawa. In addition, 9 trips are turning left from Chemawa onto McLeod Lane. This totals 71 trips travelling north along the existing leg of McLeod Lane. Of these 71 trips, Intersection 12 indicates that 6 trips will be turning in Area C1 and 6 trips will be turning into the Future Development Area. Therefore, the percentage of traffic accessing Area C1 and the Future Development Area from the McLeod Lane extension is:

$$\% \text{ Traffic} = \frac{12}{71} \times 100 = 16.9\%$$

This indicates that 16.9% of the traffic travelling from Area C and crossing onto the existing leg of McLeod will be travelling to Area C1 and the Future Development Area.

SOUTHBOUND ALONG MCLEOD LANE EXTENSION

For the Southbound traffic, the intersections of concern are the Chemawa Rd/Area C RI/RO (Intersection No. 14) the McLeod Lane/Area C Full access intersection where Area C1 and the Future Development area will have their driveways (Intersection No. 12) and the Chemawa Road/McLeod Lane Intersection (Intersection No. 13).

Intersection 14 shows there are 16 trips exiting Area C1, turning right onto Chemawa travelling Southbound. Intersection 13 then shows that there are 181 trips at the intersection of McLeod and Chemawa, with 171 turning left onto the McLeod Lane extension. The percentage of cars turning left was calculated and then applied to the 16 cars turning out of Area C1 from Intersection 14. This produces the number of cars exiting Area C1 and turning southbound onto the McLeod Lane extension.

$$\% \text{ Trips turning Left} = \frac{171}{181} \times 100 = 94.47\%$$

Because 94.47% of the trips at the intersection of Chemawa and McLeod are turning left onto the McLeod Lane extension, it can be calculated how many of the 16 trips turning out of Area C1 will be turning left onto the McLeod Lane extension:

$$\% \text{ Area C1 trips turning left} = 94.47\% \times 16 \text{ trips} = 15.12 \text{ trips}$$

Intersection 12 shows 4 cars turning right out of the Future Development Area. These trips travel to the intersection at McLeod and Chemawa and join 69 additional trips for 73 total trips at the intersection. Of these 73 trips, 54 of them will be travelling straight to the McLeod Lane extension for a percentage of:

$$\% \text{ Trips travelling straight to McL Ln Extension} = \frac{54}{73} \times 100 = 73.97\%$$

Because 73.97% of trips at the intersection of McLeod and Chemawa are travelling straight to head southbound along the McLeod Lane extension, it can be calculated how many of the 4 trips turning out of the Future Development Area will travel southbound on the McLeod Lane extension:

$$\% \text{ Future Development trips travelling straight} = 73.97\% \times 4 = 2.96 \text{ trips}$$

Now that the number of Area C1 trips turning onto the McLeod Lane extension and the number of Future Development trips travelling straight onto the McLeod Lane extension have been calculated, this value can be used to determine the percentage of trips travelling southbound on McLeod Lane extension are from Area C1 and the Future Development Area. There are a total of 249 trips generate from Area C travelling southbound along McLeod Lane extension. Therefore, the percentage of trips travelling southbound along McLeod Lane extension from Area C1 are:

$$\% \text{ Traffic} = \frac{15.12 + 2.96}{249} \times 100 = 7.26\%$$

This indicates that 7.26% of the traffic travelling from Area C1 and the Future Development Area onto the McLeod Lane extension will account for 7.26% of the traffic.



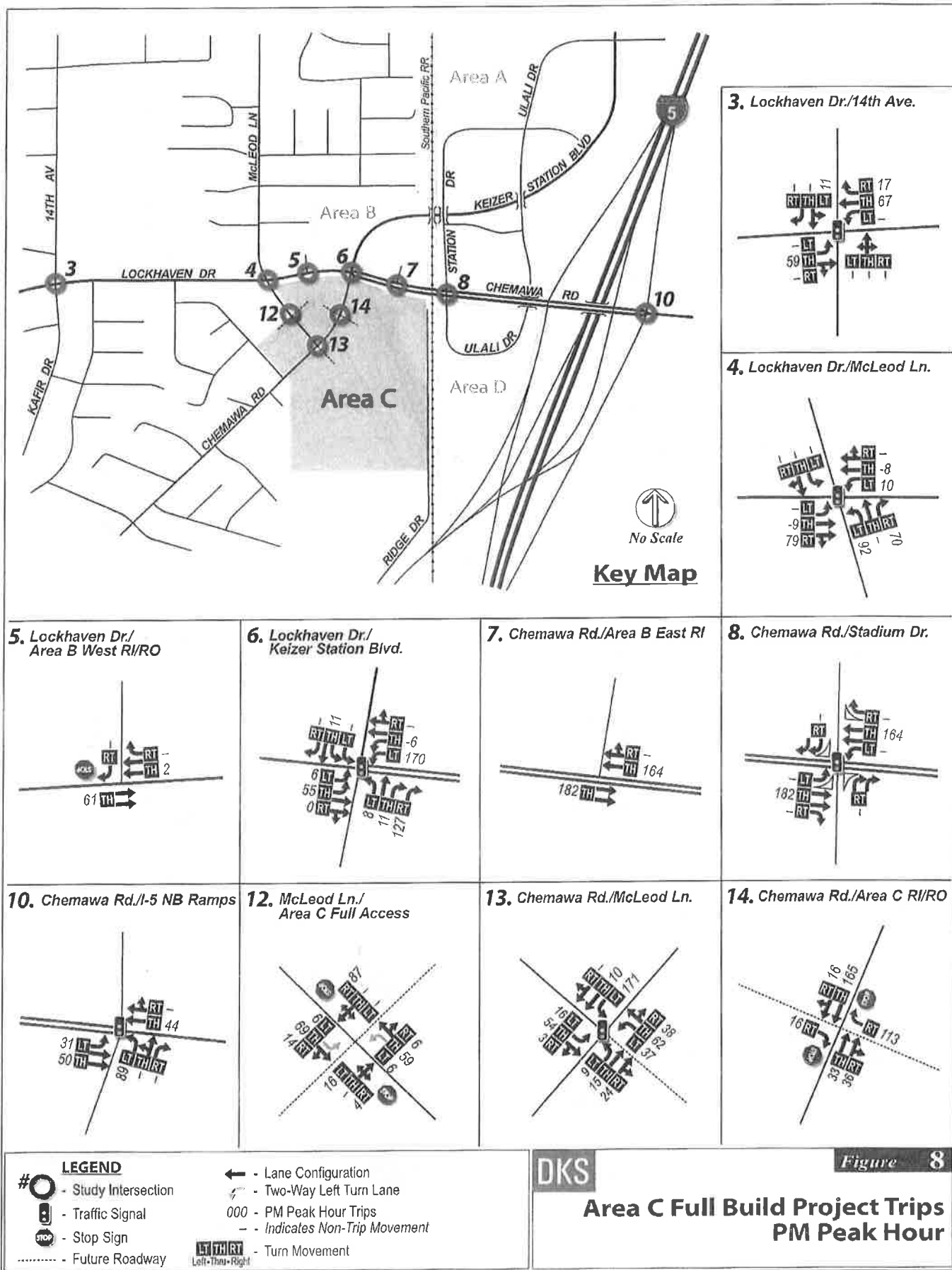
TOTAL TRAFFIC CONTRIBUTION

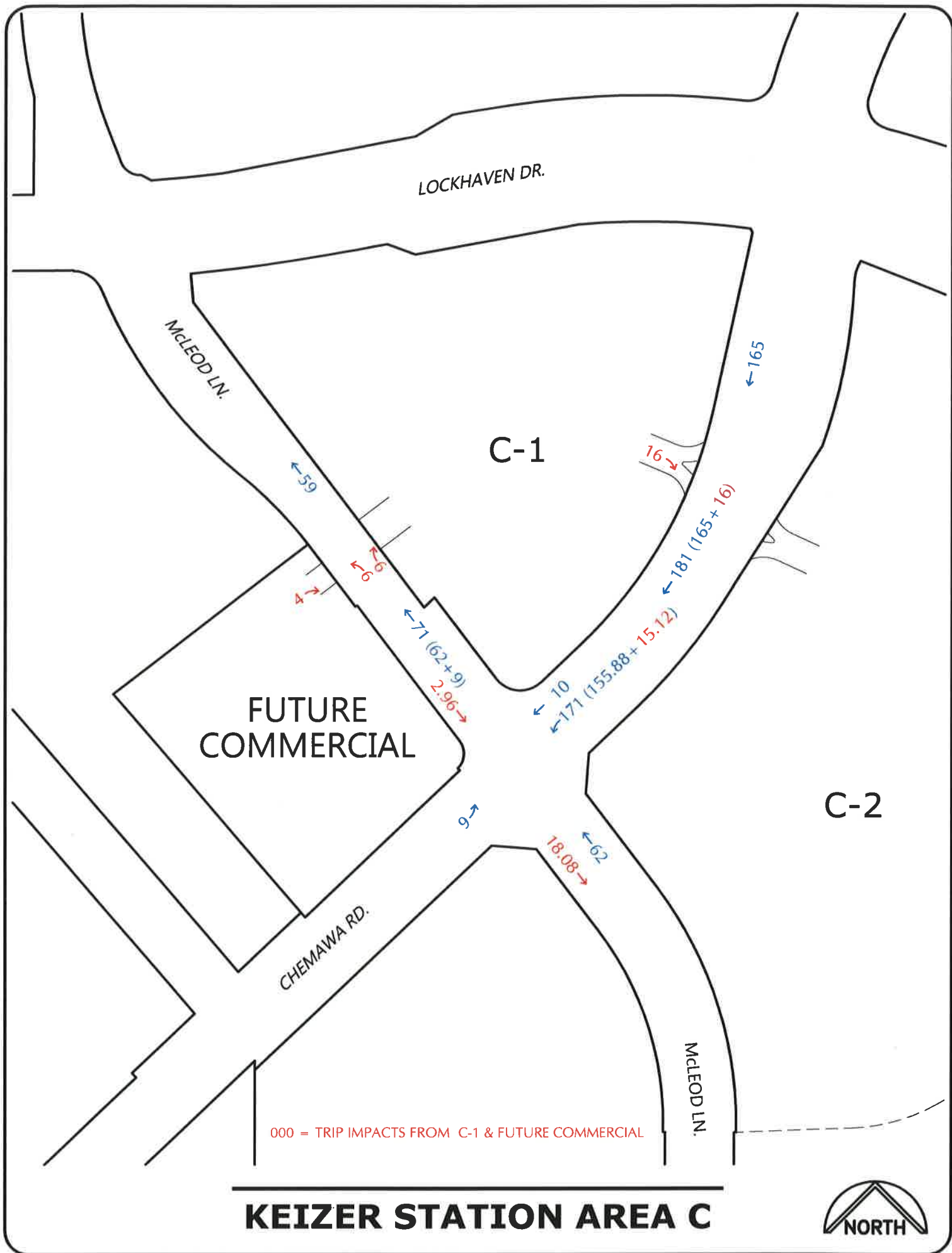
As previously calculated, the percentage of traffic travelling northbound along the McLeod Lane extension toward Area C1 and the Future Development area is 16.9%. The percentage of traffic travelling southbound along McLeod Lane extension generated from Area C1 and the Future Development Area is 7.26%.

In order to determine the total percentage of traffic along the McLeod Lane extension, these two percentages can be averaged.

$$\text{Average Traffic Contribution to McLeod Lane extension} = \frac{16.9\% + 7.26\%}{2} = 12.08\%$$

Based on this analysis, Area C1 and the Future Development Area contribute 12.08% of the traffic along the McLeod Lane extension. This is approximately half of the contribution the original reimbursement methodology assessed against Area C1 and the Future Development Area, which was 24% of the cost of the McLeod Lane extension. This would bring these areas contribution to the McLeod Lane extension to approximately \$82,664.





CITY COUNCIL MEETING: September 21, 2015

AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND COUNCIL MEMBERS

THROUGH: CHRISTOPHER C. EPPLEY, CITY MANAGER

FROM: E. SHANNON JOHNSON, CITY ATTORNEY

SUBJECT: ORDINANCE AMENDING THE KEIZER DEVELOPMENT CODE RELATING TO MEDICAL MARIJUANA FACILITIES

This matter is before the City Council for public hearing to consider an amendment to the Keizer Development Code (KDC) relating to Medical Marijuana Facilities and “early sales” of recreational marijuana. Senate Bill 460 allows “early sales” of recreational marijuana at licensed medical marijuana facilities.

Council has already amended the Medical Marijuana Facility Permits Ordinance to allow “early sales”; this legislative land use matter before you tonight is simply to revise the definition in the Development Code to allow “early sales”.

Senate Bill 460 allowing “early sales” of recreational marijuana becomes effective on October 1, 2015. In order to have this legislative land use ordinance work in conjunction with the regulation ordinance, it is appropriate to have an emergency clause on the ordinance to take effect on October 1, 2015 so they will be on the same date. In addition, to parallel state law, we have a sunset clause so that the amendment automatically terminates December 31, 2016 when early sales are no longer allowed under state law.

This matter has been heard before the Planning Commission and the Planning Commission has recommended approval of this amendment.

RECOMMENDATION:

Open the public hearing and take testimony. If the Council has no further questions, close the public hearing and adopt the attached Ordinance.

Please contact me if you have any questions in this regard. Thank you.

ESJ/tmh

1 BILL NO. ____

A BILL

ORDINANCE NO.

2

2015-_____

3

FOR

4

5

AN ORDINANCE

6

7

AMENDING KEIZER DEVELOPMENT CODE REGARDING

8

SECTION 1.200 (DEFINITIONS); AMENDING ORDINANCE

9

98-389; DECLARING AN EMERGENCY

10

11

WHEREAS, the Keizer Planning Commission has recommended to the Keizer

12

City Council amendments to the Keizer Development Code (Ordinance No. 98-389); and

13

WHEREAS, the City Council has held a hearing on this matter and considered the

14

testimony given and the recommendation of the Keizer Planning Commission; and

15

WHEREAS, the Keizer City Council has determined that it is necessary and

16

appropriate to amend the Keizer Development Code as set forth herein; and

17

WHEREAS, the Keizer City Council has determined that such amendments meet

18

the criteria set forth in state law, the Keizer Comprehensive Plan, and the Keizer

19

Development Code;

20

NOW, THEREFORE,

21

The City of Keizer ordains as follows:

22

Section 1. FINDINGS. The City of Keizer adopts the Findings set forth in

23

Exhibit "A" attached hereto and by this reference incorporated herein.

24

Section 2. AMENDMENT TO THE KEIZER DEVELOPMENT CODE. The

25

Keizer Development Code (Ordinance No. 98-389) is hereby amended by the adoption

1 of the changes to Section 1.200 (Definitions) as set forth in Exhibit "B" attached hereto,
2 and by this reference incorporated herein.

3 Section 3. SEVERABILITY. If any section, subsection, sentence, clause,
4 phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional, or
5 is denied acknowledgment by any court or board of competent jurisdiction, including, but
6 not limited to the Land Use Board of Appeals, the Land Conservation and Development
7 Commission and the Department of Land Conservation and Development, then such
8 portion shall be deemed a separate, distinct, and independent provision and such holding
9 shall not affect the validity of the remaining portions hereof.

10 Section 4. EFFECTIVE DATE. This Ordinance being necessary for the
11 immediate preservation of the public health, safety and welfare, an emergency is declared
12 to exist and this Ordinance shall take effect on October 1, 2015.

13 Section 5. SUNSET. This Ordinance shall automatically be repealed on
14 December 31, 2016.

15 PASSED this _____ day of _____, 2015.

16
17 SIGNED this _____ day of _____, 2015.

18
19
20
21
22
23

Mayor

City Recorder

EXHIBIT “A”

Findings regarding the adoption of amendment to Section 1.200 (Definitions) in the Keizer Development Code.

The review criteria are listed in Section 3.111.04 of the Keizer Development Code.

The City of Keizer finds that:

1. General Findings.
 - a. The particulars of this case are found within Planning file Text Amendment 2015-15. Public hearings were held before the Planning Commission on September 16, 2015, and before the City Council on September 21, 2015.
2. Amendments to the Comprehensive Plan or Development Code shall be approved if the evidence can substantiate the following. Amendments to the map shall be reviewed for compliance with each of the following, while text amendments shall only be reviewed for compliance with Section 3.111.04 B, C, and D. Given that this is a text amendment Section 3.111.04 A is not applicable.

3. **Section 3.111.04.B - A demonstrated need exists for the product of the proposed amendment -**

Findings: The proposed revisions to the zone code reflect a demonstrated need. The City Council has recognized that from time to time the Keizer Development Code should be updated to avoid having the code become so out of date that it would require a massive and costly comprehensive update. These revisions are directly related to enactment of recent state law allowing the early sales of recreational marijuana in established medical marijuana facilities. The demonstrated need is related to providing clarity related to this new requirement that permits this type of use within the city limits. As such, the proposed code revision complies with this review criterion.

4. **Section 3.111.04.C- The proposed amendment to the Keizer Development Code complies with statewide land use goals and related administrative rules**

FINDINGS: The proposed text amendment comply with the statewide land use planning goals as discussed below.

Goal 1 – Citizen Involvement: The adoption of this ordinance followed notice to interested parties, a public process of decision making involving public hearings, deliberation, and ordinance adoption. Public notice was provided in the Keizer Times. Public hearings were held before the Planning Commission on

September 16, 2015, and before the City Council on September 21, 2015. Citizens were afforded the opportunity to participate in the public process. This process is consistent with the provision for providing an opportunity for citizens to be involved in all phases of this proposed planning process as is required by this goal and with implementing administrative rules within Oregon Administrative Rules.

Goal 2 – Land Use Planning: This ordinance amends the Keizer Development Code. The city has an adopted comprehensive plan which has been acknowledged by the state. The adoption proceeding was conducted in a manner consistent with requirements of the Keizer Comprehensive Plan, Keizer Development Code, and applicable state law. Notice was published in the Keizer Times in accordance with public notice requirements within the Keizer Development Code. The proposed revision to the zone code is consistent with this statewide planning goal and administrative rules.

Goal 3 – Farm Land: The purpose of this goal is to protect lands that are designated for agricultural uses. Within the city limits the Exclusive Farm Use (EFU), Special Agriculture (SA), Urban Transition (UT), and Public (P) allow commercial agricultural uses. However, only the SA zone is a state recognized EFU qualifying zone. The amendment involves regulations within the boundaries of the city limits of Keizer and will not affect lands that are outside the city limits or any lawful uses occurring on those lands. The proposed amendment will comply with the Farm Land Goal and with implementing administrative rules.

Goal 4 – Forest Land: The intent of this goal is to protect lands that are designated for commercial forest uses. There are no zone districts that are specifically designated within the city limits that will allow for commercial forestry. Also, there are no commercial forest lands near, or adjacent to the city limits of Keizer. The amendment to the KDC does not involve any land which is designated as forest land, nor will it impact the use of any forest lands. The amendment will only involve lands that are inside the city limits and will not affect lands which allow for commercial forestry or lawful uses occurring on lands outside the city limits. Therefore, this Goal and implementing administrative rules are not applicable to the proposed zone code amendment.

Goal 5 – Natural Resources: The intent of the Natural Resources Goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The city has a local wetland inventory to identify sites within the city limits where wetland soils may be present. The city has an adopted Willamette River Greenway Overlay zone aimed to protect the resources along the Willamette River. There are no identified big game habitats within the city limits of Keizer. The city established a Resource Conservation overlay zone to maintain, preserve and protect the natural features adjacent to Claggett Creek. In addition, the city has also been developing storm water regulations which will further protect water quality of the local water ways. The proposed amendment will not affect or

preclude any of the city's natural resources protection regulations nor the lawful use of any properties that are within this overlay zone. Therefore, the proposed text amendment will be consistent with this goal and with administrative rules designed to implement this goal.

Goal 6 – Air, Water and Land Quality: The intent of this goal is to protect the city's air, water and land qualities. The city provides its residents with city water from groundwater sources. The quality of the water is monitored to ensure that it complies with all state and federal water quality standards. New construction is required to be connected to the established sanitary sewer system thereby reducing the likelihood of groundwater contamination from failing on-site septic systems. The city has storm water regulations which are geared to maintain water quality in the Willamette River and other local streams. Land quality is preserved through the city's erosion control regulations and through zone code development regulations. Air quality is preserved through the city's development code regulations which limit certain types of uses in certain zones. However, primarily air quality regulations are enforced by the appropriate state agencies which govern air emission standards. The revision will comply with this goal and with the administrative rules that implement this goal.

Goal 7 – Natural Hazards: The purpose of this goal is to protect life and property from hazards resulting from flooding, steep slopes or other natural occurrences. The city has floodplain regulations that govern the placement of structures within identified 100-year floodplains within the city limits. A floodplain is the area that is adjacent to a body of water which may be subject to periodic inundation. In Keizer, these are primarily located along the Willamette River and smaller streams such as Claggett Creek. The floodplains have been mapped by the federal government. The intent of the floodplain regulations is to minimize the loss of life and property damage by preventing development, elevating structures above the flood elevation, or flood proofing structures in the floodplain. Only in the area identified as a floodway will most forms of development be prohibited. While there are some steep slopes in the northwest quadrant of the city, there are no mapped areas of steep slopes in Keizer that might warrant any special engineering. The proposed text amendment will neither impact this goal nor any administrative rules.

Goal 8 – Recreation: This goal requires the city to identify and plan for the current and future recreation needs of the residents of the city. The city has an adopted Parks and Recreation Master Plan that inventories the parks, playgrounds, and other recreational opportunities within the city limits and also plans for the city's future park and recreation needs. The proposed amendment will not have any impact on the recreational activities or uses that occur on any park land within the city. The proposed text amendment will not impact either this goal or any administrative rules that implement it.

Goal 9 – Economic Development: The intent of this goal is to ensure that the city plans for its overall economic vitality. Current employment were projected forward based on regional job growth estimates and the above target industry goals. The growth forecast calls for a total of 3,774 new jobs over the next 20 years, representing growth of 55% over current levels. The EOA estimated the need for 160 gross acres of land to accommodate the projected employment growth. The EOA shows there is a net need for commercial and institutional lands amounting to 63.3 gross acres above and beyond what the City’s remaining buildable employment lands can accommodate. The proposed text amendment will not have any adverse impact on the economic development activities or uses within the city. Therefore, the proposal is consistent with this goal.

Goal 10 – Housing: This goal requires the city to plan and provide for the housing needs of its residents. The HNA indicated that over the upcoming 20-year period, that there will be a growth in the number of households by 4,366 households which will represent a population growth of 11,833 new residents. This is consistent with Keizer’s adopted 2032 forecast. When the housing needs of the projected 2033 population is compared to the current housing supply, the analysis projects the need for 4,513 new units to house the future population. The inventory of buildable residential lands finds a current supply of 315.2 acres which are vacant, partially vacant or re-developable. These acres can hold an estimated 2,422 units. The total 20-year unit need (4,513 units) minus this remaining buildable capacity (2,422 units), leaves a remainder of 2,090 units which must be accommodated beyond the City’s remaining capacity within its current boundary. When this remaining land need is apportioned to Keizer’s residential zones, the HNA estimates a 20-year need for 267 gross acres of residential land. This is a total of 385 gross acres. The proposed amendment will have no impact on this goal.

Goal 11- Public Facilities and Services: The intent of this goal is to develop a timely, orderly and efficient arrangement of public facilities and services necessary to serve the residents of Keizer. The city provides its residents with a water system, an established street system, administrative services, and police services. Sanitary sewer service is provided by the city of Salem through an intergovernmental agreement. Fire protection services are provided by the Keizer Fire District or Marion County Fire District #1. There is sufficient capacity in the municipal water delivery system and also within the sanitary sewer treatment system to accommodate planned growth within the upcoming 20 year planning period. Education services are provided by the Salem – Keizer School District and Chemeketa Community College. The proposed text amendment will not impact any of the city’s public facilities and services and will comply with this goal and all administrative rules.

Goal 12 – Transportation: The city has an adopted Transportation System Plan that describes the city’s transportation systems. This system includes streets, transit, bike, and pedestrian systems. It inventories existing systems and contains

plans for improving these systems. The proposed text amendment will have no adverse impact on the city's transportation systems and so will not affect this goal nor any implementing rules.

Goal 13 – Energy Conservation: This goal seeks to maximize the conservation of energy. All new construction requires compliance for review to applicable energy conservation standards. The proposed zone code text amendment will have no impact this goal nor any of the implementing administrative rules.

Goal 14 – Urbanization: The intent of this goal to provide for an orderly and efficient transition from rural to urban land use. The city has an adopted Comprehensive Plan and zone code that complies with the goal. The proposed text amendment will involve land that is within the city limits and not the use of land being transitioned from rural to urbanized uses.

Goal 15 – Willamette River: This goal seeks to protect, conserve, and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River. While the Willamette River is located along the western flanks of Keizer the proposed text amendment will not impact the Willamette River. The revisions to the city's development code will have no impact on the ability of the city to regulate uses along the river or the Willamette River overlay zone regulations and so this goal is not applicable.

Goal 16 (Estuarine Resources), Goal 17 (Coastal Shorelands), Goal 18 (Beaches and Dunes), and Goal 19 Ocean Resources) govern areas along the ocean. Since Keizer is not located along the coast these goals are not applicable

In consideration of the above findings, the proposed zone code revision complies with all applicable statewide land use goals and with all applicable administrative rules which implement the relevant goal.

5. **Section 3.111.04.D - The amendment is appropriate as measured by at least one of the following criteria:**
- a. It corrects identified error(s) in the previous plan.
 - b. It represents a logical implementation of the plan.
 - c. It is mandated by changes in federal, state, or local law.
 - d. It is otherwise deemed by the council to be desirable, appropriate, and proper.

FINDINGS: The proposed revisions are directly related to enactment of recent state laws allowing for the early sales of recreational marijuana in medical marijuana facilities. While there are no Comprehensive Plan goals or policies that offer guidance, it is determined that the proposed amendment to the zone code represents a logical implementation of the Keizer Comprehensive Plan. The proposed amendment is arguably mandated by state law. The City Council has, by this adoption, determined that the text revisions are desirable, appropriate, and proper. As such, the proposal complies with this criterion.

Draft 8-15

does not include a lot or lots located within a subdivision being rented or leased for occupancy by no more than one manufactured home per lot if the subdivision was approved pursuant to this Ordinance. (5/98)

Manufactured home park or subdivision [Flood]: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale. (5/98)

Marijuana Grow Site: A Marijuana Grow Site that is registered by the Oregon Health Authority Under ORS 475.304 or applicable state law at a specific location used by a grower to produce marijuana for medical use by specific qualifying patients. (10/14)

Master Plan: A presentation showing the ultimate development lay-out of a parcel or property that is to be developed in successive stages or subdivisions. (5/98)

Mean sea level [Flood]: For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced. (5/98)

Medical Marijuana Facility or Facilities: A Medical Marijuana Facility that is registered by the Oregon Health Authority under ORS 475.300-475.346 or other applicable state law and that sells, distributes, transmits, gives, dispenses or otherwise provides Medical Marijuana to qualifying patients. (10/14) *In addition, as allowed by state law and applicable regulation only, "early sales" of recreational marijuana is permitted.**
**(THIS AMENDMENT SUNSETS ON DECEMBER 31, 2016 AND IS OF NO FORCE OR EFFECT AFTER SUCH DATE).*

Message Sign [Sign]: A sign which can change its message electronically and is designed to display various messages, including but not limited to signs displaying time and temperature. (5/98)

Multi-faced Sign [Sign]: A sign which has 2 or more identical sign faces, contained in a single sign structure. (5/98)

Multi-family Dwelling [Sign]: A residential structure or complex of structures which include 3 or more separate dwelling units, whether rented or owned by the occupants. (5/98)

Mini-Storage Warehouse: An area or areas located within an enclosed building or structure used only in connection with the storage of personal property. (5/98)



Figure 1 – Multi-Faced Sign

CITY COUNCIL MEETING: September 21, 2015

AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

**THROUGH: CHRIS EPPLEY
CITY MANAGER**

**FROM: MACHELL DEPINA
HUMAN RESOURCES DIRECTOR**

**SUBJECT: COLLECTIVE BARGAINING AGREEMENT BETWEEN THE
CITY OF KEIZER AND THE LABORERS INTERNATIONAL
UNION OF NORTH AMERICA, LOCAL 320**

The City's contract with the Laborers International Union of North America, Local 320 was scheduled to expire on June 30, 2015. City staff negotiated a new Collective Bargaining Agreement with the Laborers International Union of North America, Local 320. The Agreement is attached to the proposed Resolution.

2015 FISCAL IMPACT

The financial impact of Year 1 of this contract is within the parameters of the FY15-16 Adopted Budget. No budget adjustment is required.

Years 2 and 3 of the contract period provide for a cost of living increase that is within the parameters of the General Fund Long Range Planning Model (one Local 320 employee works in the General Fund Parks program).

RECOMMENDATION

It is recommended that the Council adopt the attached resolution authorizing the City Manager and Public Works Director to sign the Collective Bargaining Agreement between the City of Keizer, Oregon and the Laborers International Union of North America, Local 320, effective July 1, 2015 through June 30, 2018.

If you have any questions regarding this staff report, please contact me by phone at 503-856-3417 or by email at depinam@keizer.org. You may also contact Chris Eppley by phone at 503-856-3414 or by email at eppleyc@keizer.org.

Thank you.

1 CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

2
3 Resolution R2015-____

4
5
6 AUTHORIZING CITY MANAGER AND PUBLIC WORKS
7 DIRECTOR TO SIGN 2015-2018 COLLECTIVE BARGAINING
8 AGREEMENT WITH LABORERS INTERNATIONAL UNION OF
9 NORTH AMERICA, LOCAL 320

10
11
12 WHEREAS, the City Council authorized the City Manager and Public Works
13 Director to enter into a Collective Bargaining Agreement with the Laborers International
14 Union of North America, Local 320 by Resolution R2012-2266;

15 WHEREAS, such Collective Bargaining Agreement was effective from July 1,
16 2012 through June 30, 2015;

17 WHEREAS, the City desires to enter into a new Collective Bargaining Agreement
18 for the period of July 1, 2015 through June 30, 2018;

19 WHEREAS, from time-to-time amendments need to be made to the Collective
20 Bargaining Agreement to modify provisions and change job classifications as authorized
21 by the Council;

22 WHEREAS, such amendments are made with the use of Memoranda of
23 Understanding;

24 WHEREAS, Memoranda of Understanding must be authorized by the City
25 Council;

1 WHEREAS, the City Council desires to allow the City Manager and Public Works
2 Director to sign Memoranda of Understanding relating to the 2015-2018 Collective
3 Bargaining Agreement without further authorization by the City Council except for
4 amendments relating to provisions that relate to wages, benefits, budgetary matters, or
5 classification additions;

6 WHEREAS, the City Council desires to allow the City Manager and Public Works
7 Director to sign Memoranda of Understanding relating to the 2015-2018 Collective
8 Bargaining Agreement without further authorization by the City Council relating to
9 classification additions if such job classification additions have been formally approved
10 by Council;

11 NOW, THEREFORE,

12 BE IT RESOLVED by the City Council of the City of Keizer that the City Manager
13 and Public Works Director are authorized to sign the attached 2015-2018 Collective
14 Bargaining Agreement with the Laborers International Union of North America, Local
15 320.

16 BE IT FURTHER RESOLVED by the City Council of the City of Keizer that the
17 City Manager and Public Works Director are authorized to sign Memoranda of
18 Understanding relating to the 2015-2018 Collective Bargaining Agreement without
19 further Council authorization unless such Memoranda pertain to provisions that relate to
20 wages, benefits, budgetary matters, or job classification additions.

1

2 BE IT FURTHER RESOLVED by the City Council of the City of Keizer that the
3 City Manager and Public Works Director are authorized to sign Memoranda of
4 Understanding relating to the 2015-2018 Collective Bargaining Agreement without
5 further Council authorization relating to job classification additions if Council has already
6 formally approved the job classification addition.

7 BE IT FURTHER RESOLVED that this Resolution shall take effect immediately
8 upon the date of its passage.

9 PASSED this _____ day of _____, 2015.

10

11 SIGNED this _____ day of _____, 2015.

12

13

14

Mayor

15

16

17

City Recorder

COLLECTIVE BARGAINING AGREEMENT

BETWEEN

CITY OF KEIZER, OREGON

AND

**LABORERS INTERNATIONAL UNION
OF NORTH AMERICA,
LOCAL 320**

2015 - 2018

TABLE OF CONTENTS

ARTICLE 1: RECOGNITION	1
ARTICLE 2: UNION SECURITY AND CHECKOFF	1
ARTICLE 3: MANAGEMENT RIGHTS	2
ARTICLE 4: STRIKES AND LOCKOUTS	3
ARTICLE 5: HOLIDAYS	3
ARTICLE 6: VACATIONS	4
ARTICLE 7: HOURS OF WORK	5
ARTICLE 8: SICK LEAVE	6
ARTICLE 9: OTHER PAID LEAVES OF ABSENCE	7
ARTICLE 10: UNPAID LEAVES OF ABSENCE	7
ARTICLE 11: COMPENSATION	8
ARTICLE 12: DISCIPLINE AND DISCHARGE	9
ARTICLE 13: GRIEVANCE PROCEDURE	10
ARTICLE 14: PROBATIONARY PERIOD	11
ARTICLE 15: GENERAL PROVISIONS	12
ARTICLE 16: INSURANCE AND RETIREMENT	13
ARTICLE 17: SAVINGS CLAUSE, FUNDING & WAIVER	14
ARTICLE 18: PERSONNEL RULES	14
ARTICLE 19: TERMINATION AND RECOGNITION	14

CITY OF KEIZER

PREAMBLE

This Agreement is entered into as of the by and between the CITY OF KEIZER, OREGON, hereinafter referred to as the "City" and LABORERS' INTERNATIONAL UNION OF NORTH AMERICA, LOCAL 320, affiliated with OREGON & SOUTHERN IDAHO DISTRICT COUNCIL OF LABORERS, hereinafter referred to as the "Union".

The purpose of this Agreement is to set forth the full and complete Agreement between the parties on those matters pertaining to rate of pay, hours of work, fringe benefits and other conditions of employment.

SCOPE OF AGREEMENT

This Agreement shall apply to all utility workers employed by the City of Keizer, excluding seasonal and temporary employees and supervisory and confidential employees as defined by ORS 243.650 and any additional exempt positions created by the City.

ARTICLE 1 RECOGNITION

The City recognizes the Union as the exclusive bargaining agent as certified by the Employment Relations Board for the purposes of establishing salaries, wages, hours of work and other conditions of employment for all utility workers employed by the City of Keizer Public Works Department, excluding seasonal and temporary employees and supervisory and confidential employees as defined by ORS 243.650 and any additional exempt positions created by the City. Seasonal employees are those hired for 1040 hours or less in a calendar year.

ARTICLE 2 UNION SECURITY AND CHECKOFF

Section 2.1. Membership or nonmembership in the Union shall be the individual choice of employees covered by this Agreement. However, any employee who chooses not to belong to the Union shall make a payment in lieu of dues to the Union. Such payment shall be equal to and shall in no event exceed periodic Union dues uniformly required. Should such "fair share" be declared unlawful under Oregon law by a court of competent jurisdiction, the preceding sentences shall be inoperative. It is recognized that employees covered by this Agreement may be required in the line of duty to perform duties growing out of or connected with labor disputes, which may arise within the City. The Union agrees that no disciplinary or other action will be taken by the Union against employees covered by this Agreement by reason of any such action or conduct in the line of duty.

Section 2.2. The City agrees to deduct from the paychecks of each employee who has so authorized it the regular initiation fee (for new employees) and regular monthly dues uniformly required of members of the Union or monthly "payment in lieu of dues," as the case may be. The amounts deducted shall be transmitted monthly to the Union on behalf of the employees involved. Authorization for such deduction shall be in writing, signed by the employees on forms furnished by the Union. The performance of this service is at no cost to the Union. The Union agrees to hold the City harmless against any and all claims, suits, orders or judgments brought against the City as a result of the provision for dues deductions and "fair share" deductions. While the City will not be held liable for deduction errors, it will make proper adjustments with the Union for errors as soon as it is practicable. In order for both parties to have adequate information on dues deduction, an updated list of the names of all employees in the bargaining unit will be delivered to the Union along with the monthly transmittal of the deductions.

The Union agrees to refund to the City any deductions and dues paid to it in error as soon as it is practicable. Such refunded money shall then be returned to the employee(s) as appropriate. The City agrees to provide to the Union the names of new employees within 30 days of the first day of employment of each new employee represented by this Agreement.

Section 2.3. Any employee who objects to Association dues or "fair share" payments on the basis of bona-fide religious tenets or teachings of a church or religious body of which such employee is a member or sincerely held religious beliefs in accordance with applicable law, shall not be required to make dues or "fair share" payments. Any such employee shall pay an amount of money equivalent to regular Association dues to a non-religious charity which has been mutually agreed upon by the employee affected and the Association. The employee must provide written verification of such payments to the City's Finance Department on a monthly basis.

Section 2.4. All employees covered by this Agreement shall within 30 days of employment either (1) become a member of the Union, (2) tender to the Union his/her fair share payment in lieu of dues, or (3) come to agreement with the Union on payment to a charitable organization based upon the religious grounds described in Section 2.3.

The Union assumes responsibility for repayment of monies found to be illegally deducted by the City under this Article.

ARTICLE 3 MANAGEMENT RIGHTS

The City retains all the customary, usual, and exclusive rights connected with the responsibility to manage the affairs of the Department. The City shall retain the exclusive right to exercise all the customary functions of management, including but not limited to:

1. To determine the governmental services to be rendered to the citizens of the City's service area.
2. To determine financial, budgetary, accounting and organization policies and procedures. Reimbursements that qualify under the Internal Revenue Tax Code will be taxed according to IRS regulations.
3. To oversee personnel policies, procedures and programs promulgated under any ordinance or administrative order of the City establishing personnel rules and regulations not inconsistent with any other term of the Agreement.
4. To manage and direct the workforce, including the right to:
 - ◆ To determine the methods, processes and manner of performing work;
 - ◆ To establish new positions and to determine their proper classification;
 - ◆ To determine the duties and qualifications to be assigned or required and determine job classifications;
 - ◆ To hire, promote, demote, transfer and retain employees;
 - ◆ To discipline and discharge;
 - ◆ To lay off and the right to abolish positions or reorganize departments or divisions;
 - ◆ To determine schedules of work;
 - ◆ To purchase, dispose and assign equipment or supplies; and
 - ◆ To contract or subcontract any work.

This article shall not preclude the Union and the City from either (1) meeting during the period of the contract at the request of either party to discuss procedures for avoiding grievances and other problems and for generally improving relations between the parties; or (2) negotiating on any matter during the negotiation of a successor hereto. Each party shall advise the other at least seven (7) working days prior to such meeting as to the subject matter to be discussed.

The exercise of management rights, except where modified by specific provision of this Agreement or by law, is not subject to negotiation during the term of this Agreement.

ARTICLE 4 STRIKES AND LOCKOUTS

Section 4.1. The Union and the members of the bargaining unit, as individuals or as a group, will not initiate, cause, permit or participate or join any strike, work stoppage, or slowdown, picketing, or any other restriction of work at any location in the City. Employees in the bargaining unit, while acting in the course of their employment, shall not honor any picket line established in the City by the Union or by any other labor organization when called upon to cross such picket line in the line of duty. Disciplinary action, including discharge, may be taken by the City against any employee or employees engaged in a violation of this article. Such disciplinary action may be undertaken selectively at the option of the City and shall not preclude or restrict recourse to any other remedies, including an action for damages, which may be available to the City.

Section 4.2. In the event of a strike, work stoppage, slowdown, picketing, observance of a picket line or other individual choice or collective employee conduct, the Union will, upon notification, secure an immediate and orderly return to work. This obligation and the obligations set forth in Section I above shall not be affected or limited by the subject matter involved in the dispute giving rise to the stoppage or by whether such subject matter is or is not subject to the grievance procedure of the Agreement.

Section 4.3. There will be no lockout of employees in the unit by the City as a consequence of any dispute covered by the terms of this Agreement arising during the period of the Agreement.

ARTICLE 5 HOLIDAYS

Section 5.1 - Eligibility. All bargaining unit members shall receive regular compensation for each authorized holiday, except when the employee is on leave without pay. All regular part-time and job share employees' compensation shall be prorated based on the number of hours they are regularly scheduled to work.

Section 5.2 - Holidays Observed. The following holidays are considered compensable holidays:

▪ New Year's Day	January 1;
▪ Martin Luther King Jr.'s Birthday	3 rd Monday in January;
▪ President's Day	3 rd Monday in February
▪ Memorial Day	Last Monday in May
▪ Independence Day	July 4;
▪ Labor Day	1 st Monday in September
▪ Veterans' Day	November 11;
▪ Thanksgiving Day	4 th Thursday in November;
▪ Day after Thanksgiving Day	4 th Friday in November,
▪ Christmas Day	December 25;

Whenever a holiday falls on a Sunday, the following Monday shall be recognized as a holiday. If such holiday falls on a Saturday, the preceding Friday shall be recognized as a holiday. An authorized holiday that occurs during vacation or sick leave shall not be charged against such leave.

Section 5.3 - Rescheduling of a holiday. When an authorized holiday falls on an employee's regularly scheduled day off, the holiday may be subsequently rescheduled, if possible, to another day within the same pay period, or employee may be compensated in direct wages at the manager's discretion.

Section 5.4 - Personal Leave. In addition to the above authorized holidays, employees shall receive 16 hours of Personal Leave per fiscal year. Personal Leave will be granted on July 1st of each fiscal year and must be utilized by June 30th of the same fiscal year.

Personal leave may be taken in one-hour increments. Employees are to request time off with their supervisor in advance. Time off will be granted on the basis for each unit of time off requested, an equal amount of time must be given, (example: for one-hour off, one-hour advance notice must be given, two-hours off, two-hours advanced notice, etc.). Personal leave may not be carried over to the following fiscal year or credited to another type of leave. Personal leave days are not compensable and are not paid at separation.

ARTICLE 6 VACATIONS

Section 6.1 - Eligibility. All continuing full-time employees are eligible for vacation time. Continuing employees shall accrue vacation time on a monthly basis. After six months of employment, a continuing employee is eligible to take accrued vacation leave.

Section 6.2 - Accrual. The amount of vacation time an employee is entitled to earn depends upon the employee's length of service with the City. Except when a department head or City Manager determines that use of vacation leave is inappropriate, an employee shall use at least forty (40) hours of vacation leave each calendar year. Vacation leave shall accrue per month as follows:

- 10.00 hours commencing with the first month through the 48th month (1-4 years) and will be reflected on the employee's bi-weekly pay stub as 4.62 hours;
- 12.00 hours commencing with the 49th month through 108th month (5-9 years) and will be reflected on the employee's bi-weekly pay stub as 5.54 hours;
- 13.33 hours commencing with the 109th month through the 168th month (10-14 years) and will be reflected on the employee's bi-weekly pay stub as 6.15 hours;
- 16.67 hours after the 168th month (15 years and up) and will be reflected on the employee's bi-weekly pay stub as 7.70 hours.
- Part-time employees shall accrue vacation leave on a prorated basis.

Section 6.3 - Maximum Accrual. The maximum number of hours of vacation an employee may accrue is 400 hours.

Section 6.4 - Pay for Vacation. An employee may elect to cash in vacation pay with the approval of the department head, either in conjunction with or after taking forty (40) hours of vacation leave.

Section 6.5 - Effect of Holiday. When an authorized legal holiday occurs during the vacation period, that day shall be observed as a holiday and not be deducted from earned vacation leave.

Section 6.6 - Vacation Scheduling. Vacations may be taken any time during the calendar year with advance approval of the employee's supervisor and based on City needs. For vacation leave greater than three (3) days, employees must provide their supervisors with two (2) weeks written notice of their intention to take vacation leave. Requests for vacation leave less than three (3) days will be granted on the basis for each unit of time off requested, an equal amount of time must be given, (example: for one-hour off, one-hour advance notice must be given, two-hours off, two-hours advanced notice, etc.). Vacations may be taken in increments of hourly, daily, or weekly.

Section 6.7 - Concurrent Leaves. No vacation time will accrue during a period while an employee is on an unpaid leave of absence that exceeds thirty days in duration, or is receiving workers' compensation benefits.

If the leave is for a qualified FMLA or OFLA purpose, all leaves of absence shall be counted against the employee's family leave entitlement.

Section 6.8 - Effect of Separation. Employees who have not completed six months employment will not be paid for accrued vacation hours. Employees who separate from the City, either voluntarily or involuntarily, after six months of continuous employment, will be entitled to all accrued unused vacation pay calculated according to the accrual schedule.

ARTICLE 7 HOURS OF WORK

Article 7 is intended as a basis for recognizing overtime, and shall not be construed as a guarantee of hours of work per day or per week.

Section 7.1 - Regular Hours. The regular hours of work each day shall be consecutive except for interruptions for rest periods and an unpaid meal period.

Section 7.2 - Workweek. Currently, a regular work schedule normally incorporates fourteen (14) calendar days. Every reasonable effort will be made by the City to provide a regular schedule and two consecutive days off for employees involved in continuous service operations. The City may change schedules to the extent consistent with operating requirements of the City.

Section 7.3 - Hours. Currently, the two-week schedule, for the Street, Storm and Water Division workers, consists of eight nine-hour shifts and one eight-hour shift, with every other Friday off work. The schedule for the Parks Division workers currently consists of five eight-hour shifts per week. The City may change the hours of work to the extent consistent with operating requirements of the City.

In addition to the two-week schedules above, the City reserves the right to select employees to complete the annual water main flushing project based on its determination of relative skills, abilities and operational needs. All employees selected for this project will be reassigned to a night shift, with starting and quitting times to be designated by the City for the duration of the project. No employee will be scheduled to work their normal day shift schedule in addition to their night shift. In the event any employee assigned to the project is absent or otherwise unavailable to perform required project work, the City reserves the right to designate alternate workers to complete the project.

Section 7.4 - Work Schedules. All employees shall be scheduled to work on a regular shift, and each shift shall have regular starting and quitting times. Except for emergency situations, as set by the City and during the duration of the emergency, work schedules for any work shift shall not be changed unless the changes are posted. Work schedules will be posted as soon as practical.

Section 7.5 - Duty Hours. All employees will be required to complete a 7-day duty shift beginning at 5:00 p.m. Monday and ending the following Monday at 5:00 p.m.

Section 7.6 - Rest Periods. All employees shall be granted a 15-minute rest period during each half shift, except in emergency situations. Rest periods shall be taken at approximately the middle of each half-shift. Rest periods shall be taken at the jobsite at which work is being performed or at a City facility.

Section 7.7 - Meal Periods. All employees shall be granted a lunch period of not less than one-half hour for 9-hour shift days or more than one hour for 8-hour shift days, except in emergency situations. The lunch period shall be without pay, and shall be taken at approximately the middle of the work shift.

ARTICLE 8 SICK LEAVE

Section 8.1 - Eligibility. All employees shall accrue sick leave at the rate of eight (8) hours leave for each calendar month of service.

Section 8.2 - Accrual. Sick leave accrues from the date of employment and is available for use from the date of hire. Unused sick leave will be carried forward to the next year. Employees shall be entitled to unlimited sick leave accrual. Sick leave cannot be used for vacation. If an employee runs out of sick leave, any additional sick time missed will automatically be deducted from the employee's available accrued leave. If no leave is available, the leave will be without pay.

Section 8.3 - Donation of Sick and Vacation Leave. An employee may donate up to 40 hours of unused sick leave or vacation leave per calendar year to a donated leave bank administered by the City as long as they maintain at least 40 hours in both their sick and vacation leave banks on an ongoing basis. To be eligible to apply for donated leave, an employee must:

1. have a serious illness or medical condition or be caring for a family member with a serious illness or medical condition that requires a prolonged absence from work (anticipate to be absent from work at least two weeks beyond exhaustion of all leave banks);
2. have exhausted all sick leave, compensatory time, vacation, and holiday time; and
3. not be eligible for disability benefits under PERS or the City's long term disability benefits prior to receipt of any donated sick leave.

Applications for donated leave must be made to Human Resources, in writing, and must describe the serious illness or medical condition necessitating the leave. All applications for donated leave must be approved by the City in advance. Donated sick leave will be based on a two (2) hours for one (1) hour (2:1) exchange. Donated vacation leave will be based on a one (1) hour for one (1) hour (1:1) exchange. Donations will be made without regard to differences in pay rate between the employee donating and the employee receiving the donation and will be paid out at the receiving employee's normal rate of pay.

Employees do not accrue sick leave, vacation pay or other benefits during the time they are on donated leave. Donated time cannot be used to extend the employment of an employee who will not be returning to work.

Section 8.4 - Sick Leave upon Separation. No payment for accrued sick leave will be paid upon separation.

Section 8.5 - Retirement. Upon retirement of an employee, fifty percent (50%) of unused sick leave shall be credited toward retirement benefits.

Section 8.6 - Sick Leave without Pay. Upon written application, a leave of absence without pay for non-job related medical reasons may be granted by the City Manager for the remaining period of disability after earned sick leave and other accrued leaves have been exhausted. At the end of one year, an extension must be requested in writing and approved by the City Manager, who may require that the employee submit a certificate from the attending physician.

Section 8.7 - Procedure. Employees are expected to call their immediate supervisor on each occasion of absence from work stating the reason for his/her absence as soon as practically possible. The City may require a written statement from a physician after three days absence. A physician's release will be required when the City has reason to believe the employee's return to work would present a health hazard to either the employee or coworkers in their work place.

ARTICLE 9 OTHER PAID LEAVES OF ABSENCE

Section 9.1 - Jury Duty. Employees shall be granted leave with pay for serving on a jury. Upon being excused from jury service for any reason an employee shall immediately contact the department head or the immediate supervisor for work assignment for the remainder of his regular workday. Employees shall tender to the City any jury duty pay.

Section 9.2 - Required Court Appearances. Leave of absence with pay shall be granted for attendance in any court in connection with an employee's officially assigned duties, provided that the requirement to appear in court in as a result of a subpoena filed with the City. The period of such authorized absence shall include the time required for travel (to the court and return to the employee's work site or The City of Keizer), whichever is appropriate. This provision does not apply in any case where the Union or the employee is a complainant in a case against the City.

Section 9.3 - Military Leave With Pay. A full time employee who has completed his required period of probation and who is a member of the Oregon National Guard or of any reserve component of the Armed Forces of the United States, is entitled to a leave of absence with pay from the duties for a period not exceeding 15 calendar days in any single calendar year. Such leave shall be granted without loss of pay and without impairment of other benefits to which he is entitled, except that such leave shall not be construed as official City business. Military leave with pay may be granted only when an employee receives bona fide military orders to active duty for a temporary period. A copy of the appropriate military orders must be furnished to the City when the employee receives same in order for the City to make whatever shift scheduling will be required during the affected employee's absence. Any employee on military leave with pay shall not be paid for such leave by the City unless the employee returns to his position with the City immediately following expiration of the period for which he was ordered to temporary active duty. Leave with pay shall not be granted to employees entering the military service for extended and indefinite periods of active duty.

Section 9.4 - Bereavement Leave. All employees in the bargaining unit will be entitled to the same bereavement leave benefits as the unrepresented employees as offered and changed by the City. For purposes of this section, the immediate family includes: Mother, Father, Son, Daughter, Sibling, Husband, Wife, Mother-in-law, Father-in-law, Sister-in-law, Brother-in-law, Grandparent and Grandchild. It also includes domestic partners, as defined in City Policy as well as the Mother, Father, Son, Daughter, Siblings, Grandparents and Grandchildren of such domestic partners.

ARTICLE 10 UNPAID LEAVES OF ABSENCE

A regular employee may be granted a leave of absence without pay up to thirty (30) days when, in the judgment of the City, the work of the department will not be seriously handicapped. Requests for such leave must be in writing and establish reasonable justification for the leave and the beginning and ending time of the leave. An employee's position will be held open until the ending time approved in the leave request subject to the operational needs of the City.

ARTICLE 11 COMPENSATION

Section 11.1. The City agrees to pay bargaining unit members during the term of this Agreement as per the City of Keizer Pay Matrix.

- A. The City Council recognizes that fluctuations in the state's economy will affect the market value of salaries. The Pay Matrix shall automatically be amended each year of this Agreement in July as follows:
1. Effective July 1, 2015 through June 30, 2016, pay shall be increased by 2.0%.
 2. Effective July 2, 2016 through June 30, 2017, pay shall be increased by 2.0%.
 3. Effective July 1, 2017 through June 30, 2018, pay shall be increased by 2.0%, unless the reopener is triggered pursuant to Section 16.4 of this Agreement.
- B. Salary survey for all classifications will be completed and available in conjunction with contract negotiations, unless otherwise agreed to by both parties at commencement of bargaining.
- C. An employee is eligible to receive a Spanish language differential of 5.0 %. Such differential is available if the employee is required to acquire this skill or if the City Manager determines that the second language is of benefit to the City. Employee must be fluent in the language as determined by the City based on a standard and testing program approved by the City.
- D. **ADVANCED CERTIFICATION.** Upon submittal of evidence that the employee has received certification above their level of classification and approved by management, the employee shall receive an additional fifty-five (55) cents per hour over and above their hourly base pay for holding one certification above their level of classification. This pay shall cease when and if the employee moves into a higher Municipal Utility Worker classification.

Section 11.2. Employees shall be reimbursed for non-voluntary official use of an employee's personal automobile at the current IRS rate. The employee must obtain prior authorization before using their personal automobile for official City business. The employee shall provide an official City Reimbursement Request Form to the City prior to payment of reimbursement.

Section 11.3 - Reading the Pumps. Employees assigned to read the pumps on weekends and holidays will be paid three hours of overtime.

Section 11.4 - Callback. Callback is defined as hours a full-time employee is called back to work. Overtime will be paid for a minimum of two hours on a callback. Because of the possibility of multiple calls in a short period of time, the following is offered as a clarification of the two-hour minimum.

- If the call takes, for example, 1.5 hours to complete, the employee will be paid for 2 hours.
- If, while the employee is in the first two hours of the callback, additional calls are received and are completed within the two hours, the employee will be paid for two hours.
- If the call(s) in the first two hours of the callback takes over two hours to complete, then the employee will be paid for the number of hours worked, rounded up to the next whole hour. For example: for work over two hours, but less than three hours, the employee will be paid for three hours; for work over three hours, but less than four hours, the employee will be paid for four hours; and so on.

Section 11.5 - On-Call Duty Pay. Any employee assigned by his supervisor to be On-Call Duty time, after regular business hours, shall be compensated at the rate of \$300 for the 7 day period of On-Call Duty. Scheduled On-Call Duty means that the employee will be required to respond to "pager calls" for work situations requiring the assigned employee's immediate attention.

Section 11.6 - Emergency Callback. Staff who are not on regularly scheduled On-Call Duty and are called back to work after their regular scheduled shift day ends will be compensated at the rate of one and one-half times the regular rate of pay for a minimum two (2) hours.

Section 11.7 - Water Main Flushing Project Pay. All employees assigned to the project will be paid a premium of two dollars (\$2.00) per hour for all work performed on the project. In addition, the City will designate a lead worker for the project. The lead worker shall be paid the two dollars (\$2.00) premium, plus five percent (5%) out-of-classification pay computed on the total of his/her regular rate and the two dollar (\$2.00) premium.

Section 11.8 - Overtime.

1. Except as provided for herein, employees shall be compensated at the rate of one and one-half times the regular rate of pay under the following conditions, but in no event shall such overtime compensation be received twice for the same hours:
 - a. All assigned hours worked in excess of nine (9) hours per day in a five day work week, or eight (8) hours per day on the ninth day of the two week schedule, for the Street, Water and Stormwater Division employees, or eight (8) hours per day for the Park Division employees (authorized meal times shall not be counted);
 - b. All hours worked in excess of 80 hours in a two-week period.
2. Employees may accumulate compensatory time in lieu of overtime at the rate of one and one-half times the amount of actual time worked in excess of their regular hours and will be entitled to take said time off from work. A maximum of 60 hours may be accumulated, with no time limit on when this time must be used. Any amount accumulated over 60 hours will be paid to the employee on the next regular pay period.
3. All work in excess of the regularly scheduled shift shall be paid at the overtime rate of 1.5 times the regular rate of pay for overtime hours worked.

Section 11.9 - Form of Compensation. Compensation for authorized overtime, callback, and all holiday work may be paid or accrued as compensation time at the discretion of the City. All overtime must have prior approval of the department head or designated supervisor.

ARTICLE 12 DISCIPLINE AND DISCHARGE

All employees will be subject to the "Standards of Conduct" set forth in the City Personnel Policy Manual. The City may impose disciplinary action including but not limited to oral reprimand, written reprimand, demotion, discipline or discharge based on the circumstances of the incident. No regular employee shall be suspended, demoted, or discharged except for cause, nor shall any such employee be suspended, demoted, or discharged arbitrarily. Any discipline action imposed on any bargaining unit employee may be appealed only through the grievance procedure set forth in Article 13 of this Agreement.

ARTICLE 13 GRIEVANCE PROCEDURE

Section 13.1. Any grievance or dispute, which may arise between the parties concerning the application, meaning, interpretation or enforcement of this Agreement, shall be resolved in the following manner and sequence. The grievant may be represented by the Union at each step of this procedure.

Step 1. The affected employee shall first attempt to resolve the dispute informally with the employee's immediate supervisor within seventy-two (72) hours of its occurrence excluding Saturday and Sunday. The immediate supervisor shall then attempt to resolve the matter within ten (10) working days of their discussion with the employee.

Step 2. If the grievance has not been settled between the affected employee and the immediate supervisor, the employee shall present the grievance in writing to the Director of Public Works within ten (10) working days, following the supervisor's response. At this and each subsequent step of the grievance procedure, the written grievance submitted by the employee/Union shall include:

- (a) a statement of the grievance and the factual allegations upon which it is based;
- (b) the Article and Section(s) of this Agreement alleged to have been violated;
- (c) the remedy sought;
- (d) the name and signature of the individual(s) submitting the grievance or the signature of an authorized union representative in the event the grievance is filed on behalf of an employee(s); and
- (e) The date the informal discussion occurred with the immediate supervisor.

Within ten (10) days of receipt of the grievance, the Director of Public Works will schedule a meeting to discuss the dispute with the grievant/Union and such meeting shall occur within thirty (30) days of the Director's receipt of the grievance. The Director of Public Works shall render a written decision within ten (10) days following the herein-referenced meeting.

Step 3. If the grievance has not been settled between the affected employee/Union and the Department Head, the employee/Union shall present the grievance in writing to the City Manager within ten (10) working days, following the Department Head's response.

Within ten (10) days of receipt of the grievance, the City Manager will schedule a meeting to discuss the dispute with the grievant/Union and such meeting shall occur within thirty (30) days of the City Manager's receipt of the grievance. The City Manager shall render a written decision within ten (10) days following the referenced meeting.

Step 4. If the grievance is not resolved at Step 3, the City and the Union, by mutual agreement, may move to an optional step of a Labor/Management Committee. If this option is not selected within ten (10) days from the issuance of the Step 3 decision by the City Manager, the parties shall automatically proceed to Step 5, below. The Labor/Management Committee shall consist of two representatives appointed by the Union and two representatives appointed by the City. None of the representatives shall be directly involved in the dispute. The Labor/Management Committee shall hear the matter at a mutually convenient time and it shall issue a written decision within two days after hearing the matter. The majority of the Labor/Management Committee shall determine the decision and the decision will be final and binding on all parties. Each member of the Labor/Management Committee shall be entitled to one vote. In the event that the Labor/Management Committee is deadlocked, that result will be noted in writing and the grievance will be deemed to have been denied, allowing the parties to proceed to Step 5.

Step 5. If the grievance is not resolved at Step 4 above and if the Union wishes to pursue the grievance further, the Union shall file a written notice of intent to arbitrate the grievance with the City within fifteen (15) calendar days of the date the decision of the City Manager was received, not including the date of receipt. The parties shall request a list of seven (7) Oregon and Washington arbitrators from the Employment Relations Board. If the parties cannot mutually agree to an arbitrator, they will alternately strike names and the last one will be the arbitrator.

Section 13.2. The powers of the arbitrator shall be limited to interpreting this contract and to determine if it has been violated. The arbitrator shall have no power to alter, modify, add to, subtract, or detract from the terms of this contract. The arbitrator shall have no authority to substitute judgment for that of the City where the City has retained the right or discretion to act. If the arbitrator is faced with a question of arbitrability at the arbitration hearing, then the arbitrator shall be obligated to first hear argument and evidence and decide that question. If the arbitrator affirmatively decides the question of arbitrability in favor of arbitration, then the arbitrator may hear argument and evidence of the merits of the grievance. If requested by either the Union or the City, the hearings for a question of arbitrability shall be held separately from any hearing on the grievance merits. Within the scope of authority granted under this contract, the decision of the arbitrator shall be binding upon both parties to this contract. The selected arbitrator shall render a decision within thirty (30) calendar days after the close of the hearing. The costs of the arbitrator shall be borne equally by the Union and the City. Each party shall be responsible for costs of presenting its own case to arbitration. Should arbitration be canceled due to a settlement, the parties will split equally any cancellation fees.

Section 13.3. If at any step of the grievance procedure the grievant fails to comply with the time limits or procedures set forth in this Article, the grievance shall be deemed abandoned and nonarbitrable. If at any step of the grievance procedures the City fails to issue a response within the time limits set forth in this Article, the grievance will be deemed to be denied and the grievant and the Union may proceed to the next step of the procedure. Time limits referred to in this Article may be waived or extended by mutual Agreement in writing.

Section 13.4. An authorized Union representative and employee(s) who are directly involved in a particular grievance shall be allowed to attend meetings with representatives of the City without loss of regular pay if such meetings occur during their respective duty periods. The Union shall advise the City as to which employee(s) will attend such meeting. It shall be the responsibility of each individual employee to provide advance notice of the meeting to the immediate supervisor.

ARTICLE 14 PROBATIONARY PERIOD

Section 14.1- Purpose. The probationary period is an integral part of the employee's selection process and provides the City with the opportunity to upgrade and improve the department by observing a new employee's work and training, by aiding new employees in adjustment to their positions and by providing an opportunity to reject the employee.

Every new employee hired into the bargaining unit shall serve a probationary period of twelve (12) full months, after which the employee shall be considered a regular employee and granted seniority back to the date of the most recent date of hiring. The Union recognizes the right of the City to terminate probationary employees for any reason. Termination of a probationary employee shall not be subject to the grievance procedure under Article 13.

Section 14.2 - Allocation of Probationary Period. The Union recognizes the right of the City to exercise all functions not specifically modified by this Article with respect to probationary employees, including but not limited to, the shifting of work schedules and job classifications, the assignment of on-the-job training, cross-training or other classifications, the requirement that such employees attend training programs on their off-duty.

Section 14.3 - Promotional Probationary Period. Regular full time employees promoted into a higher classification shall serve a promotional probationary period of twelve (12) months. The Union also recognizes the right of the City to demote an employee on promotional probationary status to the previous classification for any reason, without prejudice to the City's position that demotion of a probationary employee to the employee's previous classification is a right which may be exercised at the option of the City. Demotion of an employee on promotional probationary status shall not be subject to the grievance procedure.

ARTICLE 15 GENERAL PROVISIONS

Section 15.1 - Gender. All references to employees in this Agreement shall designate both sexes, and wherever the male gender is used, it shall be construed to include the female gender.

Section 15.2 - Bulletin Boards. The City agrees to allow wall space, not to exceed three (3) feet by four (4) feet, for a bulletin board within the Public Works Shop area to be used exclusively by the Union. The Union shall limit its postings of notices and bulletins to such spaces on the bulletin board. The City may limit this privilege if in its judgment such postings reflect discredit upon the City or its agents.

Section 15.3 - Nondiscrimination/Employee Rights. The City agrees to post on the bulletin board described in Section 15.2, the rights of employees to be free from discrimination based upon protected classifications and the rights of the employees to form, join, and participate in activities of a labor organization.

Section 15.4 - Seniority. Seniority shall be the employee's length of continuous service within the bargaining unit dating from the last date of hire. Seniority shall be broken or terminated if any employee quits, is discharged for cause, is laid off and fails to report to work within three days after being recalled or voluntarily waives an opportunity to return to work from lay off, is laid off from work for any reason for more than nine months (except that in the case of an industrial accident and employee's seniority rights shall continue for only one year), while on leave of absence, accepts another employment without permission, or is retired.

Section 15.5 - Union Representative. Authorized representatives of the Union shall be allowed reasonable access to members of the bargaining unit during normal City business hours so long as there is no interruption of the City's work and so long as the employees are on an authorized break period or lunch period. The Union's representatives are expected to announce their presence to a supervisory employee of the City. No Union representative shall contact a bargaining unit member while on duty without the express, prior approval of the City. In addition, the Union's representatives shall be allowed reasonable access to the City's conference rooms, when they are not otherwise in use by the City, for a place to meet with bargaining unit members before or after the normal workday. Special exceptions to these restrictions may be granted at the discretion of the City.

Section 15.6 - Layoff and Recall.

1. Layoff: In the event a reduction in personnel is determined to be necessary by the City, length of service shall be the determining factor in such layoff, providing the skill, competency, ability and past performance of employees are substantially equal in the opinion of the City.

2. Recall: In the event a recall is determined to be necessary to the City, length of service shall be the determining factor in such recall providing the skill, competency, ability and past performance of employees are substantially equal in the opinion of the City. An employee's refusal to accept an offered position from layoff obviates the City's responsibility to make further offers. For the purposes of recalling employees, notice of recall from a layoff period exceeding five regular City work days shall be by certified mail, return receipt requested, sent to the employee at his last known address of record as furnished by the employee to the City. For layoff periods of less than five days, a personal visit by a City representative or a telephone call will suffice.

Section 15.7 - Outside Employment. Employees shall not accept outside employment that will interfere with their employment with the City.

Section 15.8 - Authorized Travel, Training and Conference Attendance. All employees in the bargaining unit will adhere to the same Travel Policy as provided to the unrepresented employees of the City. The City shall pay the tuition and instructional material costs for any employee required by the City to attend a course of instruction.

The City will pay for any special certifications and exams required by the City that pertains to their work.

Section 15.9 - Clothing. Where the City presently furnishes protective and/or work clothing, it shall continue such practice. Each employee shall receive a clothing allowance of \$400 at the beginning of each fiscal year (July 1). Employees will be required to launder and maintain uniforms. Uniforms must be worn whenever an employee is on duty. Required protective clothing will be provided.

Section 15.10 -Personal Use of Cellular Telephones. All employees in the bargaining unit will adhere to the same Computers, Telecommunication Devices and Other Electronic Equipment Policy as provided to the unrepresented employees of the City.

ARTICLE 16 INSURANCE AND RETIREMENT

The City agrees to provide a contribution to a package of employee benefits program for all employees covered under this Agreement.

Section 16.1 - Insurance.

Effective July 01, 2015, the City will pay ninety-five percent (95%) of the premium to provide medical and dental insurance coverage for full-time employees who are participating in the City's current Health Net Plan #101097 and Guardian Dental Plan. Employees participating in those plans shall be responsible for paying the remaining five (5%) percent of the premium, irrespective of level of coverage. Employees who elect to be covered by lower cost medical and/or dental plans made available by the City shall receive contributions from the City up to the same amount as required for employees participating in Health Net Plan #101097 and Guardian Dental Plan as stated above. Any premium costs in excess of that amount shall be the employee's responsibility.

For regular part-time employees, the City will split the cost of employee-only medical and dental insurance using the same 95%/5% split as describe above.

All employee contributions shall be paid through payroll deductions.

The City will continue to provide an IRC Section 125 flexible spending account plan.

This Section shall be automatically be reopened in the event the excise tax will be triggered or potentially triggered, in accordance with Article 19 of this Agreement.

Section 16.2. The City will pay the full premium, for the long-term disability insurance program covering employees in high-risk positions (municipal utility workers). The City will pay the full premium for the \$60,000 life insurance benefit for all regular full-time members of the bargaining unit.

Section 16.3 - Retirement. All employees in the bargaining unit will be afforded the same retirement plan options as are provided to the unrepresented employees of the City.

ARTICLE 17 SAVINGS CLAUSE, FUNDING & WAIVER

Section 17.1 - Savings Clause. Should any portion of this Agreement be declared invalid by any court of competent jurisdiction or any agency of the state acting under specific authority of statute, all other provisions of this Agreement shall remain in full force and effect for the duration of this Agreement. It is the intent of the parties that this Agreement shall stand notwithstanding the invalidity of any part.

Section 17.2 - Funding. The parties recognize the revenue needed to fund pay and benefits provided by this Agreement must be approved by established budget procedures and, in certain circumstances, by vote of the citizens of the City. All such pay and benefits are therefore contingent upon sources of revenue and, where applicable, voter budget approval. The City has no intention of cutting pay rates and benefits specified in this Agreement because of budgetary limitations, but it cannot and does not guarantee any level of employment in the bargaining unit covered by this Agreement. The City agrees to include in its budget request(s) amounts sufficient to fund the pay and benefits provided by this Agreement, but it makes no guarantee as to passage of such budget requests or voter approval thereof and City action thereunder shall not be subject to the grievance procedure.

Section 17.3 - Waiver. The parties acknowledge that during the negotiations which resulted in this Agreement, each had the unlimited right and opportunity to make demands and proposals with respect to any subject or matter appropriate for collective bargaining, and that the understandings and agreements arrived at by the parties after the exercise of that right and opportunity are set forth in this Agreement. Therefore, the City and the Union, for the life of this Agreement, each voluntarily and unqualifiedly waives the right and each agrees that the other shall not be obligated to bargain collectively with respect to any subject or matter, even though such subjects or matters may not have been within the knowledge or contemplation of either or both of the parties at the time they negotiated or signed this agreement. All terms and conditions of employment not covered by this Agreement shall continue to be subject to the City's direction and control.

ARTICLE 18 PERSONNEL RULES

The Union agrees to accept the personnel rules and regulations adopted by the City. It is expressly understood that in the event of any conflict between the collective bargaining agreement and the personnel rules, the Agreement shall prevail; provided, however, that every effort shall be made to carry out the purposes of this agreement and the City Personnel Policy Manual.

ARTICLE 19 TERMINATION AND RECOGNITION

Section 19.1 - Length of Contract. Except as set forth in Section 16.4 above, this Agreement shall commence on July 01, 2015 and shall remain in full force and effect until the 30th day of June, 2018.

Either party to this agreement may initiate negotiation for renewal, amendment and or revision of this agreement ninety (90) days prior to termination of this agreement.

Section 19.2 – Insurance Re-opener. In the event the insurance and insurance benefits provided under this Agreement trigger the excise (“Cadillac”) tax under the Affordable Care Act or there is any potential that the tax will be triggered, the parties agree to automatically reopen Sections 11.1.A.3 and 16.1 of this Agreement no later than January 1, 2017.

Section 19.3 - Mutual Reopeners. Any specified Article or Articles of this Agreement may be opened at any time upon mutual written agreement of both the City and the Union during the life of the Agreement.

COUNCIL MEETING: September 21, 2015

AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

**THROUGH: Chris Eppley, City Manager
Susan Gahlsdorf, Finance Director**

**FROM: Tim Wood
Assistant Controller**

SUBJECT: Authorization to enter into a five year agreement with Ricoh for the lease of a two photocopy machines.

BACKGROUND: The City entered into two separate four year agreements with Ricoh in 2011 for the lease of two photocopy machines. The agreements are set to expire in October and November 2015.

ISSUE: Upon expiration of these agreements the City can:

1. Continue to lease the existing photocopy machines on a month to month basis for \$314.33 per month,
2. Enter into a five year agreement to lease new photocopy machines for \$287.10 per month using a state negotiated contract,
3. Purchase a new photocopy machines for approximately \$13,100 financed through an interfund loan with a repayment period not to exceed three years.

If the City were to purchase new photocopy machines the overall expense in comparison to the monthly lease fee would be lower however the City would be responsible for additional charges to repair the machine if it were to break.

In addition if the photocopy machine reached a point that it could not be repaired the City would be forced to purchase a new machine however if the City leased the machine a new machine would be provided at no additional cost. In the past the City has had leased copy machines that that needed to be replaced as they could no longer be repaired so the leasing option has been the most cost effective over the long term.

FISCAL IMPACT: The copiers will cost \$287.10 a month or \$3,445.20 a year. This expense is covered by existing budget appropriation.

RECOMMENDATION: Staff recommends the City Council authorize the City Manager to enter into a five year agreement with Ricoh to lease two photocopy machines.

1 CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

2
3 Resolution R2015-____

4
5
6 AUTHORIZING THE CITY MANAGER TO ENTER INTO LEASE
7 AGREEMENT WITH RICOH USA INC FOR UTILITY BILLING AND
8 PRIMARY CITY COPIER
9

10
11 WHEREAS, the City of Keizer has been utilizing a leasing program for copier machines for
12 the last few years;

13 WHEREAS, the copier lease for Utility Billing is at the end of its four-year agreement with
14 Ricoh USA Inc;

15 WHEREAS, the copier lease for the primary City copier is at the end of its four-year
16 agreement with Ricoh USA Inc;

17 WHEREAS, the City has determined procurement through the Oregon Cooperative
18 Procurement Program (ORCPP) provided the best price of \$287.10 per month from Ricoh USA Inc.;

19 WHEREAS, State of Oregon Contract No. 5566 authorizes ORCPP participants to use
20 Contract No. 3091 to lease copiers from Ricoh USA Inc. by issuance of a Purchase Order;

21 WHEREAS, the lease has been included in the approved 2015-2016 fiscal year budget and
22 will be included in upcoming fiscal year budgets until the termination date;

23 NOW, THEREFORE,

24 BE IT RESOLVED by the City Council of the City of Keizer that the City Manager is hereby
25 authorized to sign the Purchase Order for a five-year lease agreement with Ricoh USA Inc. as outlined
26 on the attached Purchase Order.
27

BE IT FURTHER RESOLVED that this Resolution shall take effect immediately upon the date of its passage.

PASSED this _____ day of _____, 2015.

SIGNED this _____ day of _____, 2015.

Mayor

City Recorder



City of Keizer

P.O. Box 21000
Keizer, Oregon 97307-1000
Phone: 503-390-3700

Purchase Order
Number

Ricoh 9-21-2015

TO
Ricoh Americas Corporation

PO Box 100345

Pasadena, CA 91189

SHIP TO/BILL TO
City of Keizer

930 Chemawa Rd NE

Keizer, OR 97303

PLEASE ENTER OUR ORDER FOR THE FOLLOWING:

THIS LEASE OR PURCHASE IS PLACED AGAINST THE NASPO VP MASTER AGREEMENT #3091. THE TERMS AND CONDITIONS OF THE PARTICIPATING ADDENDUM ENTERED INTO BY THE STATE OF OREGON, #5566 APPLY TO THIS LEASE OR PURCHASE AND SUPERSEDE ALL ADDITIONAL OR CONFLICTING TERMS AND CONDITIONS, EXPRESSED OR IMPLIED.

1. Master Lease Agreement and Schedule
2. Maintenance Agreement
3. Contract
 - 60 Month Lease
 - Monthly Lease Payment: \$287.10
 - MPC5503 Cost per copy rate: \$0.0082 per B/W & \$0.0500 per Color page
 - MP301SPF Cost per copy rate: \$ 0.0107 per B/W page
 - 0 included B/W & Color Impressions
 - Itemized list:
 - (1) Ricoh MPC5503
 - (1) LCIT PB3230
 - (1) BU3070 Bridge Unit
 - (1) SR3160 Finisher
 - (1) PU3060 Punch Unit
 - (1) Ricoh MP301SPF
 - (1) Removal of MPC5501A Serial# V9615900138
 - (1) Removal of MP201SPF Serial# W3019306264

Customer Contact: Tim Wood, 503-856-3413, woodt@keizer.org

Christopher C Eppley

PURCHASING AGENT