RESOLUTION NO. 5358-18

A RESOLUTION GRANTING A CONDITIONAL USE PERMIT WITH CONDITIONS FOR FIRE STATION USE IN THE LIGHT MANUFACTURING (ML) PLANNING DISTRICT ON LAND ADJACENT TO 7100 SW MCEWAN ROAD (TAX MAP 2S1 13DD, TAX LOT 1601) (CUP-17-0002).

WHEREAS, Tualatin Valley Fire & Rescue (TVF&R) submitted an application with the City for a conditional use permit, for property located adjacent to 7100 SW McEwen Road, Tualatin, Oregon, 97062 (Tax Map 2S1 13DD, Tax Lot 1601);

WHEREAS, the Council held a quasi-judicial public hearing on April 9, 2018 to consider the application;

WHEREAS, notice of public hearing was given as required by the Tualatin Development Code 31.064;

WHEREAS, the Council heard and considered the testimony and evidence presented on behalf of the applicant, the City staff, and those appearing at the public hearing; and

WHEREAS, after the conclusion of the public hearing the Council voted to approve the application (with conditions).

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. Findings. The Council adopts the findings which are attached as Exhibit A, and incorporated by reference.

Section 2. Conditions. The Conditional Use Permit (CUP-17-0002) for Tualatin Valley Fire & Rescue (TVF&R), which is attached as Exhibit B and incorporated by reference, is approved with the following conditions:

A. The approval of Conditional Use Permit 17-0002 does not approve any site redevelopment or exterior building modifications, and the applicant shall obtain approval from the City for any site or exterior modifications, pursuant to TDC 73.040(1) and TDC 73.100(1) and (2).

B. The applicant shall operate the use consistent with all application materials submitted to the City dated December 2017 (City stamp reads December 8, 2017).

C. The applicant shall comply with the noise standards in TDC 60.085.

D. The applicant shall—separately from the CUP—submit any sign permit applications pursuant to and in compliance with TDC Chapter 38.

E. The approval period shall be pursuant to TDC 32.090 Automatic Termination of Conditional Use as reproduced:

(1) Unless otherwise provided by the Council in the resolution granting approval of the conditional use permit, a conditional use permit shall automatically become null and void two years after the effective date upon which it was granted unless one of the following events occur:

(a) The applicant or his successor in interest has secured a building permit within said two-year period, if a building permit is required, and has actually commenced construction of the building or structure authorized by the permit within said two-year period.

(b) The applicant or his successor in interest has commenced the activity or installation of the facility or structure authorized by the conditional use permit within said two-year period.

(2) The applicant may submit a written request to the City Council for an extension of time on the conditional use permit to avoid the permit's becoming null and void. The request for extension must be submitted prior to the expiration of the times established by Subsection (1) above. The City Council may, in the resolution granting such conditional use permit, provide for an extension of time beyond 1 year.

F. The applicant shall comply with all applicable TDC policies and regulations.

Section 3. This resolution is effective upon adoption.

Adopted by the City Council this 23rd. day of April, 2018.

CITY OF TUALATIN, OREGON

BY _____
Mayor

APPROVED AS TO FORM:

BY _____
City Attorney

ATTEST:

BY _____
City Recorder

Exhibit A to
Resolution No. 5358-18

TVF&R USE FOR NEW FIRE STATION 39

CONDITIONAL USE PERMIT APPLICATION (CUP-17-0002)

ANALYSIS AND FINDINGS

The issue before the City Council is consideration of a conditional use permit for a fire station use (Station 39) operated by Tualatin Valley Fire & Rescue (TVF&R) adjacent to 7100 SW McEwan Road (Tax Map 2S1 13DD, Tax Lot 1601).

In order to grant the proposed Conditional Use Permit, the request must meet the approval criteria of Tualatin Development Code (TDC) Section 32.030. The applicant prepared a narrative that addresses the criteria, which is within the application materials (Attachment B), and staff has reviewed this and other application materials and included pertinent excerpts below.

The following materials and descriptions are based largely on the applicant's narrative; staff has made some minor edits. Staff comments, findings, and conditions of approval are in Italic font.

(1) The use is listed as a conditional use in the underlying planning district.

Applicant Response: Station 39 is located in the ML zoning district. As noted in TDC Section 60.040(1)(f), a Fire Station is permitted in the ML zone as a Conditional Use.

Staff finds that Criterion 1 is met.

(2) The characteristics of the site are suitable for the proposed use, considering size, shape, location, topography, existence of improvements, and natural features.

Applicant Response:

Size: The site characteristics are compatible with other TVF&R stations throughout the District. The site size (1.16 acres) is consistent with comparable TVF&R stations and can accommodate the building program for Station 39.

Staff finds that the site size is suitable for the use.

Shape: *The applicant did not provide a response specific to the shape of the property. The site is generally rectangular. The applicant has provided a conceptual site plans to show that the proposed use could be accommodated on the property.*

Location: TVF&R has identified the location as an appropriate location to meet required service response standards and needs of the District. It's location near Interstate 5 will provide quick response to incidents on the freeway as well as quick emergency response to the surrounding community. TVF&R's Station 34 is located in the City of Tualatin but is on the westside of Interstate 5 just off Tualatin Sherwood Road (19365 SW 90th Court). Station 39's location on the eastside of Interstate 5 will significantly enhance response times for emergency services, making this location very suitable for the proposed use.

Staff finds that the location is suitable for the use. The property is located in an industrial area and surrounded by a storage facility and medical office uses, which are compatible with the proposed fire station use.

Topography:	There are no topographic or natural features on the site that will impact construction of the Station 39. *Staff finds that the topography is suitable for the proposed use.*
Improvements:	*The applicant did not provide a response to the existing improvements on the site. The project site is a park-like green space within property that was formerly part of the U-Haul site and is surrounded on three sides by the remaining U-Haul business. The site features all utilities in the fully improved street that fronts the project site. Staff finds that the improvements on the site are appropriate for the proposed use.*
Natural Features:	There are no topographic or natural features on the site that will impact construction of the Station 39. *Staff finds that—with the exception of on-site landscaping that includes trees and taller shrubs—there are no natural features on the subject site and the proposed use will not affect natural features.*

As noted, the Conditional Use Permit does not authorize any construction and only analyzes the use on the site. No construction or site modifications are directly resulting from this permit. It is understood that approval of this Conditional Use Permit does not approve any site redevelopment or exterior building designs, and that after Conditional Use Permit approval is obtained, the applicant will seek approval from the City pursuant to TDC 73.040(1) and TDC 73.100 (1) and (2) for Architectural Review.

Staff finds that the following condition of approval is required to meet Criterion 2:

Condition of Approval No. 1: The approval of Conditional Use Permit 17-0002 does not approve any site redevelopment or exterior building modifications, and the applicant shall obtain approval from the City for any site or exterior designs, pursuant to TDC 73.040(1) and TDC 73.100(1) and (2).

(3) The proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use.

Applicant Response:

Transportation Systems

The construction of the proposed Station 39 is funded through General Fund and a Local Option Levy approved by District voters in 2014 to upgrade and improve the safety and operations of TVF&R's fire stations. TVF&R identified the need for a station in this location to ensure quick response times in the future as development continues in Tualatin, Lake Oswego, and Tigard. Public services are immediately available to the site. As noted in the Traffic Impact Analysis submitted with this application, Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

Access to the subject site will be from SW McEwan which is generally improved and appropriate for the use, though additional improvements may be required during the Architectural Review phase. .

Off-Street Parking

The applicant did not address parking specifically. Section 73.370 of the TDC explains how many spaces are required for specific uses. A Fire Station use is not listed. In the event that a use is not listed,

subsection 1.g explains that the Community Development Director will compare the use to other uses to determine the appropriate number of parking spaces needed. Again, the intent of this evaluation is to determine the appropriateness of the site for the proposed conditional use, a fire station; actual review of the spaces will be determined with the Architectural Review. The applicant has provided a conceptual site plan that shows parking that has been designed similar to the needs of other fire stations in the TVF&R system. The site plan suffices, for the purposes of a CUP, to demonstrate the site is suitable. Staff finds that the off-street parking conditions are suitable for the proposed use.

Public Facilities and Services

The applicant did not specifically address the public facilities available at the site. Through evaluation with the City engineering staff, it has been determined that the site has full utilities available in the fronting street except storm water. The conceptual site plan includes a detention basin for purposes of storm water, thus illustrating that the site is suitable for the use. Staff finds that the existing and proposed public facilities and services are adequate to service the proposed use.

Staff finds that Criterion 3 is met.

(4) The proposed use will not alter the character of the surrounding area in any manner, which substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying Planning District.

Applicant Response: The location of Station 39 will allow uses on the property immediately adjacent to Station 39 to continue operating and will not limit or preclude the use of surrounding property. As can be seen on the attached Station 39 site plan, TVF&R will take direct access to SW McEwan Road and will not impede or conflict with access to surrounding properties. The Traffic Impact Analysis submitted with this application indicates that Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

The site plan also notes how stormwater will be accommodated on-site and in a manner that will not impact adjacent properties. As well landscaping provided with the project will create a visual buffer between Station 39 and adjacent properties.

The emergency services use is not out of character with surrounding land uses in the ML zone. Medical offices are located across SW McEwan from Station 39. As can be seen from the building elevations submitted with this application Station 39 will be an appropriate design and will not be out of character with existing industrial and office buildings on surrounding properties.

The use (fire station) being proposed for Conditional Use approval will not alter the character of the surrounding area in any manner that substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying planning district (Light Manufacturing - ML). The new station will be constructed on a legal tax lot (2S1 13 DD TL 1601) – see Exhibit 5 in the Application Appendix. As noted, existing properties in the surrounding area are a mix of industrial, office and vehicle storage. A fire station as a use is compatible with these types of uses from an operational and design perspective.

In response to staff comments, the applicant understands their concern that the physical nature of the new tax lot may raise issues about the use of the adjacent northern triangle of the U-Haul property. The use of the northern triangle for the cell tower will not be impacted, but there will be reduced parking. However, the parking issue is being addressed separately through the land acquisition and

compensation process the District has followed to secure the property and would be present whether or not a new fire station was constructed on Tax Lot 1601. The parcel could remain vacant and fenced and the concerns staff has expressed would remain. Staff concerns about the new parcel potentially impeding use of the northern parking area is not a use compatibility issue, which is the intent of the Conditional Use review and the focus of the decision criteria. The concern that's raised would exist regardless of the use proposed or if the District was proposing nothing at all on their property.

Staff notes that the proposed use would not alter the overall character of the immediate area defined by the properties abutting the site. In looking at the design of the station, as shown in the materials submitted for the CUP, it would seem that the station would eliminate several parking spaces from the existing conditions enjoyed by U-Haul. However, it is important to understand that the loss of the spaces was the result of the condemnation of the property, not the conditional use permit.

Staff finds that Criterion 4 is met.

(5) The proposal will satisfy those objectives and policies of the Tualatin Community Plan which apply to the proposed use.

The Tualatin Community Plan, which is the City comprehensive plan, is integrated within the Tualatin Development Code (TDC) as Chapters 1-30. Based on discussions with City of Tualatin staff, the following two sections of the TDC are applicable to the proposed use:

A. Section 7.040 Manufacturing Planning District Objectives.

This section describes the purpose of each manufacturing planning district.

(2) Light Manufacturing Planning District (ML)

(a) Suitable for warehousing, wholesaling and light manufacturing processes that are not hazardous and that do not create undue amounts of noise, dust, odor, vibration, or smoke. Also suitable, with appropriate restrictions, are the retail sale of products not allowed for sale in General Commercial areas, subject to the Special Commercial Setback from arterial streets and Commercial Services Overlay as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035, and office commercial uses where any portion of a legally created lot is within 60 feet of a CO Planning District boundary. Also suitable is the retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet. Also suitable for the retail sale of home improvement materials and supplies provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035. Rail access and screened open storage allowed in these areas will conform to defined architectural, landscape and environmental design standards.

B. Chapter 60: Light Manufacturing Planning District (ML)

Section 60.010 Purpose.

> The purpose of this district is to provide areas of the City that are suitable for industrial uses and compatible with adjacent commercial and residential uses. The district serves to buffer heavy manufacturing uses from commercial and residential areas. The district is suitable for warehousing, wholesaling, and light manufacturing processes that are not hazardous and do not create undue amounts of noise, dust, odor, vibration, or smoke. The district is also suitable for retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet and, with appropriate restrictions, for retail sale of products not allowed for sale in General Commercial Planning Districts, and office commercial uses where any portion of a legally created lot is within 60 feet of a CO Planning District boundary. Railroad access and screened outdoor storage will be allowed in this district, conforming to defined architectural, landscape, and environmental design standards. In accordance with the Industrial Business Park Overlay District, TDC Chapter 69, and TDC 60.037-60.038 selected small-scale mixed uses that are supportive of and secondary to industrial uses are allowed to provide services to businesses and employees. The purpose is also to allow certain commercial service uses in the Commercial Services Overlay shown in the specific areas illustrated on Map 9-5 and selected commercial uses subject to distance restrictions from residential areas and subject to the Special Commercial Setback from arterial streets as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035.

Locating TVF&R Station 39 in the ML district is appropriate. As noted in TDC Section 60.040(1)(f), a Fire Station is permitted in the ML zone as a Conditional Use. The use is not hazardous and will not create undue amounts of noise, dust, odor, vibration, or smoke. Any noise generated will be limited. Station 39 will not require sirens to sound at or near the site. Fire personnel are not required to sound sirens when leaving the station, the lights on the apparatus normally are sufficient to stop traffic. The only time the fire apparatus operators would be required to use their sirens would be when they pass through a traffic signal. Regardless, there are no noise sensitive uses near the site.

The City's comprehensive plan is designed to promote public health, safety, and welfare. Providing opportunities for emergency services to operate within the City is a critical aspect of community health, safety, and welfare. As noted earlier, locating Station 39 at this site will allow TVF&R to achieve their emergency services response times. As well, the Traffic Impact Analysis submitted with this application indicates that Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

Staff additionally finds that Section 32.030 Criteria for Conditional uses applies. The purpose for this section states:

> *The City Council may allow a conditional use, after a hearing conducted pursuant to TDC 32.070, provided that the applicant provides evidence substantiating that all the requirements of this Code relative to the proposed use are satisfied.*

The Analysis and Findings included in this document address the five (5) identified criteria listed in Section 32.030 to aid in the City Council decision on whether or not a proposed conditional use meets applicable TDC requirements.

Staff finds that the following conditions of approval are required to meet Criterion 5:

Condition of Approval No. 2: The applicant shall operate the use consistent with all application materials submitted to the City dated December 2017 (City stamp reads December 8, 2017).

Condition of Approval No. 3: The applicant shall comply with the noise standards in TDC 60.085.

Condition of Approval No. 4: The applicant shall—separately from the CUP—submit any sign permit applications pursuant to and in compliance with TDC Chapter 38.

Condition of Approval No. 5: The approval period shall be pursuant to TDC 32.090 Automatic Termination of Conditional Use as reproduced:

(1) Unless otherwise provided by the Council in the resolution granting approval of the conditional use permit, a conditional use permit shall automatically become null and void two years after the effective date upon which it was granted unless one of the following events occur:

(a) The applicant or his successor in interest has secured a building permit within said two-year period, if a building permit is required, and has actually commenced construction of the building or structure authorized by the permit within said two-year period.

(b) The applicant or his successor in interest has commenced the activity or installation of the facility or structure authorized by the conditional use permit within said two-year period.

(2) The applicant may submit a written request to the City Council for an extension of time on the conditional use permit to avoid the permit's becoming null and void. The request for extension must be submitted prior to the expiration of the times established by Subsection (1) above. The City Council may, in the resolution granting such conditional use permit, provide for an extension of time beyond 1 year.

Condition of Approval No. 6: The applicant shall comply with all applicable TDC policies and regulations.

SUMMARY OF ANALYSIS AND FINDINGS

Based on the application materials, conditions of approval, and the analysis and findings presented above, staff finds that CUP-17-0002 meets all criteria of TDC 32.030 "Criteria for Review of Conditional Uses."

Exhibit B to
Resolution No. 5358-18

City of Tualatin
www.tualatinoregon.gov

"NECESSARY PARTIES" MARKED BELOW

NOTICE OF APPLICATION SUBMITTAL

☐ ANNEXATION ☒ CONDITIONAL USE PERMIT ☐ PLAN TEXT AMENDMENT
☐ ARCHITECTURAL REVIEW ☐ PLAN MAP AMENDMENT ☐ OTHER:

CASE/FILE: CUP17-0002 (Community Development Dept.: Planning Division)

PROPOSAL	
	To approve the conditional use of a fire station—pursuant to Tualatin Development Code (TDC) 60.040(1)(f) for Tualatin Valley Fire & Rescue Station 39 on land adjacent to 7100 SW McEwan Road.

PROPERTY						
☐ n/a	**Name of Application**	TUALATIN VALLEY FIRE & RESCUE STATION 39				
	Street Address	Adjacent to 7100 SW McEwan Road				
	Tax Map and Lot No(s).	2S1 13DD 01601				
	Planning District	ML	**Overlays** ☐	**NRPO** ☐	**Flood Plain** ☐	
	Previous Applications	AR96-33, 93-31, 74-02; VAR93-04, 94-03, 96-03; CUP13-05	**Additional Applications:**		**CIO** MANUFACTURING	

DATES					CONTACT	
	Receipt of application	12/08/2017	**Deemed Complete**	01/08/2018		**Name:** Erin Engman
	Notice of application submittal			01/10/2018		**Title:** Associate Planner
	Project Status / Development Review meeting					**E-mail:** EENGMAN@tualatin.gov
	Comments due for staff report			01/24/2018		**Phone:** 503-691-3024
	Public meeting: ☐ **ARB** ☐ **TPC** ☒ **n/a**					**Notes:** You may view the application materials through this City web page: www.tualatinoregon.gov/projects
	City Council (CC) ☐ **n/a**			04/09/2018		

City Staff
☒ City Manager
☒ Building Official
☒ Chief of Police
☒ City Attorney
☒ City Engineer
☒ Community Development Director
☒ Community Services Director
☒ Economic Development liaison
☒ Engineering Associate*
☒ Finance Director
☒ GIS technician(s)
☒ IS Manager
☒ Operations Director*
☒ Parks and Recreation Coordinator
☒ Planning Manager
☒ Street/Sewer Supervisor
☒ Water Supervisor

Neighboring Cities
☐ Durham
☐ King City Planning Commission
☐ Lake Oswego
☐ Rivergrove PC
☐ Sherwood Planning Dept.
☐ Tigard Community Dev. Dept.
☐ Wilsonville Planning Division

Counties
☐ Clackamas County Dept. of Transportation and Development
☒ Washington County Dept. of Land Use and Transportation (ARs)
☐ Washington County Long Range Planning (LRP) (Annexations)

Regional Government
☒ Metro

School Districts
☐ Lake Oswego School Dist. 7J
☐ Sherwood SD 88J
☐ Tigard-Tualatin SD 23J (TTSD)
☐ West Linn-Wilsonville SD 3J

State Agencies
☐ Oregon Dept. of Aviation
☐ Oregon Dept. of Environmental Quality (DEQ)
☐ Oregon Dept. of Land Conservation and Development (DLCD)
☒ Oregon Dept. of State Lands: Wetlands Program
☒ Oregon Dept. of Transportation (ODOT) Region 1
☐ ODOT Maintenance Dist. 2A
☐ ODOT Rail Division
☐ OR Dept. of Revenue

Utilities
☒ Republic Services
☒ Clean Water Services (CWS)
☒ Comcast [cable]*
☒ Frontier Communications [phone]
☒ Northwest Natural [gas]
☒ Portland General Electric (PGE)
☒ TriMet
☒ Tualatin Valley Fire & Rescue
☒ USPS (Washington)
☐ USPS (Clackamas)
☒ Wash. Co. Consolidated Communications Agency (WCCCA)

Additional Parties
☒ Tualatin Citizen Involvement Organization (CIO)

***Paper Copies**

☐ *1.032: Burden of Proof*

☐ *31.071 Architectural Review Procedure*

☐ *31.074 Architectural Review Application Review Process*

☐ *31.077 Quasi-Judicial Evidentiary Hearing Procedures*

☐ *Metro Code 3.09.045 Annexation Review Criteria*

☒ *32.030 Criteria for Review of Conditional Uses*

☐ *33.020 Conditions for Granting a Variance that is not a Sign or a Wireless Communication Facility*

☐ *33.022 Criteria for Granting a Sign Variance*

☐ *33.024 Criteria for Granting a Minor Variance*

☐ *33.025 Criteria for Granting a Variance*

☐ *34.200 Tree Cutting on Private Property without Architectural Review, Subdivision or Partition Approval, or Tree Removal Permit Prohibited*

☐ *34.210 Application for Architectural Review, Subdivision or Partition Review, or Permit*

☐ *34.230 Criteria (tree removal)*

☐ *35.060 Conditions for Granting Reinstatement of Nonconforming Use*

☐ *36.160 Subdivision Plan Approval*

☐ *36.230 Review Process (partitioning)*

☐ *36.330 Review Process (property line adjustment)*

☐ *37.030 Criteria for Review (IMP)*

☐ *40.030 Conditional Uses Permitted (RL)*

☐ *40.060 Lot Size for Conditional Uses (RL)*

☐ *40.080 Setback Requirements for Conditional Uses (RL)*

☐ *41.030 Conditional Uses Permitted (RML)*

☐ *41.050 Lot Size for Conditional Uses (RML)*

☐ *41.070 Setback Requirements for Conditional Uses (RML)*

☐ *42.030 Conditional Uses Permitted (RMH)*

☐ *42.050 Lot Size for Conditional Uses (RMH)*

☐ *42.070 Setback Requirements for Conditional Uses (RMH)*

☐ *43.030 Conditional Uses Permitted (RH)*

☐ *43.060 Lot Size for Conditional Uses (RH)*

☐ *43.090 Setback Requirements for Conditional Uses (RH)*

☐ *44.030 Conditional Uses Permitted (RH-HR)*

☐ *44.050 Lot Size for Conditional Uses (RH-HR)*

☐ *44.070 Setback Requirements for Conditional Uses (RH-HR)*

☐ *49.030 Conditional Uses (IN)*

☐ *49.040 Lot Size for Permitted and Conditional Uses (IN)*

☐ *49.060 Setback Requirements for Conditional Uses (IN)*

☐ *50.020 Permitted Uses (CO)*

☐ *50.030 Central Urban Renewal Plan – Additional Permitted Uses and Conditional Uses (CO)*

☐ *50.040 Conditional Uses (CO)*

☐ *52.030 Conditional Uses (CR)*

☐ *53.050 Conditional Uses (CC)*

☐ *53.055 Central Urban Renewal Area – Conditional Uses (CC)*

☐ *54.030 Conditional Uses (CG)*

☐ *56.030 Conditional Uses (MC)*

☐ *56.045 Lot Size for Conditional Uses (MC)*

☐ *57.030 Conditional Uses (MUCOD)*

☒ *60.040 Conditional Uses (ML)*

☐ *60.041 Restrictions on Conditional Uses (ML)*

☐ *61.030 Conditional Uses (MG)*

☐ *61.031 Restrictions on Conditional Uses (MG)*

☐ *62.030 Conditional Uses (MP)*

☐ *62.031 Restrictions on Conditional Uses (MP)*

☐ *64.030 Conditional Uses (MBP)*

☐ *64.050 Lot Size for Permitted and Conditional Uses (MBP)*

☐ *64.065 Setback Requirements for Conditional Uses (MBP)*

☐ *68.030 Criteria for Designation of a Landmark*

☐ *68.060 Demolition Criteria*

☐ *68.070 Relocation Criteria*

☐ *68.100 Alteration and New Construction Criteria*

☐ *68.110 Alteration and New Construction Approval Process*

☐ *73.130 Standards*

☐ *73.160 Standards*

☐ *73.190 Standards – Single-Family and Multi-Family Uses*

☐ *73.220 Standards*

☐ *73.227 Standards*

☐ *73.230 Landscaping Standards*

☐ *73.300 Landscape Standards – Multi-Family Uses*

☐ *73.310 Landscape Standards – Commercial, Industrial, Public and Semi-Public Uses*

☐ *73.320 Off-Street Parking Lot Landscaping Standards*

☐ *73.320 Off-Street Parking and Loading*

☐ *73.470 Standards*

☐ *73.500 Standards*

Exhibit B to
Resolution No. 5358-18

City of Tualatin

www.tualatinoregon.gov

CONDITIONAL USE PERMIT
CERTIFICATION OF SIGN POSTING

NOTICE

CONDITIONAL USE PERMIT CUP-[YY]-__

For more information call 503-691-3026 or visit www.tualatinoregon.gov

18"

24"

The applicant shall provide and post a sign pursuant to Tualatin Development Code (TDC) 31.064(2). Additionally, the 18" x 24" sign must contain the application number, and the block around the word "NOTICE" must remain **lime green** composed of the **RGB color values Red 146, Green 208, and Blue 80**. Additionally, the potential applicant must provide a flier (or flyer) box on or near the sign and fill the box with brochures reiterating the meeting info and summarizing info about the potential project, including mention of anticipated land use application(s). Staff has a Microsoft PowerPoint 2007 template of this sign design available through the Planning Division homepage at < www.tualatinoregon.gov/planning/land-use-application-sign-templates>.

As the applicant for the TVF&R Station 39 (CUP 17-0002) project, I hereby certify that on this day, January 4, 2018 sign(s) was/were posted on the subject property in accordance with the requirements of the Tualatin Development Code and the Community Development Department - Planning Division.

Applicant's Name: Clinton Doxsee, Angelo Planning Group
(PLEASE PRINT)

Applicant's Signature: CJ Doxsee

Date: 1/4/18


NOTICE


U-HAUL
RENTALS
COVERED STORAGE
LOAD UNLOAD
No Weather Worries!
U-HAUL
NOTICE

Exhibit B to
Resolution No. 5358-18

Tualatin Valley Fire & Rescue Station #39
Rivergrove

Transportation Impact Study

Tualatin, Oregon

Date:
December 7, 2017

Prepared for:
Tualatin Valley Fire & Rescue

Prepared by:
Daniel Stumpf, EI
Todd Mobley, PE

REGISTERED PROFESSIONAL ENGINEER
54853PE
OREGON
JULY 9, 2001
TODD E. MOBLEY

RENEWS: 12/31/18

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. The Tualatin Valley Fire & Rescue Station #39 – Rivergrove, has been proposed for development on a property located near 7100 SW McEwan Road in Tualatin, Oregon.
2. The trip generation calculations show that the proposed development is projected to generate twelve site trips during the morning peak hour and four site trips during the evening peak hour.
3. No significant trends or crash patterns were identified at any of the study intersections. Accordingly, no specific safety mitigation is recommended.
4. Adequate sight distance is available at both site accesses to ensure safe operation of each proposed intersection along SW McEwan Road. No sight distance mitigation is necessary or recommended.
5. Left-turn lane warrants are not projected to be met at either site access intersection under any of the analysis scenarios through the 2019 build-out year. No new turn lanes are necessary or recommended.
6. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at the intersection of SW 65th Avenue at SW McEwan Road under any of the analysis scenarios.
7. Based on a turning-movement analysis, a driveway width of 24 feet is sufficient to accommodate entering emergency response vehicles at the north site access intersection.
8. All study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably upon build-out of the proposed development through year 2019. No operational mitigation is necessary or recommended at these intersections.

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Project Description and Location

Introduction

The Tualatin Valley Fire & Rescue (TVF&R) Station #39 – Rivergrove, has been proposed for development on a property located near 7100 SW McEwan Road in Tualatin, Oregon. This report addresses the impacts of the proposed development on the nearby street system. The study includes safety and capacity/level-of-service analyses at the following intersections:

- SW 65th Avenue at SW Lower Boones Ferry Road;
- Proposed north site access at SW McEwan Road;
- Proposed south site access at SW McEwan Road; and
- SW 65th Avenue at SW McEwan Road.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Project and Location Description

The project site is located southwest of SW McEwan Road and east of Interstate 5 (I-5) in Tualatin, Oregon. The subject site is surrounded by a mix of land-uses, with a medical clinic to the north, a U-Haul facility to the south, and self-storage facilities to the east. Two notable developments within a half-mile walking/biking distance of the site include the Meridian Square Shopping Mall to the north and River Grove Elementary School to the east.

Access to the site will be provided via two driveways along SW McEwan Road: a two-way access to the north and an emergency response vehicle egress access to the south.

Vicinity Streets

The proposed development is expected to predominantly impact three nearby vicinity roadways: SW Lower Boones Ferry Road, SW McEwan Road, and SW 65th Avenue. Table 1 provides a description of each of the vicinity roadways.

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Table 1 – Vicinity Roadway Descriptions

Roadway	Jurisdication	Functional Classification	Cross-Section	Speed	On-street Parking	Bicycle Lanes	Curbs	Sidewalks
SW Lower Boones Ferry Road	Clackamas County	Arterial	5 to 8 Lanes	35 mph Posted	Not Permitted	Both Sides	Both Sides	Both Sides
SW McEwan Road	City of Tualatin	Major Collector/Local Street	2 to 3 Lanes	25/30 mph Posted	Partially Permitted	Partial Both Sides	Partial Both Sides	Partial Both Sides
SW 65th Avenue	City of Tualatin	Neighborhood Collector/Major Collector	2 to 4 Lanes	25/30 mph Posted	Permitted	None	Partial Both Sides	Partial Both Sides

Study Intersections

The intersection of SW 65th Avenue at SW Lower Boones Ferry Road is a four-legged intersection that is controlled by a traffic signal. The northbound approach has one left-turn lane and one shared lane for all turning-movements. The southbound approach has one shared left-turn/through lane and one right-turn lane served with permitted/overlap phasing. The northbound and southbound approaches operate under split phasing. The eastbound approach has one left-turn lane served with protected phasing, two through lanes, one right-turn lane served with permitted/overlap phasing, and a bicycle lane situated in between the outermost through and right-turn lanes. The westbound approach has one left-turn lane served with protected phasing, two through lanes, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across all four intersection legs.

The intersection of SW 65th Avenue at SW McEwan Road is a four-legged intersection that is all-way stop-controlled. All four intersection approaches each have one shared lane for all turning-movements. Crosswalks are unmarked across all four intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 5.

Transit

The project site is located near two transit lines that have stops within a half-mile walking/biking distance north of the site, just east of the intersection of SW 65th Avenue at SW Lower Boones Ferry Road. Complete sidewalks and adequate crossing measures at intersections are available between the project site and each of the transit stop locations allowing for safe and comfortable travel for transit users.

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TriMet bus line *#36 – South Shore*, provides service between Tualatin Park & Ride and Portland City Center, with notable stops near Lake Oswego Transit Center, Lake Oswego Library, and Johns Landing. Weekday service is scheduled from approximately 7:00 AM to 7:15 PM and has headways of approximately 30 to 100 minutes.

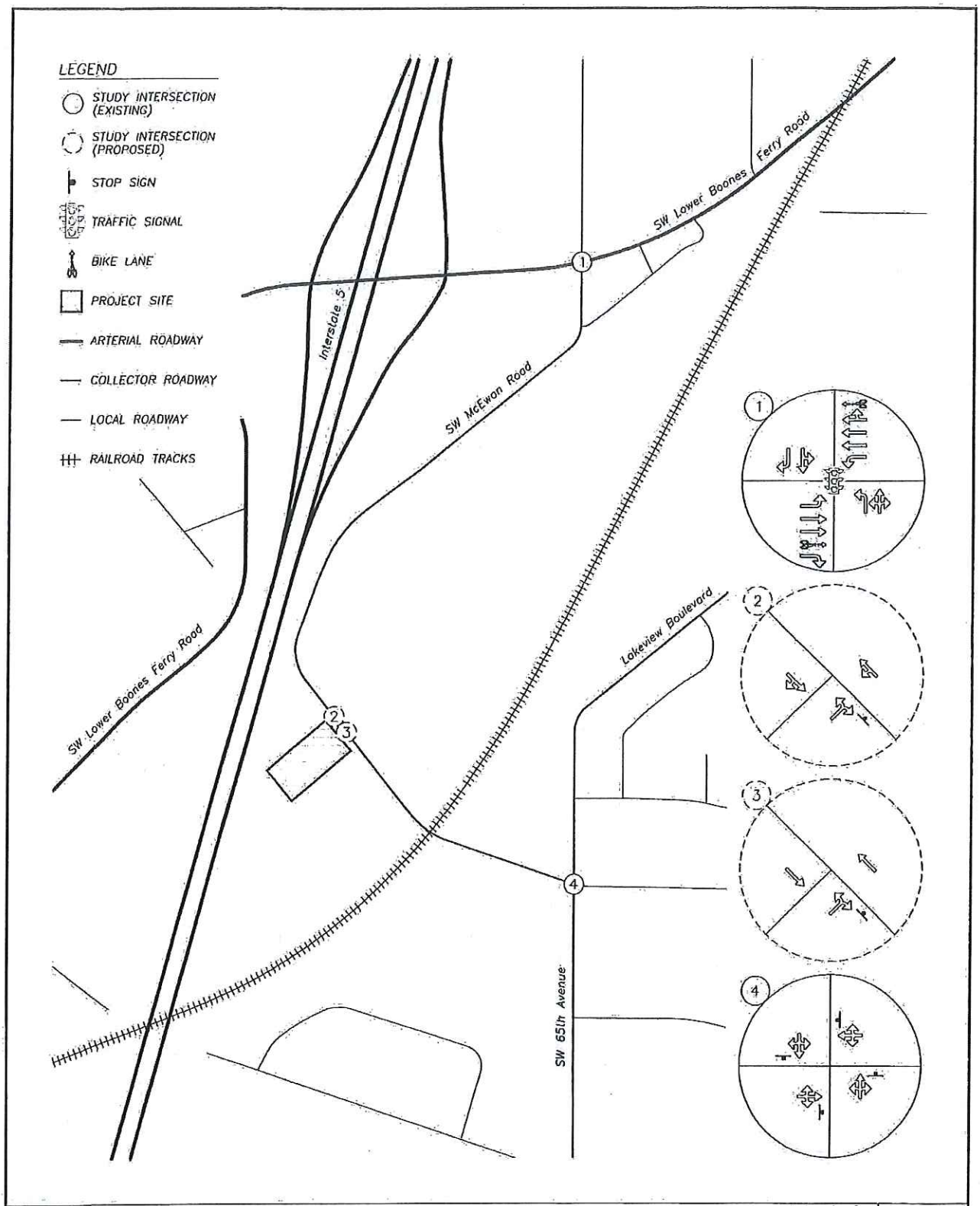
TriMet bus line *#37 – Lake Grove*, provides service between Tualatin Park & Ride and Lake Oswego Transit Center, with notable stops near Lake Oswego High School and Lake Oswego Library. Weekday service is scheduled from approximately 7:00 AM to 5:30 PM and has headways of approximately 50 to 100 minutes.

Traffic Counts

Traffic counts were conducted at the intersection of SW 65th Avenue at SW Lower Boones Ferry Road on Wednesday, November 15th, 2017 and at the intersection of SW 65th Avenue at SW McEwan Road on Tuesday, November 28th, 2017, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours.

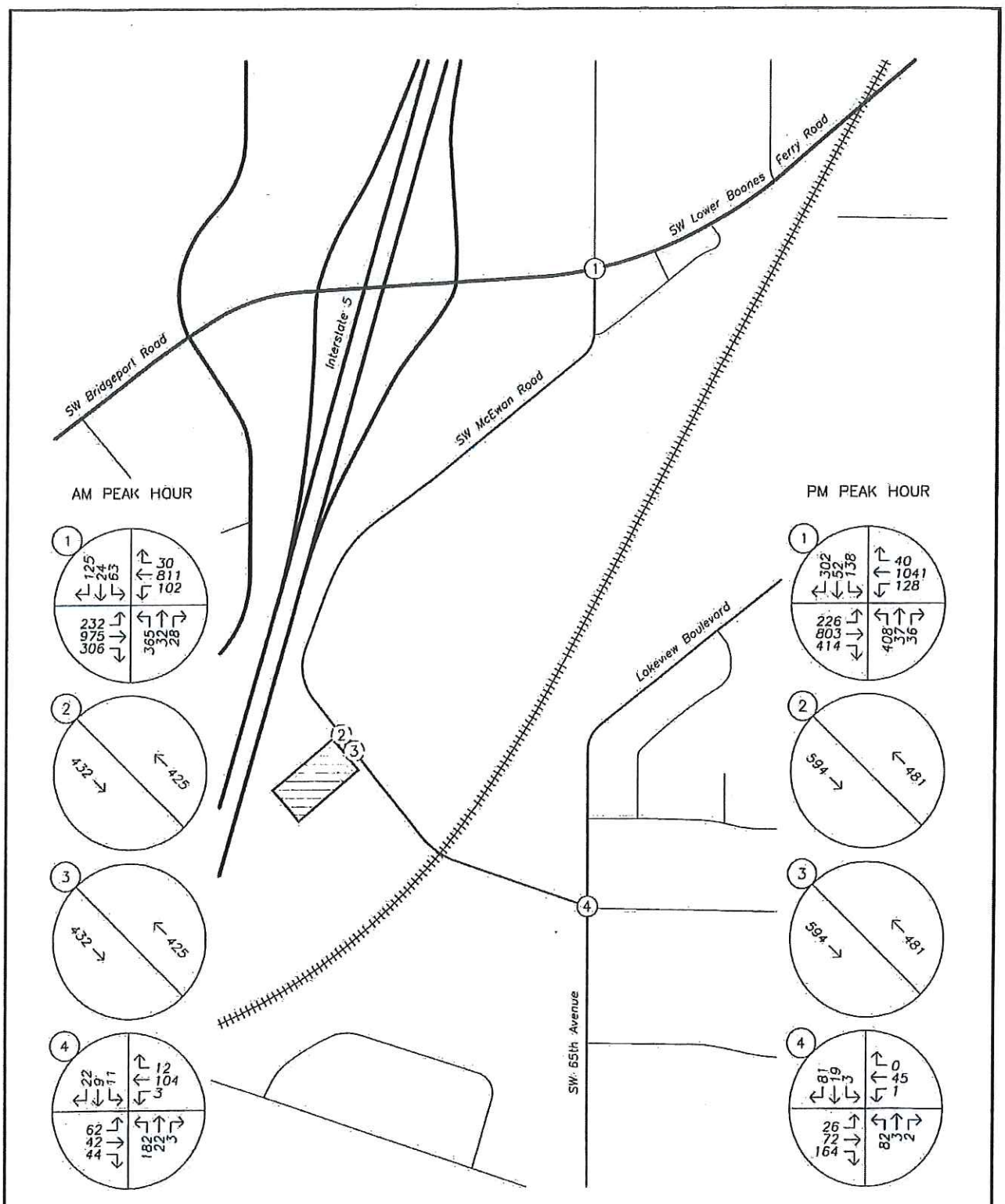
To determine through volumes along SW McEwan Road at the site access locations, traffic volumes were balanced with the intersections of SW 65th Avenue at SW Lower Boones Ferry Road and at SW 65th Avenue at SW McEwan Road. The highest directional volumes to/from each intersection were utilized, which subsequently provides a conservative assessment of operation at the site access intersections.

Figure 2 on page 6 shows the existing morning and evening peak hour traffic volumes at the study intersections.



VICINITY MAP

FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

PAGE 6

1e

Site Trips

Trip Generation

No comparable land-use category exists in the *TRIP GENERATION MANUAL*[1] for fire stations; therefore, the size and operation of the facility was examined in order to best estimate the trip generation of the station. The trip generation calculations shown below are supported by trip data collected at other similar TVF&R stations. The proposed Station #39 is designed for a crew size of six full-time employees. Shifts for full-time employees are 24 hours in duration and shift changes will occur at 7:00 AM. The majority of site trips during the morning peak hour are typically generated from employees. Additional trips corresponding to visitors, deliveries, and emergency response services are also accounted for.

It is estimated that the proposed station will generate a total of twelve morning peak hour site trips, with six employees entering and exiting the site. During the evening peak hour, the site is expected to generate a nominal number individual employee trips to the site; however, two trips entering and exiting the site were included to account for visitors, deliveries, and other miscellaneous traffic. Usage of the TVF&R's Community Room will typically occur after the evening peak hour; therefore, trips generated by the Community Room will increase site's total daily trip generation while not increasing morning or evening peak hour trip generation.

The trip generation estimates of the proposed TVF&R facility are summarized in Table 2 below.

Table 2 – Trip Generation Summary

	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
		Enter	Exit	Total	Enter	Exit	Total	
Proposed TVF&R #39								
Employee Shift Change	6 Employees	6	6	12	0	0	0	12
Community Room	15 People	0	0	0	0	0	0	20
Emergency Calls	4 Events	0	0	0	0	0	0	8
Non-Emergency Calls	2 Events	0	0	0	0	0	0	4
Visitors, Deliveries, etc	5 People	0	0	0	2	2	4	10
Total		6	6	12	2	2	4	54

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION MANUAL*, 9th Edition, 2012.

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Trip Distribution

TVF&R Station #39 – Rivergrove will predominately serve residents in the surrounding areas of Tualatin, Lake Oswego, and unincorporated Washington and Clackamas Counties. Areas within the site vicinity, particularly the neighborhoods to the east and northeast of the site, generate a significant number of emergency response calls. Non-emergency trips, such as employee commuting, visitors, deliveries, etc, are more likely to travel to/from SW Lower Boones Ferry Road and I-5.

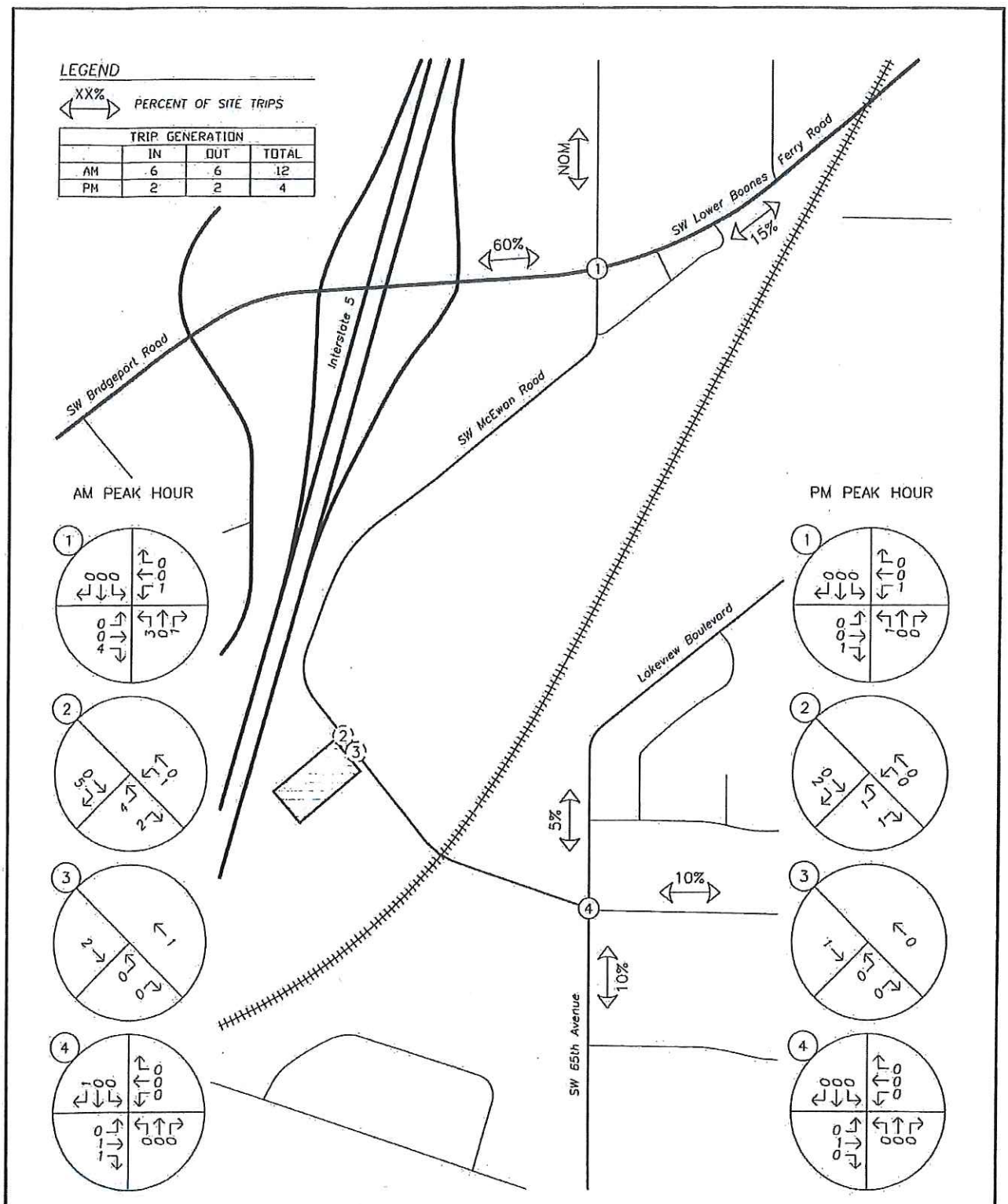
The directional distribution of peak hour site trips to/from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities within the site vicinity, and existing travel patterns at study intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 60 percent of site trips will travel to/from the west along SW Lower Boones Ferry Road;
- Approximately 15 percent of site trips will travel to/from the east along SW Lower Boones Ferry Road;
- Approximately 10 percent of site trips will travel to/from the east along SW McEwan Road;
- Approximately 10 percent of site trips will travel to/from the south along SW 65th Avenue; and
- Approximately 5 percent of site trips will travel to/from the north along SW 65th Avenue.

The proposed development will be served by two accesses along SW McEwan Road. The north site access will serve inbound emergency response vehicles and as a two-way access for passenger vehicles while the south site access will serve outbound emergency response vehicles only. Based on the projected trips generated, approximately 20 percent of site trips will result from emergency/non-emergency calls to the station; accordingly, the south access may serve approximately 20 percent of exiting trips throughout a typical day. However, since calls to the station are expected to be uncommon, will occur irregularly, and cannot be anticipated, no response calls were projected during either peak hour. Therefore, all site trips generated during the morning and evening peak hours will utilize the northern access.

The trip assignment for the site trips generated by the proposed development during the morning and evening peak hours are shown in Figure 3 on page 9.



SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3

1c

Future Traffic Volumes

Background Volumes

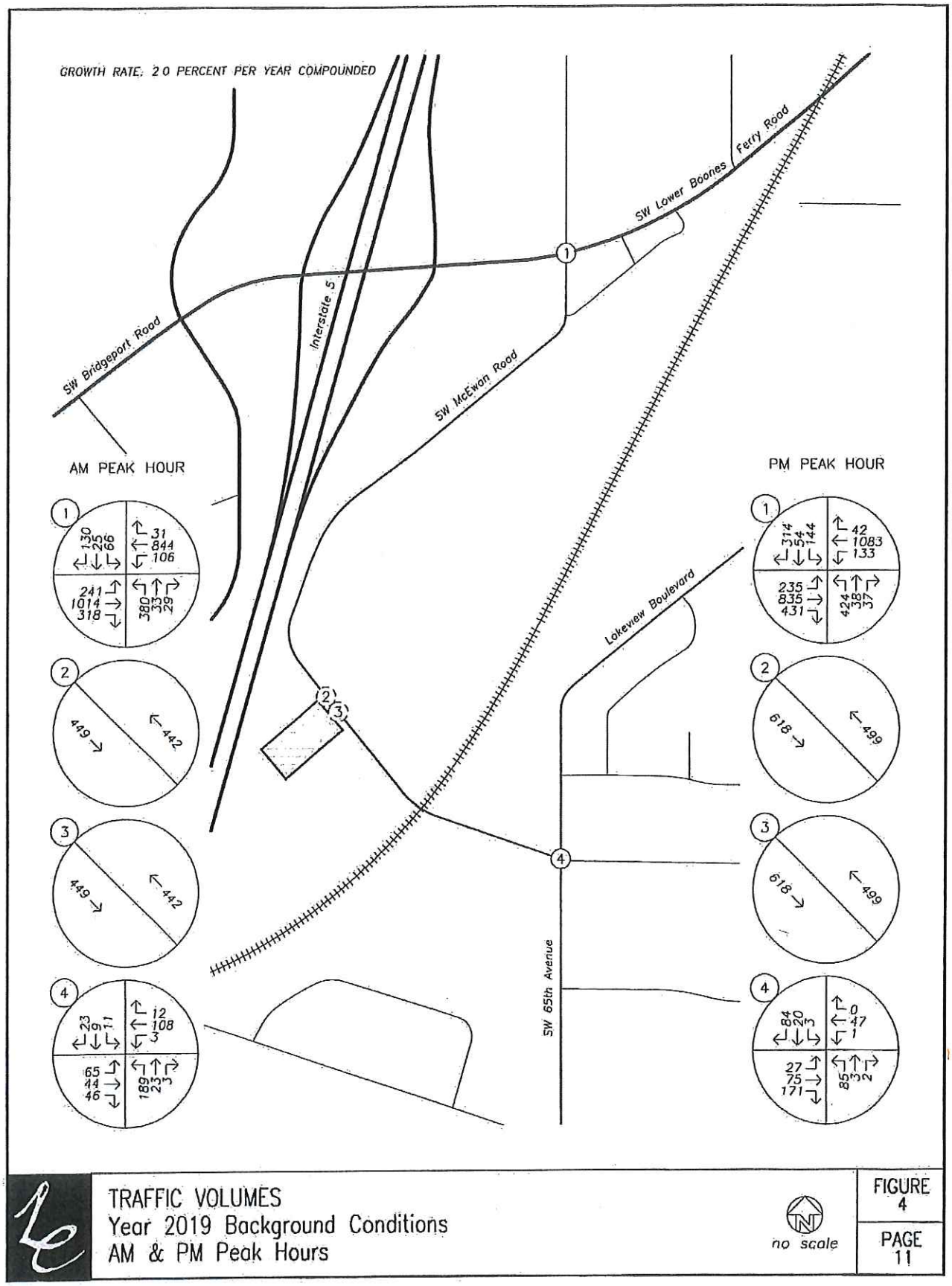
To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to calculate the future traffic volumes at the study intersections, a compounded growth rate of two percent per year for an assumed build-out condition of two years was applied to the measured existing traffic volumes to approximate year 2019 background conditions.

Figure 4 on page 11 shows the projected year 2019 background traffic volumes at the study intersections during the morning and evening peak hours.

Background Volumes plus Site Trips

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2019 background traffic volumes to obtain the expected 2019 background volumes plus site trips.

Figure 5 on page 12 shows the projected year 2019 peak hour background traffic volumes plus proposed development site trips at the study intersections during the morning and evening peak hours.

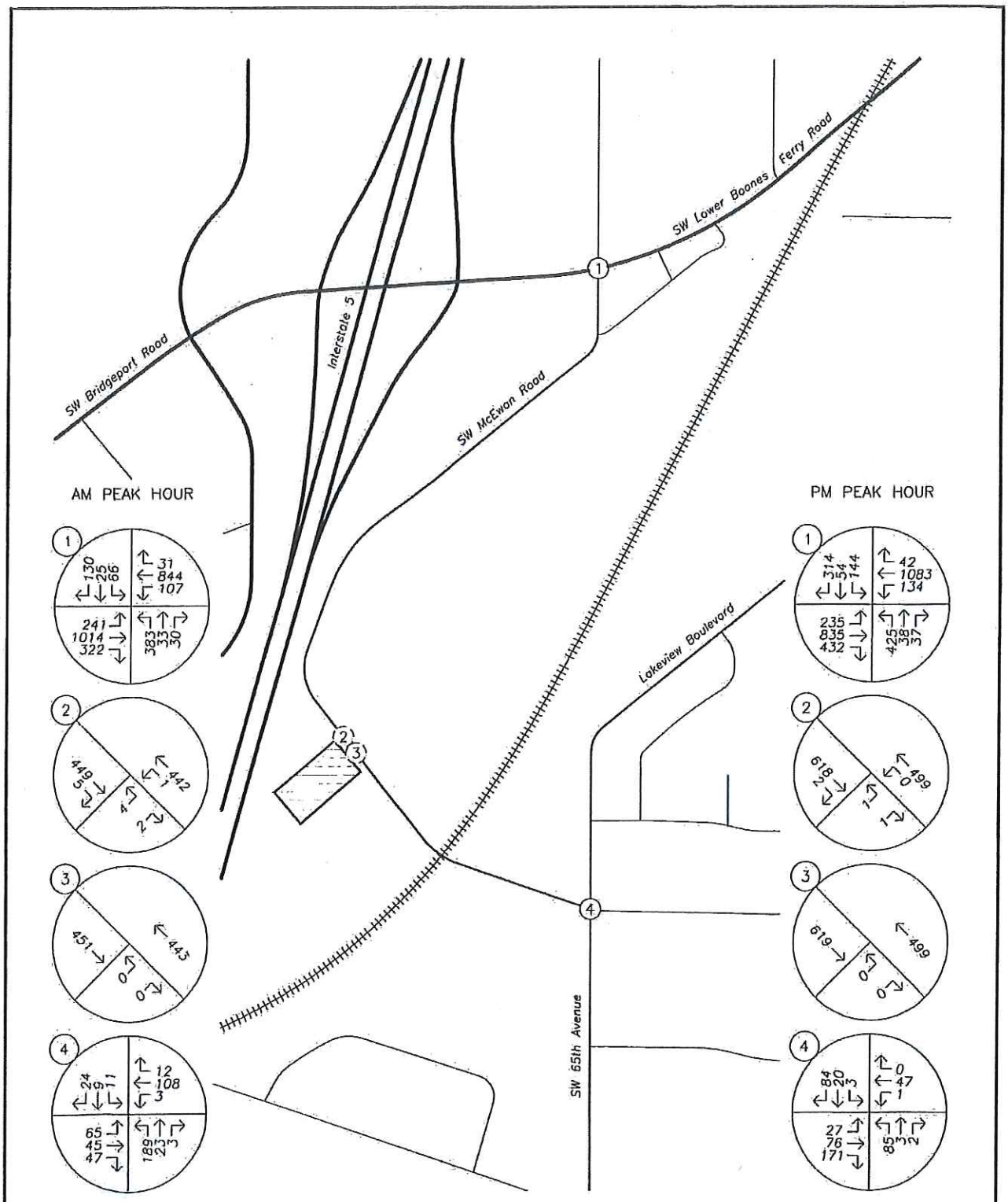


TRAFFIC VOLUMES
Year 2019 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 4

PAGE 11



TRAFFIC VOLUMES
Year 2019 Background Conditions plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 5

1e

Safety Analysis

Crash Data Analysis

Using data obtained from the Oregon Department of Transportation's (ODOT) Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

The intersection of SW 65th Avenue at SW Lower Boones Ferry Road had ten reported crashes during the analysis period. The crashes consisted of seven rear-end collisions, one angle-type collision, one fixed-object collision, and one turning-movement collision. Of the reported crashes, five were classified as "Property Damage Only" (*PDO*), four were classified as "Possible Injury – Complaint of Pain" (*Injury C*), and one was classified as "Non-Incapacitating Injury" (*Injury B*). The crash rate at the intersection was calculated to be 0.15 CMEV.

The intersection of SW 65th Avenue at SW McEwan Road had one reported crash during the analysis period. The crash was a turning-movement collision that was classified as *PDO*. The crash rate at the intersection was calculated to be 0.11 CMEV.

Based on the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections. Accordingly, no specific safety mitigation is recommended.

Sight Distance Analysis

Sight distance was examined for the site access intersections located along SW McEwan Road. Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*[2]. According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye-height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

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[2] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

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North Site Access

The northernmost site access will serve two-way traffic, where vehicles exiting the site will consist of predominately passenger cars. Therefore, the minimum recommended intersection sight distance was calculated assuming a time gap of 7.5 seconds for a minor-street approaching passenger car. Based on a posted speed of 30 mph, the minimum recommended intersection sight distance for a passenger car turning onto a three-lane roadway was calculated to be 335 feet.

Intersection sight distance at the north site access was measured to be 450 feet to the north, limited by a building located north of the site along the eastern side of SW McEwan Road. Sight distance to the south was measured to be in excess of 550 feet. Based on the measurements conducted at the north site access, adequate sight distance is available to ensure safe operation at the proposed intersection while maintaining unimpeded flow of traffic along SW McEwan Road.

South Site Access

The southernmost site access will serve as a one-way egress access for emergency response vehicles only. Typically, it is expected that when an emergency vehicle exits the site, lights and possibly sirens will be active. In these instances, interrupting the flow of traffic on the major-street is the intent of the emergency vehicle and accordingly maintaining adequate intersection sight distance would generally not be applicable at this access. However, in the event that a non-emergency occurs but requires an emergency response vehicle, adequate intersection sight distance would be necessary at the access.

Since the access will serve vehicles larger than a passenger car, the minimum recommended intersection sight distance was calculated assuming a time gap of 9.5 for a minor-street approaching single-unit truck. Based on a posted speed of 30 mph, the minimum recommended intersection sight distance for a single-unit truck was calculated to be 420 feet.

The south egress access will serve emergency response vehicles, which will likely have drivers seated at a higher position than in regular passenger vehicles. Therefore, in addition to utilizing the standard 3.5-foot high driver's eye height on the minor-street approach, a 7.6-foot truck eye height was also used to measure intersection sight distance at the access.

Intersection sight distance at the south site access was measured to be 492 feet to the north, limited by a building located north of the site along the eastern side of SW McEwan Road. Sight distance to the south was measured to be in excess of 550 feet. Based on the measurements conducted at the south site access, adequate sight distance is available to ensure safe operation at the proposed intersection while maintaining unimpeded flow of traffic along SW McEwan Road.

Based on the analysis, adequate sight distance is available at both site accesses to ensure safe operation of each proposed intersection along SW McEwan Road. No sight distance mitigation is necessary or recommended.

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Warrant Analysis

Left-turn and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are not projected to be met at the north site access intersection under any of the analysis scenarios through the 2019 build-out year. Since the south site access will be egress only, left-turn lanes are not applicable at the proposed intersection Accordingly, no new turn lanes are necessary or recommended.

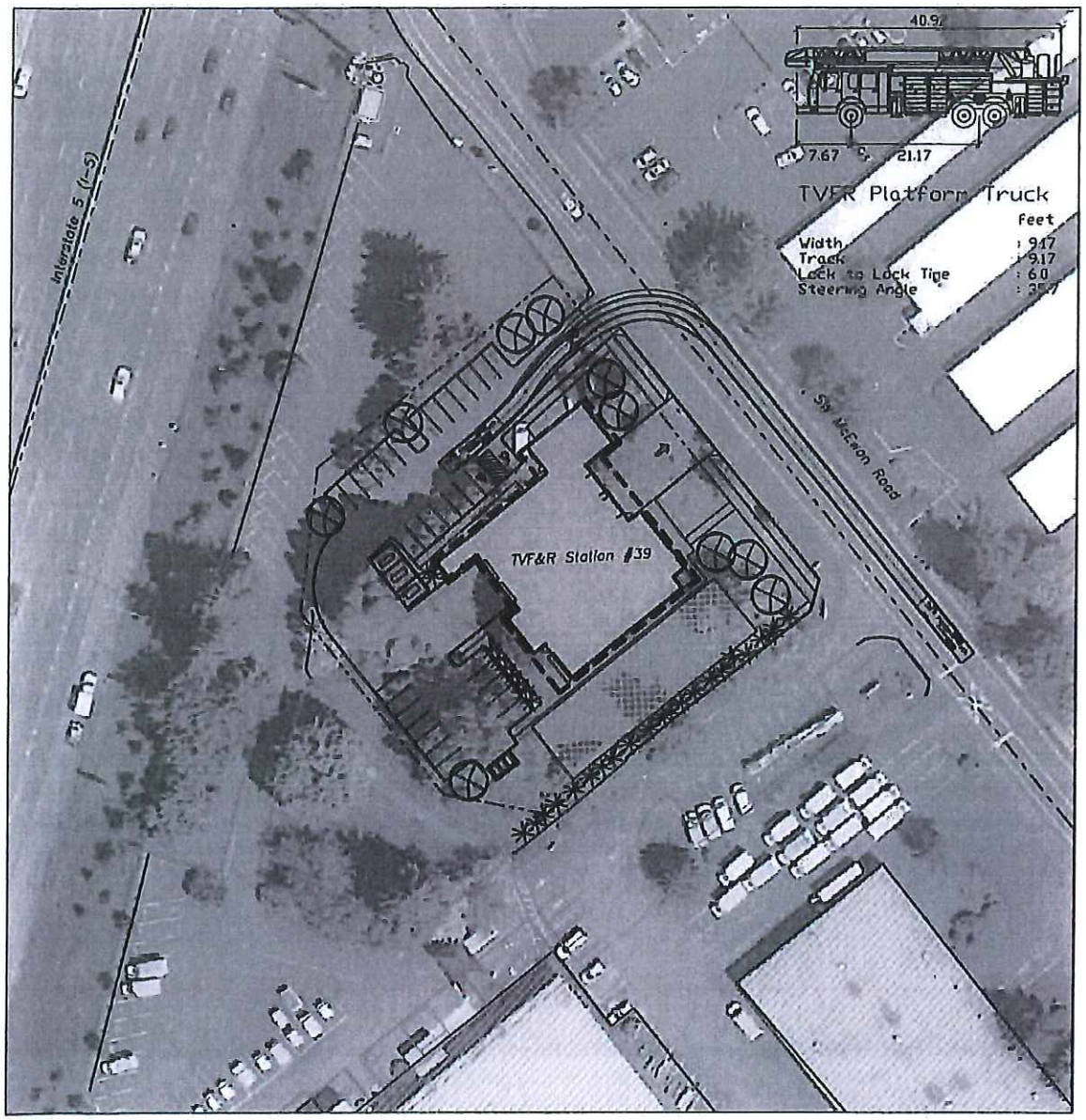
Traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at the intersection of SW 65th Avenue at SW McEwan Road under any of the analysis scenarios.

Driveway Width

To demonstrate an access width of 24 feet is sufficient to serve emergency response vehicles entering the site at the north access, a turning-movement analysis was conducted using AutoTurn software. A custom design vehicle, modeled after a standard TVF&R emergency response vehicle, was created and used. Analysis scenarios examined include the following:

- A northbound left-turning vehicle entering the north access; and
- A southbound right-turning vehicle entering the north access.

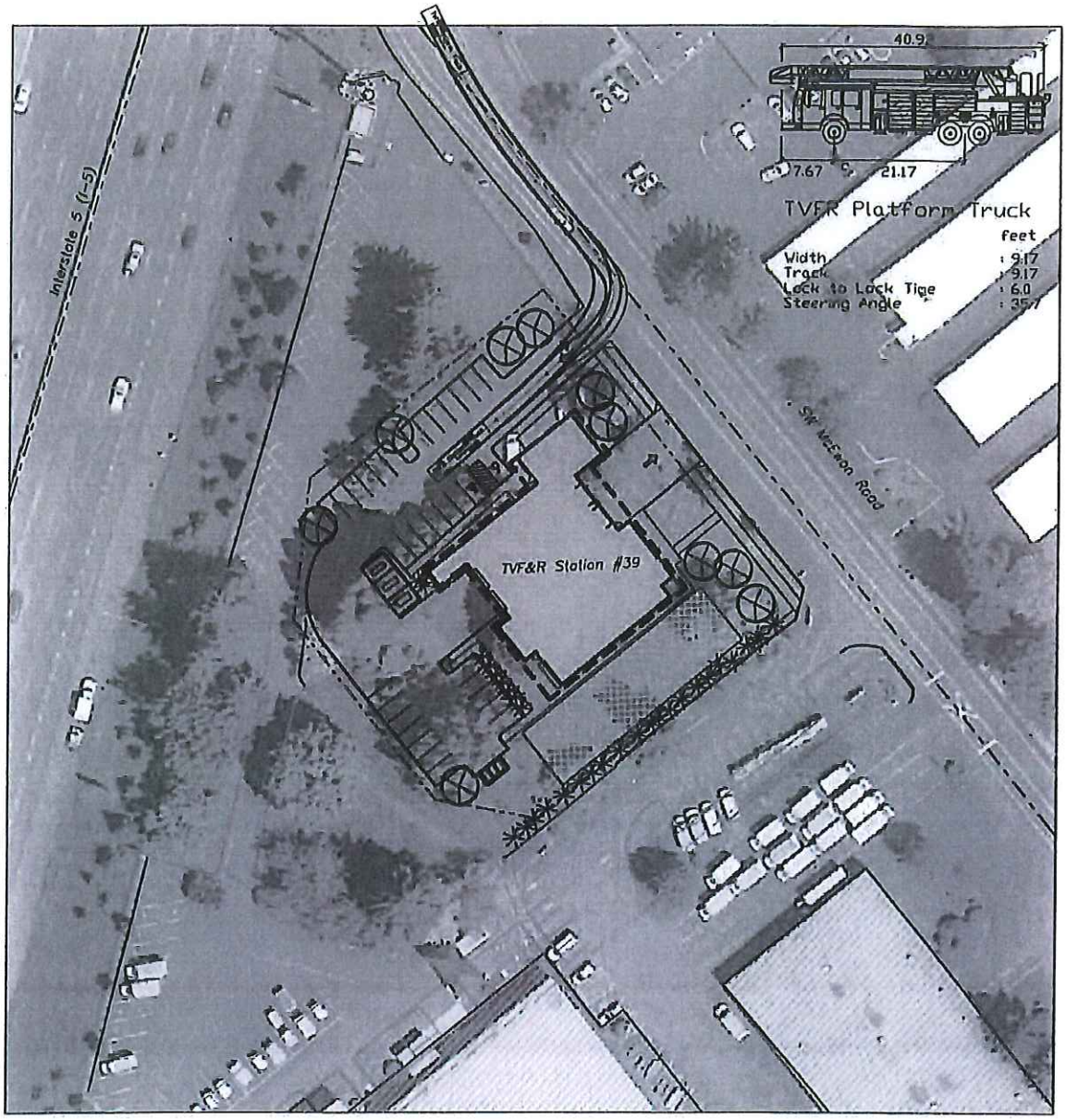
Based on the turning-movement analysis, a driveway width of 24 feet is sufficient to accommodate entering emergency response vehicles at the north site access intersection. Diagrams showing the turning-movements for each analysis scenario are shown in Figure 6 on page 16 and Figure 7 on page 17 for northbound and southbound entering vehicles, respectively.



TURNING MOVEMENT ANALYSIS
North Access – Northbound Entering Vehicle
Custom TVF&R Design Vehicle

no scale

FIGURE 6



TURNING MOVEMENT ANALYSIS
North Access – Southbound Entering Vehicle
Custom TVF&R Design Vehicle

no scale

FIGURE 7

1e

Operational Analysis

Capacity Analysis

A capacity and delay analysis was conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL*[3] (HCM). The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume to capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

The study area includes intersections located within multiple jurisdictions, including the City of Tualatin, and Clackamas County. The following is a description of each jurisdictional standard

- The City of Tualatin standards require intersections operate at LOS E or better.
- Per Table 5-2a and Map 4-8 of Clackamas County's Comprehensive Plan, Clackamas County standards require intersections operate with a v/c ratio of 0.99 or less.

For both LOS and delay related to the analysis of unsignalized intersections, the reported results apply to the worst movement.

The intersection of SW 65th Avenue at SW Lower Boones Ferry Road operates at LOS C with v/c ratios of 0.81 or less during the morning peak hour and at LOS D with v/c ratios of 0.81 or less during the evening peak hour or all analysis scenarios.

Upon build-out of the proposed development, the north site access intersection at SW McEwan Road is projected to operate at LOS C with v/c ratios of 0.02 or less during the morning and evening peak hours.

Upon build-out of the proposed development, the south site access intersection at SW McEwan Road is projected to operate at LOS B with a v/c ratio of 0.01 during the morning peak hour and at LOS C with a v/c ratio of 0.01 during the evening peak hour.

The intersection of SW 65th Avenue at SW McEwan Road currently operates at LOS A during the morning and evening peak hours. Under year 2019 background conditions, the intersection is projected to operate at LOS B during the morning peak hour and at LOS A during the evening peak hour.

The v/c, delay, and LOS results of the capacity analysis are shown in Table 3 for the morning and evening peak hours. The reported results are generally based on the analysis methodologies provided in the 2010 HCM; however, for intersections where the 2010 methodology is unable to determine intersection capacity/delay, such as SW 65th Avenue at SW Lower Boones Ferry Road due to the northbound shared lane

[3] Transportation Research Board, *HIGHWAY CAPACITY MANUAL 2000* and *HIGHWAY CAPACITY MANUAL 2010*.

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configuration, operation was evaluated using the HCM 2000 methodologies. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 3 – Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
SW 65th Ave at SW Lower Boones Ferry Rd						
2017 Existing Conditions	C	31	0.78	D	35	0.78
2019 Background Conditions	C	33	0.81	D	42	0.81
2019 Background plus Site Conditions	C	33	0.81	D	42	0.81
North Site Access at SW McEwan Rd						
2019 Background plus Site Conditions	C	16	0.02	C	18	0.01
South Site Access at SW McEwan Rd						
2019 Background plus Site Conditions	B	15	0.01	C	18	0.01
SW 65th Ave at SW McEwan Rd						
2017 Existing Conditions	A	10	-	A	9	-
2019 Background Conditions	B	10	-	A	9	-
2019 Background plus Site Conditions	B	10	-	A	9	-

Based on the results of the operational analysis, all study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably upon build-out of the proposed development through year 2019. No operational mitigation is necessary or recommended at these intersections.

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Conclusions

No significant trends or crash patterns were identified at any of the study intersections. Accordingly, no specific safety mitigation is recommended.

Adequate sight distance is available at both site accesses to ensure safe operation of each proposed intersection along SW McEwan Road. No sight distance mitigation is necessary or recommended.

Left-turn lane warrants are not projected to be met at either site access intersection under any of the analysis scenarios through the 2019 build-out year. No new turn lanes are necessary or recommended.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met at the intersection of SW 65th Avenue at SW McEwan Road under any of the analysis scenarios.

Based on a turning-movement analysis, a driveway width of 24 feet is sufficient to accommodate entering emergency response vehicles at the north site access intersection.

All study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably upon build-out of the proposed development through year 2019. No operational mitigation is necessary or recommended at these intersections.

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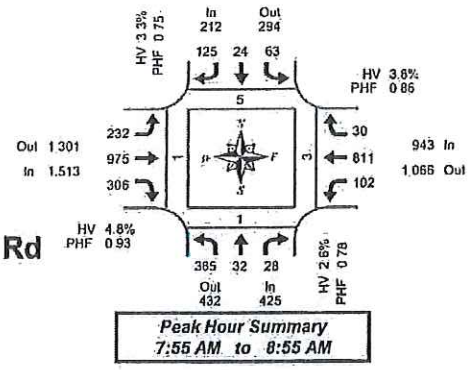
Appendix

Total Vehicle Summary

All Traffic Data
Services Inc.
Clay Carney
(503) 833-2740



SW 65th Ave & SW Lower Boones Ferry Rd

Wednesday, November 15, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:55 AM to 8:55 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave L	T	R	Bikes	Southbound SW 65th Ave L	T	R	Bikes	Eastbound SW Lower Boones Ferry Rd L	T	R	Bikes	Westbound SW Lower Boones Ferry Rd L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	13	4	2	0	1	1	4	0	16	81	15	0	7	51	1	0	196	0	0	0	0
7:05 AM	23	3	1	0	1	1	10	0	11	55	23	0	2	57	2	0	189	0	0	0	1
7:10 AM	34	4	1	0	0	3	17	0	23	47	16	0	5	54	0	0	204	2	0	0	0
7:15 AM	28	6	4	0	1	1	15	0	6	76	14	0	5	66	0	0	222	0	0	0	0
7:20 AM	32	7	2	0	3	3	4	0	17	58	24	0	7	33	1	0	191	0	0	0	0
7:25 AM	21	0	1	0	4	2	6	0	15	74	13	0	1	56	0	0	193	0	0	0	0
7:30 AM	22	4	2	0	4	0	10	0	12	73	25	0	8	49	0	0	209	0	0	0	0
7:35 AM	33	2	2	0	6	1	5	0	10	64	20	0	3	55	0	0	202	0	0	0	0
7:40 AM	14	3	0	0	3	0	5	0	10	75	13	1	2	34	4	0	163	0	1	0	1
7:45 AM	12	4	4	0	3	0	8	0	10	87	23	1	8	38	0	0	197	1	0	0	0
7:50 AM	33	2	2	0	7	4	12	0	13	74	21	1	5	59	0	0	232	0	0	0	0
7:55 AM	23	3	3	0	4	3	7	0	15	107	27	0	7	57	1	0	257	0	0	0	0
8:00 AM	28	1	1	0	3	1	8	0	28	83	24	0	12	57	2	0	246	0	0	0	0
8:05 AM	40	7	3	0	2	0	9	0	21	86	14	0	4	59	2	0	247	0	0	0	0
8:10 AM	24	3	1	0	4	1	8	0	14	77	25	1	8	64	0	0	229	1	0	0	0
8:15 AM	15	0	3	0	4	4	10	0	30	78	25	0	9	79	4	0	261	0	0	0	0
8:20 AM	37	5	5	0	5	3	10	0	21	75	34	0	11	58	3	0	267	0	0	0	0
8:25 AM	29	3	2	0	3	3	8	0	15	93	33	0	7	88	4	0	288	1	0	0	0
8:30 AM	50	1	5	0	6	2	15	0	24	80	30	0	9	61	4	1	287	1	0	0	0
8:35 AM	41	4	2	0	11	3	9	0	16	52	21	0	8	50	2	0	219	1	0	2	0
8:40 AM	28	0	1	0	6	1	13	0	17	92	22	0	8	82	2	0	272	0	0	0	0
8:45 AM	18	1	1	0	8	1	19	0	20	86	16	0	6	85	5	0	265	0	1	1	0
8:50 AM	32	4	1	0	7	2	9	0	13	66	36	0	13	71	1	0	255	1	0	0	1
8:55 AM	37	2	8	0	8	2	9	1	21	61	40	0	13	48	3	0	252	0	2	0	0
Total Survey	667	73	57	0	104	42	231	1	396	1,800	553	4	168	1,411	41	1	5,543	8	4	3	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave L	T	R	Bikes	Southbound SW 65th Ave L	T	R	Bikes	Eastbound SW Lower Boones Ferry Rd L	T	R	Bikes	Westbound SW Lower Boones Ferry Rd L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	70	11	4	0	2	5	31	0	50	183	54	0	14	162	3	0	589	2	0	0	1
7:15 AM	81	13	7	0	8	6	25	0	38	208	51	0	13	155	1	0	605	0	0	0	0
7:30 AM	69	9	4	0	13	1	21	0	32	212	58	1	13	138	4	0	574	0	1	0	1
7:45 AM	68	9	9	0	14	7	27	0	38	268	71	2	20	154	1	0	686	1	0	0	0
8:00 AM	92	11	5	0	9	2	25	0	61	246	63	1	24	180	4	0	722	1	0	0	0
8:15 AM	81	8	10	0	12	10	28	0	66	246	92	0	27	225	11	0	816	1	0	0	0
8:30 AM	119	5	8	0	23	6	37	0	57	224	73	0	25	193	8	1	778	2	0	2	0
8:45 AM	87	7	10	0	23	5	37	1	54	213	91	0	32	204	9	0	772	1	3	1	1
Total Survey	667	73	57	0	104	42	231	1	396	1,800	553	4	168	1,411	41	1	5,543	8	4	3	3

Peak Hour Summary
7:55 AM to 8:55 AM

By Approach	Northbound SW 65th Ave In	Out	Total	Bikes	Southbound SW 65th Ave In	Out	Total	Bikes	Eastbound SW Lower Boones Ferry Rd In	Out	Total	Bikes	Westbound SW Lower Boones Ferry Rd In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	425	432	857	0	212	294	506	0	1,513	1,301	2,814	1	943	1,066	2,009	1	3,093	5	1	3	1
%HV		2.6%				3.3%				4.8%				3.8%			4.1%				
PHF		0.78				0.75				0.93				0.86			0.92				

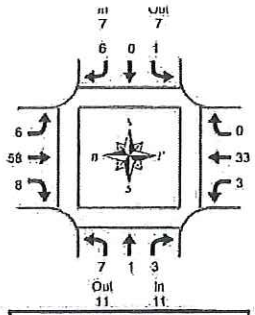
By Movement	Northbound SW 65th Ave L	T	R	Total	Southbound SW 65th Ave L	T	R	Total	Eastbound SW Lower Boones Ferry Rd L	T	R	Total	Westbound SW Lower Boones Ferry Rd L	T	R	Total	Total
Volume	365	32	28	425	63	24	125	212	232	975	306	1,513	102	811	30	943	3,093
%HV	1.9%	3.1%	10.7%	2.6%	1.6%	0.0%	4.8%	3.3%	2.6%	5.9%	2.6%	4.8%	2.9%	4.1%	0.0%	3.8%	4.1%
PHF	0.76	0.73	0.58	0.78	0.63	0.60	0.76	0.75	0.88	0.88	0.79	0.93	0.91	0.85	0.68	0.86	0.92

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave L	T	R	Bikes	Southbound SW 65th Ave L	T	R	Bikes	Eastbound SW Lower Boones Ferry Rd L	T	R	Bikes	Westbound SW Lower Boones Ferry Rd L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	288	42	24	0	37	19	104	0	158	871	234	3	60	609	9	0	2,455	3	1	0	2
7:15 AM	310	42	25	0	44	18	98	0	169	934	243	4	70	627	10	0	2,586	2	1	0	1
7:30 AM	310	37	28	0	48	20	101	0	197	972	284	4	84	697	20	0	2,798	3	1	0	1
7:45 AM	360	33	32	0	58	25	117	0	222	984	299	3	96	752	24	1	3,002	5	0	2	0
8:00 AM	379	31	33	0	67	23	127	1	238	929	319	1	108	802	32	1	3,088	5	3	3	1

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



SW 65th Ave & SW Lower Boones Ferry Rd

Wednesday, November 15, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:55 AM to 8:55 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7 00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	2	0	2	5
7 05 AM	0	0	0	0	1	0	0	1	0	2	0	2	0	3	0	3	6
7 10 AM	2	1	0	3	0	0	0	0	0	3	1	4	0	2	0	2	9
7 15 AM	3	0	0	3	0	0	1	1	0	2	0	2	0	3	0	3	9
7 20 AM	1	0	0	1	0	0	0	0	1	3	1	5	0	2	0	2	8
7 25 AM	0	0	0	0	1	0	0	1	0	2	1	3	0	3	0	3	7
7 30 AM	1	0	0	1	0	0	0	0	1	2	0	3	2	3	0	5	9
7 35 AM	1	0	1	2	0	0	1	1	0	4	0	4	0	1	0	1	8
7 40 AM	1	0	0	1	1	0	1	2	0	4	0	4	0	2	0	2	9
7 45 AM	0	0	0	0	0	0	1	1	0	4	0	4	1	1	0	2	7
7 50 AM	2	0	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
7 55 AM	1	0	0	1	0	0	0	0	0	3	0	3	1	3	0	4	8
8 00 AM	1	0	0	1	0	0	0	0	0	4	1	5	0	2	0	2	8
8 05 AM	2	1	0	3	0	0	1	1	1	4	0	5	0	4	0	4	13
8 10 AM	0	0	0	0	0	0	0	0	0	4	1	5	0	3	0	3	8
8 15 AM	0	0	0	0	0	0	0	0	0	5	1	6	0	3	0	3	9
8 20 AM	1	0	1	2	0	0	0	0	1	3	1	5	0	3	0	3	10
8 25 AM	0	0	0	0	0	0	2	2	1	7	1	9	1	5	0	6	17
8 30 AM	0	0	1	1	0	0	0	0	1	5	0	6	0	0	0	0	7
8 35 AM	0	0	1	1	1	0	0	1	0	8	0	8	0	1	0	1	11
8 40 AM	0	0	0	0	0	0	1	1	2	5	1	8	0	4	0	4	13
8 45 AM	1	0	0	1	0	0	2	2	0	5	0	5	1	2	0	3	11
8 50 AM	1	0	0	1	0	0	0	0	0	5	2	7	0	3	0	3	11
8 55 AM	2	0	0	2	0	0	2	2	0	2	3	5	0	2	0	2	11
Total Survey	20	3	4	27	4	0	12	16	8	89	14	111	7	57	0	64	218

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7 00 AM	2	2	0	4	1	0	0	1	0	7	1	8	0	7	0	7	20
7 15 AM	4	0	0	4	1	0	1	2	1	7	2	10	0	8	0	8	24
7 30 AM	3	0	1	4	1	0	2	3	1	10	0	11	2	6	0	8	26
7 45 AM	3	0	0	3	0	0	1	1	0	8	0	8	3	4	0	7	19
8 00 AM	3	1	0	4	0	0	1	1	1	12	2	15	0	9	0	9	29
8 15 AM	1	0	1	2	0	0	2	2	2	15	3	20	1	11	0	12	36
8 30 AM	0	0	2	2	1	0	1	2	3	18	1	22	0	5	0	5	31
8 45 AM	4	0	0	4	0	0	4	4	0	12	5	17	1	7	0	8	33
Total Survey	20	3	4	27	4	0	12	16	8	89	14	111	7	57	0	64	218

Heavy Vehicle Peak Hour Summary
7:55 AM to 8:55 AM

By Approach	Northbound SW 65th Ave			Southbound SW 65th Ave			Eastbound SW Lower Boones Ferry Rd			Westbound SW Lower Boones Ferry Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	11	11	22	7	7	14	72	46	118	36	62	98	126
PHF	0 55			0 44			0 78			0 75			0 88

By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	7	1	3	11	1	0	6	7	6	58	8	72	3	33	0	36	126
PHF	0 44	0 25	0 38	0 55	0 25	0 00	0 50	0 44	0 50	0 73	0 67	0 78	0 75	0 75	0 00	0 75	0 88

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7 00 AM	12	2	1	15	3	0	4	7	2	32	3	37	5	25	0	30	89
7 15 AM	13	1	1	15	2	0	5	7	3	37	4	44	5	27	0	32	98
7 30 AM	10	1	2	13	1	0	6	7	4	45	5	54	6	30	0	36	110
7 45 AM	7	1	3	11	1	0	5	6	6	53	6	65	4	29	0	33	115
8 00 AM	8	1	3	12	1	0	8	9	6	57	11	74	2	32	0	34	129

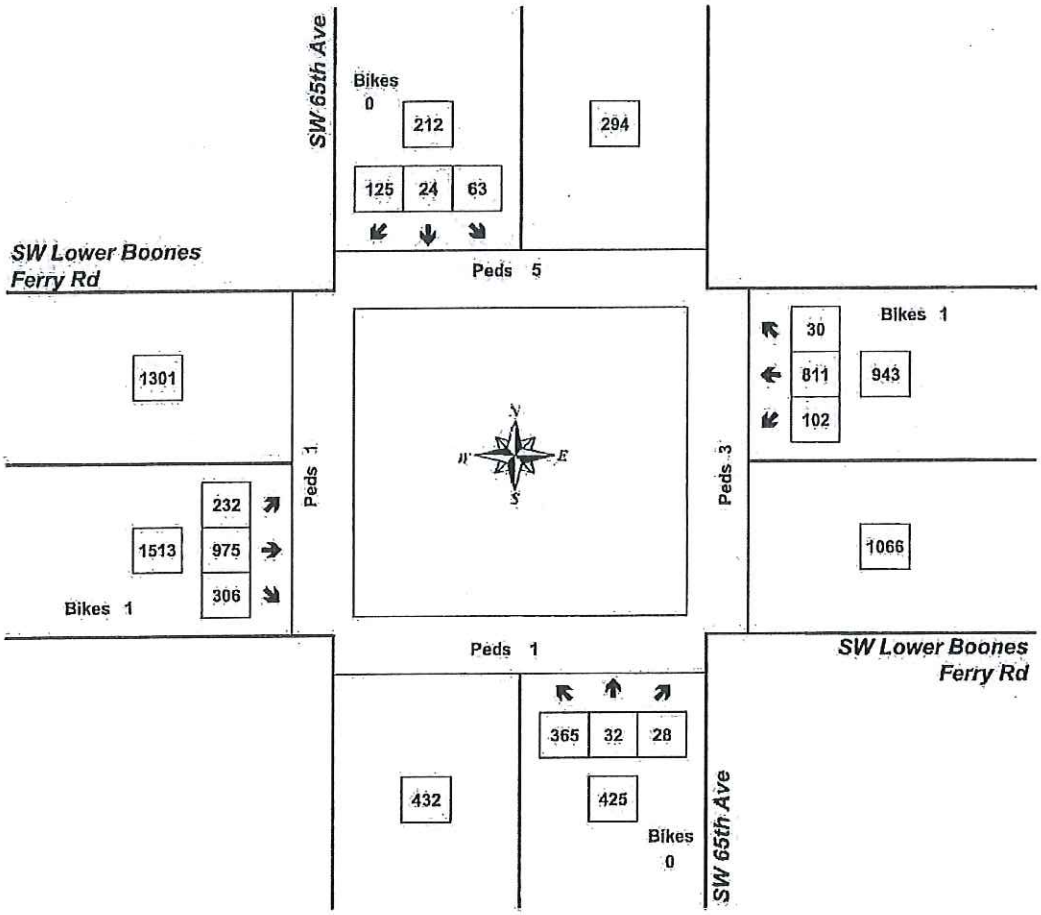
Peak Hour Summary

All Traffic Data Services Inc

Clay Carney
(503) 833-2740

SW 65th Ave & SW Lower Boones Ferry Rd

7:55 AM to 8:55 AM
Wednesday, November 15, 2017

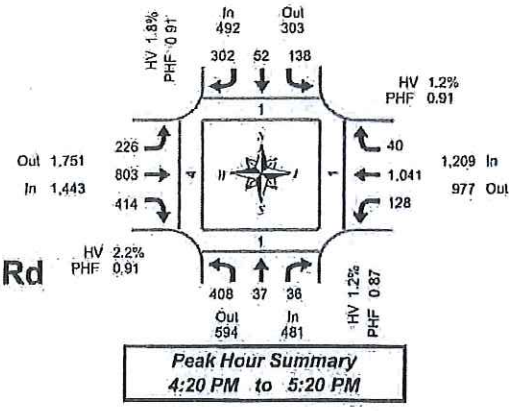


Approach	PHF	HV%	Volume
EB	0.93	4.8%	1,513
WB	0.86	3.8%	943
NB	0.78	2.6%	425
SB	0.75	3.3%	212
Intersection	0.92	4.1%	3,093

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

SW 65th Ave & SW Lower Boones Ferry Rd

Wednesday, November 15, 2017
4:00 PM to 6:00 PM

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	72	5	9	0	39	13	103	0	62	206	82	0	22	289	9	0	891	0	1	0	0
4:15 PM	84	9	8	0	47	15	83	0	66	183	97	0	37	249	14	0	892	1	1	0	0
4:30 PM	118	10	9	0	36	11	88	0	40	176	98	0	28	251	9	0	874	0	1	0	1
4:45 PM	92	6	7	0	31	15	75	0	59	232	98	0	33	290	9	0	947	0	0	0	1
5:00 PM	117	11	11	0	27	13	80	0	68	181	99	0	29	236	10	0	882	0	0	1	2
5:15 PM	105	13	6	0	37	17	68	0	50	226	135	0	23	204	11	0	895	0	1	0	1
5:30 PM	114	18	7	0	30	21	60	0	49	178	100	1	13	209	3	0	802	0	1	2	0
5:45 PM	71	12	11	0	22	21	43	0	60	206	99	0	27	256	13	0	841	0	1	0	0
Total Survey	773	84	68	0	269	126	600	0	454	1,588	808	1	212	1,964	78	0	7,024	1	6	3	5

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	481	594	1,075	0	492	303	795	0	1,443	1,751	3,194	0	1,209	977	2,186	0	3,625	1	1	1	4
%HV	1.2%				1.8%				2.2%				1.2%				1.7%				
PHF	0.87				0.91				0.91				0.91				0.96				

By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	408	37	36	481	138	52	302	492	226	803	414	1,443	128	1,041	40	1,209	3,625
%HV	1.0%	2.7%	2.8%	1.2%	1.4%	0.0%	2.3%	1.8%	7.5%	1.2%	1.2%	2.2%	0.8%	1.2%	0.0%	1.2%	1.7%
PHF	0.86	0.77	0.75	0.87	0.78	0.87	0.86	0.91	0.83	0.87	0.90	0.91	0.76	0.88	0.59	0.91	0.96

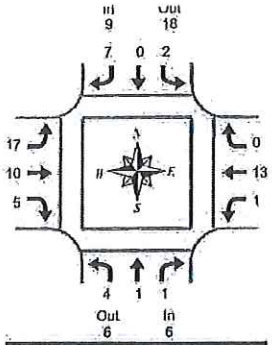
Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	366	30	33	0	153	54	349	0	227	797	375	0	120	1,059	41	0	3,604	1	3	0	2
4:15 PM	411	36	35	0	141	54	326	0	233	772	392	0	127	1,026	42	0	3,595	1	2	1	4
4:30 PM	432	40	33	0	131	56	311	0	217	815	430	0	113	981	39	0	3,598	0	2	1	5
4:45 PM	428	48	31	0	125	66	283	0	226	817	432	1	98	939	33	0	3,526	0	2	3	4
5:00 PM	407	54	35	0	116	72	251	0	227	791	433	1	92	905	37	0	3,420	0	3	3	3

Heavy Vehicle Summary

All Traffic Data Services Inc
Clay Carney
(503) 833-2740

Out 24
In 32



SW 65th Ave & SW Lower Boones Ferry Rd

Wednesday, November 15, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval
Time	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	Total
4:00 PM	0	0	0	0	0	0	2	2	13	7	3	23	0	5	0	5	30
4:15 PM	3	0	1	4	2	0	1	3	5	1	3	9	1	2	0	3	19
4:30 PM	1	0	0	1	0	0	3	3	6	2	0	8	0	1	0	1	13
4:45 PM	1	0	0	1	0	0	2	2	1	4	0	5	0	5	0	5	13
5:00 PM	0	1	0	1	0	0	1	1	4	3	2	9	0	4	0	4	15
5:15 PM	3	0	0	3	1	0	0	1	2	1	1	4	0	2	0	2	10
5:30 PM	1	0	0	1	0	0	2	2	3	5	2	10	0	5	0	5	18
5:45 PM	1	0	0	1	0	1	0	1	0	4	0	4	0	5	0	5	11
Total Survey	10	1	1	12	3	1	11	15	34	27	11	72	1	29	0	30	129

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound SW 65th Ave			Southbound SW 65th Ave			Eastbound SW Lower Boones Ferry Rd			Westbound SW Lower Boones Ferry Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	6	12	9	18	27	32	24	56	14	13	27	61
PHF	0.50			0.56			0.73			0.58			0.73

By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	1	1	6	2	0	7	9	17	10	5	32	1	13	0	14	61
PHF	0.50	0.25	0.25	0.50	0.25	0.00	0.58	0.56	0.53	0.42	0.63	0.73	0.25	0.54	0.00	0.58	0.73

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Lower Boones Ferry Rd				Westbound SW Lower Boones Ferry Rd				Interval
Time	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	Total
4:00 PM	5	0	1	6	2	0	8	10	25	14	6	45	1	13	0	14	75
4:15 PM	5	1	1	7	2	0	7	9	16	10	5	31	1	12	0	13	60
4:30 PM	5	1	0	6	1	0	6	7	13	10	3	26	0	12	0	12	51
4:45 PM	5	1	0	6	1	0	5	6	10	13	5	28	0	16	0	16	56
5:00 PM	5	1	0	6	1	1	3	5	9	13	5	27	0	16	0	16	54

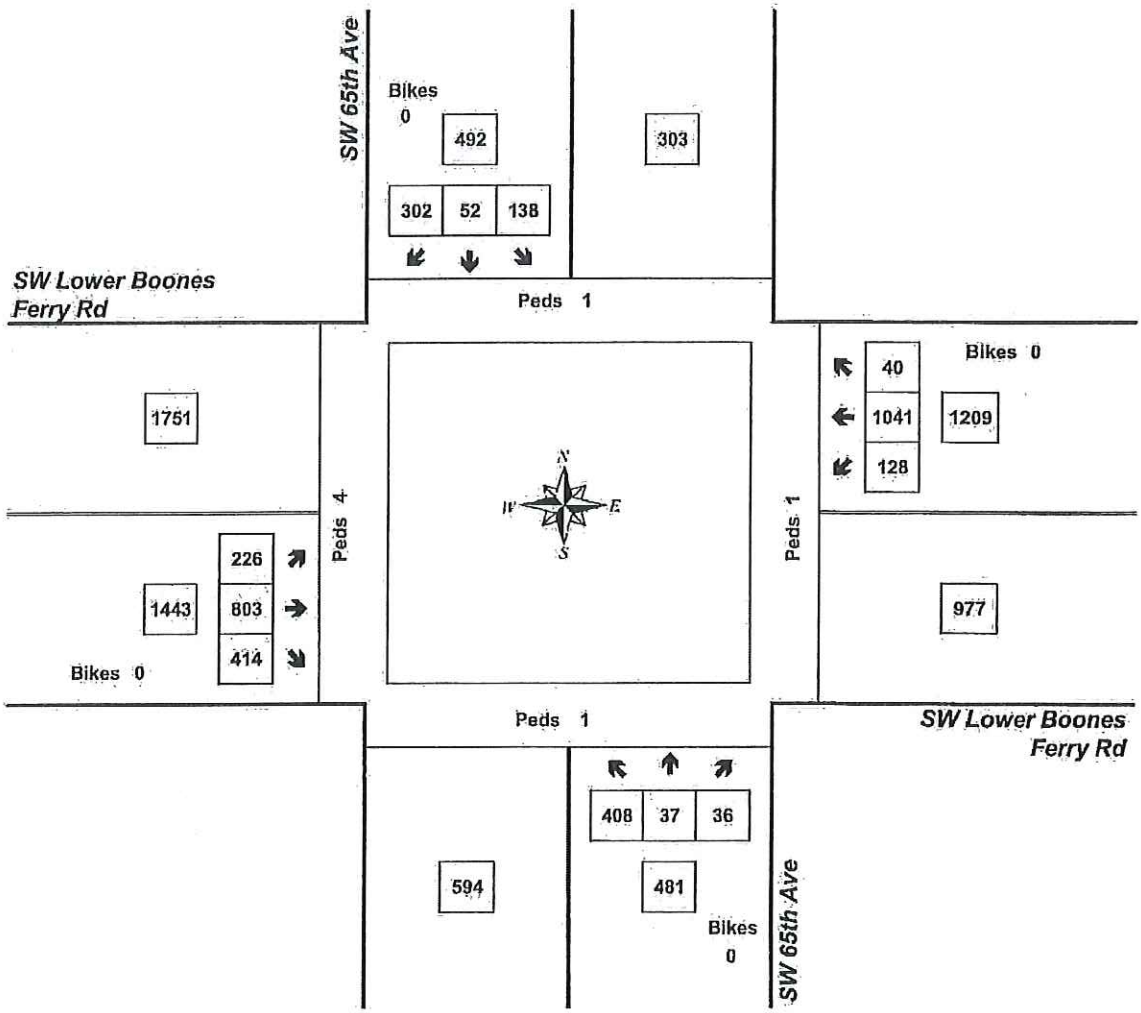
Peak Hour Summary

All Traffic Data Services Inc

Clay Carney
(503) 833-2740

SW 65th Ave & SW Lower Boones Ferry Rd

4:20 PM to 5:20 PM
Wednesday, November 15, 2017

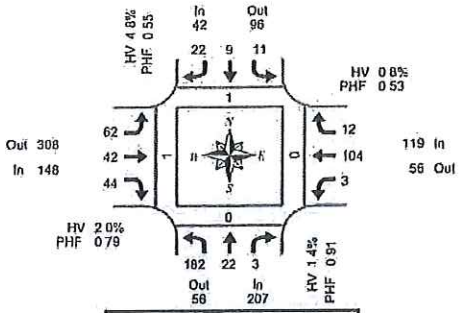


Approach	PHF	HV%	Volume
EB	0.91	2.2%	1,443
WB	0.91	1.2%	1,209
NB	0.87	1.2%	481
SB	0.91	1.8%	492
Intersection	0.96	1.7%	3,625

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data
Services Inc.
Clay Carney
(503) 833-2740



SW 65th Ave & SW Mcewan Rd

Tuesday, November 28, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:50 AM to 8:50 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	12	0	0	0	0	0	0	0	4	0	1	0	0	3	0	0	20	0	0	0	0
7:05 AM	12	2	0	0	0	0	2	0	1	2	0	0	0	1	0	0	20	0	0	0	0
7:10 AM	13	0	0	0	0	0	1	0	5	3	3	0	0	7	0	0	32	0	0	0	0
7:15 AM	15	1	0	0	0	0	3	0	2	2	0	0	0	5	0	0	28	0	0	0	0
7:20 AM	11	0	0	0	0	0	4	0	2	4	0	1	0	3	0	0	24	0	0	0	0
7:25 AM	19	1	0	0	0	0	4	0	2	2	1	0	0	9	0	0	38	0	0	0	0
7:30 AM	16	1	0	0	0	0	2	0	2	0	3	0	0	2	1	0	27	0	0	0	0
7:35 AM	14	1	0	0	2	0	1	0	4	4	1	0	0	3	0	0	30	0	0	0	0
7:40 AM	11	0	0	0	0	2	4	0	6	2	6	0	0	6	0	0	37	0	0	0	0
7:45 AM	18	0	0	0	0	0	0	0	4	2	0	0	0	7	0	0	31	0	0	1	0
7:50 AM	22	4	0	0	0	0	5	0	4	5	2	0	0	5	0	0	47	0	0	0	0
7:55 AM	15	0	0	0	0	0	1	0	9	2	6	0	0	8	0	0	41	0	0	0	0
8:00 AM	14	2	0	0	0	0	2	0	10	0	4	0	0	9	0	0	41	0	0	0	0
8:05 AM	19	1	0	0	0	0	2	0	6	3	3	0	0	5	0	0	39	0	0	0	1
8:10 AM	17	0	1	0	3	0	2	0	4	5	4	0	0	7	0	0	43	0	0	0	0
8:15 AM	14	3	0	0	3	1	2	0	3	8	5	0	2	4	4	0	49	0	0	0	0
8:20 AM	9	3	1	0	5	1	2	0	8	7	3	0	0	18	0	0	57	0	0	0	0
8:25 AM	20	2	1	0	0	1	1	0	2	2	3	0	1	23	3	0	59	1	0	0	0
8:30 AM	10	2	0	0	0	2	2	0	2	6	2	0	0	10	1	0	37	0	0	0	0
8:35 AM	8	2	0	0	0	0	3	0	3	2	3	0	0	6	1	0	28	0	0	0	0
8:40 AM	21	0	0	0	0	3	0	0	6	0	3	0	0	8	1	0	42	0	0	0	0
8:45 AM	13	3	0	0	0	1	0	0	5	2	6	0	0	1	2	0	33	0	0	0	0
8:50 AM	9	4	0	0	0	0	2	0	1	2	4	0	0	1	0	0	23	0	0	0	0
8:55 AM	10	1	0	0	0	0	3	0	3	1	4	0	0	9	2	0	33	0	0	0	0
Total Survey	342	33	3	0	13	11	48	0	98	66	67	1	3	160	15	0	859	1	0	1	1

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	37	2	0	0	0	0	3	0	10	5	4	0	0	11	0	0	72	0	0	0	0
7:15 AM	45	2	0	0	0	0	11	0	6	8	1	1	0	17	0	0	90	0	0	0	0
7:30 AM	41	2	0	0	2	2	7	0	12	6	10	0	0	11	1	0	94	0	0	0	0
7:45 AM	55	4	0	0	0	0	6	0	17	9	8	0	0	20	0	0	119	0	0	1	0
8:00 AM	50	3	1	0	3	0	6	0	20	8	11	0	0	21	0	0	123	0	0	0	1
8:15 AM	43	8	2	0	8	3	5	0	13	17	11	0	3	45	7	0	165	1	0	0	0
8:30 AM	39	4	0	0	0	5	5	0	11	8	8	0	0	24	3	0	107	0	0	0	0
8:45 AM	32	8	0	0	0	1	5	0	9	5	14	0	0	11	4	0	89	0	0	0	0
Total Survey	342	33	3	0	13	11	48	0	98	66	67	1	3	160	15	0	859	1	0	1	1

Peak Hour Summary
7:50 AM to 8:50 AM

By Approach	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	207	56	263	0	42	96	138	0	148	308	456	0	119	56	175	0	516	1	0	0	1
%HV		1.4%				4.8%				2.0%				0.8%			1.7%				
PHF		0.91				0.55				0.79				0.53			0.78				

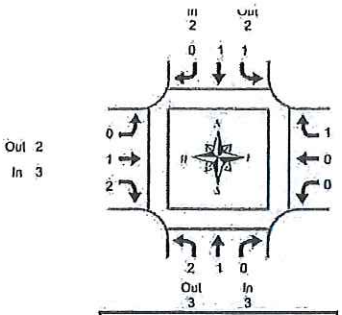
By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	182	22	3	207	11	9	22	42	62	42	44	148	3	104	12	119	516
%HV	1.1%	4.5%	0.0%	1.4%	9.1%	11.1%	0.0%	4.8%	0.0%	2.4%	4.5%	2.0%	0.0%	0.0%	8.3%	0.8%	1.7%
PHF	0.89	0.69	0.38	0.91	0.25	0.45	0.69	0.55	0.62	0.53	0.85	0.79	0.25	0.51	0.43	0.53	0.78

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	178	10	0	0	2	2	27	0	45	28	23	1	0	59	1	0	375	0	0	1	0
7:15 AM	191	11	1	0	5	2	30	0	55	31	30	1	0	69	1	0	426	0	0	1	1
7:30 AM	189	17	3	0	13	5	24	0	62	40	40	0	3	97	8	0	501	1	0	1	1
7:45 AM	187	19	3	0	11	8	22	0	61	42	38	0	3	110	10	0	514	1	0	1	1
8:00 AM	164	23	3	0	11	9	21	0	53	38	44	0	3	101	14	0	484	1	0	0	1

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



SW 65th Ave & SW Mcewan Rd

Tuesday, November 28, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:50 AM to 8:50 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:25 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	1	0	0	1	0	1	1	2	0	0	0	0	3
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
8:25 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
8:30 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Survey	2	1	0	3	2	1	2	5	0	2	5	7	0	0	1	1	16

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	1	0	0	1	0	1	1	2	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:00 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	1	1	0	0	1	0	0	1	1	0	0	0	0	3
8:30 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	1	1	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Survey	2	1	0	3	2	1	2	5	0	2	5	7	0	0	1	1	16

Heavy Vehicle Peak Hour Summary
7:50 AM to 8:50 AM

By Approach	Northbound SW 65th Ave			Southbound SW 65th Ave			Eastbound SW Mcewan Rd			Westbound SW Mcewan Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	3	6	2	2	4	3	2	5	1	2	3	9
PHF	0.38			0.25			0.38			0.25			0.45

By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	1	0	3	1	1	0	2	0	1	2	3	0	0	1	1	9
PHF	0.25	0.25	0.00	0.38	0.25	0.25	0.00	0.25	0.00	0.25	0.25	0.38	0.00	0.00	0.25	0.25	0.45

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	1	0	2	3	0	2	2	4	0	0	0	0	7
7:15 AM	2	0	0	2	1	0	2	3	0	2	1	3	0	0	0	0	8
7:30 AM	2	1	0	3	2	0	0	2	0	2	2	4	0	0	0	0	9
7:45 AM	2	1	0	3	1	1	0	2	0	1	2	3	0	0	1	1	9
8:00 AM	2	1	0	3	1	1	0	2	0	0	3	3	0	0	1	1	9

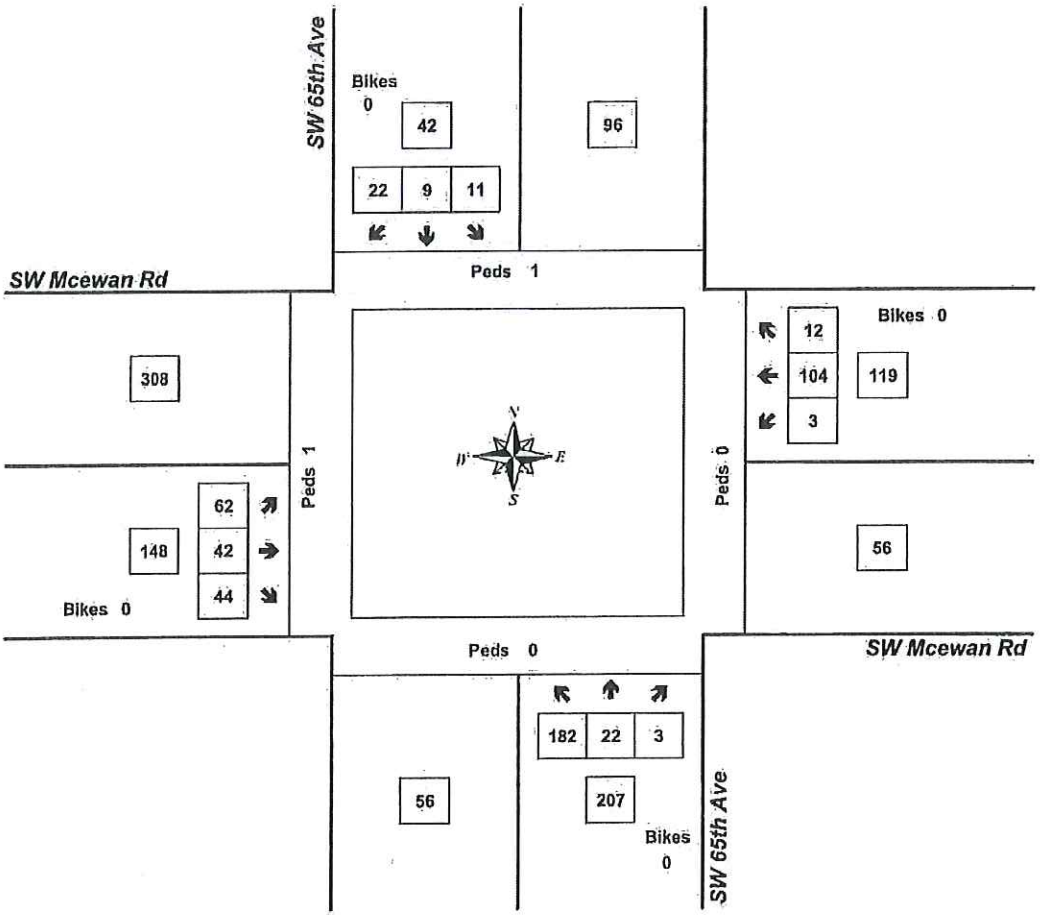
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 633-2740

SW 65th Ave & SW Mcewan Rd

7:50 AM to 8:50 AM
Tuesday, November 28, 2017

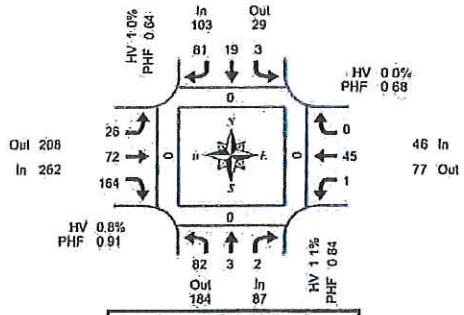


Approach	PHF	HV%	Volume
EB	0.79	2.0%	148
WB	0.53	0.8%	119
NB	0.91	1.4%	207
SB	0.55	4.8%	42
Intersection	0.78	1.7%	516

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc
Clay Carney
(503) 833-2740



Peak Hour Summary
5:00 PM to 6:00 PM

SW 65th Ave & SW Mcewan Rd

Tuesday, November 28, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	4	0	0	0	1	0	4	0	0	6	10	0	0	4	1	0	30	0	0	0	1
4:05 PM	10	0	0	0	0	1	7	0	4	4	18	0	0	2	0	0	46	0	0	0	0
4:10 PM	5	1	0	0	0	3	6	0	2	5	12	0	0	3	0	0	37	0	0	0	0
4:15 PM	6	1	0	0	0	2	2	0	4	0	15	0	0	8	0	0	38	0	0	0	0
4:20 PM	10	0	0	0	1	1	2	0	3	5	16	0	0	4	0	0	42	0	0	0	0
4:25 PM	6	0	0	0	0	1	4	0	3	8	10	0	0	2	1	0	35	0	0	0	0
4:30 PM	3	0	0	0	0	2	6	0	1	4	13	0	0	4	0	0	33	0	0	0	0
4:35 PM	8	0	0	0	0	2	8	0	1	4	15	0	0	7	0	0	45	0	0	0	0
4:40 PM	9	0	0	0	0	2	1	0	3	4	11	0	0	4	0	0	34	0	0	0	0
4:45 PM	10	1	1	0	0	2	3	0	5	4	18	0	0	2	0	0	46	0	0	0	0
4:50 PM	4	1	0	0	0	0	4	0	0	10	9	0	0	0	1	0	29	1	0	0	0
4:55 PM	2	1	0	0	0	2	6	0	1	5	14	0	0	4	0	0	35	0	0	0	0
5:00 PM	2	0	0	0	1	1	9	0	2	5	20	0	0	7	0	0	47	0	0	0	0
5:05 PM	7	0	0	0	0	5	13	0	1	8	9	0	1	3	0	0	47	0	0	0	0
5:10 PM	9	0	0	0	0	0	11	0	1	6	13	0	0	0	0	0	40	0	0	0	0
5:15 PM	3	2	1	0	0	3	8	0	1	4	17	0	0	5	0	0	44	0	0	0	0
5:20 PM	10	0	0	0	0	2	6	0	4	3	16	0	0	1	0	0	42	0	0	0	0
5:25 PM	4	0	0	0	1	2	4	0	3	5	9	0	0	6	0	0	34	0	0	0	0
5:30 PM	9	0	0	0	0	1	3	0	3	8	16	0	0	0	0	0	40	0	0	0	0
5:35 PM	7	1	0	0	0	2	5	0	1	2	12	0	0	9	0	0	39	0	0	0	0
5:40 PM	5	0	1	0	1	0	6	0	1	9	11	0	0	5	0	0	38	0	0	0	0
5:45 PM	7	0	0	0	0	0	7	0	3	11	12	0	0	3	0	0	43	0	0	0	0
5:50 PM	13	0	0	0	0	1	5	0	3	5	11	0	0	2	0	0	40	0	0	0	0
5:55 PM	6	0	0	0	0	2	5	0	3	6	18	0	0	4	0	0	44	0	0	0	0
Total Survey	159	8	3	0	5	37	134	0	53	131	325	0	1	89	3	0	948	1	0	0	1

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	19	1	0	0	1	4	17	0	6	15	40	0	0	9	1	0	113	0	0	0	1
4:15 PM	22	1	0	0	1	4	8	0	10	13	41	0	0	14	1	0	115	0	0	0	0
4:30 PM	20	0	0	0	0	6	15	0	5	12	39	0	0	15	0	0	112	0	0	0	0
4:45 PM	16	3	1	0	0	4	13	0	6	19	41	0	0	6	1	0	110	1	0	0	0
5:00 PM	18	0	0	0	1	6	33	0	4	19	42	0	1	10	0	0	134	0	0	0	0
5:15 PM	17	2	1	0	1	7	18	0	8	12	42	0	0	12	0	0	120	0	0	0	0
5:30 PM	21	1	1	0	1	3	13	0	5	19	39	0	0	14	0	0	117	0	0	0	0
5:45 PM	26	0	0	0	0	3	17	0	9	22	41	0	0	9	0	0	127	0	0	0	0
Total Survey	159	8	3	0	5	37	134	0	53	131	325	0	1	89	3	0	948	1	0	0	1

Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	87	184	271	0	103	29	132	0	262	208	470	0	46	77	123	0	498	0	0	0	0
%HV		1.1%				1.0%				0.8%				0.0%			0.8%				
PHF		0.84				0.64				0.91				0.68			0.93				

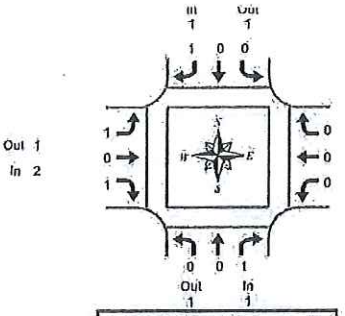
By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	82	3	2	87	3	19	81	103	26	72	164	262	1	45	0	46	498
%HV	0.0%	0.0%	50.0%	1.1%	0.0%	0.0%	1.2%	1.0%	3.8%	0.0%	0.6%	0.8%	0.0%	0.0%	0.0%	0.0%	0.8%
PHF	0.79	0.38	0.50	0.84	0.75	0.59	0.61	0.64	0.65	0.72	0.89	0.91	0.25	0.66	0.00	0.68	0.93

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	77	5	1	0	2	18	53	0	27	59	161	0	0	44	3	0	450	1	0	0	1
4:15 PM	76	4	1	0	2	20	69	0	25	63	163	0	1	45	2	0	471	1	0	0	0
4:30 PM	71	5	2	0	2	23	79	0	23	62	164	0	1	43	1	0	476	1	0	0	0
4:45 PM	72	6	3	0	3	20	77	0	23	69	164	0	1	42	1	0	481	1	0	0	0
5:00 PM	82	3	2	0	3	19	81	0	26	72	164	0	1	45	0	0	498	0	0	0	0

Heavy Vehicle Summary

All Traffic Data
Services Inc.
Clay Carney
(503) 633-2740



SW 65th Ave & SW Mcewan Rd

Tuesday, November 28, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
5:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:25 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:40 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	1	2	0	1	3	4	3	0	2	5	0	1	1	2	13

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	1	0	1	2	0	1	3	0	0	1	1	5
4:30 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:30 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	1	2	0	1	3	4	3	0	2	5	0	1	1	2	13

Heavy Vehicle Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound SW 65th Ave			Southbound SW 65th Ave			Eastbound SW Mcewan Rd			Westbound SW Mcewan Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	1	2	1	1	2	2	1	3	0	1	1	4
PHF	0.25			0.25			0.25			0.00			0.50

By Movement	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	1	1	0	0	1	1	1	0	1	2	0	0	0	0	4
PHF	0.00	0.00	0.25	0.25	0.00	0.00	0.25	0.25	0.25	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.50

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 65th Ave				Southbound SW 65th Ave				Eastbound SW Mcewan Rd				Westbound SW Mcewan Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	0	1	2	3	2	0	1	3	0	1	1	2	9
4:15 PM	1	0	0	1	0	1	3	4	2	0	1	3	0	0	1	1	9
4:30 PM	1	0	0	1	0	0	3	3	1	0	0	1	0	0	0	0	5
4:45 PM	1	0	1	2	0	0	1	1	1	0	1	2	0	0	0	0	5
5:00 PM	0	0	1	1	0	0	1	1	1	0	1	2	0	0	0	0	4

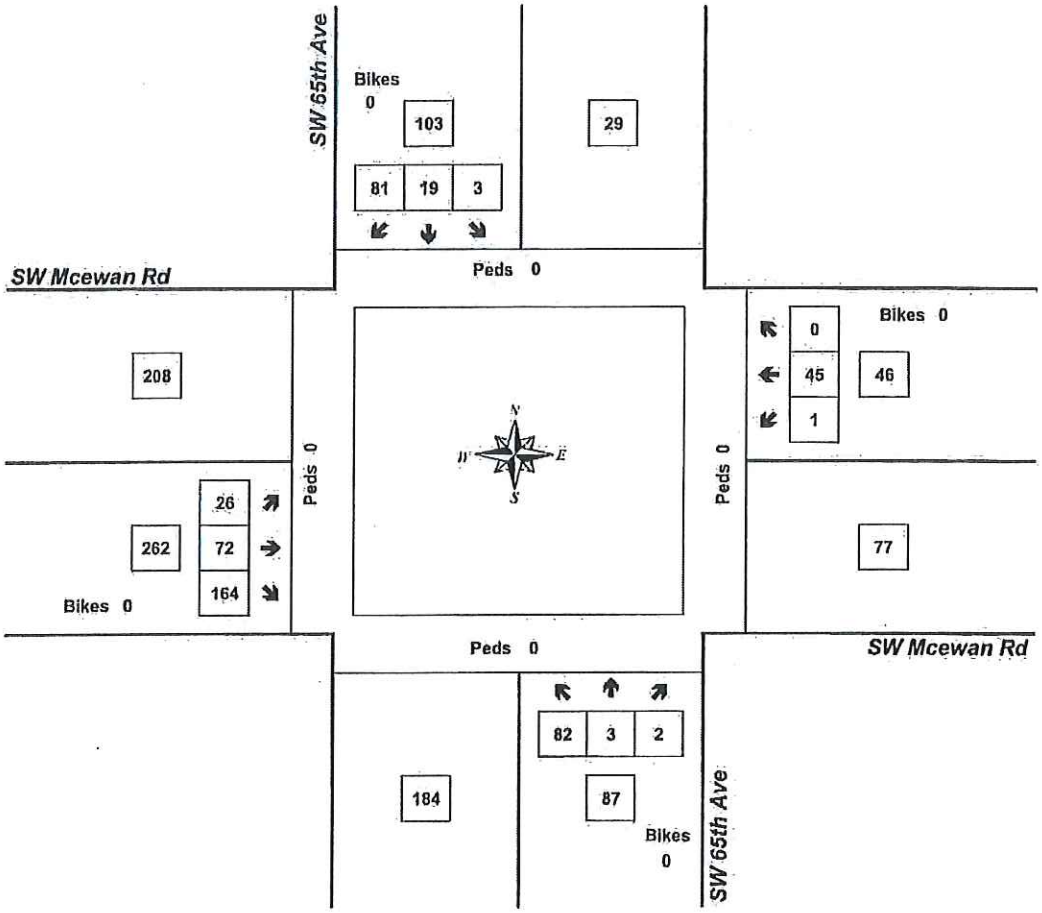
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

SW 65th Ave & SW Mcewan Rd

5:00 PM to 6:00 PM
Tuesday, November 28, 2017



Approach	PHF	HV%	Volume
EB	0.91	0.8%	262
WB	0.68	0.0%	46
NB	0.84	1.1%	87
SB	0.64	1.0%	103
Intersection	0.93	0.8%	498

Count Period: 4:00 PM to 6:00 PM

CDS150
11/14/2017

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
65TH AVE at BOONES FERRY RD, City of Tualatin, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
ANGLE	0	1	0	1	0	4	0	0	1	0	1	1	0	0
REAR-END	0	2	1	3	0	3	0	1	2	2	1	3	0	0
YEAR 2012 TOTAL	0	3	1	4	0	7	0	1	3	2	2	4	0	0
YEAR: 2011														
REAR-END	0	1	1	2	0	1	0	0	1	1	1	2	0	0
YEAR 2011 TOTAL	0	1	1	2	0	1	0	0	1	1	1	2	0	0
FINAL TOTAL	0	4	2	6	0	8	0	1	4	3	3	6	0	0

Exhibit B to Resolution No. 5358-18

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
65TH AVE at BOONES FERRY RD, City of Tualatin, Clackamas County, 01/01/2011 to 12/31/2015
Total crash records: 6

SER# / INVEST	E A U I C O / P R S / W	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V# SPCL USE / TRLR QTY / OWNER / V# TYPE	MOVE / FROM / TO	PRTC / P# TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
[illegible] / CITY	N N N Y N	11/15/2012 / TU / [illegible]	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / NE / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	RAIN / WET / DAY	S-1STOP / REAR / INJ	01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / NE-SW	01 DRVR	NONE	16	F	OR-Y / OR<25		026	000 / 000	[illegible]
											02 NONE 0 / PRVTE / PSNGR CAR	STOP / NE-SW	01 DRVR	INJC	40	M	OR-Y / OR<25		000	011 / 000	[illegible]
[illegible]1248 / NONE	N N N	10/14/2012 / SU / 2P	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / NE / 06	CROSS / 1	N / TRF SIGNAL	N / N / N	CLR / DRY / DAY	S-1STOP / REAR / PDO	01 NONE 0 / PRVTE / UNKNOWN	STRGHT / NE-SW	01 DRVR	NONE	00	M	OR-Y / OR<25		026	000 / 000	[illegible]
											02 NONE 0 / PRVTE / PSNGR CAR	STOP / NE-SW	01 DRVR	NONE	19	F	OR-Y / OR<25		000	011 / 000	02
[illegible]4436 / NONE	N N N	11/19/2012 / MO / 7P	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / NE / 06	CROSS / 1	N / TRF SIGNAL	N / N / N	RAIN / WET / DLIT	S-1STOP / REAR / INJ	01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / NE-SW	01 DRVR	NONE	17	M	OR-Y / OR<25		043	000 / 000	[illegible]
											02 NONE 0 / PRVTE / PSNGR CAR	STOP / NE-SW	01 DRVR	INJC	11	F	OR-Y / OR<25		000	011 / 000	[illegible]
											03 NONE 0 / PRVTE / PSNGR CAR	STOP / NE-SW	02 PSNG	INJC	17	F			000	011 / 000	[illegible]
[illegible]4631 / NONE	N N N	12/12/2013 / TH / 6P	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / S / 06	CROSS / 0	N / TRF SIGNAL	N / N / N	UNK / UNK / DLIT	S-1STOP / REAR / PDO	01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / S-N	01 DRVR	NONE	55	F	OR-Y / OR<25		026	000 / 000	[illegible]
											02 NONE 0 / PRVTE / PSNGR CAR	STOP / S-N	01 DRVR	NONE	40	M	OR-Y / OR<25		000	011 / 000	[illegible]
[illegible]6449 / NONE	N N N	11/21/2014 / FR / 11A	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / S / 06	CROSS / [illegible]	N / TRF SIGNAL	N / N / N	RAIN / WET / DAY	S-1STOP / REAR / INJ	01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / S-N	01 DRVR	NONE	74	F	OR-Y / OR<25		026	000 / 000	[illegible]
											02 NONE 0 / PRVTE / PSNGR CAR	STOP / S-N	01 DRVR	INJC	52	F	OR-Y / OR<25		000	011 / 000	[illegible]
[illegible]5214 / CITY	N N N Y N	11/21/2013 / TH / 3P	14 / 0	BOONES FERRY RD / SW 65TH AVE	INTER / SW / 02	CROSS / 1	N / TRF SIGNAL	N / N / N	RAIN / WET / DLIT	ANGL-OTH / ANGL / INJ	01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / E-W	01 DRVR	NONE	75	M	OTH-Y / N-RES		028	000 / 000	[illegible]
											01 NONE 0 / PRVTE / PSNGR CAR	STRGHT / [illegible]-W	02 PSNG	INJC	59	F			000	000 / 000	[illegible]

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Exhibit B to
Resolution No. 5358-18

CDS380
1/24/2017

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, CLACKAMAS COUNTY

65TH AVE at BOONES FERRY RD, City of Tualatin, Clackamas County, 01/01/2011 to 12/31/2015

[illegible]

SER# INVEST	E A U I C O	DATE DAY TIME	CLASS DIST FROM	CITY STREET FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CONTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH COLL SVRTY	SPCL USE TRLR QTY OWNER V# TYPE	MOVE FROM TO	PRTC P# TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
											01 NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01 DRVR	INJB	27	F	OR-Y OR<25		000	000 000	[illegible]
											01 NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02 PSNG	INJB	21	F			000	000 000	[illegible]
											02 NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01 PSNG	INJB	31	M			000	000 000	[illegible]

Exhibit B to
Resolution No. 5358-18

CDS150
11/14/2017

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
65TH AVE at LOWER BOONES FERRY, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	1	0	1
YEAR 2014 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	1
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2012 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2011														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2011 TOTAL	0	1	1	2	0	1	0	1	1	1	1	2	0	0
FINAL TOTAL	0	1	3	4	0	1	0	2	2	2	2	4	0	1

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Exhibit B to
Resolution No. 5358-18

CDS380
[illegible]

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

65TH AVE at LOWER BOONES FERRY, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015

Total crash records: 4

SER# / INVEST	E A U I C O D C S L K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V# SPCL USE TRLR QTY OWNER / VEH TYPE	MOVE FROM TO	PRTC P# TYPE	INJ SVRTY	AGE	SEX	LICNS / PED RES	LOC	ERROR	ACT EVENT	CAUSE
[illegible]	N N N	[illegible]/2012	10	SW LOWER BOONES FERRY	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE 0	STRGHT									[illegible]
NONE		[illegible]	[illegible]	SW 65TH AVE	N		TRF SIGNAL	N	DRY	REAR	UNKN	N -S								000	[illegible]
		[illegible]			06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	[illegible]	M	OR-Y UNK		026	000	[illegible]
											02 NONE 0	STOP									
											PRVTE	N -S								[illegible]	[illegible]
											PSNGR CAR		01 DRVR	NONE	[illegible]	F	OR-Y OR<25		000	000	[illegible]
[illegible]	Y [illegible] Y [illegible] N	[illegible]/2011	[illegible]	SW LOWER BOONES FERRY	INTER	CROSS	N	[illegible]	RAIN	FIX OR	01 NONE 0	STRGHT								055	[illegible]
CITY		[illegible]		SW 65TH AVE	E		TRF SIGNAL	N	WET	FIX	PRVTE	N -[illegible]								000 055	[illegible]
		[illegible]			05	[illegible]		N	DLIT	[illegible]	PSNGR CAR		01 DRVR	NONE	[illegible]	M	OR-Y OR<25		[illegible],023	000	[illegible]
[illegible]	N N N N N	[illegible]/2011	[illegible]	SW LOWER BOONES FERRY	INTER	CROSS	N	N	CLR	S-1STOP	01 [illegible]	STRGHT								[illegible]	[illegible]
[illegible]		[illegible]		SW 65TH AVE	[illegible]		TRF SIGNAL	[illegible]	DRY	REAR	UNKN	W -[illegible]								000	[illegible]
		[illegible]			06	[illegible]		[illegible]	DAY	INJ	PSNGR CAR		01 DRVR	NONE	[illegible]	[illegible]	UNK UNK		[illegible]	000	[illegible]
											02 NONE [illegible]	STOP									
											PRVTE	W -[illegible]								[illegible]	
											PSNGR CAR		01 DRVR	NONE	[illegible]	F	OR-Y OR<25		000	000	[illegible]
											03 NONE [illegible]	STOP									
											PRVTE	W -[illegible]								022	[illegible]
											PSNGR CAR		01 DRVR	[illegible]	[illegible]	F	OR-Y OR<25		000	000	[illegible]
[illegible]	N N N	[illegible]/2011	[illegible]	SW LOWER BOONES FERRY	INTER	CROSS	N	N	RAIN	[illegible] L-TURN	01 NONE [illegible]	STRGHT									[illegible]
NONE		[illegible]		SW 65TH AVE	[illegible]		TRF SIGNAL	N	WET	TURN	PRVTE	N -S								000	[illegible]
		[illegible]			[illegible]	[illegible]		N	DLIT	PDO	PSNGR CAR		01 DRVR	NONE	27	F	OR-Y OR<25		000	000	[illegible]
											02 UNKN [illegible]	TURN-L									
											UNKN	S -W								000	[illegible]
											PSNGR CAR		01 DRVR	NONE	00	M	UNK UNK		000,028	000	[illegible]

Exhibit B to
Resolution No. 5358-18

11/14/2017

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
65TH AVE at MCEWAN RD, City of Tualatin, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
65TH AVE at MCEWAN RD, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2013														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	0
FINAL TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	0

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Exhibit B to Resolution No. 5358-18

CDS380
[illegible]

CITY OF TUALATIN, WASHINGTON COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
65TH AVE at MCEWAN RD, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015
[illegible] 1

SER# INVEST	P R J U O E A U I C O L S W D C S L K	DATE DAY TIME	CLASS DIST FROM	CITY STREET FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CONTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH COLL SVRTY	SPCL USE TRLR QTY OWNER V# TYPE	MOVE FROM TO	PRTC P# TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
[illegible] CITY	N N N N N	[illegible] 2013 WE [illegible]	[illegible] 0	SW MCEWAN RD SW 65TH AVE	INTER CN 03	3-LEG 0	N STOP SIGN	N N N	CLD DRY DAY	ANGL-OTH TURN PDO	01 NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01 DRVR	NONE	[illegible]	[illegible]	OR-Y OR<25		[illegible]	[illegible] [illegible]	[illegible] [illegible] [illegible]
											02 NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01 DRVR	NONE	25	F	OTH-Y N-RES		[illegible]	[illegible] [illegible]	[illegible] [illegible]

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS150
11/14/2017

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
65TH AVE at MCEWAN RD, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2013														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	0
FINAL TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	0

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Exhibit B to Resolution No. 5358-18

CDS380
[illegible]

CITY OF TUALATIN, WASHINGTON COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
65TH AVE at MCEWAN RD, City of Tualatin, Washington County, 01/01/2011 to 12/31/2015
[illegible]

SER# / INVEST	E A U I C O / D C S V L K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / [illegible] / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	PRTC / P# TYPE	INJ / SVRTY	A / G / E	S / E / X	LICNS / RES	PED / LOC	ERROR	ACT EVENT	CAUSE
[illegible]	N N N N N	[illegible]/2011	[illegible]	SW MCEWAN RD	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT									[illegible]
CITY		WE	0	SW 65TH AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -N								000	[illegible]
		--			01	0		N	DLIT	PDO		PSNGR CAR		01 DRVR	NONE	63	F	OR-Y OR<25		[illegible]	000	[illegible]
											02	NONE 0	TURN-L									
												PRVTE	E -S								[illegible]	[illegible]
												PSNGR CAR		01 DRVR	NONE	76	M	OTH-Y N-RES		028	000	[illegible]

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Left-Turn Lane Warrant Analysis

1e

Project: TVF&R Station 39
Intersection: North Site Access at SW McEwan Road
Date: 11/28/2017
Scenario: 2019 Background plus Site Conditions - AM Peak Hour

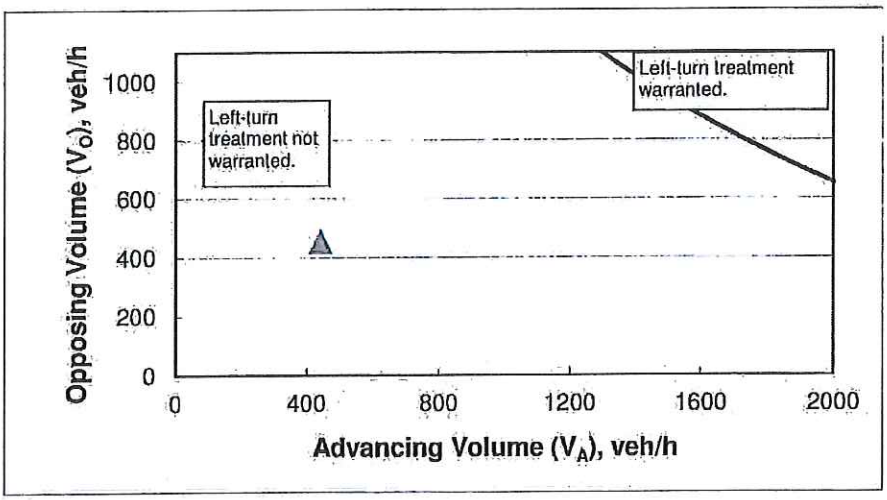
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	443
Opposing volume (V_O), veh/h:	454

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2456
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

1e

Project: TVF&R Station 39
Intersection: North Site Access at SW McEwan Road
Date: 11/28/2017
Scenario: 2019 Background plus Site Conditions - PM Peak Hour

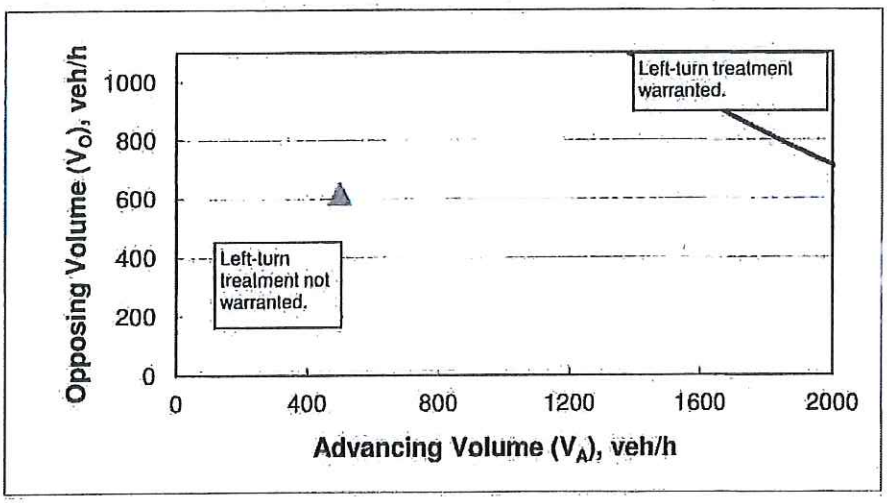
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	499
Opposing volume (V_O), veh/h:	620

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2199
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

1e

Project: TVF&R Station 39
Date: 11/30/2017
Scenario: Year 2019 Background plus Site Conditions

Major Street:	SW McEwan Road	Minor Street:	SW 65th Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	322	PM Peak Hour Volumes:	90

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	3,220	8,850	
Minor Street*	900	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	3,220	13,300	
Minor Street*	900	1,350	**No**
Combination Warrant			
Major Street	3,220	10,640	
Minor Street*	900	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

1c

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

1e

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road 11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	975	306	102	811	30	365	32	28	63	24	125
Future Volume (vph)	232	975	306	102	811	30	365	32	28	63	24	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.97	1.00
Satd. Flow (prot)	1719	3438	1515	1736	4955		1665	1655			1777	1559
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.64	1.00
Satd. Flow (perm)	1719	3438	1515	1736	4955		1665	1655			1178	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	252	1060	333	111	882	33	397	35	30	68	26	136
RTOR Reduction (vph)	0	0	151	0	4	0	0	6	0	0	0	48
Lane Group Flow (vph)	252	1060	182	111	911	0	230	226	0	0	94	88
Confl. Peds. (#/hr)	5		1	1		5	1		3	3		1
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Perm	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2			6	7
Permitted Phases			4							6		6
Actuated Green, G (s)	15.7	28.4	44.2	6.9	19.6		15.8	15.8			11.6	27.3
Effective Green, g (s)	15.7	28.4	44.2	6.9	19.6		15.8	15.8			11.6	27.3
Actuated g/C Ratio	0.19	0.35	0.55	0.09	0.24		0.20	0.20			0.14	0.34
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	334	1209	914	148	1203		325	324			169	614
v/s Ratio Prot	c0.15	c0.31	0.04	0.06	0.18		c0.14	0.14				0.03
v/s Ratio Perm			0.08								c0.08	0.03
v/c Ratio	0.75	0.88	0.20	0.75	0.76		0.71	0.70			0.56	0.14
Uniform Delay, d1	30.7	24.5	9.3	36.1	28.3		30.3	30.2			32.2	18.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	9.3	7.4	0.1	19.0	2.8		6.9	6.4			3.9	0.1
Delay (s)	40.0	31.9	9.4	55.1	31.1		37.2	36.7			36.1	18.7
Level of Service	D	C	A	E	C		D	D			D	B
Approach Delay (s)		28.6			33.7			36.9			25.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	62	42	44	3	104	12	182	22	3	11	9	22
Future Vol, veh/h	62	42	44	3	104	12	182	22	3	11	9	22
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	79	54	56	4	133	15	233	28	4	14	12	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	9.3	10.9	8.4
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	88%	42%	3%	26%
Vol Thru, %	11%	28%	87%	21%
Vol Right, %	1%	30%	10%	52%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	148	119	42
LT Vol	182	62	3	11
Through Vol	22	42	104	9
RT Vol	3	44	12	22
Lane Flow Rate	265	190	153	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.367	0.255	0.208	0.073
Departure Headway (Hd)	4.973	4.839	4.907	4.907
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	738	726	722
Service Time	3.036	2.901	2.973	2.99
HCM Lane V/C Ratio	0.369	0.257	0.211	0.075
HCM Control Delay	10.9	9.6	9.3	8.4
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.7	1	0.8	0.2

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road

11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	803	414	128	1041	40	408	37	36	138	52	302
Future Volume (vph)	226	803	414	128	1041	40	408	37	36	138	52	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	1770	3539	1562	1787	5103		1698	1685			1797	1570
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	1770	3539	1562	1787	5103		1698	1685			1797	1570
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	235	836	431	133	1084	42	425	39	38	144	54	315
RTOR Reduction (vph)	0	0	216	0	5	0	0	7	0	0	0	47
Lane Group Flow (vph)	235	836	215	133	1121	0	251	244	0	0	198	268
Confl. Peds. (#/hr)	1		1	1		1	4		1	1		4
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2		6	6	7
Permitted Phases			4									6
Actuated Green, G (s)	15.0	24.6	41.0	9.3	18.9		16.4	16.4			13.9	28.9
Effective Green, g (s)	15.0	24.6	41.0	9.3	18.9		16.4	16.4			13.9	28.9
Actuated g/C Ratio	0.18	0.30	0.50	0.11	0.23		0.20	0.20			0.17	0.35
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	322	1059	864	202	1173		338	336			303	637
v/s Ratio Prot	c0.13	0.24	0.05	0.07	c0.22		c0.15	0.14			c0.11	0.08
v/s Ratio Perm			0.09									0.09
v/c Ratio	0.73	0.79	0.25	0.66	0.96		0.74	0.73			0.65	0.42
Uniform Delay, d1	31.7	26.4	11.8	34.9	31.2		30.9	30.8			31.9	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.0	4.0	0.2	7.5	16.7		8.5	7.6			5.0	0.4
Delay (s)	39.7	30.4	11.9	42.5	47.9		39.4	38.4			36.9	20.7
Level of Service	D	C	B	D	D		D	D			D	C
Approach Delay (s)		26.6			47.3			38.9			27.0	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 AWSC
4: SW 65th Avenue & SW McEwan Road

11/30/2017

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	72	164	1	45	1	82	3	2	3	19	81
Future Vol, veh/h	26	72	164	1	45	1	82	3	2	3	19	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	28	77	176	1	48	1	88	3	2	3	20	87
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	8	8.7	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	10%	2%	3%
Vol Thru, %	3%	27%	96%	18%
Vol Right, %	2%	63%	2%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	262	47	103
LT Vol	82	26	1	3
Through Vol	3	72	45	19
RT Vol	2	164	1	81
Lane Flow Rate	94	282	51	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.321	0.066	0.132
Departure Headway (Hd)	4.937	4.099	4.666	4.289
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	725	879	767	835
Service Time	2.972	2.121	2.698	2.322
HCM Lane V/C Ratio	0.13	0.321	0.066	0.133
HCM Control Delay	8.7	9.1	8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.4	0.2	0.5

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road 11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	1014	318	106	844	31	380	33	29	66	25	130
Future Volume (vph)	241	1014	318	106	844	31	380	33	29	66	25	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	1719	3438	1515	1736	4955		1665	1654			1776	1559
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.63	1.00
Satd. Flow (perm)	1719	3438	1515	1736	4955		1665	1654			1166	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	1102	346	115	917	34	413	36	32	72	27	141
RTOR Reduction (vph)	0	0	154	0	4	0	0	6	0	0	0	48
Lane Group Flow (vph)	262	1102	192	115	947	0	240	235	0	0	99	93
Confl. Peds. (#/hr)	5		1	1		5	1		3	3		1
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Perm	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2			6	7
Permitted Phases			4							6		6
Actuated Green, G (s)	16.1	29.5	45.6	6.7	20.1		16.1	16.1			12.0	28.1
Effective Green, g (s)	16.1	29.5	45.6	6.7	20.1		16.1	16.1			12.0	28.1
Actuated g/C Ratio	0.20	0.36	0.55	0.08	0.24		0.20	0.20			0.15	0.34
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	336	1232	922	141	1210		325	323			170	617
v/s Ratio Prot	c0.15	c0.32	0.04	0.07	0.19		c0.14	0.14				0.03
v/s Ratio Perm			0.09								c0.08	0.03
v/c Ratio	0.78	0.89	0.21	0.82	0.78		0.74	0.73			0.58	0.15
Uniform Delay, d1	31.4	24.9	9.2	37.2	29.1		31.1	31.0			32.8	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	10.9	8.6	0.1	29.1	3.4		8.5	7.9			5.0	0.1
Delay (s)	42.3	33.6	9.4	66.3	32.4		39.6	38.9			37.8	18.9
Level of Service	D	C	A	E	C		D	D			D	B
Approach Delay (s)		30.0			36.1			39.3			26.7	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 AWSC
4: SW 65th Avenue & SW McEwan Road

11/30/2017

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	65	44	46	3	108	12	189	23	3	11	9	23
Future Vol, veh/h	65	44	46	3	108	12	189	23	3	11	9	23
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	83	56	59	4	138	15	242	29	4	14	12	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	9.4	11.2	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	88%	42%	2%	26%
Vol Thru, %	11%	28%	88%	21%
Vol Right, %	1%	30%	10%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	155	123	43
LT Vol	189	65	3	11
Through Vol	23	44	108	9
RT Vol	3	46	12	23
Lane Flow Rate	276	199	158	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.384	0.269	0.217	0.076
Departure Headway (Hd)	5.014	4.882	4.957	4.958
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	729	718	714
Service Time	3.082	2.951	3.03	3.048
HCM Lane V/C Ratio	0.388	0.273	0.22	0.077
HCM Control Delay	11.2	9.8	9.4	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.8	1.1	0.8	0.2

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road 11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	835	431	133	1083	42	424	38	37	144	54	314
Future Volume (vph)	235	835	431	133	1083	42	424	38	37	144	54	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	1770	3539	1562	1787	5102		1698	1685			1797	1570
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	1770	3539	1562	1787	5102		1698	1685			1797	1570
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	245	870	449	139	1128	44	442	40	39	150	56	327
RTOR Reduction (vph)	0	0	219	0	5	0	0	7	0	0	0	47
Lane Group Flow (vph)	245	870	230	139	1167	0	261	253	0	0	206	280
Confl. Peds. (#/hr)	1		1	1		1	4		1	1		4
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2		6	6	7
Permitted Phases			4									6
Actuated Green, G (s)	15.4	25.7	42.5	8.1	18.4		16.8	16.8			14.2	29.6
Effective Green, g (s)	15.4	25.7	42.5	8.1	18.4		16.8	16.8			14.2	29.6
Actuated g/C Ratio	0.19	0.31	0.51	0.10	0.22		0.20	0.20			0.17	0.36
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	329	1098	886	174	1133		344	341			308	646
v/s Ratio Prot	c0.14	0.25	0.05	0.08	c0.23		c0.15	0.15			c0.11	0.08
v/s Ratio Perm			0.09									0.10
v/c Ratio	0.74	0.79	0.26	0.80	1.03		0.76	0.74			0.67	0.43
Uniform Delay, d1	31.8	26.1	11.3	36.6	32.2		31.1	31.0			32.1	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.8	4.0	0.2	22.0	34.8		9.2	8.4			5.4	0.5
Delay (s)	40.7	30.1	11.5	58.6	67.0		40.3	39.4			37.5	20.7
Level of Service	D	C	B	E	E		D	D			D	C
Approach Delay (s)		26.4			66.1			39.9			27.2	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 AWSC
4: SW 65th Avenue & SW McEwan Road

11/30/2017

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	75	171	1	47	1	85	3	2	3	20	84
Future Vol, veh/h	27	75	171	1	47	1	85	3	2	3	20	84
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	29	81	184	1	51	1	91	3	2	3	22	90
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	8.1	8.8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	10%	2%	3%
Vol Thru, %	3%	27%	96%	19%
Vol Right, %	2%	63%	2%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	273	49	107
LT Vol	85	27	1	3
Through Vol	3	75	47	20
RT Vol	2	171	1	84
Lane Flow Rate	97	294	53	115
Geometry Grp	1	1	1	1
Degree of Util (X)	0.134	0.336	0.069	0.138
Departure Headway (Hd)	4.977	4.123	4.703	4.328
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	872	761	826
Service Time	3.014	2.146	2.738	2.364
HCM Lane V/C Ratio	0.135	0.337	0.07	0.139
HCM Control Delay	8.8	9.2	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	1.5	0.2	0.5

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road 11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	1014	322	107	844	31	383	33	30	66	25	130
Future Volume (vph)	241	1014	322	107	844	31	383	33	30	66	25	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	1719	3438	1515	1736	4955		1665	1654			1776	1559
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.63	1.00
Satd. Flow (perm)	1719	3438	1515	1736	4955		1665	1654			1168	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	1102	350	116	917	34	416	36	33	72	27	141
RTOR Reduction (vph)	0	0	156	0	4	0	0	6	0	0	0	48
Lane Group Flow (vph)	262	1102	194	116	947	0	245	234	0	0	99	93
Confl. Peds. (#/hr)	5		1	1		5	1		3	3		1
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Perm	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2			6	7
Permitted Phases			4							6		6
Actuated Green, G (s)	16.1	29.5	45.7	6.7	20.1		16.2	16.2			12.0	28.1
Effective Green, g (s)	16.1	29.5	45.7	6.7	20.1		16.2	16.2			12.0	28.1
Actuated g/C Ratio	0.20	0.36	0.55	0.08	0.24		0.20	0.20			0.15	0.34
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	335	1230	922	141	1208		327	325			170	616
v/s Ratio Prot	c0.15	c0.32	0.04	0.07	0.19		c0.15	0.14				0.03
v/s Ratio Perm			0.09								c0.08	0.03
v/c Ratio	0.78	0.90	0.21	0.82	0.78		0.75	0.72			0.58	0.15
Uniform Delay, d1	31.5	25.0	9.3	37.3	29.1		31.2	31.0			32.9	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	11.3	8.7	0.1	30.5	3.4		9.1	7.4			5.0	0.1
Delay (s)	42.8	33.7	9.4	67.8	32.5		40.3	38.4			37.9	19.0
Level of Service	D	C	A	E	C		D	D			D	B
Approach Delay (s)		30.1			36.4			39.3			26.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.4	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

Intersection	
Int Delay, s/veh	0.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	449	5	1	442	4	2
Future Vol, veh/h	449	5	1	442	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	488	5	1	480	4	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	493	0	974	491
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1071	-	279	578
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1071	-	279	578
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	619	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	337	1071	-	-	-
HCM Lane V/C Ratio	0.019	0.001	-	-	-
HCM Control Delay (s)	15.9	8.4	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

HCM 2010 TWSC
3: South Site Access & SW McEwan Road 11/30/2017

Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑			↑	↾	
Traffic Vol, veh/h	451	0	0	443	1	1
Future Vol, veh/h	451	0	0	443	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	490	0	0	482	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	972	490
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	280	578
Stage 1	-	0	0	-	616	-
Stage 2	-	0	0	-	621	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	280	578
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	621	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWT	SET
Capacity (veh/h)	377	-	-
HCM Lane V/C Ratio	0.006	-	-
HCM Control Delay (s)	14.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	65	45	47	3	108	12	189	23	3	11	9	24
Future Vol, veh/h	65	45	47	3	108	12	189	23	3	11	9	24
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	83	58	60	4	138	15	242	29	4	14	12	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	9.4	11.2	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	88%	41%	2%	25%
Vol Thru, %	11%	29%	88%	20%
Vol Right, %	1%	30%	10%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	157	123	44
LT Vol	189	65	3	11
Through Vol	23	45	108	9
RT Vol	3	47	12	24
Lane Flow Rate	276	201	158	56
Geometry Grp	1	1	1	1
Degree of Util (X)	0.384	0.273	0.217	0.078
Departure Headway (Hd)	5.021	4.881	4.962	4.956
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	731	718	714
Service Time	3.092	2.952	3.038	3.048
HCM Lane V/C Ratio	0.388	0.275	0.22	0.078
HCM Control Delay	11.2	9.8	9.4	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.8	1.1	0.8	0.3

HCM Signalized Intersection Capacity Analysis
1: SW 65th Avenue & SW Lower Boones Ferry Road 11/30/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	835	432	134	1083	42	425	38	37	144	54	314
Future Volume (vph)	235	835	432	134	1083	42	425	38	37	144	54	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	1770	3539	1562	1787	5102		1698	1685			1797	1570
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	1770	3539	1562	1787	5102		1698	1685			1797	1570
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	245	870	450	140	1128	44	443	40	39	150	56	327
RTOR Reduction (vph)	0	0	220	0	5	0	0	7	0	0	0	47
Lane Group Flow (vph)	245	870	230	140	1167	0	261	254	0	0	206	280
Confl. Peds. (#/hr)	1		1	1		1	4		1	1		4
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	pm+ov
Protected Phases	7	4	2	3	8		2	2		6	6	7
Permitted Phases			4									6
Actuated Green, G (s)	15.4	25.6	42.4	8.2	18.4		16.8	16.8			14.2	29.6
Effective Green, g (s)	15.4	25.6	42.4	8.2	18.4		16.8	16.8			14.2	29.6
Actuated g/C Ratio	0.19	0.31	0.51	0.10	0.22		0.20	0.20			0.17	0.36
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	329	1094	884	176	1133		344	341			308	646
v/s Ratio Prot	c0.14	0.25	0.05	0.08	c0.23		c0.15	0.15			c0.11	0.08
v/s Ratio Perm			0.09									0.10
v/c Ratio	0.74	0.80	0.26	0.80	1.03		0.76	0.74			0.67	0.43
Uniform Delay, d1	31.8	26.2	11.4	36.5	32.2		31.1	31.0			32.1	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.8	4.1	0.2	21.5	34.8		9.2	8.5			5.4	0.5
Delay (s)	40.7	30.3	11.5	58.0	67.0		40.3	39.5			37.5	20.7
Level of Service	D	C	B	E	E		D	D			D	C
Approach Delay (s)		26.5			66.0			39.9			27.2	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	618	2	1	499	1	1
Future Vol, veh/h	618	2	1	499	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	672	2	1	542	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	674	0	1218	673
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	545	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	917	-	199	455
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	581	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	917	-	199	455
Mov Cap-2 Maneuver	-	-	-	-	199	-
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	580	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	277	917	-	-	-
HCM Lane V/C Ratio	0.008	0.001	-	-	-
HCM Control Delay (s)	18.1	8.9	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑			↑	↑↑	
Traffic Vol, veh/h	619	0	0	499	1	1
Future Vol, veh/h	619	0	0	499	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	673	0	0	542	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1215	673
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	542	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	200	455
Stage 1	-	0	0	-	507	-
Stage 2	-	0	0	-	583	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	200	455
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	583	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWT	SET
Capacity (veh/h)	278	-	-
HCM Lane V/C Ratio	0.008	-	-
HCM Control Delay (s)	18.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	76	171	1	47	1	85	3	2	3	20	84
Future Vol, veh/h	27	76	171	1	47	1	85	3	2	3	20	84
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	29	82	184	1	51	1	91	3	2	3	22	90
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	8.1	8.8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	10%	2%	3%
Vol Thru, %	3%	28%	96%	19%
Vol Right, %	2%	62%	2%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	274	49	107
LT Vol	85	27	1	3
Through Vol	3	76	47	20
RT Vol	2	171	1	84
Lane Flow Rate	97	295	53	115
Geometry Grp	1	1	1	1
Degree of Util (X)	0.134	0.338	0.069	0.138
Departure Headway (Hd)	4.981	4.124	4.704	4.332
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	872	760	826
Service Time	3.018	2.148	2.74	2.368
HCM Lane V/C Ratio	0.135	0.338	0.07	0.139
HCM Control Delay	8.8	9.3	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	1.5	0.2	0.5

Exhibit B to
Resolution No. 5358-18

Technical Memorandum

LANCASTER ENGINEERING
321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Tony Doran, City of Tualatin
Copy: Frank Angelo, Angelo Planning
From: Todd E. Mobley, PE
Date: January 5, 2018
Subject: TVF&R Station 39 – Transportation Impact Study Addendum #1

Introduction

At your request, this memorandum is written to provide a comparison of the proposed Tualatin Valley Fire and Rescue Station #39 with a reasonable worst-case development that could be constructed on the site under the existing industrial zone. The fire station is allowed as a conditional use in the existing zone and an examination of how the fire station affects conditions at the planning horizon is also included.

Trip Generation Comparison

As shown in the Transportation Impact Study[1], the fire station is expected to generate a total of 12 trips during the morning peak hour, 4 trips during the evening peak hour, and a weekday total of 54 trips.

To estimate potential trip generation of the building if it were to be re-occupied by an industrial user that is allowed in the current zone, trip rates from the *Trip Generation Manual*[2] were used. The trip rates are from land-use category 110, General Light Industrial and are based on the building square footage. The results of the trip generation calculations show that an industrial use of the fire station building would generate 9 trips during the morning peak hour, 9 trips during the evening peak hour, and a total of 66 weekday trips. The table below shows a summary of the trip generation comparison.

Table 1: Trip Generation Comparison

Land Use	Size	AM Peak Hour	PM Peak Hour	Weekday
Proposed Fire Station	9,500 sf	12	4	54
General Light Industrial	9,500 sf	9	9	66
Net Increase in Trips		3	-5	-12

[1] Tualatin Valley Fire & Rescue Station #39 Rivergrove, Transportation Impact Study, Table 2 on page 7
[2] Institute of Transportation Engineers (ITE), Trip Generation Manual, 9th Edition, 2012.

Planning Horizon Conditions

As shown in Table 1, the proposed fire station represents a reduction in trip generation during the evening peak hour and over a typical weekday and only a minor increase during the morning peak hour. The two uses are very similar in trip generation and the proposed conditional use for the fire station does not increase the trip generation of the site above what would be allowed outright in the zone.

As such, development of this intensity is already considered in the City of Tualatin's Comprehensive Plan, including the Transportation System Plan (TSP) and its planning-horizon analyses. There will be no long-term traffic impacts to surrounding streets and intersections above what is already considered in the TSP as a result of the proposed fire station.

Exhibit B to
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1e

TRIP GENERATION CALCULATIONS

Land Use: General Light Industrial
Land Use Code: 110
Variable: 1,000 Square Feet
Variable Quantity: 9.5

AM PEAK HOUR

Trip Rate: 0.92

	Enter	Exit	Total
Directional Distribution	88%	12%	
Trip Ends	**8**	**1**	**9**

PM PEAK HOUR

Trip Rate: 0.97

	Enter	Exit	Total
Directional Distribution	12%	88%	
Trip Ends	**1**	**8**	**9**

WEEKDAY

Trip Rate: 6.97

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**33**	**33**	**66**

SATURDAY

Trip Rate: 1.32

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**6**	**6**	**12**

Source: TRIP GENERATION, Ninth Edition

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Tualatin Valley Fire & Rescue Station 39

Conditional Use Application

Submitted by: Tualatin Valley Fire & Rescue (TVF&R)
11945 SW 70th Avenue
Tigard, OR 97223
503-649-8577

Prepared by: Angelo Planning Group (APG)
921 SW Washington Street, Suite 468
Portland, OR 97205
503-224-6974

December 2017

Exhibit B to
Resolution No. 5358-18

City of Tualatin
www.tualatinoregon.gov

APPLICATION FOR CONDITIONAL USE PERMIT

Code Information:		
Code Section: Section 60.040(1)(f)		Condition Use to Allow: Fire Station
Assessor's Map Number: 2S I 13DD	Tax Lot #: 1601	Lot area in acres: 1.16
Address of Property: Adjacent to 7100 SW McEawan		
City: Tualatin	State: OR	ZIP Code: 97062
Existing Buildings (# and type): 0		Current use: Vacant

Applicant		
Name: Frank Angelo		Company Name: Angelo Planning Group
Address: 921 SW Washington Street, Suite 468		
City: Portland	State: OR	ZIP Code: 97205
Phone: 503-227-3664	Fax:	Email: fangelo@angeloplanning.com
Applicant's Signature:		Date: 12/5/17

Property Owner		
Name: Tualatin Valley Fire & Rescue, Siobhan Kirk		
Address: 11945 SW 70th Avenue		
City: Tigard	State: OR	ZIP Code: 97223
Phone: 503-649-8577	Fax:	Email: Siobhan.Kirk@tvfr.com
Property Owner's Signature:		Date 12-06-2017
(Note: Letter of authorization is required if not signed by owner)		

Contact		
Name:		
Address:		
City:	State:	ZIP Code:
Phone:	Fax:	Email:

As the person responsible for this application, I, the undersigned, hereby acknowledge that I have read the above application and its attachments, understand the requirements described herein, and state that the information supplied is as complete and detailed as is currently possible, to the best of my knowledge.

Applicant's Signature:	Date: 12/1/17

Office Use		
Case No:	Date Received:	Received by:
Fee: Complete Review:	Receipt No:	

Revised: 5/15/15

Project Team

Applicant:
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Tualatin Valley Fire & Rescue (TVF&R)
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Tigard, OR 97223
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Civil Engineering
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AKS Engineering
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Tualatin, OR 97062
Phone: 503-563-6151
Email: bruce@aks-eng.com

Transportation Engineering
Todd Mobley
Lancaster Engineering
321 SW 4th Avenue
Portland, OR 97204
Phone: 503-248-0313
Email: todd@lancasterengineering.com

Exhibit B to
Resolution No. 5358-18

Development Application Summary Information

Site Address	Adjacent to 7100 SW McEwan Rd, Tualatin, OR 97062
Tax Lot ID	2S1 13DD TL 1601
Current Zoning	Light Manufacturing (ML)
Applications Submitted	Conditional Use Permit
Site Size	1.16 acres

Exhibit B to
Resolution No. 5358-18

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Development Application for TVF&R Station 39

List of Figures

List of Exhibits

Section 1: Project Information

General Description

Tualatin Valley Fire & Rescue (TVF&R) is seeking Conditional Use approval from the City of Tualatin to construct a new fire station (Station 39) on tax lot 1601, located on SW McEwan Road, south of SW Boones Ferry Road (see Figure 2).

Site and Context

The site is a new tax lot approximately 1.16 acres in size (see Exhibit 5).[1] The site for Station 39 is zoned Light Industrial (ML), as shown in Figure 2. The site has frontage on SW McEwan and is surrounded on three sides by U-Haul, a storage facility permitted in the ML zone. Additional storage facilities are located across SW McEwan from the subject site. Other prominent features around the site include Interstate 5 to the west with commercial shopping area beyond that; and the P&W rail line to the south and east with additional light manufacturing and residential areas zoned for medium-high density dwellings.

Technical Details

The proposed building will be a single-story, hip roofed fire station approximately 9,500 square feet and will include a 600-square foot community room (see Exhibit 2 for preliminary site plan drawings and building elevations). The building will house the station's firefighters and have an interior two-space parking bay for fire trucks and necessary emergency apparatus. There are 12 staff and 21 public (33 total) parking spaces proposed on-site to serve the fire station and community room. Station 39 will include 24-hour staffing starting with four persons per shift and ultimately grow to six-person shifts.[2]

The building will look similar to TVF&R Station 55 which is currently under construction in the City of West Linn. The primary exterior building materials will consist of brick masonry veneer, metal wall panels, and precast concrete. Other materials include metal clad wood windows, steel apparatus bay doors, standing seam metal roofing, and hollow metal and aluminum entrance doors.

Neighborhood and Community Outreach

A formal Neighborhood/Developer Meeting was held on November 7, 2017. The meeting was held at Juanita Pohl Center at 8513 SW Tualatin Road. TVF&R representatives reviewed the proposed project, the need for the new station, and described the architectural features. The audience asked a number of questions. Additional information on the Neighborhood/Developer Meeting, including the list of recipients for the mailed notice, and presentation materials, can be found in Exhibit 6.

Project Schedule

Following approval of the Conditional Use for Station 39, TVF&R will submit an Architectural Review 2 application for the building to the City of Tualatin. Assuming Architectural Review approval in early summer, construction of Station 39 could begin in the fall of 2018 with occupancy and operation by the end of 2019.

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[1] See Exhibits 7 and 8. On May 4, 2017, the Washington County Circuit Court granted plaintiffs (TVF&R) Motion for Entry of an Order of Immediate Possession. Accordingly, as of May 5, 2014, TVFR has immediate legal possession of the property, and as such may proceed with moving forward with its project.

[2] The maximum occupancy (six staff) is used in the transportation impact study as evaluated in Exhibit 3

December, 2017

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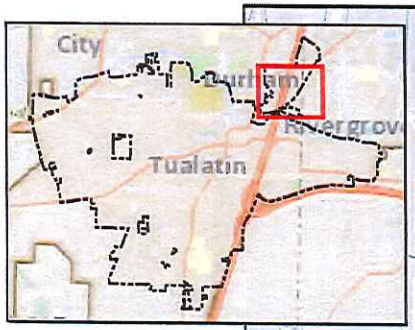

Station 39 (not to scale)

N

0 200 400 Feet

TVF&R Station 39
Vicinity Map

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Sources:

APG

Figure
1

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December, 2017

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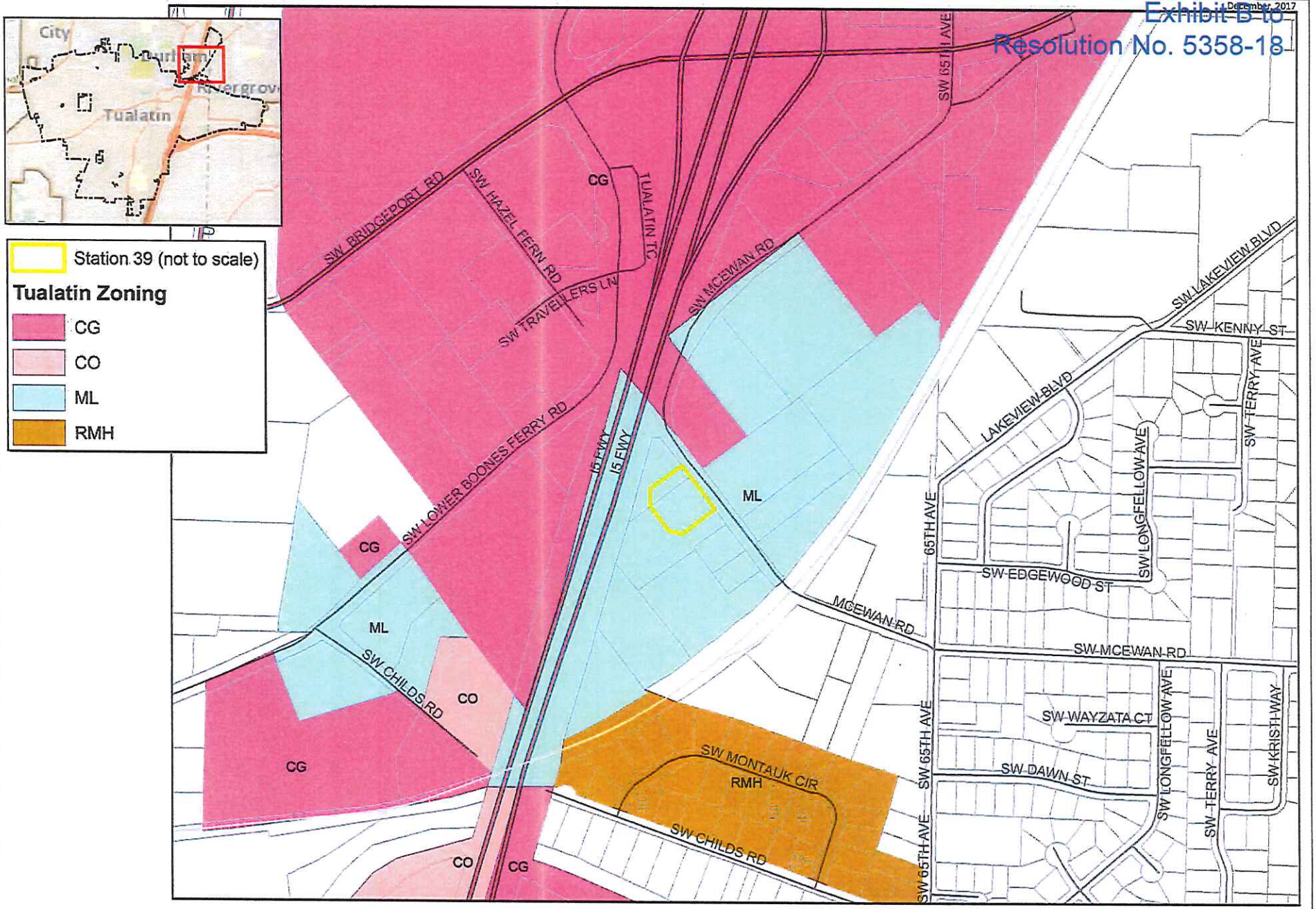
Resolution No. 5358-18



Tualatin Zoning
TVF&R Station 39

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Sources:

APG

Figure
2

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Section 2: Tualatin Development Code

Light Manufacturing Planning District (ML) (TDC Chapter 60)

Station 39 is located in the ML zoning district. As noted in TDC Section 60.040(1)(f), a Fire Station is permitted in the ML zone as a Conditional Use.

Conditional Use Approval Criteria (TDC 32.030)

Pursuant to Section 32.030, Tualatin City Council may allow a conditional use, after conducting a public hearing, provided that the applicant, TVF&R demonstrates a fire station satisfies the following criteria.

(1) The use is listed as a conditional use in the underlying planning district.

Response: Station 39 is located in the ML zoning district. As noted in TDC Section 60.040(1)(f), a Fire Station is permitted in the ML zone as a Conditional Use.

(2) The characteristics of the site are suitable for the proposed use, considering size, shape, location, topography, existence of improvements and natural features.

Response: The site characteristics are compatible with other TVF&R stations throughout the District. The site size (1.16 acres) is consistent with comparable TVF&R stations and can accommodate the building program for Station 39. There are no topographic or natural features on the site that will impact construction of Station 39. TVF&R has identified the location as an appropriate location to meet required service response standards and needs of the District. It's location near Interstate 5 will provide quick response to incidents on the freeway as well as quick emergency response to the surrounding community. TVF&R's Station 34 is located in the City of Tualatin but is on the westside of Interstate 5 just off Tualatin Sherwood Road (19365 SW 90th Court). Station 39's location on the eastside of Interstate 5 will significantly enhance response times for emergency services, making this location very suitable for the proposed use.

(3) The proposed development is timely, considering the adequacy of transportation systems, public facilities, and services existing or planned for the area affected by the use.

Response: The construction of the proposed Station 39 is funded through General Fund and a Local Option Levy approved by District voters in 2014 to upgrade and improve the safety and operations of TVF&R's fire stations. TVF&R identified the need for a station in this location to ensure quick response times in the future as development continues in Tualatin, Lake Oswego, and Tigard. Public services are immediately available to the site. As noted in the Traffic Impact Analysis submitted with this application (Exhibit 3), Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

(4) The proposed use will not alter the character of the surrounding area in any manner that substantially limits, impairs, or precludes the use of surrounding properties for the primary uses listed in the underlying planning district.

Response: The location of Station 39 will allow uses on the property immediately adjacent to Station 39 to continue operating and will not limit or preclude the use of surrounding property. As can be seen on the attached Station 39 site plan (Exhibit 2), TVF&R will take direct access to SW McEwan Road and will not impede or conflict with access to surrounding properties. The Traffic Impact Analysis submitted with this application indicates that Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

The site plan also notes how stormwater will be accommodated on-site and in a manner that will not impact adjacent properties. As well landscaping provided with the project will create a visual buffer between Station 39 and adjacent properties.

The emergency services use is not out of character with surrounding land uses in the ML zone. Medical offices are located across SW McEwan from Station 39. As can be seen from the building elevations submitted with this application Station 39 will be an appropriate design and will not be out of character with existing industrial and office buildings on surrounding properties.

(5) The proposal satisfies those objectives and policies of the Tualatin Community Plan that are applicable to the proposed use.

Response: The Tualatin Community Plan, which is the City comprehensive plan, is integrated within the Tualatin Development Code (TDC) as Chapters 1-30. Based on discussions with City of Tualatin staff, the following two sections of the TDC are applicable to the proposed use:

A. Section 7.040 Manufacturing Planning District Objectives.

This section describes the purpose of each manufacturing planning district.

(2) Light Manufacturing Planning District (ML)

(a) Suitable for warehousing, wholesaling and light manufacturing processes that are not hazardous and that do not create undue amounts of noise, dust, odor, vibration, or smoke. Also suitable, with appropriate restrictions, are the retail sale of products not allowed for sale in General Commercial areas, subject to the Special Commercial Setback from arterial streets and Commercial Services Overlay as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035, and office commercial uses where any portion of a legally created lot is within 60 feet of a CO Planning District boundary. Also suitable is the retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet. Also suitable for the retail sale of home improvement materials and supplies provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035. Rail access and screened open storage allowed in these areas will conform to defined architectural, landscape and environmental design standards.

B. Chapter 60: Light Manufacturing Planning District (ML)

Section 60.010 Purpose.

The purpose of this district is to provide areas of the City that are suitable for industrial uses and compatible with adjacent commercial and residential uses. The district serves to buffer heavy manufacturing uses from commercial and residential areas. The district is suitable for warehousing, wholesaling, and light manufacturing processes that are not hazardous and do not create undue amounts of noise, dust, odor, vibration, or smoke. The district is also suitable for retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet and, with appropriate restrictions, for retail sale of products not allowed for sale in General Commercial Planning Districts, and office commercial uses where any portion of a legally created lot is within 60 feet of a CO Planning District boundary. Railroad access and screened outdoor storage will be allowed in this district, conforming to defined architectural, landscape, and environmental design standards. In accordance with the Industrial Business Park Overlay District, TDC Chapter 69, and TDC 60.037-60.038 selected small-scale mixed uses that are supportive of and secondary to industrial uses are allowed to provide services to businesses and employees. The purpose is also to allow certain commercial service uses in the Commercial Services Overlay shown in the specific areas illustrated on Map 9-5 and selected commercial uses subject to distance restrictions from residential areas and subject to the Special Commercial Setback from arterial streets as generally illustrated in Map 9-5 and specifically set forth in TDC 60.035.

Locating TVF&R Station 39 in the ML district is appropriate. As noted in TDC Section 60.040(1)(f), a Fire Station is permitted in the ML zone as a Conditional Use. The use is not hazardous and will not create undue amounts of noise, dust, odor, vibration, or smoke. Any noise generated will be limited. Station 39 will not require sirens to sound at or near the site. Fire personnel are not required to sound sirens when leaving the station, the lights on the apparatus normally are sufficient to stop traffic. The only time the fire apparatus operators would be required to use their sirens would be when they pass through a traffic signal. Regardless, there are no noise sensitive uses near the site.

The City's comprehensive plan is designed to promote public health, safety, and welfare. Providing opportunities for emergency services to operate within the City is a critical aspect of community health, safety, and welfare. As noted earlier, locating Station 39 at this site will allow TVF&R to achieve their emergency services response times. As well, the Traffic Impact Analysis submitted with this application indicates that Station 39 traffic will not adversely impact the existing transportation system. The analysis notes that Station 39 will generate a small number of daily trips that can easily be accommodated on the transportation system.

Summary

This proposal for Conditional Use approval for Station 39 satisfies the objectives and policies of the Tualatin Community Plan that are applicable to the proposed use. Therefore, the Conditional Use should be approved.

Exhibit B to
Resolution No. 5358-18

Exhibits

Exhibit 1 – Pre-Application Form

Exhibit 2 – Station 39 Site Plan and Building Elevations

Exhibit 3 – Transportation Impact Study

Exhibit 4 – Clean Water Services (CWS) Service Provider Letter

Exhibit 5 – Washington County Assessor Map

Exhibit 6 – Neighborhood/Developer Meeting Notice and Materials

Exhibit 7 – Order Granting Plaintiff's Motion of Immediate Possession (Case No. 17CV14497)

Exhibit 8 - Letter from Cynthia Fraser (on behalf of TVF&R) to Sean Brady (City Attorney)

Exhibit B to
Resolution No. 5358-18

LAND USE PLANNING
TRANSPORTATION PLANNING
PROJECT MANAGEMENT

MEMORANDUM

TVF&R Station 39

Pre-Application Conference Request

DATE	September 11, 2017
TO	City of Tualatin
FROM	Frank Angelo, APG
CC	Siobhan Kirk, TVF&R Jennifer Jenkins, Ankrom Mosian Architects Michael Bonn, Ankrom Moisan Architects Bruce Baldwin, AKS Todd Mobley, Lancaster Engineering Jamin Kimmel, APG

Tualatin Valley Fire & Rescue is proposing to develop a new fire station (Station 39) on SW McEwan Road south of SW Boones Ferry Road. The new station will be approximately 9,500 square feet and will include a 600-square foot community room. The building will house the station's firefighters and have an interior two-space parking bay for fire trucks and necessary emergency apparatus. There are 36 parking spaces proposed on-site to serve the fire station and community room. Station 39 will include 24-hour staffing starting with 4 persons per shift and ultimately growing to 6 person shifts. The building will look similar to TVF&R Station 55 which is currently under construction in the City of West Linn.

Questions for the Pre-Application Conference

1. Describe the Conditional Use and Architectural review standards, review procedures and schedule.
2. Discuss Neighborhood Meeting requirements.
3. Identify Transportation Assessments that will be required (if any).
4. Describe CWS review requirements.

Attachments: Pre-Application Conference Form
Station 39 Preliminary Site Plan
Station 39 Preliminary Building Elevations
Pre-Application Fee (provided separately)

Exhibit B to
Resolution No. 5358-18

City of Tualatin

COMMUNITY DEVELOPMENT PLANNING DIVISION

Pre-Application Meeting Request

The purpose of the Scoping and Pre-Application meetings is to offer early assistance in the land use and permitting process. This includes thoughtful feedback on preliminary design direction and visioning, outlining expectations, and to assist the applicant in attaining a complete application at first submittal.

PROJECT DESCRIPTION

Project name/title: TVF&R Station 39

What is the primary purpose of this pre-application meeting (What would you like to accomplish)? (Attach additional sheets if needed.)

- Review Station 39 site plan
- Discuss site issues
- Determine review processes & standards

PROPERTY INFORMATION

Property address/location(s): Adjacent to 7100 SW McEwan, Tualatin, OR 97062

Tax map and tax lot no.(s): 2S 113DD TL 1600/1700

Zoning: ML

PROPERTY OWNER/HOLDER INFORMATION

Name(s): Tualatin Valley Fire & Rescue c/o Siobhan Kirk

Address: 11945 SW 70th Ave Phone: 503.649.8577

City/state: Tigard, OR Zip: 97223

APPLICANT INFORMATION

Name: Angelo Planning Group

Address: 921 SW Washington St Phone: 503.649.8577

City/state: Portland, OR Zip: 97205

Contact person: Frank Angelo

Phone: 503.227.3664 Email: fangelo@angeloplanning.com

Pre-application Conference Information

All of the information identified on this form is required and must be submitted to the Planning Division with this application. Conferences are scheduled subject to availability and a minimum of two weeks after receiving this application and all materials. Pre-application conferences are one (1) hour long and are typically held on Mondays between the hours of 3-4 p.m. or Wednesdays between 2-4 p.m.

REQUIRED SUBMITTAL ELEMENTS

(Note: Requests will not be accepted without the required submittal elements)

☐ A complete application form and accompanying fee.

1 hard copy and an electronic set of the following:

☐ Preliminary site and building plans, drawn to scale, showing existing and proposed features. (Plans do not need to be professionaly prepared; just accurate and reliable.)

☐ A detailed narrative description of the proposal that clearly identifies the location, existing and proposed uses, and any proposed construction.

☐ A list of all questions or issues the applicant would like the City to address.

FOR STAFF USE ONLY

Case No.: _____

Related Case No.(s): _____

Application fee: _____

Application accepted:

By: _____ Date: _____

Date of pre-app: _____

Time of pre-app: _____

Planner assigned to pre-app: _____

If more than four (4) people are expected to attend the pre-application conference in your group, please inform the City in advance so that alternate room arrangements can be made to accommodate the group.

What type of development are you proposing? (Check all that apply)

[ ] Industrial [ ] Commercial [ ] Residential [X] Institutional [ ] Mixed-use

Please provide a brief description of your project: (Attach additional sheets if needed.) Please include description of existing uses and structures in addition to what is proposed.

Construct a new TVF&R fire station (Station 39). Will include a community room.

Are you familiar with the development process in Washington or Clackamas County or Tualatin?

[X] Yes [ ] No

If yes, please identify an example project:

TVF&R Station 34 in Tualatin

Are you familiar with the sections of the Tualatin Development Code (TDC) that pertain to your proposed development?

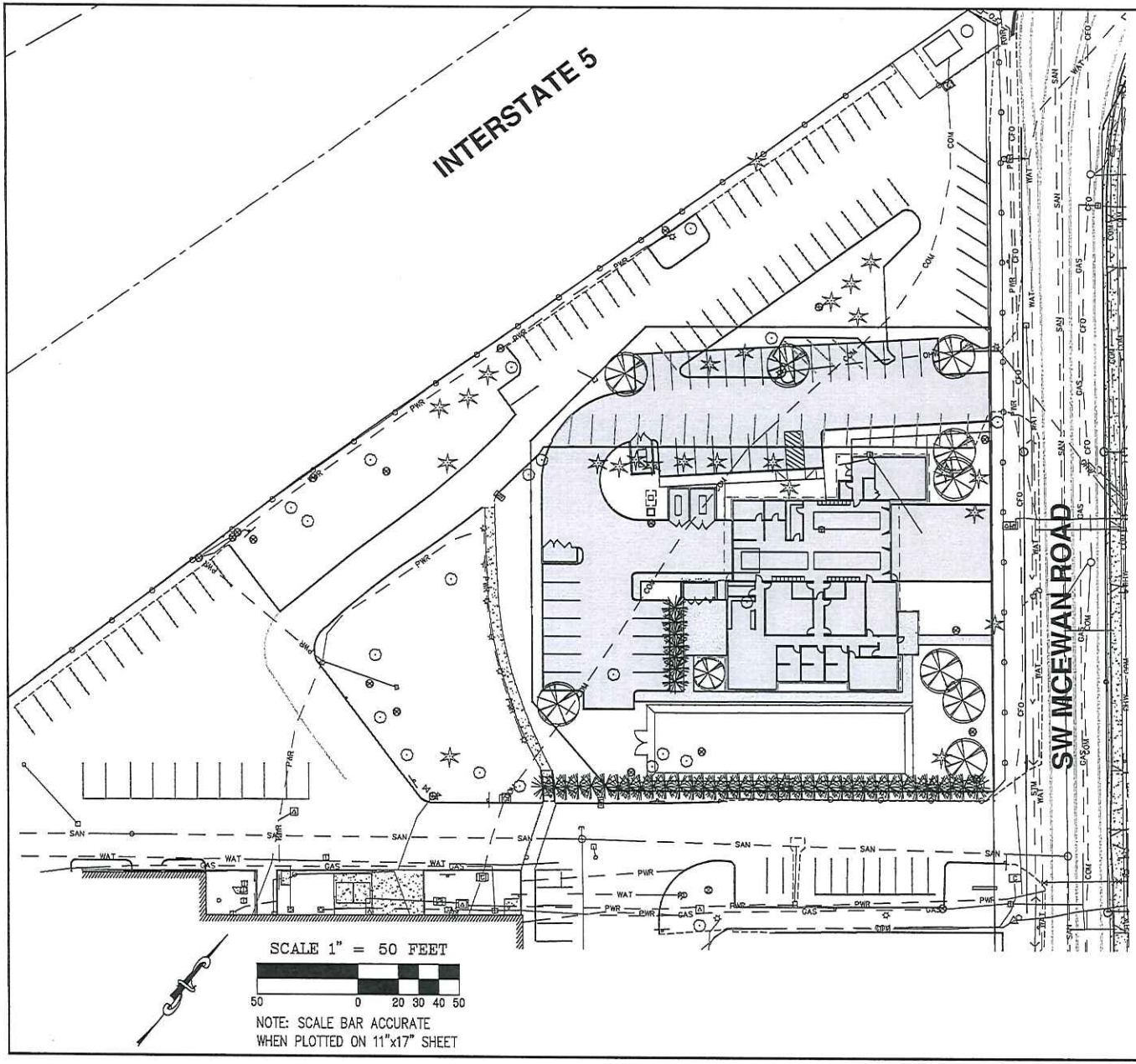
[X] Yes [ ] No

Is the property under enforcement action? If yes, please attached a notice of the violation.

Please provide the names of City, TVF&R, CWS, and County staff with whom you have already discussed this proposal:

Scoping meeting held with City staff on March 6, 2016

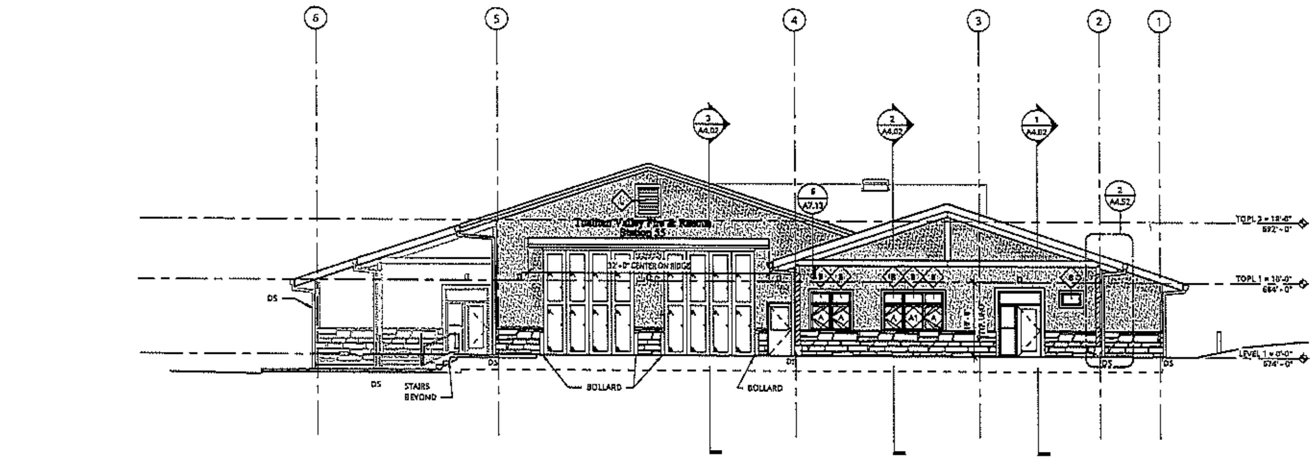
Exhibit B to
Resolution No. 5358-18



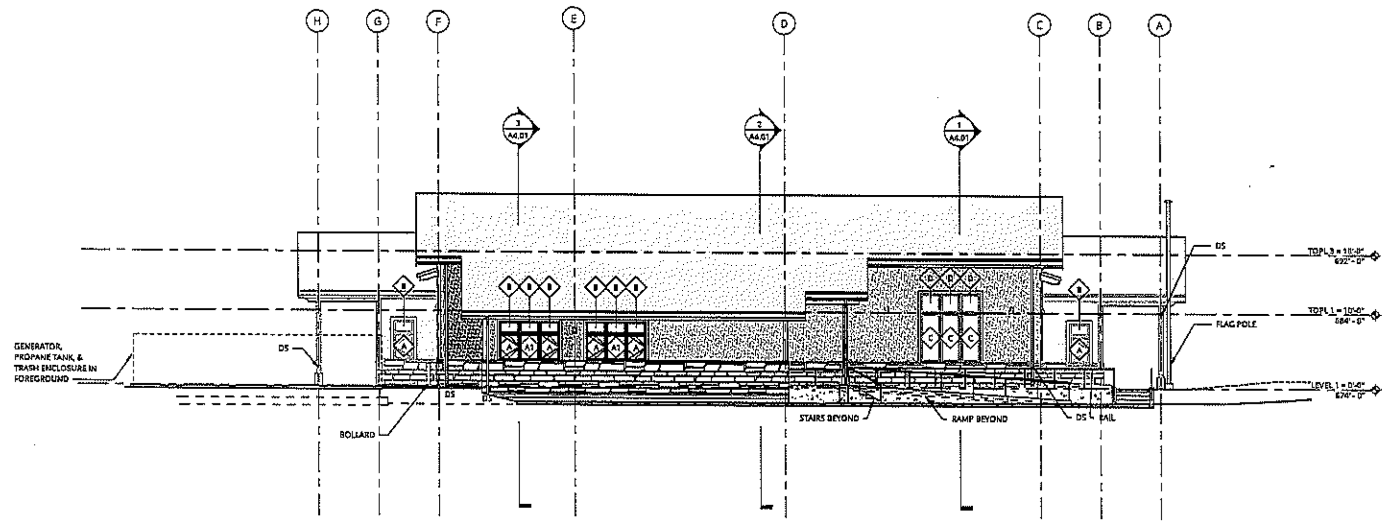
DATE: 09/07/2017

SITE FIT PLAN	EXHIBIT
TVFR STATION 39	A
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 P: 503.563.6151 F: 503.563.6152 aks-eng.com	DRWN: LTP CHKD: BRB AKS JOB: 4756

DWG: 4756 STATION 39 FIT PLAN | LAYOUT1



1 NORTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"

GENERAL NOTES - EXTERIOR ELEVATIONS

EXTERIOR ELEVATIONS

1. REFER TO SHEET A0.01 FOR 'PROJECT NOTES' APPLICABLE TO ALL PORTIONS OF THE WORK
2. ELEVATIONS NOTED ARE RELATIVE TO SEA LEVEL (OR PROJECT DATUM)
3. SEE SHEET A12.21 FOR WINDOW SCHEDULE
4. SEE DOOR SCHEDULE SHEET A12.01 FOR DOOR LOCATIONS AND TYPES.
5. SEE ENLARGED ELEVATIONS AND WALL SECTIONS FOR ADDITIONAL EXTERIOR ENVELOPE DETAILS.

MATERIALS - LEGEND

- FIBER CEMENT SHINGLE SIDING
- SIMULATED STONE
- EXPOSED TIMBER FRAMING
- ASPHALT ROOF SHINGLES
- EXTERIOR LIGHTING
- DS DOWNSPOUT

Ankrom Moisan
38 NW DAVIS ST, SUITE 300
PORTLAND, OR 97209
T 503.245.7100
1505 5TH AVE, SUITE 300
SEATTLE, WA 98101
T 206.576.1600

REGISTERED ARCHITECT · 5011 · Jennifer Rebecca Jenkins · PORTLAND, OR · STATE OF OREGON

TVF&R Station 55 - Rosemont
20790 Hidden Springs Rd
West Linn, OR 97068

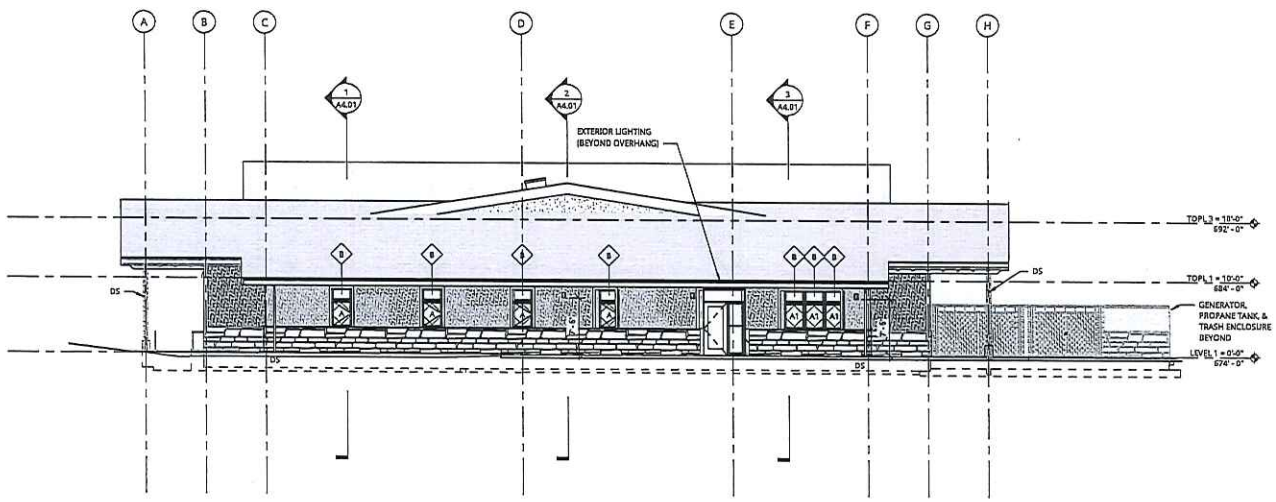
Tualatin Valley Fire & Rescue

REVISION	DATE	REASON FOR ISSUE

N & E EXTERIOR ELEVATIONS

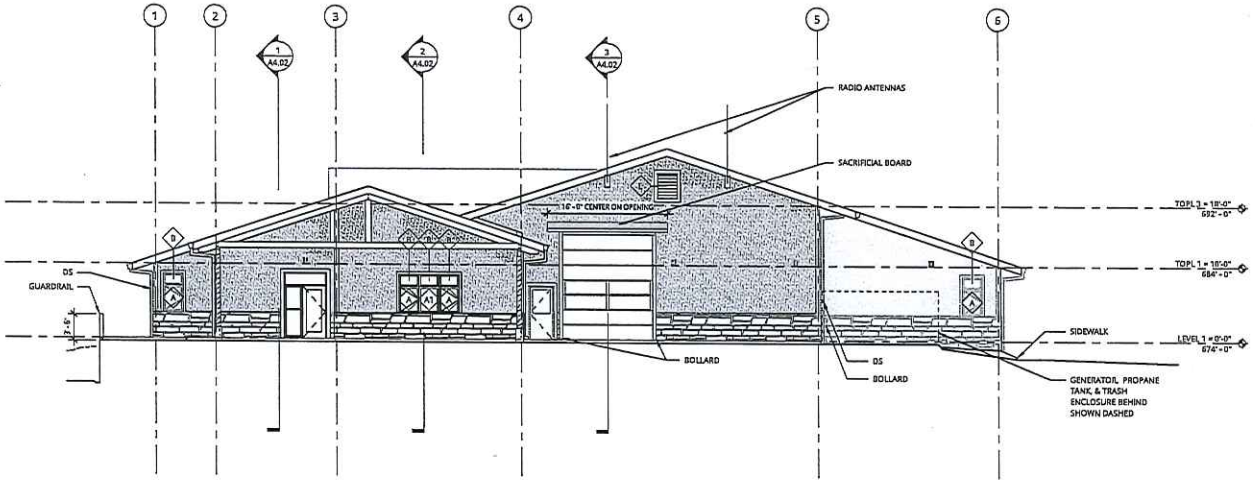
CONSTRUCTION SET

DATE 06/16/17
REVISION
PROJECT NUMBER 160420
SHEET NUMBER A3.11
SCALE As indicated



2 WEST ELEVATION

1/8" = 1'-0"



1 SOUTH ELEVATION

1/8" = 1'-0"

GENERAL NOTES - EXTERIOR ELEVATIONS

EXTERIOR ELEVATIONS

1. REFER TO SHEET A0.01 FOR 'PROJECT NOTES' APPLICABLE TO ALL PORTIONS OF THE WORK
2. ELEVATIONS NOTED ARE RELATIVE TO SEA LEVEL (OR PROJECT DATUM)
3. SEE SHEET A12.21 FOR WINDOW SCHEDULE
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REGISTERED ARCHITECT
5011
Jennifer Rebecca Jenkins
PORTLAND, OR
STATE OF OREGON

TVF&R Station 55 - Rosemont
20790 Hidden Springs Rd
West Linn, OR 97068

Tualatin Valley Fire & Rescue

REVISION	DATE	REASON FOR ISSUE

S & W EXTERIOR ELEVATIONS

CONSTRUCTION SET

DATE	REVISION
06/16/17	

PROJECT NUMBER	SHEET NUMBER
160420	A3.12

SCALE: As Indicated

Exhibit B to
Resolution No. 5358-18

TUALATIN VALLEY FIRE & RESCUE - STATION 39

SHEET NUMBER	SHEET NAME	CONDITIONAL USE - 11/22/17
GENERAL		
CS	COVER SHEET	■
ARCHITECTURAL		
A1.01	SITE PLAN	■
A2.01	FLOOR PLAN	■
A2.03	ROOF PLAN	■
A3.11	BUILDING ELEVATIONS	■
A3.12	BUILDING ELEVATIONS	■

CLIENT TEAM

OWNER
TUALATIN VALLEY FIRE AND RESCUE
11945 SW 70th AVE
TIGARD, OR 97223
CONTACT: SIOBHAN KIRK
CONSTRUCTION PROJECT MANAGER
PH:(503) 259-1219
siobhan.kirk@tvfr.com

CIVIL
AKS ENGINEERING
12965 SW HERMAN RD, SUITE 100
TUALATIN, OR 97062
CONTACT: BRUCE BALDWIN
PH: (503)563-6151
bruce@aks-eng.com

DESIGN TEAM

ARCHITECTURAL
ANKROM MOISAN ARCHITECTS
38 NW DAVIS ST
SUITE 300
PORTLAND OR 97209
CONTACT: MICHAEL BONN
(503) 245-7100
michaelb@ankrommoisan.com

STRUCTURAL
KPFF
111 SW FIFTH AVE, SUITE 2500
PORTLAND, OREGON 97204
CONTACT: STUART FINNEY
PH: (503)227-3251
stuart.finney@kpff.com

MECHANICAL, ELECTRICAL, & PLUMBING
INTERFACE ENGINEERING
100 SW MAIN ST
SUITE 1600
PORTLAND, OR 97204
CONTACT: JEFFREY GLANVILLE
PH: (503)382-2266
JeffreyG@interfaceeng.Com

LANDSCAPE
OTTEN LANDSCAPE ARCHITECTS
3933 SW KELLY AVE, PORTLAND, OR 97239
BEAVERTON, OREGON 97005
CONTACT: JANET OTTEN
PH: (503) 972-0312
Janet@Ottenla.com

CONSTRUCTION TEAM

GENERAL CONTRACTOR
Emerick Construction Co.
7855 SW MOHAWK ST
TUALATIN, OR 97062
CONTACT: JORDAN FELL jfell@emerick.com (503)332-5620
BILL JUDGE billj@emerick.com (503)539-1471
LINDLEY BYNUM lindleyb@emerick.com (503) 777 5531

NOT FOR CONSTRUCTION

TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

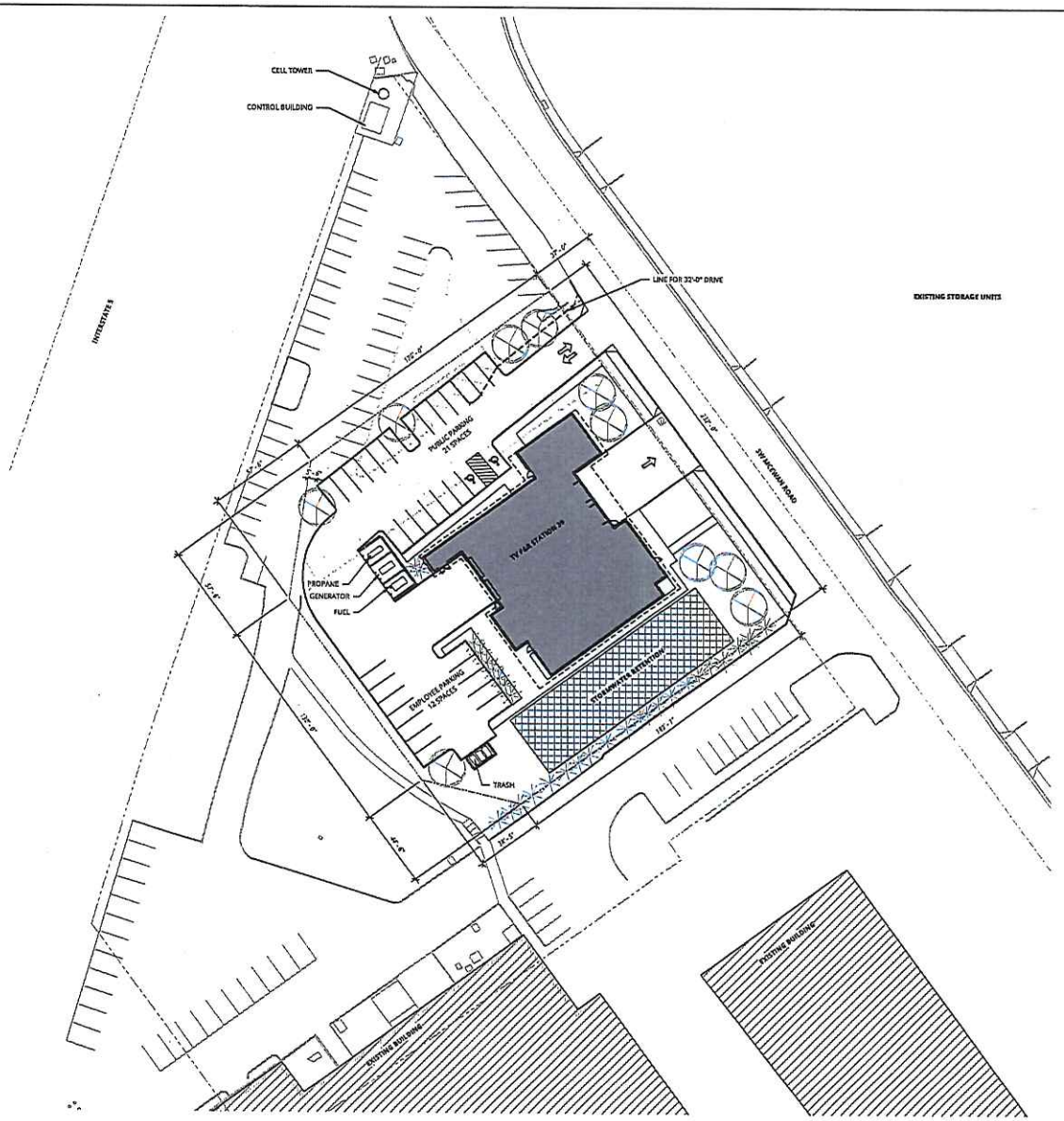
COVER SHEET

CONDITIONAL USE APPLICATION

DATE 11/22/2017 PROJECT NUMBER 173470

SHEET NUMBER CS

Exhibit B to
Resolution No. 5358-18



1 ARCHITECTURAL SITE PLAN
1" = 30'-0"

0 15 30 60 120

TRUE

NOT FOR CONSTRUCTION

Ankrom Moisan

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SAN FRANCISCO, CA 94103
T 415.232.7063

TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

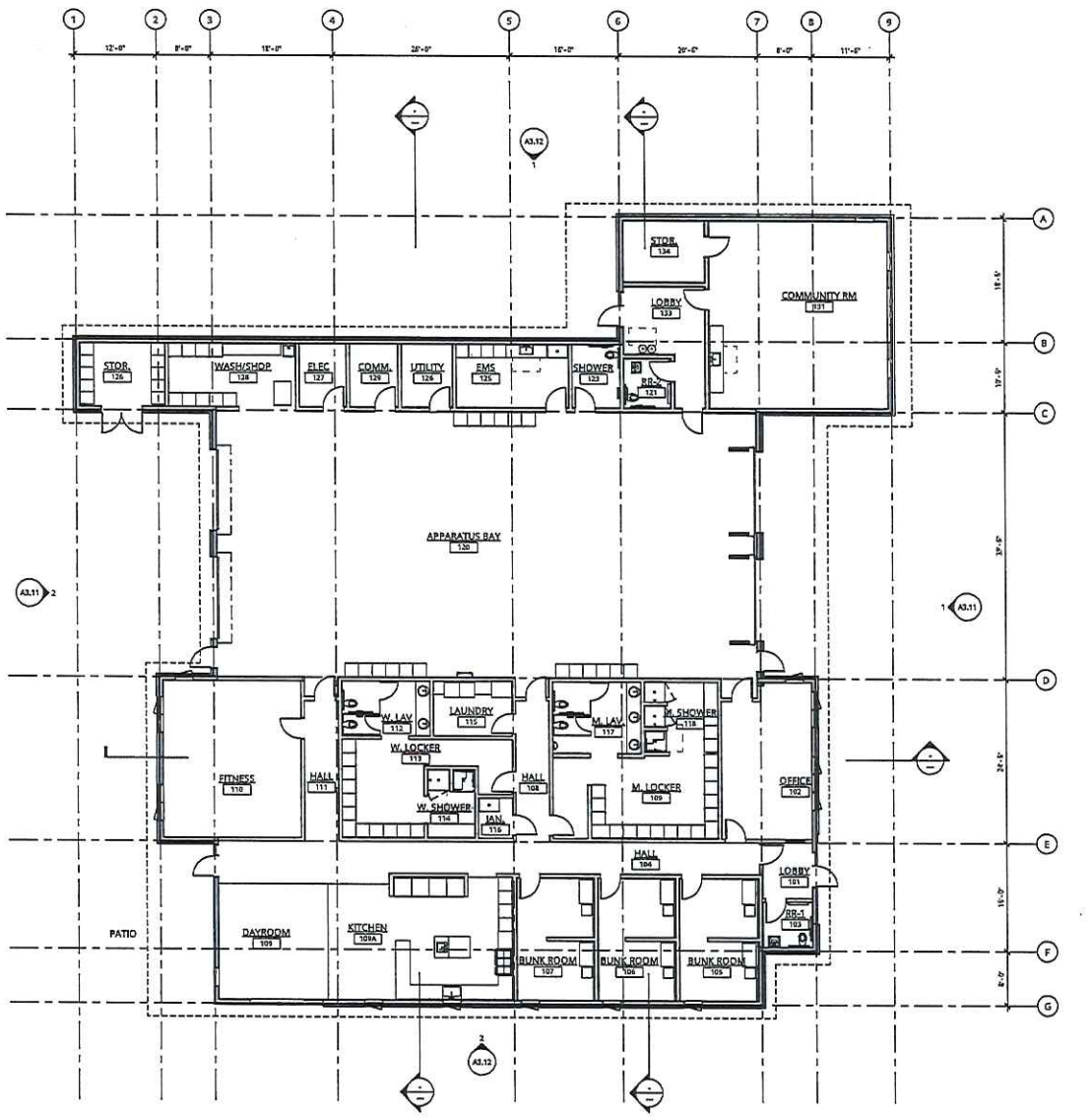
SITE PLAN

CONDITIONAL USE APPLICATION

DATE	PROJECT NUMBER
11/22/2017	173470

SHEET NUMBER
A1.01

Exhibit B to
~~Resolution No. 5358-18~~



1 FLOOR LEVEL
1/8" = 1'-0"

0 4 8 16 32

PROJECT TRUE

NOT FOR CONSTRUCTION

Ankrom Moisan

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TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

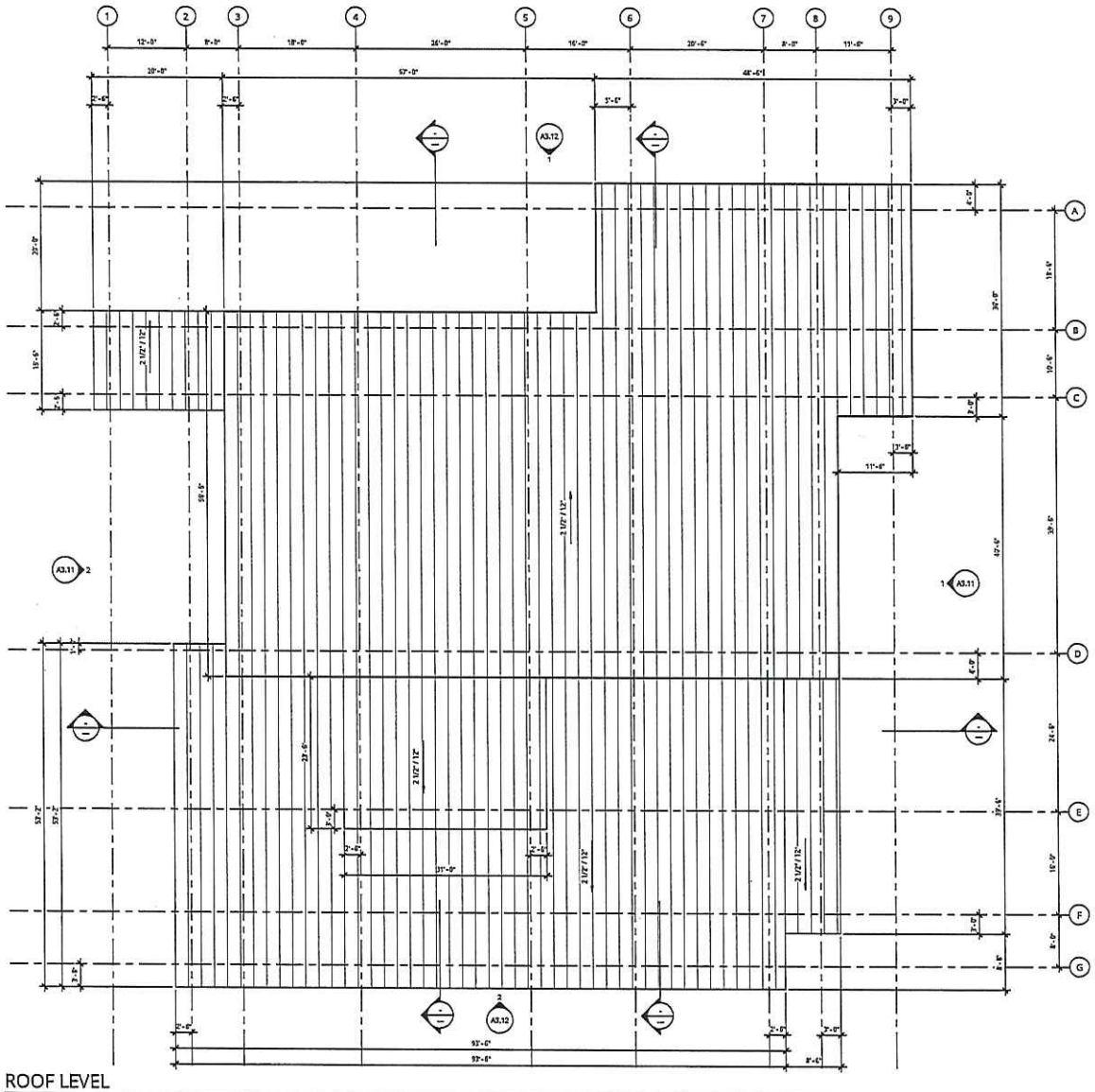
FLOOR PLAN

CONDITIONAL USE APPLICATION

DATE	PROJECT NUMBER
11/22/2017	173470

SHEET NUMBER
A2.01

Exhibit B to
Resolution No. 5358-18



1 ROOF LEVEL
1/8" = 1'-0"

NOT FOR CONSTRUCTION

Ankrom Moisan

38 NORTHWEST DAVIS, SUITE 308
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TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

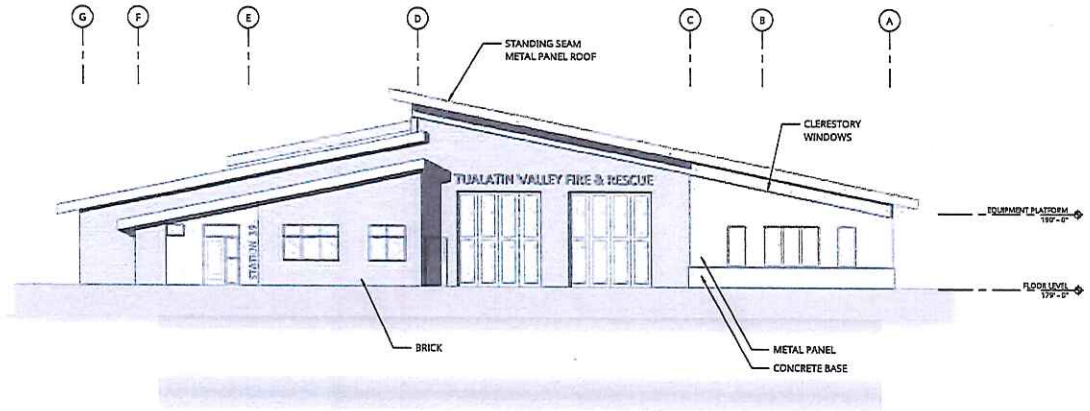
ROOF PLAN

CONDITIONAL USE APPLICATION

DATE	PROJECT NUMBER
11/22/2017	173470

SHEET NUMBER
A2.03

Exhibit B to
~~Resolution No. 5358-18~~



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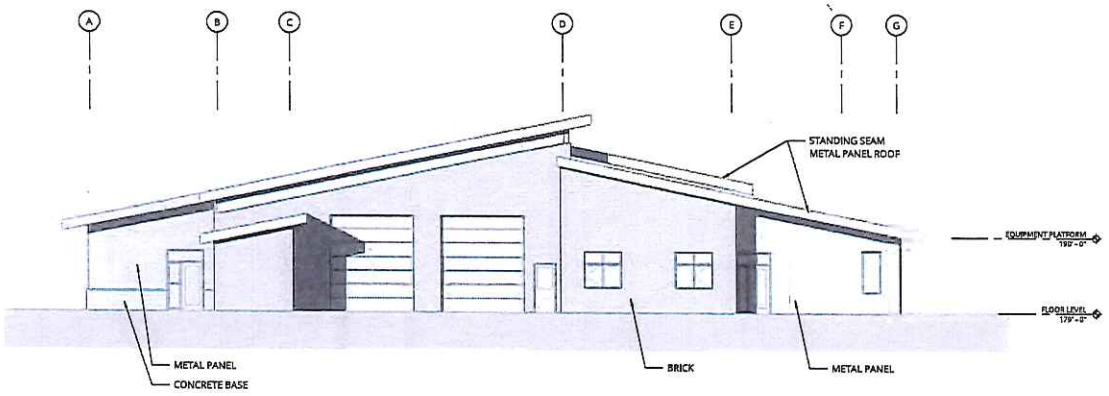
1/8" = 1'-0"



2 SOUTH WEST ELEVATION
1/8" = 1'-0"

NOT FOR CONSTRUCTION

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38 NORTHWEST DAVIS, SUITE 300
PORTLAND, OR 97209
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SEATTLE, WA 98101
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1054 HOWARD STREET
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T 415.252.7063

TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

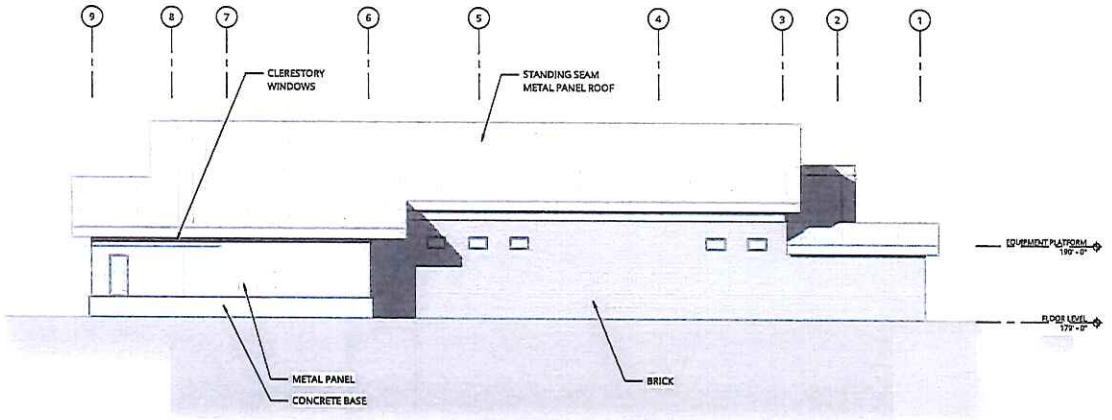
BUILDING ELEVATIONS

CONDITIONAL USE APPLICATION

DATE	PROJECT NUMBER
11/22/2017	173470

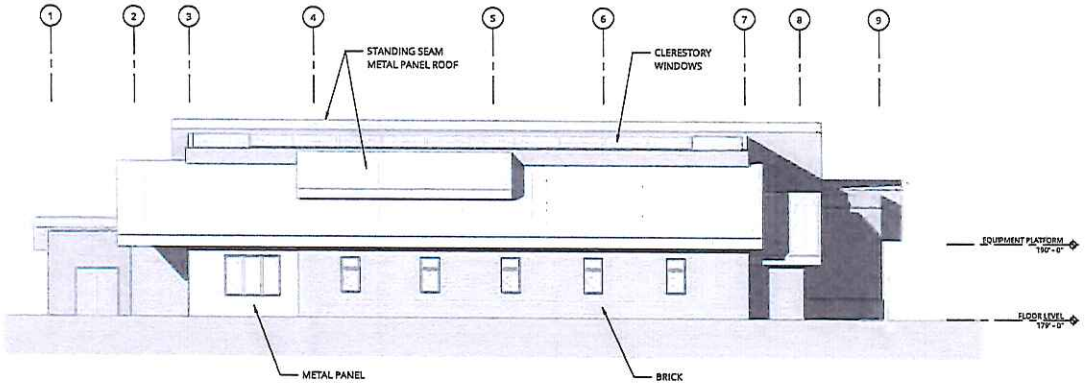
SHEET NUMBER
A3.11

Exhibit B to
Resolution No. 5358-18



1 NORTH WEST ELEVATION
1/8" = 1'-0"

0 4 8 16 32



2 SOUTH EAST ELEVATION
1/8" = 1'-0"

0 4 8 16 32

NOT FOR CONSTRUCTION

Ankrom Moisan

38 NORTHWEST DAVIS, SUITE 300
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1505 5TH AVE, SUITE 300
SEATTLE, WA 98101
T 206.576.1600

1034 HOWARD STREET
SAN FRANCISCO, CA 94103
T 415.252.7083

TV F&R STATION 39 - TUALATIN
7100 SW MCEWAN
TUALATIN, OR 97062

TUALATIN VALLEY FIRE & RESCUE

REVISION	DATE	REASON FOR ISSUE

BUILDING ELEVATIONS

CONDITIONAL USE APPLICATION

DATE	PROJECT NUMBER
11/22/2017	173470

SHEET NUMBER
A3.12

Exhibit B to Resolution No. 5358-18

Clean Water Services File Number: 17-003489

Clean Water Services

Sensitive Area Pre-Screening Site Assessment

1. **Jurisdiction:** Tualatin

2. **Property Information** *(example 1S234AB01400)*
Tax lot ID(s): 2S 113DD TL 1601

OR **Site Address:** Adjacent to 7100 SW McEwan
City, State, Zip: Tualatin, OR 97062
Nearest Cross Street: SW McEwan & Lower Boones Ferry Rd.

3. **Owner Information**
Name: Siobhan Kirk
Company: Tualatin Valley Fire & Rescue
Address: 11945 SW 70th Avenue
City, State, Zip: Tigard, OR 97223
Phone/Fax: 503-649-8577
E-Mail:

4. **Development Activity** *(check all that apply)*
- ☐ Addition to Single Family Residence (rooms, deck, garage)
- ☐ Lot Line Adjustment
- ☐ Minor Land Partition
- ☐ Residential Condominium
- ☐ Commercial Condominium
- ☐ Residential Subdivision
- ☐ Commercial Subdivision
- ☐ Single Lot Commercial
- ☐ Multi Lot Commercial

Other New fire station

5. **Applicant Information**
Name: Frank Angelo
Company: Angelo Planning Group
Address: 921 SW Washington Ave. Suite 468
City, State, Zip: Portland, OR 97205
Phone/Fax: 503-649-8577
E-Mail: fangelo@angeloplanning.com

6. **Will the project involve any off-site work?** ☐ Yes ☑ No ☐ Unknown
Location and description of off-site work

7. **Additional comments or information that may be needed to understand your project** Site plan and tax map are attached.

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

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

Print/Type Name Frank Angelo **Print/Type Title** Principal

Signature _____ **Date** Oct. 18, 2017

FOR DISTRICT USE ONLY

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

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

☐ Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider letter as required by Resolution and Order 17-05, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, state and federal law.

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

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

Reviewed by _____ Date 10/31/17

Once complete, email to: **SPLReview@cleanwaterservices.org** • Fax: **(503) 681-4439**
OR mail to: SPL Review, Clean Water Services, 2550 SW Hillsboro Highway, Hillsboro, Oregon 97123

SE 1/4 SE 1/4 SECTION 13 T2S R1W W.M.
WASHINGTON COUNTY OREGON
SCALE 1"= 100'

2S 1 13DD

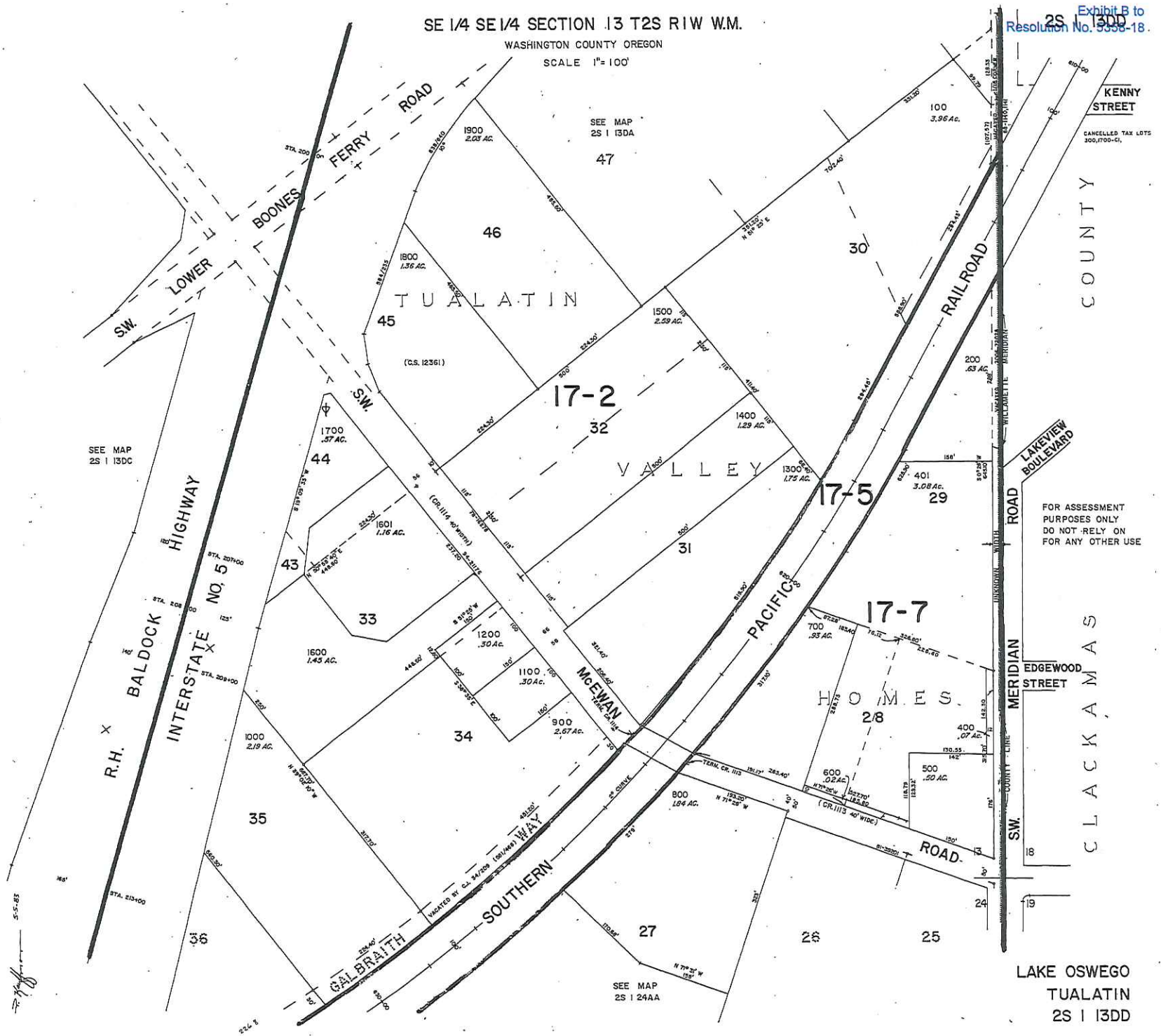


Exhibit B to
Resolution No. 5358-18

NEIGHBORHOOD/DEVELOPER MEETING
AFFIDAVIT OF MAILING

STATE OF OREGON)
) SS
COUNTY OF WASHINGTON)

I, Clinton Doxsee, being first duly sworn, depose and say:

That on the 24 day of October, 2017, I served upon the persons shown on Exhibit "A," attached hereto and by this reference incorporated herein, a copy of the Notice of Neighborhood/Developer meeting marked Exhibit "B," attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses shown on said Exhibit "A" are their regular addresses as determined from the books and records of the Washington County and/or Clackamas County Departments of Assessment and Taxation Tax Rolls, and that said envelopes were placed in the United States Mail with postage fully prepared thereon.

Signature

SUBSCRIBED AND SWORN to before me this 29th day of November, 2017.

OFFICIAL STAMP
SUSAN M MILLER
NOTARY PUBLIC-OREGON
COMMISSION NO. 931300
MY COMMISSION EXPIRES AUGUST 14, 2018

Notary Public for Oregon
My commission expires:

RE: TVF+R Station 39

LAND USE PLANNING
TRANSPORTATION PLANNING
PROJECT MANAGEMENT

Dear Resident/Property Owner,

Tualatin Valley Fire & Rescue (TVF&R) is proposing to develop a new fire station (Station 39) on SW McEwan Road south of SW Boones Ferry Road. The new station will be approximately 7,500 square feet and include a 600-square foot community room. The building will house the station's firefighters and have an interior two-space parking bay for fire trucks and necessary emergency apparatus. Station 39 will include 24-hour staffing starting with 4 persons per shift and ultimately growing to 6-person shifts.

The 1.16-acre site is within the City of Tualatin's Light Manufacturing Planning District (ML). New fire stations are permitted in the ML Planning District through a Conditional Use Permit and Architectural Review. The Conditional Use will require submittal of an application to the City for review and approval by the City Council. A pre-application conference was held for the project on September 20, 2017. Following Conditional Use review an Architectural Review application will be submitted for construction of the new station. This application will be reviewed by staff.

As specific engineering and site plans are being prepared and before submitting the application for the necessary reviews and approvals, we would like to discuss the proposal with the surrounding property owners and residents. In accordance with City requirements, we are conducting a Neighborhood Meeting on the following date and at the following location:

Tuesday, November 7th, 2017
6:00 – 7:00 pm
Juanita Pohl Center
8513 SW Tualatin Road
Tualatin, Oregon 97062

We look forward to discussing the proposal with you. Please feel free to contact the project's development application representative, at 503-227-3664 or fangelo@angeloplanning.com if you have any questions.

Sincerely,

Frank Angelo, Principal

Attachment: Vicinity/Location Map

Exhibit B to
Resolution No. 5358-18

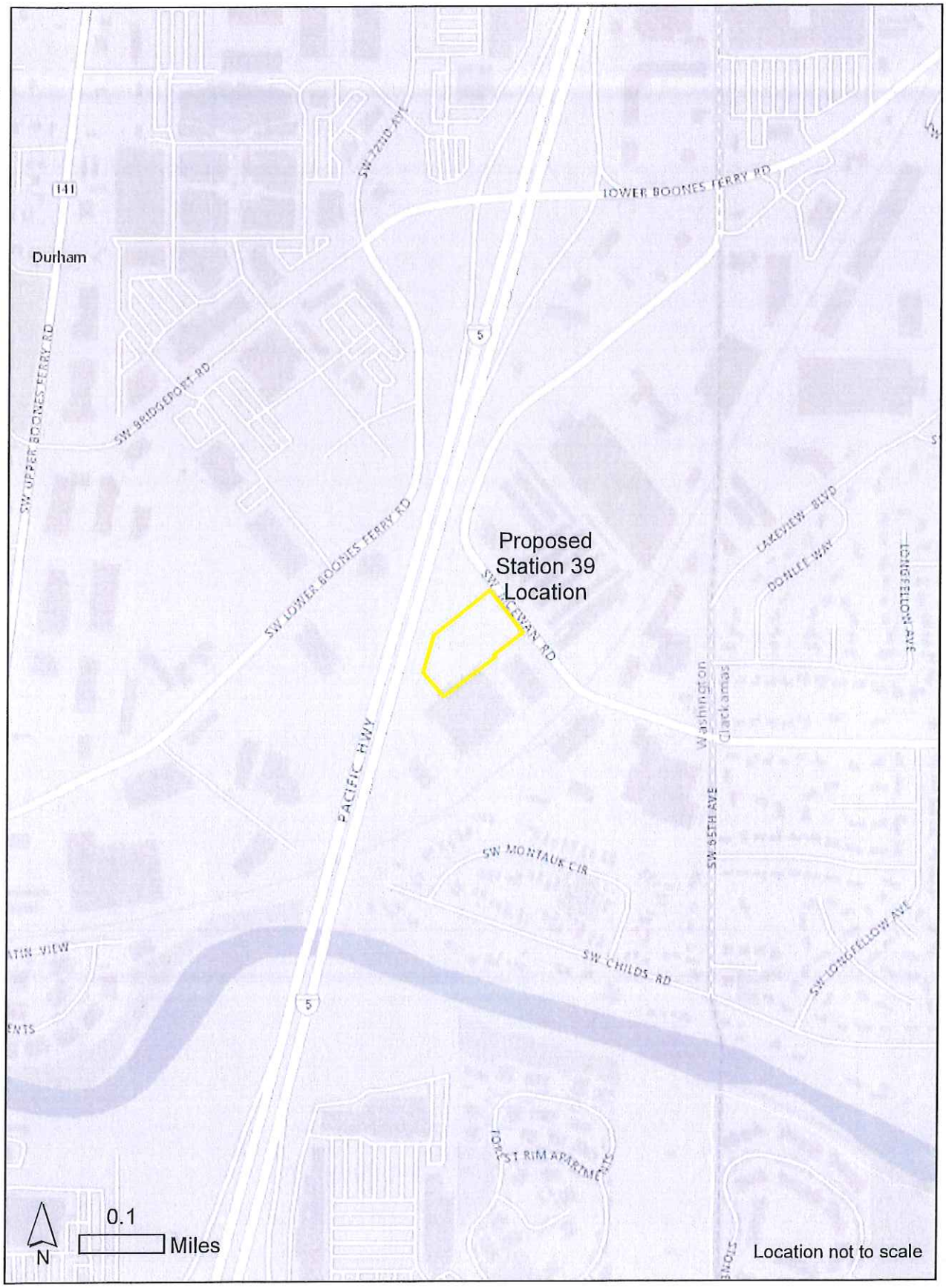


Exhibit B to
Resolution No. 5358-18

NEIGHBORHOOD / DEVELOPER MEETING
CERTIFICATION OF SIGN POSTING

In addition to the requirements of TDC 31.064(2) quoted earlier in the packet, the 18" x 24" sign that the applicant provides must display the meeting date, time, and address and a contact phone number. The block around the word "NOTICE" must remain **orange** composed of the **RGB color values Red 254, Green 127, and Blue 0**. Additionally, the potential applicant must provide a flier (or flyer) box on or near the sign and fill the box with brochures reiterating the meeting info and summarizing info about the potential project, including mention of anticipated land use application(s). Staff has a Microsoft PowerPoint 2007 template of this sign design available through the Planning Division homepage at < www.tualatinoregon.gov/planning/land-use-application-sign-templates >.

As the applicant for the TVF+R Station 39 project, I hereby certify that on this day, October 24, 2017 sign(s) was/were posted on the subject property in accordance with the requirements of the Tualatin Development Code and the Community Development Department - Planning Division.

Applicant's Name: Clinton Doxsee, Angelo Planning Group
(PLEASE PRINT)

Applicant's Signature: _____

Date: 11/29/17

Exhibit B to
Resolution No. 5358-18

NOTICE

NEIGHBORHOOD / DEVELOPER MEETING

11/7/2017 6:00 p.m.

8513 SW Tualatin Road

503-227-3664.

Exhibit B to
Resolution No. 5358-18

TVF&R Station 39 Neighborhood/Developer Meeting Notice Sign posted on site.

Exhibit B to
Resolution No. 5358-18

LAND USE PLANNING
TRANSPORTATION PLANNING
PROJECT MANAGEMENT

MEMORANDUM

TVF&R Station 39

Neighborhood Meeting Notes

DATE	November 9, 2017
TO	Project Team
FROM	Frank Angelo, APG
CC	

The Station 39 Neighborhood Meeting for the land use application was held on Tuesday, November 7, 2017 at the Juanita Pohl Center, 8513 SW Tualatin Road, Tualatin, Oregon 97062. The meeting Agenda, Sign-in Sheet and Illustrations presented at the meeting are attached to this meeting summary.

Project team attendance:

- TVF&R: Assistant Chief Havener, Siobhan Kirk
- APG: Frank Angelo
- Ankrom Moisan Architects: Michael Bonn
- AKS: Bruce Baldwin
- Lancaster Engineering: Todd Mobley

City of Tualatin Staff in attendance:

- Charles Benson, Planner

Frank Angelo introduced the Neighborhood Meeting and turned it over to Assistant Chief Havener to introduce the project and discuss the site selection, project funding and station operations.

Frank Angelo reviewed the land use application process and schedule for application submittal, noting the following.

- Tonight's meeting is a part of the city's land use application process. We are preparing a Conditional Use first, then an Architectural Review 2 land use application to demonstrate how the project complies with the City's CU Review Criteria.
- The Conditional Use application will address the use of the property and be presented at a City Council public hearing.

ANGELO PLANNING GROUP
921 SW Washington Street, Suite 468
Portland, OR 97205

angeloplanning.com
p: 503.224.6974
f: 503.227.3679

- The second application will follow Conditional Use approval and will be the Architectural Review application.
- The AR application will demonstrate how the project meets the City's design requirements and standards.
- The AR application will be reviewed and approved by staff. The application does not require review/approval by the Planning Commission.
- We expect to file the Conditional Use application in November.
- You received direct notice of tonight's meeting because you are within 1000' of the project site. Following submittal of the CU application you will receive notice of the Planning Commission hearing date/time.

Michael Bonn, Ankrom Moisan Architects, reviewed the site plan and building design elements.

- Michael provided an overview of site design considerations and key features.
- Stepped through the site plan, access to the site, on-site circulation, stormwater treatment, and landscaping.
- Station 39 will be similar in design to Station 55 currently under construction in West Linn.
- Staffing will be 4 full-time staff (24-hour shifts) with room to expand to 6 full-time staff.
- Michael noted the 600 sf Community Room and its availability to the residents for meetings.

Questions from the audience:

1. Discuss the landscaping that will be provided.
2. Question regarding the location of the driveway to SW McEwen and its proximity to the existing cell tower.
3. Where is the station in relation to the Legacy Medical office?
4. Has the design considered flooding and debris flows from Scoggins Dam?
5. Where is this site in relation to the Lake Oswego Fire District boundary?
6. Is there an agreement (Mutual Aid Agreement) between TVF&R and LOFD?
7. Is the building being constructed to address emergency preparedness? Design will include seismic enhancements.
8. Will TVF&R assist with HazMat calls?

The meeting adjourned at 7:00pm.

Attachments: Meeting Agenda; Sign-In Sheet; Project Illustrations

Tualatin Valley Fire & Rescue Station 39
Neighborhood / Developer Meeting
Tuesday, November 7th, 2017
6:00 – 7:00 pm
Juanita Pohl Center
8513 SW Tualatin Road
Tualatin, Oregon 97062

Agenda

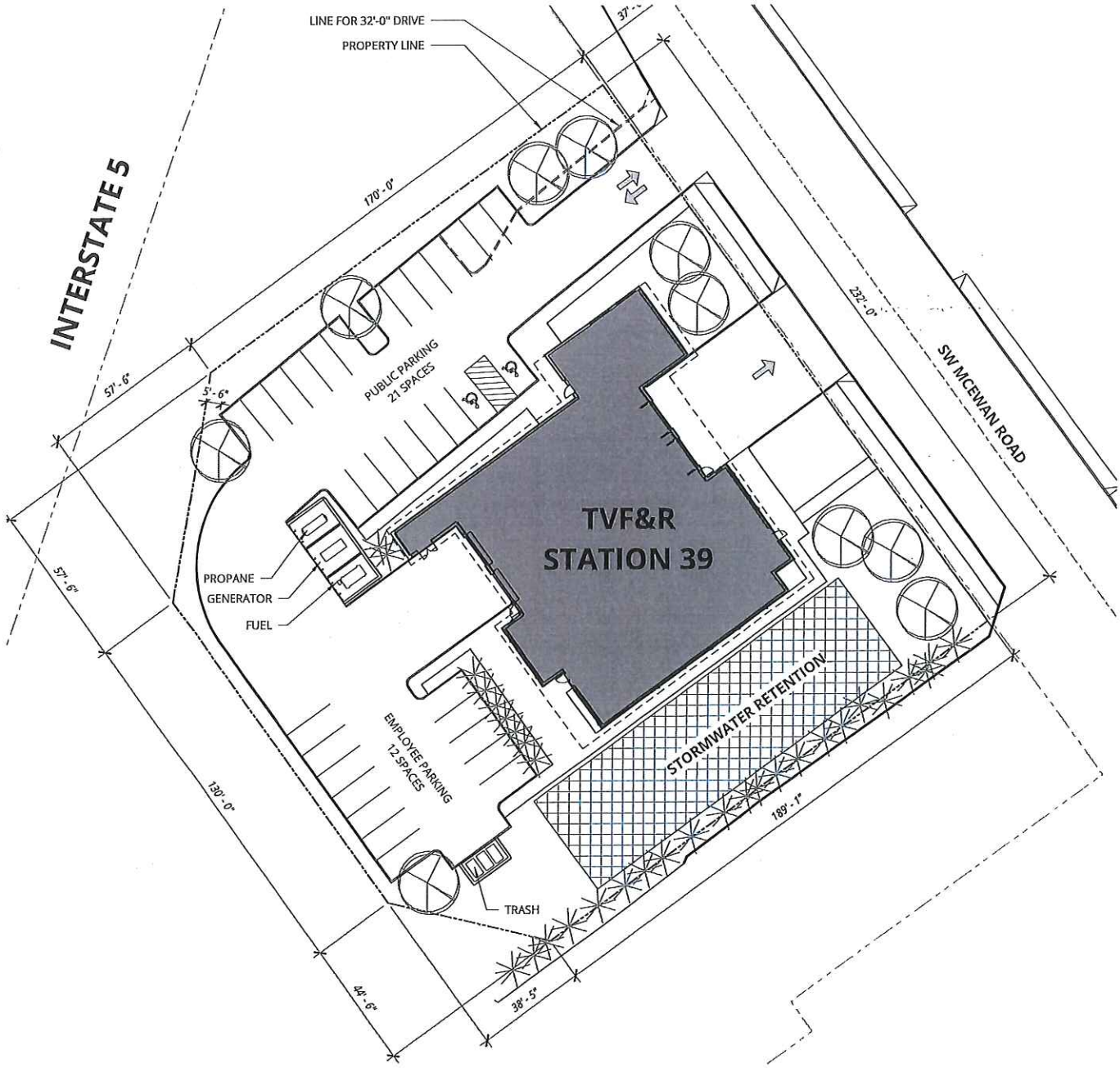
1. Welcome / Meeting Overview – Frank Angelo, Angelo Planning Group
2. Introduction from TVF&R – Assistant Chief Mark Havener
3. Land Use Application – Frank Angelo
4. Site Plan– Michael Bonn, Ankrom Moisan Architects
5. Audience Questions / Comments – All

Exhibit B to
Resolution No. 5358-18

TVF&R Station 39 Neighborhood Meeting

November 7, 2017
6:00 pm – 7:00 pm
Juanita Pohl Center
8513 SW Tualatin Road
Tualatin, OR 97062

Name	Address	Email Address
FRANK ANGELO	[redacted]	
BRUCE BALDWIN		
TODD MOBLEY		
Shannon Marvin		
Kim Merow		
MICHAEL BONN		
CHARLES BENSON		
LARRY SILVER – BURDAS		
"		
Wade Havener		
Siobhan Kirk		
Sherry Patterson		
ALLEN PATTERSON		

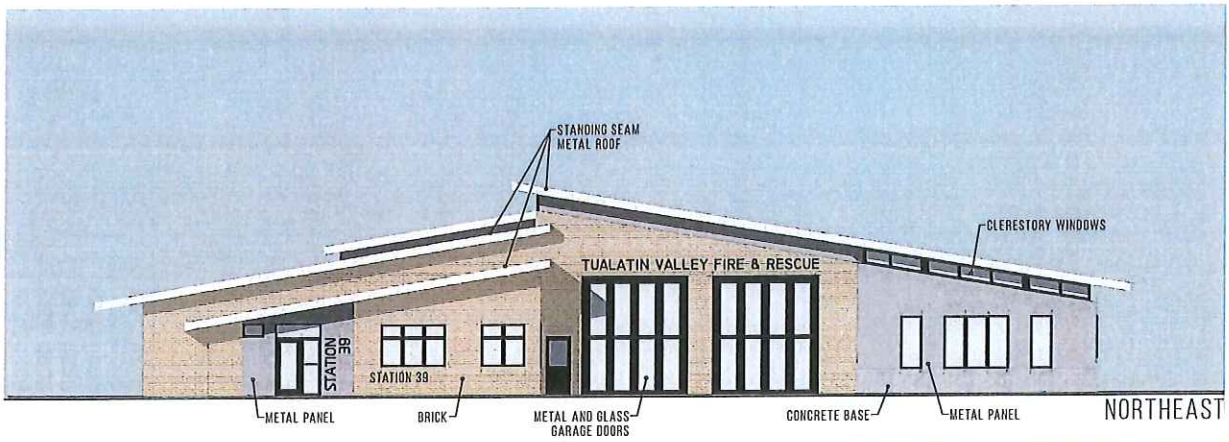


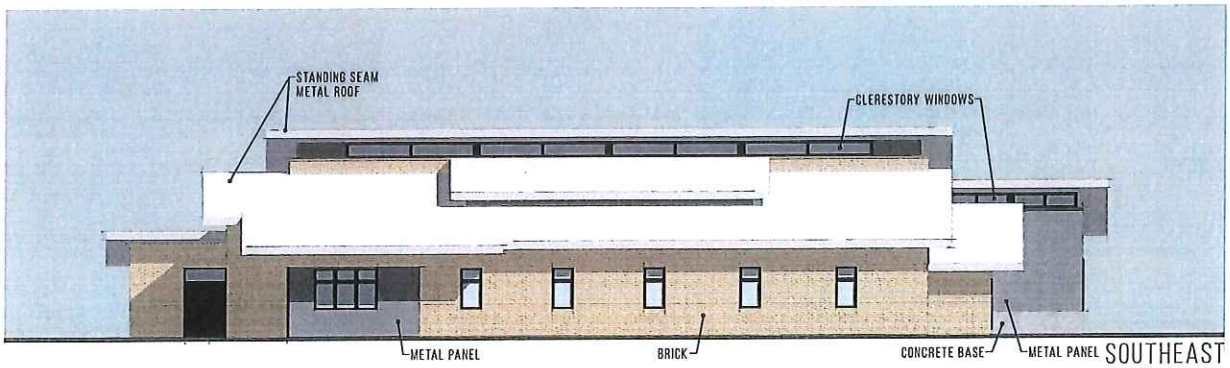
TVF&R Tualatin Valley Fire & Rescue

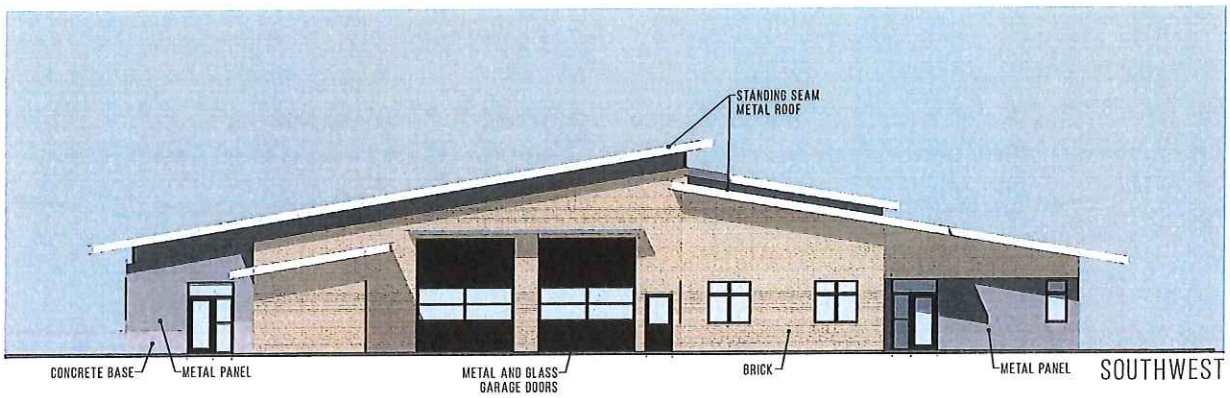
FIRE STATION 39

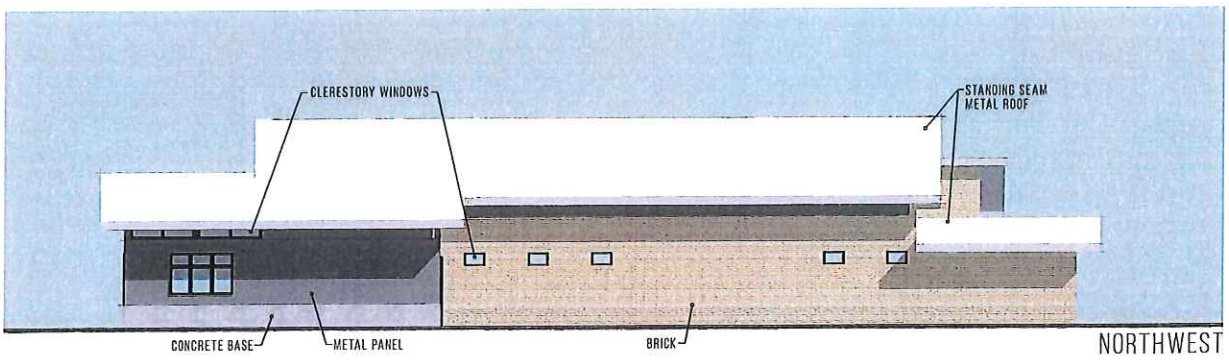
TUALATIN / 11.07.2017

Ankrom Moisan







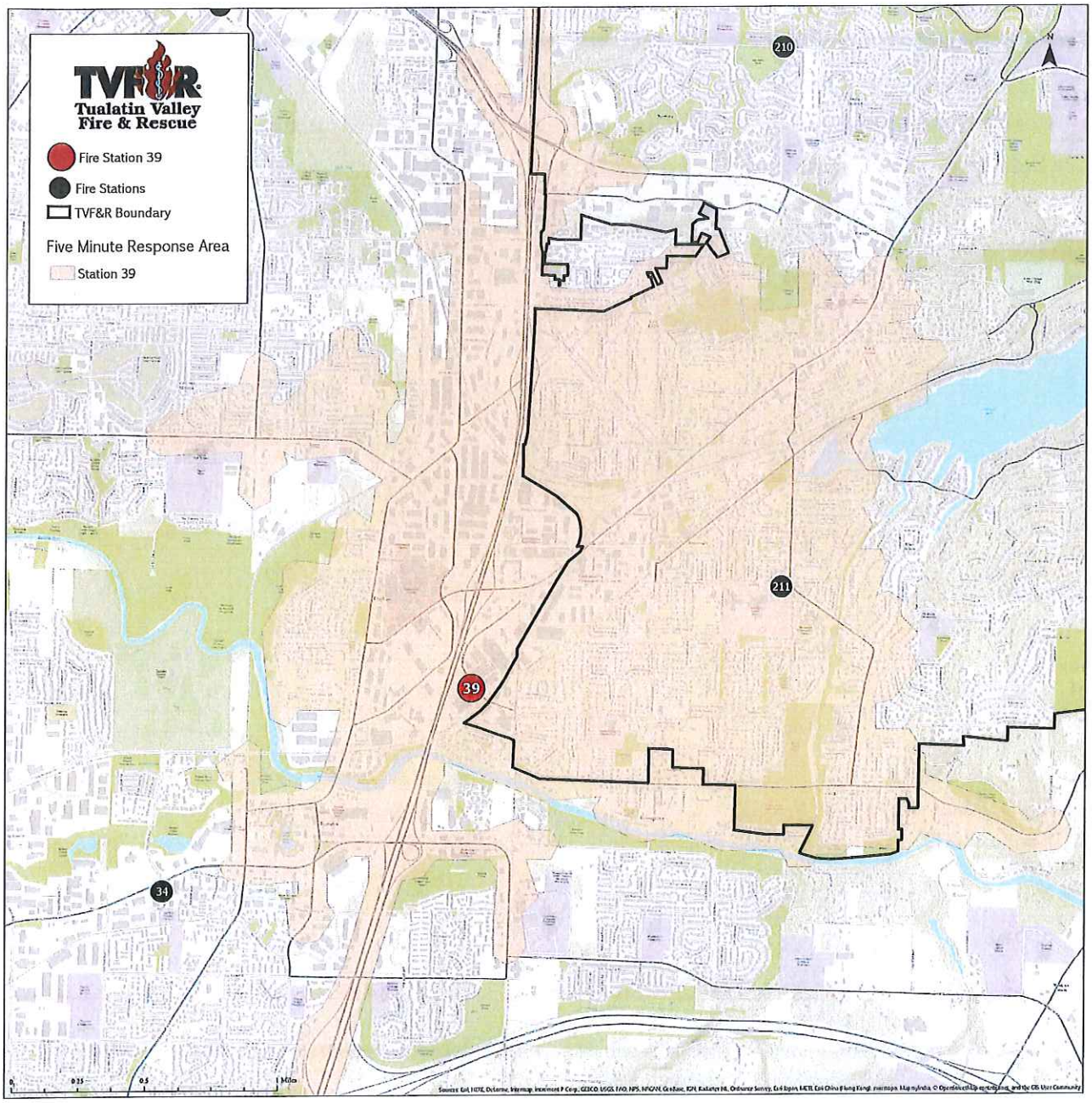


Tualatin Valley Fire & Rescue

FIRE STATION 39

TUALATIN / 11.07.2017

Ankrom Moisan



TVF&R Tualatin Valley Fire & Rescue

FIRE STATION 39

TUALATIN / 11.07.2017

Ankrom Moisan

Exhibit 7

Order Granting Plaintiff's Motion of Immediate Possession (Case No. 17CV14497)

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Exhibit B to
Resolution No. 5358-18

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF WASHINGTON

TUALATIN VALLEY FIRE AND RESCUE, a rural fire protection district, Plaintiff, v. AMERCO REAL ESTATE COMPANY, a Nevada corporation Defendant.	Case No. 17CV14497 ORDER GRANTING PLAINTIFF'S MOTION OF IMMEDIATE POSSESSION

IT APPEARING TO THE COURT that: Plaintiff Tualatin Valley Fire and Rescue ("Plaintiff") served a Notice of Immediate Possession ("Notice") on the defendant Amerco Real Estate Company ("Defendant") named in the above captioned proceeding on April 18, 2016; Defendant failed to file an objection that complies with ORS 35.352(2) in the time provided; and this Order is supported by the Declaration of Cynthia Fraser filed herewith as required by ORS 35.352(3) along with Plaintiff's Motion for Entry of Order for Immediate Possession and Response to Defendant's Reservation of Right to Object to Immediate Possession.

The Court further finding that Defendant submitted a "Non-Opposition to Plaintiff's Motion for Entry of Order for Immediate Possession" on May 19, 2017 and advised the Court that it did not object to the form of Order for Immediate Possession.

IT IS FURTHER APPEARING TO THE COURT that a deposit as required by ORS

GARVEY SCHUBERT BARER
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS
eleventh floor
121 s.w. morrison street
portland, oregon 97204-3141
503 228 3939

35.265 has been made. Now, therefore,

IT IS HEREBY ORDERED THAT Plaintiff has the right to take and exercise immediate possession of such property and interests on May 4, 2017, as provided in the notice and provided in ORS 35.352.

Signed: 6/9/2017 09:34 AM

Submitted by:

Cynthia M. Fraser, OSB #872246
Paul H. Trinchero, OSB # 014397
GARVEY SCHUBERT BARER
121 SW Morrison Street
Portland, OR 97204
Telephone: (503) 228-3939
Fax: (503) 226-0259

Of Attorneys for Plaintiffs

Exhibit B to
Resolution No. 5358-18

CERTIFICATE OF READINESS

UTCR 5.100

This proposed order or judgment is ready for judicial signature because:

1. ☐ Each opposing party affected by this order or judgment has stipulated to the order or judgment, as shown by each opposing party's signature on the document being submitted.

2. ☐ Each opposing party affected by the order or judgment has approved the order or judgment, as shown by signature on the document being submitted or by written confirmation of approval sent to me.

3. ☒ I have served a copy of this order or judgment on all parties entitled to service and:

   a. ☒ No objection has been served on me.

   b. ☐ I received objections that I could not resolve with Defendant despite reasonable efforts to do so. I have filed a copy of the objections I received and indicated which objections remain unresolved.

   c. ☐ After conferring about objections, Defendant agreed to independently file any remaining objection.

4. ☐ The relief sought is against an opposing party who has been found in default.

5. ☐ An order of default is being requested with this proposed judgment.

6. ☐ Service is not required pursuant to ORS 35.352(3).

7. ☐ This is a proposed judgment that includes an award of punitive damages and notice has been served on the Director of the Crime Victims' Assistance Section as required by subsection (4) of this rule.

DATED this 5th day of June, 2017.

s/Cynthia M. Fraser
Cynthia M. Fraser
Of Attorneys for Plaintiff

GARVEY SCHUBERT BARER
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS
eleventh floor
121 s.w. morrison street
portland, oregon 97204-3141
503 228 3939

Exhibit B to
Resolution No. 5358-18

CERTIFICATE OF SERVICE

I hereby certify that I served the proposed **ORDER GRANTING PLAINTIFF'S MOTION OF IMMEDIATE POSSESSION** on the following:

Peter C Richter
Alex Naito
Miller Nash Graham & Dunn LLP
111 SW 5th Ave Ste 3400
Portland OR 97204
peter.richter@millernash.com
alex.naito@millernash.com

by mailing to them a copy of the original thereof, contained in a sealed envelope, addressed as above set forth, with postage prepaid, and deposited in the mail in Portland, Oregon, on this 4th day of May, 2017 and provided them a copy of this Order on June 5, 2017.

s/ Cynthia M. Fraser
Cynthia M. Fraser, OSB #872243
Of Attorneys for Plaintiff

GSB:8632935.2 [37746.00200]

GARVEY SCHUBERT BARER
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS
eleventh floor
121 s.w. morrison street
portland, oregon 97204-3141
503 228 3939

PORTLAND OFFICE
eleventh floor
121 sw morrison street
portland, oregon 97204-3141
TEL 503 228 3939 FAX 503 226 0259

anchorage, alaska
beijing, china
new york, new york
seattle, washington
washington, d.c.
GSBLAW.COM

GARVEY SCHUBERT BARER
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS

Please reply to CYNTHIA M. FRASER
cfraser@gsblaw.com
Direct Dial 503 553 3223

October 11, 2017

VIA EMAIL AND U.S. MAIL

Sean Brady
City Attorney
City of Tualatin Oregon
18880 SW Martinazzi Ave
Tualatin, OR 97062

Re: Tualatin Valley Fire & Rescue

Dear Sean:

I have been hired by Tualatin Valley Fire & Rescue ("TVFR") to work with TVFR's general counsel, Bob Blackmore, on the acquisition of property necessary for TVFR to build a new fire station for the health, safety and welfare of its fire district. One of the issues that came up recently with your planning department was the legal ability of TVFR to proceed with the land use process necessary to build the facility because TVFR does not have title to the property.

Prior to joining this law firm, I was a Senior Assistant Attorney General at the Oregon Department of Justice in the trial division, where I specialized in condemnation. Since returning to private practice, I have represented several government entities in the acquisitions of properties for public use. Most recently, I was the condemnation attorney for the City of Lake Oswego-Tigard Water Partnership. I worked closely with City Attorney David Powell on all of the necessary property acquisitions for that project.

The Oregon Condemnation Procedures Act ORS Chapter 35 governs and describes the condemnation powers a government entity has and the procedures it must follow. When a public condemnor commences an action for condemnation of property, and immediate possession of the property is considered necessary by the public condemnor, the condemnor may deposit funds into the court where the action was commenced for the use of the defendants in the action. ORS 35.265. TVFR filed a complaint in Washington County Circuit Court on April 6, 2017 against Amerco Real Estate Company ("U-Haul") and deposited funds into court in compliance with the statute. Thereafter, on April 18, 2017, TVFR filed a Notice of Immediate Possession of Property with the court. Any time after a condemnation action is commenced, the public condemnor may serve notice on the property owner that it will take immediate possession of the property that is the subject of the condemnation action.

ORS 35.352. On May 4, 2017, the Washington County Circuit Court granted plaintiff's Motion for Entry of an Order of Immediate Possession.

Accordingly, as of May 5, 2014, TVFR has immediate legal possession of the property, and as such may proceed with moving forward with its project.[1] Even if there is an appeal to the action from the judgment, the appeal will not stay the proceeding as to prevent the condemnor from taking possession of the property and using it for the purposes for which it is being appropriated. ORS 35.355. Thus, the legislature intended that the condemnor – TVFR – could proceed with the project while the property owner has the right to contest the amount of just compensation. TVFR has the necessary legal authority to proceed as if it had legal title to the property. The condemnation proceeding is scheduled for a jury trial March 5, 2018 to March 9, 2018.

Feel free to contact either Bob Blackmore at (503) 479-7175 or myself if you have any questions. I understand that a meeting to discuss next steps is being set up and we thought setting out the legal status of TVFR in advance would assist you.

Very truly yours,

GARVEY SCHUBERT BARER

By
Cynthia M. Fraser

GSB:9003400.1 [37746.00100]

[1] It should also be noted that there is a statutory presumption of necessity that when TVFR declared the taking of the U-Haul property necessary for its purposes of the health and safety of its district, there is a presumption of evidence of the necessity of the property. See *Port of Umatilla v. Richmond*, 212 Or 596 321 P2d 338 (1958). In the absence of fraud, bad faith or abuse of discretion, the necessity propriety or expediency of appropriation of the property for the public use, the location of the property taken and it suitableness for the proposed use are legislative questions and therefore not subject to review by the court.

Exhibit B to
Resolution No. 5358-18

CUP17-0002

To lessen the bulk of the notice of application and to address privacy concerns, this sheet substitutes for the photocopy of the mailing labels. A copy is available upon request.