ARD ENGINEERING
21370 SW Langer Farms Pkwy
Suite 142, Sherwood, OR 97140

REGISTERED PROFESSIONAL ENGINEER
54983PE
OREGON
JULY 10, 2002
MICHAEL T. ARD
EXPIRES: 12/31/19

Technical Memorandum

To: Tom Sisul, Sisul Engineering

From: Michael Ard, PE

Date: January 25, 2019

Re: 16362 Hiram Avenue – Transportation Analysis Letter

This memorandum is written to provide information related to a proposed five-lot residential development to be located at 16362 Hiram Avenue in Oregon City, Oregon. Based on the nature and scale of the development the city requires a Transportation Analysis Letter (TAL). The required contents of the letter are described in the city's *Guidelines for Transportation Impact Analyses*, Section 5.0. Each of the required elements is addressed herein.

SITE LOCATION AND PROJECT DESCRIPTION

The subject property is on the east side of Hiram Avenue opposite Gain Street in Oregon City. The site is currently developed with one single-family home, which will remain in place. The existing home currently takes access via a driveway on Hiram Avenue. Under the proposed development plan, the existing driveway will be closed and all five lots within the site will take access via a new roadway intersecting Hiram Avenue and dividing the subject property.

Hiram Avenue is classified by Oregon City as a Local Street. It accommodates two-way traffic with no centerline striping and has a statutory residential speed limit of 25 mph. There are currently no curbs, gutters or sidewalks on either side of the roadway. Some on-street parking is available where sufficient shoulder width is provided.

Gain Street is also classified by Oregon City as a Local Street. It has a gravel surface that accommodates two-way traffic and has a statutory residential speed limit of 25 mph.

The proposed development will include four new lots for single-family homes. The existing single-family home located in the southwest corner of the site will remain in place. An aerial image showing the site location is provide on the following page. A site plan showing the proposed development as well as the locations of proposed site access is included in the attached technical appendix.

Aerial view of project site (image from Google Earth)

TRIP GENERATION

The trip generation estimate for the proposed use was prepared using data from the *Trip Generation Manual, 10th Edition,* published by the Institute of Transportation Engineers. Trip generation was calculated using the published trip rates for ITE land use code 210, *Single-Family Detached Housing*. The calculations are based on the number of dwelling units.

Based on the analysis, the proposed residential development is projected to generate 3 new trips during the morning peak hour, 4 trips during the evening peak hour, and 38 new daily trips.

A summary of the trip generation calculations is provided in the table on the following page. A detailed trip generation calculation worksheet is also included in the attached technical appendix.

16362 Hiram Avenue: Trip Generation Calculation Summary

	Morning Peak Hour			Evening Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
4 Additional Single-Family Homes	1	2	3	3	1	4	38

DRIVEWAY WIDTH STANDARDS

Oregon City Municipal Code Section 12.04.025 requires that driveways serving single or two-family dwellings with a one-car garage/parking space must have a width of at least 10 feet and no more than 12 feet. Driveways serving a two-car garage/parking space must have a width of at least 12 feet and no more than 24 feet. Driveways serving a three-car garage/parking space must have a width of at least 18 feet and no more than 30 feet.

The proposed driveways on the new street will each have a paved width of 12 feet. The proposed driveways are therefore appropriately sized to serve either one or two garage/parking spaced per lot.

INTERSECTION AND DRIVEWAY SPACING STANDARDS

For local streets such as the proposed new street, Oregon City Municipal Code Section 12.04.190 requires that public streets be either aligned with existing streets or offset from the centerline by no more than 5 feet provided that the offset will not pose a safety hazard in the judgment of the City Engineer. In this instance, due to a significant conflict between the existing home on the subject property and the existing alignment of Gain Street, as well as the need for the new roadway to efficiently serve the lots within the development and the city's desire to serve future connectivity for lots beyond the subject parcel, it is necessary to seek a modification to this standard to allow an offset of approximately 25 feet. A more detailed explanation of the reasons for this request as well as an examination of the potential safety and operational impacts of approval of the requested modification is provided in the "Proposed Modifications" section on page 6.

Additionally, a minimum spacing of 25 feet is required along the new roadway between Hiram Avenue and any private driveway serving a use other than a one- or two-family dwelling. In this instance, all driveways on the new local street will serve single-family homes. Accordingly, there is no applicable minimum spacing between driveways. Since all proposed driveways are spaced more than 25 feet from Hiram Avenue, the proposed points of access meet the applicable Oregon City spacing standards.

INTERSECTION SIGHT DISTANCE

The proposed development includes a new street which will intersect Hiram Avenue. In order to verify that the resulting new intersection on Hiram Avenue can operate safely, intersection sight distance was evaluated for the proposed access location. Based on the statutory residential speed limit of 25 mph on Hiram Avenue, a minimum of 280 feet of intersection sight distance is required in each direction.

In accordance with the methods described in *A Policy on Geometric Design of Highways and Streets, 6th Edition*, published by the American Association of State Highway and Transportation Officials (AASHTO), intersection sight distance was measured from a position 15 feet behind the edge of the roadway at an elevation 3.5 feet above the proposed driveway surface to an oncoming driver's eye position 3.5 feet above the surface of the oncoming driver's lane. Based on the measurements, the available intersection sight distance in each direction will be in excess of 300 feet at the proposed access location. Accordingly, adequate intersection sight distance is available, and no sight distance mitigations are necessary or recommended.

SAFETY

In addition to ensuring that adequate sight lines are available for safe and efficient operation of motor vehicles, the proposed site plan and surrounding infrastructure were examined to determine whether they are capable of safely accommodating pedestrian and bicycle traffic.

The proposed development includes construction of sidewalks along the site frontage on Hiram Avenue as well as on both sides of the proposed new street serving the property. Traffic volumes and speeds on the new roadway are projected to be very low due to the short length of the roadway, the presence of a 90-degree turn, and the low number of residential units accessed via the roadway. Based on these factors, no safety concerns were identified in conjunction with the proposed new street.

Hiram Avenue is an existing narrow, local residential street without sidewalks or bike lanes. It has a statutory residential speed limit of 25 mph, no centerline striping, and carries relatively low volumes of traffic at low speeds. It also has a relatively short length, providing a connection between Holcomb Boulevard and S Cleveland Street, a distance of approximately one quarter mile. Under existing conditions, pedestrians and people riding bicycles must share the roadway with motorized vehicle traffic. Due to the low volume of traffic on the roadway, people are able to walk or bicycle within the paved roadway surface while occasional vehicles traveling along the roadway can cross to the other side as needed to avoid conflicts with other road users. An alternative walking route is also available along Front Avenue, approximately 400 feet west of Hiram Avenue, where sidewalks are in place along the west side of the roadway.

For the subject property's frontage on Hiram Avenue, the new sidewalks will provide a safe travel path for pedestrians in the form of a sidewalk that is physically separated from Hiram Avenue by a curb and vegetated swale with street trees. This improvement will benefit both the proposed development and the existing users of the roadway. For the remainder of the length of Hiram Avenue, it is anticipated that all modes will continue to share the roadway.

In addition to examination of the existing and proposed facilities for all modes, crash history was examined for the existing segment of Hiram Avenue between Holcomb Boulevard and S Cleveland Street. The crash data was obtained from the Oregon Department of Transportation's Crash Analysis and Reporting Unit for the most recent five years for which data is available. Based on the data, there was only one reported crash during the five-year analysis period. The crash actually occurred on Holcomb Boulevard as a driver that stopped to make an eastbound left-turn onto Hiram Avenue was struck by a following vehicle. The crash resulted in a "possible injury/complaint of pain" to one person. There were no reported incidents involving motor vehicle traffic, pedestrians or people riding bicycles along Hiram Avenue itself.

Based on the safety analysis, no significant safety concerns were identified, and no specific mitigations are recommended.

TRANSPORTATION SYSTEM PLAN COMPLIANCE

The city's Transportation System Plan includes references to two planned projects in the site vicinity. Neither of the two projects is currently included in the "likely to be funded" project list. The projects are as follows:

- FF2 – Front Avenue Family Friendly Route – Add sidewalks on both sides of the street from Forsythe Road to Holcomb Boulevard
- FF3 – Cleveland Street Family Friendly Route – Add sidewalks on both sides of the street from Apperson Boulevard to Swan Avenue

Although these future projects may improve pedestrian connectivity in the site vicinity, neither will have impacts directly on Hiram Avenue, and neither will directly abut the proposed development site.

The city's standard cross-section for Local streets such as Hiram Avenue includes a 32-foot paved roadway within a 54-foot right-of-way width. On each side of the roadway, it requires 16 feet of pavement, 5.5 feet of curb and tree well, a 5-foot sidewalk, and a 6-inch wide public access strip. The proposed development includes public improvements that match the required cross-section for the half

street. As such, the proposed cross-section on Hiram Avenue complies with the requirements of Oregon City's Transportation System Plan.

The proposed cross-section for the new street serving the proposed subdivision has a 40-foot right-of-way with five-foot curb-tight sidewalks on each side of the roadway. This proposed "skinny street" design results primarily from the city's request that the primary site access, which was previously envisioned as a private access serving multiple residences, be converted to a public street to allow for a future public connection to adjacent properties.

PROPOSED MODIFICATIONS

The proposed development includes two design elements that will require modifications to the city's design standards. Both relate to the design of the new public street which will serve as the point of access for the homes within the subject property.

As originally conceived, a shared, private access driveway serving the five lots within the site would have been required to have a minimum access spacing of 25 feet from public intersections or other driveways that serve more than two homes. This minimum spacing was achievable while maintaining the existing home on a lot within the subject property. The private driveway could also be constructed with a narrower cross-section than the one required for public streets under Oregon City Municipal Code Section 12.04.180.

Based on conversations with city staff, this original vision for the site was modified to facilitate the broader goals of the city. Specifically, the city desired a public street connection that would allow for future connection to future lots south of the subject property, as shown in the preliminary Neighborhood Circulation Plan included in the attached technical appendix. However, upon conversion of the private driveway to a public street the additional standards for roadway alignment and cross-section design become significant concerns for site development. If the existing alignment of Gain Street west of Hiram Avenue were extended into the site, the new public street would pass through the existing home on the property, resulting in significant impacts and costs. In order to meet the connectivity goals of the city while preserving the existing home on the subject property and providing appropriate access for the new proposed lots, an alternative design was prepared which includes an offset of slightly over 25 feet from the existing Gain Street alignment and a narrower public street within a 40-foot right-of-way.

Generally, narrow streets can safely and efficiently serve low volumes of local street traffic, particularly where they will operate as dead-end streets. The State of Oregon even prepared a handbook entitled "*Neighborhood Street Design Guidelines – An Oregon Guide to Reducing Street Widths*" to promote narrower residential street cross-sections due to the operational, safety and livability benefits of skinny streets. Accordingly, there are no significant safety or operational concerns anticipated upon approval of the narrowed street. However, since offset intersections may result in operational and safety impacts as compared to aligned streets, a detailed examination was undertaken for the proposed site plan.

Offset Intersection Safety

In general, transportation engineers typically seek to limit the number of points of conflict along roadways. Such limitations are most critical for high-volume and high-speed facilities, which are typically designated as Arterial streets. This limitation serves to promote mobility, while restricting access to properties. At the other end of the street classification spectrum, Local streets are primarily intended to provide access to individual properties, at the expense of mobility. Accordingly, restricting the number of points of access is far less critical on these roadways. In this instance, all roadways impacted by the proposed modification to the intersection spacing standard are low-speed, low-volume local streets. As such, limitation of the number of points of access is far less critical at this location than it would be within a different neighborhood context.

Although reducing the number of intersections along a roadway generally results in reducing the number of points of conflict, an exception occurs when examining the difference between conflicts at aligned four-way intersections and offset T-intersections. A typical aligned four-way intersection has 32 conflict points, including 16 merging/diverging conflicts and 16 crossing conflicts. A typical pair of T-intersections has just 18 conflict points, with 12 merging/diverging conflicts and 6 crossing conflicts. Accordingly, a pair of closely-spaced T-intersections actually reduces the number of conflict points on a roadway as compared to an aligned intersection. This reduction in conflict points is also reflected in crash data, where closely-spaced T-intersections generally are found to have lower crash rates than comparable four-way intersections. The potential safety benefits of offset T-intersections can only be fully realized at locations where sight lines between potentially conflicting approaches are favorable, and the intersection alignments do not give rise to significant operational concerns that may precipitate unexpected conflicts. In this instance, the sight lines from the proposed new roadway along Hiram Avenue and to the offset approach of Gain Street are very favorable, so sight lines are not projected to become a safety concern. Operation of the proposed offset intersections is discussed in detail below.

Offset Intersection Operations

In addition to consideration of the potential safety impacts of offset T-intersections, it is appropriate to consider how the intersections will function, and whether conflicts between closely-spaced intersections may lead to undesirable conflicts.

The primary operational concern that can arise at closely-spaced T-intersections is one of "binding". This can occur when two vehicles approach simultaneously on the opposing major (through) street approaches, with both intending to turn left onto the minor streets. If the paths of these left-turning vehicles cross, it can create a conflict in which each vehicle is obstructed either by the opposing turning vehicle or by vehicles queuing behind the turning vehicle while waiting for it to complete its turn. This type of conflict only arises at intersections where the offset would require a through vehicle traveling on the minor street to turn right, then left in order to continue traveling along the minor street after crossing the through street.

Notably, the proposed intersection alignment is in the opposite direction and cannot result in this type of conflict. Also notable is that this type of conflict is typically not severe in very low volume environments where simultaneous left turns do not regularly occur. The existing offset T-intersection at Front Avenue and Gain Street is an example of an offset T-intersection with the offset in the direction that can cause binding; however given the low volumes of traffic on the roadway it does not appear that this potential conflict has been problematic, and the crash history for that intersection is also not indicative of any significant safety concerns, with no reported crashes during the most recent 10 years for which data is available.

In addition to the potential for binding conflicts, offset T-intersections with the opposite alignment (such as the one proposed) can give rise to conflicts between vehicles turning left from the minor-street approaches simultaneously. In this instance, since the minor-street approaches will operate under stop control and sight lines are favorable, the opposing drivers will have the ability to see the potential for conflicts before they arise and wait for a safe opportunity to turn. Since following vehicles must also stop prior to entering Hiram Avenue, following queues would not be expected to result in additional conflicts for these approach directions.

In addition to the potential for conflicts, adding new intersections along a roadway results in an increase in the number of locations where vehicles may slow or stop to turn. This increase typically results in very slight decreases in the capacity of the roadway and the speed of traffic on the roadway. In this instance, since the roadway is intended as a low-speed facility and is operating far within capacity, these slight operational impacts would be both negligible and acceptable.

Based on the detailed analysis, the proposed offset T-intersection would not be projected to result in any significant safety or operational concerns and may result in a slight benefit to safety by reducing the total number of conflict points as compared to an aligned intersection. Accordingly, the city may consider granting a modification to allow the proposed intersection alignment.

Modification Approval Criteria

Oregon City Municipal Code lays out several criteria which must be satisfied in order to grant a modification. Each of these criteria is listed below, with a response following.

A. *The modification meets the intent of the standard;*

The intent of the access spacing and roadway cross-section standards is to provide a safe and efficient public street network. Based on the analysis, the proposed plan will accomplish this goal. Accordingly, this requirement is met.

B. *The modification provides safe and efficient movement of pedestrians, motor vehicles, bicycles and freight;*

The operational and safety impacts of the proposed offset T-intersection for motor vehicle traffic were discussed in detail previously. There are also no significant impacts to operations or safety for

pedestrians, bicycles and freight since sight lines are favorable for all road users. The proposed cross-section of the new street is intended to enhance safety and livability for the residents of the subject property and can safely and efficiently accommodate all road users. Accordingly, this requirement is also met.

C. The modification is consistent with an adopted plan; and

The proposed modifications assist in accomplishing the goals of the city's adopted Transportation System Plan. Specifically, the proposed offset intersection and reduced street width are projected to preserve and enhance safety in the site vicinity for all road users and allow for increased future connectivity (as requested by city staff). This requirement is therefore also met.

D. The modification is complementary with a surrounding street design

In this instance, the existing street network surrounding the project site has numerous examples of offset T-intersections that have been operating acceptably for many years. These include Front Avenue at Gain Street, Front Avenue at Cleveland Street, and Gain Street at B Street/Harley Avenue. The intersection of Hiram Avenue at Clear Street approximately 300 feet to the north of the proposed access also forms an offset T-intersection with the private driveway that serves three homes on the east side of Hiram Avenue. Many of the existing streets in the site vicinity are also narrow streets that limit speeds and discourage through traffic, similar to the proposed cross-section of the new street. The proposed design echoes the existing designs of numerous streets and intersections in the site vicinity while providing enhancements that make the design superior to the similar existing facilities such as sidewalks and having an offset direction that is optimal for safe and efficient operation. The proposed modifications therefore comply with this requirement.

Based on the detailed examination of the code requirements for modifications, the city can grant the requested modifications. This approval will benefit the city and the surrounding community by allowing for the requested public street connectivity across the subject property.

CONCLUSIONS

The proposed development will generate traffic volumes that are below the threshold at which a full traffic impact study is required by Oregon City. Since the added traffic volumes are minimal, no significant operational impacts are anticipated in conjunction with the proposed development.

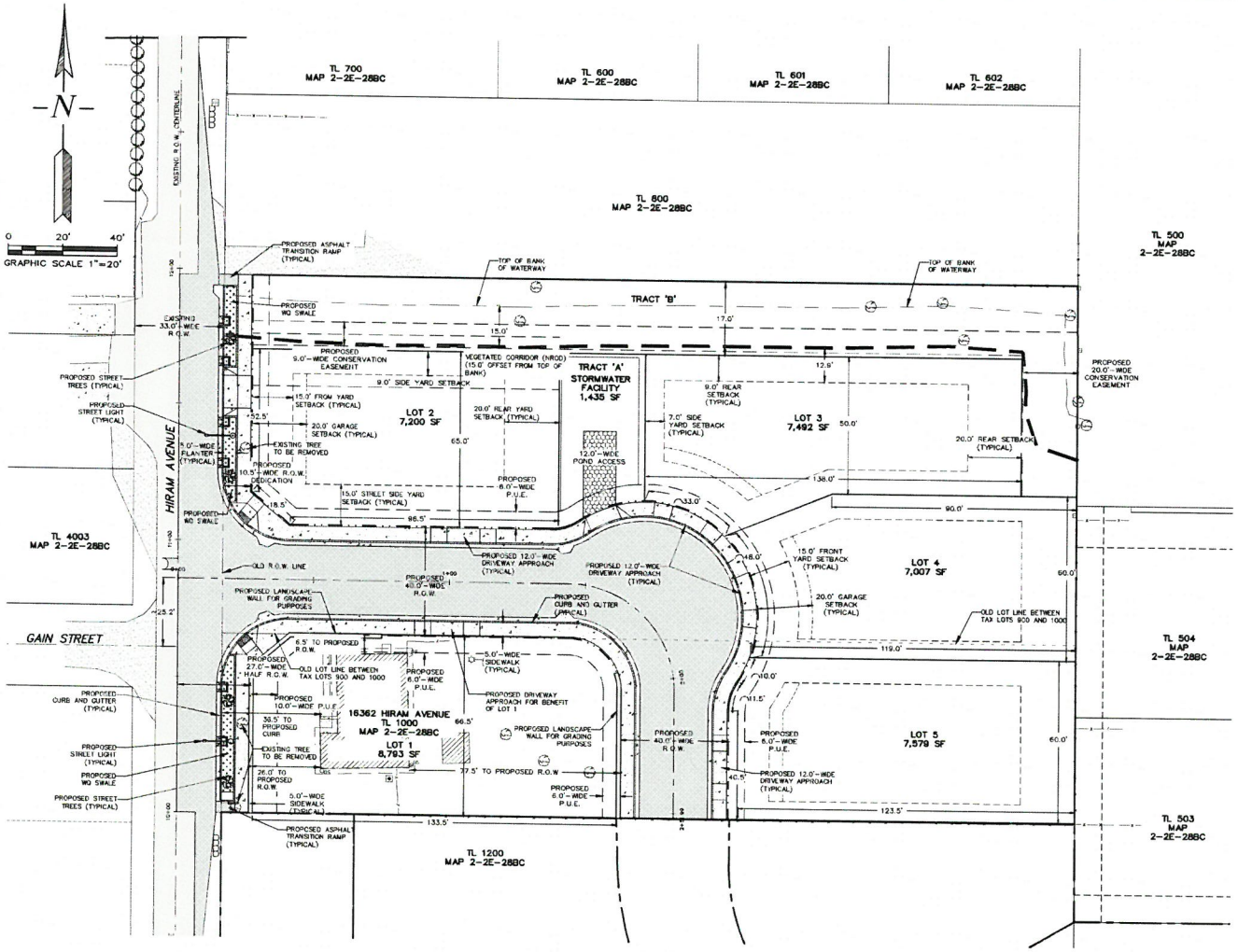
The proposed driveways will meet Oregon City's standards for driveway width and access spacing.

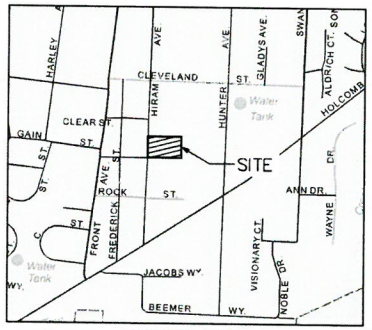
Based on the intersection sight distance analysis, the proposed new intersection on Hiram Avenue at the site access will have adequate sight distance per AASHTO standards to allow for safe and efficient operation.

Based on the safety analysis, there are no significant safety issues apparent which would require further safety mitigation.

Having reviewed the City's Transportation System Plan standards, the proposed development plan complies with the applicable standards.

Appendix





VICINITY MAP
N.T.S

SITE INFORMATION

ADDRESS: 16362 HIRAM AVENUE

LEGAL: MAP 2 2E 28BC, TAX LOTS 900 AND 1000

SITE AREA: 62,045 SF OR 1.42 ACRES
EXISTING PARCEL 1: 41,364 SF (0.95 ACRES)
EXISTING PARCEL 2: 20,681 SF (0.47 ACRES)

ZONING: R8

EXISTING USE: PARCEL 1 HAS EXISTING HOUSE WITH A GRAVEL DRIVEWAY TO THE NORTH ON PARCEL 2. PARCEL 2 HAS A FEW EXISTING SHEDS AND STRUCTURES. THE MAJORITY OF THE SITE IS GRASS AND VEGETATION.

PROPOSED USE: (5) LOT SUBDIVISION WITH NEW LOCAL STREET, PLANTERS, SIDEWALKS, ETC.

THE DATUM FOR THIS SURVEY IS BASED UPON A STATIC GPS OBSERVATION OF LOCAL CONTROL POINTS, PROCESSED THROUGH OPUS. DATUM IS NGVD 29, CONVERTED FROM NAVD 88 USING THE VERTCON TOOL.

LOT AREAS	
LOT 1	8,793 SQ. FT.
LOT 2	7,200 SQ. FT.
LOT 3	7,492 SQ. FT.
LOT 4	7,007 SQ. FT.
LOT 5	7,579 SQ. FT.

TREE DIAMETERS (FROM NORTH TO SOUTH)	
1	
2	
3	

NROD AREA: 8,370 SQ. FT.
ROW DEDICATION AREA: 12,800 SQ. FT.
STORMWATER QUALITY TRACT: 1,935 SQ. FT.

PRELIMINARY

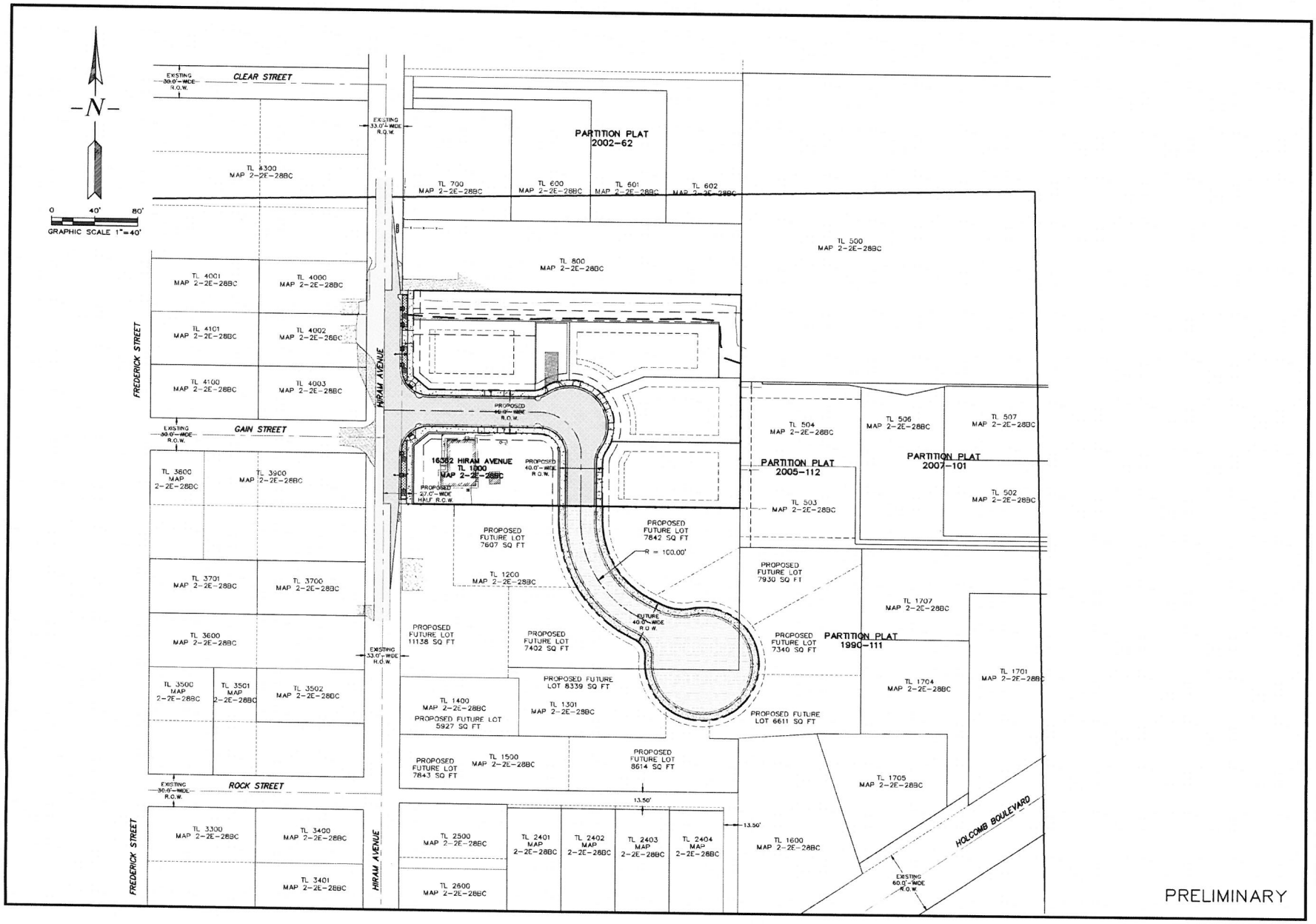
REVISIONS	BY

LEMON SUBDIVISON
JERRY LEMON

Site Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE JAN. 2018
SCALE NOTED
DRAWN JDM
JOB SGL17-090
SHEET 2 OF 6 SHEETS



PRELIMINARY

REVISIONS	BY

LEMON SUBDIVISON
JERRY LEMON

Neighborhood Circulation Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE JAN. 2018
SCALE NOTED
DRAWN JDM
JOB SGL17-090
SHEET 6 OF 6 SHEETS

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Detached Housing
ITE Land Use Code: 210
Independent Variable: Dwelling Units
Quantity: 4 Dwelling Units

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.74 trips per dwelling unit
Directional Distribution: 25% Entering 75% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.99 trips per dwelling unit
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Rate: 9.44 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

4 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	1	2	3
PM Peak Hour	3	1	4
Weekday	19	19	38

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

CDS380
01/24/2019

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

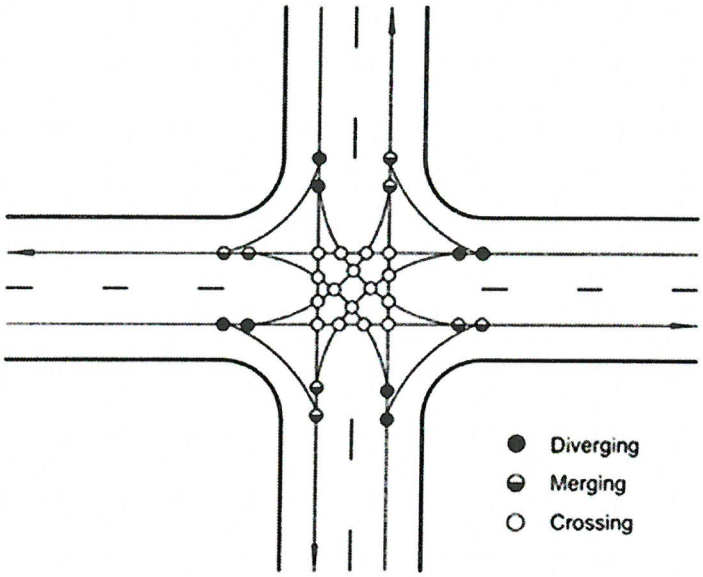
CITY OF OREGON CITY, CLACKAMAS COUNTY

HIRAM AVE and Intersectional Crashes at HIRAM AVE, City of Oregon City, Clackamas County, 01/01/2013 to 12/31/2017

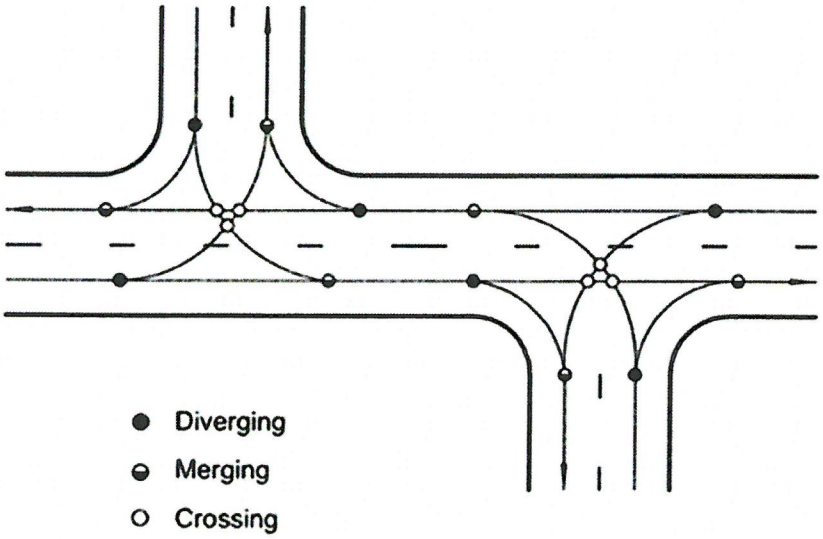
1 - 1 of 1 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D / A L C / U G S / C H L / W R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	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 / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED / LOC	ERROR	ACT	EVENT	CAUSE
00113	N N N	01/09/2014	16	HOLCOMB BLVD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE		TH	0	HIRAM AVE	SW		UNKNOWN	N	WET	REAR		PRVTE	SW-NE									000		00
N		8P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	47	F	OR-Y		026	000		07
N		45 22	-122 34																OR<25					
		1.7207039	39.9522																					
											02	NONE 0	STOP											
												PRVTE	SW-NE									012		00
												PSNGR CAR		01	DRVR	INJC	29	M	OR-Y		000	000		00
																			OR<25					

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.



Four-Way Intersection Conflict Points



Offset T-intersection Conflict Points

CDS380
01/25/2019

CITY OF OREGON CITY, CLACKAMAS COUNTY

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
FRONT AVE at GAIN ST, City of Oregon City, Clackamas County, 01/01/2008 to 12/31/2017

SER# INVEST RD DPT UNLOC?	S P E D	A L C	D R U G S	S C H L	W O R K	DATE DAY TIME LAT	CLASS DIST FROM LONG	CITY STREET FIRST STREET SECOND STREET LRS	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 TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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