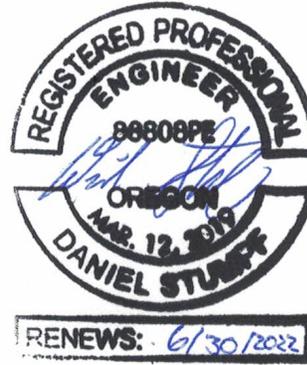


Supplement to Exhibit K: Preliminary Transportation Analysis

Memorandum

To: GK Machine
From: Daniel Stumpf, PE
Date: May 28, 2020
Subject: Harvest Gardens Subdivision
Transportation Impact Study Addendum



Introduction

This memorandum is written as an addendum to the original *Harvest Gardens Subdivision Transportation Impact Study* (TIS), dated March 11th, 2020. City of Donald and Marion County staff have requested additional left-turn lane warrant analyses at the intersection of Huckleberry Lane NE at Donald Road NE as well as the proposed "Street 4" intersection along Donald Road NE. Additionally, an evaluation of access spacing between the proposed "Street 2" and Huckleberry Lane NE intersections along Donald Road NE was requested. Accordingly, this addendum evaluates these two items for future year 2029 buildout conditions.

Left-Turn Lane Warrants

The original TIS analyzed the impacts of the proposed development, assuming two access intersections along Donald Road NE rather than three access intersections (i.e. the intersections of "Street 1", "Street 2", and "Street 4" along Donald Road NE). Therefore, in order to evaluate left-turn lane warrants at the requested intersections, trips distribution and assignment at the site access intersections as well as at the Huckleberry Lane NE intersection was re-evaluated.

To evaluate left-turn lane warrants under year 2029 buildout conditions, an estimate of future traffic volumes assuming full buildout of the site is necessary. Utilizing similar methodologies for volume growth and trip generation/distribution as detailed in the TIS, traffic counts at the intersection of Huckleberry Lane NE at Donald Road NE (collected on Thursday, February 15th, 2018, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM) were projected to year 2029 buildout conditions. The distribution of trips along access roadways will vary slightly compared to the distribution presented in the TIS since the number of accesses analyzed along Donald Road NE has changed. Therefore, the following distribution of trips was utilized:

- Approximately 49 percent of site trips will utilize "Street 1" to access the site;
- Approximately 49 percent of site trips will utilize "Street 2" to access the site; and
- Approximately 2 percent of site trips will utilize "Street 4" to access the site.

It should be noted that this change in trip assignment will only impact the study intersections along the site frontage with Donald Road NE. Additionally, since the number of access intersections is increasing, fewer site trips will impact either the "Street 1" or "Street 2" intersections than were previously studied in the TIS. Therefore, the level of service (LOS) and capacity analysis presented in the TIS will provide a more conservative assessment of trip impacts and operation at the "Street 1" and "Street 2" access intersections. Since the "Street 4" access intersection will serve significantly fewer trips than the other two access intersections, it is expected that the "Street 4" intersection will operate with lower delays and congestion compared to the other two access intersections. Accordingly, no further operational analysis of these intersections is necessary.

Figures presenting the existing, background, and buildout volumes at the access intersections and Huckleberry Lane intersection during the morning and evening peak hours are included as an attachment to this addendum.

Left-turn lane warrants were re-evaluated for the site access intersections and the Huckleberry Lane NE intersection along Donald Road NE. A left-turn refuge is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The warrants used were developed from the *National Cooperative Highway Research Project's (NCHRP) Report 457*. These warrants are evaluated based on the number of left-turning vehicles, the number of advancing and opposing vehicles, the number of lanes, and the roadway travel speed.

Based on the updated analysis, left-turn lane warrants are not projected to be met at any of the aforementioned study intersections under any of the analysis scenarios. Accordingly, no new turn lanes are necessary or recommended.

Functional Classification

Marion County's Rural Transportation System Plan (TSP) classifies Donald Road as a Minor Collector along its entire length, including through the City of Donald. A Minor Collector is described in Table 5-1 of the County TSP as follows¹:

- *Spaced at intervals to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road; and*
- *Provide service to any remaining smaller communities and traffic generators; and*
- *Link locally important traffic generators with their local constituents.*

This is certainly consistent with the function of Donald Road, which provides service to smaller communities and provides a link to local traffic generators such as the North Marion schools to the east, and higher-classification roads such as Ehlen Road/Yergen Road to the west.

Table 5-1 describes higher classification roadways such as Major Collectors and Arterials as serving larger towns, being higher importance intra-county corridors, or in the case of Arterials, linking cities, larger towns, and providing interstate and inter-county service. Nearly all the Arterials in the TSP are state highways.

¹ *Marion County Rural Transportation System Plan, Rural Road Functional Classification Characteristics, Table 5-1 on page 5-2*



City of Donald Classification

Similarly, the text of the Donald Comprehensive Plan describes Donald Road as a Collector, although the figure titled "Transportation Plan" labels Donald Road as an Arterial. There is other language in the Comprehensive Plan that co-mingles the labels of Arterial and Collector. However, it is important to note the context of the discussion. The City has essentially two types of roadways, which are listed as Arterials and Residential Streets. Because Donald Road serves a higher function than a local neighborhood streets, it is labelled with the higher classification. The important distinction is that this does not imply that it functions as an Arterial in the same context as a facility that Marion County considers an Arterial. It is simply a higher functional classification than a local Residential Street.

Traffic Volumes and Actual Operation

The TIS and this addendum show that the traffic volumes on Donald Road along the site frontage will be less than 4,000 vehicles per day and the current average daily traffic (ADT) is significantly lower. These volumes are well within what a Collector roadway is intended to serve, particularly within a more definitive classification system such as that used by Marion County.

Traffic volumes in this range are certainly higher than what a local Residential Street as considered by the City's Comprehensive Plan is intended to carry, so the City's higher classification is appropriate, but it is important not to equate Donald Road with what the County would consider an Arterial. The amount of traffic on Donald Road illustrates this disparity and reinforces the most appropriate classification as a Minor Collector.

Access Spacing

Regarding access spacing between the "Street 2" intersection and the Huckleberry Lane NE intersection, the proposed access will be located 100.5 feet east of Huckleberry Lane NE, measured centerline to centerline. Access spacing standards are commonly tied to functional classification. The City of Donald does not have a spacing standard, but Marion County, who is expected to retain jurisdiction of the street, has spacing standards in Table 10-2 of the TSP. The spacing standard between intersections along a Minor Collectors, including private accesses, is 100 feet. As such, the spacing standard is satisfied.

Again, it is *not* recommended that Donald Road be considered an Arterial and then evaluated against County standards for an Arterial roadway. The appropriate functional classification for Donald Road is a Minor Collector, consistent with the designation applied by Marion County.

Block Length Standard

According to the City of Donald's development code, section 2.307.04 *Additional Design Standards for Subdivisions*:

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



These block length standards require a maximum block length of 600 feet, unless on an Arterial whereby a block length of 1,800 feet is recommended. The City code does not say the 1,800-foot block length standard shall be required, whereby the construction of "Street 2" at its planned location is acceptable if demonstrated to operate safely and efficiently.

Left Turn Queuing & Operation Along Donald Road

From an operation and safety standpoint, both "Street 2" and Huckleberry Lane NE are located in a manner where major-street left-turning vehicles will not conflict with each other nor will potential queues associated with these left turns extend toward each other (i.e. no "left-turn binding" will occur along Donald Road NE due to concurrent major-street left-turning vehicles). To further demonstrate these left-turn vehicle queues will not impede other turning movements at these or any of the other site access intersections, a queuing analysis was performed for the three access intersections and the Huckleberry Lane NE intersection along Donald Road NE. The queue lengths were projected based on the results of a Synchro/SimTraffic analysis, with the reported values based on the 95th percentile queue length. The 95th percentile queue is a statistical measurement which indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field.

Based on the queuing analysis, none of the projected 95th percentile major-street left-turn queues are expected to extend back to or impede turning movements at adjacent intersections along Donald Road NE. Accordingly, the two offset intersections are expected to operate safely and efficiently with regard to intersection spacing.

The major-street left-turn movements and projected 95th percentile queue lengths are presented visually in Figure C, which is included as an attachment to this memorandum. Detailed queuing analysis worksheets are also included within the attachments.

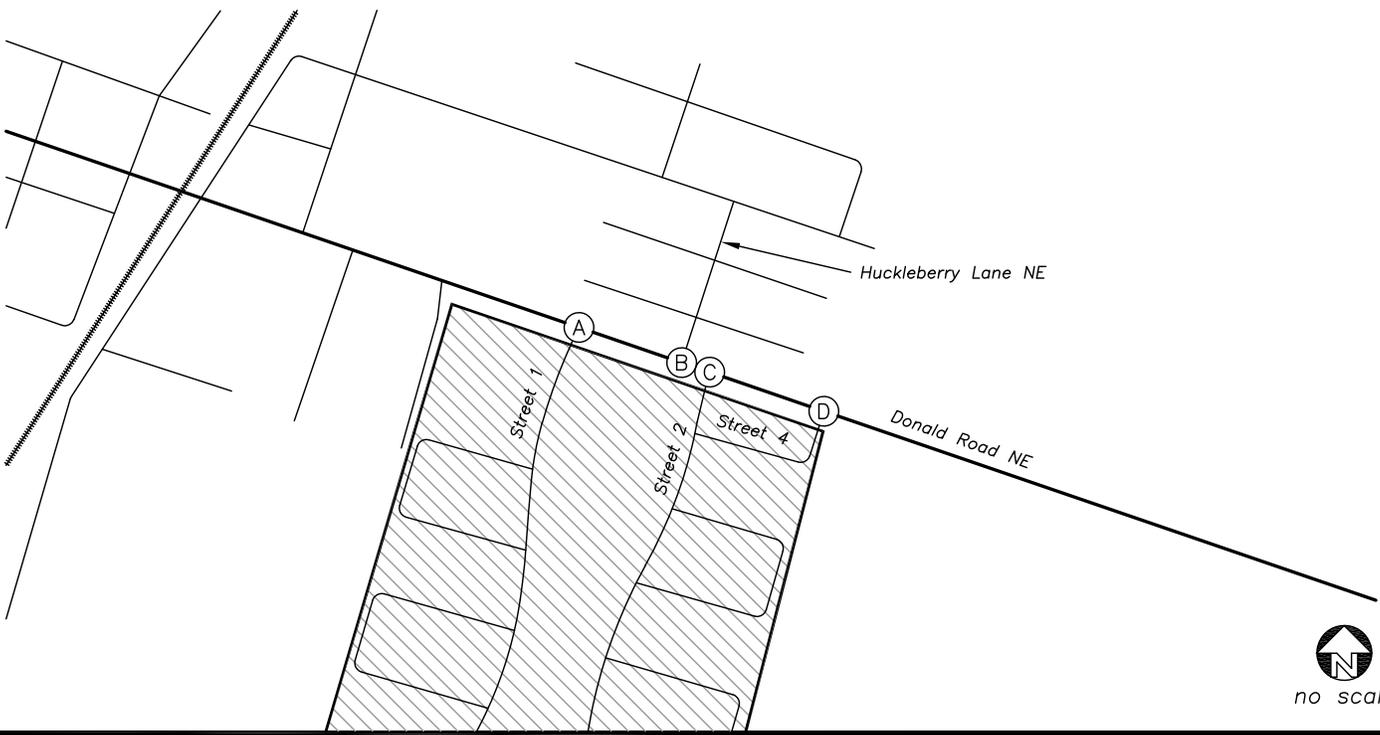
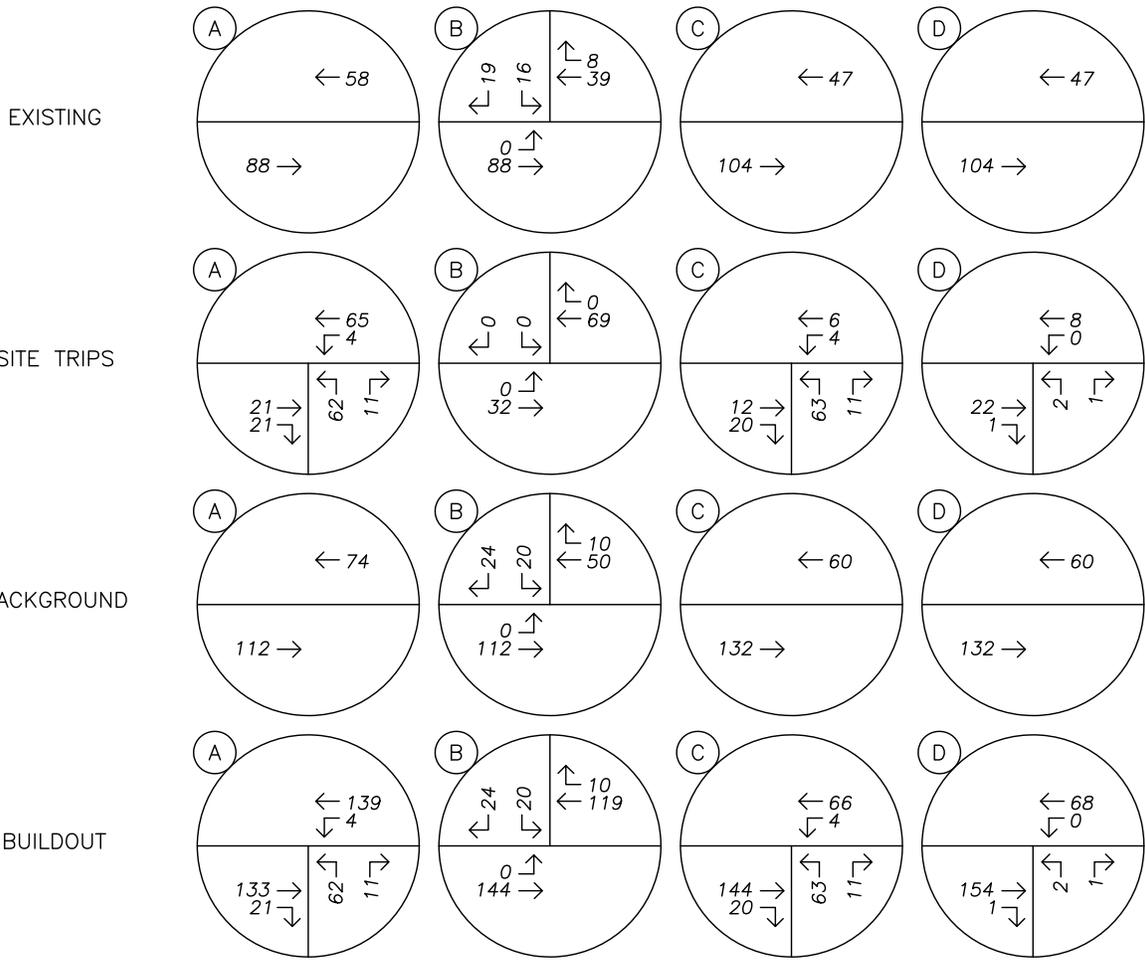
Conclusions

As demonstrated in this addendum, the following findings are made:

1. Left-turn lane warrants are not projected to be met at any of the access intersections along Donald Road nor at the intersection of Huckleberry Lane at Donald Road under any of the analysis scenarios. Accordingly, no new turn lanes are necessary or recommended.
2. Considering the guidance and standards from the City and the County, as well as the traffic volumes on the roadway, the appropriate functional classification for Donald Road is a Minor Collector, consistent with the designation applied by Marion County.
3. Based on this functional classification, access spacing standards along Donald Road are satisfied.
4. Regardless of the functional classification and access spacing standard applied to the roadway, the operation of left turns into and out of existing and proposed intersections along the site frontage on Donald Road are expected to operate safely and efficiently.

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.

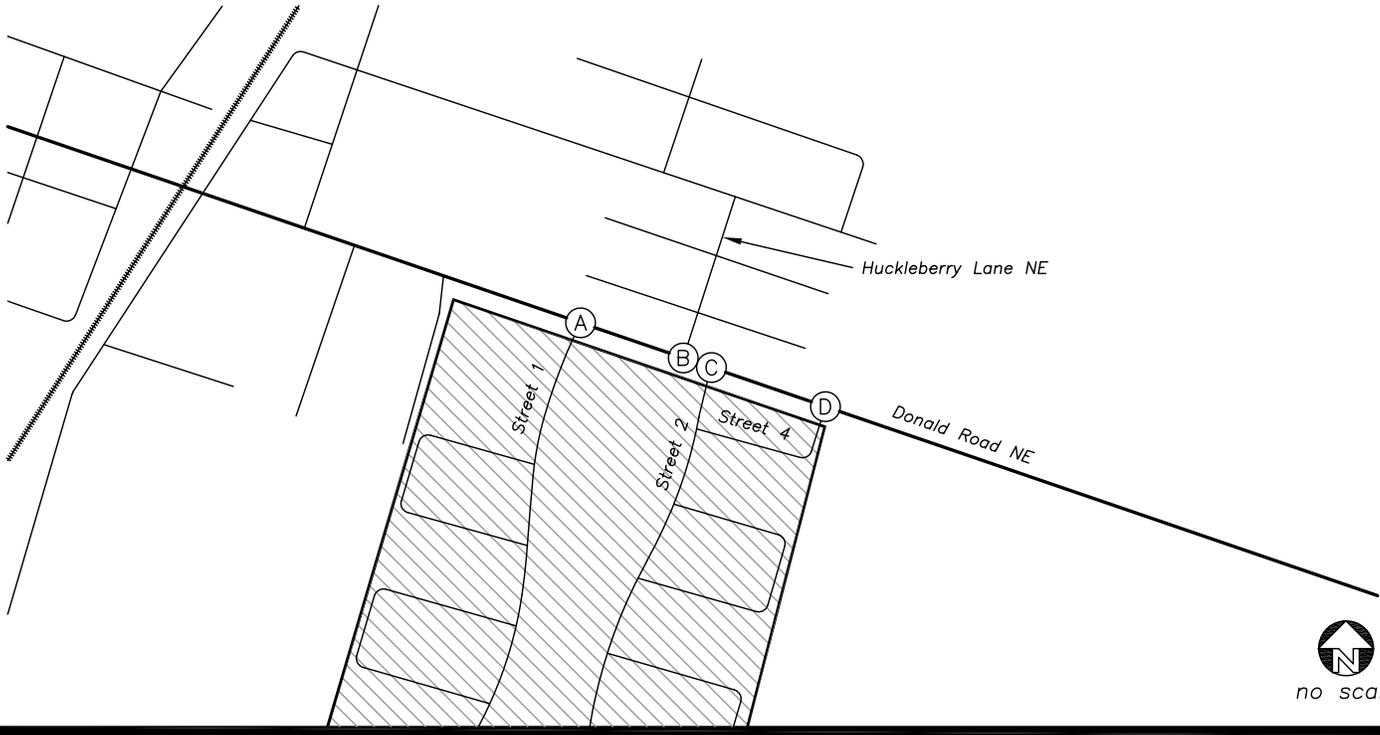
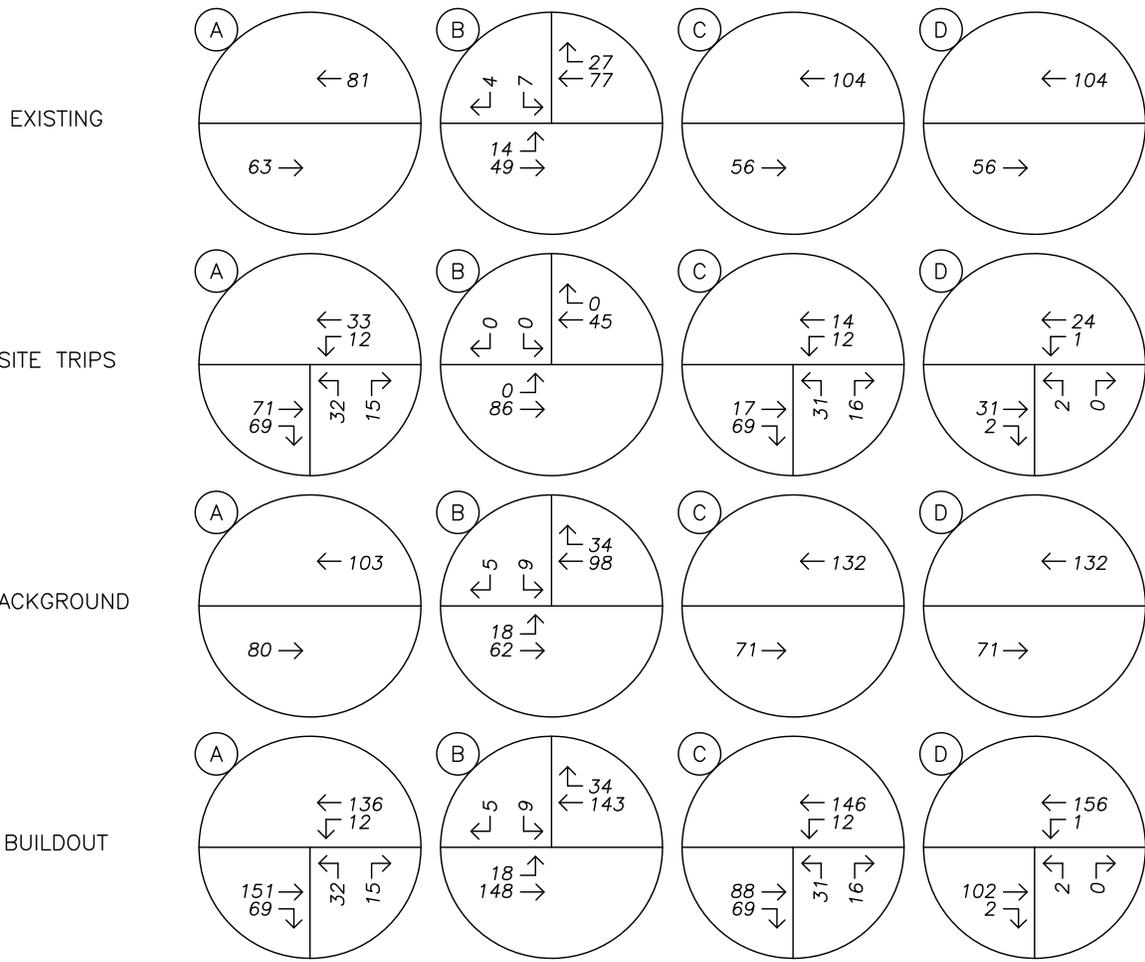




TRAFFIC VOLUMES

Existing, 2029 Background, and 2029 Buildout Conditions
AM Peak Hour

Figure A





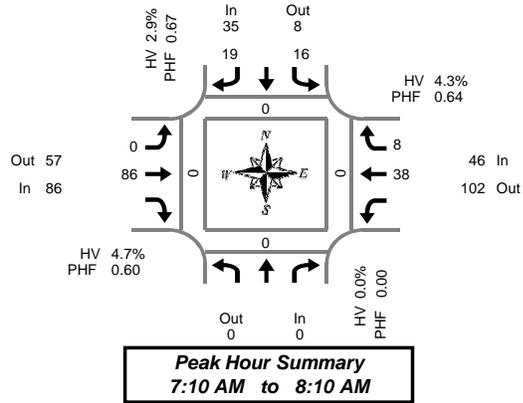
TURNING DIAGRAM & LEFT-TURN QUEUE LENGTHS

95th Percentile Queue Length
 AM and PM Peak Hours - Longest Peak Hour Queue Depicted

Total Vehicle Summary



Clay Carney
(503) 833-2740



Huckleberry Ln NE & Donald Rd NE

Thursday, February 15, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
7:00 AM	0	2	1	0	0	4	0	1	1	0	9	0	0	0	0				
7:05 AM	0	2	0	0	0	4	0	0	0	0	6	0	0	0	0				
7:10 AM	0	1	4	0	0	6	0	3	0	0	14	0	0	0	0				
7:15 AM	0	1	2	0	0	2	0	0	0	0	5	0	0	0	0				
7:20 AM	0	2	2	0	0	5	0	4	0	0	13	0	0	0	0				
7:25 AM	0	0	2	0	0	5	0	4	0	0	11	0	0	0	0				
7:30 AM	0	1	2	0	0	6	0	5	0	0	14	0	0	0	0				
7:35 AM	0	2	2	0	0	9	0	5	0	0	18	0	0	0	0				
7:40 AM	0	1	2	0	0	10	0	0	1	0	14	0	0	0	0				
7:45 AM	0	5	1	0	0	12	0	2	2	0	22	0	0	0	0				
7:50 AM	0	1	0	0	0	14	0	2	0	0	17	0	0	0	0				
7:55 AM	0	1	1	0	0	8	0	6	2	0	18	0	0	0	0				
8:00 AM	0	0	0	0	0	3	0	5	0	0	8	0	0	0	0				
8:05 AM	0	1	1	0	0	6	0	2	3	0	13	0	0	0	0				
8:10 AM	0	0	0	0	0	1	0	4	1	0	6	0	0	0	0				
8:15 AM	0	0	1	0	0	1	0	1	0	0	3	0	0	0	0				
8:20 AM	0	0	0	0	0	2	0	3	1	0	6	0	0	0	0				
8:25 AM	0	2	0	0	0	5	0	2	0	0	9	0	0	0	0				
8:30 AM	0	1	1	0	0	2	0	2	0	0	6	0	0	0	0				
8:35 AM	0	2	2	0	0	4	0	1	0	0	9	0	0	0	0				
8:40 AM	0	1	3	0	0	4	0	2	2	0	12	0	0	0	0				
8:45 AM	0	1	0	0	0	5	0	2	1	0	9	0	0	0	0				
8:50 AM	0	0	2	0	0	6	0	2	1	0	11	0	0	0	0				
8:55 AM	0	3	0	0	0	1	0	2	1	0	7	0	0	0	0				
Total Survey	0	30	29	0	0	125	0	60	16	0	260	0	0	0	0				

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
7:00 AM	0	5	5	0	0	14	0	4	1	0	29	0	0	0	0				
7:15 AM	0	3	6	0	0	12	0	8	0	0	29	0	0	0	0				
7:30 AM	0	4	6	0	0	25	0	10	1	0	46	0	0	0	0				
7:45 AM	0	7	2	0	0	34	0	10	4	0	57	0	0	0	0				
8:00 AM	0	1	1	0	0	10	0	11	4	0	27	0	0	0	0				
8:15 AM	0	2	1	0	0	8	0	6	1	0	18	0	0	0	0				
8:30 AM	0	4	6	0	0	10	0	5	2	0	27	0	0	0	0				
8:45 AM	0	4	2	0	0	12	0	6	3	0	27	0	0	0	0				
Total Survey	0	30	29	0	0	125	0	60	16	0	260	0	0	0	0				

Peak Hour Summary

7:10 AM to 8:10 AM

By Approach	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	Bikes	North	South	East	West
Volume	0	0	0	0	35	8	43	0	86	57	143	0	46	102	148	0	167	0	0	0	0
%HV	0.0%				2.9%				4.7%			4.3%			4.2%						
PHF	0.00				0.67				0.60			0.64			0.73						

By Movement	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Total		
	Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total				
Volume	0	16	19	35	0	86	86	38	8	46	167	0	0				
%HV	NA	NA	NA	0.0%	6.3%	NA	0.0%	2.9%	0.0%	4.7%	NA	4.7%	NA	5.3%	0.0%	4.3%	4.2%
PHF		0.00	0.50	0.59	0.67	0.00	0.60	0.60	0.68	0.40	0.64	0.73					

Rolling Hour Summary

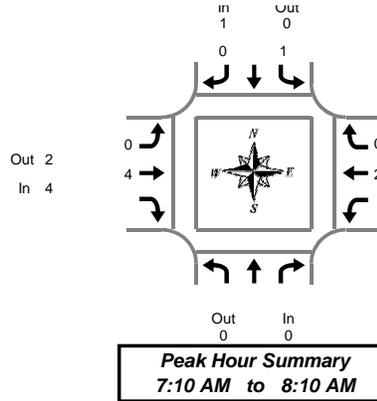
7:00 AM to 9:00 AM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
7:00 AM	0	19	19	0	0	85	0	32	6	0	161	0	0	0	0				
7:15 AM	0	15	15	0	0	81	0	39	9	0	159	0	0	0	0				
7:30 AM	0	14	10	0	0	77	0	37	10	0	148	0	0	0	0				
7:45 AM	0	14	10	0	0	62	0	32	11	0	129	0	0	0	0				
8:00 AM	0	11	10	0	0	40	0	28	10	0	99	0	0	0	0				

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Huckleberry Ln NE & Donald Rd NE

Thursday, February 15, 2018

7:00 AM to 9:00 AM

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

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	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
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	2	2	0	0	0	0	0	3
7:35 AM	0	0	0	0	0	0	0	0	1	0	1	0	0	1
7:40 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:35 AM	0	1	0	0	1	0	2	2	0	0	0	0	0	3
8:40 AM	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
8:50 AM	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	0	0	0	0
Total Survey	0	3	0	0	3	0	8	8	0	2	0	2	0	13

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

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
7:00 AM	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
7:30 AM	0	1	0	0	1	0	3	3	0	1	0	1	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:15 AM	0	1	0	0	1	0	1	1	0	0	0	0	0	2
8:30 AM	0	1	0	0	1	0	3	3	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	3	0	0	3	0	8	8	0	2	0	2	0	13

Heavy Vehicle Peak Hour Summary 7:10 AM to 8:10 AM

By Approach	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	0	1	4	2	6	2	5	7	7
PHF	0.00			0.25			0.33			0.25			0.35

By Movement	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Total
	Total	L	R	Total	L	R	Total	T		Total	T	R	
Volume	0	1	0	0	1	0	4	4	0	2	0	2	7
PHF	0.00	0.25	0.00	0.25	0.00	0.33	0.33			0.25	0.00	0.25	0.35

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

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
7:00 AM	0	1	0	0	1	0	3	3	0	2	0	2	0	6
7:15 AM	0	1	0	0	1	0	4	4	0	2	0	2	0	7
7:30 AM	0	2	0	0	2	0	5	5	0	2	0	2	0	9
7:45 AM	0	2	0	0	2	0	5	5	0	1	0	1	0	8
8:00 AM	0	2	0	0	2	0	5	5	0	0	0	0	0	7

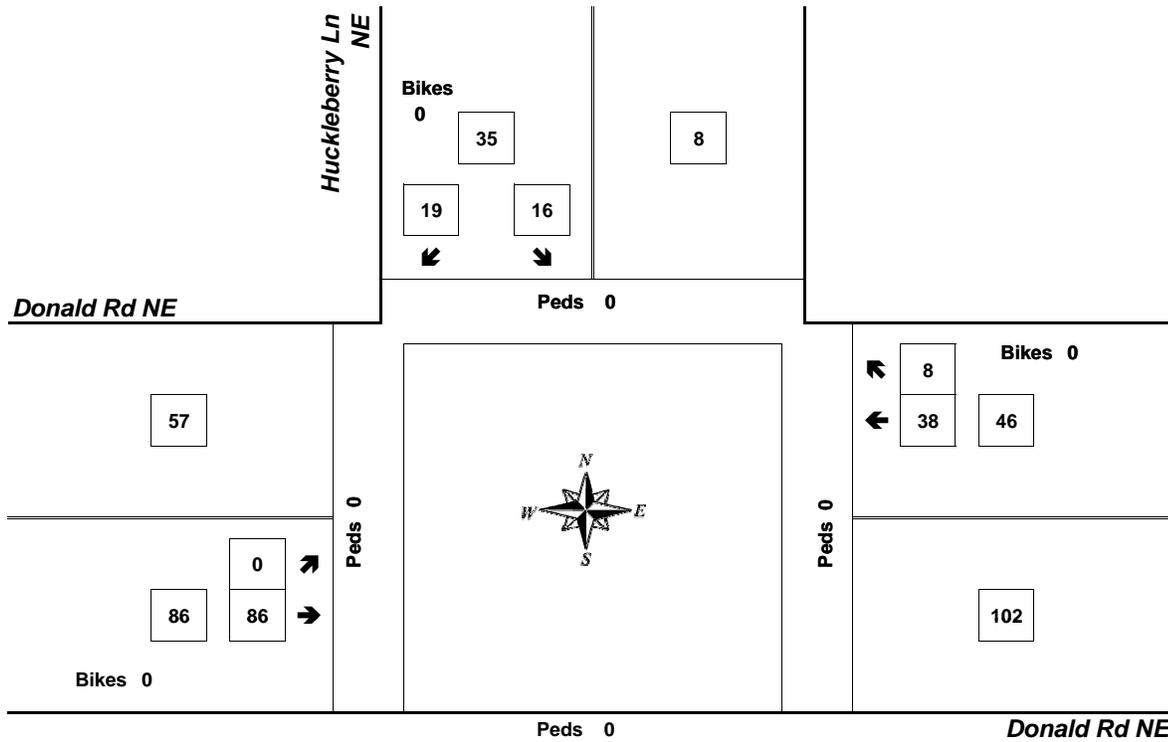
Peak Hour Summary



Clay Carney
(503) 833-2740

Huckleberry Ln NE & Donald Rd NE

7:10 AM to 8:10 AM
Thursday, February 15, 2018



Bikes
0

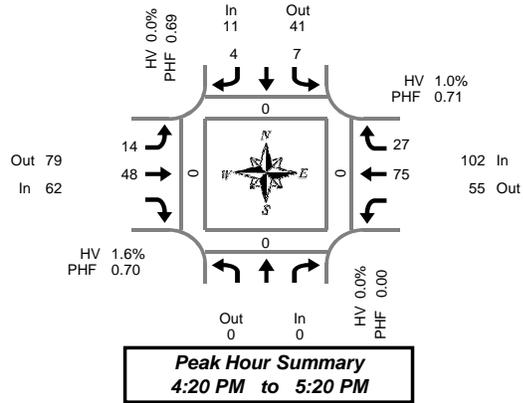
Approach	PHF	HV%	Volume
EB	0.60	4.7%	86
WB	0.64	4.3%	46
NB	0.00	0.0%	0
SB	0.67	2.9%	35
Intersection	0.73	4.2%	167

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

Total Vehicle Summary



Clay Carney
(503) 833-2740



Huckleberry Ln NE & Donald Rd NE

Thursday, February 15, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
4:00 PM	0	0	0	0	1	2	0	6	2	0	11	0	0	0	0				
4:05 PM	0	1	1	0	0	5	0	7	0	0	14	0	0	0	0				
4:10 PM	0	0	1	0	2	4	0	4	0	0	11	0	0	0	0				
4:15 PM	0	0	0	0	0	5	0	2	1	0	8	0	0	0	0				
4:20 PM	0	1	1	0	0	4	0	10	2	0	18	0	0	0	0				
4:25 PM	0	0	0	0	0	7	0	11	3	0	21	0	0	0	0				
4:30 PM	0	0	0	0	1	5	0	7	3	0	16	0	0	0	0				
4:35 PM	0	0	0	0	2	7	0	7	3	0	19	0	0	0	0				
4:40 PM	0	2	0	0	2	4	0	3	2	0	13	0	0	0	0				
4:45 PM	0	0	1	0	0	2	0	4	1	0	8	0	0	0	0				
4:50 PM	0	0	1	0	2	4	0	5	1	0	13	0	0	0	0				
4:55 PM	0	0	1	0	0	2	0	4	5	0	12	0	0	0	0				
5:00 PM	0	1	0	0	1	3	0	8	3	0	16	0	0	0	0				
5:05 PM	0	0	0	0	2	3	0	6	1	0	12	0	0	0	0				
5:10 PM	0	1	0	0	1	4	0	4	2	0	12	0	0	0	0				
5:15 PM	0	2	0	0	3	3	0	6	1	0	15	0	0	0	0				
5:20 PM	0	0	0	0	0	3	0	3	2	0	8	0	0	0	0				
5:25 PM	0	0	0	0	1	5	0	3	0	0	9	0	0	0	0				
5:30 PM	0	1	0	0	1	6	0	4	1	0	13	0	0	0	0				
5:35 PM	0	0	0	0	0	2	0	4	2	0	8	0	0	0	0				
5:40 PM	0	1	0	0	3	4	0	5	2	0	15	0	0	0	0				
5:45 PM	0	1	0	0	2	11	0	0	1	0	15	0	0	0	0				
5:50 PM	0	1	0	0	1	1	0	2	0	0	5	0	0	0	0				
5:55 PM	0	0	0	0	3	1	0	4	3	0	11	0	0	0	0				
Total Survey	0	12	6	0	28	97	0	119	41	0	303	0	0	0	0				

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
4:00 PM	0	1	2	0	3	11	0	17	2	0	36	0	0	0	0				
4:15 PM	0	1	1	0	0	16	0	23	6	0	47	0	0	0	0				
4:30 PM	0	2	0	0	5	16	0	17	8	0	48	0	0	0	0				
4:45 PM	0	0	3	0	2	8	0	13	7	0	33	0	0	0	0				
5:00 PM	0	2	0	0	4	10	0	18	6	0	40	0	0	0	0				
5:15 PM	0	2	0	0	4	11	0	12	3	0	32	0	0	0	0				
5:30 PM	0	2	0	0	4	12	0	13	5	0	36	0	0	0	0				
5:45 PM	0	2	0	0	6	13	0	6	4	0	31	0	0	0	0				
Total Survey	0	12	6	0	28	97	0	119	41	0	303	0	0	0	0				

Peak Hour Summary

4:20 PM to 5:20 PM

By Approach	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	North	South	East	West	
Volume	0	0	0	0	11	41	52	0	62	79	141	0	102	55	157	0	175	0	0	0	0
%HV	0.0%				0.0%				1.6%			1.0%			1.1%						
PHF	0.00				0.69				0.70			0.71			0.78						

By Movement	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Total					
	Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total							
Volume	0	7	4	11	14	48	62	75	27	102	175	0	0							
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	2.1%	NA	1.6%	NA	1.3%	0.0%	1.0%	1.1%			
PHF		0.00	0.58	0.33	0.69	0.58	0.63	0.70	0.67	0.75	0.71	0.78								

Rolling Hour Summary

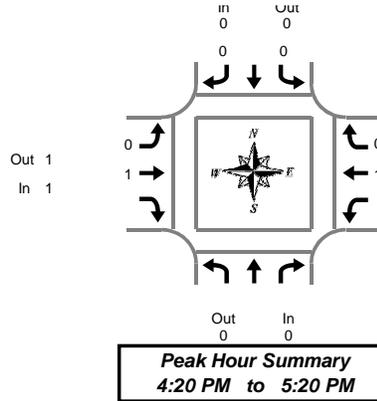
4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE				Southbound Huckleberry Ln NE				Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	North	South		East	West		
4:00 PM	0	4	6	0	10	51	0	70	23	0	164	0	0	0	0				
4:15 PM	0	5	4	0	11	50	0	71	27	0	168	0	0	0	0				
4:30 PM	0	6	3	0	15	45	0	60	24	0	153	0	0	0	0				
4:45 PM	0	6	3	0	14	41	0	56	21	0	141	0	0	0	0				
5:00 PM	0	8	0	0	18	46	0	49	18	0	139	0	0	0	0				

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Huckleberry Ln NE & Donald Rd NE

Thursday, February 15, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:05 PM	0	0	0	0	0	0	0	2		2	1	0	1	3
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	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
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	1		1	0	0	0	1
5:10 PM	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
5:20 PM	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	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	1		1	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	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
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey			0	0	0	0	0	4		4	3	0	3	7

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
4:00 PM	0	0	0	0	0	0	0	2		2	2	0	2	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1		1	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1		1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey			0	0	0	0	0	4		4	3	0	3	7

Heavy Vehicle Peak Hour Summary

4:20 PM to 5:20 PM

By Approach	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	1	1	2	1	1	2	2
PHF	0.00			0.00			0.25			0.25			0.50

By Movement	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
Volume	0	0	0	0	0	0	0	1		1	1	0	1	2
PHF	0.00	0.00		0.00	0.00		0.00	0.25		0.25	0.25	0.00	0.25	0.50

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Huckleberry Ln NE			Southbound Huckleberry Ln NE			Eastbound Donald Rd NE			Westbound Donald Rd NE			Interval Total	
	Total	L	R	Total	L	R	Total	T		Total	T	R		Total
4:00 PM	0	0	0	0	0	0	0	2		2	3	0	3	5
4:15 PM	0	0	0	0	0	0	0	1		1	1	0	1	2
4:30 PM	0	0	0	0	0	0	0	1		1	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	2		2	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	2		2	0	0	0	2

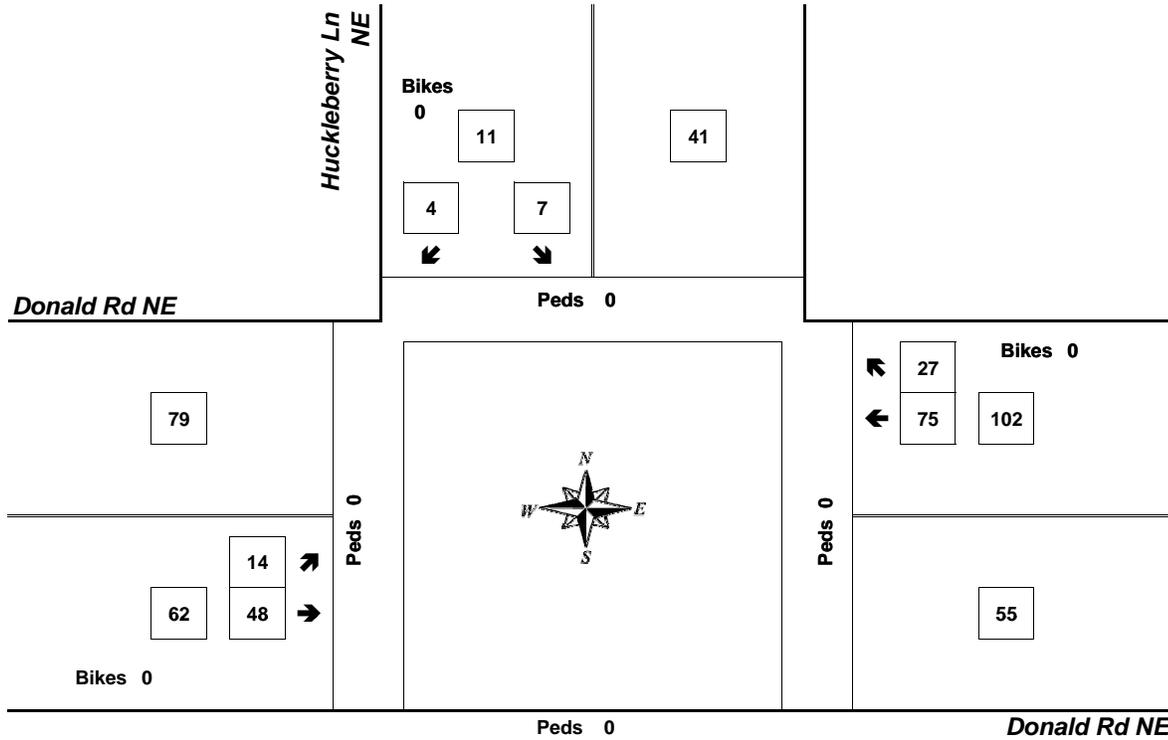
Peak Hour Summary



Clay Carney
(503) 833-2740

Huckleberry Ln NE & Donald Rd NE

4:20 PM to 5:20 PM
Thursday, February 15, 2018



Bikes
0

Approach	PHF	HV%	Volume
EB	0.70	1.6%	62
WB	0.71	1.0%	102
NB	0.00	0.0%	0
SB	0.69	0.0%	11
Intersection	0.78	1.1%	175

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

Left-Turn Lane Warrant Analysis



Project: Harvest Gardens Subdivision
 Intersection: A. Street 1 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - AM Peak Hour (WB)

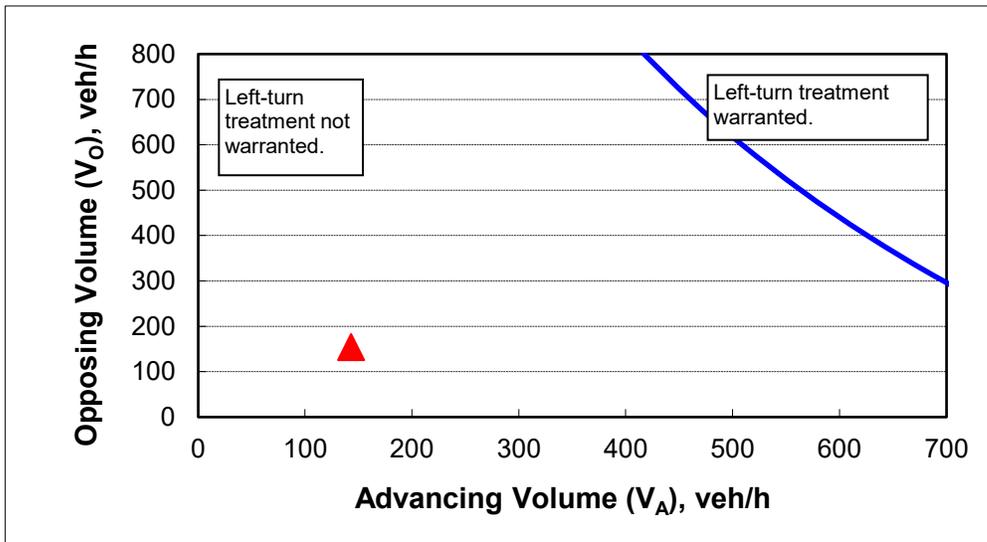
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	143
Opposing volume (V_O), veh/h:	154

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	821
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



Project: Harvest Gardens Subdivision
 Intersection: A. Street 1 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - PM Peak Hour (WB)

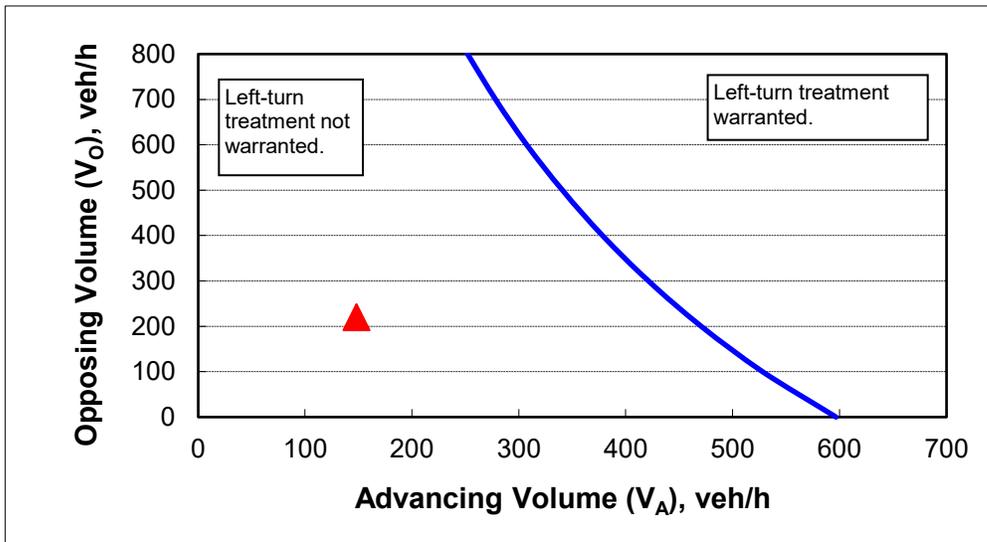
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	8%
Advancing volume (V_A), veh/h:	148
Opposing volume (V_O), veh/h:	220

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	460
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



Project: Harvest Gardens Subdivision
 Intersection: B. Huckleberry Lane NE at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - AM Peak Hour (EB)

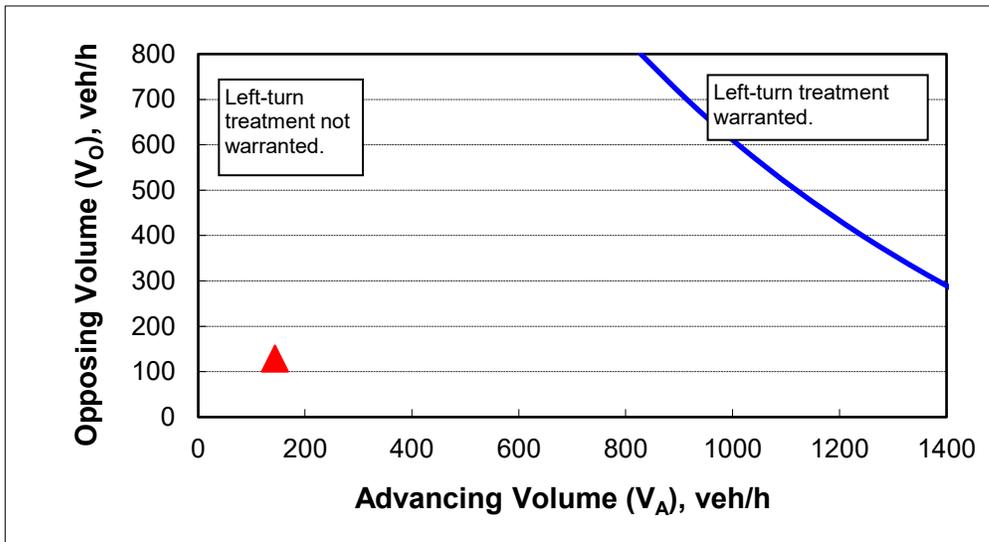
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	144
Opposing volume (V_O), veh/h:	129

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1678
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



Project: Harvest Gardens Subdivision
 Intersection: B. Huckleberry Lane NE at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - PM Peak Hour (EB)

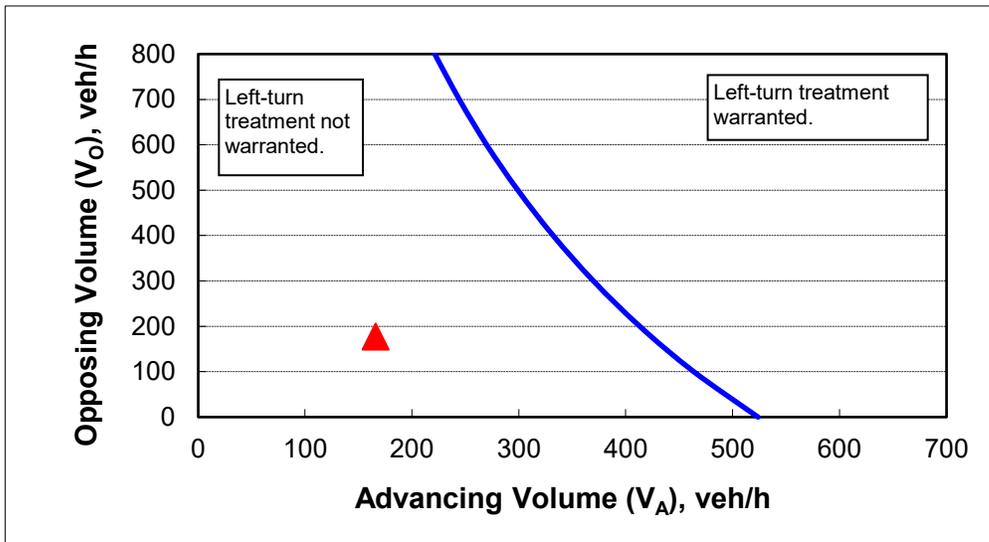
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	11%
Advancing volume (V_A), veh/h:	166
Opposing volume (V_O), veh/h:	177

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	424
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



Project: Harvest Gardens Subdivision
 Intersection: C. Street 2 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - AM Peak Hour (WB)

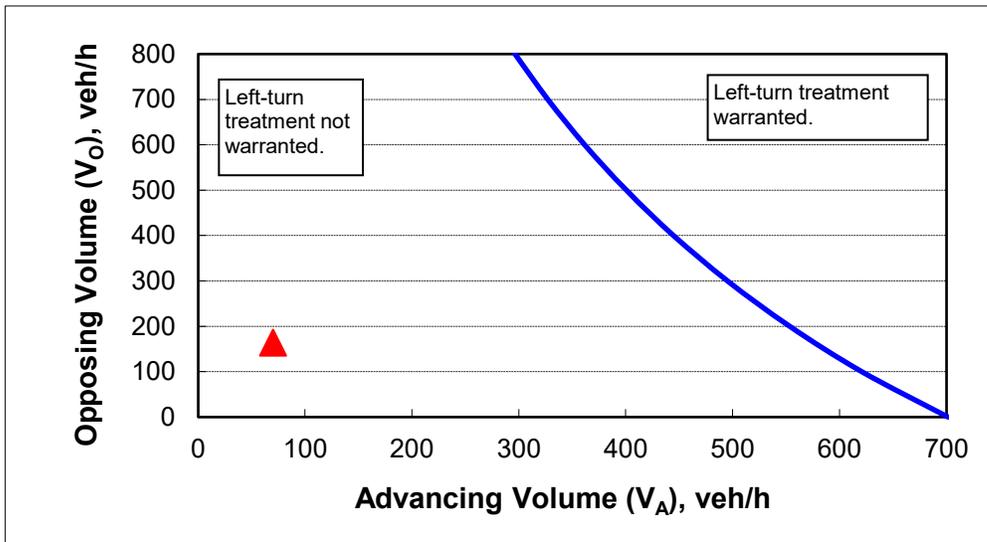
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	70
Opposing volume (V_O), veh/h:	164

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	577
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



Project: Harvest Gardens Subdivision
 Intersection: C. Street 2 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - PM Peak Hour (WB)

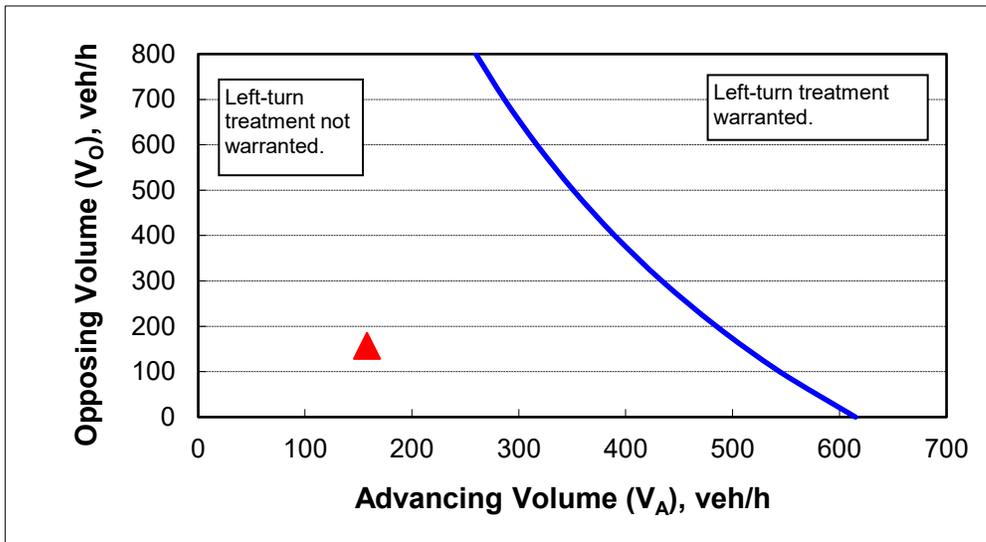
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	8%
Advancing volume (V_A), veh/h:	158
Opposing volume (V_O), veh/h:	157

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	509
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



Project: Harvest Gardens Subdivision
 Intersection: D. Street 4 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - AM Peak Hour (WB)

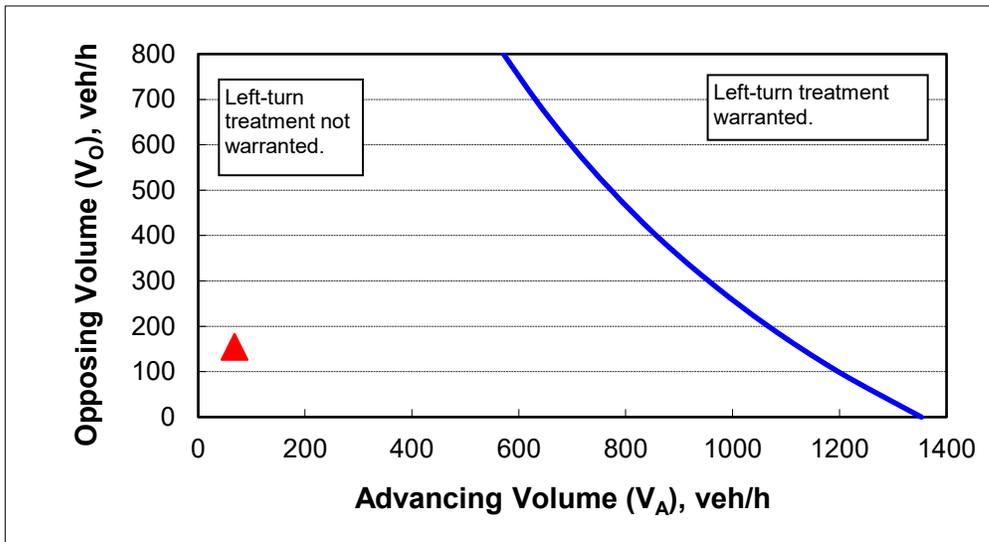
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	68
Opposing volume (V_O), veh/h:	155

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1123
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



Project: Harvest Gardens Subdivision
 Intersection: D. Street 4 at Donald Road NE
 Date: 5/28/2020
 Scenario: 2029 Buildout Conditions - PM Peak Hour (WB)

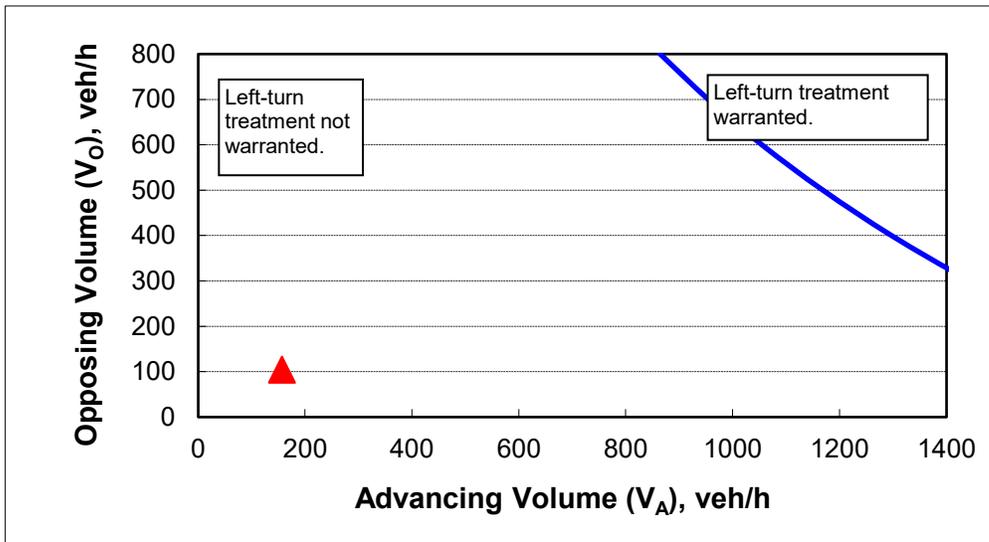
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	157
Opposing volume (V_O), veh/h:	104

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1804
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

Queuing and Blocking Report
2029 Buildout Conditions - AM Peak Hour

05/28/2020

Intersection: 1: Street 1 & Donald Road NE

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	13	65
Average Queue (ft)	0	31
95th Queue (ft)	7	54
Link Distance (ft)	312	344
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Donald Road NE & Huckleberry Lane NE

Movement	WB	SB
Directions Served	TR	LR
Maximum Queue (ft)	14	58
Average Queue (ft)	0	25
95th Queue (ft)	8	51
Link Distance (ft)	50	491
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Street 2 & Donald Road NE

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	10	56
Average Queue (ft)	1	31
95th Queue (ft)	7	51
Link Distance (ft)	310	319
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Street 4 & Donald Road NE

Movement	NB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	333
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
 2029 Buildout Conditions - PM Peak Hour

05/28/2020

Intersection: 1: Street 1 & Donald Road NE

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	31	54
Average Queue (ft)	3	26
95th Queue (ft)	17	49
Link Distance (ft)	312	344
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Donald Road NE & Huckleberry Lane NE

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	32	1	38
Average Queue (ft)	3	0	12
95th Queue (ft)	18	0	37
Link Distance (ft)	312	50	491
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Street 2 & Donald Road NE

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	1	31	50
Average Queue (ft)	0	3	25
95th Queue (ft)	2	17	48
Link Distance (ft)	50	310	319
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Street 4 & Donald Road NE

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	3	29
Average Queue (ft)	0	2
95th Queue (ft)	4	16
Link Distance (ft)	199	333
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Memorandum

To: GK Machine
From: Todd E. Mobley, PE
Date: May 21, 2020
Subject: Harvest Gardens Subdivision
Shared Street Configuration



Introduction

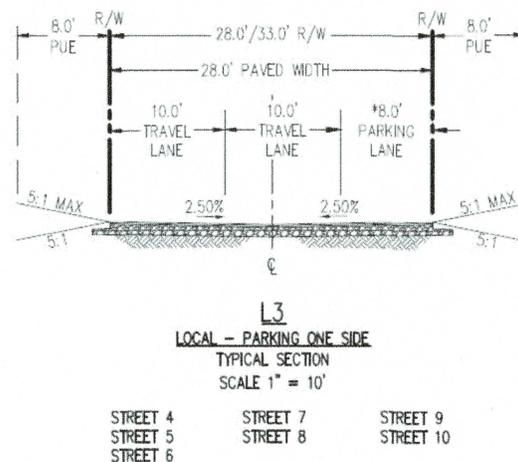
This memorandum is written in response to comments received from the City of Donald and the City's consulting engineer regarding the potential requirement for sidewalks on low-volume local streets within the project. Specifically, Streets 4 through 10 are proposed to be constructed to the "L3" standard shown in Figure 1 below.

Shared Street Operation

The proposed Harvest Gardens project is planned and designed to be a unique, agriculture-centric community. Part of that aesthetic is a non-standard approach to some of the street configurations. Streets 4 through 10 are essentially loop streets that serve only the homes that front them. By design, they are low-speed, low-volume streets. These low volumes and low speeds allow the streets to operate safely as shared facilities. Cars are still allowed on the streets, but the design is intended to make a driver feel like a guest on the street. Delineating dedicated space for people walking, people biking, and people driving leads to a higher comfort level for people driving, resulting in higher speeds and less attentiveness. For quiet residential streets such as Streets 4 through 10, this is not the desired operation.

This shared street concept is commonly used throughout the world and is becoming more popular in America and the northwest. This treatment is well researched and documented as an appropriate treatment for low-volume residential streets. The *Urban Street Design Guide*, published by NACTO¹, is perhaps the most comprehensive and widely accepted design manual that details the use of shared streets.

Figure 1: Proposed Shared Street Cross Section



¹ *Urban Street Design Guide*, published in 2013 by the National Association of City Transportation Officials (NACTO)

Recommended Design Features

The *Urban Street Design Guide* provides guidance on shared street design elements to ensure operation of the street as intended, stating, "Cities should aim to maintain low speeds and volumes on these streets, reinforcing their shared nature through materials and targeted design enhancements."

Some of these design features include the following. These are direct quotes from the manual.

- *Drainage channels should be provided either at the center of the street or along the flush curb, depending on underground utilities and other existing conditions.*
- *A shared street sign should be used at the entrance to a shared street. In some cases, a modified YIELD TO PEDESTRIANS sign (MUTCD 2B-2) may be added to reinforce the conversion in early stages.*
- *Shared streets should generally be designed to operate intuitively as shared spaces without the need of signage. Signage serves to educate the public in the early stages of a conversion. Residential shared street signage often depicts children playing to make motorists aware that they are entering a low speed area.*
- *Provide tactile warning strips at the entrance to all shared spaces. Warning strips should alert drivers and pedestrians.*



Figure 2: Shared Street Example from NACTO (Urban Street Design Guide)

The proposed street configuration does have drainage that sheds to the centerline. It is recommended that additional design considerations such as signage and entrance treatments be considered rather than adding sidewalks.

Conclusions

The proposed L3 street section for Streets 4 through 10 within Harvest Gardens were designed intentionally to be unique, low speed and low volume residential shared streets. Rather than imposing a condition of approval to require sidewalks, it is recommended that additional design treatments such as those described above be incorporate to allow the street to operate as intended.

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.



Exhibit M: DSL Wetland Determination



Oregon

Kate Brown, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

August 28, 2019

GRC Land Holdings, LLC
Attn: Joann Agee
PO Box 427
Donald, OR 97020

Kate Brown
Governor

Bev Clarno
Secretary of State

Re: **WD # 2019-0278 Approved**
Wetland Delineation Report for Harvest Gardens;
Marion County; T4W R1W S17 TL 2600 (Portion);
T4W R1W S20 TL 300 (Portion);

Tobias Read
State Treasurer

Dear Ms. Agee:

The Department of State Lands has reviewed the wetland delineation report prepared by AKS Engineering & Forestry, LLC for the site referenced above. Please note that the study area includes only a portion of the tax lots described above (see the attached maps). Based upon the information presented in the report, and additional information submitted upon request, we concur with the waterway boundaries as mapped in revised Figure 5 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area one waterway (Drainage 1) was identified. Drainage 1 is piped beneath the study area and is only subject to the permit requirements of the state Removal-Fill Law should relocation of the piped drainage be proposed. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you

work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Marion County, Daniel Evans, at (503) 986-5271

Sincerely,

Peter Ryan
Digitally signed by Peter
Ryan
Date: 2019.08.28 08:10:53
-07'00'

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: Stacey Reed, AKS Engineering & Forestry, LLC
Marion County Planning Department
Kinsey Friesen, Corps of Engineers
Mike DeBlasi, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF attachment of the completed cover form and report may be e-mailed to Wetland_Delineation@dsl.state.or.us. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

<input type="checkbox"/> Applicant <input checked="" type="checkbox"/> Owner Name, Firm and Address: GRC Land Holdings, LLC Attn: Joann Agee PO Box 427 Donald OR 97020	Business phone # 503-678-5525 Mobile phone # (optional) 503-703-9066 E-mail: mmader@gkmachine.com
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED MAY 13 2019 </div>	
<input type="checkbox"/> Authorized Legal Agent, Name and Address: RECEIVED \$ 454.00 DEPARTMENT OF STATE LANDS # 32055	Business phone # Mobile phone # E-mail:
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact. Typed/Printed Name: <u>Joann Agee</u> Signature: <u>[Signature]</u> Date: <u>5/7/2019</u> Special instructions regarding site access: <u>NA</u>	

Project and Site Information (using decimal degree format for lat/long., enter centroid of site or start & end points of linear project)			
Project Name: Harvest Gardens	Latitude: 45.13624	Longitude: -122.50918	216939 8934925
Proposed Use: Residential Development	Tax Map # 4 1W 17	Tax Lot(s) Portion of 2600	
	Tax Map # 4 1W 20	Tax Lot(s) Portions of 300 and 2600	
Project Street Address (or other descriptive location): Donald Road, east of Brentwood Court.	Tax Map #	Tax Lot(s)	
City: Donald County: Marion	Township 4N	Range 1W	Section 17 & 20 QQ
	Waterway: N/A	River Mile:	

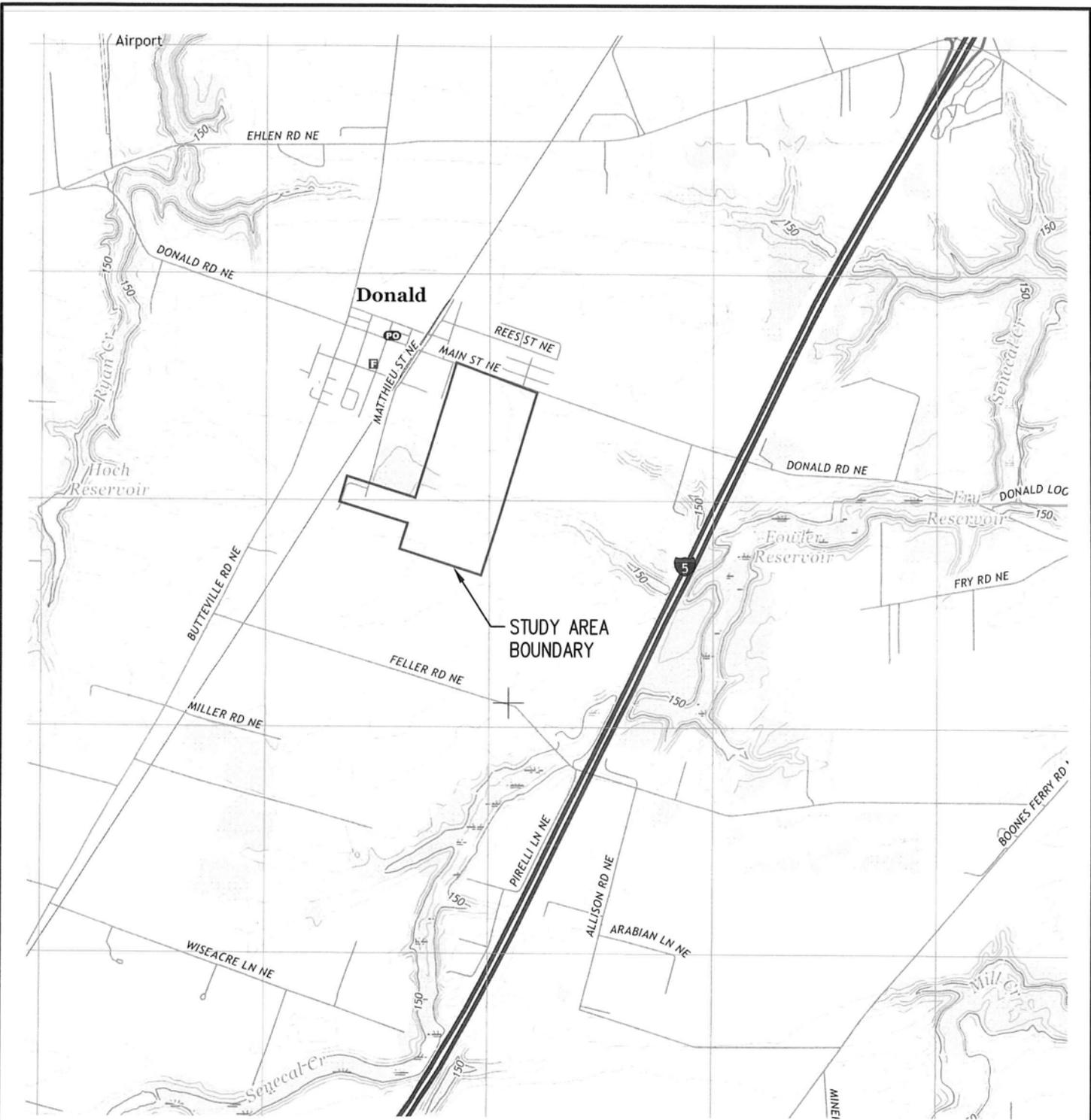
Wetland Delineation Information	
Wetland Consultant Name, Firm and Address: Stacey Reed, PWS AKS Engineering & Forestry, LLC 12965 SW Herman Rd, Ste 100 Tualatin, OR 97062	Phone # (503) 563-6151 Mobile phone # E-mail: stacey@aks-eng.com
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.	
Consultant Signature: <u>Stacey Reed</u>	Date: <u>5/8/19</u>

Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Study Area size: 8.48 acres Total Wetland Acreage: None

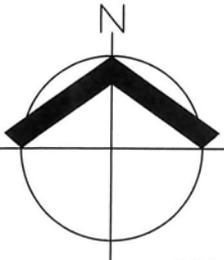
Check Box Below if Applicable:	Fees:
<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ 454
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	<input type="checkbox"/> No fee for request for reissuance of an expired report
<input type="checkbox"/> Industrial Land Certification Program Site	
<input type="checkbox"/> Reissuance of a recently expired delineation	
Previous DSL # _____ Expiration date _____	
Other Information:	Y N
Has previous delineation/application been made on parcel?	<input type="checkbox"/> <input checked="" type="checkbox"/> If known, previous DSL # _____
Does LWI, if any, show wetland or waters on parcel?	<input type="checkbox"/> <input checked="" type="checkbox"/>

For Office Use Only			
DSL Reviewer: <u>DE</u>	Fee Paid Date: <u>5/13/19</u>	DSL WD # <u>2019-0278</u>	
Date Delineation Received: <u>5/13/19</u>	DSL Project # _____	DSL Site # _____	
Scanned: <input type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____	

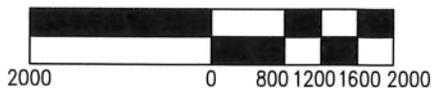
P#78172



USGS 7.5' TOPOGRAPHIC SERIES
 QUADRANGLE: WOODBURN, OR (2017)



SCALE: 1" = 2000 FEET



DATE: 04/02/2019

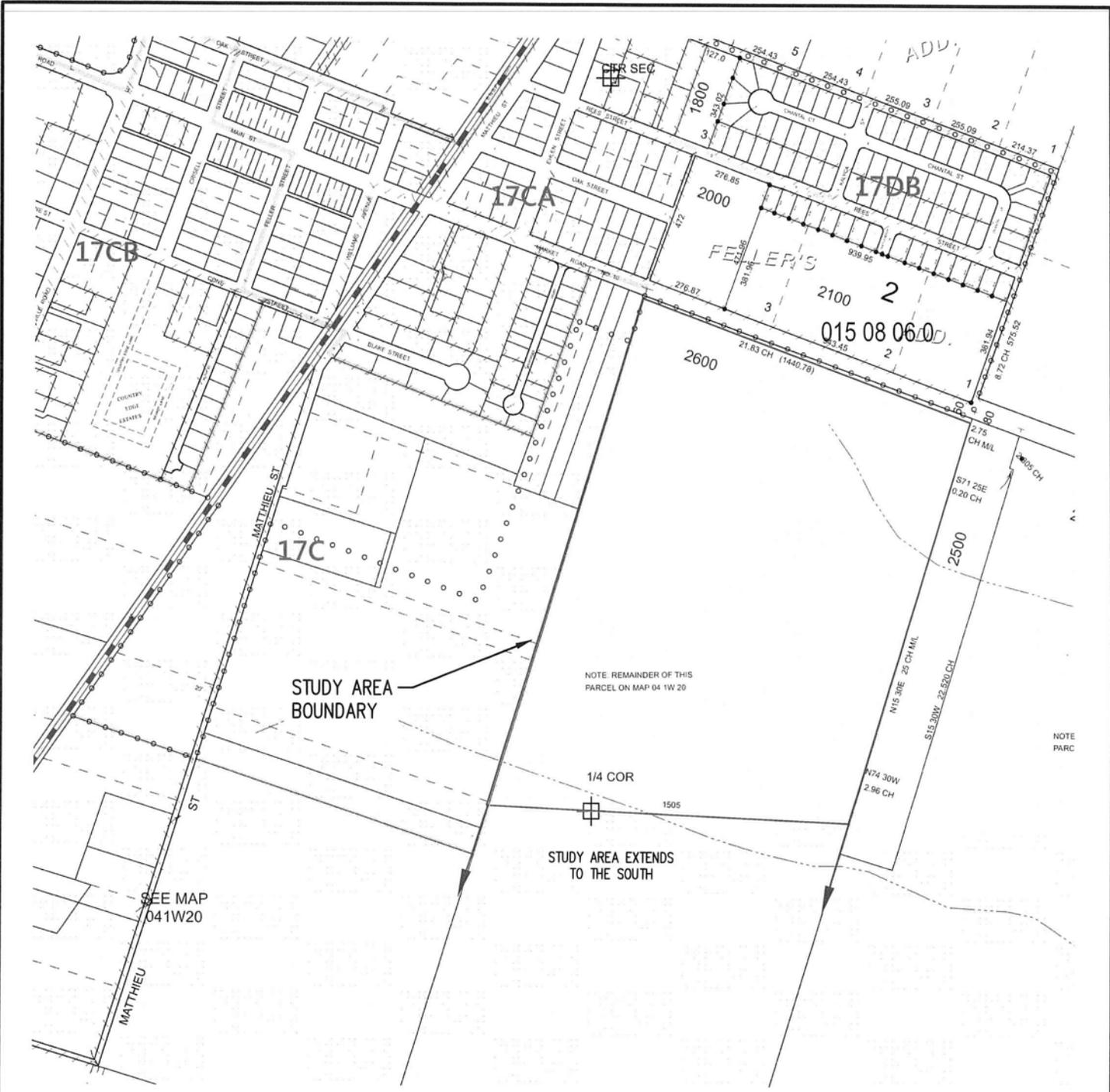
USGS VICINITY MAP
HARVEST GARDENS WETLAND DETERMINATION REPORT

FIGURE
1

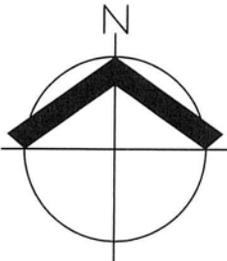
AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD SUITE 100
 TUALATIN, OR 97062 www.aks-eng.com
 PHONE: 503.563.6151 FAX: 503.563.6152



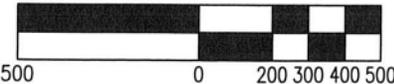
DRWN: SAS
 CHKD: SAR
 AKS JOB:
 6732



MARION COUNTY
 PORTION OF TAX LOT 2600
 MAP 04 1W 17



SCALE: 1" = 500 FEET



DATE: 04/02/2019

TAX MAP (MAP 04 1W 17)
HARVEST GARDENS WETLAND DETERMINATION REPORT

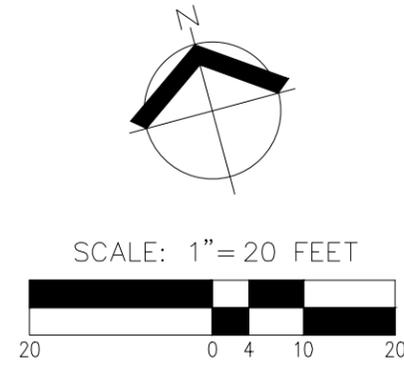
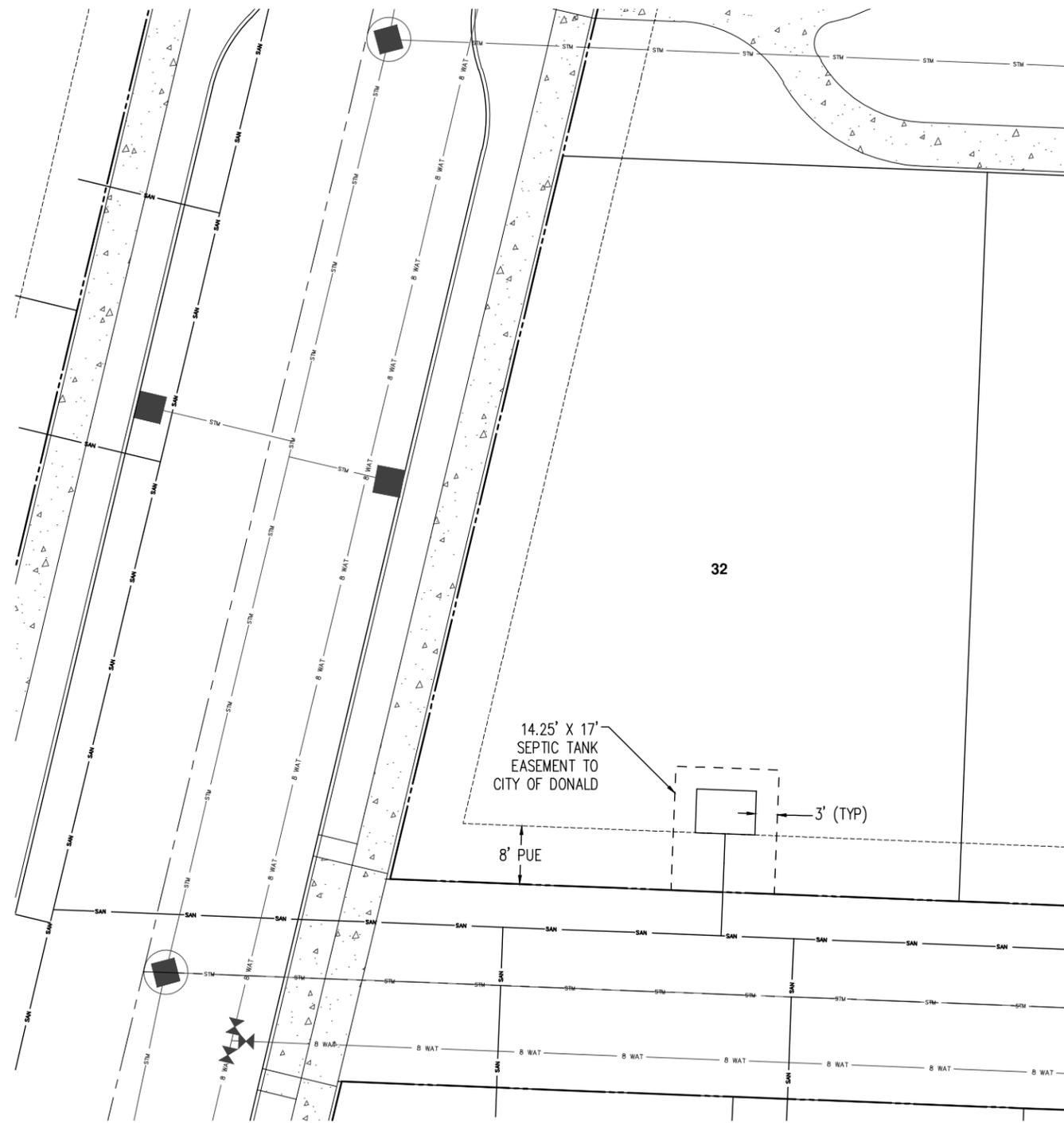
FIGURE
2A

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 12965 SW HERMAN RD SUITE 100
 TUALATIN, OR 97062 www.aks-eng.com
 PHONE: 503.563.6151 FAX: 503.563.6152



DRWN: SAS
 CHKD: SAR
 AKS JOB:
 6732

Exhibit N: Septic Tank Detail



DATE: 6/1/2020

TYPICAL LOT SEPTIC TANK LAYOUT		EXHIBIT
HARVEST GARDENS		A
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: JMS CHKD: AHH AKS JOB: 6732



Exhibit O: Public Open Space Exhibit
