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Groundhog PRD Traffic Impact Analysis

Jurisdiction: City of Marysville

May 2022



090222091

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1. DEVELOPMENT IDENTIFICATION

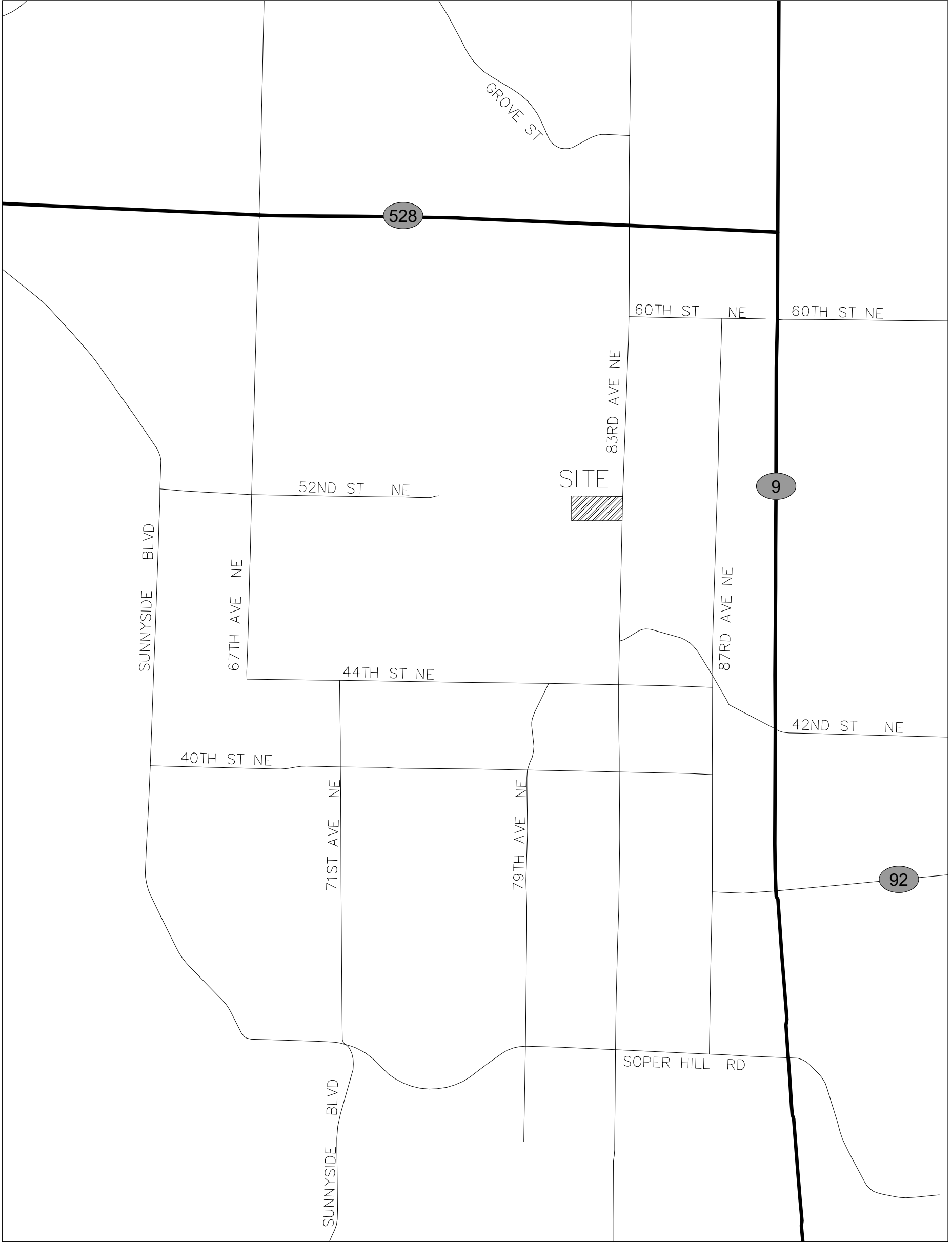
Kimley-Horn and Associates, Inc. has been retained to provide a traffic impact analysis for the proposed Groundhog PRD development. This report is intended to provide the City of Marysville, Snohomish County, City of Lake Stevens, and the Washington State Department of Transportation (WSDOT) with the necessary trip generation, trip distribution and mitigation fee information to facilitate their reviews of the development. The Groundhog PRD development is located on the west side of 83rd Avenue NE, north of 50th Street NE. A site vicinity map is included in Figure 1.

The Groundhog PRD development is proposed to consist of 25 single-family detached residential units. There is 1 existing single-family detached residential unit that will be removed and is creditable towards the Groundhog PRD development. Therefore, this report has been completed for 24 net new single-family detached residential units. The site is proposed to have one access to 83rd Avenue NE.

Brad Lincoln, responsible for this report and traffic analysis, is a licensed professional engineer (Civil) in the State of Washington and member of the Washington State section of ITE.

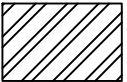
2. METHODOLOGY

The trip generation calculations are based on average trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition (2021)*. The trip distribution is based on the Whiskey Ridge North trip distributions published by the City of Marysville. The City of Marysville *Traffic Impact Analysis Guidelines* identifies that intersection operational analysis is typically required for intersections impacted by 25 PM peak-hour trips generated by a development. The Groundhog PRD development is not anticipated to generate 25 PM peak-hour trips. Intersection analysis has therefore not been performed as part of this report.



GROUNDHOG PRD
25 SINGLE FAMILY
DETACHED UNITS

LEGEND



DEVELOPMENT SITE

FIGURE 1
VICINITY MAP

CITY OF MARYSVILLE

Date: May 02, 2022 - 5:27pm / User: Coriella Turner
Path: K:\SNO-PTD\2022\22-091_83rd Ave Development\Figures\83rd Ave Figures.dwg / Xref

3. TRIP GENERATION

Trip generation calculations have been performed using trip generation data contained in the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual, 11th (2021)* for Land Use Code (LUC) 210, Single-Family Detached Housing. The City of Marysville requires the use of a trip generation rate of 1.0 PM peak-hour trip per unit for single-family residential units. The trip generation of the Groundhog PRD development is summarized in Table 1.

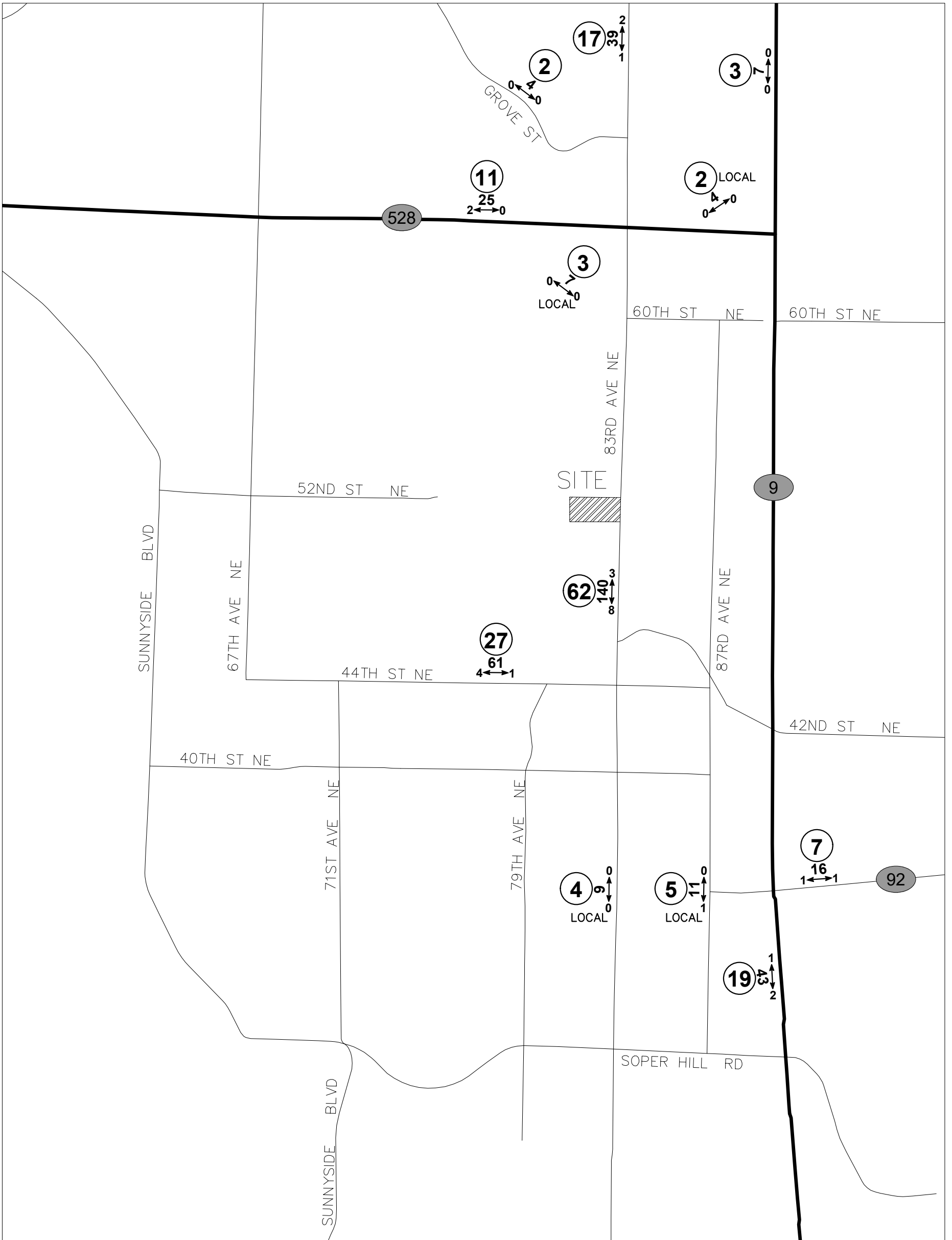
Table 1: Trip Generation Summary

24 New Single-Family Residential Units	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Generation Rate	9.43 trips per unit			0.70 trips per unit			1.00 trips per unit		
Splits	50%	50%	100%	26%	74%	100%	63%	37%	100%
Trips	113.16	113.16	226.32	4.37	12.43	16.80	15.12	8.88	24.00

The Groundhog PRD development is anticipated to generate approximately 226 new average daily trips with approximately 17 new AM peak-hour trips and 24 new PM peak-hour trips.

4. TRIP DISTRIBUTION

The trip distribution for the proposed Groundhog PRD development is based on distributions provided by the City of Marysville for the Whiskey Ridge West area. It is estimated that 40% of the trips generated by the development will travel to and from the west, two percent along Grove Street, eleven percent along SR-528 and twenty-seven percent along 44th Street NE. Approximately 20% of the trips generated by the development will travel to and from the north, seventeen percent along 83rd Avenue NE and three percent along SR-9. It is anticipated that 35% of the trips generated by the development will travel to and from the south, four percent along 83rd Avenue NE, five percent along 87th Avenue NE and twenty-six percent along SR-9. The remaining 5% of the trips generated by the development are anticipated to travel to and from local areas along SR-528. No significant changes in the development trip distribution are expected to occur in the horizon year distribution. The detailed trip distributions for the AM and PM peak-hours are shown in Figure 2 and Figure 3, respectively.



GROUNDHOG PRD
25 SINGLE FAMILY
DETACHED UNITS

LEGEND

AWDT
AM ← PEAK

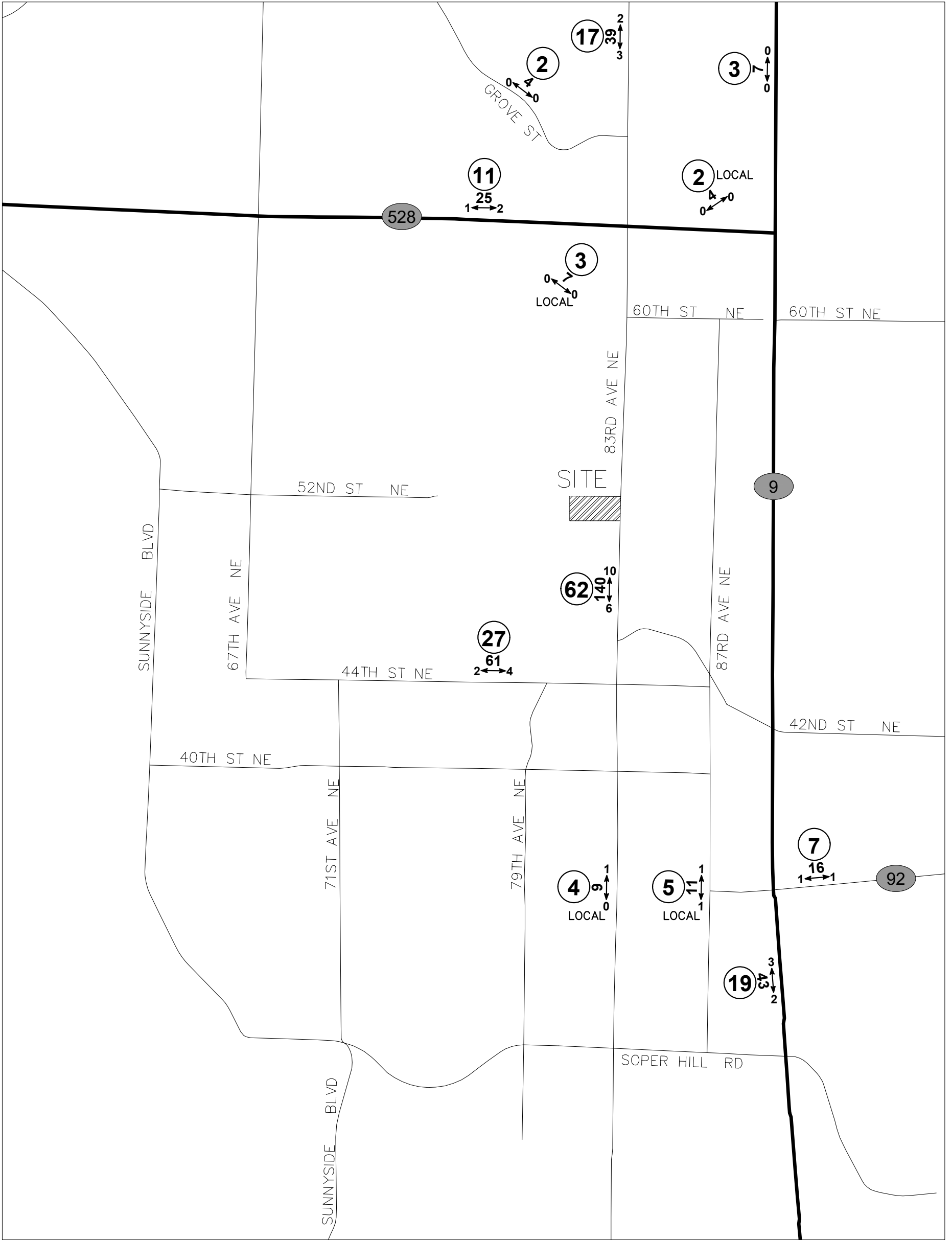
NEW DAILY TRAFFIC
NEW PEAK-HOUR TRIPS



TRIP DISTRIBUTION %

FIGURE 2
DEVELOPMENT
TRIP DISTRIBUTION
AM PEAK-HOUR

CITY OF MARYSVILLE



GROUNDHOG PRD
25 SINGLE FAMILY
DETACHED UNITS

LEGEND



NEW DAILY TRAFFIC
NEW PEAK-HOUR TRIPS
TRIP DISTRIBUTION %

FIGURE 3
DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR

CITY OF MARYSVILLE

The interlocal agreement between the City of Marysville and Snohomish County requires detailed development trip turning movement data at Snohomish County Key Intersections impacted with three or more directional trips on any approach or departure. There are not any Snohomish County Key Intersections within Snohomish County Transportation Service Area A (TSA A) that will be impacted by 3 directional peak-hour trips generated by the Groundhog PRD development.

5. TRAFFIC MITIGATION FEES

The City of Marysville has an interlocal agreement with the City of Lake Stevens for impacts to the intersection of Soper Hill Road at 87th Avenue NE. The City of Marysville also has an interlocal agreement with Snohomish County that provides for the payment of traffic mitigation fees to Snohomish County for City of Marysville developments. The City of Marysville has an understanding with WSDOT for the payment of traffic mitigation fees.

5.1 City of Marysville

The City of Marysville standard traffic mitigation fees have been calculated using the residential rate of \$6,300 per unit. The Groundhog PRD development is proposed to include 24 net new units, which results in a total standard traffic mitigation fee of \$151,200.00.

5.2 City of Lake Stevens

The City of Marysville and the City of Lake Stevens have an interlocal agreement to fund improvements to Soper Hill Road from SR-9 to 83rd Avenue NE. The improvements to the intersection of Soper Hill Road at 83rd Avenue NE have already been completed and therefore the City of Marysville is no longer collecting fees for impacts to this intersection. The trip distribution for the Whiskey Ridge North shows that the intersections along Soper Hill Road are not anticipated to be impacted by any trips generated by the development. Traffic mitigation fees for impacts to the intersection of Soper Hill Road at 87th Avenue NE should therefore not be required for the Groundhog PRD development.

5.3 Snohomish County

The City of Marysville and Snohomish County have an interlocal agreement that provides for the payment of traffic mitigation for impacts to Snohomish County roadways by developments located in the City of Marysville. Traffic mitigation fees are based on predetermined area impacts or impacts to actual improvement projects. According to Section 3(a)2 of the *Snohomish County Traffic Worksheet and Traffic Study Requirements for Developments in the City of Marysville*, traffic mitigation fees for developments in the City of Marysville are only required if Snohomish County improvements in the *Transportation Needs Report* are impacted with three directional peak-hour trips. The trip distribution shows that there are not any Snohomish County improvement projects in the *Transportation Needs Report* impacted by 3 directional PM peak-hour trips generated by the Groundhog PRD development. Snohomish County traffic mitigation fees should therefore not be a condition of the Groundhog PRD development.

5.4 Washington State Department of Transportation

WSDOT traffic mitigation fees are typically required for City of Marysville developments if improvement projects identify on WSDOT's Exhibit C list are impacted by 3 directional PM peak-hour trips and if the improvement project has not already been completed or advertised for construction bid. There are not any WSDOT improvement projects on the Exhibit C list that will be impacted by 3 or more directional PM peak-hour trips generated by the Groundhog PRD development. WSDOT traffic mitigation fees should therefore not be a condition of the Groundhog PRD development.

6. CONCLUSIONS

The Groundhog PRD development is proposed to consist of 25 single-family detached units. There is one existing unit on the site that will be removed and is creditable to the development. The 24 new units of the Groundhog PRD development are anticipated to generate approximately 226 new average weekday daily trips with approximately 17 new AM peak-hour trips and 24 new PM peak-hour trips. The City of Marysville traffic impact fees should be \$151,200.00. Traffic mitigation fees according to the interlocal agreements with the City of Lake Stevens, Snohomish County, or WSDOT interlocal agreements should not be conditions of the Groundhog PRD development.

WSDOT Exhibit C List

LIST OF PROGRAMMED
WSDOT PROJECTS IN
SNOHOMISH COUNTY
AS OF Nov. 2008

County ID#	TSA SR	MP1	MP2 Title/Description	Design/Construction year	Total Cost (M)	TOTAL CAPACITY (ADT)	PRESENT VOLUME	RESERVE CAPACITY (ADT)	TRUE CONTRIBUTION PER ADT	50% TRIP END DEDUCTION	TAX DEDUCTION	Proportionate Share Per Development Generated ADT
DOT-11	D 5	186.42	186.42 128th ST SW interchange - Construct Loop Ramps / HOV Bypass	2014	\$13.30	99,000	65,000	34,000	\$391.18	\$195.15	\$40.98	\$154.17
DOT-01	A 5	205.85	172nd Street NE (SR 531) Interchange improvements, SB loop ramp, bridge widening	2009	\$41.00	90,000	34,900	55,100	\$744.10	\$372.05	\$63.25	\$308.80
DOT-30	E 9	1.66	4.04 212th Street SE to 176th Street SE, widen to 5 lanes	2011	\$80.80	54,000	21,000	33,000	2,448.48	\$1,224.24	\$183.64	\$1,040.60
DOT-56	B 9	16.48	17.49 Lundeen Parkway to SR-92, Widen to 4 lanes & RT-LT lanes	2009	\$38.90	54,000	24,000	30,000	\$1,296.67	\$648.34	\$123.18	\$525.16
DOT-37	B 9	17.96	17.96 SR-9 at 60th Street NE, add LT & RT lanes at Tee Intersection	2011	\$2.95	54,000	36,000	18,000	\$163.89	\$81.95	\$13.91	\$67.94
DOT-22	A 9	18.88	19.46 SR 9/SR 528 Intersection improvements, Signal & Channelization	2010	\$17.13	54,000	36,000	18,000	\$951.67	\$475.83	\$80.89	\$394.94
DOT-57	A 9	20.51	20.59 SR-9/84th Street NE intersection improvements, LT & RT lanes	2011	\$17.13	54,000	12,000	42,000	\$407.88	\$203.93	\$55.06	\$148.87
DOT-58	A 9	26.00	26.09 SR-9/SR-531/172nd St. NE intersection improvement,	2011	\$15.60	54,000	11,000	43,000	\$362.80	\$181.40	\$45.87	\$135.53
DOT-33	B 92	1.46	1.46 SR-92 at 113th Avenue NE, Roundabout	2009	\$2.36	54,000	19,600	34,000	\$68.60	\$34.30	\$6.52	\$27.78
DOT-31	B 92	1.73	1.73 SR-92 at Callow/Grade Road, turn lanes to SR-92	2009	\$1.90	54,000	19,600	34,400	\$55.24	\$27.62	\$5.25	\$22.37
DOT-46	C 203	22.36	22.38 SR-203 at North High Road/Tualco Roads, Re-align cross street for I/S and add LT & RT lanes on SR-203	2009	\$3.34	18,000	13,000	5,000	\$688.00	\$344.00	\$73.48	\$270.52
DOT-36	C 203	23.01	23.01 Ben Howard Rd channelization, LT lanes on SR-203	2009	\$1.07	54,000	13,000	41,000	\$26.10	\$13.05	\$2.87	\$10.18
DOT-16	E 522	13.82	16.61 Paradise Lake Road I/C, Stage 3, new interchange	2010	\$27.95	81,000	48,000	33,000	\$847.03	\$423.52	\$63.53	\$359.99
DOT-17	E 522	16.80	20.41 Paradise Lake Road to Snohomish River, Bridge, Stage 2, widen to 4 lanes	2009	\$33.48	80,000	21,900	58,100	\$576.25	\$288.13	\$43.22	\$244.91
DOT-28	C 522	20.50	24.68 Snohomish River Bridge to SR 2, widen to 4 lanes	2010	\$171.98	80,000	20,000	60,000	\$2,866.33	\$1,433.17	\$315.30	\$1,117.87

LIST OF PROGRAMMED
WSDOT PROJECTS IN
SNOHOMISH COUNTY
AS OF Nov. 2008

County ID#	TSA SR	MP1	MP2 Title/Description	Design/Construction year	Total Cost (M)	TOTAL CAPACITY (ADT)	PRESENT VOLUME	RESERVE CAPACITY (ADT)	TRUE CONTRIBUTION PER ADT	50% TRIP END DEDUCTION	TAX DEDUCTION	Proportionate Share Per Development Generated ADT
DOT-19	F 524	5.87	9.50 24th Avenue SE to I-405, widen to 5 Lanes	2012	\$33.34	54,000	15,300	38,700	\$861.50	\$430.75	\$77.54	\$353.21
DOT-20	F 524	5.87	9.50 I-405 to Royal Ann Road, widen to 5 Lanes	2011	\$71.06	54,000	15,300	38,700	\$1,836.18	\$918.09	\$165.26	\$752.83
DOT-60	E 524	6.79	Larch Way intersection, LT lanes, signal	2009	\$2.59	54,000	15,300	38,700	\$66.93	\$33.47	\$5.02	\$28.45
DOT-59	D 525	6.25	SR-525/88th St. SW intersection improvements, NBRT, NBLT & SBLT	2011	\$3.70	25,700	17,000	8,700	\$425.29	\$212.64	\$89.31	\$123.33
DOT-49	A 530	17.30	SR-530 at Old 99, Roundabout	2011	\$8.00	18,000	10,000	8,000	\$1,000.00	\$500.00	\$85.00	\$415.00
DOT-62	A 530	19.71	211th Place NE, Intersection Roundabout	2011	\$6.10	24,000	15,000	9,000	\$677.78	\$338.89	\$57.61	\$281.28
DOT-52	A 531	1.95	SR-531/Jct. Freestad Road Intersection, LT lanes	2011	\$1.55	18,000	7,900	10,100	\$140.14	\$70.07	\$11.92	\$58.15
DOT-05	A 531	7.00	8.59 43rd Ave. NE to 67th Ave. NE, NE, Widen to 5 lanes (Arlington)	2014	\$20.78	54,000	11,000	43,000	\$483.14	\$241.57	\$41.07	\$200.50
DOT-53	A 532	5.25	270th St. NW Vic. To 72nd Ave. NW, EB Climbing Lane, intersection improvements & signal.	2009	\$19.00	54,000	16,000	38,000	500	\$250.00	\$28.75	\$221.25
DOT-54	A 532	6.45	64th Ave. NW to 12th Ave. NW, Climbing lane & LT Lanes	2010	\$22.40	54,000	17,000	37,000	\$605.41	\$302.70	\$33.75	\$268.95
			TAX DEDUCTIONS									
			TSA A = 17%									
			TSA B = 19%									
			TSA C = 22%									
			TSA D = 21%									
			TSA E = 15%									
			TSA F = 18%									

Traffic Mitigation Offer to Snohomish County

The applicant completes part one and submits it to the city with a completed county traffic worksheet. The city completes part two and sends it to the county. The county completes part three and sends it back to the city.

Part One to be completed by Applicant

<p>Basic Development Information</p> <p>Name of City in which development is located <u>City of Marysville</u></p> <p>Name of Proposed Development <u>Groundhog PRD</u></p> <p>City Project File Number (if known)</p> <p>Name of Applicant</p> <p>Address of Applicant</p>																													
<p>Proportionate Share Calculation: Choose Option A or B</p> <p><input type="checkbox"/> Option A: Based on a percentage of the County's adopted impact fee (Attach traffic worksheet.)</p> <p>1. The applicable percentage of the County's fee: _____%</p> <p>2. Net New Average Daily Traffic: _____ADT</p> <p>3. The adopted County impact fee for this development: _____\$/ADT</p> <p>4. Total Proportionate Share Amount: \$_____</p> <p><input checked="" type="checkbox"/> Option B: Based on a comprehensive traffic study (Attach traffic worksheet and traffic study)</p> <p><u> X </u> No road improvements are impacted. Hence, proportionate share amount is zero.</p> <p><u> </u> The following road improvements are impacted. The calculation of proportionate shares is summarized below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">List by Names/Description the Impacted County Projects (attach other pages if necessary)</th> <th style="width: 10%;">County Project ID#</th> <th style="width: 15%;">PHTs Impacting Project</th> <th style="width: 15%;">Capacity Cost per PHT</th> <th style="width: 20%;">Proportionate Share Obligation per Impacted Project</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4">4. Total Proportionate Share Amount (sum of obligations for each impacted project)</td> <td>\$_____</td> </tr> </tbody> </table>					List by Names/Description the Impacted County Projects (attach other pages if necessary)	County Project ID#	PHTs Impacting Project	Capacity Cost per PHT	Proportionate Share Obligation per Impacted Project	1.					2.					3.					4. Total Proportionate Share Amount (sum of obligations for each impacted project)				\$_____
List by Names/Description the Impacted County Projects (attach other pages if necessary)	County Project ID#	PHTs Impacting Project	Capacity Cost per PHT	Proportionate Share Obligation per Impacted Project																									
1.																													
2.																													
3.																													
4. Total Proportionate Share Amount (sum of obligations for each impacted project)				\$_____																									
<p><input checked="" type="checkbox"/> Trip Distribution and Assignment if Required</p> <p>If required, attach AM and PM peak-hour trip distribution and assignment. (Attach traffic worksheet showing whether or not it is required and traffic study).</p>																													
<p><input checked="" type="checkbox"/> Mitigation of Other Impacts if Required for Developments Generating More than 50 Peak-Hour Trips</p> <p>Mitigation of Impacts on Level of Service <u> X </u> No impact or not applicable <u> </u> Mitigation as described in attached traffic study.</p> <p>Mitigation of Impacts on Inadequate Road Conditions <u> X </u> No impact or not applicable <u> </u> Mitigation as described in attached traffic study.</p> <p>Mitigation for Impacts on Access or Circulation <u> X </u> No impact or not applicable <u> </u> Mitigation as described in attached traffic study.</p>																													
<p><input checked="" type="checkbox"/> Written Offer</p> <p>The Applicant hereby voluntarily agrees to pay the total proportionate share amount shown above for impacts of the proposed development on the capacity of Snohomish County roads and provide mitigation of all other impacts as indicated above and described in attached documents.</p> <p>BY: _____ Date _____</p> <p>Signature by Authorized Official of Applicant or Authorized Representative</p> <p>Print Name and Title _____</p> <p><i>Instructions to Applicant.</i> Submit this offer, a completed county traffic worksheet, and any other attachments to the city with your initial application or send directly to Deb Werdal, Snohomish Co. DPW Traffic, 3000 Rockefeller M/S 607, Everett WA 98201.</p>																													

Part Two: To be completed by the City

Receipt of Written Offer and Attachments by City and Routing to County

Name of Proposed Development _____
City Project File Number _____
Date Received _____
City Staffer Assigned to Project _____
Address _____
Phone _____

Instructions to City. Send this offer and all attachments to Deb Werdal, Snohomish Co. DPW Traffic Operations, 3000 Rockefeller M/S 607, Everett WA 98201. Send copy to staffer shown above.

BY: _____
_____ Date _____
Initialed by City Staffer Print Name and Title

Part Three: To be completed by Snohomish County

Receipt of Offer and Attachments by Snohomish County and Routing Back to City

Name of Proposed Development _____
City Project File Number _____
Received by: _____
_____ Date _____
Initialed by County Staffer Print Name and Title

Snohomish County Mitigation Request to City

Snohomish County has reviewed the traffic study worksheet and mitigation offer submitted by the applicant and has determined as follows:

Snohomish County requests that the City impose the mitigation offered above as a condition of approval for the Development. Snohomish County agrees to accept changes in the mitigation payment amount shown above resulting from TDM or lot-yield adjustments approved by the City.

Snohomish County requests that the City require additional supplemental information to adequately evaluate the proposed development's impacts. The information requested is shown in the notes below.

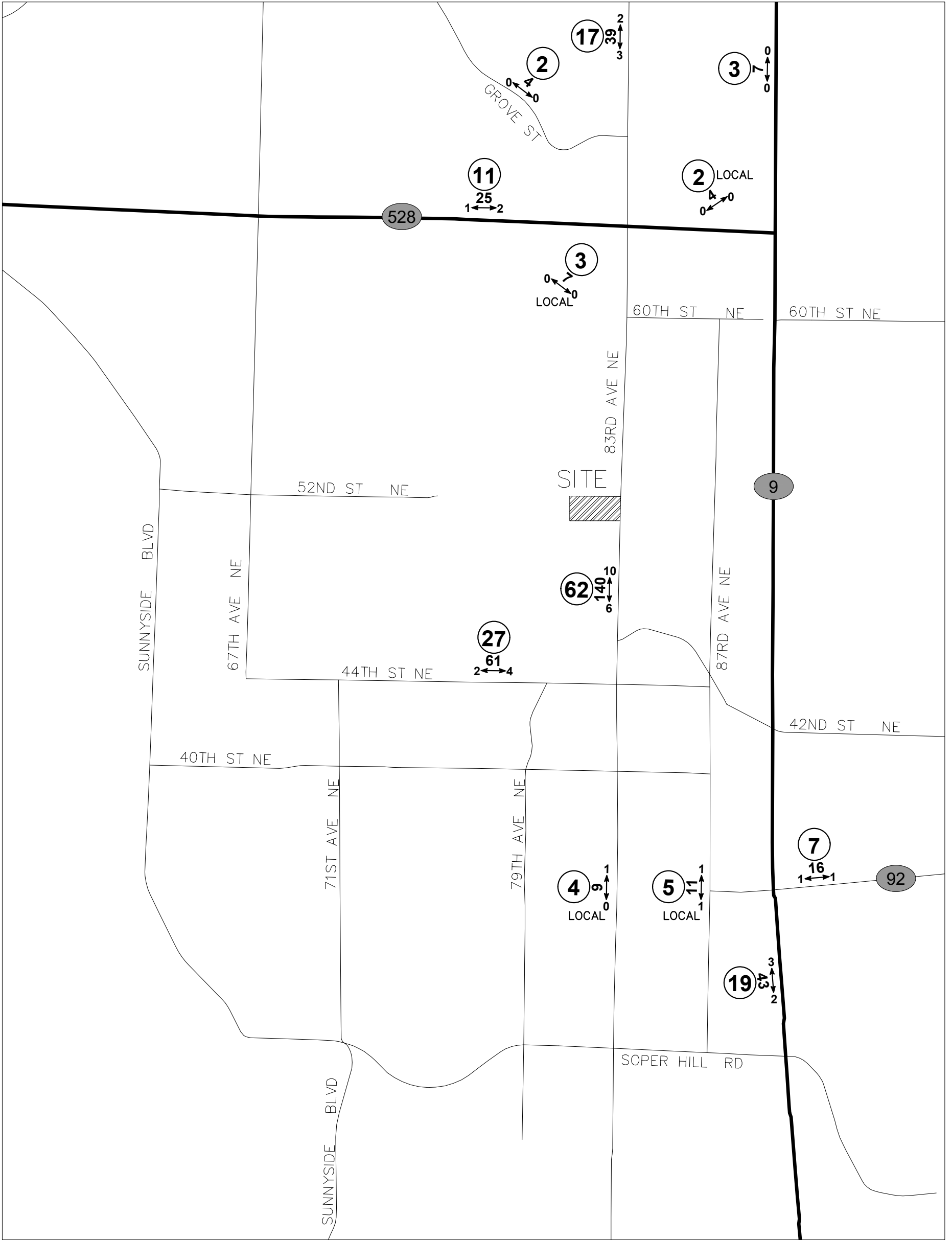
BY: _____
_____ Date _____
Signature by Authorized County Staffer Print Name and Title

Routing Back to City

Instructions to County Send this offer and all attachments to the City Staffer shown in Part Two above.

Sent by: _____
_____ Date _____
Initialed by City Staffer Print Name and Title

Notes



GROUNDHOG PRD
25 SINGLE FAMILY
DETACHED UNITS

LEGEND



NEW DAILY TRAFFIC
NEW PEAK-HOUR TRIPS
TRIP DISTRIBUTION %

FIGURE 3
DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR

CITY OF MARYSVILLE

**Snohomish County Traffic Worksheet and Traffic Study Requirements
for Developments in the City of Marysville**

Snohomish County government, through an interlocal agreement (ILA) with the City of Marysville, may request traffic mitigation measures from any new development in the city that impacts roads in the unincorporated county. The City will impose the requested mitigation to the extent that the City determines that the mitigation is reasonably related to the impacts of the development. To determine the impacts, and to determine reasonable mitigation measures, the City of Marysville requires a traffic study from any development in the city that may have impacts on county roads. This ‘traffic study’ may be as simple as completing sections one and two of the county traffic worksheet below, or having a professional traffic engineer conduct a formal traffic study consistent with the requirements in section three below.

- If a development generates less than ten peak-hour trips and the applicant chooses Option A for mitigation payment (standard payment by percent of county impact fee), then the applicant will generally only have to fill out the first two sections of this traffic worksheet and complete a mitigation offer (see section four).
- However, if a development generates more than ten peak-hour trips, or if the applicant chooses Option B for mitigation payment (comprehensive impact analysis), then the applicant will have to fill out the first section of this worksheet, complete a separate traffic study consistent with the requirements in section three, and complete a mitigation offer (see Section Four).
- Applicants should submit all documents *to the City* as part of their initial submittal.
- Traffic study requirements for impacts on county roads are based on the County’s traffic mitigation ordinance (Chapter 30.66B) and the city/county ILA. At the end of this document find references to the county contacts and county web site (sources for many of the documents related to traffic mitigation).
- Following review of the documents submitted, the County may request supplemental information and analysis as necessary to determine the impacts of the development in accordance with the city/county ILA. The City will require the proposed development to submit the supplemental information and analysis to the extent that the City determines that it is necessary to determine the impacts of the development.

Section One (1) Worksheet General Information

1. Name of Proposed Development Groundhog PRD
City Development File Number (if known) _____
2. Name, Address and Phone Number of Applicant _____

3. Development Site Address West side of 83rd Avenue NE, north of 50th Avenue NE.

4. Is it a residential or commercial development? Residential
5. Description of Development (size and specific type) 25 single-family residential units with 1 existing unit being removed, resulting in 24 new single-family residential units.
6. How many new vehicle trips are expected to be generated by the proposed development? (For many common types of developments this information can be provided by the city or the county. For more complex developments trip generation may have to be determined under section three below)
16.80 AM Peak Hour 24.00 PM Peak Hour 226.32 Average Daily Trips (ADT)
7. Proportionate Share Impact Mitigation: All applicants have two options in determining the amount of their traffic mitigation payment:
 For determining the amount based on a percentage of the county fee go to section two.
 X For determining the amount based on a comprehensive traffic study go to section three.

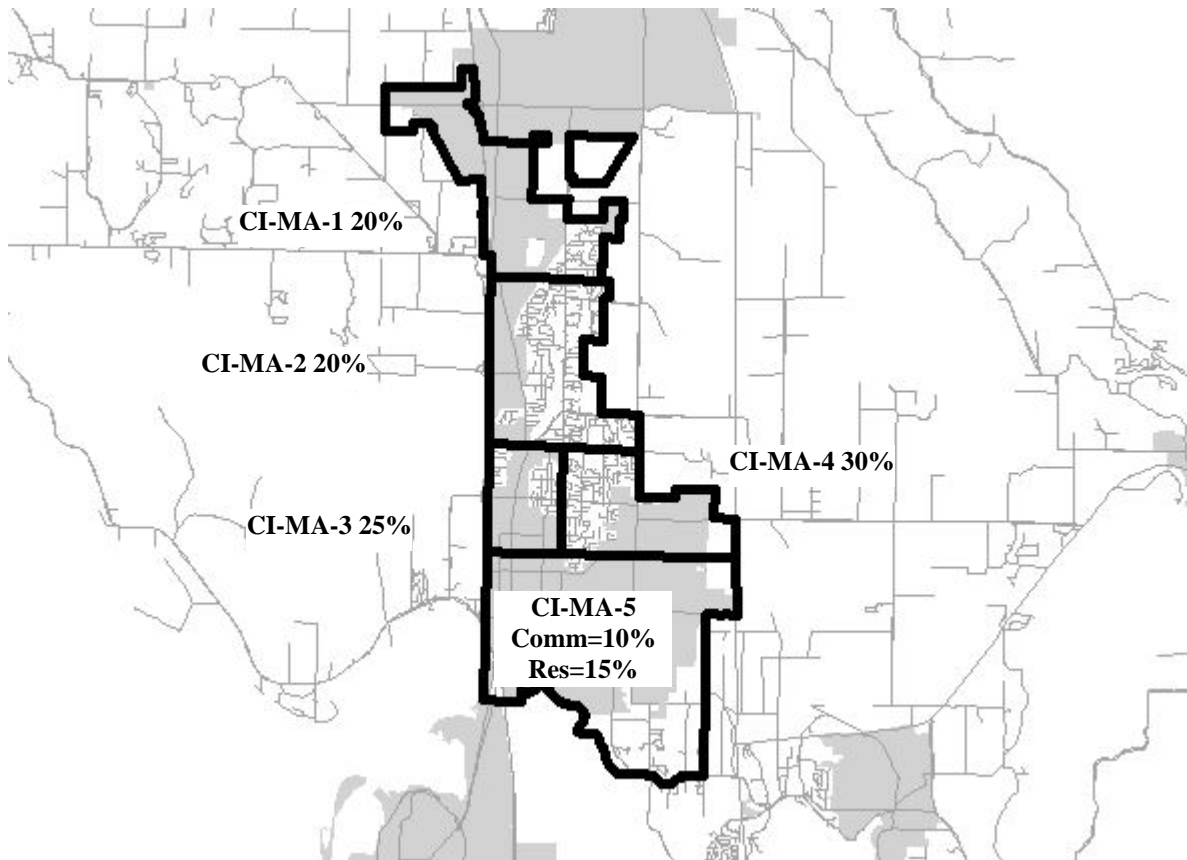
Section Two (2) Proportionate Share Determined by Percentage of County Impact Fee

2(a) Calculation of Payment Amount

1. Standard default estimated percentage of trips impacting the City streets based on subareas (See below) _____ % or 2. Other Percentage: (Note: See author’s qualifications in section three below.) Estimated percentage of trips impacting county roads from attached trip distribution: _____ %

Sub-Area ID #	* City Subarea Description	Residential Developments	Commercial Developments
CI-MA-1	North of 136th ST SE.	20%	20%
CI-MA-2	North of 100th ST NE and South of 136th ST SE.	20%	20%
CI-MA-3	North of 76th ST NE, South of 100th ST SE, and West of 51st AV NE.	25%	25%
CI-MA-4	North of 76th ST NE, South of 100th ST SE, and East of 51st AV NE.	30%	30%
CI-MA-5	South of 76th ST NE.	15%	10%

* Note: Boundaries are either street centerlines or imaginary extensions of street centerlines in places where the actual streets do not exist.



3. Development New Average Daily Trip Generation (ADT) _____

4. Type of Development (Residential or Commercial) _____

5. County Commercial Fee Rate \$ _____ 6. County Residential Fee Rate \$ _____

(Note: Consistent with county code and the ILA, developments pay the rate in effect at the time of their submittal. As of 07/13/11 the rates were \$39 for commercial developments and \$46 for residential developments. Through ordinance, the County Council can change these rates at any time, so consult with the County or look at Snohomish County Code 30.66B.330 to find the latest fee rates.)

7. Calculation of Proportionate Share Impact Mitigation

$$\frac{\text{#1 or #2 above: \% of trips}}{\text{\% of trips}} \times \frac{\text{#3 above: ADT}}{\text{ADT}} \times \frac{\text{#5 or #6 above: Fee Rate}}{\text{Fee Rate}} = \$ \text{proportionate share mitigating payment}$$

2(b) Determining whether or not an additional traffic study is necessary

Will the development generate more than 10 peak-hour trips *or* are there other impacts that need to be addressed (e.g., level of service, safety, or access and circulation)

- No. Skip section three and go to section four.
- Yes. Read the introduction to section three and skip to section 3(b).

Section Three (3) Traffic Study Requirements

Introduction: This section outlines requirements for traffic studies for impacts on County roads. If an applicant chooses (or is required) to complete a traffic study, then it should be submitted along with this worksheet and a mitigation offer. (Note on Author’s Qualifications: A traffic study under this section must be conducted by an engineer licensed to practice in the state of Washington with special training and experience in traffic engineering and, preferably, membership in the institute of transportation engineers. For individuals/firms not on the City’s approved list, the developer will provide, with the traffic study, the credentials of the individual or firm performing the traffic study certifying compliance with these qualifications.)

3(a) Proportionate share impact mitigation based on comprehensive traffic study

1. Development’s Trip Generation and Distribution. Determine the PM peak-hour trip generation and distribution for the development consistent with Section 3(b) below.
2. Impacted Improvements. Determine which of the road sections with planned improvements in the county’s impact fee cost basis (Transportation Needs Report Appendix D) are impacted by three or more development-generated *directional* PM peak hour trips (PM PHT).
3. Current Counts. For each impacted improvement, provide current traffic counts to determine the PM PHT.
4. Reserve Capacity. Determine “reserve capacity” for each impacted improvement by subtracting the current PM PHT from the maximum service volume (MSV) for the existing facility. Reserve capacity is set to zero if current PM PHT exceeds the MSV. For MSVs see County DPW Rule 4224.
5. New Capacity. New capacity is the incremental increase in PHT that could be accommodated with the planned improvement. Determine the new capacity of each impacted improvement by subtracting the current MSV from the future MSV after the improvement.
6. Chargeable Capacity. For each impacted improvement, add the reserve capacity to the new capacity.
7. Final Adjusted Cost. Find the cost of each impacted improvement and make any adjustments used by the County for tax credits (see Transportation Needs Report Appendix D).
8. Capacity Cost per Peak-Hour Trip. For each impacted improvement, determine the capacity cost per PM PHT by dividing the final adjusted improvement cost by the chargeable capacity.
9. Traffic Impacts. From step one above, take the *total* number of PM PHT (in both directions) impacting each planned improvement.
10. Proportionate Share. For each impacted improvement, determine the proportionate share impact mitigation by multiplying the capacity cost per peak-hour trip by the number of PM PHT impacting the improvement.

3(b) Trip Generation and AM and PM Peak Hour Trip Distribution and Assignment

Calculate AM, PM and Daily trip generation consistent with the ITE Trip Generation Handbook and Snohomish County Public Works Rule 4220. Determine the trip distribution and assignments consistent with the County’s document titled “Format for Trip Distributions”(available at County web site, see below).

- Within the developments transportation service area (TSA) the distributions will be carried out to each key intersection at which the approach or departure volumes on any leg have three (3) or more peak hour trips. Get the most current list of key intersections on the web site described below. Trips should be distributed onto the road system as it is expected to be in six years.
- The distribution should be a schematic map showing the broad distributions of trips in terms of percentages on different roads. Show all City boundaries.
- The assignment should be a schematic map with the impacted key intersections identified by ID# and turning movements for each shown in separate diagrams on the same page or on different pages. The assignment should also be presented in tabular form listing each intersection by intersection ID#, and the number of trips at each movement.

3(c) Additional Analysis for Developments Generating More Than Fifty (50) Peak Hour Trips

For large developments (i.e., those generating more than 50 peak-hour trips), the County may request mitigation for impacts on the level of service of County roads, documented safety locations (the County calls such locations “inadequate road conditions” or “IRCs”), and access or circulation. The traffic study requirements below are intended to disclose impacts. Based on this information the County may request through the City that the applicant provide additional information showing possible mitigation measures. If any off-site improvements were needed for mitigation the County would work with the applicant to determine requirements for right-of-way, construction plans, right-of-way use permits, construction/maintenance bonds, and other issues.

Impacts on Level of Service (LOS) of County Arterials

Contact Snohomish County Public Works for the most current list of arterial units in arrears and critical arterial units. Identify any arterial units in arrears or critical arterial units impacted by three or more directional peak-hour trips.

Impacts on Inadequate Road Conditions

Contact Snohomish County Public Works for a list of the current IRCs. Identify any IRCs impacted by three or more peak-hour trips. Note: Unlike LOS impacts in which at least three or more peak hour trips have to be added in one direction to require disclosure (e.g., 3 westbound), for IRCs, any three peak hour trips added to IRC locations are considered an impact for which disclosure is necessary (e.g., 2 westbound plus 1 eastbound).

Impacts on Access or Circulation

The County may request improvements to existing roads to provide safe and efficient access and/or circulation. In some instances, the County may request provisions for future County roads identified in the Comprehensive Plan or in Small Area Transportation Studies. If so, the County will request specific additional information through the City.

Section Four (4) Traffic Mitigation Offer to Snohomish County

The applicant should complete a traffic mitigation offer to Snohomish County that summarizes the mitigation identified in the county traffic worksheet and any additional traffic study. This will facilitate timely review of the development and processing of the application. The form to use for the mitigation offer is titled “Traffic Mitigation Offer to Snohomish County.” This form is typically provided to all applicants along with this traffic study checklist. In addition, copies are available from the county contacts or the Snohomish County web site shown below.

Additional Information

County Web Site

Snohomish County Public Works has a web site with many documents related to traffic studies and mitigation requirements for developers. From the Snohomish County Home Page go to:

Departments/Public Works/Divisions/TES/ProgramPlanning/3066B

County Contacts

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