

MEMORANDUM

DATE: September 8, 2023

TO: Huey-Yi Sung, P.E.
King County, Traffic Development Review Engineer

FROM: Popa Pratyaksa, P.E.
TENW

SUBJECT: Creekside Village on Vashon
Level 1 Traffic Impact Analysis (TIA)
TENW Project No. 2023-080

RECEIVED
11/22/2023
DWEL23-0205
KING COUNTY DLS
PERMITTING DIVISION

Executive Summary

This memorandum documents the Level 1 Traffic Impact Analysis (TIA) completed for the proposed *Creekside Village on Vashon* project located at 16816 95th Lane SW, on the south side of SW Gorsuch Road, in King County, WA.

Project Proposal. The proposed project would develop 41 affordable housing dwelling units on a site that is currently occupied by 6 existing mobile home dwelling units; all existing mobile home units would be removed with the proposed project. Vehicular access to the site would be provided via a single full access driveway on SW Gorsuch Road. The future anticipated year of full buildout is 2025.

Trip Generation. The proposed project is estimated to generate 249 net new weekday daily trips, with 23 net new trips (7 in, 16 out) occurring during the weekday AM peak hour and 24 net new trips (14 in, 10 out) occurring during the weekday PM peak hour.

Intersection Level of Service (LOS). Weekday AM and PM peak hour LOS analyses were conducted at two (2) off-site stop-controlled study intersections: Vashon Hwy SW/SW Gorsuch Road and 93rd Ave SW/SW Gorsuch Road. The LOS analysis results indicate that all of the individual movements at both study intersections are anticipated to operate at LOS D or better in 2025 during the weekday AM and PM peak hours without or with the proposed project.

Crash History. Based on a review of WSDOT crash records for the 5-year period of January 1, 2017 to December 31, 2021, there were two (2) reported crashes at the intersection of Vashon Hwy SW/SW Gorsuch Road, no reported crashes at the intersection of 93rd Ave SW/SW Gorsuch Road, and one reported crash along SW Gorsuch Road between Vashon Hwy SW and 93rd Ave SW.

Site Access Operations. The individual movements at the proposed site access driveway on SW Gorsuch Road are estimated to operate at LOS A during the weekday AM and PM peak hours in 2025 with minimal queuing.

Sight Distance. Intersection (entering) and stopping sight distances at the proposed site access driveway location were determined to meet King County standards based on a design speed of 40 mph (posted speed + 5 mph). If required, a road standard variance application will be submitted separately to support the use of a 40-mph design speed (posted speed + 5 mph).

Mitigation.

Off-Site Improvements. Based on the results of the traffic analysis, both study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hours in 2025 with full buildout of the proposed project, meeting King County LOS standards. Therefore, no project-specific off-site transportation improvements are proposed.

Sight Distance Mitigation. To provide sufficient stopping sight distance (SSD) for vehicles approaching the site access location from the east, the applicant will coordinate with King County to clear and maintain the existing vegetation located along the north side of SW Gorsuch Road within the limits of public right-of-way.

Introduction

This memorandum documents the Level 1 Traffic Impact Analysis (TIA) completed for the proposed *Creekside Village on Vashon* project located at 16816 95th Lane SW, on the south side of SW Gorsuch Road, in King County, WA. The following items were addressed in this traffic impact analysis:

- Project Description
- Existing Transportation Conditions
- Crash History
- Planned Transportation Improvements
- Trip Generation
- Trip Distribution and Assignment
- Traffic Volume Forecasts
- Intersection Level of Service (LOS) Analysis
- Site Access Analysis (including AM and PM peak hour LOS and sight distance)
- Project Mitigation

Project Description

The *Creekside Village on Vashon* project is located at 16816 95th Lane SW, on the south side of SW Gorsuch Road in King County, WA (parcel # 2923039148). A site vicinity map is shown in **Figure 1**.

The proposed project would develop 41 affordable housing dwelling units. Based on King County Assessor data, the site is currently occupied by 6 mobile home dwelling units, all of which would be removed by the proposed project. Vehicular access to the site would be provided via a single full access driveway on SW Gorsuch Road. The future anticipated year of full buildout is 2025.

A preliminary site plan is provided in **Attachment A**.

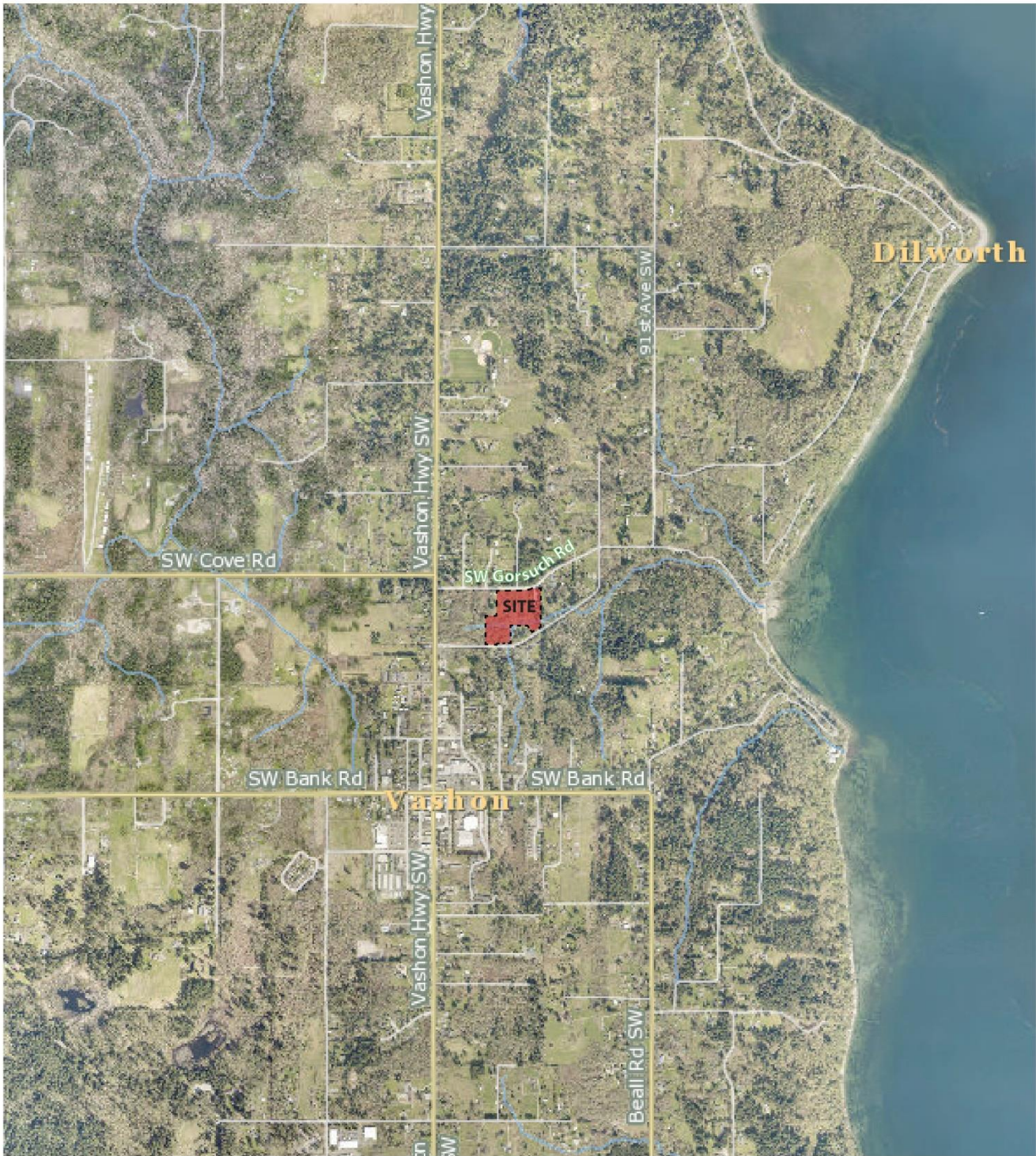


Figure 1: Project Site Vicinity



Existing Conditions

This section describes existing transportation system conditions in the study area. Existing conditions described include an inventory of existing roadway, public transportation services, non-motorized transportation facilities, crash history, peak hour traffic volumes, and intersection levels of service.

Roadway Network

Table 1 describes the existing characteristics of the streets in the project vicinity that would be used as primary routes to and from the site. Roadway characteristics are described in terms of orientation, roadway classification, number of lanes, posted speed limits, parking, and shoulder conditions. The relationship of these roadways to the project site is shown in **Figure 1**.

Table 1
Existing Roadway Network Summary – Project Site Vicinity

| Roadway | Orientation | Classification | Speed Limit (mph) | Number of Travel Lanes | Street Parking | Shoulder |
|-----------------|-------------|--------------------|-------------------|------------------------|----------------|----------|
| Vashon Hwy SW | North-South | Principal Arterial | 40 | 2 | None | Paved |
| SW Gorsuch Road | East-West | Rural Subcollector | 35 | 2 | None | None |

Transit Service

Transit service to and from the project vicinity is provided by King County Metro. The nearest public transit stops are located along Vashon Hwy SW south SW 171st Street, approximately one-half mile southwest of the project site. The transit stops provide access to King County Metro routes 118 and 119 which provide weekday and weekend service between Tahlequah Ferry Terminal and Vashon Ferry Terminal via Burton, Vashon, and Vashon Heights.

Non-Motorized Transportation Facilities

Sidewalks, bicycle lanes or other non-motorized transportation facilities are currently not provided along Vashon Hwy SW or SW Gorsuch Road.

Traffic Study Intersections

To assess traffic impact of the proposed *Creekside Village on Vashon* project, the following off-site study intersections were analyzed during the weekday AM and PM peak hour, as confirmed by King County staff: (1) Vashon Hwy SW/SW Gorsuch Road, and (2) 93rd Ave SW/SW Gorsuch Road.

Crash History

Crash history provided by WSDOT at the study intersections and the segment of SW Gorsuch Road between Vashon Hwy SW and 93rd Ave SW were analyzed for the 5-year period from January 1, 2017 to December 31, 2021. Summaries of the total and annual average crashes during this period are provided in **Table 2**. Summaries of crashes by type over the 5-year period are provided in **Table 3**.

Table 2
Crash Data Summary By Year, January 1, 2017 to December 31, 2021

| Location | 2017 | 2018 | 2019 | 2020 | 2021 | 5-Year Total Crashes | Average Annual Crash Rate | Crashes per MEV (MVM) ¹ |
|--|------|------|------|------|------|----------------------|---------------------------|------------------------------------|
| Intersections | | | | | | | | |
| 1. Vashon Hwy SW/SW Gorsuch Rd | 0 | 0 | 0 | 1 | 1 | 2 | 0.40 | 0.15 |
| 2. 93 rd Ave SW / SW Gorsuch Rd | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 |
| Road Segment | | | | | | | | |
| SW Gorsuch Rd (Vashon Hwy to 93 rd Ave SW) | 0 | 1 | 0 | 0 | 0 | 1 | 0.20 | 2.01 |

Source: WSDOT Crash Data.

1. MEV = Million Entering Vehicles for intersections. MVM = Million Vehicle Miles for road segments.

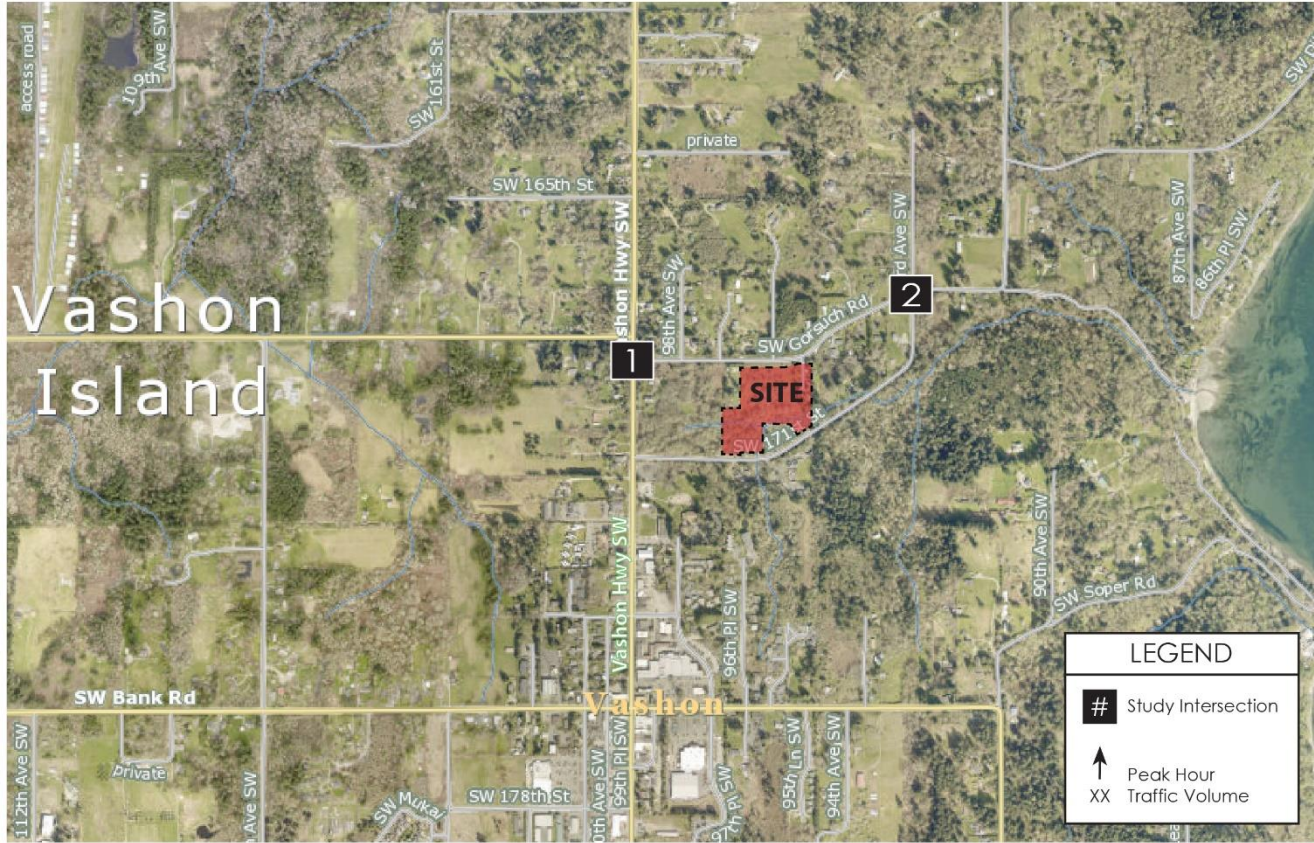
Table 3
Crash Data Summary By Type, January 1, 2017 to December 31, 2021

| Location | 5-Year Total Crashes | Average Annual Crash Rate | Crash Type | | | | | | |
|--|----------------------|---------------------------|--------------------|-----------|-----------|----------|---------------------------------|-------|--|
| | | | Angle (Left/Right) | Sideswipe | Angle (T) | Rear-End | Parked Vehicle/ Fixed Object | Other | |
| Intersections | | | | | | | | | |
| 1. Vashon Hwy SW/SW Gorsuch Rd | 2 | 0.40 | 2 | 0 | 0 | 0 | 0 | 0 | |
| 2. 93 rd Ave SW / SW Gorsuch Rd | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Road Segment | | | | | | | | | |
| SW Gorsuch Rd (Vashon Hwy to 93 rd Ave SW) | 1 | 0.20 | 1 | 0 | 0 | 0 | 0 | 0 | |

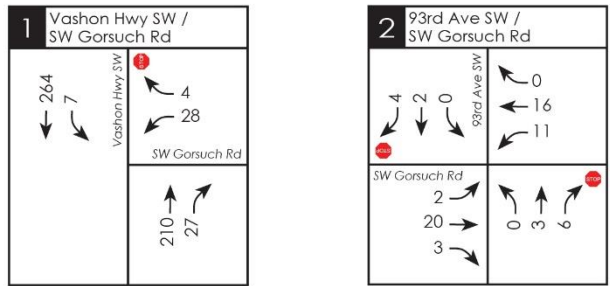
Source: WSDOT Crash Data.

Peak Hour Traffic Volumes

Year 2023 existing AM and PM peak hour traffic volumes at the off-site study intersections are based on turning movement counts collected in April 2023. The AM peak hour traffic volumes represent the highest hourly volume of vehicles passing through an intersection between 7:00 and 9:00 AM. The PM peak hour traffic volumes represent the highest hourly volume of vehicles passing through an intersection between 4:00 and 6:00 PM. The 2023 existing AM and PM peak hour traffic volumes are shown in **Figure 2**. The existing traffic count sheets are included in **Attachment B**.



AM Peak Hour



PM Peak Hour

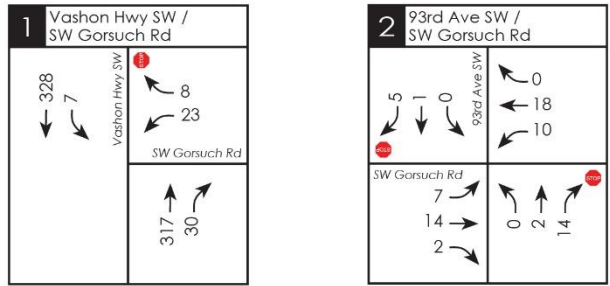


Figure 2: 2023 Existing Weekday Peak Hour Traffic Volumes

Intersection Levels of Service

Weekday AM and PM peak hour level of service (LOS) analysis was conducted at the 2 off-site study intersections based on scoping confirmation received from King County. Level of service calculations for intersections were based on the use of *Synchro 12* traffic analysis software. The 2023 existing weekday AM and PM peak hour LOS analysis results for the study intersections are summarized in **Table 4**. The LOS methodology and detailed LOS calculations are provided in **Attachment C**.

Table 4
Existing 2023 Weekday Peak Hour LOS Summary

| Study Intersection | AM Peak Hour | | PM Peak Hour | |
|--|--------------|-------------|--------------|-------------|
| | LOS | Delay (sec) | LOS | Delay (sec) |
| <i>Stop-Controlled:</i> | | | | |
| 1. Vashon Hwy SW/SW Gorsuch Rd | | | | |
| Westbound Approach | C | 16.2 | C | 24.9 |
| Southbound Left-Turn | A | 8.0 | A | 8.5 |
| 2. 93 rd Ave SW/SW Gorsuch Rd | | | | |
| Northbound Approach | A | 9.0 | A | 8.6 |
| Eastbound Left-Turn | A | 7.3 | A | 7.3 |
| Westbound Left-Turn | A | 7.3 | A | 7.3 |
| Southbound Approach | A | 8.8 | A | 8.6 |

As shown in **Table 4**, all individual movements at the study intersections currently operate at LOS C or better during the weekday AM and PM peak hours. King County has adopted a minimum LOS standard of LOS E.

Future Conditions

This section describes future conditions of the study area including planned transportation improvements, new trips generated by the proposed development, distribution and assignment of new project trips, projected future baseline traffic growth, intersection levels of service, site access evaluation, and identification of transportation mitigation to offset impacts.

Planned Transportation Improvements

Based on a review of the King County *2020 Transportation Needs Report (TNR)*, there are no planned improvements in the immediate project vicinity.

Project Trip Generation

The weekday daily, AM and PM peak hour trip generation estimates for the proposed and existing uses were calculated based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition (2021) for Land Use Code (LUC) 223 (Affordable Housing – Income Limits) and LUC 240 (Mobile Home Park).

The resulting net new weekday daily, AM and PM peak hour trips are summarized in **Table 5**. Detailed trip generation calculations are provided in **Attachment D**.

Table 5
Trip Generation Summary

| Weekday Time Period | Net New Trips Generated | | |
|---------------------|-------------------------|-----|-------|
| | In | Out | Total |
| Daily | 125 | 124 | 249 |
| AM Peak Hour | 7 | 16 | 23 |
| PM Peak Hour | 14 | 10 | 24 |

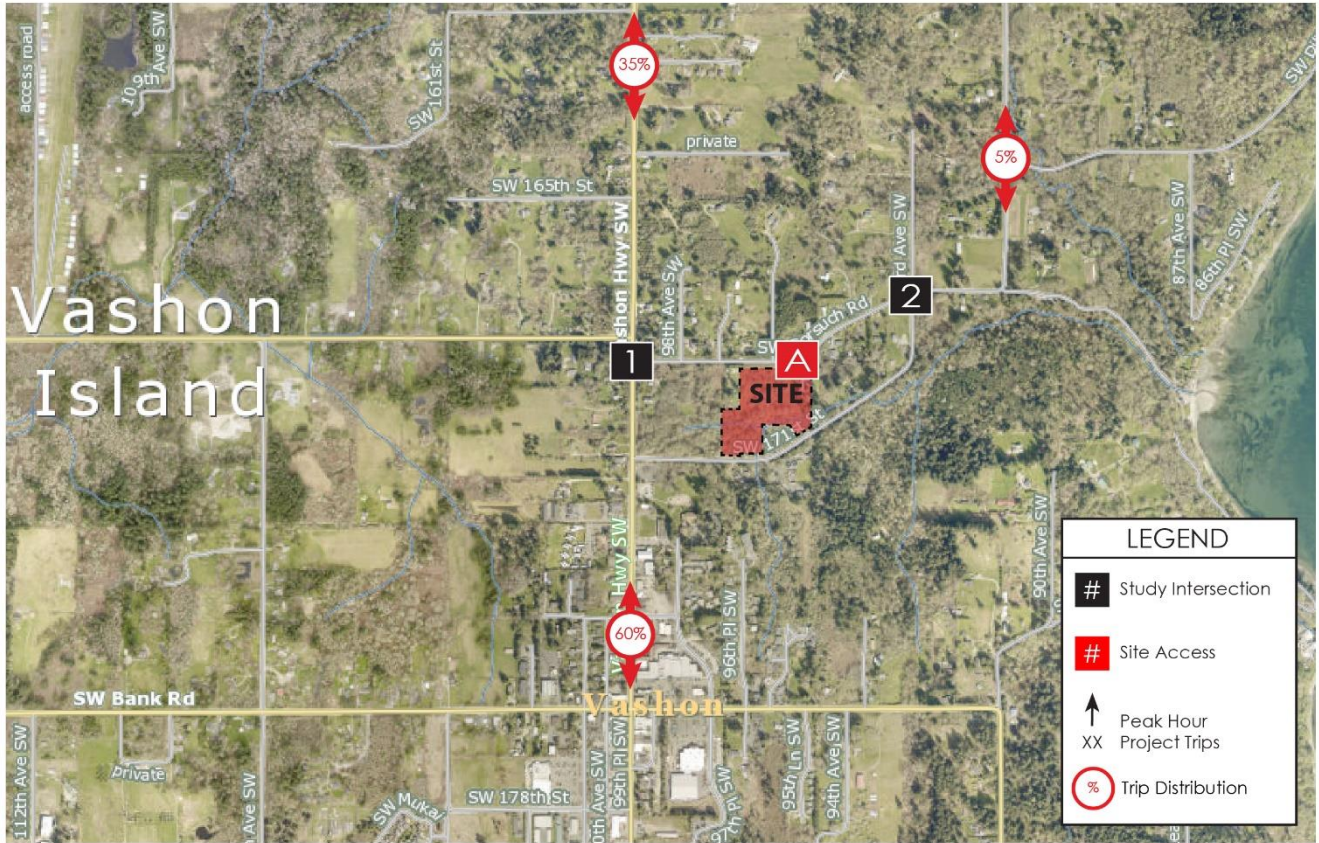
Project Trip Distribution and Assignment

The distribution of project trips generated by the proposed *Creekside Village on Vashon* project was estimated based on existing and anticipated travel patterns in the vicinity of the site and the location of population centers in the vicinity. Approximately 60 percent of project trips were estimated to be destined to/from the south on Vashon Hwy SW, 35 percent destined to/from the north on Vashon Hwy SW, and 5 percent destined to/from the northeast on 91st Ave SW. **Figure 3** illustrates the trip distribution and assignment of the new weekday AM and PM peak hour trips at the study intersections and proposed site access location.

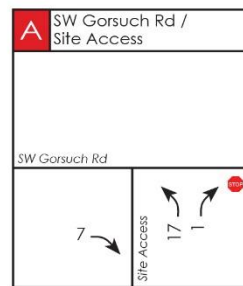
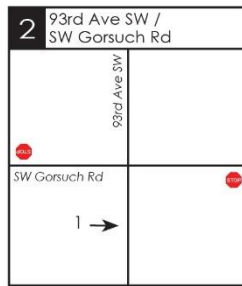
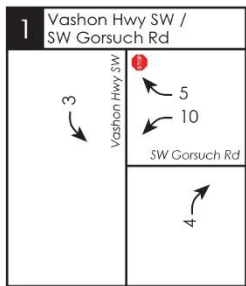
Future Traffic Volumes

A future buildout horizon year of 2025 was used for this analysis. To estimate future 2025 No Action (Without Project) weekday AM and PM peak hour traffic volumes, a 1.0 percent annual growth rate was applied to the 2023 existing traffic volumes (confirmed by King County staff). The annual growth rate is intended to account for background growth in existing traffic and other possible pipeline projects in the study area. The resulting future 2025 No Action weekday AM and PM peak hour traffic volumes at the study intersections are shown in **Figure 4**.

Future 2025 With Project traffic volumes at the study intersections and proposed site access location were determined by adding the project-generated trips (shown in **Figure 3**) to the 2025 No Action traffic volumes (**Figure 4**). The resulting 2025 With Project traffic volumes at the study intersections and site access location are shown in **Figure 5**.

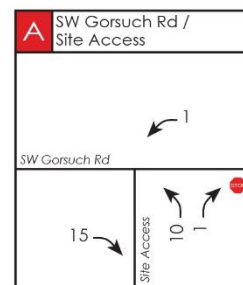
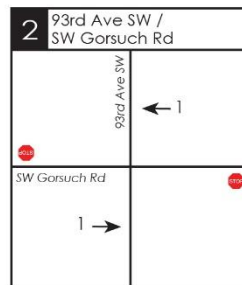
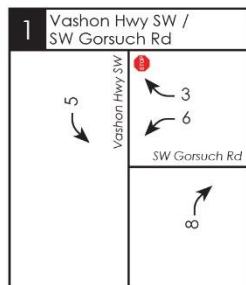


AM Peak Hour



Note: volumes shown at driveway are gross project trips.

PM Peak Hour

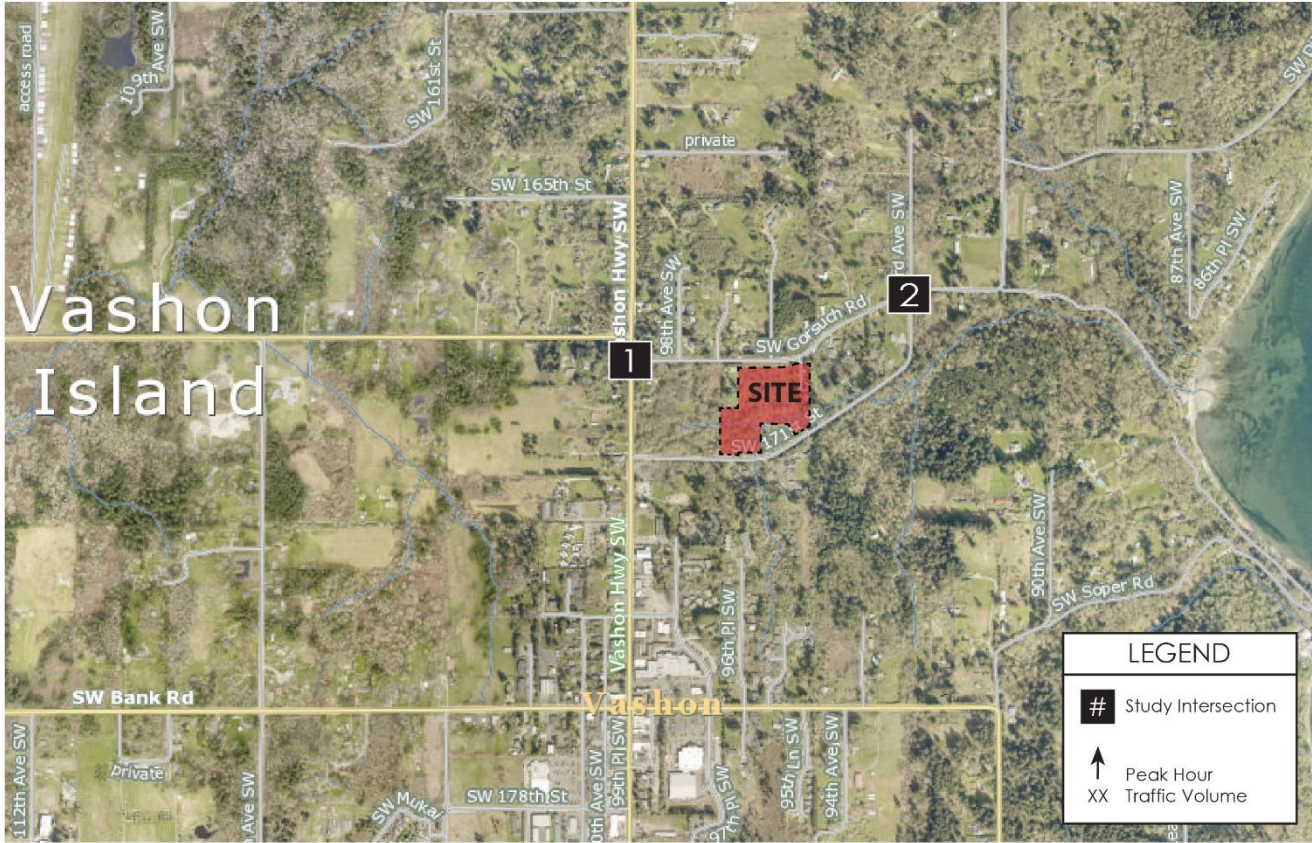


Note: volumes shown at driveway are gross project trips.

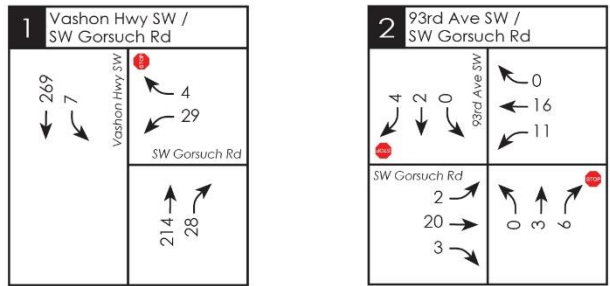


NOT TO SCALE

Figure 3: Weekday Peak Hour Project Trip Distribution and Assignment



AM Peak Hour



PM Peak Hour

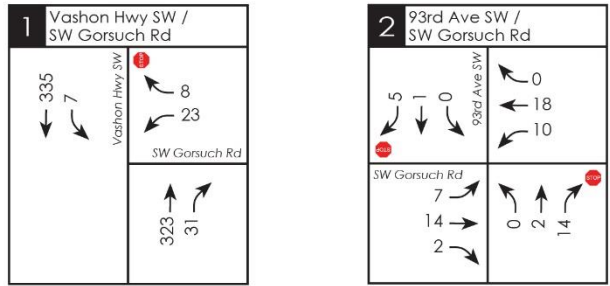
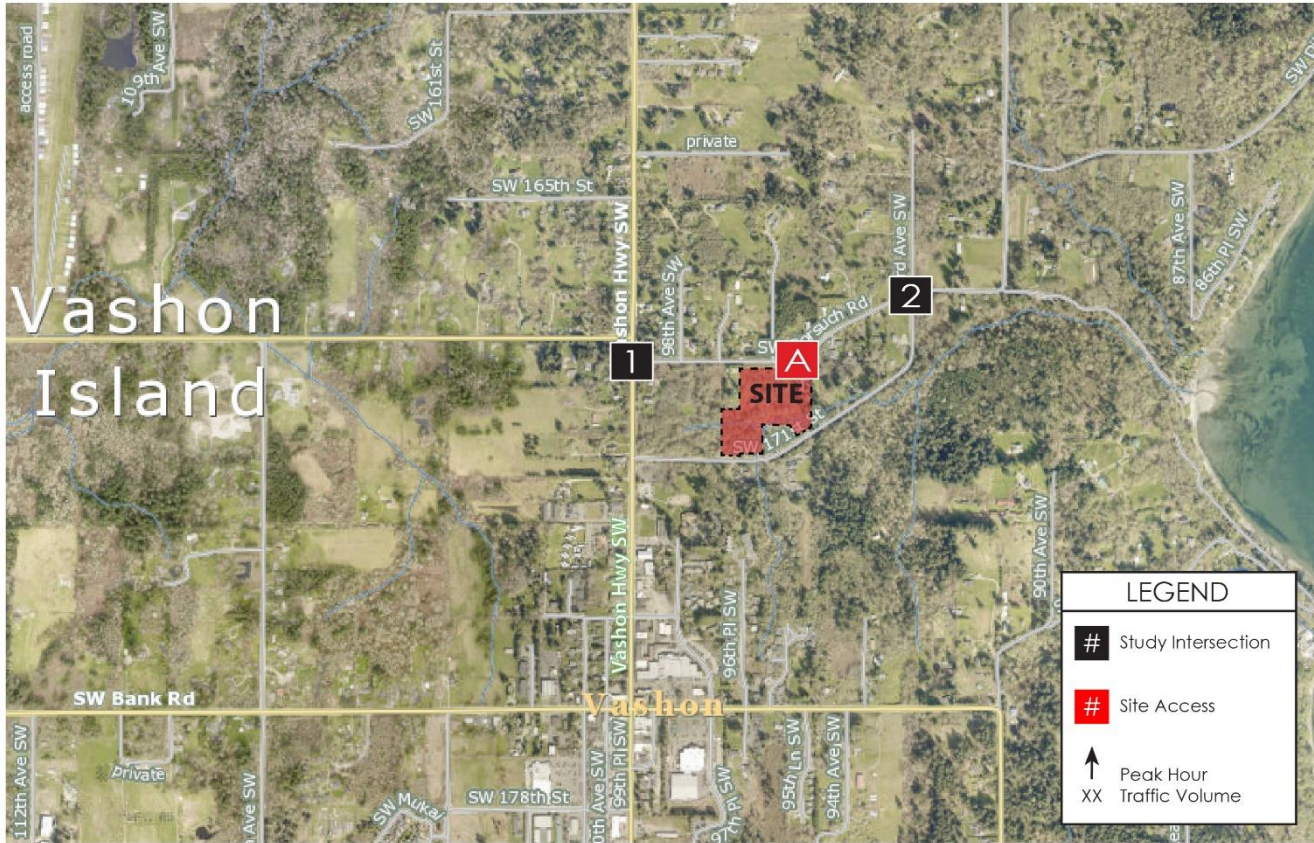
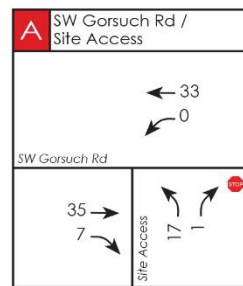
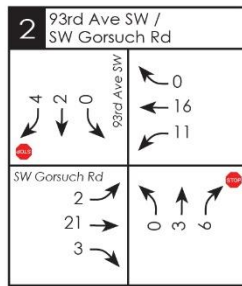
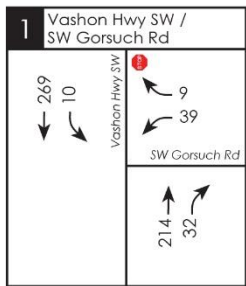


Figure 4: 2025 No Action Weekday Peak Hour Traffic Volumes



AM Peak Hour



PM Peak Hour

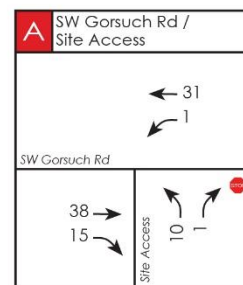
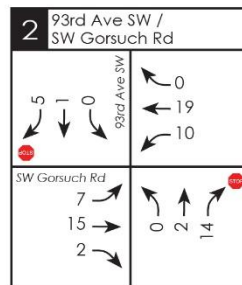
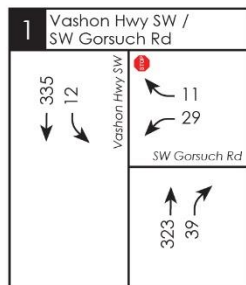


Figure 5: 2025 With Project Weekday Peak Hour Traffic Volumes

Intersection Levels of Service

Weekday AM and PM peak hour level of service (LOS) analyses were conducted at the off-site study intersections for future year 2025 conditions. The roadway network assumed in the future year 2025 LOS analysis was based on existing conditions.

The LOS results at the study intersections without and with the proposed project are summarized in **Table 6**. The detailed LOS worksheets are included in **Attachment C**.

Table 6
Future 2025 Weekday Peak Hour LOS Summary

| Study Intersection | 2025 No Action | | 2025 With Project | |
|--|----------------|-------------|-------------------|-------------|
| | LOS | Delay (sec) | LOS | Delay (sec) |
| AM Peak Hour | | | | |
| <i>Stop-Controlled:</i> | | | | |
| 1. Vashon Hwy SW/SW Gorsuch Rd | | | | |
| Westbound Approach | C | 16.5 | C | 17.0 |
| Southbound Left-Turn | A | 8.0 | A | 8.0 |
| 2. 93 rd Ave SW/SW Gorsuch Rd | | | | |
| Northbound Approach | A | 9.0 | A | 9.0 |
| Eastbound Left-Turn | A | 7.3 | A | 7.3 |
| Westbound Left-Turn | A | 7.3 | A | 7.3 |
| Southbound Approach | A | 8.8 | A | 8.8 |
| PM Peak Hour | | | | |
| <i>Stop-Controlled:</i> | | | | |
| 1. Vashon Hwy SW/SW Gorsuch Rd | | | | |
| Westbound Approach | D | 25.7 | D | 28.1 |
| Southbound Left-Turn | A | 8.5 | A | 8.6 |
| 2. 93 rd Ave SW/SW Gorsuch Rd | | | | |
| Northbound Approach | A | 8.6 | A | 8.6 |
| Eastbound Left-Turn | A | 7.3 | A | 7.3 |
| Westbound Left-Turn | A | 7.3 | A | 7.3 |
| Southbound Approach | A | 8.6 | A | 8.6 |

As shown in **Table 6**, all individual movements at the study intersections are anticipated to operate at LOS D or better during the weekday AM and PM peak hours in 2025 without or with the proposed project. King County has adopted a minimum LOS standard of LOS E.

Site Access Evaluation

This section documents the evaluation of the proposed full access driveway on SW Gorsuch Road with the proposed project, including LOS, queuing, and a sight distance assessment.

LOS and Queuing

To assess operations at the full access driveway on SW Gorsuch Road with the proposed project, LOS and queuing were evaluated during the weekday AM and PM peak hour for future year (2025) conditions. The reported queues for the individual movements at the proposed full access driveway are 95th-percentile queues, which are only exceeded five (5) percent of the time. The 2025 weekday peak hour traffic volumes at the full access driveway on SW Gorsuch Road were shown previously in **Figure 5**.

The results of the weekday peak hour site access analysis for future year (2025) conditions are summarized below in **Table 7**. The detailed LOS worksheets are included in **Attachment C**.

Table 7
Weekday Peak Hour Site Access LOS and Queue Summary

| Site Access / Movement | AM Peak Hour | | | PM Peak Hour | | |
|--------------------------------|--------------|-------------|-------------------------------|--------------|-------------|-------------------------------|
| | LOS | Delay (sec) | 95 th % Queue (ft) | LOS | Delay (sec) | 95 th % Queue (ft) |
| A. Site Access/SW Gorsuch Road | | | | | | |
| Northbound Approach (exiting) | A | 9.0 | < 25' | A | 9.0 | 0' |
| Westbound Left-Turn (entering) | A | 0.0 | 0' | A | 7.4 | 0' |

As shown in **Table 7**, the controlled entering and exiting movements at the proposed site access driveway on SW Gorsuch Road are anticipated to operate at LOS A in 2025 during the weekday AM and PM peak hours with minimal queuing.

Sight Distance

Intersection (entering) and stopping sight distances were evaluated at the proposed site access location on SW Gorsuch Road based on King County's *2016 Road Design and Construction Standards* and AASHTO's *A Policy on Geometric Design of Highways and Streets, 7th Edition, 2018*. The posted speed along SW Gorsuch Road is 35 mph. Sight distance was evaluated based on a design speed of 40 mph (posted speed + 5mph). If required, a road standard variance application will be submitted separately to support the use of a 40-mph design speed (posted speed + 5 mph).

Intersection (Entering) Sight Distance (ISD)

For a 40-mph design speed on SW Gorsuch Road, the minimum intersection sight distance (ISD) is 445 feet based on Table 2.1 of the King County *2016 Road Design and Construction Standards*. ISD is measured from a setback point on the minor street approach that is 14.5 feet back from the edge of the traveled way and 3.5 feet above the road surface, looking at an object height of 3.5 above the road surface.

Intersection sight distance exhibits (prepared by CPH Consultants) are included in **Attachment E**. As the exhibits show, ISD of 445 feet is available looking to the west and to the east from the proposed site access location, meeting King County standards for a 40-mph design speed.

Stopping Sight Distance (SSD)

For a 40-mph design speed on SW Gorsuch Road, the minimum stopping sight distance (SSD) on a level road is 305 feet. Approaching the proposed site access location from the west, SW Gorsuch Road has an average downgrade of 10 percent. Approaching the proposed site access location from the east, SW Gorsuch Road has an average upgrade of 5 percent. Based on these grades, the minimum SSDs were adjusted using King County and AASHTO guidelines. With a 10 percent downgrade and a 40-mph design speed, the adjusted minimum SSD from the west on SW Gorsuch Road is 363 feet. With a 5 percent upgrade and a 40-mph design speed, the adjusted minimum SSD from the east on SW Gorsuch Road is 285 feet. Per King County Standards, SSD is measured based on an object height of 2 feet and a driver's eye height of 3.5 feet.

Stopping sight distance exhibits (prepared by CPH Consultants) are included in **Attachment E**. As the exhibits show, the minimum required SSD of 363 feet would be met for vehicles on SW Gorsuch Road approaching from the west. For vehicles approaching from the east, the SSD is currently limited by existing vegetation located along the north side of SW Gorsuch Road. However, the exhibits demonstrate that if the vegetation is cleared and maintained within the limits of public right-of-way, the minimum required SSD of 285 feet would be met.

Photos looking to the east and west from the approximate location of the proposed site access driveway are shown on the following page.



View looking east from approximate location of proposed site access



View looking west from approximate location of proposed site access

Mitigation

The following summarizes the measures proposed to mitigate the transportation impacts of the proposed *Creekside Village on Vashon* project.

Off-Site Improvements. Based on the results of the traffic analysis, both study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hours in 2025 with full buildout of the proposed project, meeting King County LOS standards. Therefore, no project-specific off-site transportation improvements are proposed.

Sight Distance Mitigation. To provide sufficient stopping sight distance (SSD) for vehicles approaching the site access location from the east, the applicant will coordinate with King County to clear and maintain the existing vegetation located along the north side of SW Gorsuch Road within the limits of public right-of-way.

If you have any questions regarding the information presented in this memo, please contact Popa at 404-403-3556 or popa@tenw.com.

cc: Christopher Bric – Shelter America Group
Anna Galloway – SMR Architects
Chris Forster, P.E. – TENW

Attachments:

- A – Preliminary Site Plan
- B – Traffic Counts
- C – LOS Methodology and Calculations
- D – Trip Generation Calculations
- E – Sight Distance Exhibits (CPH Consultants)

ATTACHMENT A

Preliminary Site Plan



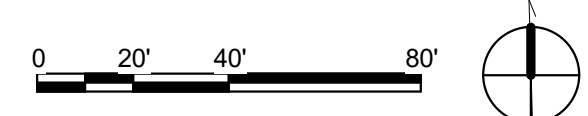
PROJECT DATA

ADDRESS OF PROPERTY: 16816 95TH LN SW, VASHON, WA 98070

ASSESSOR PARCEL NO.: 292303-9148

LEGAL DESCRIPTION: E 660 FT OF S 660 FT OF N 825 FT OF NW 1/4 OF SW 1/4 LY NWLY OF CO RD LESS W 132 FT OF N 330 FT LESS BEG AT NW COR NW 1/4 OF SW 1/4 TH RNG ALG W LN DUE S 602.6 FT TH N 89-34-00 E 962.1 FT TO IRON PIPE & TPOB TH CONTG N 89-34-00 E 197.5 FT TH S 33-23-00 E 100 FT M/L TO NW MGN OF SCHAEFFERS RD TH SW ALG SD MGN ABOUT 305 FT TO PT FR WCH TPOB BEARS DUE N TH DUE N 210 FT M/L TO TPOB LESS CO RD

1 SITE PLAN
SCALE: 1" = 40'-0"



SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285



CREEKSIDE VILLAGE ON VASHON

16816 95TH LN SW
VASHON, WA 98070
PERMIT SET

ISSUED SETS

| NO | DATE | DESCRIPTION |
|----|----------|-------------|
| 1 | 09.06.23 | PERMIT SET |

REVISIONS / NOTES

| NO | DATE | DESCRIPTION |
|----|------|-------------|
|----|------|-------------|

AHJ STAMP

TITLE
SITE PLAN

PERMIT #

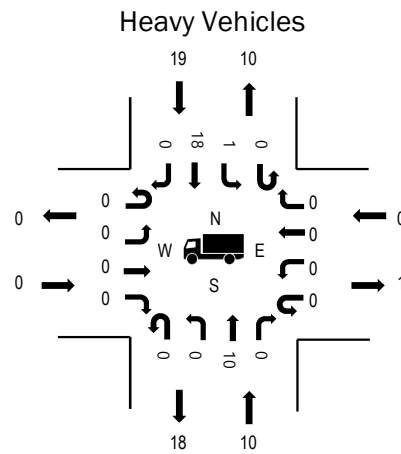
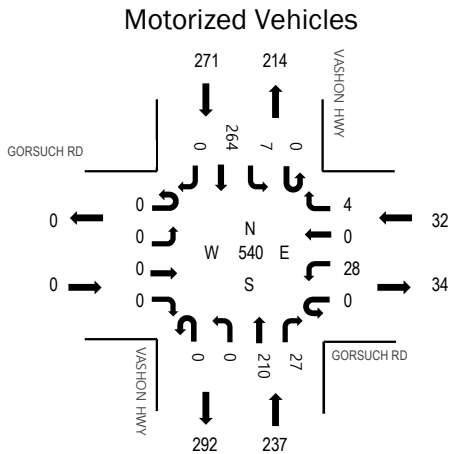
| | |
|------------|------------|
| DRAWN | GD, HJ, AG |
| CHECKED | AG, JW |
| ISSUE DATE | 06/30/23 |
| JOB NO. | 18060 |
| SHEET NO.: | |

A001

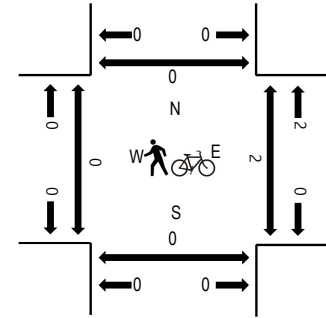
ATTACHMENT B

Traffic Counts

Peak Hour



Pedestrians/Bicycles in Crosswalk



| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 0.0% | 0.73 |
| NB | 4.2% | 0.74 |
| SB | 7.0% | 0.74 |
| All | 5.4% | 0.78 |

Traffic Counts - Motorized Vehicles

| Interval Start Time | GORSUCH RD Eastbound | | | | GORSUCH RD Westbound | | | | VASHON HWY Northbound | | | | VASHON HWY Southbound | | | | Total | Rolling Hour |
|---------------------|----------------------|------|------|-------|----------------------|------|------|-------|-----------------------|------|------|-------|-----------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 66 | 0 | 99 | 356 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 27 | 0 | 62 | 379 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 46 | 2 | 0 | 0 | 29 | 0 | 81 | 491 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 3 | 0 | 0 | 50 | 2 | 0 | 1 | 54 | 0 | 114 | 505 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 45 | 9 | 0 | 0 | 59 | 0 | 122 | 540 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 72 | 8 | 0 | 3 | 87 | 0 | 174 | |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 47 | 6 | 0 | 1 | 30 | 0 | 95 | |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 46 | 4 | 0 | 3 | 88 | 0 | 149 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 8 | 0 | 0 | 372 | 31 | 0 | 8 | 440 | 0 | 896 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 4 | 0 | 0 | 210 | 27 | 0 | 7 | 264 | 0 | 540 | |

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Total | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | | Total |
|---------------------|----------------|----|----|----|----|-------|---------------------|-----------------------------------|----|----|----|---|-------|
| | EB | NB | WB | SB | | | | EB | NB | WB | SB | | |
| 7:00 AM | 0 | 5 | 0 | 3 | 8 | 8 | 7:00 AM | 0 | 0 | 1 | 0 | 1 | |
| 7:15 AM | 0 | 3 | 0 | 2 | 5 | 5 | 7:15 AM | 0 | 0 | 1 | 0 | 1 | |
| 7:30 AM | 0 | 7 | 0 | 3 | 10 | 10 | 7:30 AM | 0 | 0 | 0 | 0 | 0 | |
| 7:45 AM | 0 | 4 | 0 | 4 | 8 | 8 | 7:45 AM | 0 | 0 | 0 | 0 | 0 | |
| 8:00 AM | 0 | 0 | 0 | 3 | 3 | 3 | 8:00 AM | 0 | 0 | 0 | 0 | 0 | |
| 8:15 AM | 0 | 1 | 0 | 10 | 11 | 11 | 8:15 AM | 0 | 0 | 0 | 0 | 0 | |
| 8:30 AM | 0 | 5 | 0 | 0 | 5 | 5 | 8:30 AM | 0 | 0 | 0 | 0 | 0 | |
| 8:45 AM | 0 | 4 | 0 | 6 | 10 | 10 | 8:45 AM | 0 | 0 | 2 | 0 | 2 | |
| Count Total | 0 | 29 | 0 | 31 | 60 | 60 | Count Total | 0 | 0 | 4 | 0 | 4 | |
| Peak Hour | 0 | 10 | 0 | 19 | 29 | 29 | Peak Hour | 0 | 0 | 2 | 0 | 2 | |



ALL TRAFFIC DATA SERVICES

(303) 216-2439

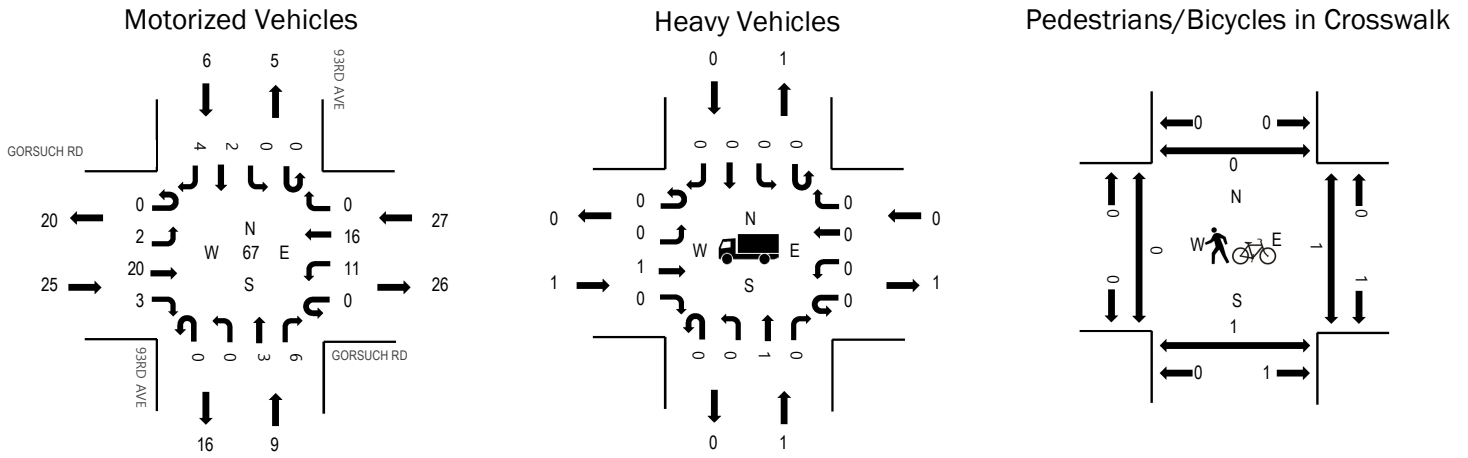
www.alltrafficdata.net

Location: 2 93RD AVE & GORSUCH RD AM

Date: Tuesday, April 25, 2023

Peak Hour: 08:00 AM - 09:00 AM

Peak Hour



| | HV% | PHF |
|-----|-------|------|
| EB | 4.0% | 0.78 |
| WB | 0.0% | 0.61 |
| NB | 11.1% | 0.56 |
| SB | 0.0% | 0.50 |
| All | 3.0% | 0.84 |

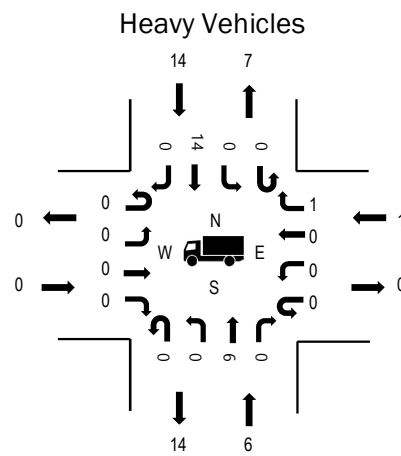
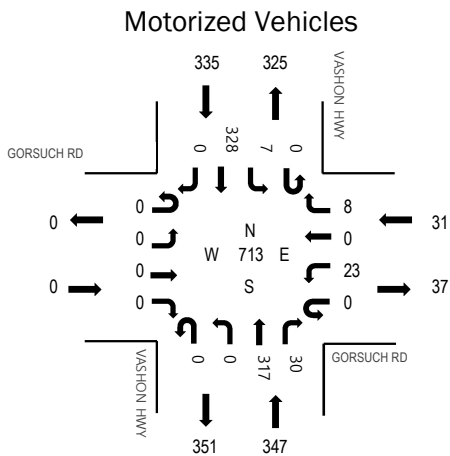
Traffic Counts - Motorized Vehicles

| Interval Start Time | GORSUCH RD Eastbound | | | | GORSUCH RD Westbound | | | | 93RD AVE Northbound | | | | 93RD AVE Southbound | | | | Total | Rolling Hour |
|---------------------|----------------------|------|------|-------|----------------------|------|------|-------|---------------------|------|------|-------|---------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 13 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 32 |
| 7:30 AM | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 48 |
| 7:45 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 59 |
| 8:00 AM | 0 | 0 | 8 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 20 | 67 |
| 8:15 AM | 0 | 1 | 3 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 2 | 17 | |
| 8:30 AM | 0 | 1 | 4 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 15 | |
| 8:45 AM | 0 | 0 | 5 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | |
| Count Total | 0 | 2 | 23 | 4 | 0 | 11 | 22 | 0 | 0 | 0 | 3 | 8 | 0 | 0 | 2 | 5 | 80 | |
| Peak Hour | 0 | 2 | 20 | 3 | 0 | 11 | 16 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 2 | 4 | 67 | |

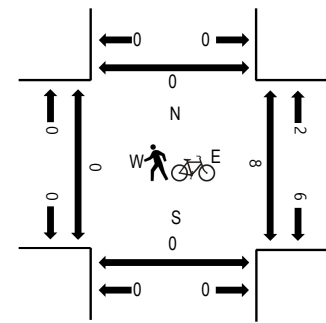
Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 7:00 AM | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 7:15 AM | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 7:30 AM | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 1 | 0 | 0 | 0 | 1 | 7:45 AM | 1 | 0 | 0 | 0 | 1 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 8:00 AM | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 1 | 0 | 0 | 1 | 8:15 AM | 0 | 0 | 1 | 0 | 1 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 8:30 AM | 0 | 1 | 0 | 0 | 1 |
| 8:45 AM | 1 | 0 | 0 | 0 | 1 | 8:45 AM | 0 | 0 | 0 | 0 | 0 |
| Count Total | 2 | 1 | 0 | 0 | 3 | Count Total | 1 | 1 | 1 | 0 | 3 |
| Peak Hour | 1 | 1 | 0 | 0 | 2 | Peak Hour | 0 | 1 | 1 | 0 | 2 |

Peak Hour



Pedestrians/Bicycles in Crosswalk



| | HV% | PHF |
|-----|------|------|
| EB | 0.0% | 0.00 |
| WB | 3.2% | 0.86 |
| NB | 1.7% | 0.83 |
| SB | 4.2% | 0.48 |
| All | 2.9% | 0.70 |

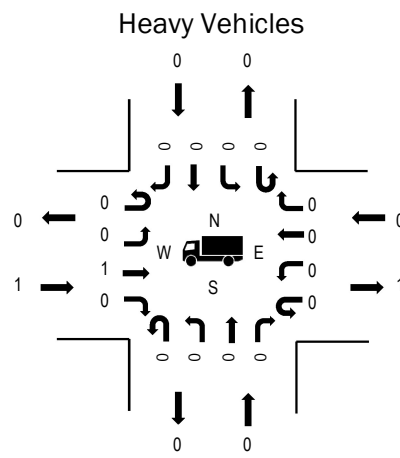
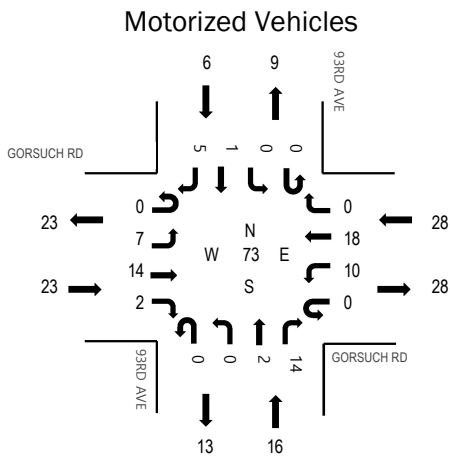
Traffic Counts - Motorized Vehicles

| Interval Start Time | GORSUCH RD Eastbound | | | | GORSUCH RD Westbound | | | | VASHON HWY Northbound | | | | VASHON HWY Southbound | | | | Total | Rolling Hour |
|---------------------|----------------------|------|------|-------|----------------------|------|------|-------|-----------------------|------|------|-------|-----------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 89 | 9 | 0 | 0 | 45 | 0 | 153 | 591 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 86 | 8 | 0 | 2 | 45 | 0 | 152 | 692 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 89 | 10 | 0 | 1 | 59 | 0 | 166 | 713 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 1 | 0 | 0 | 69 | 2 | 0 | 1 | 39 | 0 | 120 | 686 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 66 | 6 | 0 | 4 | 172 | 0 | 254 | 654 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 0 | 0 | 93 | 12 | 0 | 1 | 58 | 0 | 173 | |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 78 | 6 | 0 | 0 | 46 | 0 | 139 | |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 46 | 2 | 0 | 2 | 35 | 0 | 88 | |
| Count Total | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 11 | 0 | 0 | 616 | 55 | 0 | 11 | 499 | 0 | 1,245 | |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 8 | 0 | 0 | 317 | 30 | 0 | 7 | 328 | 0 | 713 | |

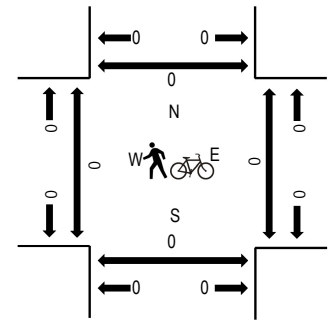
Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 3 | 0 | 2 | 5 | 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 3 | 0 | 2 | 5 | 4:15 PM | 0 | 0 | 2 | 0 | 2 |
| 4:30 PM | 0 | 1 | 0 | 8 | 9 | 4:30 PM | 0 | 0 | 2 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 2 | 2 | 4:45 PM | 0 | 0 | 1 | 0 | 1 |
| 5:00 PM | 0 | 2 | 0 | 3 | 5 | 5:00 PM | 0 | 0 | 2 | 0 | 2 |
| 5:15 PM | 0 | 3 | 1 | 1 | 5 | 5:15 PM | 0 | 0 | 3 | 0 | 3 |
| 5:30 PM | 0 | 1 | 0 | 0 | 1 | 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 1 | 1 | 5:45 PM | 0 | 0 | 1 | 0 | 1 |
| Count Total | 0 | 13 | 1 | 19 | 33 | Count Total | 0 | 0 | 11 | 0 | 11 |
| Peak Hour | 0 | 6 | 1 | 14 | 21 | Peak Hour | 0 | 0 | 8 | 0 | 8 |

Peak Hour



Pedestrians/Bicycles in Crosswalk



| | HV% | PHF |
|-----|------|------|
| EB | 4.3% | 0.72 |
| WB | 0.0% | 0.88 |
| NB | 0.0% | 0.57 |
| SB | 0.0% | 0.50 |
| All | 1.4% | 0.79 |

Traffic Counts - Motorized Vehicles

| Interval Start Time | GORSUCH RD Eastbound | | | | GORSUCH RD Westbound | | | | 93RD AVE Northbound | | | | 93RD AVE Southbound | | | | Total | Rolling Hour |
|---------------------|----------------------|------|------|-------|----------------------|------|------|-------|---------------------|------|------|-------|---------------------|------|------|-------|-------|--------------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | |
| 4:00 PM | 0 | 0 | 5 | 2 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 18 | 68 |
| 4:15 PM | 0 | 2 | 4 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | 73 |
| 4:30 PM | 0 | 2 | 5 | 1 | 0 | 1 | 7 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 21 | 72 |
| 4:45 PM | 0 | 1 | 2 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 14 | 64 |
| 5:00 PM | 0 | 2 | 3 | 1 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 2 | 23 | 61 |
| 5:15 PM | 0 | 1 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | |
| 5:30 PM | 0 | 0 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 13 | |
| 5:45 PM | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 11 | |
| Count Total | 0 | 8 | 31 | 4 | 0 | 16 | 36 | 0 | 0 | 1 | 3 | 22 | 0 | 0 | 2 | 6 | 129 | |
| Peak Hour | 0 | 7 | 14 | 2 | 0 | 10 | 18 | 0 | 0 | 0 | 2 | 14 | 0 | 0 | 1 | 5 | 73 | |

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---------------------|----------------|----|----|----|-------|---------------------|-----------------------------------|----|----|----|-------|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 1 | 0 | 0 | 0 | 1 | 4:15 PM | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4:45 PM | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 5:00 PM | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 5:15 PM | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 1 | 0 | 1 | 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 5:45 PM | 0 | 1 | 0 | 0 | 1 |
| Count Total | 1 | 0 | 1 | 0 | 2 | Count Total | 0 | 1 | 0 | 0 | 1 |
| Peak Hour | 1 | 0 | 0 | 0 | 1 | Peak Hour | 0 | 0 | 0 | 0 | 0 |

ATTACHMENT C

Level of Service Methodology and Calculations

Level of Service Methodology

Level of Service (LOS) generally refers to the degree of congestion at an intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS.

Signalized Intersection LOS represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only). The table below outlines the HCM (7th Edition) LOS criteria for signalized intersections.

LOS Criteria for Signalized Intersections ¹

| Control Delay (sec/veh) | Level of Service ² | General Description ³ |
|-------------------------|-------------------------------|--|
| ≤ 10 | A | Exceptionally Favorable Progression (or very short cycle lengths) – Most vehicles arrive during the green indication and travel through the intersection without stopping. |
| > 10 to ≤ 20 | B | Highly Favorable Progression (or short cycle lengths) – While more vehicles than LOS A stop, most vehicles still pass through the intersection without stopping. |
| > 20 to ≤ 35 | C | Favorable Progression (or moderate cycle lengths) – Individual cycle failures begin to appear, but many vehicles still pass through the intersection without stopping. |
| > 35 to ≤ 55 | D | Ineffective Progression (or long cycle lengths) – Many vehicles stop and individual cycle failures are noticeable. |
| > 55 to ≤ 80 | E | Unfavorable Progression (and long cycle lengths) – Individual cycle failures are frequent. |
| > 80 | F | Very Poor Progression (and long cycle lengths) – Most cycles fail to clear the queue at this level. |

¹ Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2022.

² If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

³ Individual cycle failures: one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle.

Synchro 12 and/or HCM 2000 LOS methodology may be used when HCM 7th Edition methodology is not supported at an intersection (i.e., intersection geometry and/or custom phasing) or jurisdictional standards require use of an alternative methodology.

Unsignalized Intersection LOS (two-way stop control, all-way stop control, and roundabouts) is based on the average control delay. For two-way stop-controlled intersections, the LOS criteria apply to each controlled minor-street approach, controlled minor-street lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group LOS only). LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop-controlled intersections. For all-way stop-controlled intersections and roundabouts, LOS can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only). The table below outlines the HCM (7th Edition) LOS criteria for unsignalized intersections based on these methodologies.

LOS Criteria for Unsignalized Intersections¹

| Control Delay (sec/veh) | Level of Service ² |
|-------------------------|-------------------------------|
| ≤ 10 | A |
| > 10 to ≤ 15 | B |
| > 15 to ≤ 25 | C |
| > 25 to ≤ 35 | D |
| > 35 to ≤ 50 | E |
| > 50 | F |

¹ Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2022.

² If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at unsignalized intersections, LOS is defined solely by control delay.

2023 Existing

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 28 | 4 | 210 | 27 | 7 | 264 |
| Future Volume (vph) | 28 | 4 | 210 | 27 | 7 | 264 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 2 | 2 | |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles (%) | 0% | 0% | 4% | 4% | 7% | 7% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | TT | | TT | | | TT |
| Traffic Vol, veh/h | 28 | 4 | 210 | 27 | 7 | 264 |
| Future Vol, veh/h | 28 | 4 | 210 | 27 | 7 | 264 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 2 | 2 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, % | 0 | 0 | 4 | 4 | 7 | 7 |
| Mvmt Flow | 36 | 5 | 269 | 35 | 9 | 338 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 645 | 289 | 0 | 0 | 306 | 0 |
| Stage 1 | 289 | - | - | - | - | - |
| Stage 2 | 356 | - | - | - | - | - |
| Critical Hdwy | 7.8 | 6.9 | - | - | 4.17 | - |
| Critical Hdwy Stg 1 | 6.8 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.8 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | - | - | 2.263 | - |
| Pot Cap-1 Maneuver | 342 | 714 | - | - | 1227 | - |
| Stage 1 | 684 | - | - | - | - | - |
| Stage 2 | 621 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 339 | 713 | - | - | 1225 | - |
| Mov Cap-2 Maneuver | 339 | - | - | - | - | - |
| Stage 1 | 683 | - | - | - | - | - |
| Stage 2 | 615 | - | - | - | - | - |

| Approach | WB | NB | SB |
|--------------------------|-----|----|------|
| HCM Control Delay, s/veh | 6.2 | 0 | 0.21 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|-------|-------|
| Capacity (veh/h) | - | - | 362 | 46 |
| HCM Lane V/C Ratio | - | - | 0.113 | 0.007 |
| HCM Control Delay (s/veh) | - | - | 16.2 | 8 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Volume (vph) | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | 1 | 1 | | |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 11% | 11% | 11% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Vol, veh/h | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 11 | 11 | 11 | 0 | 0 | 0 |
| Mvmt Flow | 2 | 24 | 4 | 13 | 19 | 0 | 0 | 4 | 7 | 0 | 2 | 5 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-----|------|
| Conflicting Flow All | 19 | 0 | 0 | 28 | 0 | 0 | 78 | 77 | 28 | 77 | 78 | 19 |
| Stage 1 | - | - | - | - | - | - | 31 | 31 | - | 45 | 45 | - |
| Stage 2 | - | - | - | - | - | - | 46 | 45 | - | 31 | 33 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.41 | 7.81 | 6.91 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.599 | 4.099 | 3.399 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1584 | - | - | 1598 | - | - | 867 | 777 | 1018 | 918 | 816 | 1065 |
| Stage 1 | - | - | - | - | - | - | 953 | 843 | - | 974 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 930 | 827 | - | 990 | 871 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1584 | - | - | 1597 | - | - | 851 | 768 | 1016 | 897 | 807 | 1065 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 851 | 768 | - | 897 | 807 | - |
| Stage 1 | - | - | - | - | - | - | 950 | 840 | - | 966 | 854 | - |
| Stage 2 | - | - | - | - | - | - | 916 | 820 | - | 977 | 869 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|--------------------------|------|--|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/veh | 0.58 | | | 2.96 | | | 8.97 | | | 8.77 | | |
| HCM LOS | A | | | A | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 917 | 140 | - | - | 733 | - | - | 962 |
| HCM Lane V/C Ratio | 0.012 | 0.002 | - | - | 0.008 | - | - | 0.007 |
| HCM Control Delay (s/veh) | 9 | 7.3 | 0 | - | 7.3 | 0 | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 23 | 8 | 317 | 30 | 7 | 328 |
| Future Volume (vph) | 23 | 8 | 317 | 30 | 7 | 328 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 8 | 8 | |
| Peak Hour Factor | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| Heavy Vehicles (%) | 3% | 3% | 2% | 2% | 4% | 4% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | W | T | T | T | T | T |
| Traffic Vol, veh/h | 23 | 8 | 317 | 30 | 7 | 328 |
| Future Vol, veh/h | 23 | 8 | 317 | 30 | 7 | 328 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 8 | 8 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 70 | 70 | 70 | 70 | 70 | 70 |
| Heavy Vehicles, % | 3 | 3 | 2 | 2 | 4 | 4 |
| Mvmt Flow | 33 | 11 | 453 | 43 | 10 | 469 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 971 | 482 | 0 | 0 | 504 | 0 |
| Stage 1 | 482 | - | - | - | - | - |
| Stage 2 | 489 | - | - | - | - | - |
| Critical Hdwy | 7.83 | 6.93 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 6.83 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.83 | - | - | - | - | - |
| Follow-up Hdwy | 3.527 | 3.327 | - | - | 2.236 | - |
| Pot Cap-1 Maneuver | 191 | 530 | - | - | 1051 | - |
| Stage 1 | 513 | - | - | - | - | - |
| Stage 2 | 508 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 188 | 526 | - | - | 1043 | - |
| Mov Cap-2 Maneuver | 188 | - | - | - | - | - |
| Stage 1 | 509 | - | - | - | - | - |
| Stage 2 | 502 | - | - | - | - | - |

| Approach | WB | NB | SB |
|--------------------------|-------|----|------|
| HCM Control Delay, s/veh | 24.89 | 0 | 0.18 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|-------|------|
| Capacity (veh/h) | - | - | 225 | 38 |
| HCM Lane V/C Ratio | - | - | 0.197 | 0.01 |
| HCM Control Delay (s/veh) | - | - | 24.9 | 8.5 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.7 | 0 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Volume (vph) | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Vol, veh/h | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 9 | 18 | 3 | 13 | 23 | 0 | 0 | 3 | 18 | 0 | 1 | 6 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-----|------|--------|-----|------|
| Conflicting Flow All | 23 | 0 | 0 | 20 | 0 | 0 | 85 | 85 | 19 | 85 | 86 | 23 |
| Stage 1 | - | - | - | - | - | - | 37 | 37 | - | 48 | 48 | - |
| Stage 2 | - | - | - | - | - | - | 49 | 48 | - | 37 | 38 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.3 | 7.7 | 6.8 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1580 | - | - | 1609 | - | - | 880 | 787 | 1062 | 907 | 808 | 1060 |
| Stage 1 | - | - | - | - | - | - | 972 | 858 | - | 970 | 859 | - |
| Stage 2 | - | - | - | - | - | - | 954 | 845 | - | 984 | 867 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1580 | - | - | 1609 | - | - | 862 | 776 | 1062 | 876 | 797 | 1060 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 862 | 776 | - | 876 | 797 | - |
| Stage 1 | - | - | - | - | - | - | 966 | 853 | - | 963 | 852 | - |
| Stage 2 | - | - | - | - | - | - | 939 | 838 | - | 959 | 862 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|--------------------------|------|--|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/veh | 2.22 | | | 2.59 | | | 8.62 | | | 8.61 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1015 | 534 | - | - | 643 | - | - | 1005 |
| HCM Lane V/C Ratio | 0.02 | 0.006 | - | - | 0.008 | - | - | 0.008 |
| HCM Control Delay (s/veh) | 8.6 | 7.3 | 0 | - | 7.3 | 0 | - | 8.6 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

2025 No Action

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 29 | 4 | 214 | 28 | 7 | 269 |
| Future Volume (vph) | 29 | 4 | 214 | 28 | 7 | 269 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 2 | 2 | |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles (%) | 0% | 0% | 4% | 4% | 7% | 7% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | TT | | T | | | T |
| Traffic Vol, veh/h | 29 | 4 | 214 | 28 | 7 | 269 |
| Future Vol, veh/h | 29 | 4 | 214 | 28 | 7 | 269 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 2 | 2 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, % | 0 | 0 | 4 | 4 | 7 | 7 |
| Mvmt Flow | 37 | 5 | 274 | 36 | 9 | 345 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 657 | 294 | 0 | 0 | 312 | 0 |
| Stage 1 | 294 | - | - | - | - | - |
| Stage 2 | 363 | - | - | - | - | - |
| Critical Hdwy | 7.8 | 6.9 | - | - | 4.17 | - |
| Critical Hdwy Stg 1 | 6.8 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.8 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | - | - | 2.263 | - |
| Pot Cap-1 Maneuver | 335 | 708 | - | - | 1220 | - |
| Stage 1 | 678 | - | - | - | - | - |
| Stage 2 | 615 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 331 | 707 | - | - | 1218 | - |
| Mov Cap-2 Maneuver | 331 | - | - | - | - | - |
| Stage 1 | 677 | - | - | - | - | - |
| Stage 2 | 609 | - | - | - | - | - |

| Approach | WB | NB | SB |
|--------------------------|-------|----|-----|
| HCM Control Delay, s/veh | 16.53 | 0 | 0.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|-------|-------|
| Capacity (veh/h) | - | - | 354 | 46 |
| HCM Lane V/C Ratio | - | - | 0.119 | 0.007 |
| HCM Control Delay (s/veh) | - | - | 16.5 | 8 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Volume (vph) | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | 1 | 1 | | |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 11% | 11% | 11% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Vol, veh/h | 2 | 20 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 11 | 11 | 11 | 0 | 0 | 0 |
| Mvmt Flow | 2 | 24 | 4 | 13 | 19 | 0 | 0 | 4 | 7 | 0 | 2 | 5 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-----|------|
| Conflicting Flow All | 19 | 0 | 0 | 28 | 0 | 0 | 78 | 77 | 28 | 77 | 78 | 19 |
| Stage 1 | - | - | - | - | - | - | 31 | 31 | - | 45 | 45 | - |
| Stage 2 | - | - | - | - | - | - | 46 | 45 | - | 31 | 33 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.41 | 7.81 | 6.91 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.599 | 4.099 | 3.399 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1584 | - | - | 1598 | - | - | 867 | 777 | 1018 | 918 | 816 | 1065 |
| Stage 1 | - | - | - | - | - | - | 953 | 843 | - | 974 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 930 | 827 | - | 990 | 871 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1584 | - | - | 1597 | - | - | 851 | 768 | 1016 | 897 | 807 | 1065 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 851 | 768 | - | 897 | 807 | - |
| Stage 1 | - | - | - | - | - | - | 950 | 840 | - | 966 | 854 | - |
| Stage 2 | - | - | - | - | - | - | 916 | 820 | - | 977 | 869 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|--------------------------|------|--|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/veh | 0.58 | | | 2.96 | | | 8.97 | | | 8.77 | | |
| HCM LOS | A | | | A | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 917 | 140 | - | - | 733 | - | - | 962 |
| HCM Lane V/C Ratio | 0.012 | 0.002 | - | - | 0.008 | - | - | 0.007 |
| HCM Control Delay (s/veh) | 9 | 7.3 | 0 | - | 7.3 | 0 | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 23 | 8 | 323 | 31 | 7 | 335 |
| Future Volume (vph) | 23 | 8 | 323 | 31 | 7 | 335 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 8 | 8 | |
| Peak Hour Factor | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| Heavy Vehicles (%) | 3% | 3% | 2% | 2% | 4% | 4% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | W | T | T | T | T | T |
| Traffic Vol, veh/h | 23 | 8 | 323 | 31 | 7 | 335 |
| Future Vol, veh/h | 23 | 8 | 323 | 31 | 7 | 335 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 8 | 8 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 70 | 70 | 70 | 70 | 70 | 70 |
| Heavy Vehicles, % | 3 | 3 | 2 | 2 | 4 | 4 |
| Mvmt Flow | 33 | 11 | 461 | 44 | 10 | 479 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 990 | 492 | 0 | 0 | 514 | 0 |
| Stage 1 | 492 | - | - | - | - | - |
| Stage 2 | 499 | - | - | - | - | - |
| Critical Hdwy | 7.83 | 6.93 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 6.83 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.83 | - | - | - | - | - |
| Follow-up Hdwy | 3.527 | 3.327 | - | - | 2.236 | - |
| Pot Cap-1 Maneuver | 185 | 523 | - | - | 1042 | - |
| Stage 1 | 506 | - | - | - | - | - |
| Stage 2 | 501 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 181 | 519 | - | - | 1034 | - |
| Mov Cap-2 Maneuver | 181 | - | - | - | - | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 494 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---------------------------|----|----|------|
| HCM Control Delay, s/25.7 | | 0 | 0.17 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|-------|------|
| Capacity (veh/h) | - | - | 218 | 37 |
| HCM Lane V/C Ratio | - | - | 0.203 | 0.01 |
| HCM Control Delay (s/veh) | - | - | 25.7 | 8.5 |
| HCM Lane LOS | - | - | D | A |
| HCM 95th %tile Q(veh) | - | - | 0.7 | 0 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Volume (vph) | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Vol, veh/h | 7 | 14 | 2 | 10 | 18 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 9 | 18 | 3 | 13 | 23 | 0 | 0 | 3 | 18 | 0 | 1 | 6 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-----|------|--------|-----|------|
| Conflicting Flow All | 23 | 0 | 0 | 20 | 0 | 0 | 85 | 85 | 19 | 85 | 86 | 23 |
| Stage 1 | - | - | - | - | - | - | 37 | 37 | - | 48 | 48 | - |
| Stage 2 | - | - | - | - | - | - | 49 | 48 | - | 37 | 38 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.3 | 7.7 | 6.8 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1580 | - | - | 1609 | - | - | 880 | 787 | 1062 | 907 | 808 | 1060 |
| Stage 1 | - | - | - | - | - | - | 972 | 858 | - | 970 | 859 | - |
| Stage 2 | - | - | - | - | - | - | 954 | 845 | - | 984 | 867 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1580 | - | - | 1609 | - | - | 862 | 776 | 1062 | 876 | 797 | 1060 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 862 | 776 | - | 876 | 797 | - |
| Stage 1 | - | - | - | - | - | - | 966 | 853 | - | 963 | 852 | - |
| Stage 2 | - | - | - | - | - | - | 939 | 838 | - | 959 | 862 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|--------------------------|------|--|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/veh | 2.22 | | | 2.59 | | | 8.62 | | | 8.61 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1015 | 534 | - | - | 643 | - | - | 1005 |
| HCM Lane V/C Ratio | 0.02 | 0.006 | - | - | 0.008 | - | - | 0.008 |
| HCM Control Delay (s/veh) | 8.6 | 7.3 | 0 | - | 7.3 | 0 | - | 8.6 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

2025 With Project

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 39 | 9 | 214 | 32 | 10 | 269 |
| Future Volume (vph) | 39 | 9 | 214 | 32 | 10 | 269 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 2 | 2 | |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles (%) | 0% | 0% | 4% | 4% | 7% | 7% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.6 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | TT | | T | | | T |
| Traffic Vol, veh/h | 39 | 9 | 214 | 32 | 10 | 269 |
| Future Vol, veh/h | 39 | 9 | 214 | 32 | 10 | 269 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 2 | 2 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, % | 0 | 0 | 4 | 4 | 7 | 7 |
| Mvmt Flow | 50 | 12 | 274 | 41 | 13 | 345 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 667 | 297 | 0 | 0 | 317 | 0 |
| Stage 1 | 297 | - | - | - | - | - |
| Stage 2 | 371 | - | - | - | - | - |
| Critical Hdwy | 7.8 | 6.9 | - | - | 4.17 | - |
| Critical Hdwy Stg 1 | 6.8 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.8 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | - | - | 2.263 | - |
| Pot Cap-1 Maneuver | 329 | 705 | - | - | 1215 | - |
| Stage 1 | 676 | - | - | - | - | - |
| Stage 2 | 608 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 324 | 704 | - | - | 1213 | - |
| Mov Cap-2 Maneuver | 324 | - | - | - | - | - |
| Stage 1 | 675 | - | - | - | - | - |
| Stage 2 | 600 | - | - | - | - | - |

| Approach | WB | NB | SB |
|--------------------------|------|----|------|
| HCM Control Delay, s/veh | 0.02 | 0 | 0.29 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|-------|-------|
| Capacity (veh/h) | - | - | 361 | 65 |
| HCM Lane V/C Ratio | - | - | 0.171 | 0.011 |
| HCM Control Delay (s/veh) | - | - | 17 | 8 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.6 | 0 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 21 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Volume (vph) | 2 | 21 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | 1 | 1 | | |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 11% | 11% | 11% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

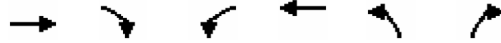
Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 21 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Future Vol, veh/h | 2 | 21 | 3 | 11 | 16 | 0 | 0 | 3 | 6 | 0 | 2 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 11 | 11 | 11 | 0 | 0 | 0 |
| Mvmt Flow | 2 | 25 | 4 | 13 | 19 | 0 | 0 | 4 | 7 | 0 | 2 | 5 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-----|------|
| Conflicting Flow All | 19 | 0 | 0 | 30 | 0 | 0 | 79 | 78 | 29 | 78 | 80 | 19 |
| Stage 1 | - | - | - | - | - | - | 33 | 33 | - | 45 | 45 | - |
| Stage 2 | - | - | - | - | - | - | 46 | 45 | - | 33 | 34 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.41 | 7.81 | 6.91 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.41 | 6.81 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.599 | 4.099 | 3.399 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1584 | - | - | 1597 | - | - | 865 | 775 | 1016 | 916 | 815 | 1065 |
| Stage 1 | - | - | - | - | - | - | 951 | 841 | - | 974 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 930 | 827 | - | 989 | 870 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1584 | - | - | 1595 | - | - | 849 | 767 | 1014 | 896 | 806 | 1065 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 849 | 767 | - | 896 | 806 | - |
| Stage 1 | - | - | - | - | - | - | 948 | 839 | - | 966 | 854 | - |
| Stage 2 | - | - | - | - | - | - | 916 | 820 | - | 975 | 868 | - |

| Approach | EB | WB | NB | SB |
|--------------------------|------|------|------|------|
| HCM Control Delay, s/veh | 0.56 | 2.96 | 8.98 | 8.77 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 916 | 135 | - | - | 733 | - | - | 962 |
| HCM Lane V/C Ratio | 0.012 | 0.002 | - | - | 0.008 | - | - | 0.007 |
| HCM Control Delay (s/veh) | 9 | 7.3 | 0 | - | 7.3 | 0 | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |



| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 35 | 7 | 0 | 33 | 17 | 1 |
| Future Volume (vph) | 35 | 7 | 0 | 33 | 17 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | -7% | | | 5% | 0% | |
| Link Speed (mph) | 35 | | | 35 | 25 | |
| Link Distance (ft) | 1203 | | | 917 | 291 | |
| Travel Time (s) | 23.4 | | | 17.9 | 7.9 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 3% | 3% | 3% | 3% | 3% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | | | ↑ | ↑ | |
| Traffic Vol, veh/h | 35 | 7 | 0 | 33 | 17 | 1 |
| Future Vol, veh/h | 35 | 7 | 0 | 33 | 17 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, #0 | - | - | - | 0 | 0 | - |
| Grade, % | -7 | - | - | 5 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 38 | 8 | 0 | 36 | 18 | 1 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 46 | 0 | 78 |
| Stage 1 | - | - | - | - | 42 |
| Stage 2 | - | - | - | - | 36 |
| Critical Hdwy | - | - | 4.13 | - | 6.43 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.43 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.43 |
| Follow-up Hdwy | - | - | 2.227 | - | 3.527 |
| Pot Cap-1 Maneuver | - | - | 1556 | - | 923 |
| Stage 1 | - | - | - | - | 978 |
| Stage 2 | - | - | - | - | 984 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1556 | - | 923 |
| Mov Cap-2 Maneuver | - | - | - | - | 923 |
| Stage 1 | - | - | - | - | 978 |
| Stage 2 | - | - | - | - | 984 |

| Approach | EB | WB | NB |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0 | 0 | 8.96 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h) | 928 | - | - | 1556 | - |
| HCM Lane V/C Ratio | 0.021 | - | - | - | - |
| HCM Control Delay (s/veh) | 9 | - | - | 0 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

Lanes, Volumes, Timings
 1: Vashon Hwy SW & SW Gorsuch Rd

09/08/2023



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 29 | 11 | 323 | 39 | 12 | 335 |
| Future Volume (vph) | 29 | 11 | 323 | 39 | 12 | 335 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | 7% | | 0% | | | 0% |
| Link Speed (mph) | 35 | | 40 | | | 40 |
| Link Distance (ft) | 1203 | | 655 | | | 776 |
| Travel Time (s) | 23.4 | | 11.2 | | | 13.2 |
| Confl. Peds. (#/hr) | | | | 8 | 8 | |
| Peak Hour Factor | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| Heavy Vehicles (%) | 3% | 3% | 2% | 2% | 4% | 4% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.6 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | W | T | T | T | T | T |
| Traffic Vol, veh/h | 29 | 11 | 323 | 39 | 12 | 335 |
| Future Vol, veh/h | 29 | 11 | 323 | 39 | 12 | 335 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 8 | 8 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, #0 | - | - | 0 | - | - | 0 |
| Grade, % | 7 | - | 0 | - | - | 0 |
| Peak Hour Factor | 70 | 70 | 70 | 70 | 70 | 70 |
| Heavy Vehicles, % | 3 | 3 | 2 | 2 | 4 | 4 |
| Mvmt Flow | 41 | 16 | 461 | 56 | 17 | 479 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1010 | 497 | 0 | 0 | 525 | 0 |
| Stage 1 | 497 | - | - | - | - | - |
| Stage 2 | 513 | - | - | - | - | - |
| Critical Hdwy | 7.83 | 6.93 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 6.83 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.83 | - | - | - | - | - |
| Follow-up Hdwy | 3.527 | 3.327 | - | - | 2.236 | - |
| Pot Cap-1 Maneuver | 179 | 518 | - | - | 1031 | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 491 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 173 | 514 | - | - | 1024 | - |
| Mov Cap-2 Maneuver | 173 | - | - | - | - | - |
| Stage 1 | 498 | - | - | - | - | - |
| Stage 2 | 480 | - | - | - | - | - |

| Approach | WB | NB | SB |
|--------------------------|-------|----|-----|
| HCM Control Delay, s/veh | 28.15 | 0 | 0.3 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR/WBLn1 | SBL | SBT |
|---------------------------|-----|-----------|------|-------|
| Capacity (veh/h) | - | - | 212 | 62 |
| HCM Lane V/C Ratio | - | - | 0.27 | 0.017 |
| HCM Control Delay (s/veh) | - | - | 28.1 | 8.6 |
| HCM Lane LOS | - | - | D | A |
| HCM 95th %tile Q(veh) | - | - | 1.1 | 0.1 |

Lanes, Volumes, Timings
 2: 93rd Ave SW & SW Gorsuch Rd

09/08/2023



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 15 | 2 | 10 | 19 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Volume (vph) | 7 | 15 | 2 | 10 | 19 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | -4% | | | 5% | | | 6% | | | 0% | |
| Link Speed (mph) | | 35 | | | 35 | | | 25 | | | 25 | |
| Link Distance (ft) | | 917 | | | 650 | | | 509 | | | 790 | |
| Travel Time (s) | | 17.9 | | | 12.7 | | | 13.9 | | | 21.5 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

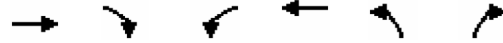
Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 7 | 15 | 2 | 10 | 19 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Future Vol, veh/h | 7 | 15 | 2 | 10 | 19 | 0 | 0 | 2 | 14 | 0 | 1 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | -4 | - | - | 5 | - | - | 6 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 9 | 19 | 3 | 13 | 24 | 0 | 0 | 3 | 18 | 0 | 1 | 6 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-----|------|--------|-----|------|
| Conflicting Flow All | 24 | 0 | 0 | 22 | 0 | 0 | 88 | 87 | 20 | 87 | 89 | 24 |
| Stage 1 | - | - | - | - | - | - | 38 | 38 | - | 49 | 49 | - |
| Stage 2 | - | - | - | - | - | - | 50 | 49 | - | 38 | 39 | - |
| Critical Hdwy | 4.14 | - | - | 4.1 | - | - | 8.3 | 7.7 | 6.8 | 7.1 | 6.5 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 7.3 | 6.7 | - | 6.1 | 5.5 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 1578 | - | - | 1607 | - | - | 876 | 783 | 1060 | 903 | 805 | 1058 |
| Stage 1 | - | - | - | - | - | - | 970 | 856 | - | 969 | 858 | - |
| Stage 2 | - | - | - | - | - | - | 952 | 844 | - | 982 | 866 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1578 | - | - | 1607 | - | - | 858 | 773 | 1060 | 873 | 794 | 1058 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 858 | 773 | - | 873 | 794 | - |
| Stage 1 | - | - | - | - | - | - | 965 | 852 | - | 961 | 851 | - |
| Stage 2 | - | - | - | - | - | - | 938 | 837 | - | 958 | 861 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|--------------------------|------|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/veh | 2.13 | | | 2.5 | | | 8.63 | | | 8.62 | | |
| HCM LOS | A | | | A | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---------------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1013 | 513 | - | - | 621 | - | - | 1003 |
| HCM Lane V/C Ratio | 0.02 | 0.006 | - | - | 0.008 | - | - | 0.008 |
| HCM Control Delay (s/veh) | 8.6 | 7.3 | 0 | - | 7.3 | 0 | - | 8.6 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |



| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|-------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 38 | 15 | 1 | 31 | 10 | 1 |
| Future Volume (vph) | 38 | 15 | 1 | 31 | 10 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | -7% | | | 5% | 0% | |
| Link Speed (mph) | 35 | | | 35 | 25 | |
| Link Distance (ft) | 1203 | | | 917 | 291 | |
| Travel Time (s) | 23.4 | | | 17.9 | 7.9 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 3% | 3% | 3% | 3% | 3% |
| Shared Lane Traffic (%) | | | | | | |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|---------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 38 | 15 | 1 | 31 | 10 | 1 |
| Future Vol, veh/h | 38 | 15 | 1 | 31 | 10 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, #0 | - | - | - | 0 | 0 | - |
| Grade, % | -7 | - | - | 5 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 3 | 3 | 3 | 3 |
| Mvmt Flow | 41 | 16 | 1 | 34 | 11 | 1 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 58 | 0 | 85 |
| Stage 1 | - | - | - | - | 49 |
| Stage 2 | - | - | - | - | 36 |
| Critical Hdwy | - | - | 4.13 | - | 6.43 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.43 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.43 |
| Follow-up Hdwy | - | - | 2.227 | - | 3.527 |
| Pot Cap-1 Maneuver | - | - | 1540 | - | 914 |
| Stage 1 | - | - | - | - | 970 |
| Stage 2 | - | - | - | - | 984 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1540 | - | 913 |
| Mov Cap-2 Maneuver | - | - | - | - | 913 |
| Stage 1 | - | - | - | - | 970 |
| Stage 2 | - | - | - | - | 983 |

| Approach | EB | WB | NB |
|------------------------|----|------|------|
| HCM Control Delay, s/v | 0 | 0.23 | 8.96 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---------------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 921 | - | - | 56 | - |
| HCM Lane V/C Ratio | 0.013 | - | - | 0.001 | - |
| HCM Control Delay (s/veh) | 9 | - | - | 7.3 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

ATTACHMENT D

Trip Generation Calculations

Vashon Creekside Village (King County) Weekday Trip Generation Summary

| Land Use | Units ¹ | ITE LUC ² | Trip Rate or Equation ² | Directional Distribution | | Trips Generated | | |
|-------------------------------------|--------------------|-------------------------|---------------------------------------|--------------------------|-----|-----------------|------------|------------|
| | | | | In | Out | In | Out | Total |
| DAILY | | | | | | | | |
| Proposed Use: | | | | | | | | |
| Affordable Housing - Income Limits | 41 DU | 223 | $T = 3.73(X) + 139.35$ | 50% | 50% | 146 | 146 | 292 |
| Existing Use: | | | | | | | | |
| Mobile Home Park | 6 DU | 240 | 7.12 | 50% | 50% | -21 | -22 | -43 |
| Net New Daily Trips = | | | | | | 125 | 124 | 249 |
| AM PEAK HOUR | | | | | | | | |
| Proposed Use: | | | | | | | | |
| Affordable Housing - Income Limits | 41 DU | 223 | $\ln(T) = 0.81\ln(X) + 0.22$ | 29% | 71% | 7 | 18 | 25 |
| Existing Use: | | | | | | | | |
| Mobile Home Park | 6 DU | 240 | 0.39 | 21% | 79% | 0 | -2 | -2 |
| Net New AM Peak Hour Trips = | | | | | | 7 | 16 | 23 |
| PM PEAK HOUR | | | | | | | | |
| Proposed Use: | | | | | | | | |
| Affordable Housing - Income Limits | 41 DU | 223 | $\ln(T) = 0.72\ln(X) + 0.64$ | 59% | 41% | 16 | 11 | 27 |
| Existing Use: | | | | | | | | |
| Mobile Home Park | 6 DU | 240 | 0.58 | 62% | 38% | -2 | -1 | -3 |
| Net New PM Peak Hour Trips = | | | | | | 14 | 10 | 24 |

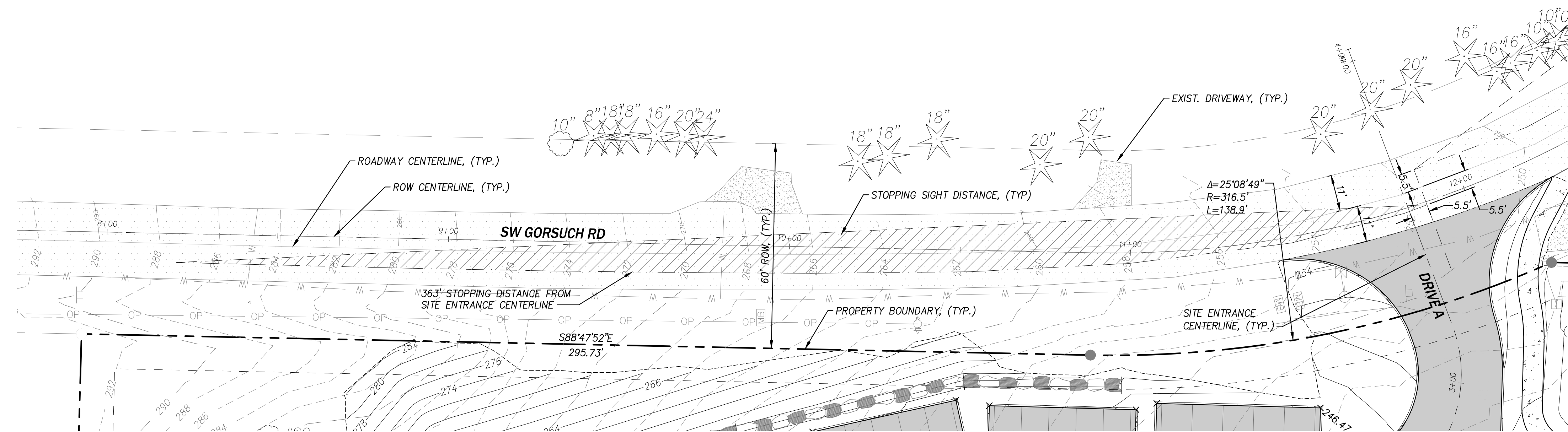
Notes:

¹ DU = Dwelling Units.

² Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.

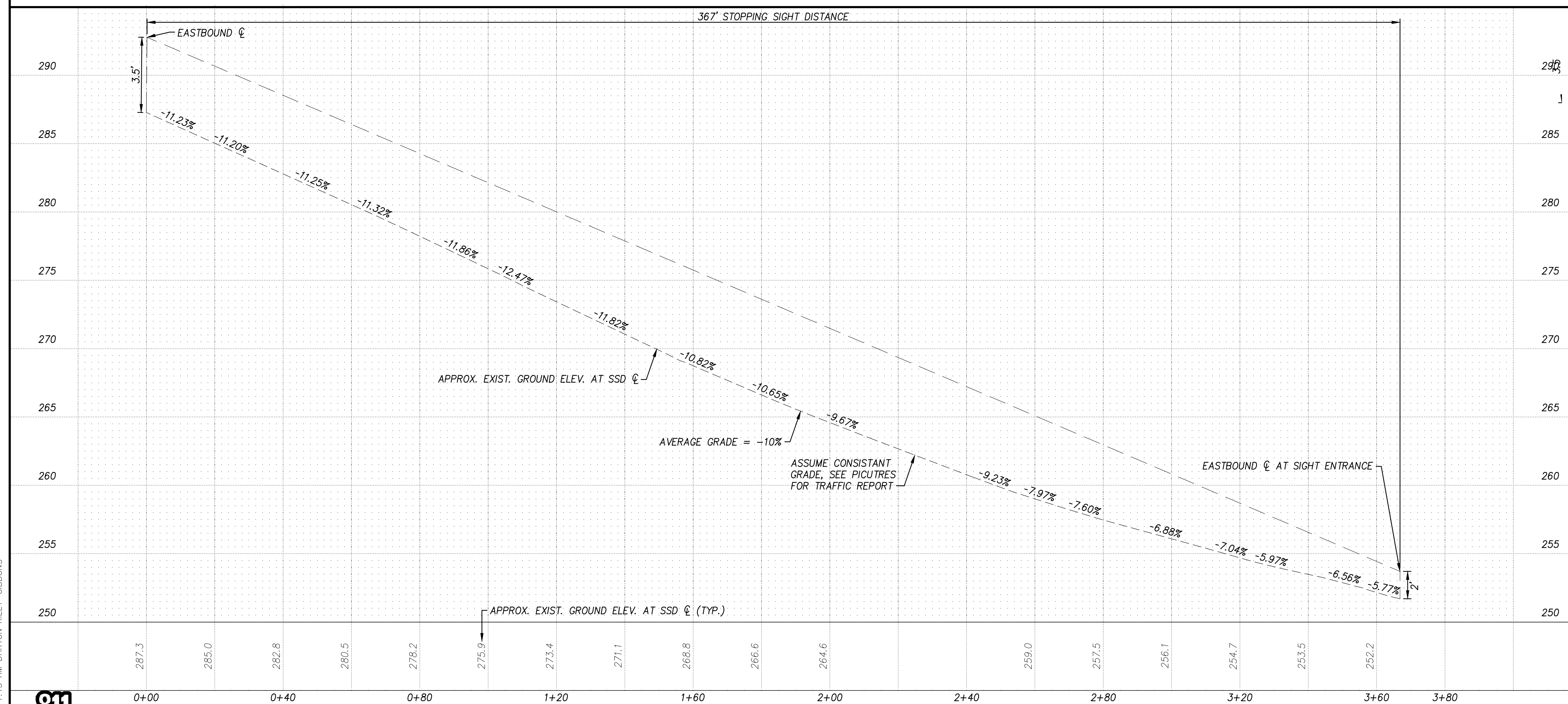
ATTACHMENT E

Sight Distance Exhibits (CPH Consultants)



EASTBOUND STOPPING SIGHT DISTANCE

SCALE: 1"=20'



| DESIGN SPEED (MPH) | DOWNGRADE | | |
|--------------------|-----------|-----------|-----------|
| | 3 Percent | 6 Percent | 9 Percent |
| 60 | 598 | 638 | 686 |
| 55 | 520 | 553 | 593 |
| 50 | 446 | 474 | 507 |
| 45 | 378 | 400 | 427 |
| 40 | 315 | 333 | 354 |
| 35 | 257 | 271 | 287 |
| 30 | 205 | 215 | 227 |
| 25 | 158 | 165 | 173 |
| 20 | 116 | 120 | 126 |

REFERENCE: EXHIBIT 2-1. 2016 KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS

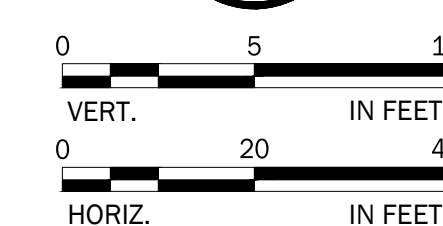
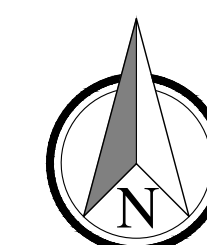
ADJUSTMENT FOR -10% GRADE

FOR VEHICLE APPROACHING FROM THE WEST (EASTBOUND)
 DESIGN SPEED: 40 MPH
 GRADE = -10%
 SSD FROM WEST (EASTBOUND APPROACHING VEHICLE) =
 $(1.47 \times 40 \times 2.5) + ((40^2) / (30 * ((11.2/32.2) - 0.10))) = 363$ (ROUNDED)

REFERENCE: 2018 AASHTO (7TH EDITION) EQ 3-2 AND 3-3

NOTES:

- SIGHT DISTANCE CALCULATIONS WERE PREPARED BY TENW, PLEASE REFER TO SEPARATE TRAFFIC STUDY FOR DETAILED DESCRIPTIONS AND CALCULATIONS.
- STOPPING SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 3-2 AND TABLE 3-3
- INTERSECTION SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 9-1 AND TABLE 9-6.



| | |
|-------------------------------------|------|
| King County DLS-Permitting Approval | |
| Review Engineer | Date |
| Senior Engineer | Date |
| Development Engineer | Date |

CREEKSIDE VILLAGE ON VASHON

16816 95TH LN SW
VASHON, WA 98070
PERMIT SET



| ISSUED SETS | | |
|-------------|----------|-------------|
| NO | DATE | DESCRIPTION |
| 1 | 09.06.23 | PERMIT SET |

| REVISIONS / NOTES | | |
|-------------------|------|-------------|
| NO | DATE | DESCRIPTION |

C|P|H
CONSULTANTS

Site Planning • Civil Engineering
Landscape Architecture • Land Use Consulting
11321-8 NE 120th Street
Kirkland, WA 98034 • (425) 285-2390
101 South Wenatchee Avenue, Suite C21
Wenatchee, WA 98801 • (509) 263-7121
www.cphconsultants.com

TITLE

SIGHT DISTANCE EASTBOUND SSD

| | |
|------------|-------------|
| PERMIT # | |
| DRAWN | MJH |
| CHECKED | DRG |
| ISSUE DATE | 09/06/23 |
| JOB NO. | 0258-23-001 |
| SHEET NO.: | |

C5.00



PTN. OF NW 1/4 OF SW 1/4 OF SEC. 29, TWP 23N, R3E W.M.



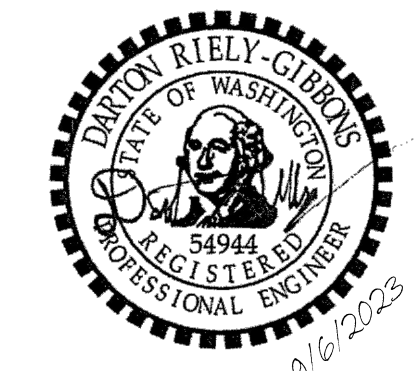
SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285



CREEKSIDE VILLAGE ON VASHON

16816 95TH LN SW
VASHON, WA 98070
PERMIT SET



ISSUED SETS

| NO | DATE | DESCRIPTION |
|----|----------|-------------|
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REVISIONS / NOTES

| NO | DATE | DESCRIPTION |
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|----|------|-------------|

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TITLE

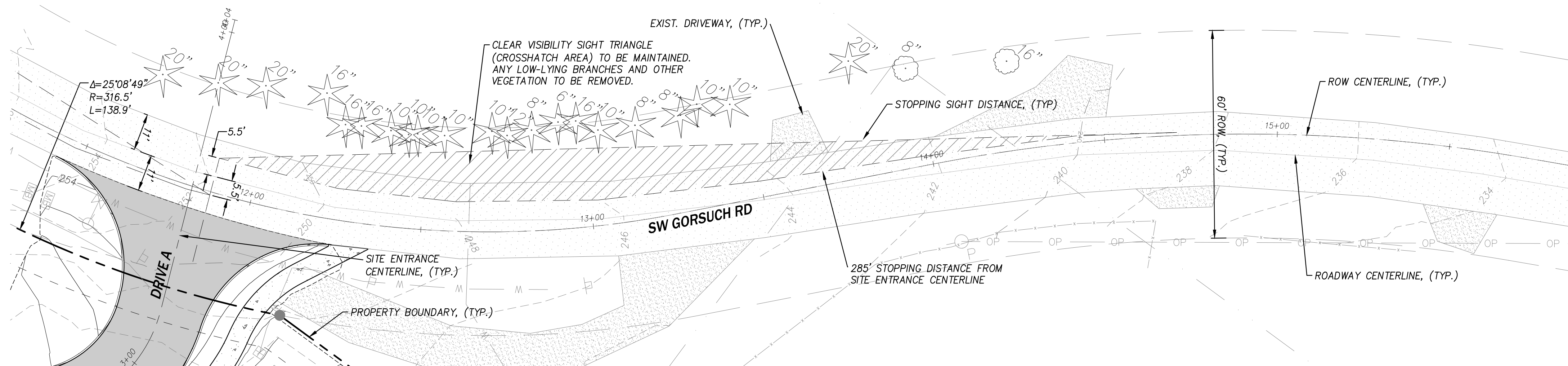
SIGHT DISTANCE WESTBOUND SSD

PERMIT #

| | |
|------------|-------------|
| DRAWN | MJH |
| CHECKED | DRG |
| ISSUE DATE | 09/06/23 |
| JOB NO. | 0258-23-001 |
| SHEET NO.: | |

C5.01

SHEET 28 OF 43



WESTBOUND STOPPING SIGHT DISTANCE
SCALE: 1"=20'

UPGRADE

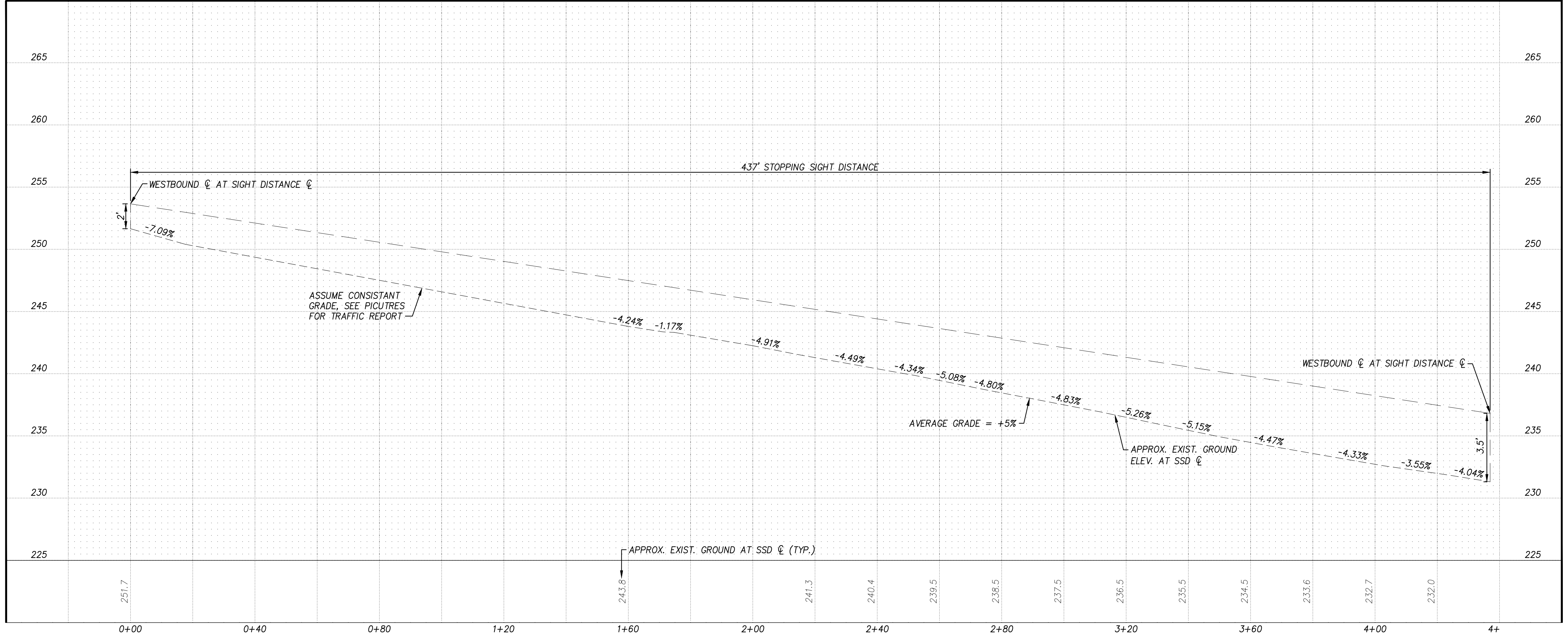
| DESIGN SPEED (MPH) | 3 Percent | 6 Percent | 9 Percent |
|--------------------|-----------|-----------|-----------|
| 60 | 538 | 515 | 495 |
| 55 | 469 | 450 | 433 |
| 50 | 405 | 388 | 375 |
| 45 | 344 | 331 | 320 |
| 40 | 289 | 278 | 269 |
| 35 | 237 | 229 | 222 |
| 30 | 200 | 184 | 179 |
| 25 | 147 | 143 | 140 |
| 20 | 109 | 107 | 104 |

REFERENCE: EXHIBIT 2-1. 2016 KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS

ADJUSTMENT FOR +5% GRADE

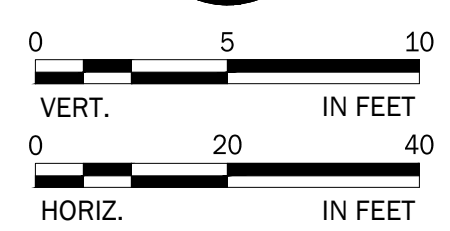
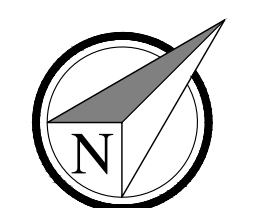
FOR VEHICLE APPROACHING FROM THE EAST (WESTBOUND)
DESIGN SPEED: 40 MPH
GRADE = +5%
SSD FROM EAST (WESTBOUND APPROACHING VEHICLE) =
(1.47 X 40 X 2.5) + ((40^2) / (30 * ((11.2/32.2) + 0.05))) = 285 (ROUNDED)

REFERENCE: 2018 AASHTO (7TH EDITION) EQ 3-2 AND 3-3



NOTES:

- SIGHT DISTANCE CALCULATIONS WERE PREPARED BY TENW, PLEASE REFER TO SEPARATE TRAFFIC STUDY FOR DETAILED DESCRIPTIONS AND CALCULATIONS.
- STOPPING SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 3-2 AND TABLE 3-3
- INTERSECTION SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 9-1 AND TABLE 9-6.



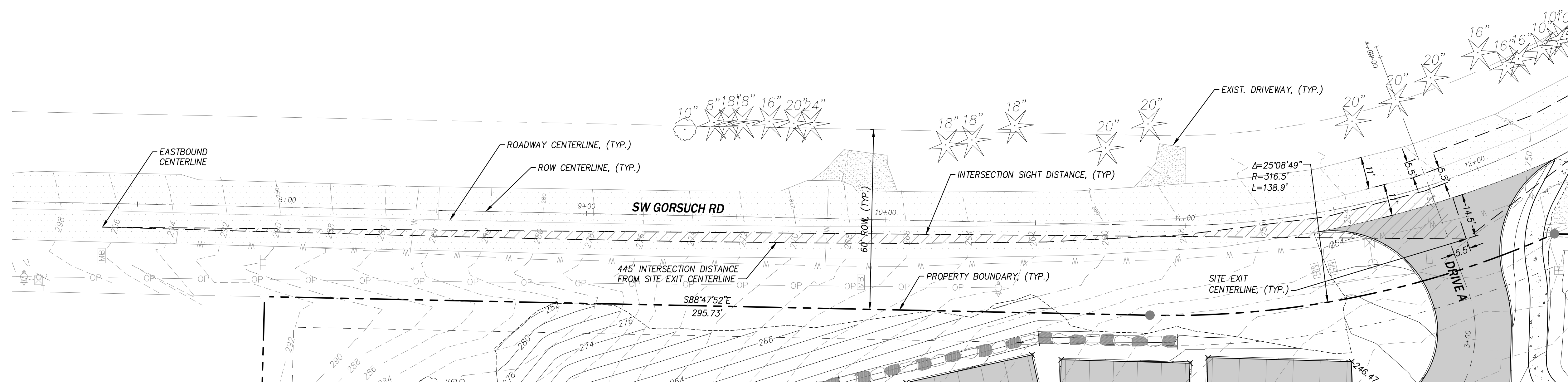
King County DLS-Permitting Approval

| | |
|----------------------|------|
| Review Engineer | Date |
| Senior Engineer | Date |
| Development Engineer | Date |

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9/1/2023 7:16 AM DARTON, RIELY-CIBBONS



PTN. OF NW 1/4 OF SW 1/4 OF SEC. 29, TWP 23N, R3E W.M.



EASTBOUND INTERSECTION SIGHT DISTANCE

SCALE: 1"=20'

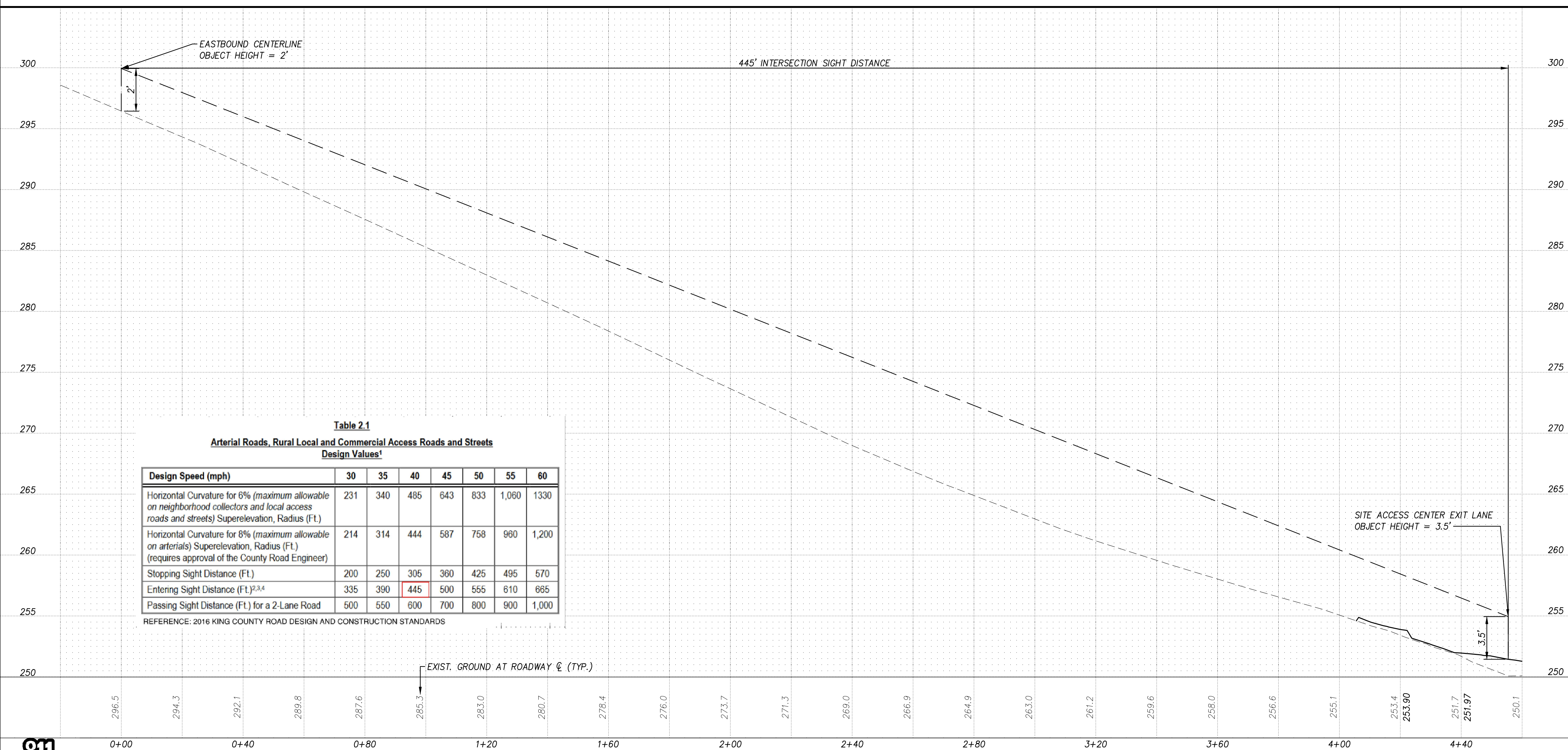
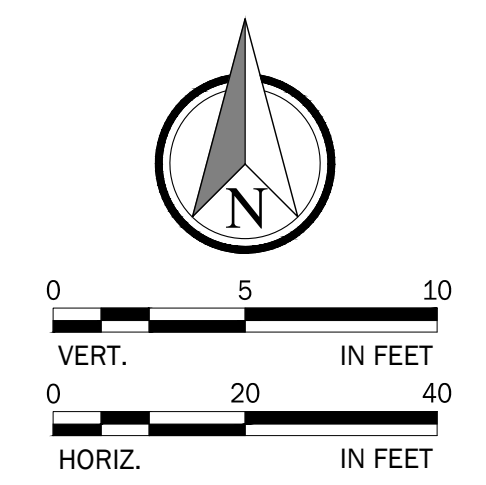


Table 2.1
Arterial Roads, Rural Local and Commercial Access Roads and Streets
Design Values¹

| Design Speed (mph) | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|-----|-----|-----|-----|-----|-------|-------|
| Horizontal Curvature for 6% (maximum allowable on neighborhood collectors and local access roads and streets) Superelevation, Radius (ft) | 231 | 340 | 485 | 643 | 833 | 1,060 | 1,330 |
| Horizontal Curvature for 8% (maximum allowable on arterials) Superelevation, Radius (ft) (requires approval of the County Road Engineer) | 214 | 314 | 444 | 587 | 758 | 960 | 1,200 |
| Stopping Sight Distance (ft) | 200 | 250 | 306 | 360 | 425 | 495 | 570 |
| Entering Sight Distance (ft) ^{2,3,4} | 335 | 390 | 445 | 500 | 555 | 610 | 685 |
| Passing Sight Distance (ft) for a 2-Lane Road | 600 | 650 | 700 | 750 | 800 | 850 | 900 |

REFERENCE: 2016 KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS

- NOTES:**
- SIGHT DISTANCE CALCULATIONS WERE PREPARED BY TENW, PLEASE REFER TO SEPARATE TRAFFIC STUDY FOR DETAILED DESCRIPTIONS AND CALCULATIONS.
 - STOPPING SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 3-2 AND TABLE 3-3
 - INTERSECTION SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 9-1 AND TABLE 9-6.



King County DLS-Permitting Approval

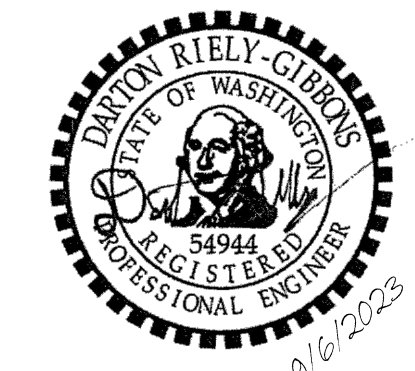
| | |
|----------------------|------|
| Review Engineer | Date |
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Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285



CREEKSIDE VILLAGE ON VASHON
16816 95TH LN SW
VASHON, WA 98070
PERMIT SET



ISSUED SETS

| NO | DATE | DESCRIPTION |
|----|----------|-------------|
| 1 | 09.06.23 | PERMIT SET |

REVISIONS / NOTES

| NO | DATE | DESCRIPTION |
|----|------|-------------|
|----|------|-------------|

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101 South Wenatchee Avenue, Suite C21
Wenatchee, WA 98801 • (509) 235-7721
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TITLE
SIGHT DISTANCE EASTBOUND ISD

PERMIT #
DRAWN MJH
CHECKED DRG
ISSUE DATE 09/06/23
JOB NO. 0258-23-001
SHEET NO.:

C5.02
SHEET 29 OF 43

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9/1/2023 7:16 AM DARTON, RIELY-GIBBONS

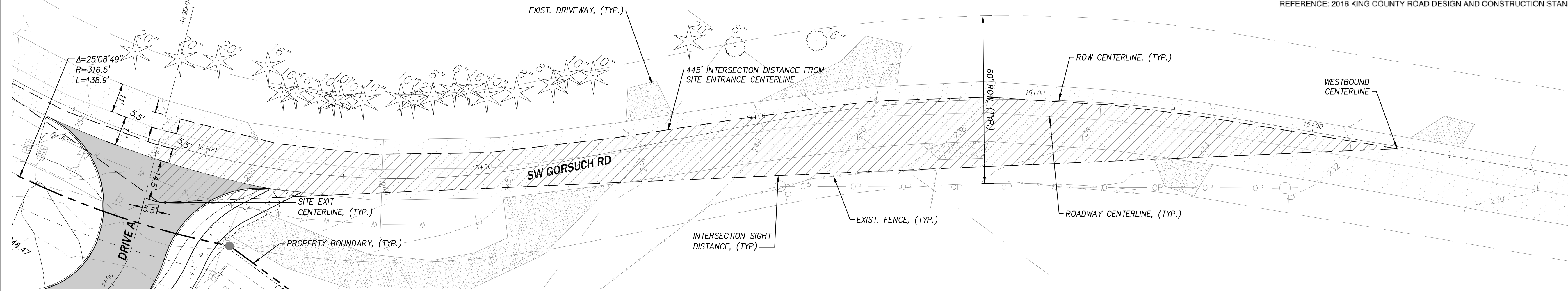


PTN. OF NW 1/4 OF SW 1/4 OF SEC. 29, TWP 23N, R3E W.M.

Table 2.1
Arterial Roads, Rural Local and Commercial Access Roads and Streets
Design Values¹

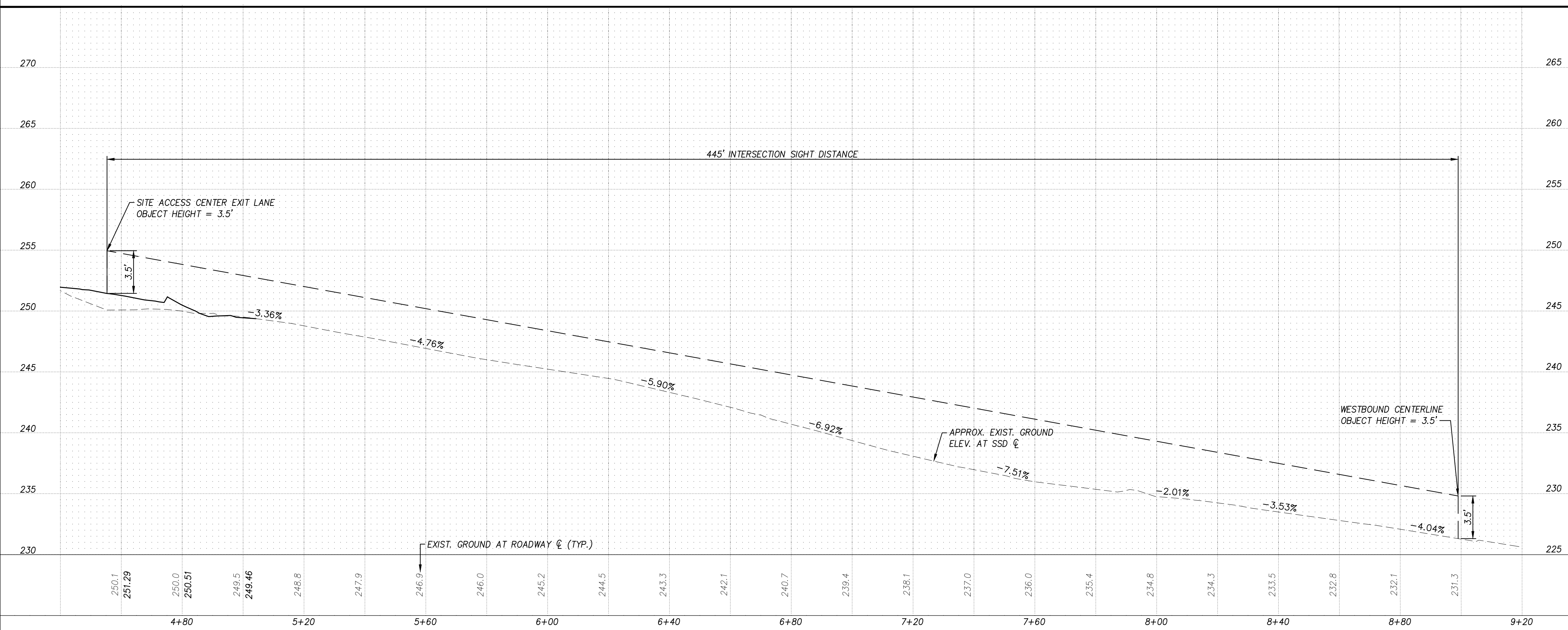
| Design Speed (mph) | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|--|-----|-----|-----|-----|-----|-------|-------|
| Horizontal Curvature for 8% (maximum allowable on neighborhood collectors and local access roads and streets) Superelevation, Radius (Ft.) | 231 | 340 | 485 | 643 | 833 | 1,060 | 1330 |
| Horizontal Curvature for 8% (maximum allowable on arterials) Superelevation, Radius (Ft.) (requires approval of the County Road Engineer) | 214 | 314 | 444 | 587 | 758 | 960 | 1,200 |
| Stopping Sight Distance (Ft.) | 200 | 250 | 305 | 360 | 425 | 495 | 570 |
| Entering Sight Distance (Ft.) ^{2,3,4} | 335 | 390 | 445 | 500 | 555 | 610 | 665 |
| Passing Sight Distance (Ft.) for a 2-Lane Road | 500 | 550 | 600 | 700 | 800 | 900 | 1,000 |

REFERENCE: 2016 KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS

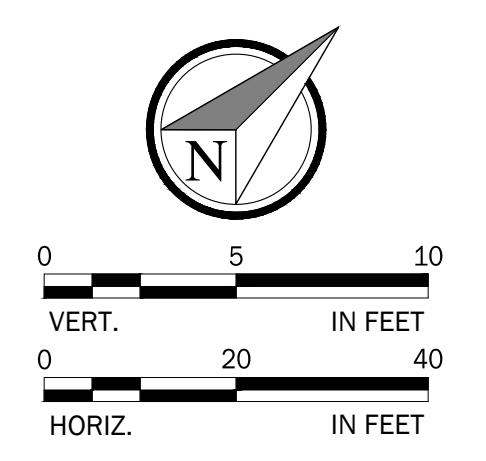


WESTBOUND INTERSECTION SIGHT DISTANCE

SCALE: 1"=20'



- NOTES:**
- SIGHT DISTANCE CALCULATIONS WERE PREPARED BY TENW, PLEASE REFER TO SEPARATE TRAFFIC STUDY FOR DETAILED DESCRIPTIONS AND CALCULATIONS.
 - STOPPING SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 3-2 AND TABLE 3-3
 - INTERSECTION SIGHT DISTANCE PER 2018 AASHTO (7TH EDITION) EQ 9-1 AND TABLE 9-6.



| | |
|-------------------------------------|------|
| King County DLS-Permitting Approval | |
| Review Engineer | Date |
| Senior Engineer | Date |
| Development Engineer | Date |



SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285



CREEKSIDE VILLAGE ON VASHON
16816 95TH LN SW
VASHON, WA 98070
PERMIT SET



ISSUED SETS

| NO | DATE | DESCRIPTION |
|----|----------|-------------|
| 1 | 09.06.23 | PERMIT SET |

REVISIONS / NOTES

| NO | DATE | DESCRIPTION |
|----|------|-------------|
|----|------|-------------|

C|P|H CONSULTANTS
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11321-8 NE 120th Street
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TITLE

SIGHT DISTANCE WESTBOUND ISD

| | |
|------------|-------------|
| PERMIT # | |
| DRAWN | MJH |
| CHECKED | DRG |
| ISSUE DATE | 09/06/23 |
| JOB NO. | 0258-23-001 |
| SHEET NO.: | |

C5.03
SHEET 30 OF 43

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9/1/2023 7:16 AM DARTON, RIELEY-GIBBONS

