EXHIBIT A

LEGAL DESCRIPTION OF FISHER PROPERTY

A PORTION OF THAT PARCEL OF LAND CONVEYED TO FISHER CREEK WEST, LLC AS DESCRIBED UNDER AUDITOR'S FILE NO. 5292160 D, RECORDS OF CLARK COUNTY, LYING IN THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 3 EAST OF THE WILLAMETTE MERIDIAN, CITY OF CAMAS, CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 5;

THENCE SOUTH 88° 42' 51" EAST ALONG THE NORTH LINE OF SAID SECTION 5, A DISTANCE OF 1319.76 FEET TO THE NORTHEAST CORNER OF SAID FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5;

THENCE SOUTH 01° 14' 27" WEST, ALONG THE EAST LINE OF SAID FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, A DISTANCE OF 37.00 FEET TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF NW 38TH AVENUE CONVEYED TO THE CITY OF CAMAS AS DESCRIBED UNDER AUDITOR'S FILE NO. 4901089 D, RECORDS OF SAID COUNTY, SAID POINT BEING 37.00 FEET SOUTHERLY OF, WHEN MEASURED PERPENDICULAR TO, THE CENTERLINE OF SAID AVENUE, SAID POINT ALSO BEING THE TRUE POINT OF BEGINNING;

THENCE CONTINUING ALONG SAID EAST LINE, SOUTH 01° 14' 27" WEST, A DISTANCE OF 727.67 FEET TO THE NORTHWEST CORNER OF LOT 2 OF FISHER CREEK CAMPUS 3 SHORT PLAT, RECORDED IN BOOK 3 OF SHORT PLATS, AT PAGE 984, RECORDS OF SAID COUNTY;

THENCE SOUTH 88° 42' 51" EAST, ALONG THE NORTH LINE OF SAID LOT 2, A DISTANCE OF 900.31 FEET TO A POINT ON THE EAST LINE OF SAID FISHER CREEK WEST, LLC PARCEL;

THENCE NORTH 00° 48' 09" EAST, ALONG SAID EAST LINE, A DISTANCE OF 701.65 FEET TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF SAID NW 38TH AVENUE;

THENCE NORTH 88° 36' 22" WEST, ALONG SAID SOUTH RIGHT OF WAY LINE, A DISTANCE OF 8.32 FEET TO AN ANGLE POINT;

THENCE CONTINUING ALONG SAID SOUTH RIGHT OF WAY LINE, NORTH 42° 18' 03" WEST, A DISTANCE OF 35.93 FEET TO AN ANGLE POINT, SAID POINT BEING 37.00 FEET SOUTHERLY OF, WHEN MEASURED PERPENDICULAR TO, THE CENTERLINE OF SAID NW 38TH AVENUE;

THENCE NORTH 88° 42' 51" WEST, CONTINUING ALONG SAID SOUTH RIGHT OF WAY LINE, A DISTANCE OF 861.87 FEET TO THE TRUE POINT OF BEGINNING;

EXCEPT ANY POIRTION LYING WITHIN PUBLIC ROADS.

CONTAINING: 14.98 ACRES, MORE OR LESS.

APN/PARCEL ID(S): 126255-000

EXHIBIT A-1

LEGAL DESCRIPTION OF MULTI-FAMILY PROPERTY

A PORTION OF THAT PARCEL OF LAND CONVEYED TO FISHER CREEK WEST, LLC AS DESCRIBED UNDER AUDITOR'S FILE NO. 5292160 D, RECORDS OF CLARK COUNTY, LYING IN THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 3 EAST OF THE WILLAMETTE MERIDIAN, CITY OF CAMAS, CLARK COUNTY WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 5;

THENCE SOUTH 88° 42' 51" EAST ALONG THE NORTH LINE OF SAID SECTION 5, A DISTANCE OF 1319.76 FEET TO THE NORTHEAST CORNER OF SAID FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5;

THENCE SOUTH 01° 14' 27" WEST, ALONG THE EAST LINE OF SAID FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, A DISTANCE OF 37.00 FEET TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF NW 38TH AVE CONVEYED TO THE CITY OF CAMAS AS DESCRIBED UNDER AUDITOR'S FILE NO. 4901089 D, RECORDS OF SAID COUNTY, SAID POINT BEING 37.00 FEET SOUTHERLY OF, WHEN MEASURED PERPENDICULAR TO, THE CENTERLINE OF SAID AVE, SAID POINT ALSO BEING THE TRUE POINT OF BEGINNING;

THENCE CONTINUING ALONG SAID EAST LINE, SOUTH 01° 14' 27" WEST, A DISTANCE OF 1256.19 FEET TO THE SOUTHEAST CORNER OF SAID FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5;

THENCE NORTH 88° 55' 57" WEST, ALONG THE SOUTH LINE OF SAID FRACTIONAL NORTHWEST QUARTER OF SECTION 5, A DISTANCE OF 954.18 FEET TO A POINT ON THE EAST LINE OF THAT PARCEL CONVEYED TO NSHE OROVILLE, LLC AS DESCRIBED UNDER AUDITOR'S FILE NO. 4541882 D, RECORDS OF SAID COUNTY;

THENCE ALONG THE EAST LINE OF SAID NSHE OROVILLE, LLC PARCEL, THE FOLLOWING COURSES:

THENCE NORTH 42° 58' 17" EAST, A DISTANCE OF 11.70 FEET;

THENCE NORTH 60° 33' 15" EAST, A DISTANCE OF 20.58 FEET;

THENCE NORTH 44° 47' 33" EAST, A DISTANCE OF 48.92 FEET;

THENCE NORTH 43° 12' 06" EAST, A DISTANCE OF 45.08 FEET;

THENCE NORTH 48° 09' 59" EAST, A DISTANCE OF 50.92 FEET;

THENCE NORTH 48° 06' 08" EAST, A DISTANCE OF 43.98 FEET;

THENCE NORTH 48° 31’ 44” EAST, A DISTANCE OF 25.99 FEET;

THENCE NORTH 50° 45’ 07” EAST, A DISTANCE OF 51.57 FEET;

THENCE NORTH 07° 12’ 26” EAST, A DISTANCE OF 72.70 FEET;

THENCE NORTH 36° 58’ 23” WEST, A DISTANCE OF 36.05 FEET;

THENCE NORTH 56° 40’ 38” WEST, A DISTANCE OF 19.64 FEET;

THENCE NORTH 06° 44’ 32” WEST, A DISTANCE OF 3.98 FEET;

THENCE NORTH 01° 48’ 15” WEST, A DISTANCE OF 53.86 FEET;

THENCE NORTH 07° 19’ 12” EAST, A DISTANCE OF 51.46 FEET;

THENCE NORTH 10° 12’ 39” EAST, A DISTANCE OF 29.08 FEET;

THENCE NORTH 22° 46’ 06” EAST, A DISTANCE OF 16.28 FEET;

THENCE NORTH 17° 48’ 36” EAST, A DISTANCE OF 47.95 FEET;

THENCE NORTH 29° 17’ 58” EAST, A DISTANCE OF 47.55 FEET;

THENCE NORTH 57° 15’ 46” EAST, A DISTANCE OF 60.88 FEET;

THENCE NORTH 38° 10’ 30” EAST, A DISTANCE OF 52.36 FEET;

THENCE NORTH 45° 13’ 40” EAST, A DISTANCE OF 51.44 FEET;

THENCE NORTH 05° 28’ 38” WEST, A DISTANCE OF 50.45 FEET;

THENCE NORTH 05° 45’ 58” EAST, A DISTANCE OF 47.10 FEET;

THENCE NORTH 04° 56’ 49” WEST, A DISTANCE OF 49.99 FEET;

THENCE NORTH 07° 01’ 31” WEST, A DISTANCE OF 50.71 FEET;

THENCE NORTH 07° 33’ 20” WEST, A DISTANCE OF 53.33 FEET;

THENCE NORTH 19° 42’ 03” WEST, A DISTANCE OF 23.52 FEET;

THENCE NORTH 29° 34’ 03” WEST, A DISTANCE OF 51.19 FEET;

THENCE NORTH 20° 56’ 49” WEST, A DISTANCE OF 27.81 FEET;

THENCE NORTH 17° 36’ 27” WEST, A DISTANCE OF 22.56 FEET;

THENCE NORTH 10° 14’ 39” WEST, A DISTANCE OF 45.53 FEET;

THENCE NORTH 07° 12’ 46” WEST, A DISTANCE OF 49.35 FEET;

THENCE NORTH 02° 26’ 20” EAST, A DISTANCE OF 47.75 FEET;

THENCE NORTH 19° 24’ 27” EAST, A DISTANCE OF 11.12 FEET;

THENCE NORTH 33° 24’ 35” EAST, A DISTANCE OF 50.00 FEET;

THENCE NORTH 32° 04’ 57” EAST, A DISTANCE OF 39.64 FEET TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF SAID NW 38TH AVE, SAID POINT BEING 37.00 FEET SOUTHERLY OF, WHEN MEASURED PERPENDICULAR TO, THE CENTERLINE OF SAID AVE;

THENCE SOUTH 88° 42’ 51” EAST, ALONG SAID SOUTH RIGHT OF WAY LINE, A DISTANCE OF 642.71 FEET TO THE TRUE POINT OF BEGINNING;

EXCEPT ANY PORTION LYING WITHIN PUBLIC ROADS.

TAX ACCOUNT NO.: 126043000

EXHIBIT B

GRASS VALLEY MASTER PLAN

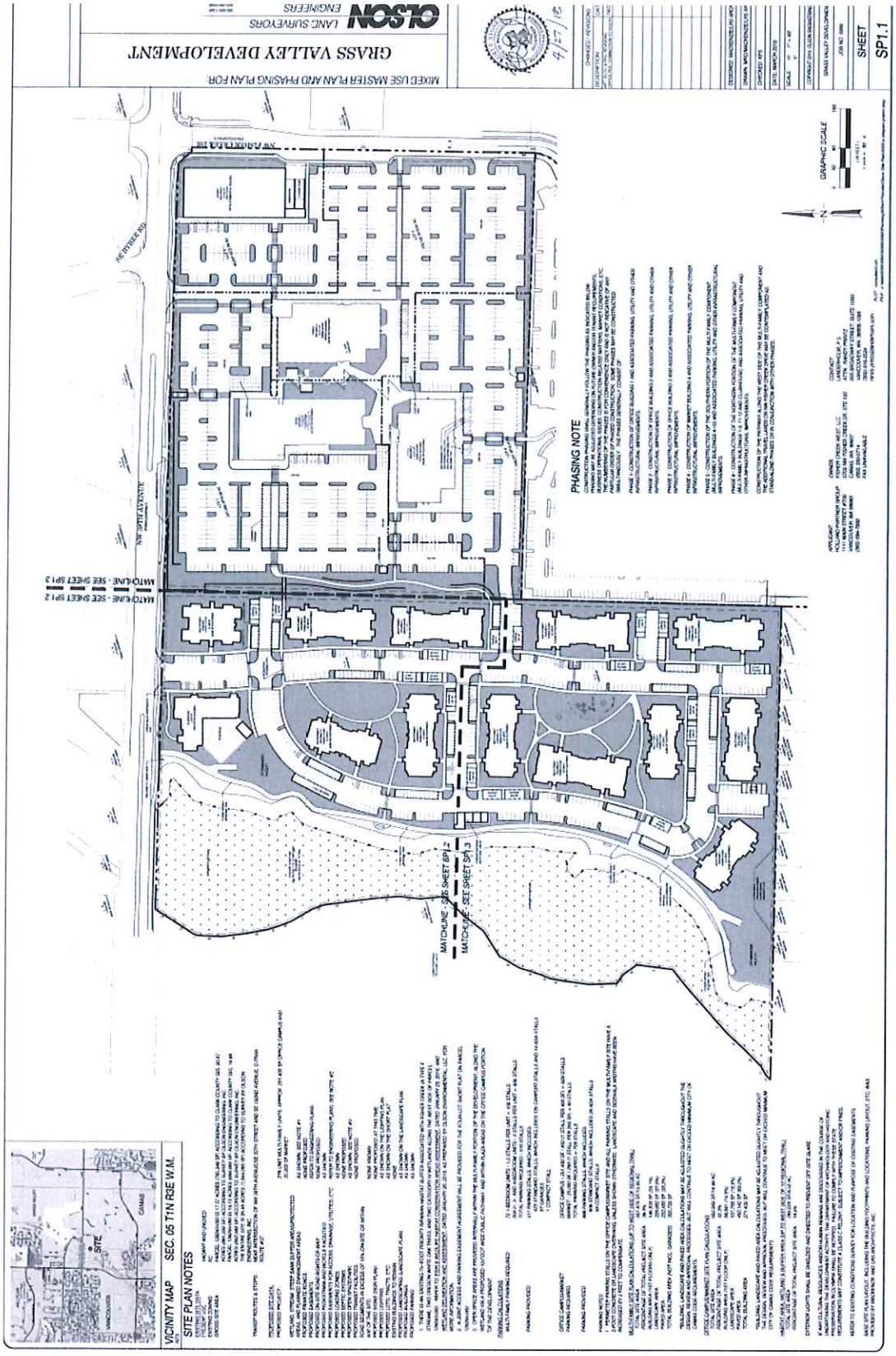


EXHIBIT C

KITTELSON & ASSOCIATES
851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

February 28, 2018 Project #: 22300

James E. Carothers, PE
City of Camas
616 NE 4th Avenue
Camas, WA 98607

RE: Traffic Impact Analysis for Grass Valley Development – Camas, WA

Dear Curleigh,

This letter documents the Traffic Impact Analysis (TIA) prepared for the proposed Grass Valley mixed-use development along the south side of NW 38th Avenue in the City of Camas. The proposed development includes up to 276 apartment units, 100,000 square feet of corporate headquarters, 150,000 square feet of general office, and 20,000 square feet of retail split evenly between restaurant and grocery. Full occupancy of the development is expected by 2021.

Pursuant to City of Camas requirements, this report includes the following:

- Operational assessment of key study intersections under existing traffic conditions
- Review of reported crash data at study intersections
- Assessment of background traffic operations, including traffic associated with approved in-process developments but not the proposed project, under two road network scenarios:
  - Scenario 1: Re-align SE Bybee Road with NW Fisher Creek Drive (identified in City of Camas 6-year Street Priorities)
  - Scenario 2: Connect SE Bybee Road to SW Armstrong Drive (identified as a long-term connection in the *Camas Crossing Development TIA*)
- Trip generation and trip distribution estimate for the proposed development
- Assessment of future traffic conditions at the study intersections and the proposed site accesses after full build-out and occupancy of the proposed development under the two realignment scenarios outlined above
- Queueing, access spacing, sight distance, and on-site circulation review
- Findings and recommendations

This study assumes that activation of the SE 20th Street/NW Fisher Creek Drive intersection has occurred prior to site occupancy based on other approved and pending development. Based on the analysis provided and documented herein, the proposed development can be constructed while complying with City of Camas and City of Vancouver transportation requirements assuming provision of mitigation

measures identified in this report. Site-development related capacity improvement needs were identified at the SE 20th Street/SE 192nd Avenue intersection.

SE 20th Street/SE 192nd Avenue

- In Scenario 1, under 2021 total traffic conditions, the intersection does not satisfy City of Vancouver operating standards during the weekday p.m. peak hour.
    - Recommended mitigation to restore acceptable operations includes provision of a second westbound left-turn lane and traffic signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.
- In Scenario 2, under both 2021 background and total traffic conditions, the intersection does not satisfy City of Vancouver operating standards during the weekday a.m. and p.m. peak hours.
    - Recommended mitigation to restore acceptable operations includes provision of a second westbound left-turn lane and a separate westbound right-turn lane as well as corresponding signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.

Other Considerations

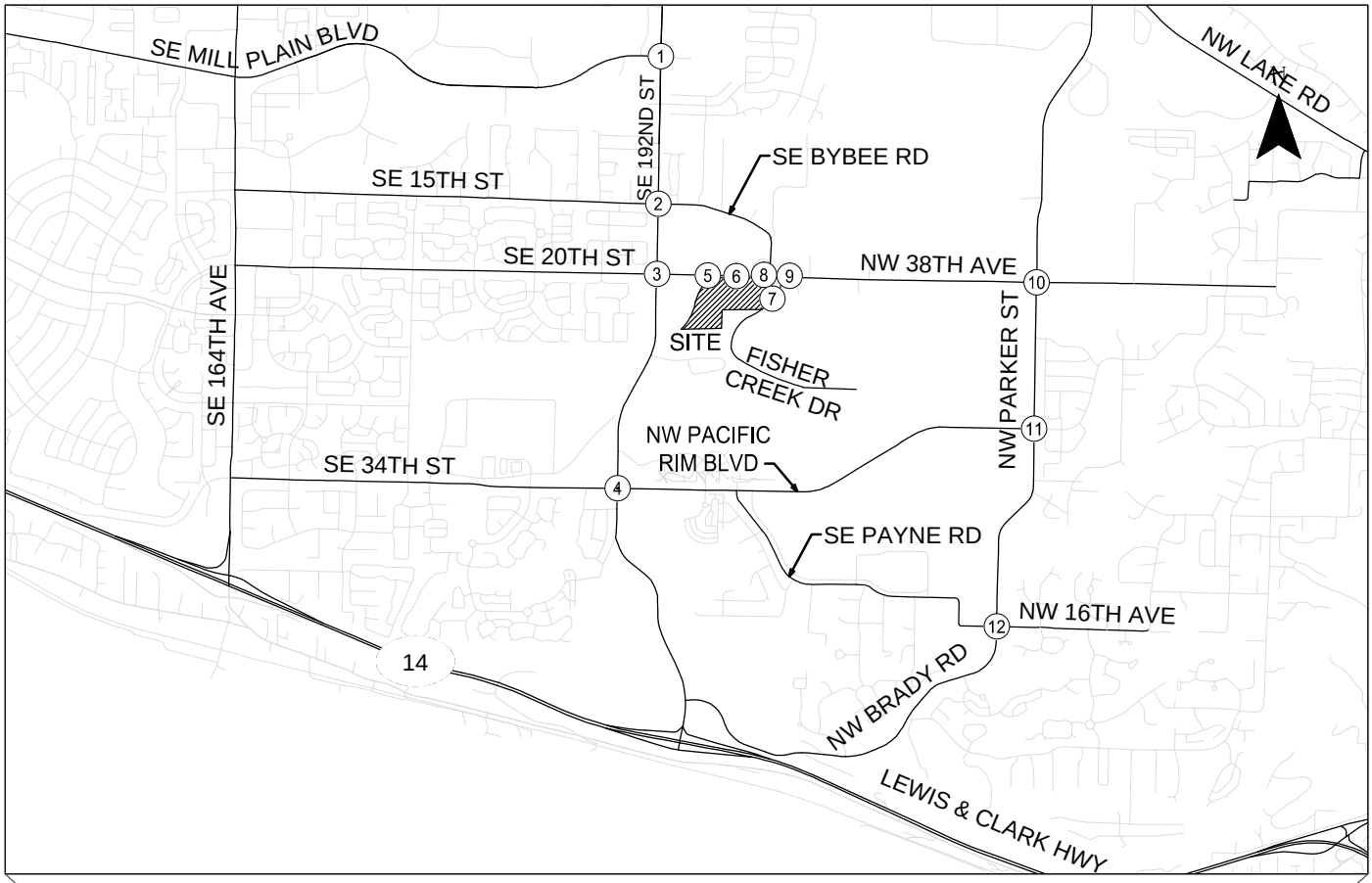
- On-site and off-site landscaping and any above ground utilities at the site driveways and internal roadways should be installed and maintained to ensure that adequate sight distance is provided upon buildout in accordance with City of Camas standards. Further, sight distance availability should be confirmed during the final engineering process.

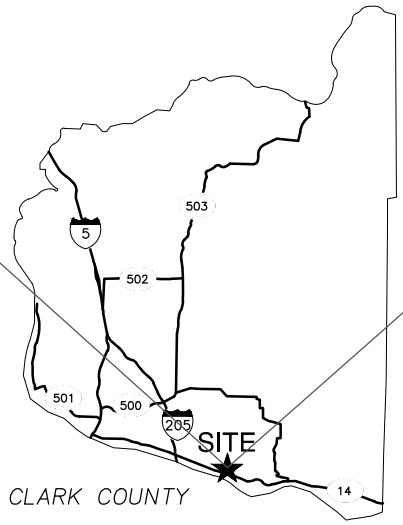
The methodology of the analysis, findings, and recommendations are documented herein.

INTRODUCTION

Holland Acquisition Co., LLC proposes to construct a mixed-use development on the south side of NW 38th Avenue, west of NW Fisher Creek Drive. Currently, a residential home and a storage building occupy the 36-acre site and are accessible via two driveways on NW 38th Avenue. The site is currently zoned for Regional Commercial (RC) uses. Figure 1 illustrates the site location and Figure 2 shows the site plan.

The proposed development will consist of up to 276 apartment units, 100,000 square feet of corporate headquarters, 150,000 square feet of general office, and 20,000 square feet of retail split evenly between restaurant and grocery. Full occupancy of the development is expected to occur by 2021.

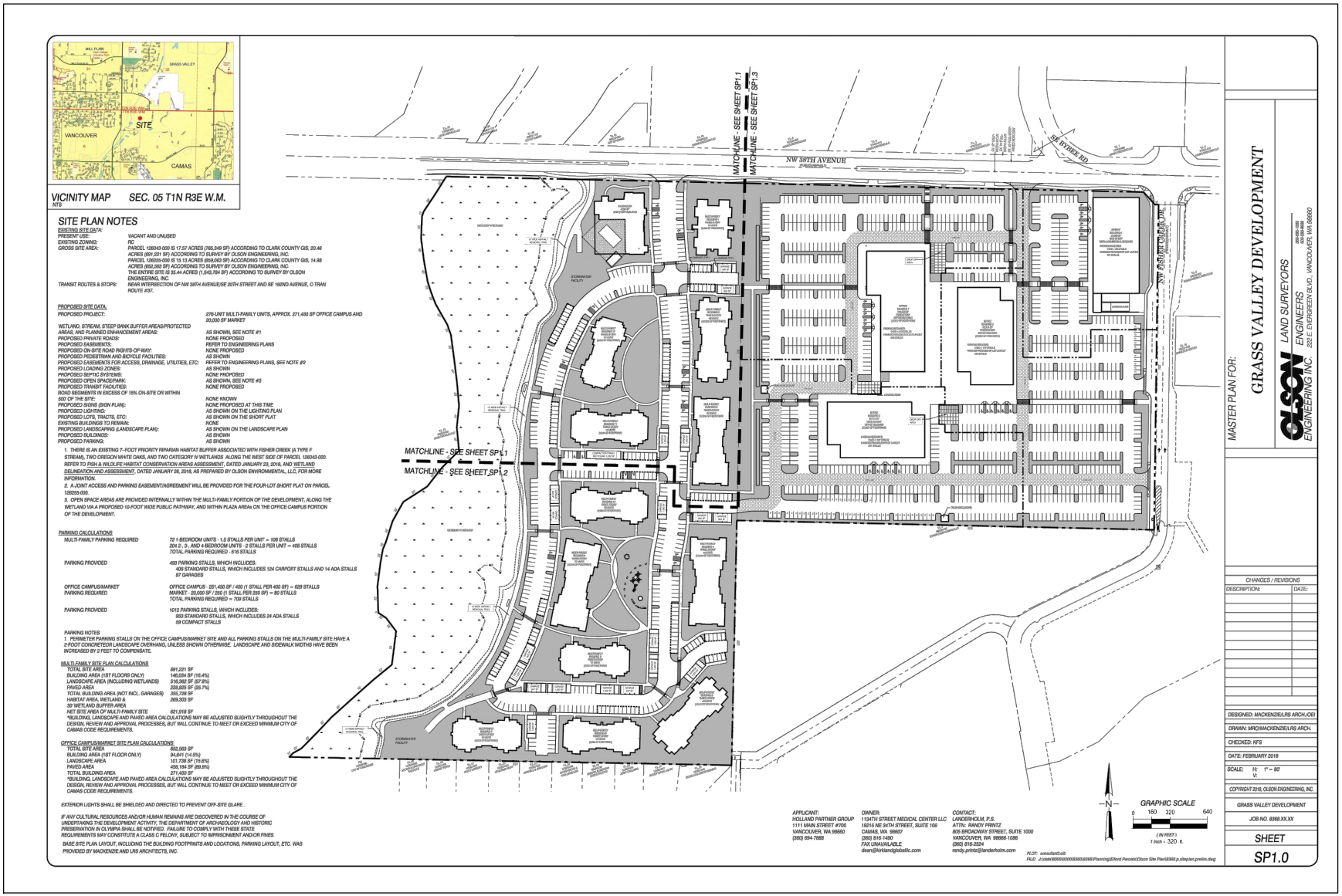




Site Vicinity Map
Camas, Washington

Figure
1

(##) - Study Intersections



SITE PLAN PROVIDED BY OLSON ENGINEERING
RECEIVED 2/21/18

Proposed Site Plan
Camas, Washington

Figure
2

H:\22\22300 - Grass Valley\report\figs\22300_Figs.dwg Feb 26, 2018 - 4:10pm - amartin Layout Tab: Site Plan

KITTELSON & ASSOCIATES

Access to the development is proposed via:

- two unsignalized full movement public street circulator connections to NW 38th Avenue; and
- two unsignalized connections to NW Fisher Creek Drive south of NW 38th Avenue (and north of the gated entry to the Fisher Investments Campus).

REPORT SCOPE

This analysis determines the transportation-related impacts associated with the proposed mixed-use development. The study intersections and overall study area for this project were determined through a scoping process with City of Camas staff.

Analysis Periods

Weekday a.m. and p.m. peak hour traffic conditions were modeled at the study intersections.

Study Intersections

The following study intersections were included in the analysis as shown in Figure 1.

1. SE 192nd Avenue/Mill Plain Boulevard (operated and maintained by City of Vancouver)
2. SE 192nd Avenue/SE 15th Street (operated and maintained by City of Vancouver)
3. SE 192nd Avenue/SE 20th Street (operated and maintained by City of Vancouver)
4. SE 192nd Avenue/NW Pacific Rim Boulevard (operated and maintained by City of Vancouver)
5. NW 38th Avenue/Proposed Site Driveway 1
6. NW 38th Avenue/Proposed Site Driveway 2
7. Fisher Creek Drive/Proposed Site Driveway 3[1]
8. NW 38th Avenue/SE Bybee Road (existing)
9. NW 38th Avenue/NW Fisher Creek Drive (with realigned Bybee Road under Scenario 1)
10. NW 38th Avenue/NW Parker Street
11. NW Pacific Rim Boulevard/NW Parker Street
12. NW 16th Avenue/NW Brady Road

Future Roadway Connectivity Scenarios

A mixed-use development known as the Camas Crossing Development is currently proposed north of the Grass Valley Development and was in the site plan review process at the City of Camas at the time this

[1] The two proposed driveway connections to Fisher Creek Drive were analyzed as a single driveway to be conservative.

study was prepared. City of Camas required that the Grass Valley Development TIA consider the proposed Camas Crossing Development as a vested project that will re-align SE Bybee Road from its current terminus on NW 38th Avenue to the east. Per City of Camas staff, alignment modifications to SE Bybee Road are still being finalized, with the following options being considered:

- Re-align SE Bybee Road with NW Fisher Creek Drive (identified in City of Camas 6-year Street Priorities);
- Connect SE Bybee Road to SE 202nd Avenue (identified as a short-term realignment in the *Camas Crossing Development Transportation Impact Analysis*, TIA); and
- Connect SE Bybee Road to SW Armstrong Drive (identified as a long-term connection in the *Camas Crossing Development TIA*).

Per City of Camas scoping direction, two future realignment scenarios have been considered for purposes of this TIA. The first scenario analyzes impacts with SE Bybee Road aligned at NW Fisher Creek Drive and the second scenario analyzes impacts with the connection occurring at some point further east.

ANALYSIS METHODOLOGY

Intersection Levels-of-Service

Level of service (LOS) analysis described in this report was primarily performed using Synchro 8 software in accordance with the procedures stated in the *2000 Highway Capacity Manual* (HCM, Reference 1). The intersection of NW Pacific Rim Boulevard/NW Parker Street was analyzed using HCS 7 software, which implements 2010 HCM multi-lane all-way stop capacity analysis procedures, due to analysis constraints of the *2000 Highway Capacity Manual* in analyzing four-way stop-controlled intersections with multi-lane approaches.

To evaluate worst-case conditions, the peak 15-minute flow rates of the weekday a.m. and p.m. peak hours were used in the evaluation of all intersection LOS. For this reason, the operations analyses reflect conditions that are likely to occur for the peak 15 minutes out of each weekday a.m. and p.m. peak hour.

Operating Standards

Study intersections within the City of Camas are subject to the following operating standards:

- City of Camas requires a LOS D or better and a volume to capacity ratio of 0.90 or less for all intersections within the city limits of Camas, which includes all study intersections not along SE 192nd Avenue.

Study intersections within the City of Vancouver are subject to the following operating standards, as stated in the City of Vancouver Municipal Code Section 11.80.130.B:

A proposed development that adds at least five net new peak hour trips to an intersection approach operating at an LOS E or lower within the required traffic impact analysis area may be denied based upon any of the following:

1. *For signalized intersections, when off-site intersection conditions are at a LOS F, or*
2. *For signalized intersections, when the LOS E and the volume to capacity ratio is greater than 0.95, or*
3. *For unsignalized intersections, when the volume to capacity ratio for any lane on any approach is greater than 0.95, and*
4. *When significant traffic hazards would be caused or materially aggravated by the proposed development.*

EXISTING TRAFFIC CONDITIONS

The existing conditions analysis identifies site conditions, surrounding land uses, and the current operational and geometric characteristics of roadways within the study area. The purpose of this section is to create a basis for comparison to future conditions.

Site Conditions and Adjacent Land Uses

The proposed development site is mostly vacant, except for two existing structures. The site is currently zoned for Regional Commercial (RC) uses. Table 1 summarizes the attributes of the key transportation facilities in the site vicinity.

Table 1. Existing Transportation Facilities and Roadway Designations

Roadway	Functional Classification	Cross Section	Posted Speed Limit	Sidewalks?	Bike Lanes?	On-street Parking?
SE 192nd Avenue	Principal Arterial[1]	4 lanes[2]	40 mph	Yes	Yes	No
Mill Plain Boulevard	Principal Arterial[1]	4 lanes[2]	30/40 mph[4]	Yes	Yes	No
SE 15th Street	Collector Arterial[1]	2 lanes	40 mph	Partial	Yes	No
SE 20th Street	Minor Arterial[1]	2/3 lanes	40 mph	Yes	Yes	No
SE 34th Street	Principal Arterial[1]	4 lanes[2]	40 mph	Partial	No	No
SE Bybee Road	Collector[3]	2 lanes	30 mph	No	Partial	No
NW Fisher Creek Drive	Collector[3]	2 lanes	30 mph	Partial	No	No
SE 202nd Avenue	Local[3]	2 lanes	30 mph	No	No	No
NW 38th Avenue	Arterial[3]	3 lanes	35/40 mph[5]	Yes	Yes	No
NW Pacific Rim Boulevard	Arterial[3]	4 lanes[2]	35 mph	Yes	No	No
NW Parker Street	Arterial[3]	2/4 lanes[2]	35 mph	Partial	Partial	No
NW 16th Avenue	Collector[3]	2 lanes	25 mph	Partial	Partial	Partial
NW Brady Road	Collector/Arterial[3]	2 lanes	35 mph	Partial	Partial	No

[1]*City of Vancouver Arterial Street System and Classification Map*
[2]*Cross-section includes additional left-turn lanes at major intersections*
[3]*City of Camas 2008 Federal Functional Classification Map*
[4]*Speed limit is 30 mph on eastbound approach at SE 192nd Avenue, 40 mph on westbound approach*
[5]*Speed limit is 40 mph on eastbound approach at SE 192nd Avenue, 35 mph on westbound approach*

Pedestrian Facilities

Continuous sidewalks are provided on both sides of NW 38th Avenue between SE 192nd Avenue and NW Parker Street. A sidewalk is currently provided on the east side of NW Fisher Creek Drive. Sidewalks are currently absent on the west side of NW Fisher Creek Drive along the site frontage and will be constructed in conjunction with the proposed development.

Bicycle Facilities

Bike lanes are provided along both sides NW 38th Avenue in the site vicinity. Bike lanes are present along SE Bybee Road for approximately 100 east of SE 192nd Avenue but are not provided along the remainder of the roadway. Bike lanes are also provided along SE 192nd Avenue, Mill Plain Boulevard, SE 15th Street, SE 20th Street, and NW Parker Street.

Transit Facilities

There is no public fixed-route transit service within Camas. C-TRAN Route 37 operates along SE 192nd Avenue and SE 34th Street. Route 37 connects Fisher's Landing Transit Center and Downtown Vancouver. Service is provided on weekdays from 4:45 a.m. to 12:45 a.m., Saturdays from 7:15 a.m. to 11:30 p.m., and Sundays from 7:30 a.m. to 11 p.m. C-TRAN's "Connector" provides Camas with fully accessible dial-a-ride (reservation-based service) and scheduled stop service (no reservation required) at designated stops at Fisher's Landing Transit Center and Hiddenbrook Drive. Rides are provided on a first-come, first-served basis. Dial-a-ride services are available weekdays from 5:30-9:15 a.m. and 2:00-7:00 p.m.

Traffic Safety Summary

Crash data for the study intersections was obtained from the Washington Department of Transportation (WSDOT) for the three-year period from January 1, 2014 through December 31, 2016 and were reviewed to identify potential intersection safety issues. Table 2 summarizes the crashes reported at the study intersections. *Appendix "A" contains the detailed WSDOT crash data.*

Table 2: Intersection Crash History Summary

Location	Crash Severity			Crash Type						Total Crashes
	Fatal	Injury	PDO[1]	Rear End	Side-swipe	Angle	Turning Movement	Fixed Object	Other	
SE 192nd Ave / Mill Plain Blvd	0	4	1	2	1	1	1	0	0	5
SE 192nd Ave / SE 15th St	0	2	3	4	0	0	1	0	0	5
SE 192nd Ave / SE 20th St	0	3	3	4	1	1	0	0	0	6
SE 192nd Ave / NW Pacific Rim Blvd	0	4	5	1	1	3	4	0	0	9
NW 38th Ave / SE Bybee Rd	0	0	0	0	0	0	0	0	0	0
NW 38th Ave / NW Fisher Creek Dr	0	0	0	0	0	0	0	0	0	0
NW 38th Ave / NW Parker St	0	3	2	0	0	0	2	3	0	5
NW Pacific Rim Blvd / NW Parker St	0	0	3	0	0	1	0	2	0	3
NW 16th Ave / NW Brady Rd	0	0	4	1	0	1	0	0	2	4

[1]PDO – Property damage only

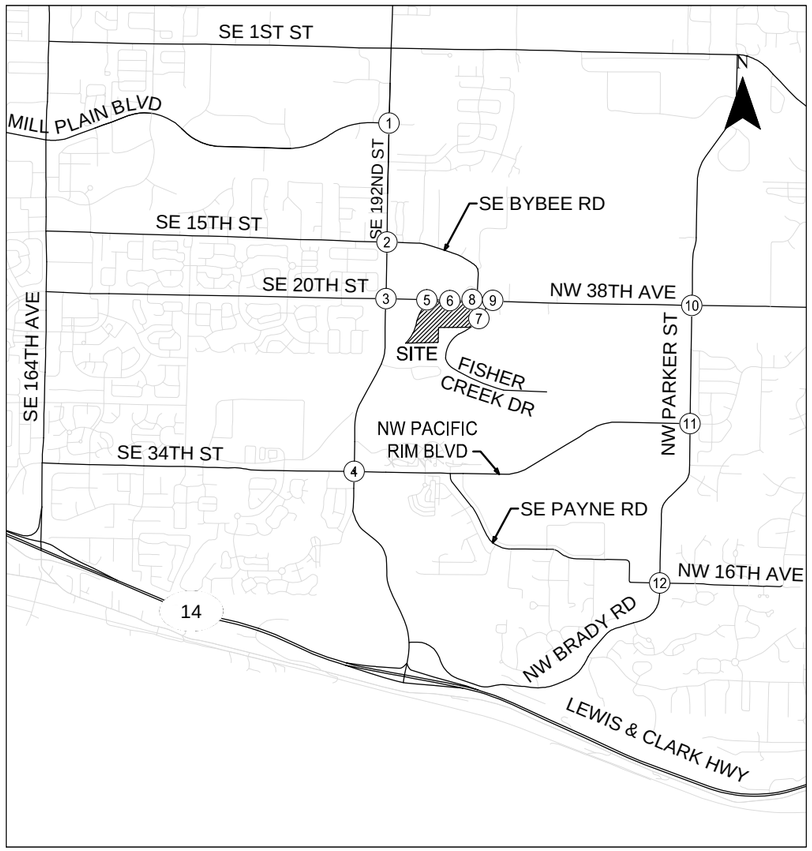
As shown in Table 2, no fatal crashes were reported. No crashes were reported along NW 38th Avenue along or near the site frontage. Based on reviewing the crash data and considering recent urban street improvements made along the NW 38th Avenue corridor, there are no apparent traffic safety hazards that require mitigation in conjunction with site development.

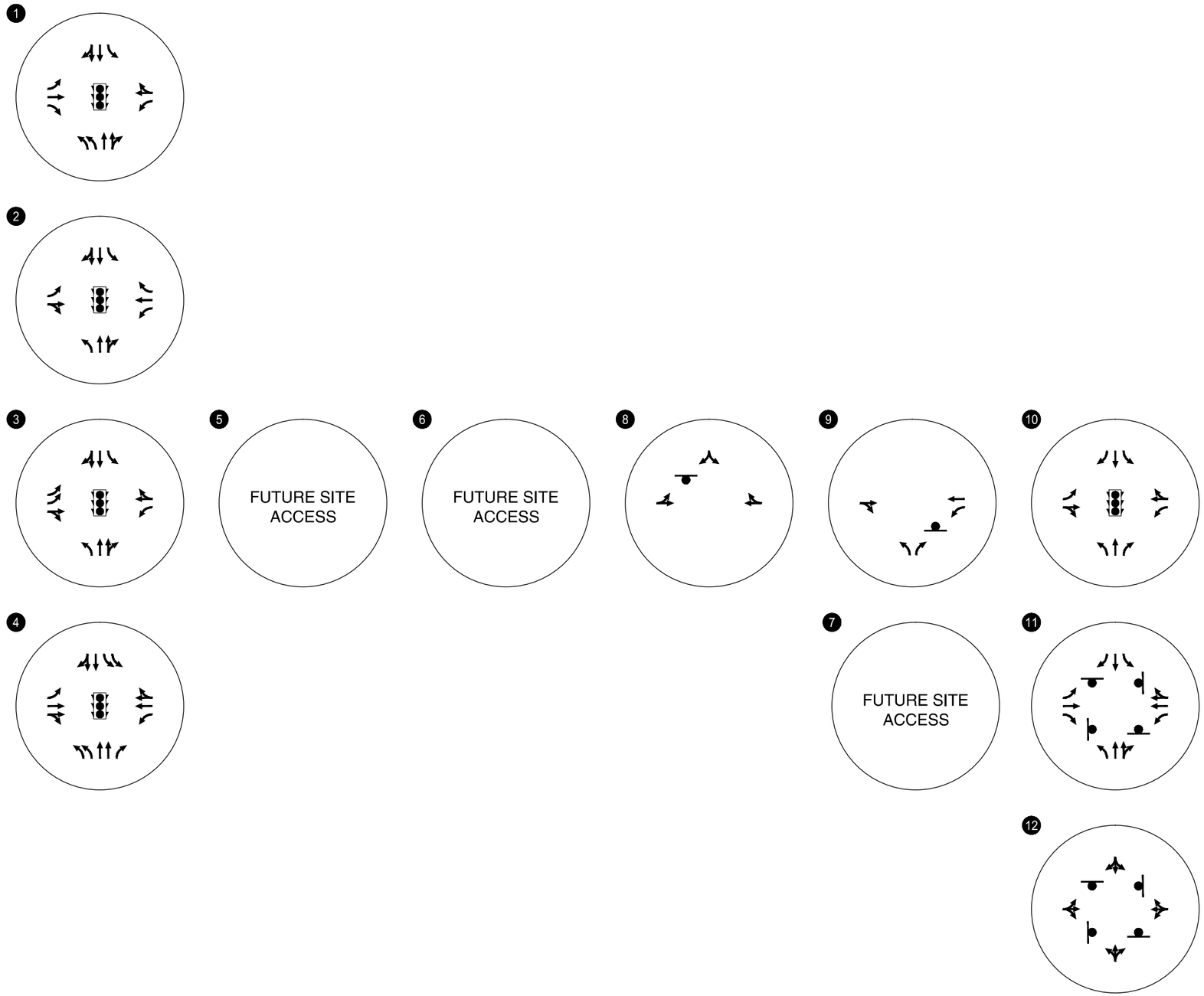
Existing Traffic Operations

Figure 3 illustrates the existing lane configurations and traffic control devices at each of these study intersections.

Turning movement counts were obtained at the study intersections on a midweek day in June 2017. All counts were performed during the morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak periods. Public schools were in session in the cities of Camas and Vancouver on the days the traffic counts were collected. The traffic counts revealed a local system morning peak from 7:30 to 8:30 a.m. and evening peak from 4:35 to 5:35 p.m.

Figures 4 and 5 show the existing traffic volumes and operations at each of the study intersections during weekday a.m. and p.m. peak hours, respectively. As shown in the figures, all study intersections operate acceptably during both peak periods, satisfying the applicable LOS and/or volume to capacity ratio standards. *Appendix "C" includes the traffic count data, and Appendix "D" includes the existing traffic analysis worksheets.*

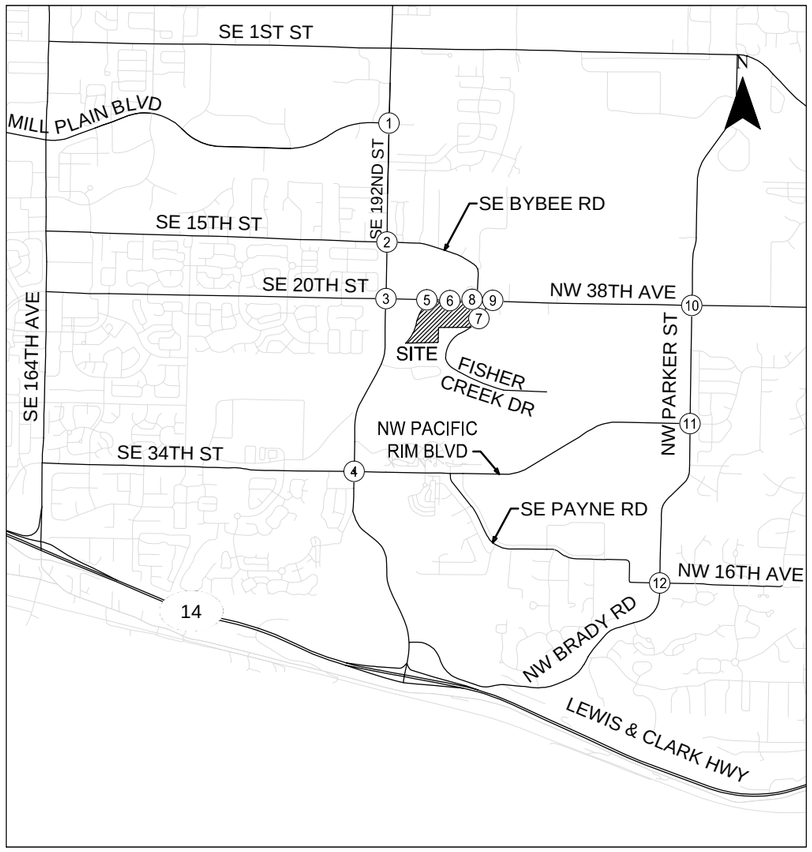


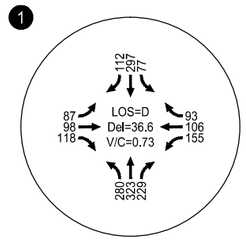


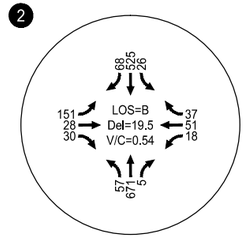
- STOP SIGN
- TRAFFIC SIGNAL

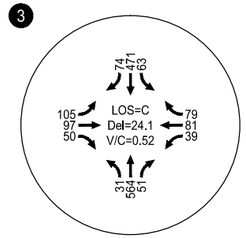
Existing Lane Configurations and Traffic Control Devices
Camas, Washington

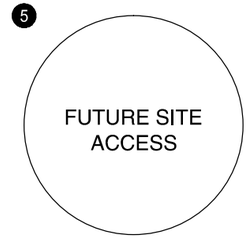
Figure 3

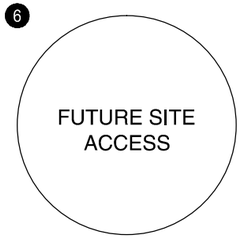


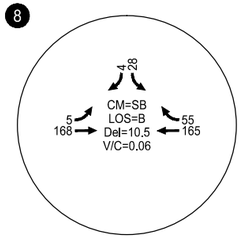


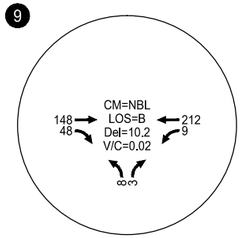


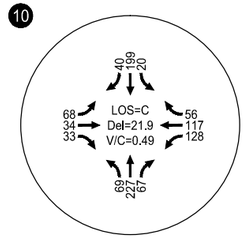


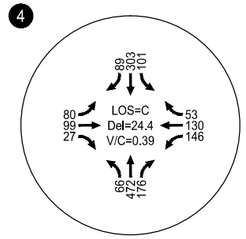


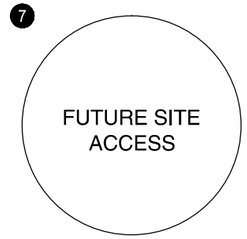


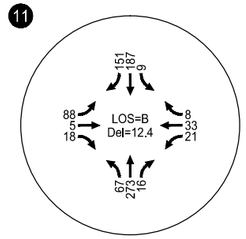


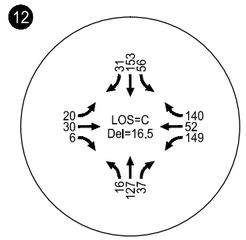












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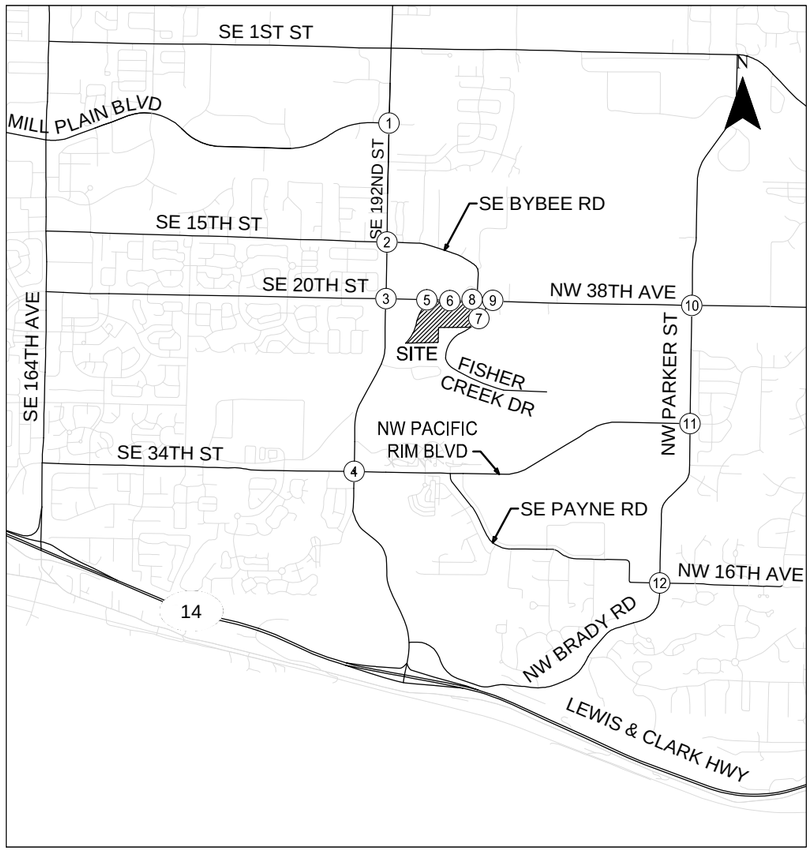
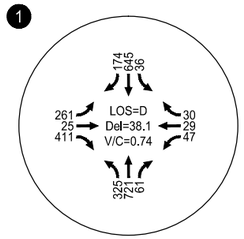
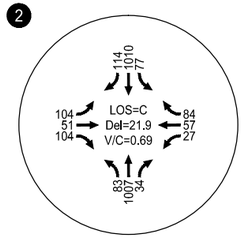
Existing Traffic Conditions
Weekday AM Peak Hour
Camas, Washington

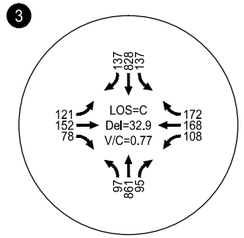
Figure
4

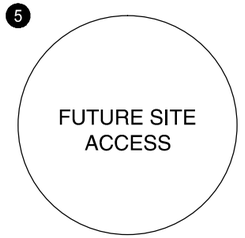
KITTELSON & ASSOCIATES

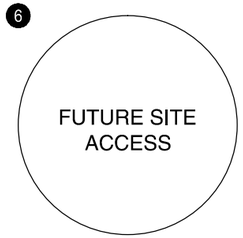


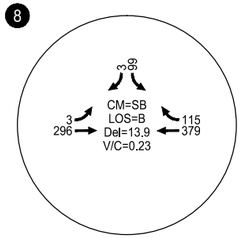


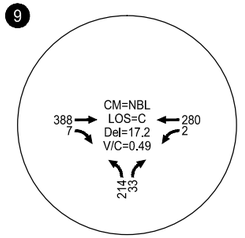


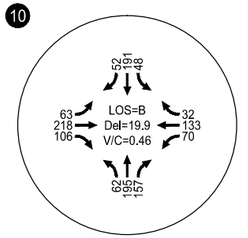


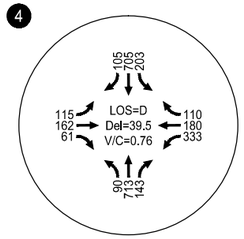


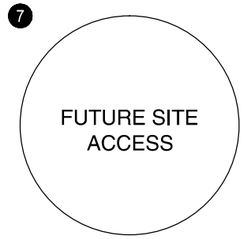


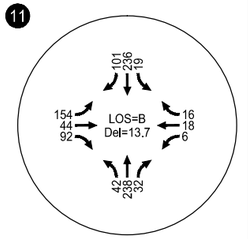


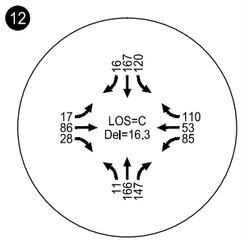












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Existing Traffic Conditions
Weekday PM Peak Hour
Camas, Washington

Figure
5

TRAFFIC IMPACT ANALYSIS

The future conditions analysis identifies how the study intersections will operate in the proposed development completion year of 2021. The following elements were analyzed to account for the impacts of the proposed development:

- 2021 Scenario 1 Background traffic conditions (SE Bybee Road aligned at NW Fisher Creek Drive ***without*** the proposed development);
- 2021 Scenario 2 Background traffic conditions (SE Bybee Road aligned to the east ***without*** the proposed development);
- 2021 Scenario 1 Total Traffic Conditions (SE Bybee Road aligned at NW Fisher Creek drive ***with*** the proposed development); and
- 2021 Scenario 2 Total Traffic Conditions (SE Bybee Road aligned to the east ***with*** the proposed development).

Year 2021 Background Conditions

The background traffic analysis identifies how the study intersections will operate in the proposed project build year with traffic growth from in-process developments within the study area, but not including the trips associated with the proposed Grass Valley project. The City of Camas identified the following approved in-process developments in the site vicinity that would potentially add trips to the study intersections:

1. NW 38th Dental Office
2. Belz Place Residential Development[2]
3. CJ Dens Residential Subdivision
4. Columbia Palisades Subdivision
5. Fisher Creek Campus Building 4
6. Green Mountain Estates
7. Green Mountain Master Plan[3]
8. Lofts at Camas Meadows
9. Parklands at Camas Meadows
10. The Village at Camas Meadows
11. Kate's Woods Apartments
12. Dawson Ridge Subdivision
13. Camas Crossing Development
14. Camas School District – Sharp Drive

Given the traffic volumes from multiple in-process developments and per direction from City of Camas engineering staff, no additional regional background growth rate was applied at City of Camas intersections. A two percent annual growth rate plus the identified in-process trips were applied along the SE 192nd Avenue corridor per the *City of Vancouver Traffic Study Guidelines*. *Appendix "E" includes the estimated in-process volumes.*

[2] The Belz Place Development is 50 percent complete. Traffic forecasts have been adjusted accordingly.

[3] The Green Mountain Master Plan is five percent complete. Traffic forecasts have been adjusted accordingly.

Future Roadway Network Changes

The capital improvement programs for both the cities of Camas and Vancouver were reviewed to determine if any of the study area roadways or intersections are targeted for capacity enhancements. The SE Bybee Road realignment to the NW Fisher Creek Drive signal is listed on the City's 6-year street plan and Capital Facilities Plan. However, the Camas Crossing development proposes to shift the realignment to SE 202nd Avenue or another point further east through the Master Plan/Development Agreement process as previously described.

As the location of SE Bybee Road's connection with NW 38th Avenue is still being determined, two background scenarios were considered. Minor changes in the in-process trip assignments are expected between Scenario 1 (SE Bybee Road aligned at NW Fisher Creek Drive) and Scenario 2 (SE Bybee Road aligned to the east).

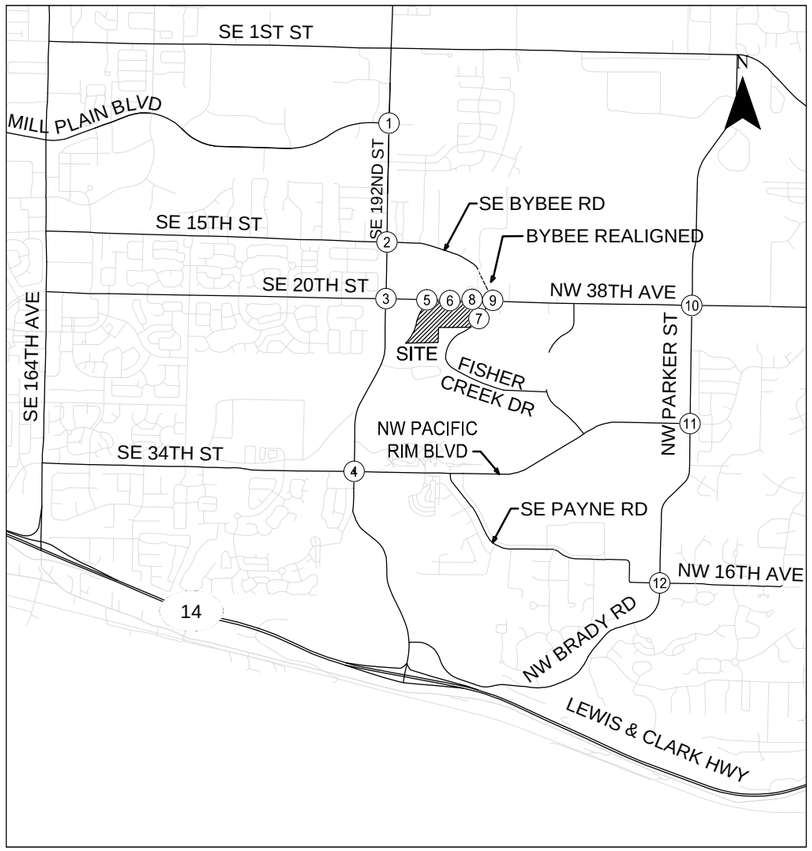
In addition, under both scenarios the NW 16th Avenue/NW Brady Road intersection will be signalized in conjunction with another in-process development. Figures 6 and 7 show the anticipated lane configurations and traffic control devices for Scenarios 1 and 2, respectively.

Scenario 1 (SE Bybee Road aligned at NW Fisher Creek Drive) Background Traffic Conditions

Figures 8 and 9 show the projected 2021 background traffic volumes and operations for the study intersections during the weekday a.m. and p.m. peak hours, respectively. As shown in the figures, all intersections are expected to continue operating acceptably and satisfy the jurisdictional standards of the governing agency. *Appendix "F" includes the 2021 background traffic analysis worksheets.*

Scenario 2 (SE Bybee Road aligned to the east) Background Traffic Conditions

Figures 10 and 11 show the projected 2021 background traffic volumes and operations for the study intersections during the weekday a.m. and p.m. peak hours under Scenario 2. As shown in the figures, the SE 20th Street/SE 192nd Avenue intersection is projected to operate over-capacity and at LOS F during the weekday p.m. peak hour, exceeding City of Vancouver standards. All other intersections are projected to continue operating acceptably and satisfy the jurisdictional standards of the governing agency. *Appendix "F" includes the 2021 background traffic analysis worksheets.*



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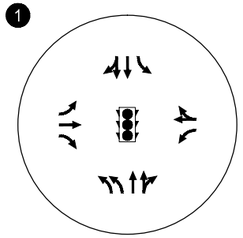

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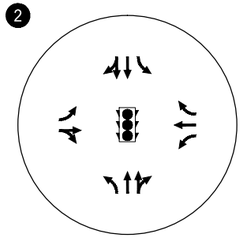

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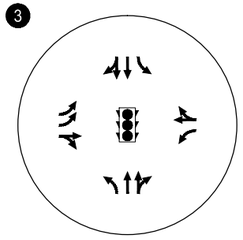

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FUTURE SITE ACCESS

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FUTURE SITE ACCESS

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INTERSECTION REMOVED

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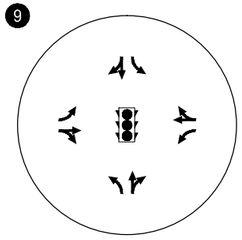

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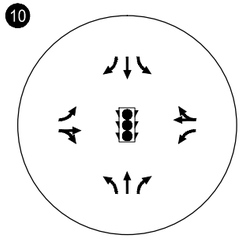

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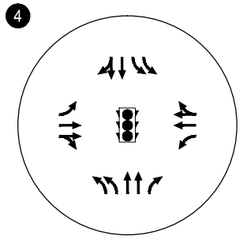

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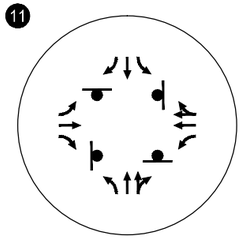

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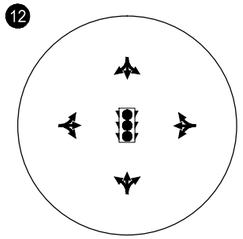
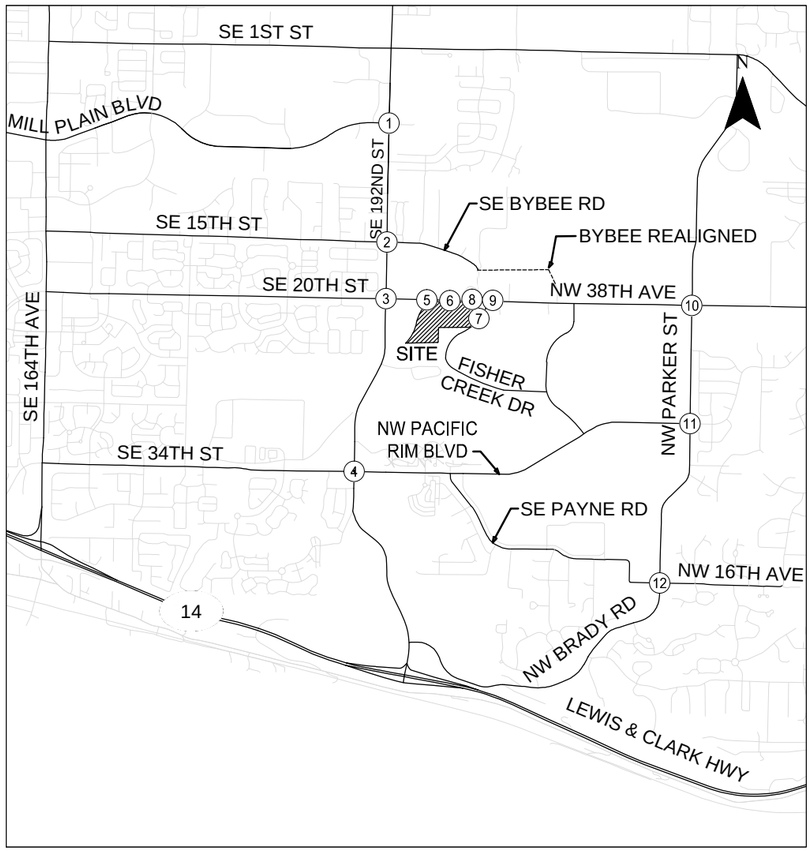


- STOP SIGN
- TRAFFIC SIGNAL

Scenario 1
Future Lane Configurations & Traffic Control Devices
Camas, Washington

Figure
6



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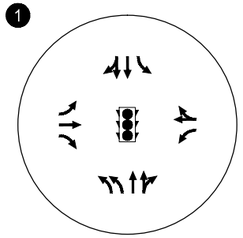

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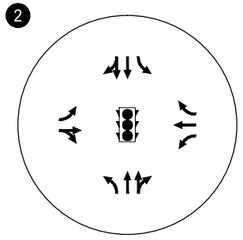

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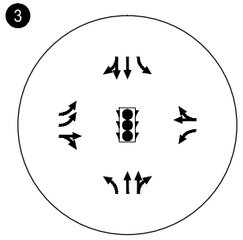

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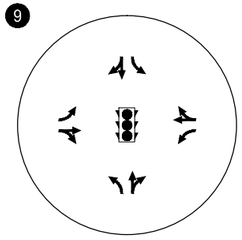

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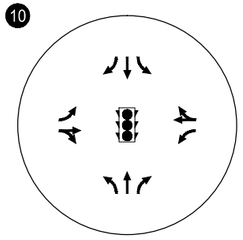

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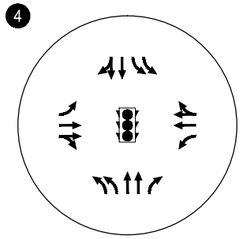

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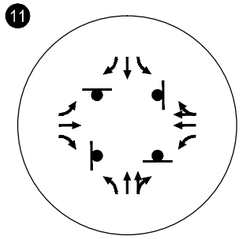

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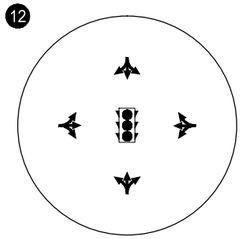

- STOP SIGN
- TRAFFIC SIGNAL

Scenario 2
Future Lane Configurations & Traffic Control Devices
Camas, Washington

Figure
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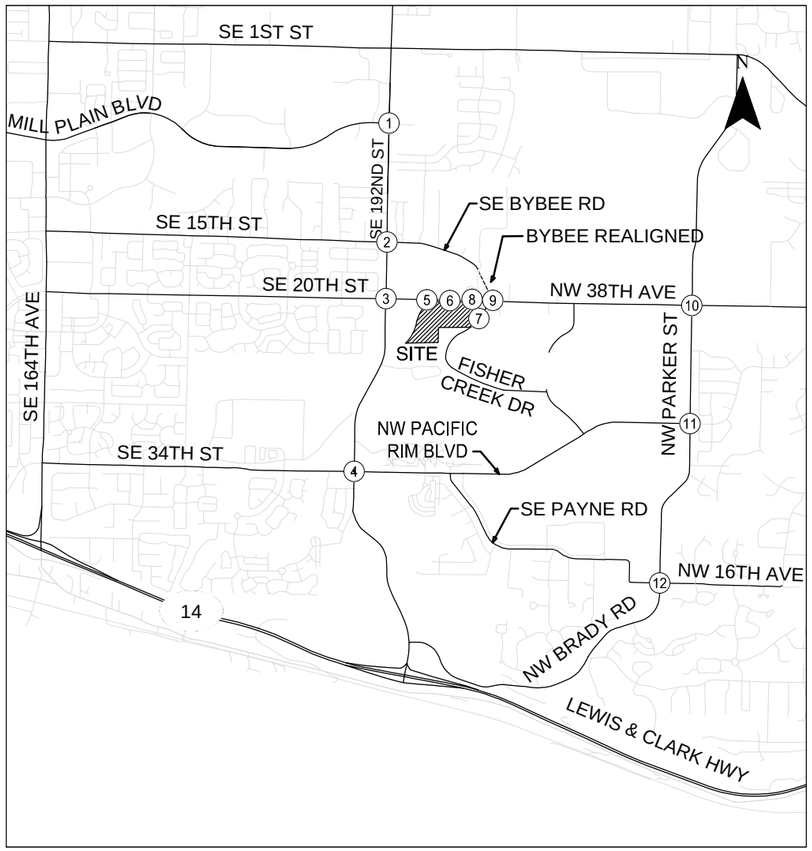

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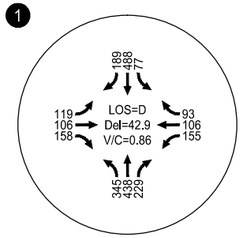

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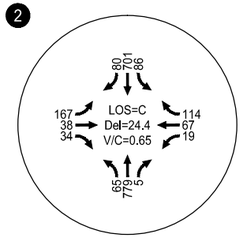

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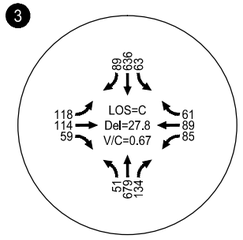

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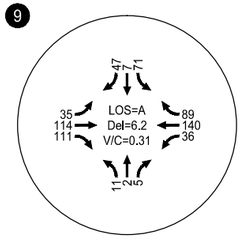

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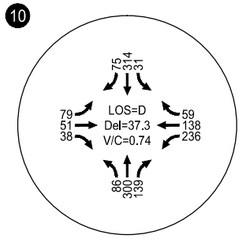

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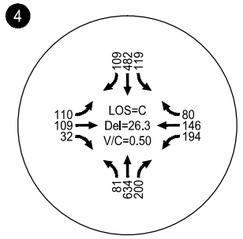

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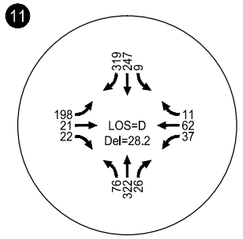

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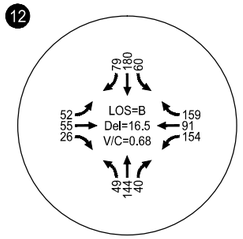

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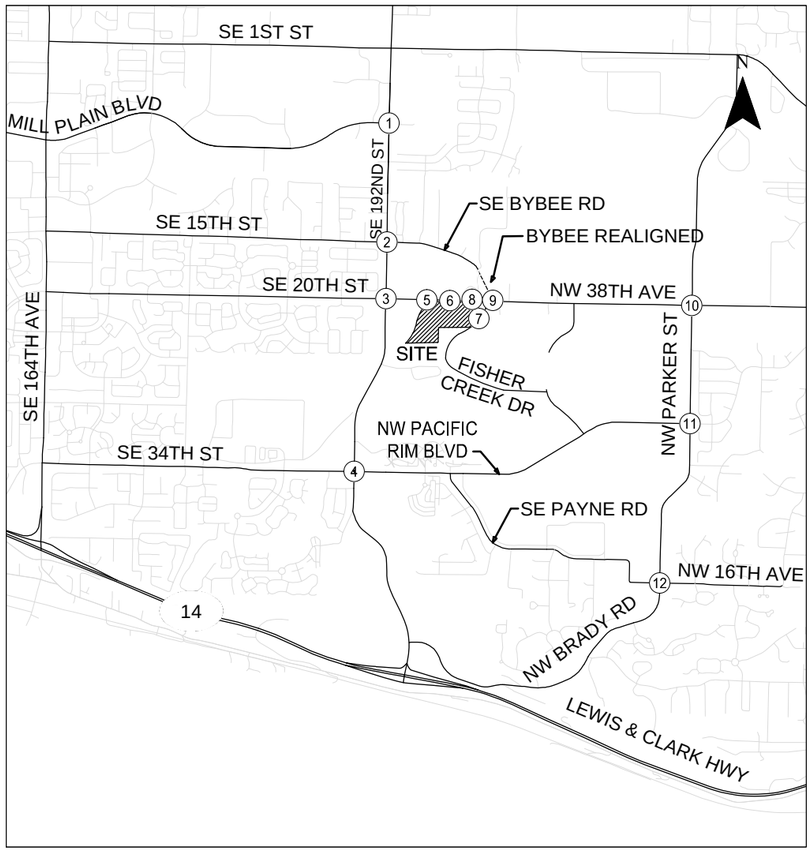
Scenario 1 2021 Background Traffic Conditions
Weekday AM Peak Hour
Camas, Washington

Figure
8

KITTELSON & ASSOCIATES



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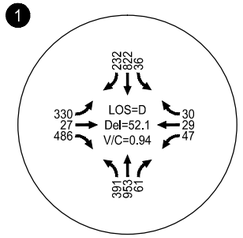

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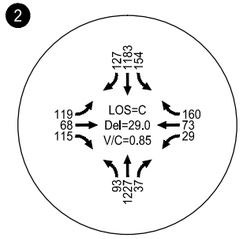

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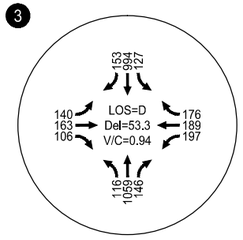

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FUTURE SITE ACCESS

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FUTURE SITE ACCESS

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INTERSECTION REMOVED

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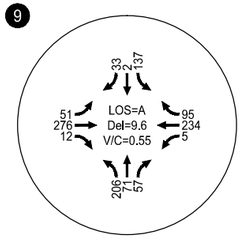

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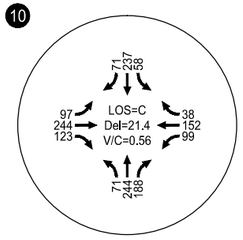

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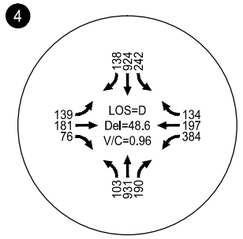

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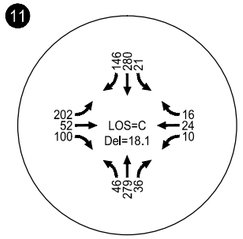

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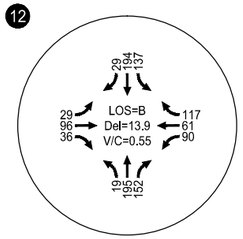

CM = CRITICAL MOVEMENT (UNSIGNALIZED)
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V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Scenario 1 2021 Background Traffic Conditions
Weekday PM Peak Hour
Camas, Washington

Figure
9

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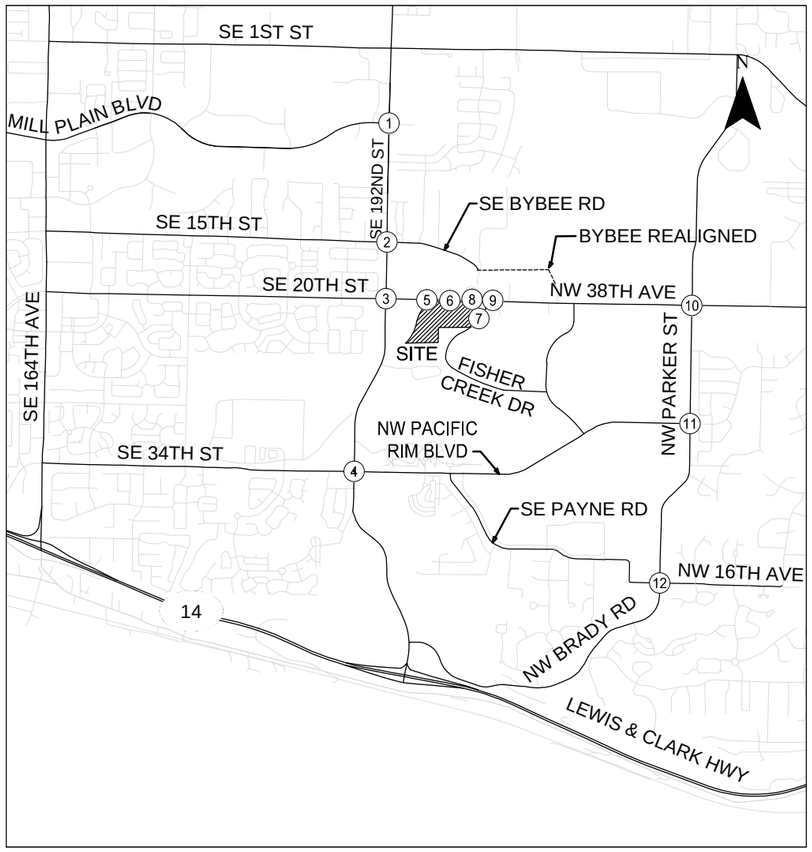

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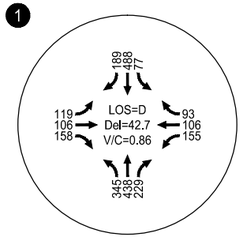

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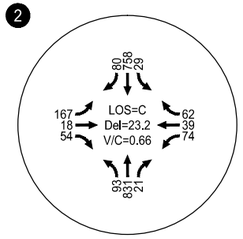

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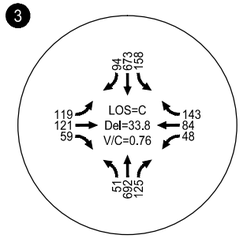

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INTERSECTION REMOVED

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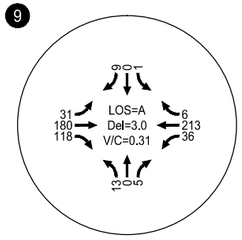

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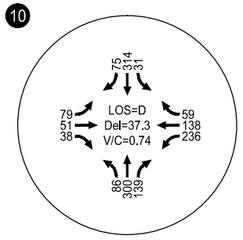

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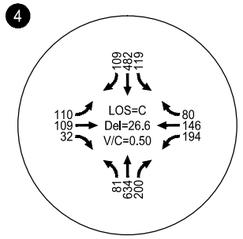

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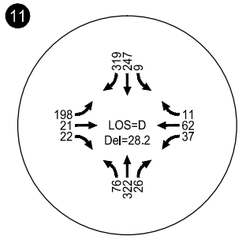

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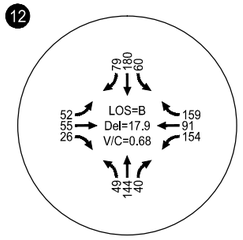

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Scenario 2 2021 Background Traffic Conditions
Weekday AM Peak Hour
Camas, Washington

Figure
10

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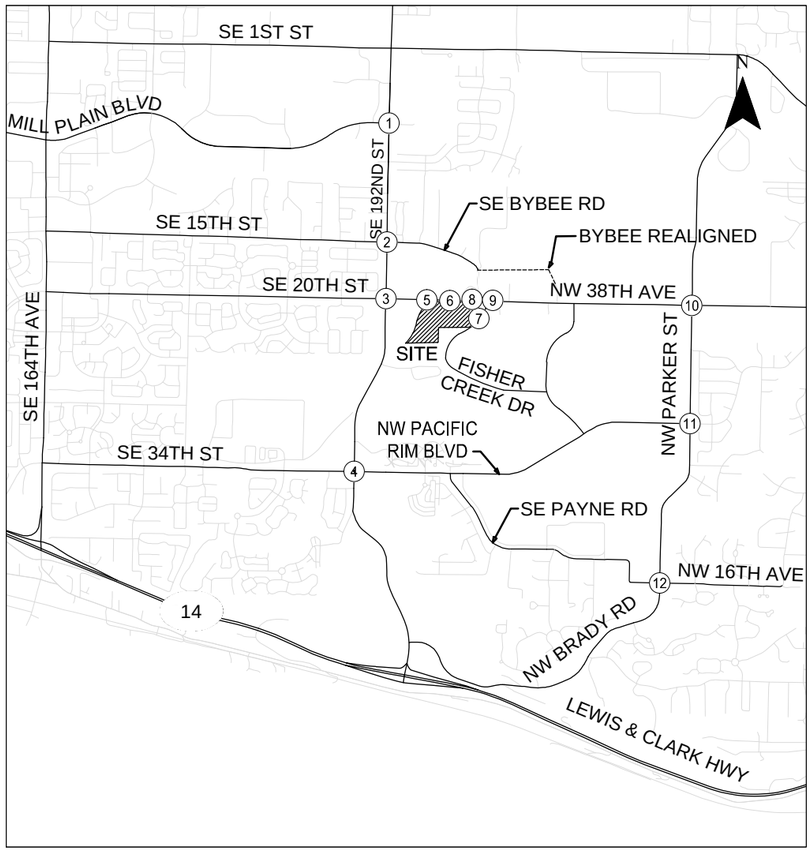

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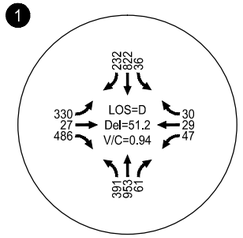

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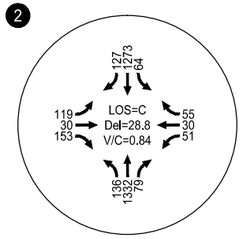

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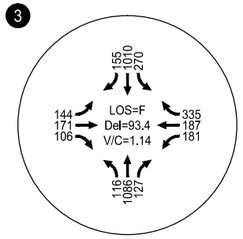

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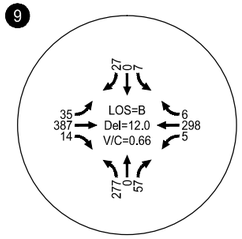

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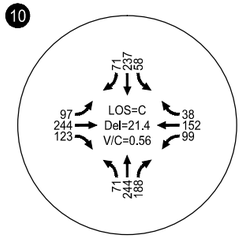

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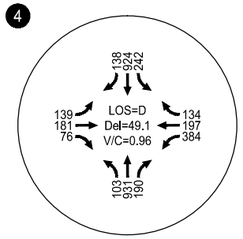

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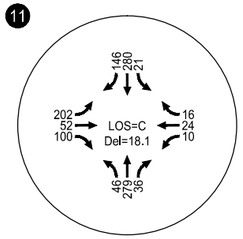

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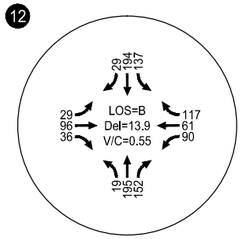

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Scenario 2 2021 Background Traffic Conditions
Weekday PM Peak Hour
Camas, Washington

Figure
11

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Proposed Development Plan

The applicant proposes to construct a mixed-use development consisting of up to 276 apartment units, 100,000 square feet of corporate headquarters, 150,000 square feet of general office, and 20,000 square feet of retail split evenly between restaurant and grocery. Access to the development is proposed via two unsignalized driveways on NW 38th Avenue and two unsignalized driveways on NW Fisher Creek Drive south of NW 38th Avenue (and north of the gated entry to the Fisher Investments Campus). The location of the western driveway on NW 38th Avenue is being coordinated with the neighboring Camas Crossing development to align the site driveways.

Other planned transportation improvements associated with the proposed development include a sidewalk along the site frontage on the west side of NW Fisher Creek Drive and a southbound right turn lane into the site at the unsignalized driveway on NW Fisher Creek Drive. Full occupancy of the development is expected to occur by 2021.

Trip Generation

Estimates of average weekday a.m. and p.m. peak hour vehicle trip ends were obtained from the standard reference manual, *Trip Generation, 9th Edition*, published by the Institute of Transportation Engineers (Reference 2). Pass-by rates were developed based on guidance in *Trip Generation Handbook*, 3rd Edition (Reference 3), and trip internalization rates between uses were developed based on guidance in *Trip Generation Handbook*, 2nd Edition (Reference 4) for daily trips, and NCHRP Report 684 (Reference 5) for peak hour trips. *Appendix "G" includes the OTISS Traffic software trip internalization calculations.* Table 3 summarizes the trip generation for the proposed development.

Table 3: Site Trip Generation Estimate

Land Use Category	ITE Code	Size	Units	Total Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
					Total	In	Out	Total	In	Out
Residential Apartments	220	276	DU	1,835	141	28	113	171	111	60
Less Internal Trips				*-254*	*-17*	*-2*	*-15*	*-38*	*-23*	*-15*
Corporate Headquarters Building	714	100,000	Sq. Ft.	798	152	141	11	141	14	127
General Office Building	710	150,000	Sq. Ft.	1,654	234	206	28	224	38	186
Less Internal Trips				*-124*	*-40*	*-21*	*-19*	*-12*	*-2*	*-10*
High-Turnover (Sit-Down) Restaurant	932	10,000	Sq. Ft.	1,272	108	59	49	99	59	40
Less Internal Trips				-455	-45	-27	-18	-47	-24	-23
Less Pass-By Trips (21% Daily and AM peak, 43% PM peak)				-172	-12	-6	-6	-22	-11	-11
Supermarket	850	10,000	Sq. Ft.	1,022	34	21	13	95	48	47
Less Internal Trips				*-433*	*-16*	*-9*	*-7*	*-51*	*-25*	*-26*
Less Pass-By Trips (18% Daily and AM peak, 36% PM peak)				*-106*	*-4*	*-2*	*-2*	*-38*	*-19*	*-19*
Total Trips				**6,581**	**669**	**455**	**214**	**730**	**270**	**460**
Less Internal Trips				*-1,266*	*-118*	*-59*	*-59*	*-148*	*-74*	*-74*
Less Pass-by Trips				*-278*	*-16*	*-8*	*-8*	*-60*	*-30*	*-30*
Net New Primary Trips				**5,037**	**535**	**388**	**147**	**522**	**166**	**356**

Trip Distribution

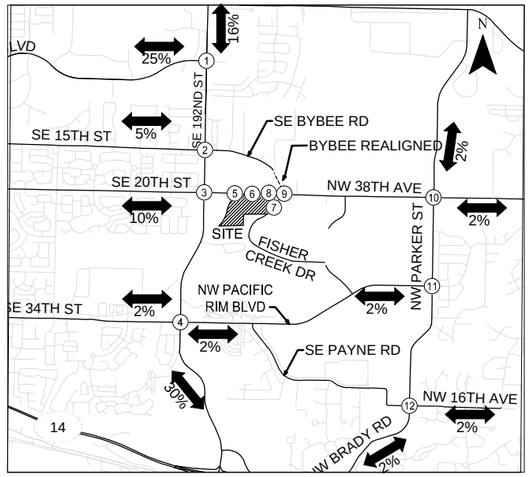
The distribution of site-generated trips onto the study area roadway system was estimated based on a review of surrounding roadway characteristics, existing uses, the 2035 travel demand model maintained by the Southwest Washington Regional Transportation Council (RTC) (select zone analysis of TAZ #651), and other trip distribution patterns used for similar projects in the area.

Three distinct distribution patterns were employed in the analysis (one each for residential, office, and retail uses) recognizing trips associated with each of the land uses will have different travel patterns. For example, some retail trips are likely to be made from employees of existing businesses and homes in the immediate site vicinity given the project location whereas residential trips are likely to travel further to and from the site. Further, the market area for retail uses will be limited to the west where there are multiple competing uses while there is little retail service provided east of the site. Figures 12 and 13 illustrate the three estimated trip distribution patterns.

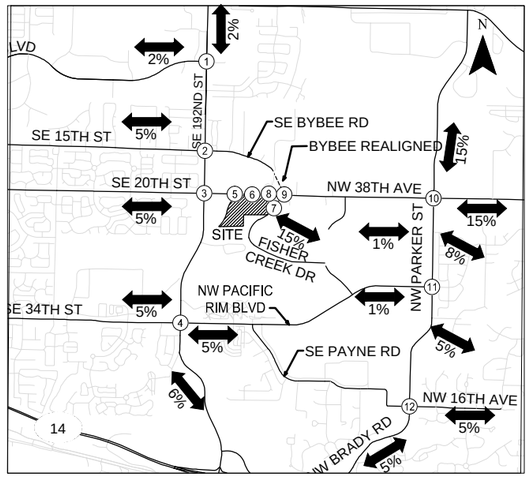
Trip Assignment

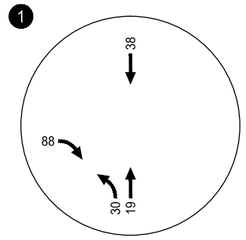
The weekday a.m. and p.m. peak hour site trips shown in Table 3 were assigned to the roadway network based on the trip distribution patterns shown in Figures 12 and 13. Figures 12 and 13 also show the a.m. and p.m. peak hour primary trip assignments for site development under Scenario 1. Figures 14 and 15 show the a.m. and p.m. peak hour pass-by trip assignments. New trip assignments under Scenario 2 are shown on Figures 16 and 17 (site pass-by trip assignment remains the same under Scenarios 1 and 2).

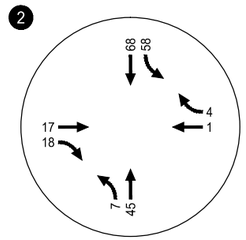
Residential Distribution

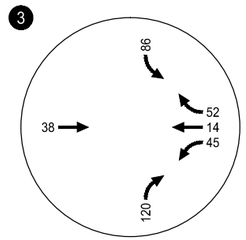


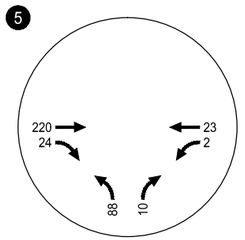
Retaill Distribution

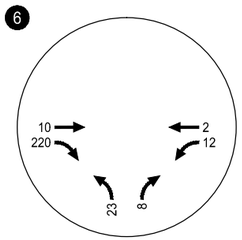


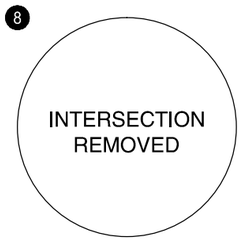


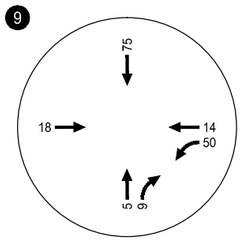


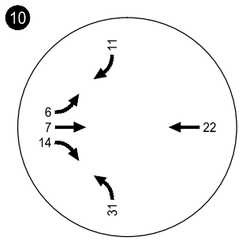


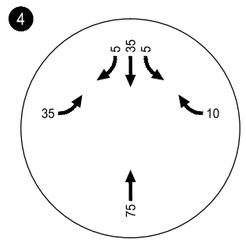




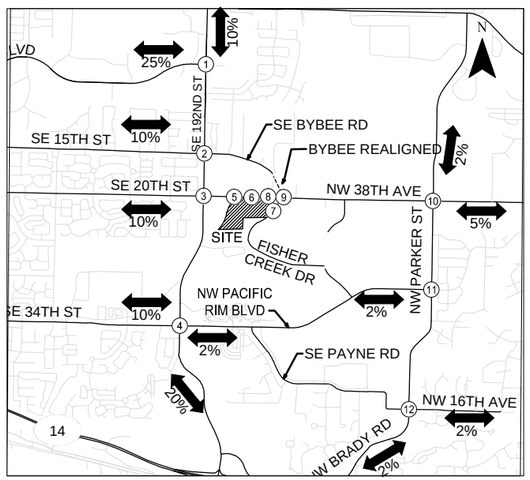


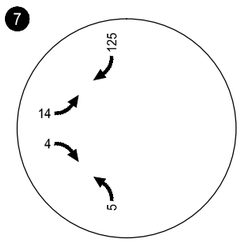


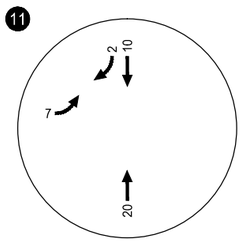


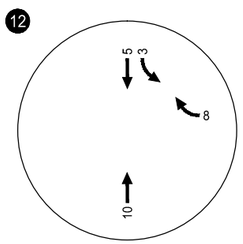


Office Distribution







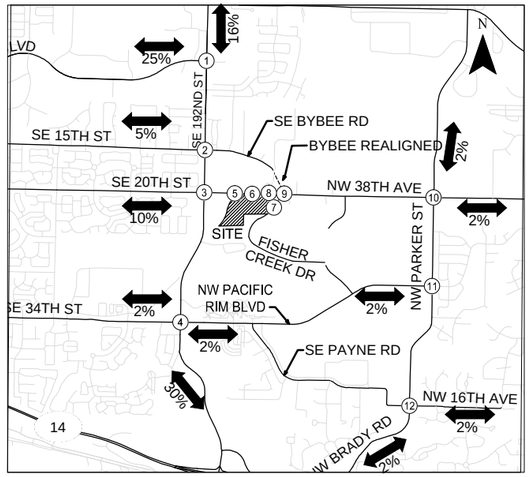


Scenario 1 Trip Distribution & Assignment
Weekday AM Peak Hour
Camas, Washington

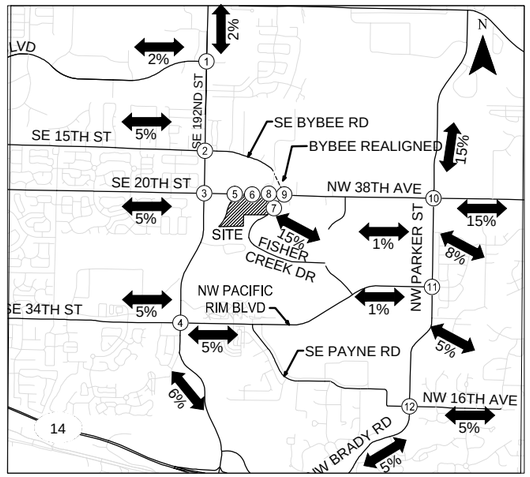
Figure
12

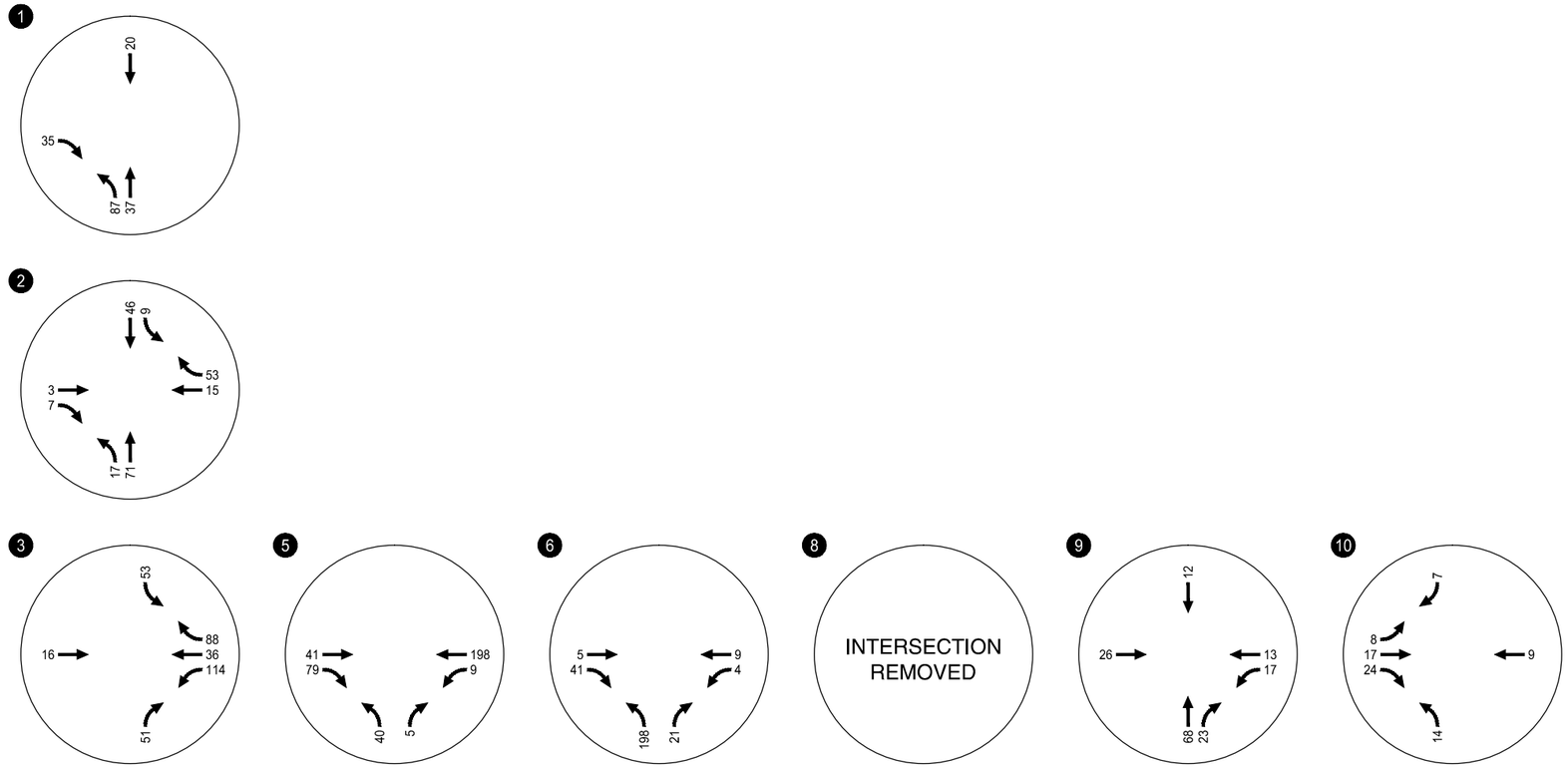
KITTELSON & ASSOCIATES

Residential Distribution

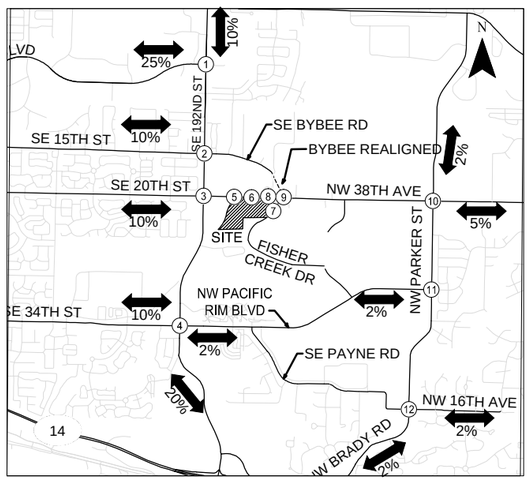


Retaill Distribution





Office Distribution

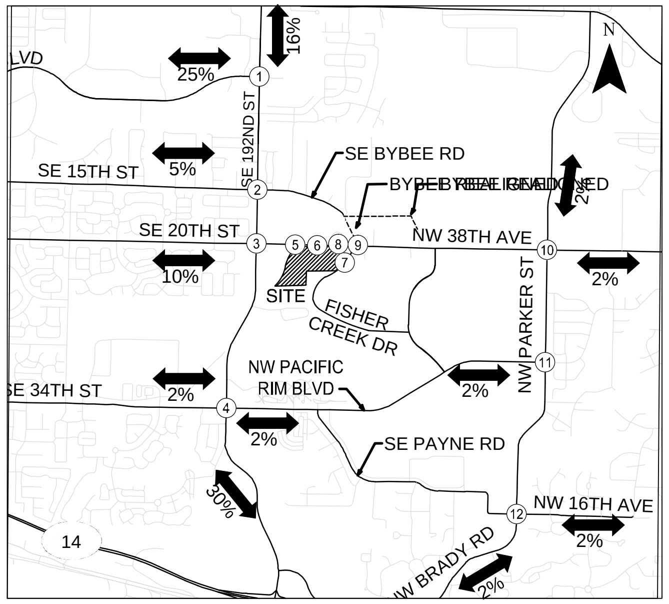


Scenario 1 Trip Distribution & Assignment
Weekday PM Peak Hour
Camas, Washington

Figure
13

KITTELSON & ASSOCIATES

Residential Distribution



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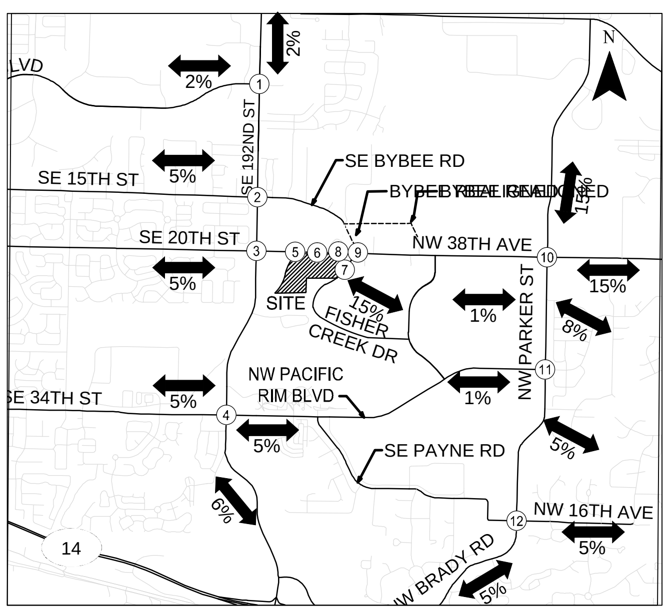
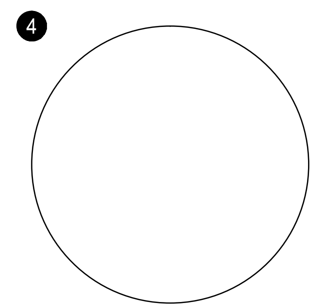
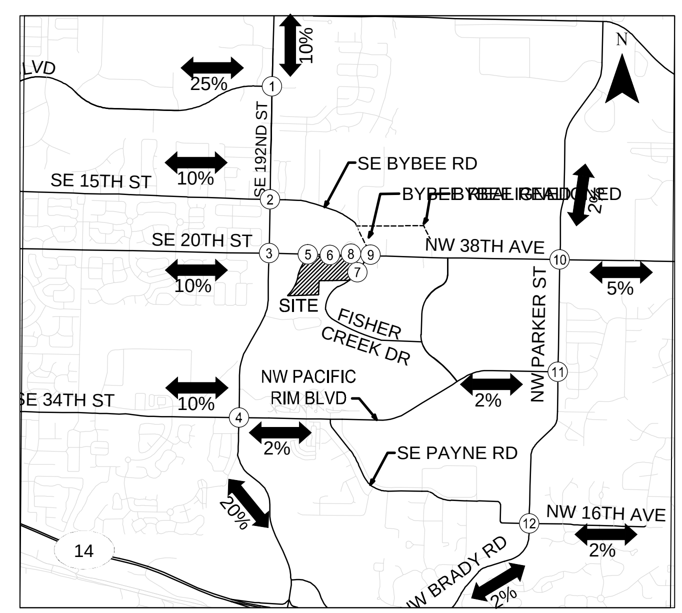
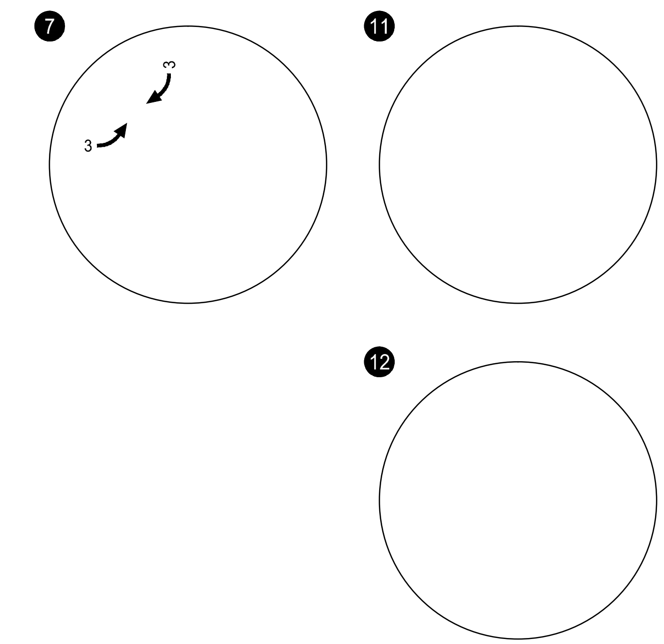




Office Distribution

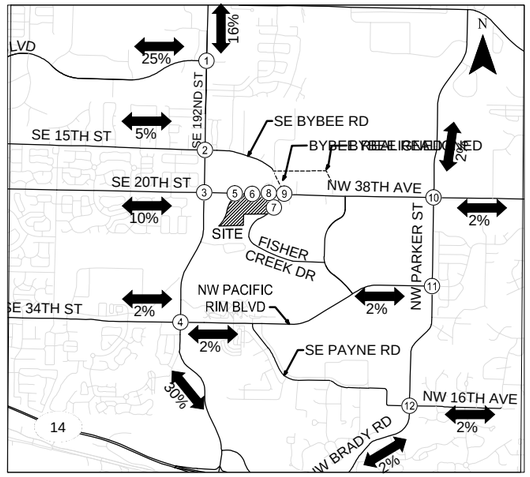




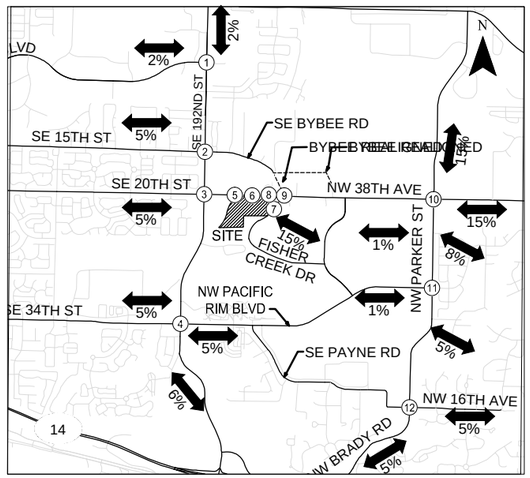
Pass-By Trips
Weekday AM Peak Hour
Camas, Washington

Figure 14

Residential Distribution



Retaill Distribution



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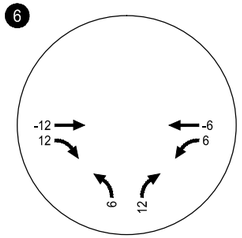

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INTERSECTION REMOVED

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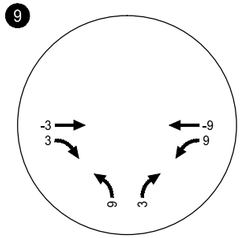

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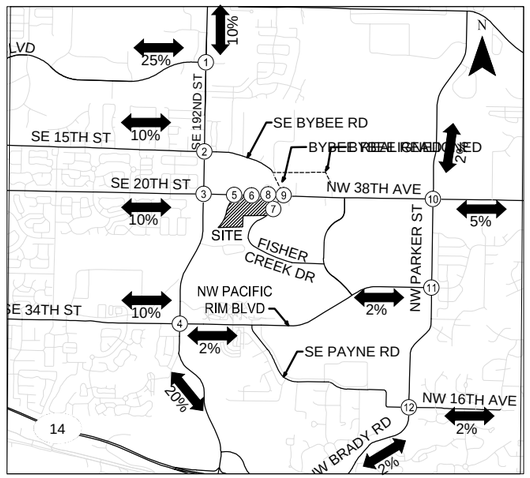
Office Distribution



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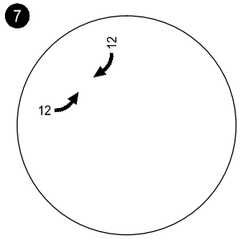

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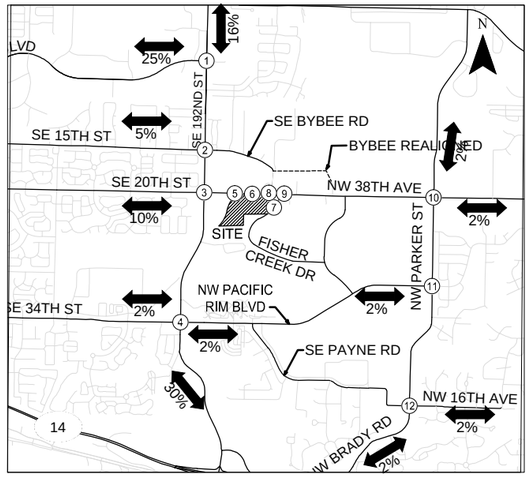
Pass-By Trips
Weekday PM Peak Hour
Camas, Washington

Figure
15

Residential Distribution



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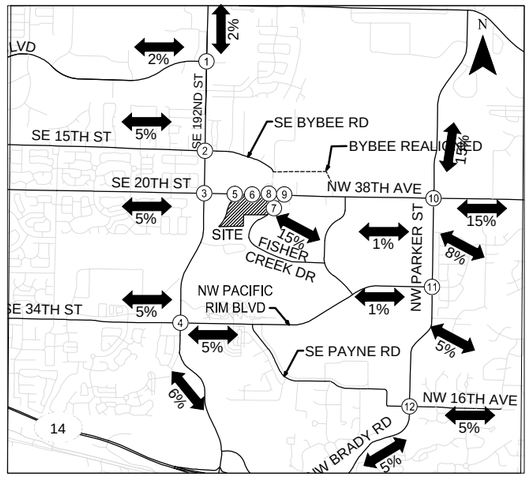
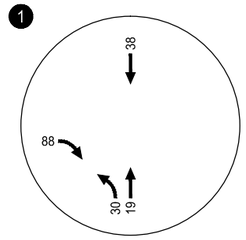
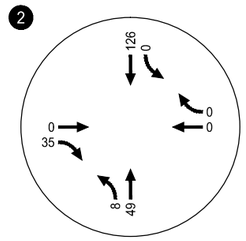
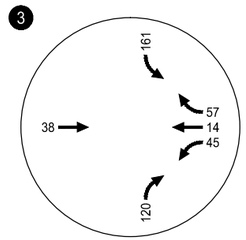
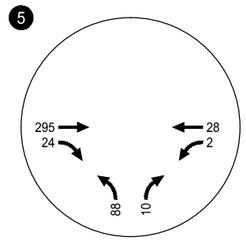
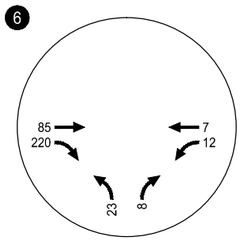


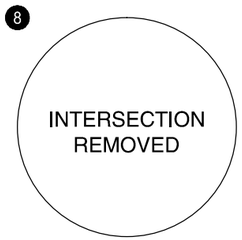


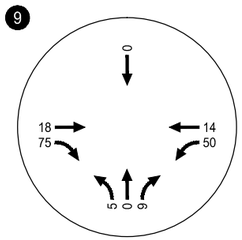


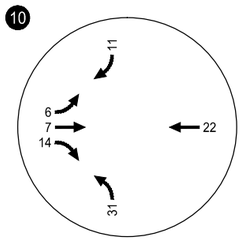


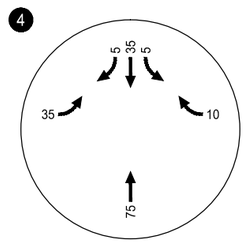




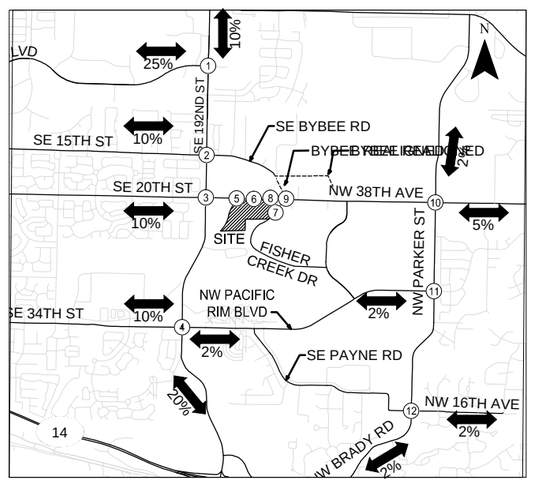


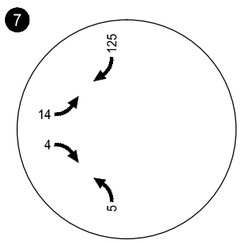


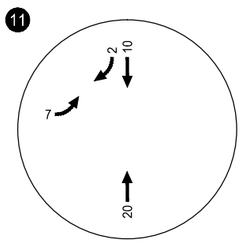


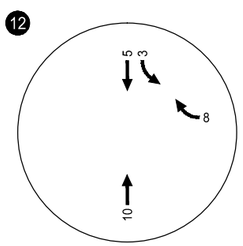


Office Distribution







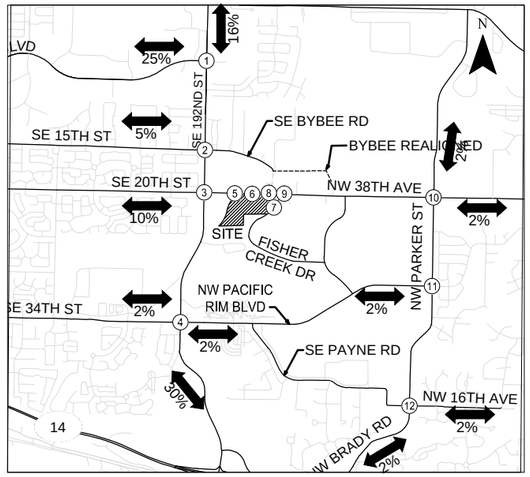


Scenario 2 Trip Distribution & Assignment
Weekday AM Peak Hour
Camas, Washington

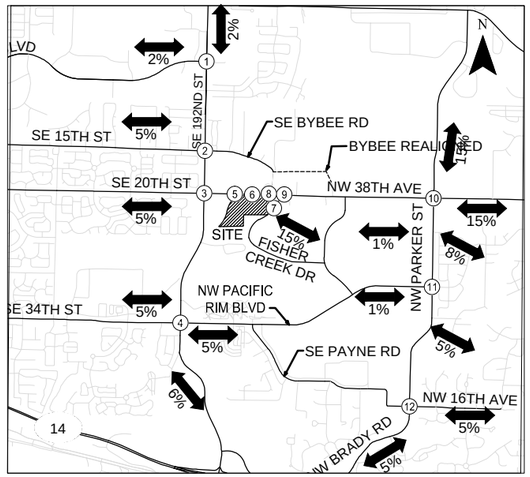
Figure 16

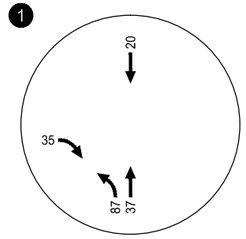
KITTELSON & ASSOCIATES

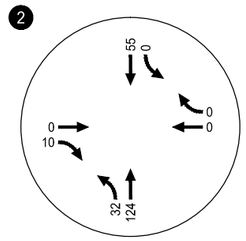
Residential Distribution

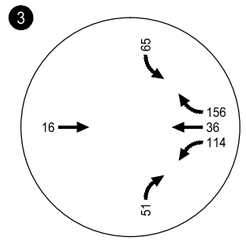


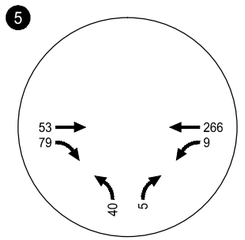
Retaill Distribution

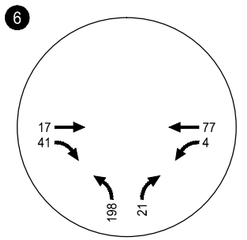


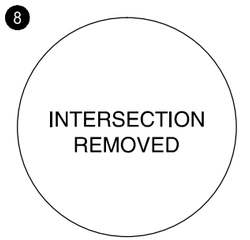


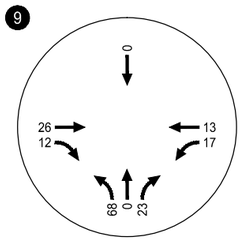


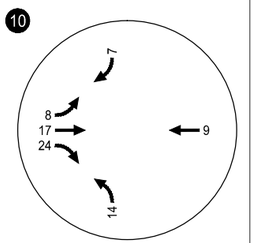


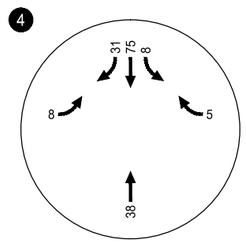




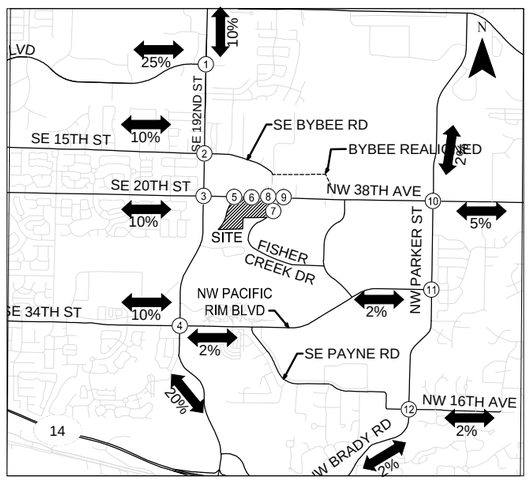


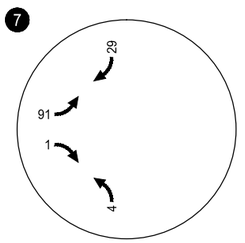


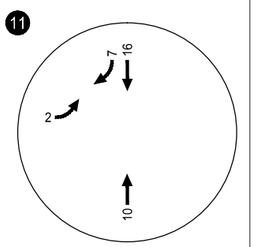


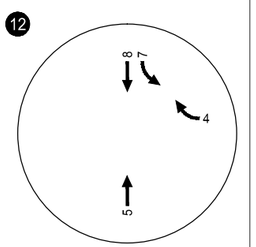


Office Distribution









Scenario 2 Trip Distribution & Assignment
Weekday PM Peak Hour
Camas, Washington

Figure
17

Year 2021 Total Traffic Conditions

The total traffic conditions analysis forecasts how the study intersections will operate with the inclusion of site-generated traffic. These future conditions were evaluated for both roadway network scenarios as described below.

Scenario 1 (SE Bybee Road aligned at NW Fisher Creek Drive) Total Traffic Conditions

The total traffic volumes at the study intersections include the 2021 background traffic volumes (Figures 8 and 9), primary site-generated trips (Figures 12 and 13) and pass-by site-generated trips (Figures 14 and 15). Figures 18 and 19 show the 2021 total traffic volumes and operations during the weekday a.m. and p.m. peak hours for Scenario 1.

As shown in Figure 19, the SE 20th Street/SE 192nd Avenue intersection is projected to operate at an unacceptable LOS "F" during the weekday p.m. peak hour. *Appendix "H" includes the year 2021 total traffic analysis worksheets.* All other study intersections are predicted to continue to operate acceptably and satisfy the applicable mobility standards.

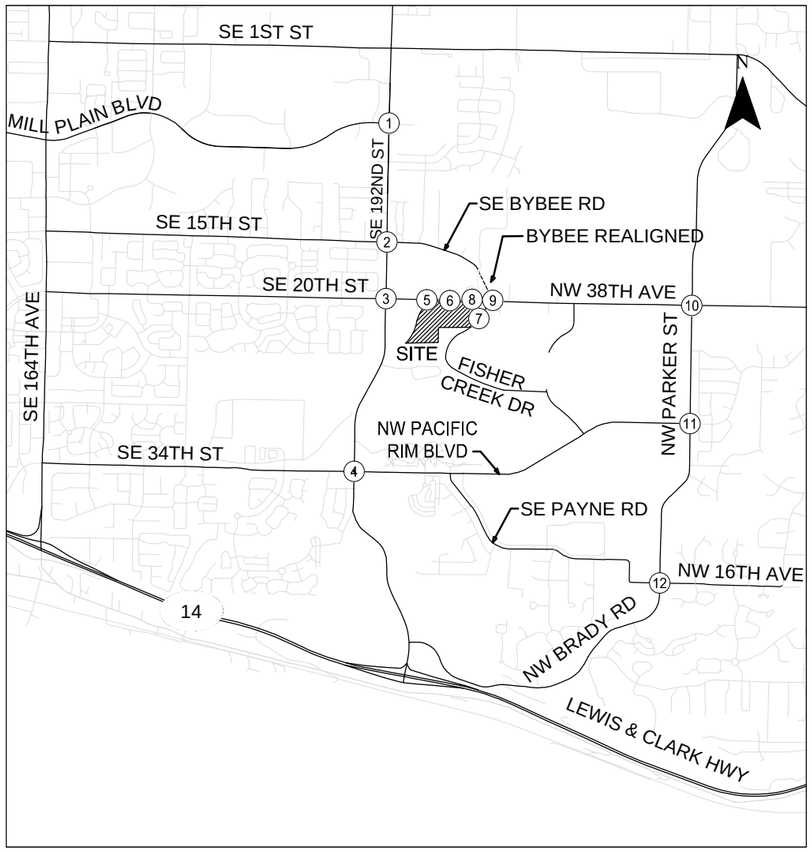
SE 20th Street/SE 192nd Avenue Intersection Mitigation

Operations of the SE 20th Street/SE 192nd Avenue intersection could be mitigated to comply with City of Vancouver standards through the addition of a second westbound left-turn lane on SE 20th Street. The additional left-turn lane would add westbound left-turn capacity and allow for traffic signal retiming that allocates additional green time to the primary north-south traffic patterns along SE 192nd Avenue. With this mitigation in place, the intersection is projected to operate at LOS D and a volume to capacity ratio of 1.02 during the weekday p.m. peak hour. *Mitigated operations analysis assuming the additional turn lane and signal retiming for p.m. peak hour conditions is provided at the end of Appendix "H".*

Scenario 2 (SE Bybee Road aligned to the east) Total Traffic Conditions

The Scenario 2 total traffic volumes at the study intersections reflect summation of the 2021 background traffic volumes (Figures 10 and 11), primary site-generated trips (Figures 16 and 17) and pass-by site-generated trips (Figures 14 and 15). Figures 20 and 21 show the 2021 total traffic volumes and operations during the weekday a.m. and p.m. peak hours for Scenario 2.

As shown in the figures, the SE 20th Street/SE 192nd Avenue continues to operate at an unacceptable level based on the City of Vancouver standards during the weekday p.m. peak hour. Compared to Scenario 1, the intersection experiences higher traffic volumes and delay. The other study intersections are projected to continue to operate acceptably and satisfy the applicable mobility standards. *Appendix "H" includes the year 2021 total traffic analysis worksheets.*



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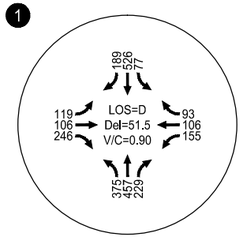

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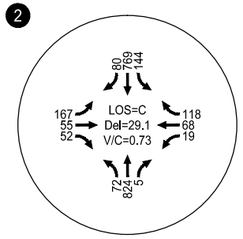

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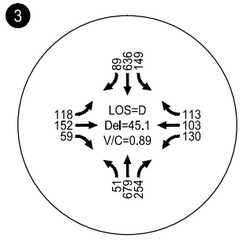

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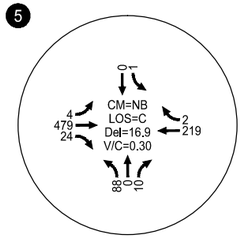

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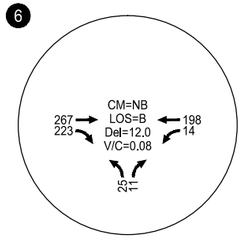

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INTERSECTION REMOVED

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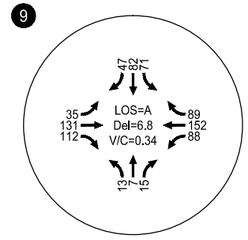

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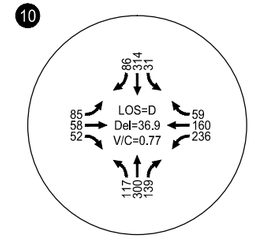

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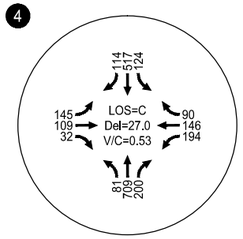

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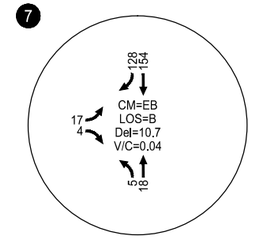

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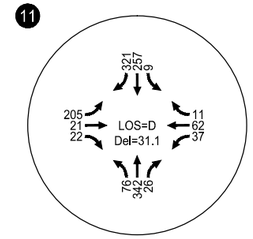

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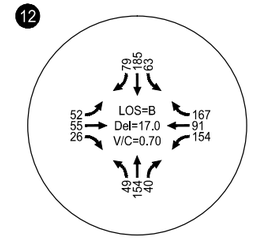
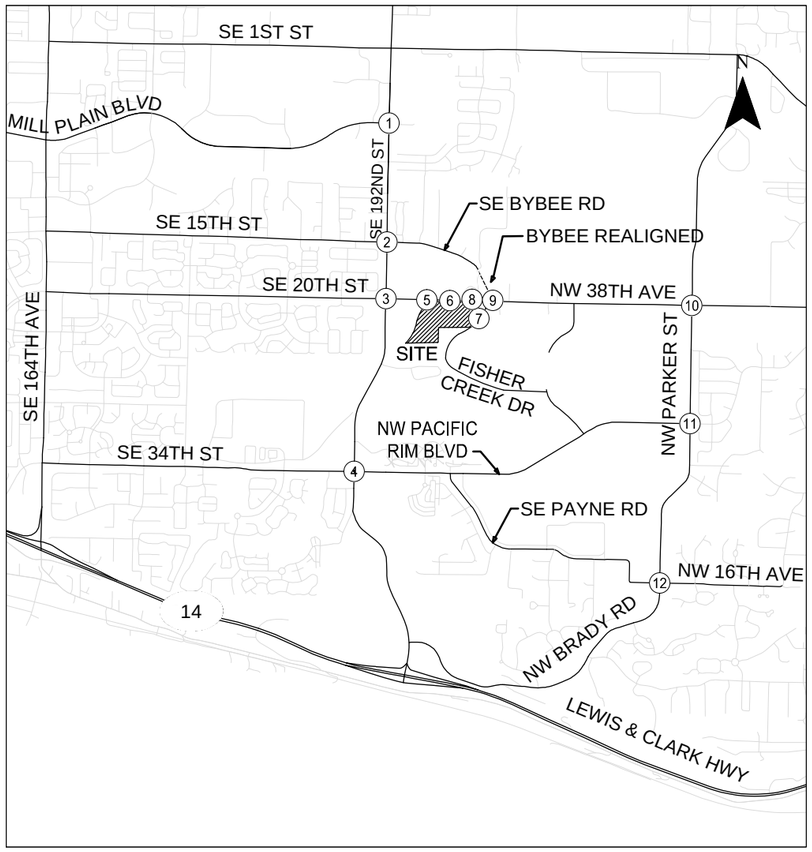


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Scenario 1 2021 Total Traffic Conditions
Weekday AM Peak Hour
Camas, Washington

Figure
18

KITTELSON & ASSOCIATES



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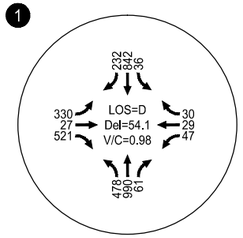

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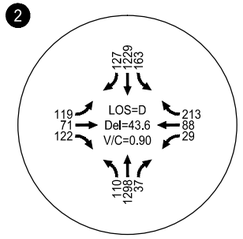

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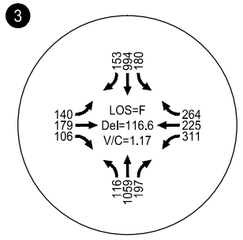

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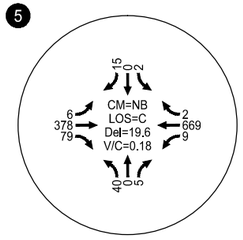

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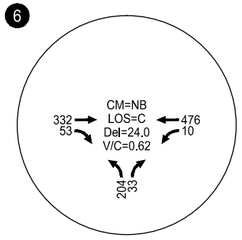

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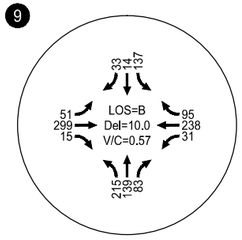

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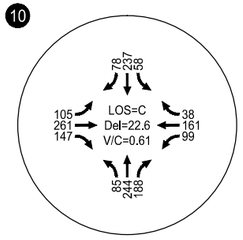

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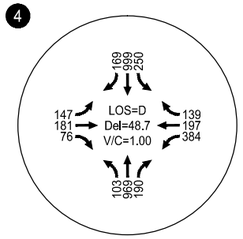

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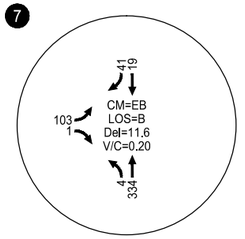

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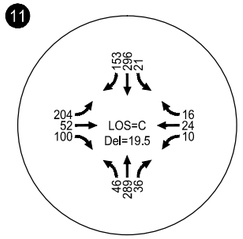

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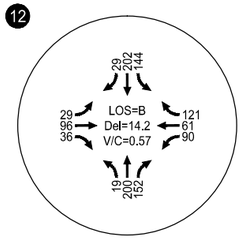

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V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Scenario 1 2021 Total Traffic Conditions
Weekday PM Peak Hour
Camas, Washington

Figure
19

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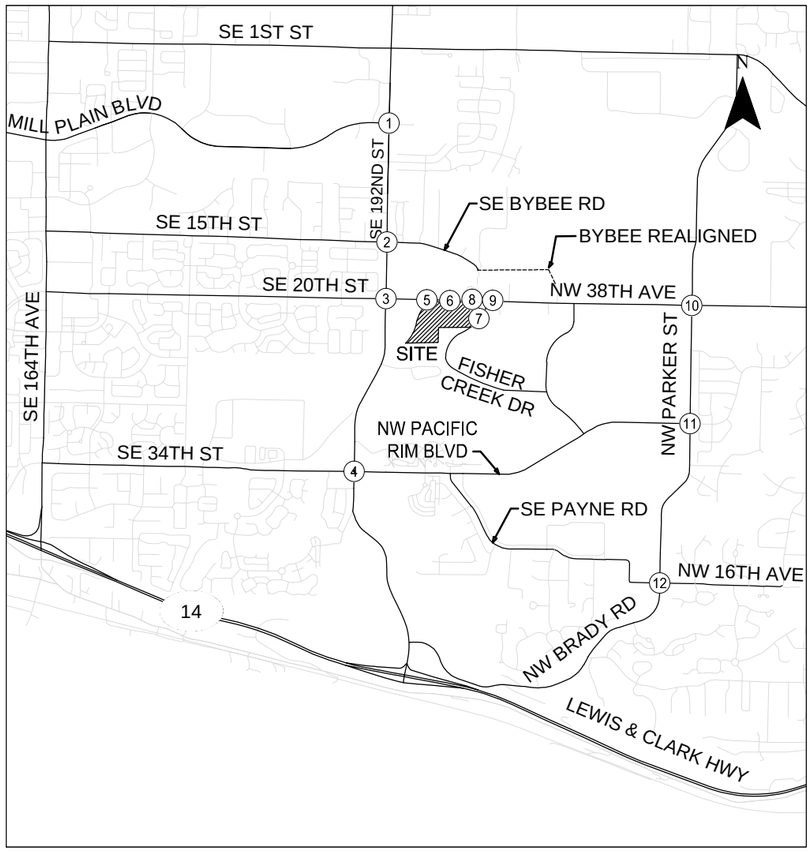

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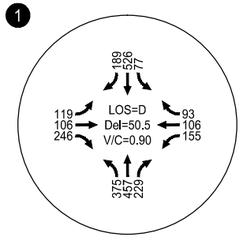

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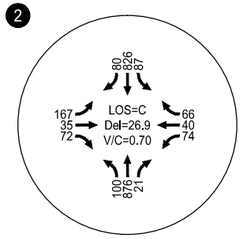

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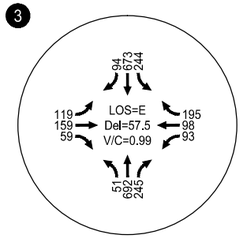

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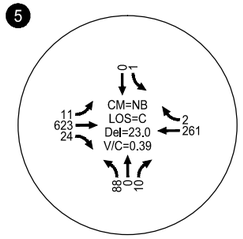

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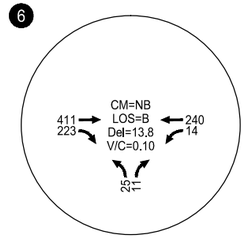

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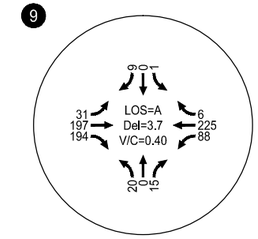

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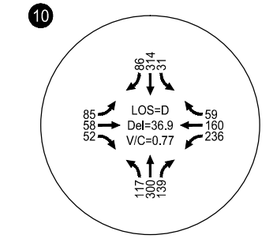

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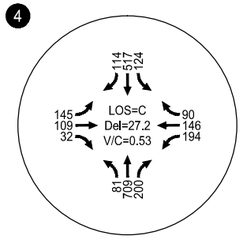

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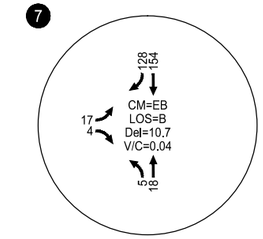

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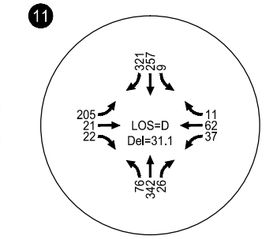

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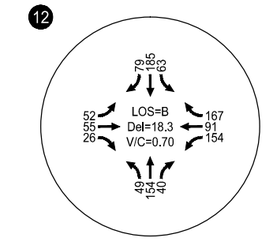

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Scenario 2 2021 Total Traffic Conditions
Weekday AM Peak Hour
Camas, Washington

Figure
20

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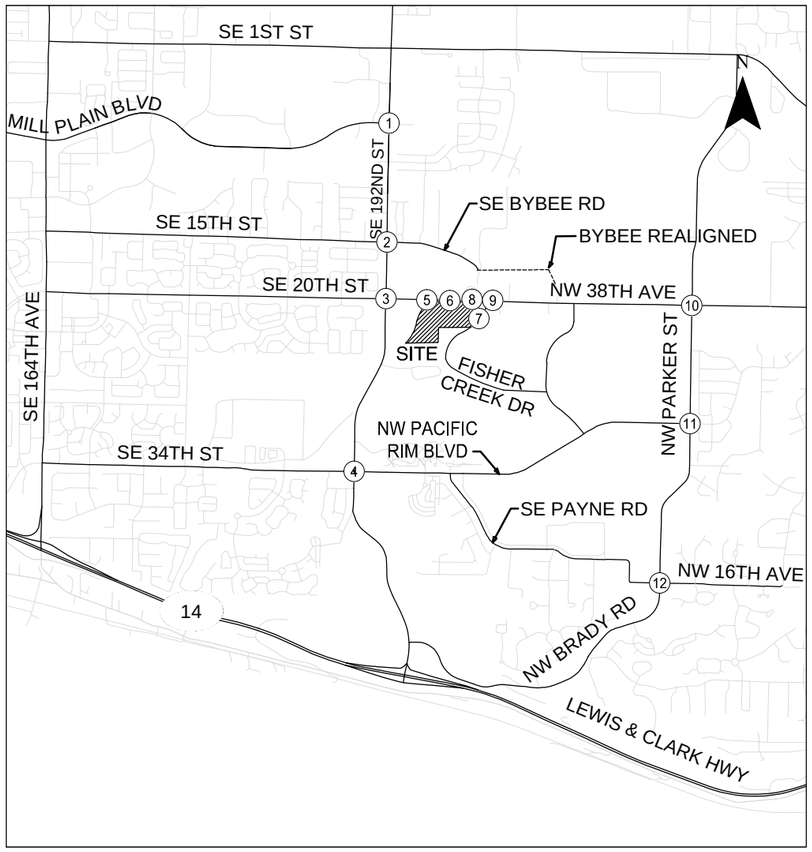

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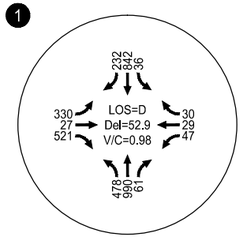

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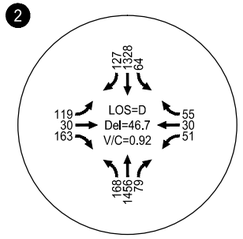

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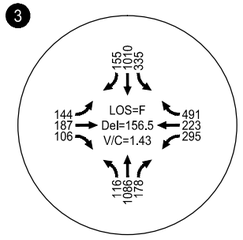

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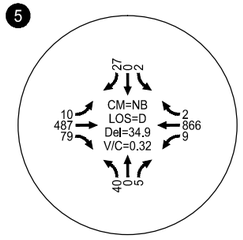

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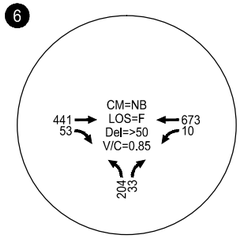

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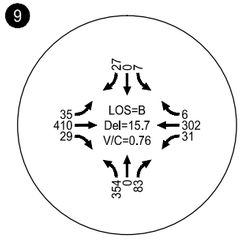

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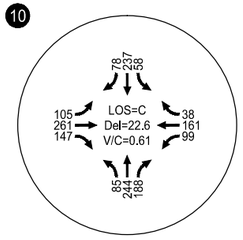

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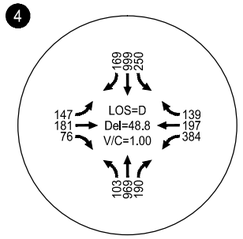

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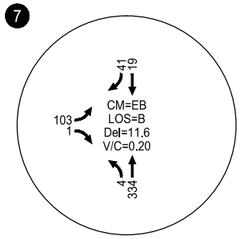

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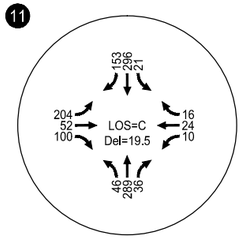

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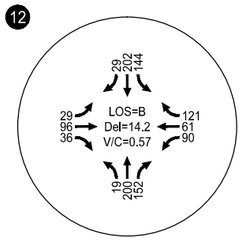

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Scenario 2 2021 Total Traffic Conditions
Weekday PM Peak Hour
Camas, Washington

Figure
21

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SE 20th Street/SE 192nd Avenue Intersection Mitigation

Mitigation of the SE 20th Street/SE 192nd Avenue intersection under Scenario 2 requires the addition of a second westbound left-turn lane as well as a separate westbound right-turn lane. Similar to Scenario 1, the additional westbound approach capacity would allow for traffic signal retiming that allocates additional green time to the primary north-south traffic patterns along SE 192nd Avenue. These mitigations would restore intersection operations to a level in compliance with City of Vancouver standards. *Mitigated intersection operations analysis for Scenario 2 is provided at the end of Appendix "H".*

While not required to mitigate the traffic impacts of the proposed development, intersection operations could be further enhanced through provision of a westbound right-turn traffic signal overlap phase for the new westbound right-turn lane.

Queueing Analysis

Site Driveways

A 95th-percentile queuing analysis was performed for the three proposed site access points along NW 38th Avenue and Fisher Creek Driver under 2021 peak hour total traffic conditions. Table 5 summarizes the 95th-percentile queue estimates for the stop controlled approaches, rounded up to the nearest single vehicle length (estimated at 25 feet).

Table 5: 95th-Percentile Queue Analysis Findings (2021 Total Traffic Conditions)

Intersection		Movement	Available Storage (feet)	Scenario 1		Scenario 2	
				AM Peak Hour Queue (feet)	PM Peak Hour Queue (feet)	AM Peak Hour Queue (feet)	PM Peak Hour Queue (feet)
5	NW 38th Avenue/ Proposed Site Driveway 1	Westbound Left		0	25	0	25
		Northbound		50	25	50	50
6	NW 38th Avenue/ Proposed Site Driveway 2	Westbound Left		25	25	25	25
		Northbound		25	125	25	200
7	Fisher Creek Drive/ Proposed Site Driveway 3	Eastbound		25	25	25	25

Site driveway queues are projected to be longer under Roadway network Scenario 2, reflecting the projected increase in east-west traffic volumes on NW 38th Avenue along the site frontage as compared to Scenario 1.

As Table 5 indicates, the 95th-percentile queue for the northbound approach at the NW 38th Avenue/Proposed Site Driveway 2 intersection is expected to reach five car lengths under Scenario 1 and eight car lengths under Scenario 2. While the queuing condition will occur on-site and not impact the public roadway approaches, the on-site queuing could be reduced through provision of a shared through/left-turn lane and a separate right-turn lane northbound at the eastern site driveway on NW

38th Avenue. As the site plan is finalized, it is recommended that the site plan provide adequate storage for each of the stop controlled approaches.

SE 192nd Avenue/SE 20th Street Intersection

Table 6 summarized projected queues at the signalized SE 192nd Avenue/SE 20th Street intersection for both Scenarios 1 and 2 assuming provision of the previously recommended mitigation measures. *A more detailed summary of the queue results is provided within the LOS worksheets for this intersection in Appendix "H".*

Table 6: SE 192nd Avenue/SE 20th Street Intersection 95th-Percentile Queue Analysis Results (2021 Total Traffic Conditions)

Approach	Movement	Storage[1]	Scenario 1		Scenario 2	
			AM Peak Hour Queue (ft)	PM Peak Hour Queue (ft)	AM Peak Hour Queue (ft)	PM Peak Hour Queue (ft)
Eastbound	Left	100'	68	104	68	96
	Through-Right	230'/825'	191	296	199	372
Westbound	Left	100'	174	166	113	188
	Through	325'/2,110'	172	517	222	227
	Right	200'				386
Northbound	Left	325'	65	137	65	125
	Through-Right	190'/1,285'	440	584	444	590
Southbound	Left	400'	235	154	408	253
	Through-Right	1080'	235	312	265	284

[1]When two storage lengths are shown, the first measurement represents distance to nearest driveway intersection and the second measurement represents distance to nearest street intersection.

Driveway Sight Distance Considerations

Access to the development is proposed via two full-access, stop-controlled driveways on NW 38th Avenue and two full-access stop-controlled driveways on NW Fisher Creek Drive. As site civil engineering plans are finalized, landscaping, above ground utilities, and signing should be located and maintained along the site frontage and throughout the site in a manner that preserves adequate intersection sight distance in accordance with City of Camas standards. Sight distance availability should be confirmed during the final engineering process.

FINDINGS AND RECOMMENDATIONS

Based on the results of the transportation impact analysis, the proposed development can be constructed while maintaining acceptable levels of service and safety on the surrounding transportation system given assuming the provision of the recommended mitigation measures. The primary findings and recommendations of this study are summarized below.

Findings

- The proposed mixed-use development is estimated to generate 5,037 net new weekday trips, including 535 during the a.m. peak hour (388 in, 147 out) and 522 during the p.m. peak hour (166 in, 356 out).
- Under Scenario 1 year 2021 total traffic conditions, the SE 20th Street/SE 192nd Street intersection requires mitigation to comply with City of Vancouver operating standards during the weekday p.m. peak hour.
    - Mitigation to restore acceptable operations includes provision of a second westbound left-turn lane and traffic signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.
- Under Scenario 2, both year 2021 background and total traffic conditions require mitigation at the SE 20th Street/SE 192nd Street intersection to comply with City of Vancouver operating standards during the weekday p.m. peak hour.
    - Scenario 2 involves higher westbound approach traffic volumes as compared to Scenario 1.
    - Mitigation to restore acceptable operations includes provision of a second westbound left-turn lane and a separate westbound right-turn lane as well as corresponding signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.

Recommendations

- The SE 20th Street/SE 192nd Street intersection should be mitigated to comply with City of Vancouver operating standards in conjunction with site development.
    - For network connectivity Scenario 1, mitigation should include provision of a second westbound left-turn lane and traffic signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.
    - For network connectivity Scenario 2, mitigation should include provision of a second westbound left-turn lane and a separate westbound right-turn lane as well as corresponding signal retiming that allocates additional green time to the primary north-south traffic patterns along NE 192nd Avenue.

- On-site and off-site landscaping and any above ground utilities at the site driveways and internal roadways should be installed and maintained to ensure that adequate sight distance is provided upon buildout in accordance with City of Camas standards. Further, sight distance availability should be confirmed during the final engineering process.

We trust this report adequately addresses the traffic impacts associated with the proposed Grass Valley development. Please contact us if you have any questions.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Chris Brehmer, P.E.
Senior Principal Engineer

Kristine Connolly
Engineering Associate

REFERENCES

1. Transportation Research Board. *Highway Capacity Manual 2000*. 2000.
2. Institute of Transportation Engineers. *Trip Generation, 9th Edition*. 2012.
3. Institute of Transportation Engineers. *Trip Generation Manual, 3rd Edition*. 2014.
4. Institute of Transportation Engineers. *Trip Generation Handbook, 2nd Edition*. 2004.
5. Transportation Research Board. *NCHRP Report 684.* 2011.

APPENDICES

A. Crash data
B. Description of Level of Service Criteria
C. Traffic count data
D. Existing Traffic Operations Analysis Worksheets
E. In-process volumes
F. Year 2021 Background Traffic Operations Analysis Worksheets
G. OTISS Traffic Calculations
H. Year 2021 Total Traffic Operations Analysis Worksheets

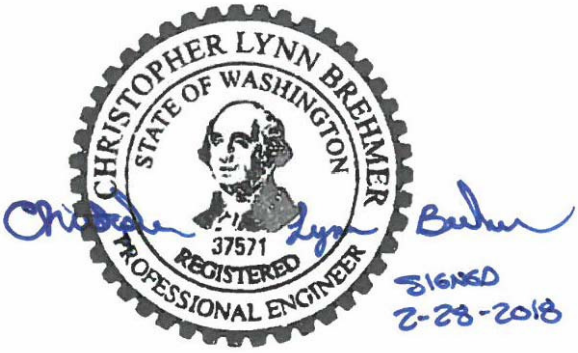


EXHIBIT D

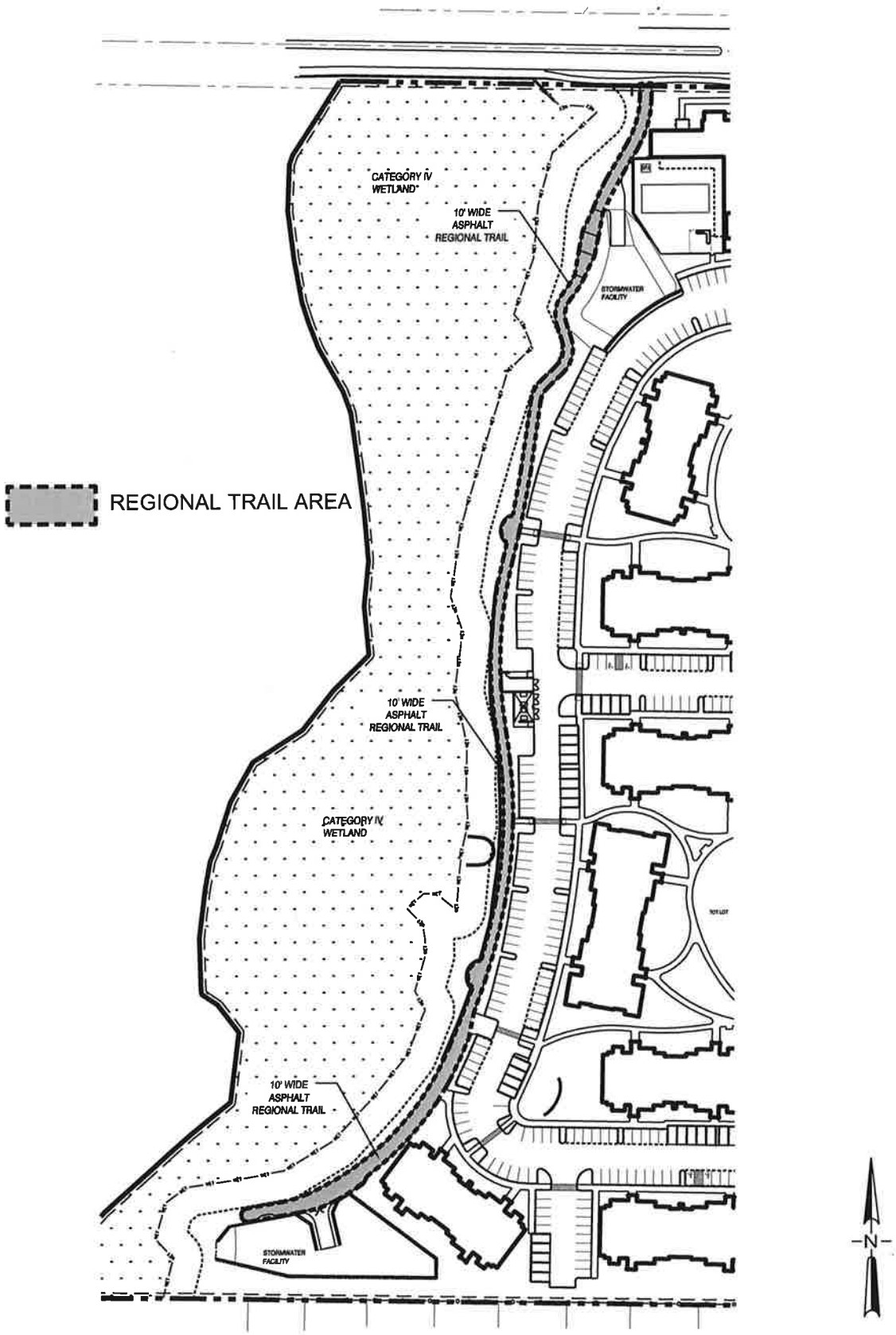

REGIONAL TRAIL AREA
CATEGORY IV WETLAND*
10' WIDE ASPHALT REGIONAL TRAIL
STORMWATER FACILITY
10' WIDE ASPHALT REGIONAL TRAIL
CATEGORY IV WETLAND
10' WIDE ASPHALT REGIONAL TRAIL
STORMWATER FACILITY
N

EXHIBIT D-1

OLSON ENGINEERING INC.

222 EAST EVERGREEN BLVD, VANCOUVER, WA 98660 (360) 695-1385

Grass Valley Apartments - Regional Trail - Cost estimate

Item #	Description	Unit Of Measure	Quantity	Unit Price	Total Price
	GENERAL CONDITIONS				
1	Mobilization	LS	1.00	$ 14,971.70	$ 14,971.70
				Total	$ 14,971.70
	GRADING				
2	Mass Grading (Fill On-Site)	CY	4,400	$ 4.00	$ 17,600.00
				Total	$ 17,600.00
	EROSION CONTROL				
3	Silt Fence	LF	1,400	$ 2.00	$ 2,800.00
				Total	$ 2,800.00
	SITEWORK				
	Regional Trail				
4	Finish Grade	SF	16,595	$ 0.25	$ 4,148.75
5	12" Soil Cement Stabilization (5% - 8% Cement)	SF	7,313	$ 0.70	$ 5,119.10
6	1¼"- Crushed Rock (0.50')	TN	260	$ 20.00	$ 5,200.00
7	1¼"- Crushed Rock (0.33')	TN	220	$ 20.00	$ 4,400.00
8	Asphaltic Concrete (0.17') Class ½" 64-22 HMA	TN	215	$ 135.00	$ 29,025.00
				Total	$ 47,892.85
	SITEWORK				
	Retaining Walls				
9	Retaining Wall #14 - Lock + Load, MSE w/ 48" Safety Fence	SF	100	$ 27.00	$ 2,700.00
10	Retaining Wall #15 - Lock + Load, MSE w/ 48" Safety Fence	SF	2,900	$ 23.00	$ 66,700.00
11	Retaining Wall #16 - Lock + Load, MSE w/ 48" Safety Fence	SF	205	$ 25.00	$ 5,125.00
				Total	$ 74,525.00
	AMENITIES				
12	Benches, Maglin - MLB1200 PC	EA	4	$ 1,500.00	$ 6,000.00
				Total	$ 6,000.00
	STRIPING & SIGNAGE				
13	Trail Sign	EA	4	$ 225.00	$ 900.00
				Total	$ 900.00

Subtotal Construction Costs	$ 164,689.55
Sales Tax (8.4%)	$ 13,833.92
Contingency & Soft Costs (25%)	$ 41,172.39
Total Construction Costs	$ 219,695.86

Assumptions

1 Plans being prepared by Olson Engineering for the Second Submittal (1/30/2019) were used to obtain quantities for the "Cost Estimate".

2 The "Site Preparation And Grading" came from the "Geotechnical Report" prepared by Terra Associates, Inc. dated June 19, 2018, Revised.

3 "Amenities & Landscaping" came from Planting Plans prepared by "Mackenzie" dated "Bid Set - 1/7/19".

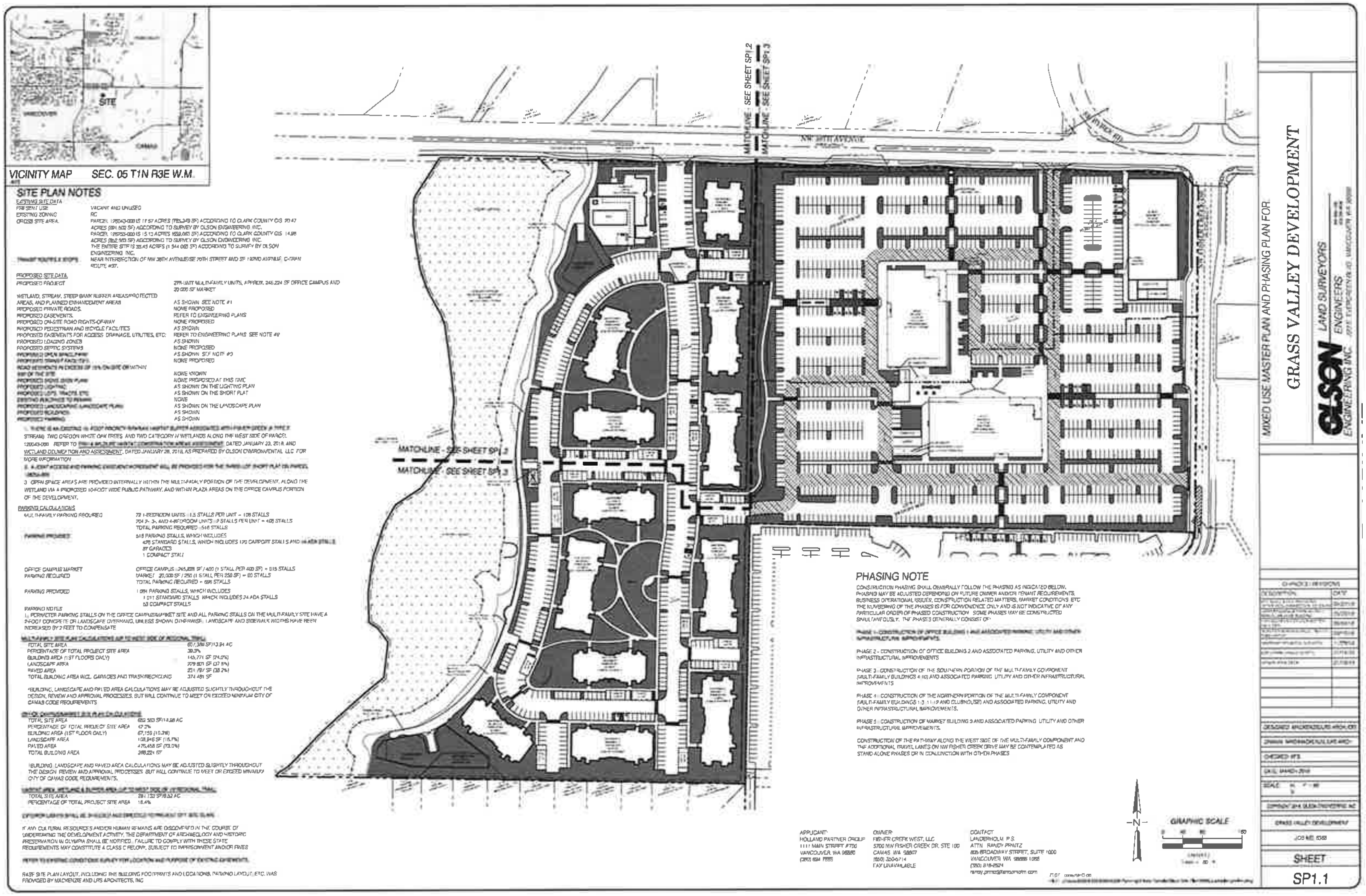
4 Mass Grading materials is in place cubic yards.

5 Conversion Factor used to convert Cubic Yards of Crushed Rock to compacted in place Tons = CY x 1.917.

6 Conversion Factor used to convert Cubic Yards of Asphalt Concrete to compacted in place Tons = CY x 2.052.

7 The "Unit Price" are not "Prevailing Wage".

EXHIBIT E



VICINITY MAP
SEC. 05 T1N R3E W.M.
SITE
VANCOUVER
CAMAS
SITE PLAN NOTES
MATCHLINE - SEE SHEET SP1.2
MATCHLINE - SEE SHEET SP1.3
PHASING NOTE
CONSTRUCTION PHASING SHALL GENERALLY FOLLOW THE PHASING AS INDICATED BELOW. PHASING MAY BE ADJUSTED DEPENDING ON FUTURE OWNER AND/OR TENANT REQUIREMENTS, BUSINESS OPERATIONAL ISSUES, CONSTRUCTION RELATED MATTERS, MARKET CONDITIONS, ETC. THE NUMBERING OF THE PHASES IS FOR CONVENIENCE ONLY AND IS NOT INDICATIVE OF ANY PARTICULAR ORDER OF PHASED CONSTRUCTION. SOME PHASES MAY BE CONSTRUCTED SIMULTANEOUSLY. THE PHASES GENERALLY CONSIST OF:
PHASE 2 - CONSTRUCTION OF OFFICE BUILDING 2 AND ASSOCIATED PARKING, UTILITY AND OTHER INFRASTRUCTURAL IMPROVEMENTS
PHASE 3 - CONSTRUCTION OF THE SOUTHERN PORTION OF THE MULTI-FAMILY COMPONENT (MULTI-FAMILY BUILDINGS 4-10) AND ASSOCIATED PARKING, UTILITY AND OTHER INFRASTRUCTURAL IMPROVEMENTS
PHASE 4 - CONSTRUCTION OF THE NORTHERN PORTION OF THE MULTI-FAMILY COMPONENT (MULTI-FAMILY BUILDINGS 1-3, 11-12 AND CLUBHOUSE) AND ASSOCIATED PARKING, UTILITY AND OTHER INFRASTRUCTURAL IMPROVEMENTS.
PHASE 5 - CONSTRUCTION OF MARKET BUILDING 3 AND ASSOCIATED PARKING, UTILITY AND OTHER INFRASTRUCTURAL IMPROVEMENTS.
CONSTRUCTION OF THE PATHWAY ALONG THE WEST SIDE OF THE MULTI-FAMILY COMPONENT AND THE ADDITIONAL TRAVEL LANES ON NW FISHER CREEK DRIVE MAY BE CONTEMPLATED AS STAND-ALONE PHASES OR IN CONJUNCTION WITH OTHER PHASES
GRAPHIC SCALE
MIXED USE MASTER PLAN AND PHASING PLAN FOR
GRASS VALLEY DEVELOPMENT
OLSON ENGINEERING INC.
LAND SURVEYORS
ENGINEERS
SHEET
SP1.1