City Council Workshop Agenda
Monday, July 15, 2024, 4:30 PM
Council Chambers, 616 NE 4th AVE

NOTE: The City welcomes public meeting citizen participation. TTY Relay Service: 711. In compliance with the ADA, if you need special assistance to participate in a meeting, contact the City Clerk's office at (360) 834-6864, 72 hours prior to the meeting so reasonable accommodations can be made (28 CFR 35.102-35.104 ADA Title 1)

To observe the meeting (no public comment ability)
- go to www.cityofcamas.us/meetings and click "Watch Livestream" (left on page)

To participate in the meeting (able to public comment)
- go to https://us06web.zoom.us/j/84065790336
(public comments may be submitted to publiccomments@cityofcamas.us)

CALL TO ORDER

ROLL CALL

PUBLIC COMMENTS

WORKSHOP TOPICS

1. Main Street Sewer Pump Station Improvements 2024
   Presenter: Rob Charles, Utilities Manager
   Time Estimate: 5 minutes

2. Stormwater Partners Interlocal Agreement
   Presenter: Rob Charles, Utilities Manager
   Time Estimate: 5 minutes

3. Northwest 38th Avenue Improvements Phase 3 Professional Services Agreement Amendment
   Presenter: James Carothers, Engineering Manager
   Time Estimate: 5 minutes

4. Northwest Lake Road and Northwest Sierra Street Intersection Improvements Public Engagement
   Presenter: James Carothers, Engineering Manager
   Time Estimate: 60 minutes

5. Staff Miscellaneous Updates
   Presenter: Doug Quinn, City Administrator
   Time Estimate:10 minutes

COUNCIL COMMENTS AND REPORTS

PUBLIC COMMENTS

CLOSE OF MEETING

Staff Report

July 15, 20240 Council Workshop Meeting

Main Street Sewer Pump Station Improvements 2024
Presenter: Rob Charles, Utilities Manager
Time Estimate: 5 minutes

Phone	Email
360.817.7003	rcharles@cityofcamas.us

BACKGROUND: Main Street Sewer Pump Station is the largest pump station in the City and collects sewage from over 80% of the service area. It is over 20 years old and is in need of new electrical equipment, control panels, variable frequency drives for the pumps, and safer hatch access to the pumps in the lower level. There is also no way for staff to measure flow from the lift station, so a flow meter will be incorporated into the upgrades. The generator's Automatic Transfer Switch (ATS) also in need of replacement. Lastly, there are upgrades necessary to the HVAC equipment to allow staff to be safely in the building and limit any hydrogen sulfide exposure.

SUMMARY: Wallis Engineering, who is part of on-call for sewer services thru a Request for Qualifications process, will be designing plans and putting specifications together to upgrade or replace all the aforementioned components.

Figure 1: Control Panel

Fig 2: Variable Frequency Drive Panel

Fig 3: Electrical Panel

Fig 4: Substandard Hatch for Pump Access

Fig.5: Front of Pump Station

Fig 6: Site Location

BENEFITS TO THE COMMUNITY: The wet well (storage area for sewage) is not very large at this location due to property limitations and has overflowed to Georgia Pacific property in the past due to generator or other equipment failures. Upgrades to the sewer pump station will bring the station up to current standards and ensure capacity for future service needs.

BUDGET IMPACT: The proposed design work is estimated to cost $125,892.73 and there is sufficient funds in the Sewer Budget to cover these costs.

RECOMMENDATION: Staff recommends that this item be placed on the August 5th, 2024 Council Regular Meeting Consent Agenda for Council's consideration.

wallis engineering

EXHIBIT A1: SUPPLEMENTAL SCOPE OF WORK

City of Camas | Main P.S. Improvements

May 2024 | WE#CAMAS22WW.02

PROJECT BACKGROUND

The Main Pump Station is a wetwell/drywell pump station that receives a significant portion of the City's wastewater flows and conveys flow directly to the wastewater treatment plant. This pump station was last upgraded in 2012 with a larger wetwell and other minor improvements. However, the City has noted a number of deficiencies that they would like to improve:

- The electrical equipment is aging, and new control panels and VFDs are needed.
- The hatches for wetwell and drywell access lack safety grates.
- The existing wetwell level sensor is a pressure transducer, and the City desires a radar level sensor.
- The wetwell concrete may exhibit some corrosion.
- Previous sewer plans noted that the pump station may not have sufficient capacity for future flows. Existing capacity should be confirmed.

The City has retained Wallis Engineering (Wallis) to provide engineering services to evaluate the existing pump station deficiencies, provide recommendations for improvements, and design the selected proposed improvements. This project is divided into two phases:

- Phase I – Preliminary Design (Completed)
- Phase II – Final Design

This scope of work is for Phase II, which is anticipated to be complete by June 30, 2025.

CONTRACT DURATION

Contract term shall be from the date contract is fully executed until June 30, 2025.

PROJECT TEAM

Wallis Engineering will serve as the prime consultant for this project, leading a team of subconsultants to complete all the services identified in the specific scope of work. The project team is listed below, with the responsibilities which they will complete.

Consultant	*Responsibilities*
Wallis Engineering (Wallis)	Civil Engineering
Ecological Land Services (ELS)	Environmental Permitting
Industrial Systems (IS)	Electrical Engineering
Windsor Engineers (Windsor)	Mechanical Engineering (HVAC)

SPECIFIC SCOPE OF WORK

TASK 1 PROJECT MANAGEMENT AND ADMINISTRATION (SUPPLEMENTED)

Objective: Provide full project management, administration, and coordination between all team members, City staff, regulatory authorities, and key stakeholders. This task includes technical and financial

management of the project, and leading meetings and design workshops as necessary. Key tasks will be to organize and conduct all meetings, develop and track project schedule proactively to address critical path elements and ensure on-time delivery, and communicate to City staff of project progress.

Task 1.1 Project Management and Coordination (Supplemented)

Wallis will provide project management, schedule, coordination, and direction to the City staff and design team to track project progress and adjust as necessary. The goals, objectives and potential impacts of the project will be confirmed by the City's project manager. Project management and coordination will include the following:

- Comprehensive project management to ensure the scope, schedule and budget are met. Provide a primary point of contact for the City while coordinating with the project team.
- Schedule and participate in bimonthly or as-needed coordination conference calls with the City Project Manager and other staff at their request.
- Monthly progress summaries will be submitted with invoices and will include task level budget status and brief summary of work completed within the invoice period. Billings will include staff, title, hourly rate, and hours charged to the project.

Task 1 Assumptions:

- Project management is anticipated to span a 12-month period for the duration of Phase II – Final Design.
- All meetings with City staff will be held at the City's offices or other venue of the City's choice.
- Wallis will hold bimonthly project coordination conference calls or virtual meetings with the City as necessary.

Task 1 Deliverables:

- Project scope and fee.
- Project Schedule and updates, as needed.
- Monthly progress billings on a time and materials basis per task.

TASK 3 FINAL DESIGN (NEW)

Objective: Advance the pump station design to the final completion level.

Task 3.1 60% Design

The design team will prepare and submit 60% plans, specifications, and estimate (PS&E) for City review. Comments from the Final Design Report will be reviewed and incorporated into 60% PS&E. Design will include the following work:

- Civil and process design:
  - Site layout of new bypass piping exterior to the building
  - Mechanical design of flow meter piping inside the drywell
  - Mechanical design of air release valve
  - New safety grating on all existing hatches, and new aluminum hinged floor doors to replace existing steel hatches.
  - New epoxy coating of existing wetwell
- Electrical design:
  - New control panel, to match City's current standards

  - New active front end VFDs to replace existing VFDs
  - ATS replacement in the existing switchgear
  - Replace existing pressure transducer with radar-type level sensor
  - New flow meter
  - Ventilation monitoring and alarming per NFPA 820
  - Replace general purpose receptacles in the building
- HVAC design:
  - IMC and NFPA 820 code review
  - Ventilation and cooling calculations
  - Equipment selection
  - Ducting design

Task 3.2 90% Design

The design team will prepare and submit 90% plans, specifications, and estimate (PS&E) for City review. Comments from the 60% design submittal will be reviewed and incorporated into 90% PS&E.

Task 3.3 Final Design

The design team will prepare and submit final plans, specifications, and estimate for City review. The PS&E will be further refined and comments from the 90% design submittal will be reviewed and incorporated into the final PS&E.

Task 3 Assumptions:

- A total of 2 review meetings will be held with the City following the 60% and 90% submittals.
- One additional site visit will be made by Wallis, IS, and Windsor
- Design will be limited to the improvements recommended in the Preliminary Design Report and summarized in Task 3.1.
- Technical specifications will be in CSI format. City will provide front end documents.
- Disturbed and excavated areas will be below the threshold for a grading permit and stormwater management requirements..

Task 3 Deliverables:

- 60%, 90% and final plans, specifications and estimate in PDF format.
- Meeting agendas and notes from design review meeting

TASK 4 ENVIRONMENTAL PERMITTING (NEW)

Objective: Obtain all required environmental permits for the project.

Task 4.1 Critical Area Delineation and Report

ELS will research pertinent site information, conduct a site visit to delineate critical areas within and adjacent to project area, and prepare a report of findings and figure set following City of Camas code.

Task 4.2 Buffer Mitigation Plan (if required)

Based on the results of the critical areas delineation and report, ELS will determine whether the proposed work will have buffer impacts. If buffer impacts are unavoidable, ELS will prepare a buffer mitigation plan and figures.

Task 4.3 Shorelines Permit Narrative

Based on the results of the critical areas delineation and report, ELS will determine whether the proposed work will require a shorelines permit. If a shorelines permit is required, ELS will prepare a narrative for a shorelines permit following the local Shoreline Management Plan.

Task 4 Assumptions:

- This scope of work does not include land use permitting services, which would also be required if a shorelines permit is required.

Task 4 Deliverables:

- Critical Areas Report
- Buffer Mitigation Plan (if required)
- Shorelines permit narrative (if required)

TASK 5 CONSTRUCTION PHASE SERVICES (NEW)

Objective: To provide support during bidding and construction.

Task 5.1 Bidding Services

Wallis will provide bidding phase services to the City. We will respond to bidder's questions, prepare addenda is needed, and make a Recommendation of Award.

Task 5.2 Construction Engineering Services

Wallis will review specific submittals for their conformity to the Contract Documents. Wallis will respond to contractor RFI's as necessary and make site visits during construction.

Task 5 Assumptions:

- The City will manage bidding and construction, with support from Wallis.
- Wallis will not attend the bid opening.
- Wallis will attend the preconstruction meeting; the City will lead the meeting.
- Four site visits during construction, including a final site visit to establish all minor corrective work required prior to issuing Final Completion.

Task 5 Deliverables:

- Up to three addenda
- Recommendation of award letter
- Submittal review comments
- Submittal log
- RFI responses
- RFI log

Fee Estimate

City of Camas | Main P.S. Improvements
May 2024 | WE# CAMAS22WW.02

											Subconsultants			Total
		EM3	PE6	PE4	SE3	T4	A6	A3	Wallis Labor	Expenses	Ind. Sys.	Windsor	ELS	Cost
		$207.02	$167.09	$156.58	$119.80	$132.41	$121.90	$87.22						
Task 1	**Project Management and Administration**													
1.1	Project Management and Coordination	8	40	8			8	7	$ 11,178.14	$ -	$ -	$ -	$ 4,500.00	$ 15,678.14
	TASK 1 SUBTOTAL	**8**	**40**	**8**	**0**	**0**	**8**	**7**	**$ 11,178.14**	**$ -**	**$ -**	**$ -**	**$ 4,500.00**	**$ 15,678.14**
Task 3	**Final Design**													
3.1	60% Design		16		40	8	8		$ 9,729.00	$ -	$ 9,300.00	$ 4,000.00	$ -	$ 23,029.00
3.2	90% Design		16		32	6	6		$ 10,094.62	$ -	$ 8,300.00	$ 4,000.00	$ -	$ 22,394.62
3.3	Final Design		8		24	4	4		$ 5,229.16	$ -	$ 7,210.00	$ 4,000.00	$ -	$ 16,439.16
	TASK 2 SUBTOTAL	**0**	**40**	**0**	**96**	**18**	**18**	**0**	**$ 25,052.78**	**$ -**	**$ 24,810.00**	**$ 12,000.00**	**$ -**	**$ 61,862.78**
Task 4	**Environmental Permitting**													
4.1	Critical Area Delineation and Report		1		2	1			$ 539.10	$ -			$ 9,500.00	$ 10,039.10
4.2	Buffer Mitigation Plan		1		2	1			$ 539.10	$ -	$ -	$ -	$ 6,500.00	$ 7,039.10
4.3	Shorelines Permit Documents		2		4	1			$ 945.79	$ -	$ -	$ -	$ 8,500.00	$ 9,445.79
	TASK 3 SUBTOTAL	**0**	**4**	**0**	**8**	**3**	**0**	**0**	**$ 2,023.99**	**$ -**	**$ -**	**$ -**	**$ 24,500.00**	**$ 26,523.99**
Task 5	**Construction Phase Services**													
5.1	Bidding Services		4		8		4		$ 2,114.36	$ -	$ 1,100.00	$ 1,000.00	$ -	$ 4,214.36
5.2	Construction Engineering Services		16		24	2			$ 5,813.46	$ -	$ 9,800.00	$ 2,000.00	$ -	$ 17,613.46
	TASK 4 SUBTOTAL	**0**	**20**	**0**	**32**	**2**	**4**	**0**	**$ 7,927.82**	**$ -**	**$ 10,900.00**	**$ 3,000.00**	**$ -**	**$ 21,827.82**
	Project Subtotal	**8**	**104**	**8**	**136**	**23**	**30**	**7**	**$ 46,182.73**	**$ -**	**$ 35,710.00**	**$ 15,000.00**	**$ 29,000.00**	**$ 125,892.73**

FEE SUMMARY	
Wallis Labor	$ 46,182.73
Wallis Expenses	$ -
(M) = Mileage at current IRS Rate	
Subconsultants	
Ind. Sys.	$ 35,710.00
Windsor	$ 15,000.00
ELS	$ 29,000.00
TOTAL BUDGET	**$ 125,892.73**

wallis
*engineering

RATE SCHEDULE

Rate Schedule good through December 31, 2024

Title	Range	
Associate Engineer	$168.14	$168.14
Senior Engineer	$223.83	$223.83
Engineering Manager I - VI	$195.46	$222.78
Project Engineer I - IX	$129.26	$188.10
Staff Engineer I - IV	$108.24	$122.95
Engineering Intern I - III	$68.31	$78.82
Designer	$136.61	$156.58
Construction Manager	$147.12	$147.12
Inspector I-III	$105.09	$124.00
Technician I-IV	$84.07	$132.41
Administrative I – VI	$52.55	$121.90

These hourly rates include in-house office expenses, photocopying, and other incidental items. Mileage will be reimbursed at the current standard IRS rate. Outside expenses will be billed at cost plus 10%.

Staff Report

July 15, 2024 Council Workshop Meeting

Stormwater Partners Interlocal Agreement
Presenter: Rob Charles, Utilities Manager
Time Estimate: 5 minutes

Phone	Email
360.817.7003	rcharles@cityofcamas.us

BACKGROUND: The City of Camas' National Pollutant Discharge Elimination System Permit (NPDES) for stormwater requires that there is an Education and Enforcement program to build general awareness about methods to reduce stormwater runoff, change behaviors to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts, and create stewardship opportunities that encourage community engagement in addressing the impacts from stormwater runoff.

Stormwater Partners of SW Washington is an independent coalition of jurisdictions, agencies and non-profit organizations working together to protect water quality and watersheds in SW Washington. Camas has been participating in the Stormwater Partners efforts for a number of years.

SUMMARY: The County and cities within Clark County recognize that collaborating through Stormwater Partners to meet Education and Outreach requirements can result in more effective and consistent products that benefit from efficiencies of scale. The objective of Stormwater Partners is to support the County and cities in meeting Education and Outreach requirements in their respective NPDES Permits. The purpose of the attached agreement, which runs through June 2029, is to fulfill two main priorities: 1) supporting each partner in meeting the NPDES Permit education and outreach requirements and 2) creating high quality and consistent resources, messaging and programing for Clark County audiences.

BENEFITS TO THE COMMUNITY: Continue to reinforce that dumping substances in the street or other areas where the dumped material could enter a catch basin can have an adverse affect on the receiving body of water.

BUDGET IMPACT: The total cost of the project is $120,000 which will be shared between Clark County and five cities. Each jurisdiction shall pay $20,000. Camas has sufficient stormwater funds to cover the $20,000 expense.

Figure 1: Curb inlet with Camas medallion

Fig. 2 Illegal Dumping to curb inlet

RECOMMENDATION: Staff recommends that this item be placed on the August 5, 2024, Regular Council Consent Agenda for Council's consideration.

Exhibit A

Stormwater Partners of SW Washington
2024-2025 Work Plan

Background

Stormwater Partners of SW Washington was originally formed in 2009 to provide neighborhoods and businesses technical assistance and guidance on private stormwater facility maintenance and behaviors to protect steam health. Clark County received funding from the Department of Ecology GRSS grants and collaborated with the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver and Washougal. Grant products included workshops, printed and digital resources, videos and signage. The partnership slowed in the years following the last grant in 2013.

Recognizing the benefits of consistent messaging and regional collaboration, Clark County rekindled Stormwater Partners of SW Washington in 2017. The county led three grant projects from 2017 to 2021 to pilot the Don't Drip and Drive campaign, replace aging watershed signs and develop an interactive storymap, and build off previous Stormwater Partners work to develop a suite of multimedia resources that support private stormwater facility maintenance work. The county also revamped the website to include pollution prevention resources for residents and businesses, activities for educators, materials for contractors and engineers, and private stormwater facility maintenance resources.

Resources and activities developed through Stormwater Partners help Clark County and partner cities meet education and outreach requirements of the Western Washington Municipal Stormwater Permit (NPDES Permit). They also serve the community by providing high quality, consistent guidance and messaging.

Purpose

This workplan describes priority audiences and potential subject areas for Stormwater Partners under the Interlocal Agreement (ILA). The subject areas will reflect the education and outreach requirements found in the NPDES Permit (Phase I permit section S5.C.11 and Phase II permit section S5.C.2). Specific activities and deliverables under each section will be updated annually by August 1 based on partner consensus. Additionally, this workplan includes reporting tasks to support partners annual reporting requirements to Ecology and research when necessary for supporting other activities.

The workplan will fulfill two main priorities: 1) supporting each partner in meeting the NPDES Permit education and outreach requirements and 2) creating high quality and consistent resources, messaging and programing for Clark County audiences.

1. General public, including overburdened communities

General awareness subject areas:

- General impacts of stormwater on surface waters, including impacts from impervious surfaces
- Hazards associated with illicit discharges and improper disposal of waste

- LID principles and BMPs

Behavior change subject areas:

- Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials
- Prevention of illicit discharges
- Yard care techniques protective of water quality
- Use and storage of pesticides and fertilizers and other household chemicals
- Carpet cleaning
- Repair and maintenance BMPs for vehicles, equipment, and/or home buildings
- Pet waste management and disposal
- LID principles and LID BMPs
- Stormwater facility maintenance, including LID facilities
- Litter and debris prevention
- Other locally important stormwater-related subject areas

Activities may include delivering programs and communicating programs in a variety of mediums such as social media, digital content, websites, in-person and mass media.

2. School age children and college/university or trade students

General awareness subject areas:

- General impacts of stormwater on surface waters, including impacts from impervious surfaces
- Hazards associated with illicit discharges and improper disposal of waste
- LID principles and BMPs

Behavior change subject areas:

- Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials
- Prevention of illicit discharges
- Yard care techniques protective of water quality
- Use and storage of pesticides and fertilizers and other household chemicals
- Carpet cleaning
- Repair and maintenance BMPs for vehicles, equipment, and/or home buildings
- Pet waste management and disposal
- LID principles and LID BMPs
- Stormwater facility maintenance, including LID facilities
- Litter and debris prevention
- Other locally important stormwater-related subject areas

Activities may include delivering programs and communicating programs in a variety of mediums such as social media, digital content, websites, in-person and mass media.

3. Businesses, including home-based and mobile businesses

General awareness subject areas:

- General impacts of stormwater on surface waters, including impacts from impervious surfaces
- Hazards associated with illicit discharges and improper disposal of waste
- LID principles and BMPs

Behavior change subject areas (including property managers/owners):

- Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials
- Prevention of illicit discharges
- Yard care techniques protective of water quality
- Use and storage of pesticides and fertilizers and other household chemicals
- Carpet cleaning
- Repair and maintenance BMPs for vehicles, equipment, and/or home buildings
- Pet waste management and disposal
- LID principles and LID BMPs
- Stormwater facility maintenance, including LID facilities
- Dumpster and trash compactor maintenance
- Litter and debris prevention
- Other locally important stormwater-related subject areas

Activities may include delivering programs and communicating programs in a variety of mediums such as social media, digital content, websites, in-person and mass media.

4. Engineers, contractors, developers, property owners/managers, and land use planners

General awareness subject areas:

- Technical standards for stormwater site and erosion control plans
- LID principles and LID BMPs
- Stormwater treatment and flow control BMPs/facilities
- Source control BMPs for building materials to reduce pollution to stormwater, including but not limited to stormwater pollution from PCB-containing materials

Activities may include delivering programs and communicating programs in a variety of mediums such as social media, digital content, websites, in-person and mass media.

5. Stewardship opportunities

Stormwater Partners may collaborate to partner or promote (or both) stewardship opportunities to encourage residents or businesses to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring and riparian plantings. Permittees may partner or promote (or both) stewardship opportunities created or organized by existing organizations (including non-permittees). Partners will implement stewardship opportunities in their own jurisdictions.

6. Research

When necessary, Stormwater Partners may conduct research to understand audiences and community needs. Research may consist of surveys, focus groups or digital analytics.

7. Reporting

Stormwater Partners will produce a report summarizing accomplishments of this workplan each year by February 15.

INTERLOCAL AGREEMENT

COLLABORATION OF STORMWATER PARTNERS OF SOUTHWEST WASHINGTON

Between

CLARK COUNTY

And

THE CITY OF BATTLE GROUND

And

THE CITY OF CAMAS

And

THE CITY OF RIDGEFIELD

And

THE CITY OF VANCOUVER

And

THE CITY OF WASHOUGAL

THIS IS AN INTERLOCAL AGREEMENT ("Agreement") between Clark County ("County"), a municipal corporation of the State of Washington, the City of Battle Ground ("Battle Ground"), the City of Camas ("Camas"), the City of Ridgefield ("Ridgefield"), the City of Vancouver ("Vancouver") and the City of Washougal ("Washougal"), all of which are municipal corporations of the State of Washington. Battle Ground, Camas, Ridgefield, Vancouver, and Washougal are collectively referred to as "Cities". All entities above may be collectively referred to as "Parties" and each individual entity may be referred to as a "Party".

RECITALS

Clark County is a Permittee under the Phase I Municipal Stormwater Permit (the "Phase I Permit") issued by the Washington State Department of Ecology ("Ecology") pursuant to the National Pollutant Discharge Elimination System ("NPDES") permitting program established under the federal Clean Water Act, 33 U.S.C. § 1251 et seq. (the "CWA"), and Washington's Water Pollution Control Law, chapter 90.48 RCW (the "WPCL").

The Cities are, or may become, Permittees under the Phase II Western Washington Municipal Stormwater Permit (the "Phase II Permit") issued by Ecology pursuant to the NPDES permitting program established under the CWA and the WPCL. In this Agreement, the Phase I Permit and the Phase II Permit are together referred to as the "NPDES Permits".

The Phase I Permit (S5.C.11) and Phase II Permit (S5.C.2) allow for education and outreach program requirements ("E & O requirements") to be met as a member of a regional group. The Parties participate in a regional group, Stormwater Partners of Southwest Washington ("Stormwater Partners").

The Parties are required to implement an education and outreach program designed to build general awareness about methods to address and reduce stormwater runoff, effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts, and create stewardship opportunities that encourage community engagement in addressing the

impacts from stormwater runoff under the Phase I Permit (S5.C.11) and the Phase II Permit (S5.C.2). The Parties recognize that collaborating through Stormwater Partners to meet E & O requirements can result in more effective and consistent products that benefit from efficiencies of scale.

The objective of Stormwater Partners is to support the Parties in meeting E & O requirements in the Phase I Permit (S5.C.11) and the Phase II Permit (S5.C.2).

Pursuant to chapter 39.34, RCW (Interlocal Cooperation Act), one or more public entities may contract with one another to perform government functions or services which each is by law authorized to perform.

NOW, THEREFORE, in consideration of the terms, conditions, covenants, and obligations contained herein, including the attached Exhibits, which are incorporated herein by reference as though set forth in full at this point, the Parties agree as follows:

1. REQUIREMENTS OF INTERLOCAL COOPERATION ACT.

1.1. This Agreement is authorized by and entered into pursuant to the Interlocal Cooperation Act, chapter 39.34 RCW.

1.2. The Parties agree that no separate legal or administrative entities are necessary to carry

out this Agreement.

1.3. Any real or personal property used or acquired by any Party in connection with the performance of this Agreement will remain the sole property of that Party, and no other Party shall have any interest therein.

1.4. Each Party to this Agreement shall designate an individual (an "Administrator"), which shall be designated by title or position, to oversee and administer that Party's participation in this Agreement. Each Party's initial Administrators is as follows:

County's Initial Administrator:

Devan Rostorfer, Clean Water Division Manager
Clark County Public Works
1300 Franklin Street
Vancouver, WA 98660
devan.rostorfer@clark.wa.gov

Battle Ground's Initial Administrator:

Mark Herceg, PE
Battle Ground Public Works Director
109 SW 1st St, Suite 127
Battle Ground, WA 98604
mark.herceg@cityofbg.org

Camas' Initial Administrator:

Doug Quinn, City Administrator
City of Camas
616 NE 4th Ave
Camas, WA 98607
dquinn@cityofcamas.us

Ridgefield's Initial Administrator:

Chuck Green
Ridgefield Public Works Director
P.O. Box 608
Ridgefield, WA 98642
Chuck.green@ridgefieldwa.us

Vancouver's Initial Administrator:

Kris Olinger, P.E.
Surface Water Engineering Program Manager
City of Vancouver
1500 SE Columbia Way
Vancouver, WA 98661
Kris.olinger@cityofvancouver.us

Washougal's Initial Administrator:

Trevor Evers
Public Works Director
1701 C St
Washougal, WA 98671
trevor.evers@cityofwashougal.us

Any Party may change its Administrator at any time by delivering written notice of such party's new Administrator to the other parties. The above-named Administrators are authorized to act on their respective party's behalf regarding subsequent extensions or renewals of this Agreement.

2. PURPOSE. The purpose and intent of this Agreement is for the Parties to work together efficiently and effectively to meet E & O requirements of the Phase I Permit (S5.C.11) and Phase II Permit (S5.C.2) through Stormwater Partners of Southwest Washington. This Agreement provides a mechanism for the Parties to collaborate on projects and campaigns to help meet E & O requirements.

3. MUTUAL OBLIGATIONS.

3.1. Each Party shall designate at least one representative ("Representative") from its jurisdiction to serve as a point of contact and participate in planning, coordination, and implementation of Workplan activities of Stormwater Partners.

3.2. The Parties' Representatives to Stormwater Partners will share planning, coordination and implementation roles and responsibilities as equally as possible. Each

Representative may utilize other staff within their jurisdiction to support planning, coordination, and implementation of Workplan activities as needed. Responsibilities include, but are not limited to attending meetings, keeping meeting minutes, procuring materials and/or vendors to support Workplan activities, managing contracts to perform Workplan activities, participating in other coordination groups relevant to Workplan activities and sharing information about other statewide or regional opportunities relevant to E & O requirements.

3.3. Each Party's Representatives to Stormwater Partners will be responsible for implementing Workplan activities within their jurisdiction. Parties may support implementation of Workplan activities in jurisdictions outside of their own if agreed to by those participating jurisdictions.

3.4. In order to ensure that the budgetary limitations set forth within this Agreement are not exceeded, prior to implementing any Workplan activities or incurring any shared expenses, each Party shall submit a spending request to the Lead Agency for approval. The spending request shall set forth the amount to be spent and shall describe in detail how the funds will be utilized. Parties shall not invoice any other Party for any cost or expense unless specifically approved in writing by the Lead Agency.

3.5. A Party incurring costs for website expenses and shared Workplan activities shall invoice other Parties for an equal amount representing each Party's pro-rata (based upon the number of Parties to this Agreement) share of the costs. A copy of the Lead Agency

approval shall accompany all such invoices.

3.6. The Parties shall make payment on invoices that are submitted in accordance with the terms and conditions of this Agreement by the invoicing Party within thirty (30) days following receipt of said invoice.

4. REPORTING. By February 15, of each year this Agreement is in effect, the Representatives from the County and Cities will produce a report summarizing the Workplans activities accomplished during the previous year. The report shall also list, for each Party, the total amount of costs/expenses incurred by said Party for program activities, the total amount paid by said Party to other Parties pursuant to this Agreement, and the total amount received by said Party from other Parties pursuant to this Agreement.

5. WORKPLAN DEVELOPMENT. By August 30 of each year this Agreement is in effect, the Parties shall develop a Stormwater Partners workplan (Workplan, Exhibit A) for the following 12 months that outlines activities that support E & O requirements. The Workplan will consist of activities approved by a majority of the Representatives.

6. FUNDING. Total spending outlined in each annual Stormwater Partners Workplan shall not exceed $120,000. Each Party's net spending under this Agreement (expenses incurred directly as a result of performing shared Workplan activities; plus direct payments paid by said Party to other Parties pursuant to this Agreement; minus direct payments paid to said Party by other Parties pursuant to this Agreement) shall be equivalent to that Party's pro-rata share (based

upon the number of Parties to this Agreement) of the annual Workplan budget, up to a maximum of $20,000.

7. LEAD AGENCY OBLIGATIONS.

7.1. Designate a Representative from its jurisdiction to serve as a point of contact and participate in planning, coordination, and implementation of Workplan activities.

7.2. The County shall serve as the Lead Agency for Stormwater Partners. As such, duties of the Lead Agency include:

7.2.1. Setting monthly planning and coordination meetings at times and locations, taking into consideration the schedules of other and agreeable to all Representatives.

7.2.2. Hosting the Stormwater Partners website.

7.2.3. Maintaining planning and coordination documents, including the annual Workplan, in a central location agreed upon by Representatives.

7.2.4. Receive and, if consistent with the budget and the provisions of this Agreement, approve spending requests from each Party prior to that Party invoicing the other Parties. The Lead Agency will track the budget and provide updates at coordination meetings or upon request of any Party.

7.3. The County shall coordinate and implement Workplan activities within the unincorporated areas of Clark County.

8. TERM. The term of this Agreement shall commence upon execution of this Agreement by all parties hereto and extend until June 30, 2029 (the "Term"), unless extended pursuant to the terms and provisions hereof. The Parties may extend the Term of this Agreement one additional time for up to five years by unanimous written approval of the Administrators for all Parties remaining in the Agreement. Any extension or renewal of this Agreement shall be completed no later than 30 days before the expiration of the original Term.

9. NO THIRD-PARTY BENEFICIARIES. No liability shall attach to the Parties by reason of entering into this Agreement, except as expressly provided herein. This Agreement is executed for the benefit of the Parties and the public generally. This Agreement is not intended to, and shall not be construed as, creating any third-party beneficiary.

10. HOLD HARMLESS/INDEMNIFICATION. To the extent authorized by law, each Party shall indemnify, defend, and hold harmless each other Party hereto, and their respective elected and appointed officials, employees, officers, contractors and agents, from any and all claims, demands, suits at law or equity, actions, penalties, losses, costs, and damages (both to persons and/or property), if caused by the indemnifying Party's violation of law or breach of any legal duty, provided, that if any such claim is caused by, or results from, the concurrent negligence of one or more Parties hereto, then this indemnity provision shall be valid and enforceable only to the extent of each Party's respective allocation of negligence. The terms of this section shall survive the termination of this Agreement.

11. NOTICE. Any notices to be given under this Agreement shall at minimum be delivered,

postage prepaid and addressed to:

To the County:

CLARK COUNTY
PUBLIC WORKS
PO Box 9810
Vancouver, WA 98666-9810
Attention: Public Works Director

To Battle Ground:

CITY OF BATTLE GROUND
109 SW 1st St, Suite 127
Battle Ground, WA 98604
Attention: Public Works Director

To Camas:

CITY OF CAMAS
616 NE 4th Ave
Camas, WA 98607
Attention: Public Works Director

To Ridgefield:

CITY OF RIDGEFIELD
230 Pioneer St
Ridgefield, WA 98642
Attention: Public Works Director

To Vancouver:

CITY OF VANCOUVER
PO Box 1995
Vancouver, WA 98668
Attention: Public Works Director

To Washougal:

CITY OF WASHOUGAL
1701 C St
Washougal, WA 98671
Attention: Public Works Director

The name and address to which notices shall be directed may be changed by any Party by giving all of the other Parties prior written notice of such change.

12. WAIVER. No waiver by any Party of any term or condition of this Agreement shall be deemed or construed to constitute a waiver of any other term or condition nor of any subsequent breach.

13. MODIFICATIONS. Except as otherwise provided herein, any modification to this Agreement must be in writing and signed by each other Party to this Agreement. Pursuant to

section 1.4 above, each Party's Administrator is authorized to act on their respective Party's behalf regarding extensions or renewals of this Agreement.

14. TERMINATION. Any Party may terminate its participation in this Agreement by providing to the other Parties notice of proposed termination at least 90 (ninety) days prior to the proposed date of termination. Written notice is effective three days post presentation, through personal delivery, mail notice, or email notice.

15. ENTIRE AGREEMENT. This Agreement contains all agreements of the Parties with respect to the subject matter covered herein, and no prior Agreements shall be effective to the contrary.

16. AUDIT AND RECORDS. During the term of this Agreement and for a period of not less than five (5) years thereafter, all Parties shall maintain the records and accounts pertaining to the subject matter of this Agreement and shall make them available during normal business hours and as often as necessary for inspection and audit by the parties, the State of Washington, and/or federal government, and copies of all records, accounts, documents or other data pertaining to the subject matter of this Agreement shall be furnished upon request. The requesting Party shall pay the cost of copies produced. If any litigation, claim or audits are commenced, the records and accounts along with supporting documentation shall be retained until any litigation, claim or audit finding has been resolved even if such litigation, claim or audit continues past the five-year retention period.

17. DOCUMENT EXECUTION AND FILING. The Parties agree this Agreement shall be

executed using electronic signatures. Upon execution, each Party shall retain a fully executed Agreement. Each Party shall cause a copy of this Agreement to be posted on its websites pursuant to RCW 39.34.040. This fully executed Agreement shall be distributed to the designated agents of the Parties, named as follows:

Director of Public Works
CLARK COUNTY
PO Box 9810
Vancouver, WA 98666-9810

Ridgefield Public Works Director
CITY OF RIDGEFIELD
230 Pioneer St
Ridgefield, WA 98642

Battle Ground Public Works Director
CITY OF BATTLE GROUND
109 SW 1st St, Suite 127
Battle Ground, WA 98604

Vancouver Public Works Director
CITY OF VANCOUVER
PO Box 1995
Vancouver, WA 98668

Public Works Director
CITY OF CAMAS
616 NE 4th Ave
Camas, WA 98607

Washougal Public Works Director
CITY OF WASHOUGAL
1701 C St
Washougal, WA 98671

18. SEVERABILTY. If any section or part of this Agreement is held by a court to be invalid, such holding shall not affect the validity of any other part of this Agreement.

19. ASSIGNMENT/SUBCONTRACTING. No Party shall transfer or assign, in whole or in part, its respective rights or obligations under this Agreement without the prior written consent of each other Party. Consent for assignment or transfer shall not be unreasonably withheld.

20. INDEPENDENT CAPACITY. Employees or agents of a Party engaged in the performance of projects under this Agreement shall continue to be employees or agents of that Party and shall not be considered employees or agents of any other Party to this Agreement.

21. CHOICE OF LAW. This Agreement shall be interpreted in accordance with the laws of the State of Washington.

22. DISPUTES. Each Party's Administrator, or their designee, shall attempt in good faith to resolve all disputes regarding the terms of this Agreement. In the event the dispute is not resolved by the Parties through negotiation, a lawsuit seeking to enforce this Agreement shall be filed in the Superior Court of the State of Washington in and for Clark County. Each Party shall bear their own legal fees, costs, and expenses related to enforcing any legal rights and responsibilities under this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in their respective names by their duly authorized officers This Agreement shall be effective on the date last signed below.

CLARK COUNTY	CITY OF BATTLE GROUND, A municipal corporation
By: _____ Kathleen Otto, County Manager	By: _____ Kris Swanson, Interim City Manager
Dated: _____	Dated: _____

Approved as to form only:

ANTHONY F. GOLIK
Prosecuting Attorney

By: _____
Kevin A. McDowell,
Deputy Prosecuting Attorney

Attest:

By: _____
Rebecca Messinger, Clerk to the Council

Approved as to form only:

By: _____
Ken Harper, City Attorney

Attest:

By: _____
Elizabeth Halili, City Clerk

CITY OF VANCOUVER,
A municipal corporation

By: _____
Eric J. Holmes, City Manager

Dated: _____

CITY OF CAMAS,
A municipal corporation

By: _____
Doug Quinn, City Manager

Dated: _____

Approved as to form only:

By: _____
Jonathan Young, City Attorney

Attest:

By: _____
Natasha Ramras, City Clerk

Approved as to form only:

By: _____
Shawn MacPherson, City Attorney

Attest:

By: _____
Syndey Baker, City Clerk

CITY OF WASHOUGAL,
A municipal corporation

By: _____
David Scott, City Manager

Dated: _____

Approved as to form only:

By: _____
Robert Zeinemann, City Attorney

Attest:

By: _____
Daniel Layer, City Clerk

CITY OF RIDGEFIELD,
A municipal corporation

By: _____
Steve Stuart City Manager

Dated: _____

Approved as to form only:

By: _____
Janean Parker, City Attorney

Attest:

By: _____
Julie Ferriss, City Clerk

Staff Report

July 15, 2024 Council Workshop Meeting

NW 38th Avenue Improvements Phase 3 Professional Services Agreement Amendment
Presenter: James Carothers, Engineering Manager
Time Estimate: Five minutes

Phone	Email
360.817.7230	jcarothers@cityofcamas.us

BACKGROUND: Staff is seeking Council approval of a Professional Services Agreement (PSA) Amendment for Construction Management in the amount of $797,843 to PBS Engineering and Environmental, Inc. (PBS).

This project was awarded to Rotschy Inc. by Council on June 3, 2024 and will complete the final phase of street and frontage improvements within the NW 38th Avenue corridor. Construction will include approximately 2,360 linear feet of roadway and frontage improvements, beginning at the intersection of NW 38th Avenue and NW Parker Street and terminating at the existing frontage improvements in front of Grass Valley Park to the east. Construction will begin in summer or fall of 2024. It is anticipated that construction will be paused during the winter and conclude in summer 2025.

A summary of total project costs is shown below:

Phase	City Funds	FHWA Grant Funds	TIB Grant Funds	Subtotal
Design	$223,569	$335,700	$0	**$559,269**
Right-of-Way	$24,308	$142,927	$0	**$167,235**
Construction (+10% Contingency)	$155,256	$6,307,372	$1,692,384	**$8,155,012**
Total	**$403,133**	**$6,785,999**	**$1,692,384**	**$8,881,516**

SUMMARY: PBS proposes to provide Construction Management services that include contract administration, budget tracking, invoicing, daily inspections, materials testing, coordination with Washington Department of Transportation (WSDOT) to ensure compliance with the grant funding agreements and other ancillary services. City staff will assist PBS in these activities but the significant amount of time required and specialized nature of the tasks prevents the City from completing the work in-house.

BUDGET IMPACT: The project is fully funded. Over 95 percent of construction costs are funded by grants.

RECOMMENDATION: Staff recommends this item be placed on the August 5, 2024 Council Regular Meeting Agenda for Council's consideration.

Washington State Department of Transportation

Supplemental Agreement Number 2	Organization and Address PBS Engineering and Environmental Inc 1325 SE Tech Center Dr., Suite 140, Vancouver, WA 98683 Phone: 360.567.2121	
Original Agreement Number LA 9919		
Project Number STPUL-7031(004)	Execution Date 12/21/2010	Completion Date 12/31/2024
Project Title 38th Avenue Street Improvements, Phase 3	New Maximum Amount Payable $1,452,825.93	
Description of Work Additional work will include Construction Management Services, see the attached amended scope of work for description of the work. (Exhibit A) Base Agreement Amount $658,553.41 Supplemental Agreement Amount $797,842.52, New Total $1,456,395.93		

The Local Agency of City of Camas
desires to supplement the agreement entered in to with PBS Engineering and Environmental Inc
and executed on 12/21/2020 and identified as Agreement No. LA 9919
All provisions in the basic agreement remain in effect except as expressly modified by this supplement.
The changes to the agreement are described as follows:

I

Section 1, SCOPE OF WORK, is hereby changed to read:
SEE EXHIBIT A

II

Section IV, TIME FOR BEGINNING AND COMPLETION, is amended to change the number of calendar days for completion of the work to read: 12/31/2026

III

Section V, PAYMENT, shall be amended as follows:
SEE EXHIBIT D and E

as set forth in the attached Exhibit A, and by this reference made a part of this supplement.
If you concur with this supplement and agree to the changes as stated above, please sign in the Appropriate spaces below and return to this office for final action.

By:_____ By:_____

Consultant Signature

Approving Authority Signature

Date

DOT Form 140-063
Revised 09/2005

Exhi
Scope of Work

Project No.

SUPPLEMENTAL AGREEMENT 2 - EXHIBIT "A"

CITY OF CAMAS, WASHINGTON

Scope of Work
NW 38th Avenue Street Improvements, Phase 3
City of Camas Project # T1024 (STR23033)

GENERAL DESCRIPTION

The City of Camas (City) has asked PBS to perform construction management support for the **38th Avenue Street Improvements, Phase 3** Project. The project is currently out to bid and construction is expected to start in Spring 2024. PBS is proposing the scope items below to accommodate this work.

The project team includes:

- Exeltech – Construction Inspection (DBE)
- GTEng – Traffic Engineering services (DBE)

In general, the construction engineering phase will involve, but not be limited to, the following key components and deliverables:

1) Preparation and submittal of monthly invoices to City for services performed.
2) Construction management and administration.
3) Attendance at preconstruction conference.
4) Preparation of Record of Materials (ROM).
5) Review of material submittals.
6) Tracking of weekly statements of working days.
7) Prepare and review of contractor monthly pay estimates and submittal to City.
8) Review of contractor proposals for alternate "or equal" materials.
9) Lead and attend weekly on-site construction meetings preparing agendas as needed.
10) Construction engineering support.
11) Construction Inspection with daily inspection reports and diaries.
12) Preparation and submittal of construction record drawings after construction.
13) Preparation of draft project closeout paperwork.
14) Track Contractor DBE and Training contract compliance.
15) Build America, Buy America materials tracking.
16) Construction Materials Testing.
17) Contract change control and request for information (RFI) review.

ASSUMPTIONS

The following assumptions are specific to the work involved with construction management and inspection:

1) Construction duration is assumed to be 9 months. The completion date is assumed to be December 31, 2024.

2) The City will be responsible for bid opening, award, and contract execution for the proposed project.
3) As an extension of City staff, PBS will provide final approval of construction related paperwork items. City staff will have approval authority on changes that alter the scope, schedule, or budget on the construction project. The PBS Construction Manager will be responsible for distribution of paperwork items to the Contractor, City staff, and PBS' Construction Inspector.
4) PBS will be responsible for required WSDOT documentation unless otherwise noted per WSDOT Local Agency Project Management Review Checklist.
5) The City staff, with assistance from the PBS Construction Manager, will be responsible for any negotiations or management of disputes with the Contractor, utility companies, or private property owners.
6) PBS will maintain documentation as items are reviewed and approved.
7) In this scope, "PBS" is used to represent PBS' Construction Manager, Project Assistant, Project Inspector, and subconsultants unless otherwise indicated in the task description.

SCOPE OF WORK

Task 13: Project Management and Coordination

Subtask 13.1: Contract Administration, Invoicing, and Progress Reports

PBS will perform project management services to include the following:

1) PBS shall use the City's CDC VPM System for file management.
2) Prepare and submit monthly invoices. Each invoice will include billing period covered by invoice, number of hours worked during the billing period with billing rates shown, expenses, total cost for labor and expenses for the billing period, and a total amount summarizing labor and expenses. No additional markup will be included in the billing by PBS. Assumes project set-up and 7 monthly invoices.
3) Prepare an Invoice Summary Report to accompany the monthly invoices. The Invoice Summary Report will list the total amount billed to date, total amount remaining under contract, and contract expiration date for each contract task.
4) Maintain contract-required documentation. Provide copies of project files and records to the City for audits and public information requests. Final documents shall be provided in paper format unless the entire life cycle of the documents was completed in electronic format. Copies will be provided to the City on a weekly basis through a project Sharepoint site or paper copies as requested.
5) City will maintain WSDOT required Quarterly Project Reports of DBE Participation (QPRs)

Deliverables

1) Monthly invoices, and Invoice Summary Reports
2) Project documentation

Subtask 13.2: Preconstruction and Kickoff Meetings

1) An initial kickoff/coordination meeting will be conducted with PBS' project team and City staff to establish procedures/protocols and communication requirements for the project. This meeting should occur prior to the pre-construction meeting.
2) PBS will assist the City with coordination of the preconstruction conference. PBS will schedule the conference, invite attendees, produce an agenda, and take meeting minutes.

3) PBS will invite and coordinate with WSDOT Local Programs and OEO to ensure conformance with LAG standards. PBS will send WSDOT a copy of the meeting agenda for comments prior to the meeting.
4) PBS to prepare and distribute pre-construction minutes
5) Pre-bid meeting, if required.

Assumptions:

1) Coordination and pre-construction meetings will be attended by the PBS construction services manager, design engineer, office engineer and inspector.

Deliverables

1) Kickoff coordination meeting agenda and notes provided to the City.
2) Preconstruction conference meeting agenda and minutes provided to the City and the prime Contractor. Meeting shall be in conformance with LAG standards.

Subtask 13.3: Utility Coordination

PBS will coordinate with the Contractor and the franchise utilities to facilitate relocation and/or protection of private utilities.

Assumptions:

1) Major utility relocations will be completed prior to construction. Coordination will include protection of existing utilities and/or minor adjustments to boxes or vaults.

Deliverables

1) Copies of written communications with utilities.

Task 14: Construction Surveying and Staking

Subtask 14.1: Construction Staking

PBS will be responsible for construction staking. PBS will also be available to field check construction staking on as 'as requested' basis. An allowance of 2 days of 2-Person crew time for field checks is included in the contract for budgeting purposes.

Assumptions:

2) PBS Construction Manager will verify with City prior to any survey checks performed by PBS staff.

Subtask 14.2: Monumentation

PBS will verify existing monuments that are to be maintained and those that will be destroyed during construction. PBS will obtain monument destruction permit from the Department of Natural Resources (DNR), replace destroyed monuments and file a post construction record of survey with Clark County. Specific tasks are as follows:

1) Create a list of monuments that are to be maintained and those that will be destroyed during construction. Monuments to be removed may be replaced with offset monuments.
2) Create and file a Monument Destruction Permit with the DNR.
3) Replace all monuments destroyed during construction.
4) Create and file a post-construction Record of Survey with the Clark County Survey Department showing all monuments tied along the right-of-way corridor, the monuments set to replace destroyed

monuments, and all major survey monuments on the newly created right-of-way acquisition lines (previously completed by PBS legal descriptions and exhibit maps).

Task 15: Construction Management and Construction Engineering

Subtask 15.1: Manage Record of Materials (ROM)

PBS will prepare a Record of Materials (ROM) and maintain a documented record of material submittals. PBS will log in and track each approved submittal by the City. PBS duties will include the following:

1) PBS will manage the ROM with material acceptance criteria. (WSDOT to provide Draft ROM)
2) PBS will provide the City with a draft ROM for approval and update the ROM acceptance criteria as needed by the City during construction.
3) PBS will collect and organize the documentation to fill out the ROM.

Assumptions:

1) The ROM will be based on the items in the current engineer's estimate. Assumes 124 bid items.
2) Assume 2-hours for each bid item.
3) PBS will review, check, and track the Contractor's "Build America, Buy America (BABA)" Requirements.
4) Certified Payrolls will be reviewed by PBS. Assume 2 hours per week.
5) The city will be responsible for Sublet Requests.

Deliverables

1) Record of Materials (ROM)
2) Bid item packages with the back-up documentation organized for each item.

Subtask 15.2: On-Site Meetings

PBS will attend on-site project progress and utility coordination meetings. Other specific pre-work meetings may include the following (based on need during construction or Contractor request): traffic control/staging, construction surveying, CAS placement, HMA paving, and striping. PBS will issue meeting notes for each meeting attended. Generally, PBS' Construction Manager or Project Assistant, PBS Inspector, and Contractor will be in attendance. Progress meetings will be used to promote effective communication between the City, PBS, Contractor, and other project stakeholders.

Assumptions:

1) Assumes 35 weekly construction on-site meetings of up to 2-hours each.
2) Assume 2-hour per meeting and agenda and notes
3) Assume 4 Utility coordination site meetings with the contractor and the impacted utilities.

Deliverables

1) Construction meeting minutes provided to the City and Contractor.

Subtask 15.3: Material Submittals

PBS will receive and review material submittals (Manufacturer's Certificates of Compliance, Certificates of Material Origin, cut sheets, Qualified Product List sheets, etc.), construction sequence schedules, shop drawings, and other items required from the Contractor to ensure compliance with contract requirements. PBS will review the following submittals, including but not limited to: material-specific submittals, HMA and concrete mix designs, retaining wall calculations and drawings, illumination materials, landscape items, and

others required by construction contract specifications.

PBS will receive, review, and maintain material submittals. Upon completion of review, PBS will provide approved submittals to the City of appropriate approval requirements for material submittals. PBS will transmit the approvals to the Contractor.

Assumptions:

1) PBS will use the City's CDC VPM System for file management.
2) Assumes up to 124 material submittals covering materials as listed in the current engineer's estimate.
3) Assumes 3 hours per submittal.

Deliverables

1) Copies of approved material submittals.
2) Copies of written communications with the Contractor.

Subtask 15.4: Construction Administration and Engineering

PBS' Construction Manager will coordinate with the PBS Inspector and City staff throughout the duration of the project, keep a record of decisions made, review and recommend solutions to change order requests, and review progress and final progress estimates. PBS will review and track Contractor labor compliance documentation, including subcontracts, utilization reports, and subcontractor paid reports. PBS will review the following submittals, including but not limited to: traffic control plans, staging plans, erosion and pollution control plans, quality control plan, construction schedules, and others required by construction contract specifications. Approvals will be by the City Engineer.

PBS duties will include the following:

1) PBS will receive and review the SPCC Plan and provide the City with a recommendation of approval criteria.
2) PBS will review the Contractor's proposed Monthly Pay Estimate. PBS will provide a draft Monthly Pay Estimate to the City for review and approval. Assumed a total of nine (9) monthly estimates plus the final estimate.
3) PBS will receive and review daily reports recording pertinent information such as: Contractor's hours on the site, weather conditions, and data relative to potential Change Orders, Minor Change Orders, or changed conditions, site visitors, daily activities, quantities, material tickets, daily scalesmen reports, and decisions.
4) PBS will review and track the Contractor's D/M/WBE and training hours documentation.
5) PBS will receive and review Contractor's Erosion Control Inspection reports. PBS will notify the City staff if any irregularities or concerns are identified.
6) PBS will receive, review, and determine the acceptability of schedules provided by the contractor. These may include the Progress Schedule, Schedule of Submittals, and Schedule of Values.
7) Weekly statement of working days.

Assumptions:

1) Assumes 1 review of each document
2) Assumes half of the documents will have to be returned to the Contractor for re-submittal.
3) Assume re-review for half of submitted documents

Deliverables

1) Copies of plans and reports provided by the Contractor with approval
2) Copies of Erosion Control Inspection Reports to the City
3) D/M/WBE and training documentation
4) Draft of Monthly Pay Estimates for review and approval
5) Copies of Inspector's daily reports
6) Copies of written communications
7) Record of field decisions
8) Record of Contractor labor compliance, including subcontracts
9) Copies of Schedules provided by the Contractor
10) Copies of inspector's pay notes, construction photos, daily inspection reports and collected (original) material tickets.
11) Letter of non-conformance, work not in compliance with the contract
12) Weekly statement of working days.

Subtask 15.5: Response to Questions and Change Orders

PBS will assist the City in response to requests for information (RFI) and response for clarifications (RFC) by the Contractor and provide supplemental information as needed to maintain the progress of the work. If field adjustments are required, as a result of a change in conditions or a desired change by the City, PBS will prepare the necessary change order documents and plan revisions for approval by City staff. PBS will provide the City with draft change order documents for review, approval, and issuance to the Contractor.

PBS' duties will include the following:

1) PBS will assist the City with addressing construction questions and Request for Information (RFI) from the Contractor.
2) PBS will assist the City with processing Request for Clarification (RFC) from the Contractor.
3) PBS will assist the City with preparing field directives and change orders and provide these to the City for approval and issuance to the Contractor.
4) PBS will prepare design changes associated with change orders (including exhibits) during the construction process.

Assumptions:

1) Address up to 20 RFI's
2) Process up to 10 RFC's
3) Prepare up to 10 field directives and 8 change orders
4) Prepare up to 2 design changes.

Exclusions: Approval of change order paperwork to Contractor.

Deliverables

1) Copies of RFIs to the City staff
2) Copies of RFCs to the City staff
3) Draft Change Orders to the City for approval and issuance to the Contractor
4) Plan sheets for design changes

Task 16: Construction Observation

Subtask 16.1: Site Visits

PBS' Construction Manager will perform site visits as necessitated by concerns or issues arising from construction, or when requested by the City.

Assumptions:

1) Site visits will be weekly for up to 9 months.

Deliverables

1) Copies of written communications
2) Copies of observation reports

Subtask 16.2: Geotechnical Support

The PBS geotechnical staff will perform site visits during: excavation, backfill, cement amending, base course, pavement placement and other times as necessary. PBS will coordinate to address any questions that may arise regarding this field of expertise.

PBS duties will include the following:

1) CM team to coordinate prework meeting to discuss performance and operational requirements 1 week prior to CAS work.
2) Observe the Cement Amending.
3) Observe the installation of the sheet piles for the sheet pile wall.
4) Verify the conditions of the subgrade.
5) Cement Amended Base (AASHTO T-134, ASTM D 2922, ASTM D 3017)
    a. Two tests at 4 locations Compaction test
    b. Once per day Cement Spread rate verification

Assumptions:

1) Assumes 1 pre-activity meeting for the cement amending.
2) Assumes 2 site visits prior to cement amending. 2 site visits during the cement amending.
3) Assumes 1 pre-activity meeting for the sheet pile installation.
4) Assumes half of the documents will have to be returned to the Contractor for re-submittal.

Deliverables

1) Copies of construction recommendations.
2) Copies of field reports

Subtask 16.3: Material Testing

PBS will contract with Columbia West to perform material testing in accordance with requirements as defined in the WSDOT Construction Manual and Standard Specifications.

Assumptions:

1) Assumes material testing as follows:
    - T 813- COMPRESSIVE STRENGTH TESTING OF GROUTS & MORTARS
    - Borrow (T 180 -PROCTOR)
        - Two grading and SE (Every 4,000 tons) AASHTO T 27/T 11
        - Two visits for compaction testing. SOP 615
    - CSBC (T 180 – PROCTOR) 8700 Ton

        - Five grading, SE and fracture (Every 2,000 tons) AASHTO T 27/T 11
        - Nine compaction tests (Every 1,000 LF)
    - HMA (SOP 731- VOLUMETRIC PROPERTIES OF HOT MIX ASPHALT) 4600 Ton
        - Five complete mix tests (volumetric properties of HMA, Va, VMA, VFA, dust to binder ratio graduation, oil content, rice density) (Every 1,000 tons)
        - Three aggregate only tests (Every 2,000 tons) AASHTO T 27/T 11
        - Three visits for compaction testing (Every 100 tons) T 355
        - Asphalt binder sample AASHTO R 66
    - Gravel backfill for pipe zone
        - Two grading and SE (Every 1,000 tons) AASHTO T 27/T 11
        - Six compaction tests T 310
    - Concrete
        - Three grading on coarse aggregate (Every 1,000 tons) AASHTO T 27/T 11
        - Three grading on fine aggregate (Every 1,000 tons) AASHTO T 27/T 11
        - 14 sets cylinders and breaks AASHTO T 23
        - 14 site visits to take temperature, slump and air. WAQTC TM2, T 119 SLUMP, T 152 AIR CONTENT, T 309 TEMPERATURE

Deliverables:

1) Copies of test results and reports.

Subtask 16.4: Inspection Services

PBS shall provide on-site construction inspection services. The PBS' construction inspector will be the Engineer's agent for the project and will act as directed by, and under the supervision of the engineer. The inspector's oversight pertaining to the Contractor's work shall, in general, be with the engineer and Contractor, keeping the City staff advised as necessary. The inspector's interaction with subcontractors shall only be through, or with, the full knowledge and approval of the Contractor. The inspector shall communicate with City staff, with the knowledge of and under the direction of the engineer. For budgeting purposes, this assumes one full-time inspector for 37 weeks during a total project time of 9 months and one half-time inspector for 10-hours/week for 37 weeks. The inspector responsibilities will include the following:

1) Inspector will serve as the engineer's liaison with Contractor, working principally through Contractor's superintendent, and assist in providing information regarding the intent of the Contract Documents.
2) Inspector will assist in obtaining additional details or information from the City staff when required for proper execution of the work.
3) Inspector will conduct on-site observation of the project to ensure work is completed in accordance with the Contract Documents and advise the City staff if any changed conditions are encountered.
4) Inspector will coordinate, in advance of, scheduled major inspections, or specialty inspections and verify that appropriate City staff personnel are present, and that adequate records are kept.
5) Inspector will prepare a daily inspector report recording pertinent information such as: Contractor's hours on the site, weather conditions, and data relative to potential Change Orders, Field Orders, or changed conditions, site visitors, daily activities, quantities, force account tracking, and record of decisions.
6) Inspector will immediately notify the City staff of any site accidents, emergencies, acts of God endangering the work, or damage to property.

7) Inspector will review the contractor's pay estimates to ensure work being paid for has been completed. Inspector will track and process materials-on-hand in accordance with the Contract Documents.
8) Inspector will track bid item quantities daily.
9) Inspector will represent the City when communicating with Camas citizens.
10) Inspector will conduct Wage Rate Interviews in compliance with WSDOT Form 424-003.
11) Landscape Architect will be on site to inspect the plant material, irrigation, planting procedures and plant establishment.

Assumptions:

1) Project inspector on site up to 9 hours per day for 37 weeks over a total project time of 9 months.
2) Lead inspector on site up to 10 hours a week for 37 weeks over a total project time of 9 months.
3) Landscape Architect on site up to 4 hours for 6 days.

Deliverables

1) Daily Inspection Reports.
2) Daily Tracking of Bid Item Quantities.
3) Project photos with dates and correlation to Daily Inspection Report

Task 17: Traffic Construction Support

Subtask 17.1: Construction Engineering

GTEng will provide construction engineering assistance to the City and PBS during the construction stage of the project including:

1) Prepare up to six (6) monthly progress reports associated with Traffic Engineering CE Services.
2) Prepare for and attend a pre-construction meeting in Camas.
3) Review contractor material submittals for the traffic design elements as to compliance with the approved plans and specifications.
4) Provide up to 60 hours of support to coordinate project-related items with the project team, City, and contractor as needed to complete the project (including providing design interpretation during construction of the traffic design elements and responding to RFIs).
5) Visit site as requested from the City and/or PBS to review construction progress, answer questions, and help resolve in-field design decisions. GTEng assumes up to four (4) site visits.

The scope of construction engineering is limited to the hours shown in the attached budget.

Subtask 17.2: As-builts

1) Receive a copy of the redlined edits to the traffic design plans from the contractor, project inspector, City, and/or PBS and prepare draft As-Built drawings.
2) GTEng will revise the As-Built drawings based on City comments and submit final As-Built drawings for approval.
3) Submit electronic files of traffic design elements to the client.

Task 16 Deliverables:

- *Bid addendum (as needed)*
- *RFI Responses (as needed)*
- *As-built drawings*

Task 18: Project Closeout and As-Builts

Subtask 18.1: As-Builts

The Final Plans will be revised to conform to construction record drawings from information supplied by the Contractor, and as reviewed by the PBS inspector.

PBS' duties will include the following:

1) PBS will review Construction Record Drawings provided by the Contractor.
2) PBS will collect As-Built Survey information for underground utilities (storm sewer, sanitary sewer) and above ground water features (meters and hydrants) and valves.
3) PBS will submit draft As-Built Drawings for City review
4) PBS will revise the As-Built drawings based on City comments and submit final As-Built drawings for approval.

Deliverables

1) Reviewed Construction Record Drawings.

Subtask 18.2: Closeout Documentation

PBS will compile project closeout documentation and coordinate with the Contractor and the City to obtain the required documents. PBS will assemble project documentation and deliver to the City at project completion.

1) PBS's Construction Manager, Inspector and the City staff will perform final inspections and will create a list of punch list items. PBS's Construction Manager and the City staff will establish dates of substantial, physical, and contract completion.
2) PBS will prepare draft letters of substantial, physical, and contract completion for review, approval, and issuance by the City.
3) PBS will assemble construction documentation in binders for delivery to the City.
4) PBS will represent City staff in WSDOT/HLP file and project reviews and audits.

Deliverables

1) Draft letters of substantial, physical, and contract completion for approval and issuance by the City
2) Hard copy of construction documentation and electronic files on CD
3) Review and consult with City for approval of Construction Documentation bid item payment

Exhi
DBE Participation Plan

In the absents of a mandatory DBE goal, a voluntary SBE goal amount of ten percent of the Consultant Agreement is established. The Consultant shall develop a SBE Participation Plan prior to commencing work. Although the goal is voluntary, the outreach efforts to provide SBE maximum practicable opportunities are not.

This project Amendment has a mandatory DBE utilization goal of 9%. See below for how this goal will be met.

GTEng (Traffic Engineering) – $10,020.92
Exeltech (Construction Inspection) - 192,369.60

Supplemental Agreement 2 (CN) DBE utilization - $202,390.52
Supplemental Agreement 2 (CN) Budget - $797,842.52
Supplemental Agreement 2 (CN) DBE percent - 25.4%

The base contract also had a mandatory DBE participation goal of 9%. This phase of the project was unable to meet the DBE goal due to a failure to perform related to a broken drill rig, and as a result of the design process moving more efficiently than anticipated with the original Scope. After evaluating the project in the design phase there were no readily commercial useful services that could be performed with the project. In order to best meet the mandatory DBE project goals the DBE effort in this amendment was increased to offset the assumed 30K deficiency in the base contract. See below for a breakdown of the base contract DBE utilization

GTEng (Traffic Engineering) – $19,578.42 planned / $16,843.33 actual
3D Infusion (Computer Aided Drafting) – $22,475.11 / $9,502.12 actual
Magna LLC (Geotechnical Drilling) – $19,000 / $0 actual due to failure to perform

Total UDBE Utilization amount – $61,053.53 planned / $26,345.53 actual
Total Contract Amount – $658,553.41 planned / $594,242,89 spent
Total UDBE Utilization Percent – 9.3% planed / 4.4% actual / 4.0% (actual/budget)

See below for a holistic project based DBE plan.

Approximate base contract DBE utilization - $26,345.45
Supplemental Agreement 2 (CN) DBE utilization - $202,390.52
Total project DBE utilization (base contract through Supplemental Agreement 2)- $228,735.97

Total Project Value - $1,456,395.93

Total project DBE Utilization percent - 15.7%

Exhi

Prime Consultant Cost Computations

Washington State Department of Transportation

Development Division
Contract Services Office
PO Box 47408
Olympia, WA 98504-7408
7345 Linderson Way SW
Tumwater, WA 98501-6504

TTY: 1-800-833-6388
www.wsdot.wa.gov

September 6, 2023

PBS Engineering and Environmental, Inc.
214 E. Galer Street, Suite 300
Seattle, WA 98102

Subject: Acceptance FYE 2022 ICR – CPA Report

Dear Nicole Edmondson:

We have accepted your firms FYE 2022 Indirect Cost Rate (ICR) of 177.39% of direct labor (rate includes 0.45% Facilities Capital Cost of Money) based on the "Independent CPA Report," prepared by Stambaugh Ness, Inc. This rate will be applicable for WSDOT Agreements and Local Agency Contracts in Washington only. This rate may be subject to additional review if considered necessary by WSDOT. Your ICR must be updated on an annual basis.

Costs billed to agreements/contracts will still be subject to audit of actual costs, based on the terms and conditions of the respective agreement/contract.

This was not a cognizant review. Any other entity contracting with the firm is responsible for determining the acceptability of the ICR.

If you have any questions, feel free to contact our office at **(360) 704-6397** or via email **consultantrates@wsdot.wa.gov**.

Regards,

Schatzie Harvey
Schatzie Harvey (Sep 7, 2023 15:50 PDT)

SCHATZIE HARVEY, CPA
Contract Services Manager

SH:leg

Exhibit D-1
38th Avenue Street Improvements - CM Budget

City of Camas, Washington
Thursday, June 13, 2024

PBS

	PBS Engineering and Environmental (Engineering/Management)													PBS	Columbia West	GTEng	Exceltech	SUB	
Task and Description	*Principal Engineer*	*Engineer VII*	*Engineer VI*	*Engineering Staff II*	*Landscape/Planning V*	*Survey VI*	*Survey IV*	*Survey II*	*Survey 2-Person Crew*	*UAS Operator II*	*Construction IV*	*Project Administrator II*	*Expense*	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	BUDGET AMOUNT
Task 13: Project Management and Coordination														8,446.00	0.00	0.00		0.00	8,446.00
Sub-Task 13.1: Contract Administration, Invoicing, and Progress Reports		10.00										10.00		3,210.00				0.00	$3,210.00
Sub-Task 13.2: Preconstruction and Kickoff Meetings		4.00	4.00								4.00	4.00		2,716.00				0.00	$2,716.00
Sub-Task 13.3: Utility Coordination		4.00	8.00											2,520.00				0.00	$2,520.00
Sub-Task 14: Construction Survey and Staking														86,320.00	0.00	0.00		0.00	86,320.00
Sub-Task 14.1: Construction Staking						10.00	145.00		216.00	20.00			500.00	72,790.00				0.00	$72,790.00
Sub-Task 14.2: Monumentation						6.00	40.00		32.00					13,530.00				0.00	$13,530.00
Sub-Task 15: Construction Management and Engineering														203,050.00	0.00	10,020.92		10,020.92	213,070.92
Sub-Task 15.1: Manage Record of Materials (ROM)		80.00									120.00	120.00		48,080.00				0.00	$48,080.00
Sub-Task 15.2: On-Site Meetings		70.00										70.00	500.00	22,970.00				0.00	$22,970.00
Sub-Task 15.3: Material Submittals		80.00		104.00	16.00							80.00		40,920.00				0.00	$40,920.00
Sub-Task 15.4: Construction Administration and Engineering		240.00										120.00		64,920.00				0.00	$64,920.00
Sub-Task 15.5: Response to Questions and Change Orders		80.00		20.00								60.00		26,160.00		10,020.92		10,020.92	$36,180.92
Sub-Task 16: Construction Observation														224,968.00	45,000.00	0.00	192,369.60	237,369.60	462,337.60
Sub-Task 16.1: Site Visits	8.00	36.00											100.00	10,180.00				0.00	$10,180.00
Sub-Task 16.2: Geotechnical Support	16.00	12.00		200.00								8.00	2,000.00	34,768.00				0.00	$34,768.00
Sub-Task 16.3: Material Testing	16.00													4,320.00	$45,000.00			45,000.00	$49,320.00
Sub-Task 16.4: Inspection Services	10.00				30.00						1,100.00		500.00	175,700.00			$192,369.60	192,369.60	$368,069.60
Sub-Task 17: Traffic Support														7,284.00	0.00	0.00	0.00	0.00	7,284.00
Sub-Task 17.1: Construction Engineering		8.00		16.00							8.00			4,984.00				0.00	$4,984.00
Sub-Task 17.2: As-Builts		4.00									4.00	8.00		2,300.00				0.00	$2,300.00
Sub-Task 18: Project Closeout and As-Builts														20,384.00	0.00	0.00	0.00	0.00	20,384.00
Sub-Task 18.1: As-Builts		8.00		16.00	8.00	4.00		6.00	9.00		8.00		100.00	9,496.00				0.00	$9,496.00
Sub-Task 18.2: Closeout Documentation		20.00									16.00	40.00		10,888.00				0.00	$10,888.00
TOTAL HOURS	50.00	656.00	12.00	356.00	54.00	20.00	185.00	6.00	257.00	20.00	1,260.00	520.00							
HOURLY RATES	270.00	220.00	205.00	125.00	140.00	175.00	136.00	102.00	220.00	165.00	153.00	101.00							
TOTAL DOLLARS	13,500.00	144,320.00	2,460.00	44,500.00	7,560.00	3,500.00	25,160.00	612.00	56,540.00	3,300.00	192,780.00	52,520.00	3,700.00	550,452.00	45,000.00	10,020.92	192,369.60	247,390.52	797,842.52

Washington State Department of Transportation

Actuals Not To Exceed Table (ANTE)

WSDOT Agreement: LA 9919

PBS Engineering and Enviornmental
1325 SE Tech Center Dr., Suite 140
Vancouver WA, 98683

Job Classifications	Direct Labor Hourly Billing Rate NTE	Overhead NTE 177.39%	Fixed Fee NTE 30.00%	Max All Inclusive Hourly Billing Rate	Actual All Inclusive Hourly Billing Rate NTE
Principal Scientist/Planner	$ 73.74	$130.81	$22.12	$226.67	$225.00
Principal Geologist/Manager	$ 66.88	$118.64	$20.06	$205.58	$205.00
Sr. Hydrogeologist II	$ 70.00	$124.17	$21.00	$215.17	$180.00
Senior Scientist/Planner I	$ 54.60	$96.85	$16.38	$167.83	$165.00
Sr. Environmental/Regulatory Specialist	$ 52.88	$93.80	$15.86	$162.55	$160.00
Sr. Env Compliance Monitor	$ 44.77	$79.42	$13.43	$137.62	$135.00
Project Geologist/Scientist/Planner I	$ 38.00	$67.41	$11.40	$116.81	$116.00
Project Env. Regulatory Specialist	$ 42.90	$76.10	$12.87	$131.87	$130.00
Project Env. Compliance Monitor	$ 42.90	$76.10	$12.87	$131.87	$130.00
Staff Geologist/Scientist/Planner II	$ 38.00	$67.41	$11.40	$116.81	$115.00
Field Scientist / Planner	$ 26.00	$46.12	$7.80	$79.92	$79.00
Principal Engineer	$ 100.96	$179.09	$30.29	$310.34	$270.00
Engineer VIII	$ 88.37	$156.76	$26.51	$271.64	$235.00
Engineer VII	$ 74.52	$132.19	$22.36	$229.07	$220.00
Engineer VI	$ 67.30	$119.38	$20.19	$206.87	$205.00
Engineer V	$ 60.10	$106.61	$18.03	$184.74	$184.00
Engineer IV	$ 51.92	$92.10	$15.58	$159.60	$159.00
Engineering Staff III	$ 45.67	$81.01	$13.70	$140.39	$140.00
Engineering Staff II	$ 40.87	$72.50	$12.26	$125.63	$125.00
Engineering Staff I	$ 36.06	$63.97	$10.82	$110.84	$110.00
Engineering Technician	$ 21.00	$37.25	$6.30	$64.55	$64.00
Design Technician IV	$ 45.00	$79.83	$13.50	$138.33	$138.00
Design Technician III	$ 42.50	$75.39	$12.75	$130.64	$130.00
Engineering Geologist	$ 51.44	$91.25	$15.43	$158.12	$158.00
Landscape/Planning VII	$ 58.89	$104.46	$17.67	$181.02	$180.00
Landscape/Planning V	$ 45.67	$81.01	$13.70	$140.39	$140.00
Landscape/Planning II	$ 29.00	$51.44	$8.70	$89.14	$89.00
Landscape/Planning I	$ 27.00	$47.90	$8.10	$83.00	$83.00
Construction IV	$ 50.00	$88.70	$15.00	$153.70	$153.00
Construction III	$ 37.50	$66.52	$11.25	$115.27	$115.00
Construction II	$ 36.00	$63.86	$10.80	$110.66	$110.00
Survey VII	$ 67.31	$119.40	$20.19	$206.90	$200.00
Survey VI	$ 57.69	$102.34	$17.31	$177.33	$175.00
Survey V	$ 52.00	$92.24	$15.60	$159.84	$155.00
Survey IV	$ 44.50	$78.94	$13.35	$136.79	$136.00
Survey III	$ 40.00	$70.96	$12.00	$122.96	$122.00

Survey II	$ 33.50	$59.43	$10.05	$102.98	$102.00
Survey I	$ 30.00	$53.22	$9.00	$92.22	$92.00
Survey 3-Person Crew	$ 80.00	$141.91	$24.00	$245.91	$270.00*
Survey 2-Person Crew	$ 60.00	$106.43	$18.00	$184.43	$220.00*
Survey 1-Person Crew	$ 40.00	$70.96	$12.00	$122.96	$162.00*
Unmanned Aircraft System Operator II	$ 39.41	$69.91	$11.82	$121.14	$165.00*
Public Involvement Manager	$ 66.25	$117.52	$19.88	$203.65	$170.00
Public Involvement IV	$ 50.86	$90.22	$15.26	$156.34	$150.00
Public Involvement II	$ 31.25	$55.43	$9.38	$96.06	$95.00
IT / Data Management	$ 55.29	$98.08	$16.59	$169.96	$125.00
Sr. CAD Operator	$ 47.33	$83.96	$14.20	$145.49	$140.00
Project Administrator II	$ 33.00	$58.54	$9.90	$101.44	$101.00
Project Administrator III	$ 35.00	$62.09	$10.50	$107.59	$107.00
CAD/Microstation Tech I	$ 27.50	$48.78	$8.25	$84.53	$84.00
Graphic Artist	$ 41.62	$73.83	$12.49	$127.94	$127.00
Writer/Editor	$ 44.42	$78.80	$13.33	$136.54	$125.00
Administration	$ 30.00	$53.22	$9.00	$92.22	$92.00

***Includes Equipment**

Exhi
Sub-consultant Cost Computations

If no sub-consultant participation listed at this time. The CONSULTANT shall not sub-contract for the performance of any work under this AGREEMENT without prior written permission of the AGENCY. Refer to section VI "Sub-Contracting" of this AGREEMENT.

Washington State Department of Transportation

Development Division
Contract Services Office
PO Box 47408
Olympia, WA 98504-7408
7345 Linderson Way SW
Tumwater, WA 98501-6504

TTY: 1-800-833-6388
www.wsdot.wa.gov

5/23/2023

Exeltech Consulting, Inc.
8729 Commerce Place Drive, Suite A
Lacey, WA 98516

Subject: Acceptance FYE 2022 ICR – Risk Assessment Review

Dear Michelle Rhodes:

Based on Washington State Department of Transportation's (WSDOT) Risk Assessment review of your Indirect Cost Rate (ICR), we have accepted your proposed FYE 2022 ICR of 188.96% (rate includes 0.52% Facilities Capital Cost of Money). This rate will be applicable for WSDOT Agreements and Local Agency Contracts in Washington only. This rate may be subject to additional review if considered necessary by WSDOT. Your ICR must be updated on an annual basis.

Costs billed to agreements/contracts will still be subject to audit of actual costs, based on the terms and conditions of the respective agreement/contract.

This was not a cognizant review. Any other entity contracting with your firm is responsible for determining the acceptability of the ICR.

If you have any questions, feel free to contact our office at **(360) 704-6397** or via email **consultantrates@wsdot.wa.gov**.

Regards;

Schatzie Harvey
Schatzie Harvey (May 23, 2023 15:50 PDT)

May 23, 2023

SCHATZIE HARVEY, CPA
Contract Services Manager

SH:HK

Project Name - 38th Ave Phase 3 CM

Phases/Tasks/SubTasks			Kevin W. Deputy	Rick R Construction Project Coordinator 3	Juliann C. Administrative Assistant 3
			$259.89	$104.90	$109.60
100 Project Management and Coordination					
100.1 Project Management and Coordination			40		10
	Subtotal	50	40	0	10
200 Pre-Construction Services					
200.1 Preconstruction Meeting				2	
200.2 Preconstruction Site Photos/Plan Review				8	
	Subtotal	10	0	10	0
300 Construction Phase Services (Contract Administration)					
300.1 Construction Progress Meetings					
300.2 Submittal Management					
300.3 Document and Submittal Tracking					
300.4 Claims/Change Order Administration					
300.5 Monthly Contractor Payments					
300.6 Project Closeout					
	Subtotal	0	0	0	0
400 Construction Services					
400.1 Construction Inspection Services				1660	
	Subtotal	1660	0	1660	0
	Total Hours	1720	40	1670	10
	Total Cost	$186,674.60	$10,395.60	$175,183.00	$1,096.00

Mileage (8500 miles at $0.67/mi)	$	5,695.00
Total		$192,369.60

Actuals Not To Exceed Table

City of Camas - 38th Ave
Phase 3 CM Services
Exeltech Consulting, Inc.
8729 Commerce Place Drive, Suite A Lacey, WA 98516

WSDOT Job Classifications	Direct Labor Hourly Billing Rate NTE	IDC Rate 188.96%	Profit Rate 30% of Direct Labor	Total Hourly Rate
ADMINISTRATIVE ASSISTANT 3	$35.80	$67.65	$10.74	$114.19
ADMINISTRATIVE ASSISTANT 5	$57.50	$108.65	$17.25	$183.40
BRIDGE ENGINEER 3	$51.49	$97.30	$15.45	$164.23
BRIDGE ENGINEER 5	$55.00	$103.93	$16.50	$175.43
BRIDGE ENGINEER 7	$75.75	$143.14	$22.73	$241.61
CIVIL ENGINEER 3	$54.98	$103.89	$16.49	$175.36
CIVIL ENGINEER 4	$61.18	$115.61	$18.35	$195.14
CONSTRUCTION PROJECT COORDINATOR 2	$48.47	$91.59	$14.54	$154.60
CONSTRUCTION PROJECT COORDINATOR 3	$53.72	$101.51	$16.12	$171.35
CONSTRUCTION PROJECT COORDINATOR 4	$62.00	$117.16	$18.60	$197.76
DEPUTY	$85.23	$161.05	$25.57	$271.85
DIRECTOR	$97.40	$184.05	$29.22	$310.67
DRAFTING TECHNICIAN 3	$39.97	$75.53	$11.99	$127.49
ENGINEER	$37.08	$70.07	$11.12	$118.27
ENVIRONMENTAL ENGINEER 4	$63.86	$120.67	$19.16	$203.69
ENVIRONMENTAL SPECIALIST 3	$44.50	$84.09	$13.35	$141.94
ENVIRONMENTAL SPECIALIST 5	$56.08	$105.97	$16.82	$178.87
SENIOR GRAPHIC DESIGNER	$45.00	$85.03	$13.50	$143.53
TRANSPORTATION ENGINEER 5	$57.69	$109.01	$17.31	$184.01
TRANSPORTATION PLANNING SPECIALIST 5	$64.57	$122.01	$19.37	$205.95

Washington State Department of Transportation

Development Division
Contract Services Office
PO Box 47408
Olympia, WA 98504-7408
7345 Linderson Way SW
Tumwater, WA 98501-6504

TTY: 1-800-833-6388
www.wsdot.wa.gov

August 29, 2023

Global Transportation Engineering Corporation
227 SW Pine St, Ste 220
Portland, OR 97204-2700

Subject: Acceptance FYE 2022 ICR – Audit Office Review

Dear Schuyler P. Robertson:

Transmitted herewith is the WSDOT Audit Office's memo of "Acceptance" of your firm's FYE 2022 Indirect Cost Rate (ICR) of 88.79% of direct labor. This rate will be applicable for WSDOT Agreements and Local Agency Contracts in Washington only. This rate may be subject to additional review if considered necessary by WSDOT. Your ICR must be updated on an annual basis.

Costs billed to agreements/contracts will still be subject to audit of actual costs, based on the terms and conditions of the respective agreement/contract.

This was not a cognizant review. Any other entity contracting with your firm is responsible for determining the acceptability of the ICR.

If you have any questions, feel free to contact our office at **(360) 704-6397** or via email **consultantrates@wsdot.wa.gov**.

Regards,

Schatzie Harvey
Schatzie Harvey (Aug 30, 2023 12:25 PDT)

SCHATZIE HARVEY, CPA
Contract Services Manager

SH:leg

Table 1: 38th Ave CE Services
Estimated Budget
April 29, 2024

Task Description	GTEng Principal/Project Manager 3 (Beckwith)	Sr. Engineering Associate 4 (Spierling)	Engineering Associate 1 (Kou)	Tech XIV (Stephens)		Expenses	*Total Hours By Task*	*Total Labor By Task*	*Total Expenses By Task*	*Grand Total By Task*
CE Services	22	30	40	8		$ 100.00	100	$ 9,920.92	$ 100.00	$ 10,020.92
Total Hours	22	30	40	8	0	$ 100.00				
Hourly Rate	$128.08	$110.74	$81.52	$65.02	$81.12					
						$10,020.92				

Total Hours	Total Wages	Total Expenses	Project Total
100	$ 9,920.92	$ 100.00	$ 10,020.92

SUB TOTAL: **$10,020.92**

Contingency Task Description										
						$ -	0	$ -	$ -	$ -
						$ -	0	$ -	$ -	$ -
Total Hours	0	0		0	0	$ -				
Hourly Rate	$128.08	$110.74		$65.02	$81.12					
Totals - By Consultant						**$0.00**				

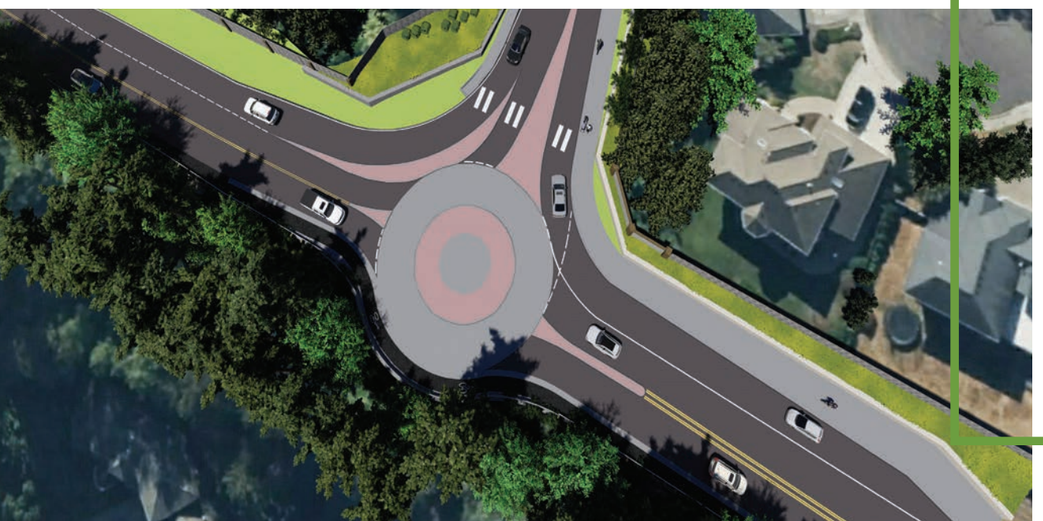
Total Hours	Total Wages	Total Expenses	Project Total
0	$ -	$ -	$ -

SUB TOTAL: **$0.00**

GRAND TOTAL: **$ 10,020.92**

Actuals Not To Exceed Table (ANTE)

WSDOT Agreement: Global Transportaton Engineering 227 SW Pine St, Suite 220 Portland, OR 97204				
Job Classifications	Direct Labor Hourly Billng Rate NTE	Overhead NT 88.79%	Fixed Fee NTE 30.00%	All Inclusive Hourly Billng Rate NTE
Principa/Project Manager 3	**$ 58.54**	$51.98	$17.56	$128.08
Sr. Project Engineer 3	**$ 58.54**	$51.98	$17.56	$128.08
Sr Engineering Assoc 4	**$ 50.61**	$44.94	$15.18	$110.74
Engineering Associate 1	**$ 37.26**	$33.08	$11.18	$81.52
Engineering Associate 2	**$ 35.24**	$31.29	$10.57	$77.10
Tech XIV	**$ 29.72**	$26.39	$8.92	$65.02
Admin	**$ 45.22**	$40.15	$13.57	$98.94



Council Workshop Update and Decision
NW Lake Road and
NW Sierra Street Intersection

July 15, 2024

MacKay Sposito

jla Public Involvement

DKS

Council Workshop Update
NW Lake Road and NW Sierra Street Intersection

Presented By:

James Carothers
Engineering Manager
City of Camas

Jason Irving
Senior Project Manager
MacKay Sposito

Adrienne Dedona
Public Engagement Manager
JLA Public Involvement

Presentation Goal:

Provide a summary of public engagement work and results, answer City Council's questions, and discuss recommendations and next steps.

Project History

Why are we considering improving the intersection?

- **2019:** Through public comment and testimony Council added the project to the Six Year Transportation Improvement Program (TIP) as priority project #40.

- **2019-2022:** Continued community concerns regarding intersection safety and wait times on Sierra St., project moved to priority #8 on the TIP.

- **Fall 2022:** Funding included in the 2023-24 Biennial Budget for intersection improvements as a Capital Decision Package item. Council approved $600K of Transportation Impact Fees for this project.

- **March 2023:** Request for Qualifications issued for professional engineering services for an intersection Alternative Analysis.

Project History

- **July 2023:** City Council approves Alternatives Analysis contract with MacKay Sposito.
- **January 2024:** Alternatives Analysis completed and City Council requests public outreach of recommended alternatives (PSA Amendment #1).
- **January-June 2024:** Public outreach.
- **June 2024:** Project moved to #3 priority on the TIP. On June 3rd, 2024, a public hearing was held for the TIP, no public comments received.

Project Need - Safety

- Vehicles turning onto Lake Rd.
  - Higher speeds
  - Limited sight distance
  - Sight obstructed by turning vehicles
  - Lack of vehicle gaps
- Vehicle queuing (stacking) for left turns from Lake Rd.
- Lack of dedicated right turn lane onto Sierra St.
- Lack of east bound bicycle lane

Project Need - Traffic Delays

- ✓ Current traffic delays on Sierra St. do not meet City concurrency standards
- ✓ Average peak hour delay

Existing

- » Sierra St. 40 seconds (LOS E)
- » Lake Rd. 10 seconds

2045 Forecast w/o Improvements

- » Sierra St. greater than 100 seconds (LOS F)
- » Lake Rd. 16 seconds

Public Engagement Activities Summary

- ✓ Citywide postcard mailer (13,000 households)
- ✓ Social media post and responses (5 posts; ~200 responses)
- ✓ Property owner outreach (6) and meetings (3)
- ✓ Stakeholder interviews (4)
- ✓ Online survey and responses (188)
- ✓ Open house and attendance (~60 attendees)
- ✓ Yard signs (4)
- ✓ Webpage on Engage Camas (687 site visits, 141 sign ups)

Mailers

City of Camas WASHINGTON

616 NE 4th Ave.
Camas, WA 98607

YOU'RE INVITED!

NW Lake Road and NW Sierra Street Intersection Improvements

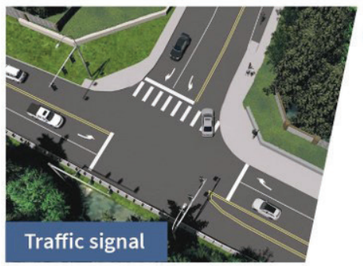
Open House

Wednesday, May 29
6:00–7:30 p.m.

A brief presentation will take place at 6:15 p.m.

Lacamas Lake Lodge
227 NE Lake Road, Camas

For more information, visit: **engagecamas.com »**



NW Lake Road and NW Sierra Street

Help us improve the intersection

The City is considering whether to add a new ***TRAFFIC SIGNAL*** or ***ROUNDABOUT*** to the intersection at NW Lake Road and NW Sierra Street.

Either option would:

- Reduce traffic backups, mainly for northbound motorists on NW Sierra Street trying to enter onto NW Lake Road.
- Improve safety and mobility by reducing the likelihood of high-speed collisions and upgrading sidewalks and bicycle lanes.

Share your experiences and help us select a preferred option:

- Attend an open house on **Wednesday, May 29** from **6–7:30 p.m.** at Lacamas Lake Lodge, 227 NE Lake Road.
- Visit **EngageCamas.com** to learn more and complete a survey between **May 22** and **June 10**.

For more information, contact James Carothers, Engineering Manager
jcarothers@cityofcamas.us | **360-817-7230** | Or visit: **engagecamas.com »**

Property Owner Outreach

- ✓ **Requested meetings with four property owners through mailed letters.**
- ✓ **Met with three property owners between April and May 2024.**

All were supportive of the project. One expressed concerns regarding potential property impacts, such as increased noise, and potential property impacts to landscaping and fences.

Two preferred a roundabout over a traffic signal.

One preferred the traffic signal over a roundabout.

Stakeholder Interviews

- ✓ **Requested meetings with five area stakeholders by email: Camas School District, Camas Emergency Services, bike and pedestrian groups, and representatives of the Lake Pointe and Lake Heights homeowner associations.**
- ✓ **Meetings were held in May and June 2024.**

Bike and pedestrian representatives were both supportive of a roundabout. They shared insights to cyclists' preferences, as well as suggestions for future bike infrastructure improvements.

Homeowners association representatives were supportive of improvements to the intersection and preferred the roundabout option. They inquired about impacts to property owners, landscaping and trees.

Camas-Washougal Fire Department representative preferred the roundabout for increased safety and traffic operations. They shared a desire for a pedestrian crossing on Lake Rd. and on Sierra St.

Open House Event

May 29, 6:00 – 7:30 p.m. at Lacamas Lodge

Attendance: Around 60 attendees

Style of Event: Presentation followed by information stations

Stations:

- ✓ Welcome/Project Overview and Purpose
- ✓ Traffic Signal Option
- ✓ Roundabout Option
- ✓ Next Steps and Timeline

Approximately 30 written comments were received. Approximately 14 expressed support for a roundabout, seven preferred neither option or no action, and five supported a traffic signal.

Open House Event: Key Take-Aways

Attendees were generally supportive of the project and several expressed support for a roundabout over traffic signal, noting that it would allow a continuous flow of traffic.

- ✓ **Safety is a shared concern but opinions vary on solutions.** Alternate ideas included: three-way stop, increasing police patrol, speed monitoring.
- ✓ **Roundabout is supported** due to its longer-term benefits and aesthetics, and allowing continuous flow of traffic.
- ✓ **Some people do not think the intersection warrants the investment,** and shared concerns about project cost.

Online Survey

Survey was live from May 22 through June 10, 2024 (20 days)

Received 188 responses

- ✓ **98% of respondents live in or near the project area.**
- ✓ **Roundabout is more supported than traffic signal.** 61% strongly support roundabout and 34% strongly support traffic signal.
- ✓ **76% support improving the intersection,** this includes those supportive of either option and those supportive of general improvements.
- ✓ **25% support improvements but do not like either option.** 9% of participants do not support any improvements.
- ✓ **Recurring concerns** regarding the intersection include poor visibility, speeding, and traffic delays.

Written Comments & Emails

Approximately 20 written comments were received by the City via e-mail.

- ✓ Of these comments:
  - » At least eight were concerned with cost and/or were supportive of no action.
  - » At least three indicated support for a roundabout.
  - » At least two others indicated support for a three-way stop.
  - » One indicated support for a radar reader board.
  - » Another indicated support for either option being proposed.

Themes from Community Feedback

- ✓ **Safety was a shared concern** and various contributing factors were cited including lack of gaps for turning vehicles, poor visibility, and speed.
- ✓ **The roundabout option is preferred over the traffic signal option.** However, there are some concerns with roundabouts; primarily cost and confusion navigating.
- ✓ **Neighbors are concerned about increased noise and air pollution.**
- ✓ **Most people are in favor of improving the intersection** and indicated support for either option or suggested other ideas. Some people are in favor of not making any changes at the intersection.
- ✓ **Popular ideas: three-way stops and increasing police patrol** during peak commuting hours.

Council Questions

Is staff looking into sound barriers and a noise study? Would this affect property acquisition? What are the associated costs?

» Preliminary feedback from noise consultant:
  - Under federal highways criteria project very likely does not qualify for sound walls.
  - Limited noise reduction due to topography and distance from roadway to homes.
  - Slowing traffic will significantly reduce traffic noise.

» Sound walls may increase need for property acquisitions.

» Wall cost estimated at $400K to $700K.

Council Questions

What are the safety benefits and ideas for bike users for the roundabout option?

- Roundabouts promote slower vehicular speeds.
- A ramp will be provided for cyclists to access a wide shared-use path and cross Sierra St. in a marked crosswalk. Most users will use this option.
- Some cyclists may choose to enter the travel lane with vehicles, similar to the existing condition, and travel through the roundabout.

Council Questions

What are the private property impacts for the roundabout option?

» **Preliminary private property impacts may include:**

- **3-5 trees**
- **Property acquisition and/or temporary construction easements:**
  - **5 to 8 properties**
  - **40 to 500 square feet (0.3% to 4.5% of total property)**
  - **Primarily needed for retaining wall construction**
  - **Likely occur on roadway side of existing fences**
- **Private utility relocations**
- **Reduced noise and air pollution**

Council Questions

How did staff determine the two preferred options, and were <u>no build</u>, three-way stop, or right in/right out options considered?

» **No build option was analyzed:**

- **Intersection currently does not meet City level of service standards.**
- **2045 average traffic delays exceeding over 100 seconds per vehicle in the AM and PM peak.**
- **Increased risk of serious accidents and injury to pedestrians, bicyclists, and motorists.**
- **Future increased cost of improvements.**

Concurrency and Level of Service

Goal: The City will maintain the adopted transportation LOS standards.

From 2035 Comp Plan, Chapter 4.4 - Transportation, Goals and Policies
Section 4.4.7 Concurrency and Level of Service

T-7.3: Utilize traffic impact fee studies, development traffic impact analyses, and corridor studies to identify deficiencies and plan improvements to maintain or improve LOS standards.

T-7.4: The City strives to maintain a LOS standard during peak hours as follows. The following table is based on the most current *Highway capacity Manual (HCM)* of the Washington State Department of Transportation.

Table 4-1. Transportation Level of Service				
Level of Service	A/B	C	D	E
Intersections	N/A	Local Access	Collectors and Arterials	State Highways of Non-Significance
Roundabouts	N/A	Local Access	Collectors and Arterials	State Highways of Non-Significance

Concurrency and Level of Service

From 2035 Comp Plan, Chapter 4.4 - Transportation, Goals and Policies
Section 4.4.7 Concurrency and Level of Service

Table 4-2. Volume to Capacity Ratio		
Volume to Capacity Ratio	0.85	0.9
Roundabouts	Local Access and Collectors	Arterials and State Highways of Non-Significance
Roadways based on Average Speed	Collectors and Arterials	State Highways of Non-Significance

T-7.5: Take the following actions (not in priority order) if probable funding falls short of meeting identified needs:

- ✓ **Delay development until programs, facilities, or services can be funded.**
- ✓ **Obtain needed revenue or revise the transportation plan to reflect known financial resources.**
- ✓ **As a last choice, change the transportation LOS standard.**

Council Questions

How did staff determine the two preferred options, and were no build, three-way stop, or right in/right out options considered?

MacKay Sposito

jla Public Involvement

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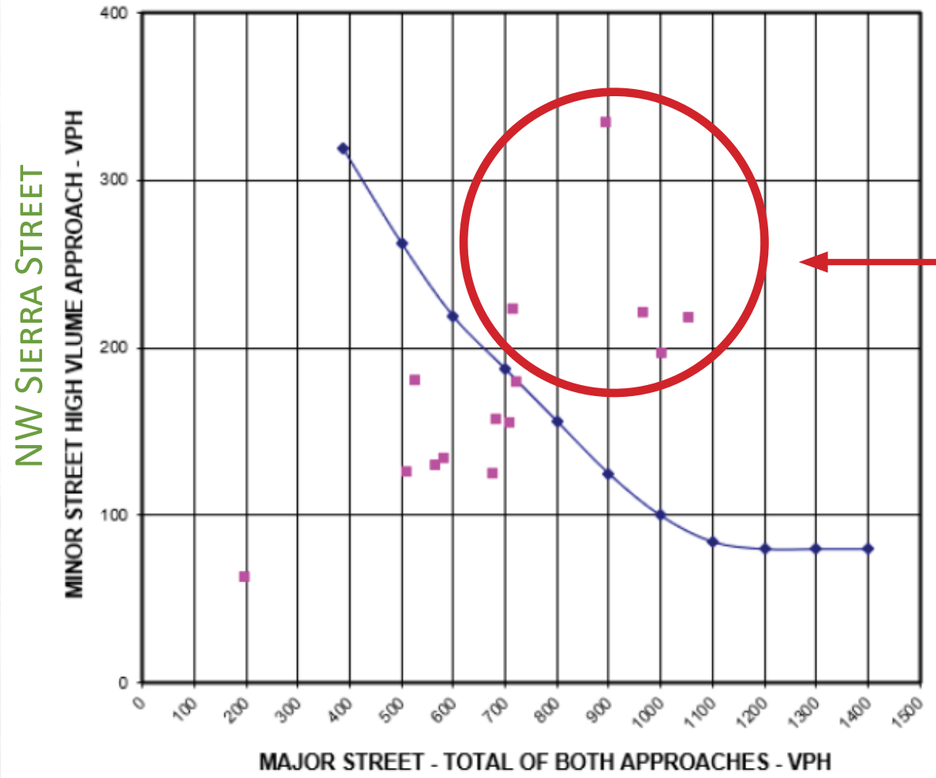
Traffic Signal Warrant - Four Hour Vehicular Volume

Figure 4C-1 (Figure 4C-2 if using 70% Factor)
Warrant 2 - Four-Hour Vehicular Volume



NW Sierra Street

NW Lake Road

Traffic Volume Data Points Exceeding Traffic Signal Warrant Threshold

Legend

- National Signal Warrant Standard
- Lake/Sierra Traffic Volume Data

Council Questions

How did staff determine the two preferred options, and were no build, three-way stop, or right in/right out options considered?

- Fall 2023 traffic analysis considered all potential intersection improvement options.
  - Three-way stop considerations:
    - Will cause significant delays on Lake Rd. (currently over 10,000 vehicles/day).
    - Will encourage stop sign running in non-peak hours.

Council Questions

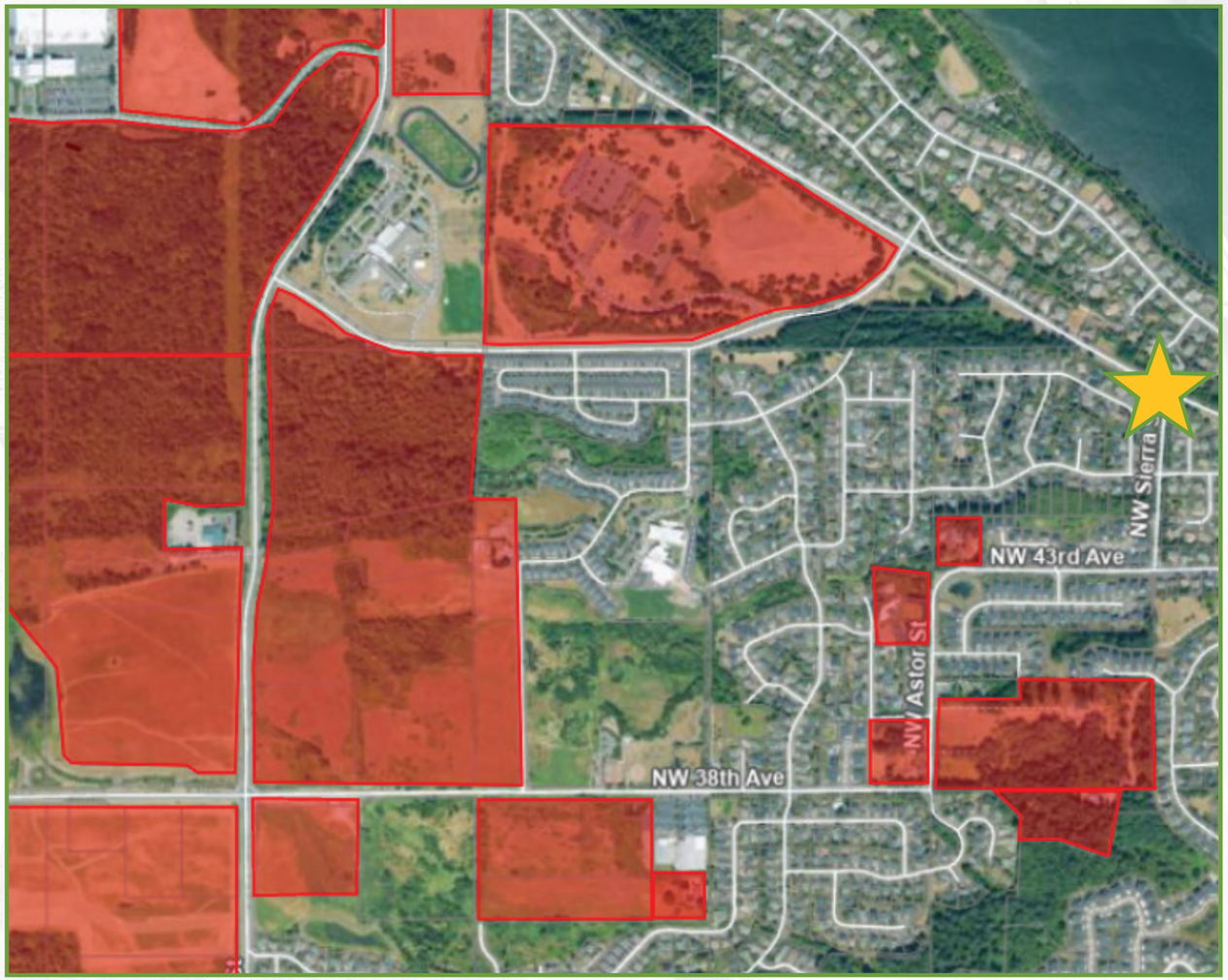
How did staff determine the two preferred options, and were no build, three-way stop, or right in/right out options considered?

- Fall 2023 traffic analysis considered all potential intersection improvement options.
  - Eliminating left turns (400/day between both AM and PM peak hours):
    - Improves intersection operations.
    - Diverts traffic through nearby neighborhoods - safety concern
    - Increases traffic at nearby intersections (e.g. unsignalized Lake Rd./Leadbetter Dr. (0.33 mile away) and Lake Rd./ Lacamas Lane (0.85 mile away)).
    - Sierra St. is a collector route built to channel neighborhood traffic to the arterial.

Council Questions

Where is future growth occurring? The Sierra St. corridor appears to be "built out". Can this project wait until growth projections occur?

Underdeveloped Properties



Additional Trips may be generated due to new ADU Legislation

CITY OF CAMAS WASHINGTON

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Council Questions

What is the cost difference for the traffic signal versus the roundabout, including maintenance costs?

» **Cost estimates include all hard and soft costs.**

» **Maintenance costs/considerations:**

Traffic Signal		Roundabout	
Project Costs	Maintenance	Project Costs	Maintenance
$1.7M Today's $	$5-10K/year*	$3.1M Today's $	$500-1,000K/year for **
Considerations		Considerations	
Less than 20 year life due to projected increase in traffic volumes.		Minimal maintenance.	
Upgrade options include: -Modifying signal with additional travel lanes -Installing roundabout			

**Cost includes upgrades of components, ordinary maintenance and repairs. This cost does not include replacing/ modifying signal due to future traffic volumes.*

***Sign Replacement*

Council Questions

What are the options to fund the alternatives presented?

- ✓ **Project is currently fully funded through design and right-of-way.**
- ✓ **Additional funding needed for construction.**
- ✓ **Current and future additional funding options may include:**
  - » **Capital Funds**
    - **Real Estate Excise Tax (REET)**
    - **TIF** (*can only be used for new capital within a plan*)
  - » **General Fund** (*flexible funding source)*
  - » **Debt Services** (*TIF payback okay)*
    - **Public Works Trust Fund**
    - **Limited Tax General Obligation Bond**
  - » **Outside grant funding (TIB, WSDOT, FHWA)**
  - » **Other (Transportation Benefit District, etc.)**

Council Questions

How do the City's budget funds differ in use? (General Fund versus Traffic Impact Fees [TIF]).

TIF	General Fund
Can only be used for improvements related to development activity (growth).	Revenue is collected by property tax.
Charges are collected proportionately from developers to expand capital facilities to mitigate development impact.	Most flexible revenue available.
Cannot be used for road maintenance, preservation, or reconstruction.	Supports traditional government programs and administration.
Developers pay a flat rate per new trip added to the transportation system.	

Council Questions

Is this project part of the six-year street plan and was this project included in the biennial budget?

- **2019:** Project added to 6-year TIP as priority #40
- **2019-2022:** Project moved up to TIP priority #8
- **June 2024:** Project moved to TIP priority #3
- **Fall 2022:** Council approved $600k in 2023-24 Biennial Budget

Summary and Project Team Recommendations

Summary:

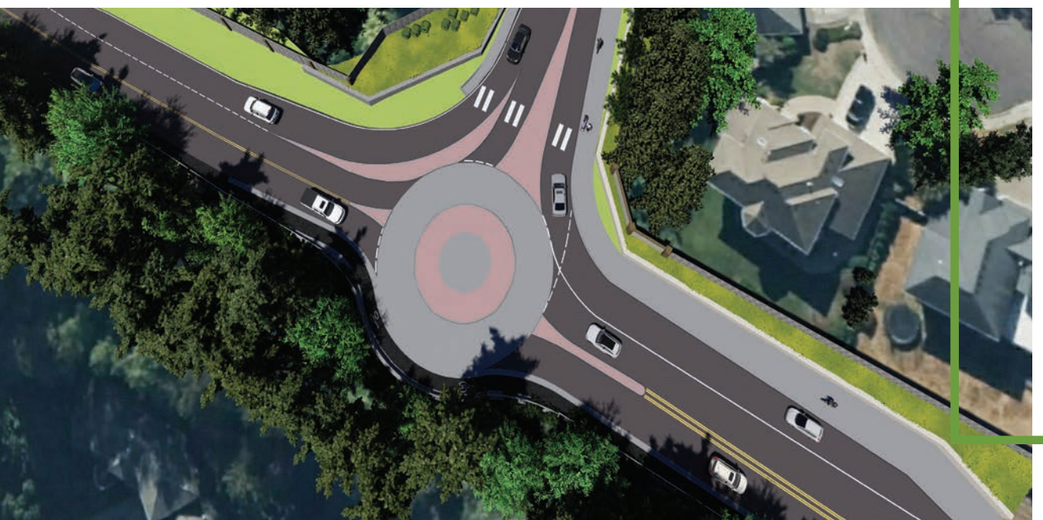
- ✓ Delaying improvements increases risk of serious accidents, traffic delays, and future cost of improvements.
- ✓ Based on public outreach:
  - » Majority of community agree intersection improvements are needed.
  - » A roundabout is the preferred option.

Staff Recommendation: The roundabout option addresses safety and meets current long term traffic operations. Staff recommends proceeding with roundabout design and identifying additional construction funding in future budget process.

Seeking consensus from council on path forward.

Additional Council Questions or Discussion

?



Thank You!

MacKay Sposito

jla Public Involvement

DKS

CAMAS NW LAKE ROAD AND NW SIERRA STREET INTERSECTION IMPROVEMENT PROJECT

SUMMER 2024 PUBLIC OUTREACH SUMMARY

Prepared for:

City of Camas

Prepared by:

JLA Public Involvement, Inc.

July 2024

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INTRODUCTION

At the February 5, 2024, City of Camas Council workshop meeting the City Council requested public outreach to be completed for the NW Lake Road and NW Sierra Street Intersection Improvements Project. The City of Camas conducted the public outreach between April and early June 2024 to share information about the proposed intersection improvements and hear the Camas community's thoughts, ideas, concerns, and experiences at the intersection. The following provides a summary of public outreach tasks completed and feedback received. This document will be shared with City Council to help determine whether to move forward with design of the project, and if so, whether to add a new traffic signal or roundabout.

OVERALL PARTICIPATION AND NOTIFICATION

To share information and gather feedback on the proposed improvements, the project team developed an online survey, hosted an in-person open house, and conducted direct outreach to impacted property owners and stakeholders through small group briefings and one-on-one meetings.

Overall participation and notification are summarized below:

- Webpage on Engage Camas with 687 site visits and 141 informed participants who showed significant interest by visiting the Key Dates page or downloading website documents.
- Postcard mailer sent to all available addresses in Camas (over 13,000 households).
- Five social media posts with over 200 total comments.
- Outreach to four residential property owners immediately adjacent to the intersection and that may be impacted by the project, resulting in three one-on-one meetings.
- Outreach to five area stakeholder groups including the Camas School District, Camas-Washougal Fire Department, bike and pedestrian groups and local homeowners associations. Meetings were held with all groups, with the exception of the school district. Project staff reached out to the school district but received no response.
- Online survey available from May 22 through June 10, resulting in 188 responses.
- Yard signs were distributed in the project area advertising the open house and Engage Camas page.
- Open House held on May 29 at Lacamas Lodge. Over 60 people attended.

FEEDBACK SUMMARY

ONLINE SURVEY

This section summarizes the feedback received through the online survey. Please see Appendix A for unedited versions of the comments.

NW Lake Road and NW Sierra Street Intersection Improvement Project:

ONLINE SURVEY RESPONSES

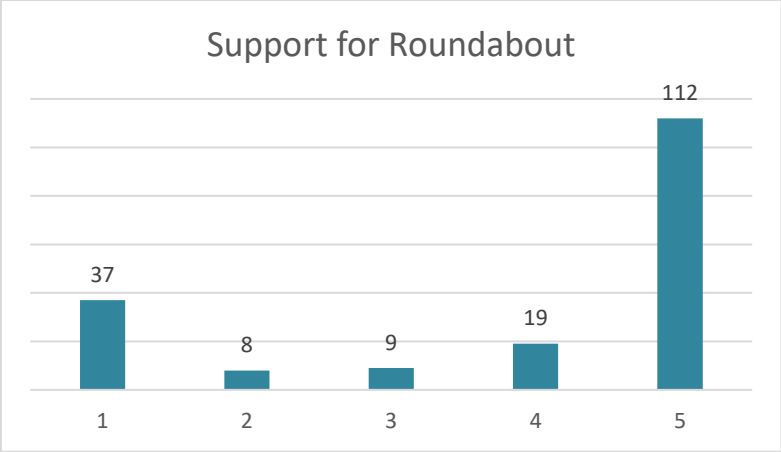
Online open house participants were given the opportunity to respond to questions about their preference between the two proposed intersection improvement options for NW Lake Road and NW Sierra Street. 188 responses were received. The majority of respondents prefer the roundabout option over the traffic signal option, with 61% of respondents indicating that they strongly support the roundabout option and only 34% of respondents showing strong support for the traffic signal option.

Participants were invited to share additional feedback in an open-text question, some suggested alternative approaches such as a three-way stop, increased police enforcement, and speed monitoring. Feedback is summarized below.

Note: Unless otherwise stated, the percentages listed in the analysis of each question take into consideration the number of participants who responded to the question, not the total number of people who participated in the online open house.

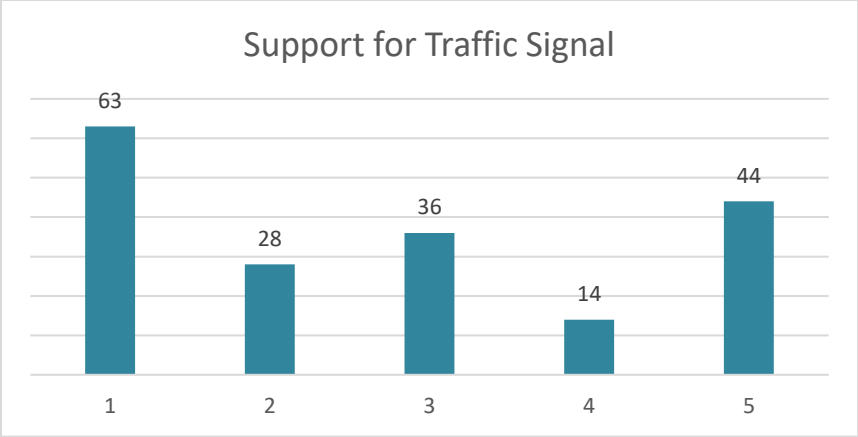
1. **On a scale of one to five, one being the lowest and five being the highest, how much do you support this option (roundabout)?**

   Of the 185 responses to this question, most respondents (61%) indicate that they highly support the roundabout option (rating five), while some respondents (20%) indicated that they do not support the roundabout option (rating one). Respondents who chose ratings two to four indicated an overall neutral-leaning supportive attitude towards the roundabout option, with 4% of respondents choosing rating two, 5% of respondents choosing rating three, and 10% of respondents choosing rating four. **The trend of these ratings demonstrates a mostly supportive attitude towards the roundabout option** with 71% of participants rating it four and five and 24% of participants rating it one and two.



2. On a scale of one to five, one being the lowest and five being the highest, how much do you support this option (traffic signal)?

Of the 185 responses to this question, most respondents (34%) indicated that they do not support the traffic signal option (rating one), while some respondents (24%) indicated that they highly support the traffic signal option (rating five). Respondents who chose ratings two to four indicated a more neutral overall attitude towards the traffic signal option that leans towards unsupportive, with 15% of respondents choosing rating two, 20% choosing rating three, and 7% choosing rating four. As compared to the roundabout option, more participants chose rating three, indicating a more neutral attitude towards the traffic signal option. **The trend of these rating demonstrates a mostly unsupportive attitude towards the traffic signal option**, with 49% of participants rating it one and two and 31% of respondents rating it four and five.



3. **Do you have any thoughts about the project you would like to share with the project team?** (open-ended) 106 open-text responses were received. Themes of feedback collected are summarized below:

- **The majority (76%) of the respondents support improving the intersection due to speed and safety concerns**, this includes participants who are supportive of the roundabout option, the traffic signal option, and supportive of both options or general improvements. Based on the open-text responses, the roundabout option (38%) received more support than the traffic signal option (15%).
- Of the 106 responses, **38% are more supportive of the roundabout option** as it would reduce congestion by allowing a more continuous flow of traffic and improve safety by reducing traffic speed and the likelihood of high-speed collisions. A roundabout was also noted to be a better long-term solution as it requires less maintenance and is more aesthetically pleasing and environmentally friendly. At least one respondent suggested that the roundabout should be placed at Leadbetter and Lake Road instead as it has more space and provides better visibility.
    - However, around 8% of respondents expressed concerns with safety as traffic could speed through a roundabout, as well as concerns related to the cost of construction and the potential impact on residents such as increased air and noise pollution, negative impacts to the property value and disruption during construction.
- Of the 106 responses,**15% are more supportive of the traffic light option** as it is less expensive, easier to navigate, and quicker to construct and install. They also noted that not all drivers know how to navigate a roundabout, which could thus create more safety issues.
    - However, several participants (7%) commented that traffic lights have a higher long-term maintenance cost and could increase congestion due to inefficient signal timing, or by creating “stop-and-go” traffic and right-of-way conflicts between vehicles and pedestrians.
- Of the 106 responses, **9% do not think the current situation at the intersection warrants an investment**, they shared that they are residents of the area or frequent users of the intersection but do not experience the issues described.
- Of the 106 responses, **25% are supportive of an improvement but not supportive of the options provided and suggested other alternatives** such as a three-way stop, blinking lights, speed monitoring, or increased police enforcement. They noted that the funds could be allocated to other City projects including addressing pothole issues on the roads. Other suggestions for improvement included a longer traffic study, adding a sound wall, better vegetation management to improve sightlines, adding "Slow Down" signs or temporary traffic signals before committing to a more permanent infrastructure, as well as adding a

dedicated right turn lane and removing left turn lanes to encourage drivers to take alternative routes for better traffic flow management.

- **Several individuals (8%) raised concerns about the intersection**, including poor visibility for turning vehicles and the potential impact on property owners due to increased traffic noise, construction, and land acquisition.

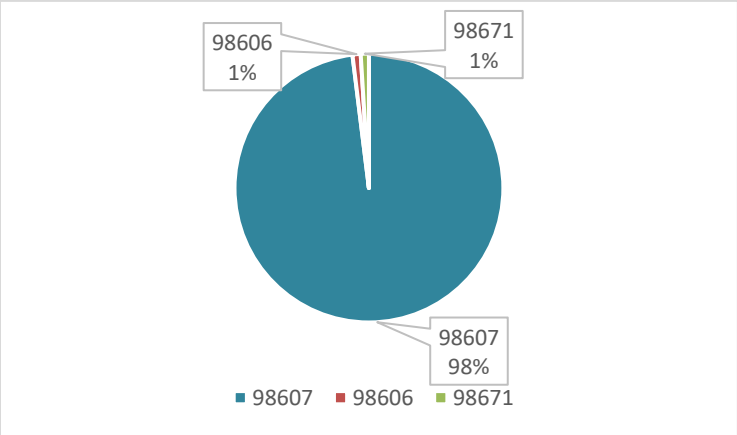
DEMOGRAPHIC INFORMATION

Participants from the online open house were asked a series of optional demographic questions. Demographic information is collected to help project staff better understand the audience we are reaching and can be used as a metric to evaluate the effectiveness of the outreach tools.

Note: Unless otherwise stated, the percentages listed in the analysis of each question take into consideration the number of participants who responded to the question, not the total number of people who participated in the online open house.

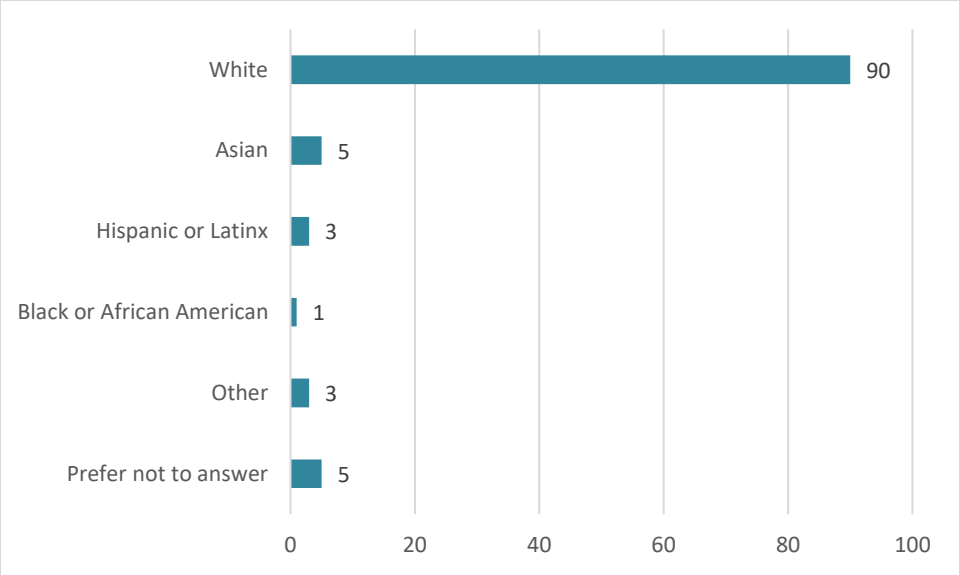
Zip Code

Of the 102 responses, most respondents (98%) indicated that they live in the zip code 98607. With two respondents living in 98606 and 98671 respectively.



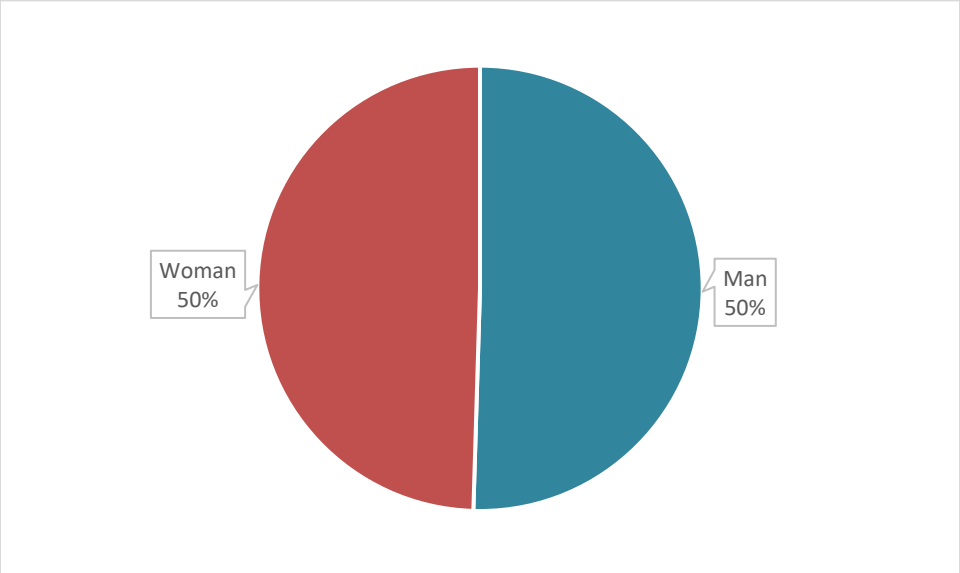
Racial or Ethnic Identity

Of the 107 responses, the majority of participants identify as white (84%). The second largest group of participants selected Asian or Asian American (5%). Three percent (3%) of the respondents selected “Other” with one listing “Human.”



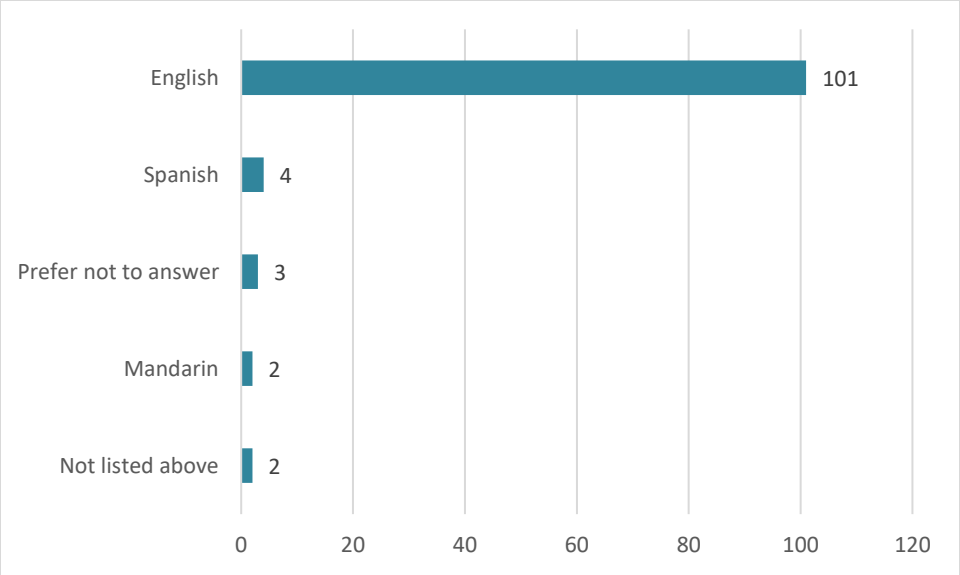
Gender

Of the 105 responses, 50% of the participants identify as men and 50% of the participants identify as women.



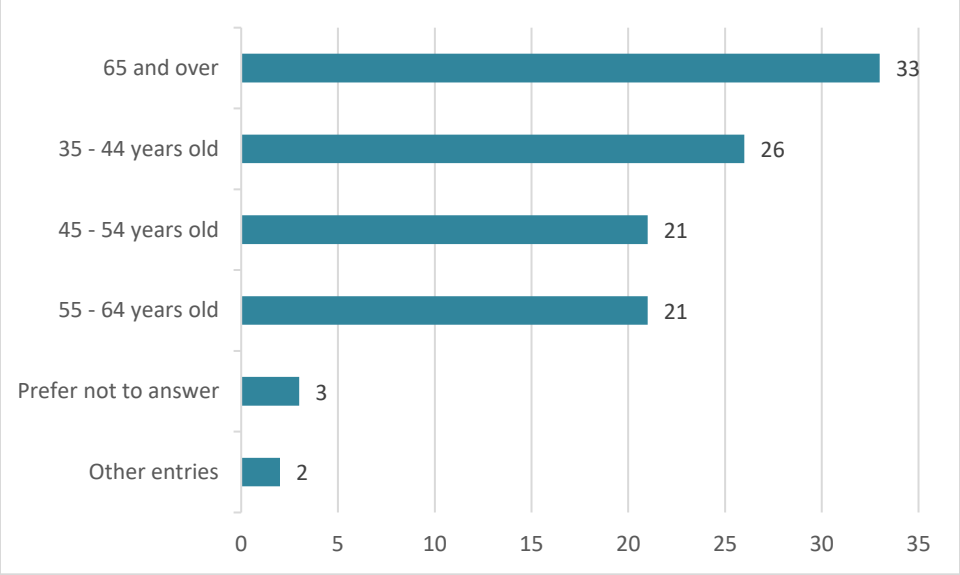
Language Spoken At Home

Of 112 responses to this question, the majority of participants (90%) speak English at home, followed by Spanish (3.6%) and Mandarin (1.8%). Some participants (1.8%) indicated that the language they speak at home are not listed. Two respondents shared that those languages are Japanese, Italian and French.



Age

Of the 106 responses, the majority of the participants (31.1%) were 65 and older. The second largest group was between 35-44 years old (24%).



OPEN HOUSE FEEDBACK SUMMARY

This section summarizes the feedback received at the in-person open house held on May 29, 2024, at Lacamas Lodge. Over 60 people attended the event, and around 27 written comments and comment forms were collected. Attendees were generally supportive of the project and several expressed support for a roundabout over traffic signal, noting that it would allow a continuous flow of traffic. Participants were invited to share feedback on comment forms, post-it

notes or directly with project staff. Please see Appendix B for unedited versions of the open house comments.

Below is a summary of the feedback received, organized by common themes:

Note: The themes below summarize all feedback received at the open house event, both written and verbal. The percentage included in the summary below is only based on written feedback and is not representative of all inputs gathered at the event. The percentages shows the themes of feedback and may not total to 100%.

- Most (43%) support the roundabout option as it is more aesthetically pleasing, creates a more continuous traffic flow, and is a longer-term solution that does not require upgrading in the foreseeable future.
- Several (27%) support the traffic signal option as it requires traffic to stop, lowering the possibility of people speeding through the intersection. They also noted it is easier to navigate in comparison to the roundabout. Some (23%) participants expressed support for either options or general improvements.
- Some folks (27%) voiced the desire for the City to do nothing as current levels of congestion and number of incidents do not warrant this investment. Some also shared concerns about the cost of improvement.
- Concerns (27%) with the current intersection include visibility issues due to shrubbery, speeding, and increased congestion during commuting hours.
- Suggestions (17%) for other approaches include a three-way stop, increasing police enforcement, speed monitoring, and vegetation maintenance to improve sightlines.

ONE-ON-ONE MEETING WITH IMPACTED PROPERTY OWNERS

In April and May of 2024, the City conducted targeted outreach to property owners immediately adjacent to the intersection and that may be impacted by the project. Project staff mailed letters to four property owners requesting a meeting and were able to meet with three of the four property owners. Of the three property owners the City met with, two were supportive of the project and preferred a roundabout over the traffic signal. The other property owner expressed support for the traffic signal option but also shared concerns about potential property impacts such as increased noise.

STAKEHOLDER GROUP MEETINGS

In May and June of 2024, project staff reached out to five area stakeholder groups by email including the Camas School District, Camas Emergency Services, bike and pedestrian groups, and representatives of the Lake Pointe and Lake Heights homeowners associations. Meetings were held with all groups with the exception of the school district. Project staff invited the school

district to a meeting but did not receive a response. Overall, the roundabout option was preferred for allowing a continuous flow of traffic, increasing safety for the traveling public and for its traffic calming properties. Below is a summary of their discussions:

- Bike and pedestrian representatives are both supportive of a roundabout option. They noted that recreational cyclists would likely use a sidewalk or shared-use path while advanced cyclists typically use the traffic lane, following the same rules as motor vehicles. The roundabout option would allow advanced cyclists and traffic to flow through continuously. The representatives also shared suggestions for future bike infrastructure improvements including:
    - For future development, on the downhill portion of Lake Road, people biking would prefer to stay in the travel lane rather than a bike lane that transitions into a shared-use path.
    - Creating separated paths for cars, pedestrians and cyclists such as raised sidewalks, a dedicated “bike road” with bumpers between cars and bike road, instead of a shared-use path that serves both pedestrians and cyclists.
- Homeowners association representatives were supportive of improvements to the intersection. They prefer the roundabout option to slow traffic traveling along NW Lake Road and for overall safety. They noted that a roundabout is also likely less noisy than a traffic signal. One of the representatives inquired about impacts to property owners and was supportive upon learning that neither option is likely to permanently impact private fences or walls. They were also curious about landscaping and potential tree impacts. The project team committed to continuing to communicate with them regarding landscaping and irrigation impacts and that any trees that are impacted will be addressed in accordance with City of Camas code.
- The Camas-Washougal Fire Department representative noted a preference for the roundabout for the increased safety of the traveling public and easier traffic control. They shared a desire to see pedestrian crossings on Lake Road and on Sierra Street, noting that a flashing beacon similar to what was installed at the Everett/Lake roundabout would improve pedestrian safety. They added that a crossing or pedestrian infrastructure is also needed at Leadbetter and Lake Road.

APPENDICES

APPENDIX A: ONLINE SURVEY OPEN-TEXT RESPONSES

Below are the unedited comments respondents submitted for the open-text questions in the online survey.

I think building a traffic circle will be a huge inconvenience for homeowners in the area and those wanting to access the lake. Construction always takes longer and costs more than is anticipated. The traffic light seems to be the easiest solution for the present time.
Roundabouts are not always the answer to a problem. The current roundabout near Round Lake is not safe and does not keep traffic flowing. There have been several times when I have seen cars not follow the signs or speed up to not let ongoing traffic go.
How much will the roundabout affect the surrounding environment and ecosystem?
IMHO you should ignore the votes of people who are over 60 or have never driven in a country where roundabouts are common. I am not joking.
N/a
Roundabouts are best for lower traffic areas, especially since a traffic light will slow everyone down more.
I don't believe u are giving the full picture of the superior safety of the roundabout. Eventually somebody will zone out the red light on lake road resulting in a high speed right angle collision. This is especially dangerous to younger drivers who do not proceed defensively into a green light. Many agencies across the country are adopting round about first policies because of large data sets that prove out significant safety benefits of round abouts. Washington is a target zero state and we will never get there if we continue to think traffic signals are equivalent to roundabouts, this certainly is not in alignment with professional opinion today! We need to do the right thing and not let this be a popularity contest where people who fear change prefer a signal at the expense of everyone else's safety
Please no more roundabouts. Stop signs or signals only please.
Doing nothing would be best. There is too much road construction around already!

I hope that the city will respect the homeowners opinions on forcing a sale of their land and what it would do to their home values.
Very strongly favor roundabout option.
A light here is needed, and another is sorely needed at the intersection of NW Leadbetter and NW Parker. As for the roundabout idea, I like them at nodes, such as the new one at the corner of the lake and the one entering downtown Camas. Let’s not go roundabout crazy - a stoplight is best at Lake & Sierra.
really would like sidewalk and bike lane on the uphill side of Lake Rd between Sierra and the current roundabout so that residents on the hill don't need to cross Lake to walk or bike.
Something needs to be done. We try not to go through this intersection because of all the traffic, especially going left from Sierra onto Lake.
In the time I've lived in Camas at least 4 new roundabouts have been built and every single one has made travel more dangerous without alleviating any traffic issues. They sound great in theory, but the vast majority of people are too dumb to use them without causing problems. Other than "the pool", this might be the most absurd idea Camas has had for wasting taxpayer money. In 8 years I've never seen more than 2 cars waiting to turn onto or off of Sierra. Why on earth would you waste millions of our dollars and make our daily travel more dangerous just to save someone 20 seconds? Please stop wasting our money and trying to solve problems that don't exist.
Roundabouts have been proven to be safer and more efficient for motorists and pedestrians alike. If people could see how effective they are in countries like Ireland, they would despise another traffic light.

I attended the meeting in May for community feedback and have two thoughts based on this: 1) There wasn't in my opinion enough emphasis on safety as opposed to congestion of traffic. Poor turning visibility from Sierra on to NE Lake for both right and left turns to me far exceeds the wait time as an issue. 2) Council person Senescu at the onset of meeting stated her disappointment that the presentation not including the option to do nothing since as she stated there was no problem. Overhearing her conversation with others she stated she did not live in the impacted area but traveled on NE Lake. However her mother did and she (her mother) didn't feel there was a problem. This raises concern on overall decision making by the council and what influences their decisions. Why spend money on studies if friends and family carry more weight on decision making than the overall community? Everyone's opinion should be heard and studies considered before taking a stance by each council member. To disregard all forms of input does not represent our entire community regardless of what a certain individuals feel. We all have opinions and they should be considered BEFORE taking a stance if you want to truly represent the entire community that voted for each of you. I hope all council members have open ears to the entire community they represent. To me that is government for all the people, even if I don't have the winning option.
A traffic light is less expensive than a roundabout and fewer trees would be cut down.

Some thoughts: many are proposing do nothing. That should be an option rather than a traffic circle or traffic light. Other options could include: -Removing the left turn lane from Sierra onto Lake - the area between Sierra and Parker is residential and this would not hurt any businesses. The travel time from Sierra to Costco is 5 minutes. Going from the closest neighborhood to the intersection to Costco via Parker instead is 9 minutes. The 5 minute travel time is not considering the wait time to turn left onto Lake during the busy hours so it would likely be almost the same often. The increased traffic during the high school busy time would not be at the same time as the middle school busy traffic time so 38th Ave/Parker and Parker/Lake intersections would not be overwhelmed. -Put a simple red/yellow blinking light like the one in Downtown Camas and add no left turn hours during the beginning and ending of the high school day. Red for those entering Lake from Sierra and yellow for those on Lake. If we have managed with the blinking light downtown forever we can manage with it here. Has it been considered to set up a temporary signal like used for construction to test the traffic signal option? That could be done for next to nothing and the city could see if it works well before spending any more taxpayers' money. I don't think the traffic circle is a good idea here as it would be too small. The car count traveling on Lake is higher and they will be entering the traffic circle almost back to back during the busy hours which will make it difficult for those entering the circle from Sierra to go west on Lake to find a spot in between them.
How much will the roundabout affect the surrounding environment and ecosystem?
Has anyone thought about a 3-way stop? Stop signs are cheap, no waiting for lights, would slow down speeding east-west vehicles as they approach the stops and could be implemented immediately.
I think there are other options such as just make it a 3-way stop sign intersection, with maybe a right lane for a right turn of of Lake onto Ciara. Also to do some "Field of Vision" clean up, so traffic coming out of Ciara can see better, and add some "Slow-Down" signs coming toward Ciara on Lake Ave.
With a population population growth expected to increase… Will there be any type of sound barrier for those of us whose backyards but up to Lake Street

Something needs to be done! Would you consider a three way stop sign?
You could do nothing or make it a three-way stop with stop signs placed at that intersection. If you go with the roundabout - there are no guarantees that drivers on Lake would yield and I believe puts drivers at a greater risk. Also the noise level is high - school busses and trucks are the worse for noise - Sound wall is needed!
First, thank you for improving this area. I've lived near this area for 20 years and have experienced it increasingly become slow, congested & dangerous to use. I appreciate the comparison data you have given to help people understand that tactics that lead to faster & greater short term gain often lead to long term loss/cost and an ongoing waste of finite resources. Traffic lights are not only inferior to round a bouts in function, they are a poor investment, especially if we have the funds, patience & will to make the better choice now. It will pay off in dividends in the coming future. Thank you for letting me give my thoughts.
I do not think that either of the alternatives are necessary at this time! I travel down Sierra at least 3-4 times a week and I agree that there is occasionally a wait time to get onto Lake Road but do not believe it is at an unacceptable level and that the City's money is better spent elsewhere! I guess I don't understand how this is already at the level that there is a choice being picked when the cost to implement either solution has yet to be approved?? Again, I personally think that we have more pressing issues in our city that need addressed than worrying about having to sit at an intersection for a few extra seconds during rush hour.
Roundabouts are for leftists and WEF 15 minute city type of bureaucrats. Have you driven on HWY 14? The roundabouts there make for congestion and accidents.
It's really very much needed. I have experienced or seen too many close calls trying to turn left onto Lake Rd.
Roundabouts maintain a continuous flow of traffic, whereas a light would still require wait time entering Lake Road. Roundabouts are a much better option in the long run. People which are negative about roundabouts do not understand the positive benefits of circles. Roundabouts have been used in Europe for many, many years, and move a lot of traffic without issues. Stop lights do exactly what the name implies, STOP. PLease put in a roundabout.
I do not believe we need either option. What we need to just keep the vegetation maintained regularly. I drive that way at least 4 times a week and I have never waited that long to turn left onto Lake road. And I have never seen an accident it that area. I seems a waste of money to me.
Simplest is best and far less disruptive to the neighborhood. Also in my experience traffic circles do not work well if there is significantly more traffic on one road than the other (try

getting onto Hwy 14 at rush hour from the roundabout at Cottonwood in Washougal sometime!, its so difficult I detour around it). This is also true at Lake Rd. Around the times parents are driving to schools there is way more traffic on Lake Rd, so the wait to turn is long. I don't believe that a traffic circle will solve this problem, since they don't work when trying to enter Hwy 14 from side roads and this intersection has the same problem.
The roundabout is the most sensible and sustainable option, given projected future growth in Camas. Thank you.
I travel this road multiple times a week, I don't think a 20, 90 or even a 100 second wait is really that big of a deal. I think this project is unnecessary. Is this really about reducing the already minimal traffic wait times or a few squeaky wheels concerned about traffic accidents? Don't pull out onto the street if it's not clear and safe to go. Common sense. I do not want to stop at a traffic light here especially if it's not motorist triggered and I'm stopping for a car that isn't there to turn. I think the roundabout can be made without taking property owners land to do so. Portland puts in plenty of little roundabouts on the tiniest neighborhood streets and they don't take people's property to do so. Take a look at NE 7th Ave at the intersections of NE Russell, NE Sacramento and NE Tillamook for example.
I've never encountered a congestion problem here, maybe a minor inconvenience but not in need of this project
Safety of drivers exiting Sierra is my greatest concern. The traffic circle solution seems like overkill. Yes, the lights might slow Lake traffic at times, but if Lake gets too congested, drivers will find an alternative route if necessary. Also, drivers leaving the Prune Hill area have two other exit options if they don't want to wait at the traffic light: Lackamas Lane and 20th Street.
Safety should be the #1 priority. The traffic signal would achieve this without going overboard with a roundabout. I think the roundabout is overkill.
I see this as more of a safety issue than a traffic congestion problem. The main hazards are poor visibility on making right or left turn from Sierra onto Lake in addition to making a right turn from Lake onto Sierra without a dedicated right turn lane. I appreciate being proactive and not waiting for increased accidents and close calls with cars, bikers and pedestrians. It's not "if" It's when and how many incidents are enough to take action. Safety first.
Roundabout is my vote! Look at how much better traffic is with the one down by the lake!
Why is there a right turn lane when entering the roundabout and taking the first turning is the same?
Given current budget issues, I would opt for the less expensive option. Safety needs to be the number one priority and the quicker and less costly option makes the most sense. I have lived in Lake Pointe for 27 years and have observed the reckless behaviors of many drivers at

this intersection. The roundabout option would have a small footprint and I am afraid it will not be as effective as others in the area.
A roundabout is the safer, less noisy, and "greener" option. Two questions come to mind: - is the potential purchase of residential land already included in the estimated project cost? - How would the structural integrity of the north side of the roundabout ensured, given that there is a sharp drop off?
Concern coming out of Sierra Street that traffic heading west on Lake Street is hard to see. A roundabout would not help this as they would have the right of way. A traffic signal is the better, safer option.
If traffic signal is selected, include sensors so the light is predominantly green on NW Lake Rd and only changes occasionally when car(s) present on NW Sierra St. Include considerations for traffic pattern effect on NW Lacamas Ln traffic entering NW Lake Rd. This intersection has similar access and safety issues, particularly during peak commute times. It also has less visibility due to road curve and adjacent hillside. (I live up the street from this intersection.)
Would be nice if a bike lane could be added on NB Lake Road from the Sierra intersection down to Everett. This will also become a bigger safety issue as density and traffic (both car and bike) continue to grow.
If roundabout is an option, a pedestrian crossing would be a must also
Many times the drivers on NW Lake Road go much faster than speed limit. The curve and downhill to the south of Lake Rd caused blind spots to drivers turning out from Sierra. With that, a traffic circle could be another hazard to drive. Traffic signal is straight forward to solve this problem. I normally skip this junction during peak time and detour to use the traffic signal at NW Parker St.
I think a round about is probably the best way to go but I don’t like that you would take land away from people living there.
This intersection impacts me as I live off Lake road and Sierra in a family of 5. I would prefer a traffic circle, because it keeps traffic flowing. Should no one be waiting at Sierra to enter Lake Road, then a traffic light will slow down traffic on Lake Road, which is continuous and busy. A traffic circle will slow down traffic to safe speeds- there is drag racing on Lake some nights, which is very loud and dangerous. A traffic circle will allow a smooth flow of traffic, without causing unnecessary stoppage.
Roundabouts are very nice and do like them but concerned about the added time and costs as i assume that means we as the tax payers will have to pay it. Costs for everything are already so high

Thank you for creating this process for feedback and community involvement. Thank you for working to fix this intersection.
Start building!
Start building!
Either option seems good. Always better to consider impact to those proper owners in the area.
I prefer a roundabout design for this intersection but NOT as what's shown with a right in and right out for Sierra. There is no reason for those to be included in the design and a dedicated right out of Sierra would bring conflicts with EB through Lake traffic going down the hill due a very short merge. There are plenty of other roundabouts in Clark Couty with similar traffic that DO NOT have additional right lanes! please DO NOT do a roundabout with these additional lanes!
Roundabouts are good, there should another one at Everett and 43rd
This project should be given high priority because it is a dangerous intersection.
This project should be given high priority because it is a dangerous intersection.
Able and confident drivers love the roundabout idea over the signal. We all know roundabouts are much more efficeint at traffic flow, and reduce emissions from cars because this efficiency reduces cars idling and accelerated from stop signals. Please don't succomb to presure from bad drivers asking for the signal.
I drive through this intersection a couple times every day, but lately have taken to avoiding it because of wait times in the morning. Let's expedite this project!
I really don't think this project is necessary. Property owners in the proximity of this intersection have learned to use the nearby roads to avoid the wait. I live of 35th Ave. The property owners in The Round Lake neighborhood and the ones at the beginning of the street close to Everetts have a hard time getting into the road, morning and afternoon because of the traffic of the Camas High School. We know that that will happen and is part of life.
Good estimate on the traffic light! Long term, the costs poles will likely increase. Pay now for the traffic circle.
This comparison does not mention the huge safety improvement the roundabout will provide over a traditional intersection.
Roundabout on Lake & Everett is working wonderfully. Definitely prefer roundabout. Thanks for considering this intersection. Very much needed.

Your cost estimate does not include long term spend. What is the cost over the course of 20 years? 50 years? The cost to maintain a traffic light will be much higher than a round about and should be included in your estimate.
I think speed has become a very big issue on our roads, especially Lake road. Navigating the roundabouts that have been constructed in Camas has become difficult with the sheer volume of cars on the road and the high speeds they drive. A traffic light require a car to fully stop and yield the road to the other driver.
I think the city should prioritize long term growth with these projects given the North Shore plan and the continued growth in population.
Roundabouts are generally a good option. Though, a street light would break up traffic making the intersection at NW Lacamas Ln and Lake road easier to cross or turn onto. An architectural feature in the center of the roundabout would be nice.
Would be great to see all traffic lights replaced with Roundabouts. Better for emissions and less frustration when traffic light changes too soon because of 1 car.
The round-a-bout option artist rendering drawing imo shows perfect traffic symmetry. I think there will be times when that is accurate, however, I also believe there will be times when it is not. My gut tells me that during high traffic times the round-a-bout may become congested; how much I do not know. Is there data that shows peak traffic, or if not can that be accomplished? If so, can that data be run through a simulation program to see how flow may actually be under duress? Traffic typically coming up the hill is going fairly fast and if there is a significant backlog it may be hazardous.
If a traffic light is installed, it needs to be a smart light that senses traffic and changes as needed. The light at Parker and 38th Ave doesn't change with the traffic. I get stuck there all the time at a red light when there are no other cars around.
This is scope creep, but I would love to see a bike lane added to the east bound lane of Lake Rd going down the hill from Sierra St to Lacamas lane. As a frequent biker of that stretch of road, there is currently no bike lane and I therefore take the vehicle lane and create large backups of traffic behind me as I bike that section. Improvements (widening and marking) to the shoulder on the west bound section would be encouraged as well. Perhaps consideration for a future project and improvements
no changes..traffic there is no different than 6th ave speedway..Camas is out of control..
Cost is the main issue and the nearby property owners. The construction for a roundabout makes more sense in the long run and future growth.
Due to the long-term scale of develop I think we all expect to happen on the north-side of the lake, I think it makes sense to not yet fully-develop and maximally spend on roadways in the

south-side of like. Yes, the city should improve safety and traffic in the immediate, but given the expected decisions and development to the north-side of lake/city, we should take a pause and see the traffic patterns/flow resulting, before fully committing significant change to an arterial road such as NW Lake.
Yes indeed! The public relations team has been overvblown, over-anxious, and not worth the money the city has invested in it. Please, City Council, get a grip and make more responsible decisions in the future. Don't use this PR firm again!
The roundabout option at this location is a terrible idea. There is no way it would be a financially responsible decision.
Any project should take the minimal space. The roundabouts don't work with our current police presence. At 6th street people coming from Hwy 14 blast through without looking to see who has the right of way. It's dangerous! I hate the idea of people idling at a red light, but they can't show common sense at roundabouts.
I hope we are not "voting to the point where the majority wins". This needs an engineered solution, not a voted solution. Many who vote today will be gone in the future. Please do the roundabout! Less waiting, less pollution, best for society.
I would like to say that the roundabout on Everett and Lake appears to be a huge success and is such a joy to use! I've lived in Europe and there are roundabouts everywhere. It allows traffic to flow smoothly and saves so much drive time. I certainly hope that the vote goes with the new roundabout.
Roundabout is the way to go
Stop light would slow down direct traffic going east west on Lake Rd. whenever red light is lit, compared to current conditions. For someone passing through this intersection at least once per day this is undesirable. Also circle will be more economical in the long run.
Do the cheapest. The green option stinks
That intersection is also travelled quite frequently by what I would call cycling enthusiasts (Not a casual cyclist, generally maintaining speeds >= 18-20+ mph). It's important, when thinking about bike lanes, that separated multi-use paths are not appropriate for this class of cyclist. They will be in the road, or in dedicated bike use only bike lanes where available. Some drivers in cars already treat cyclists as not appropriate users of roadways, care needs to be taken to not exacerbate this when describing the options.
I support the roundabout option, considering it will be the most efficient way to move traffic in that intersection as well as require less maintenance, although the upfront building costs are higher.

Been living here for 30 years and traffic lights are GREAT! I know I wouldn't want a round a bout in my yard and have never been impressed with one yet. Thank you for explaining to me why they are popping up every where though. They are another aspect of the green agenda that is basically running our state not helping. Traffic light 100%.
Utilization of a roundabout solution is the most responsible option when considering future fiscal and lifecycle demands.
It is imperative to do something for both established and new drivers. Left turns from either direction are no joke.
I really appreciate the Camas roundabouts! Thanks for such a great job.
aside from the need for land, I really do like the roundabout as a better long term solution for the community
100 seconds = 1 minute. This whole thing is not necessary.
I would like understand the maintenance cost of a traffic light intersection. It seems like it would take a hundred years to make up the extra million dollars for the roundabout.
Traffic light would work the best. Traffic gets heavy on Lake Road and a roundabout would not work as well. Also, there have been several accidents on roundabouts. People don't understand how to drive in them. Team Traffic Light.
I would like to know when the City plans to repair/reseal our streets? The City repaired a short section on NW 28th/Cascade after I reported that a rock hit a pedestrian. I have seen nor heard what the plan/timing is to fix the many problems.
A roundabout in the best solution with regards to crosswalks as well. This particular intersection does not require crosswalks since pedestrian travel eastbound on Lake is treacherous/non-existent and westbound on Lake has sidewalks on both side of the street.
Cross walk with signal from Heritage Park to Fallen Leaf Park across Lake Road; or pedestrian bridge over Lake Road connecting the 2 parks.
No thoughts besides roundabout are always better for environment and traffic flow
A traffic circle would be better than a stoplight.
Something is needed here, but a roundabout would be the best option: no maintenance, constant flow of traffic, slower speeds, and traffic circles are more visually appealing. I hope the traffic circle wins out over the traffic light option.
Roundabouts are statistically safer

Love the Everett street round about at the lake and the one at the west entrance to the city. The unforgiving potential accident on a new roundabout would be a car or bicyclist going over the Northside of the round about and falling down the cliff. Design and money needs to ELIMINATE this risk.
Thank you for asking! I travel through this intersection about six times a day and appreciate the improvement.
The traffic coming up the hill is always way too fast and unsafe not just at the intersection but when cars turn left onto Lake Road from Sierra they are tailgated by the speedsters! The roundabout will slow that down continuously whereas a signal light will only slow it down when red.
Invest for the longer term and put in the roundabout. We know the safety reasons.
Ensure SAFE and dedicated bike lanes
Much prefer a stop light than a roundabout.

APPENDIX B: OPEN HOUSE RESPONSES

Below are the unedited comments collected through comment cards at the in-person open house:

- Safety is the main issue. It's only a matter of time before someone is killed.
- The 2 options I prefer are do nothing or a traffic light – how about Camas police making it a patrol priority during AM and PM peaks to slow traffic and speeders.
- Trim foliage in Round Lake roundabout – too high, especially out of R.LK parking loot to south, plant lower foliage.
- An excuse to spend tax payer money, nothing is needed.
- As a neighbor of Lake Heights and directly affected by either option. I think the wait times we are experiencing do not justify either project.
- No roundabout and no light. There is no safety issue – 0 accidents.
- The issues will arise with a change in traffic flow. Many students driving during high traffic times – students don't know how to navigate roundabouts. Traffic signal will increase noise and air pollution to local houses. Please do a noise study.
- Do nothing. Keep as is – no change.
- (1 for roundabout option; 5 for traffic signal option) The cost of a roundabout, not to mention the time and labor to install is prohibitive. Every roundabout I've gone through has confused drivers and traffic back up at any time of day not just at commute time. Commute traffic actually worsened after the install. It will be more of a hazard. A traffic light is more

reasonable. Lake Road can have continuous flow and only change if traffic from Sierra triggers the light to change. That would solve the problem.

- (4 for roundabout option; 3 for traffic signal option) Concerns on there being stable land to build a roundabout. In theory, it's the better option I think – (roundabout) better for safety, traffic flow and noise. Signal easier construction, less down time, concerns for backups on hill during icy conditions. It's currently not safe at busy times. Either way, signage needed before the intersection of upcoming roundabout or signal.
- (1 for roundabout option; 5 for traffic signal option) We need to spread our budget around to addressing other areas as well as this one project. Why not try a 3-way stop sign and do a longer traffic study – more than 1 day. We want our tax dollars spent on Brady Road up to 16th to Hood and then 18th - Respond not repair. Sidewalks on our side of 16th from Hood to Astor.
- (4 for roundabout option; 2 for traffic signal option) Would a fence/wall along outside edge make the roundabout even safer?
- (4 for roundabout option; 2 for traffic signal option) Concern with both options and the noise pollution as a result of acceleration from a green light and/or slowing to navigate the roundabout. Northwest of here on NE 4th Plain Blvd there is a small roundabout that is all concrete and *stair* in color similar to your concept images. It is not a very aesthetically pleasing roundabout, is there other design options to make the roundabout look similar to the roundabout by the lake on Everett? Lake Road paving/re-paving is a critical need – the pothole fixes are not improving the road.
- (1 for roundabout option; 1 for traffic signal option) With only 5 traffic accidents in 5 years at the intersection of Sierra Street and Lake Road, all being minor accidents, I hardly think putting in a costly roundabout at 3.1 million is justifiable. Also if a roundabout was built, it would impact the ability to travel on Lake Road for a very long time (6 month or more), which would be awful. You could put in speed monitors up and down Lake Road monitoring cars and to tell them to slow down if speeding. I'm for doing nothing.
- (1 for roundabout option; 2 for traffic signal option) I don't really support either option. Based on visibility going west on Lake in the afternoons and the speeds at which people will enter the roundabout. Traffic study was not long enough to be statistically significant, or to provide accurate data to justify any changes.
- (5 for roundabout option; 1 for traffic signal option) The current intersection has created several close calls in the last two years, where vehicles leaving Sierra rush across the intersection unsafely. I don't think a traffic signal will completely fix this issue, perhaps adding speed bumps to a roundabout will stop young drivers doing donuts.
- (5 for roundabout option; 2 for traffic signal option) Roundabout increase safety by slowing Lake Road through traffic to a safer average speed.

- (5 for roundabout option; 1 for traffic signal option) I notice folks at meeting tonight say traffic isn't bad at this corner. We live in Lakeridge North and Encounter challenging traffic turning left onto Lake. I believe something should be done.
- (5 for roundabout option; 2 for traffic signal option) Nothing is not an option. It's unsafe to turn west off Sierra onto Lake Road. Roundabouts are here to stay, we are getting used to them. People run through or ignore traffic lights, thank you for being proactive. This is an idea whose time ahs come, don't wait until someone is killed.
- (5 for roundabout option; 2 for traffic signal option) Long waits to turn left onto Lake Road due to people coming up the hill fast and those turning left to Sierra. Roundabout would keep traffic moving in all directions.
- (1 for roundabout option; 5 for traffic signal option) I'm concerned about speed. 35 mph is on Lake, 25 mph on Sierra/43rd. I find people on Lake drive 45 – 50 mph and about 40 on Sierra/43rd. We need to slow down traffic which a light would do. This is a residential area with a lot of walkers.
- (5 for roundabout option; 1 for traffic signal option) Please build a sound or separating wall along the south side of Lake Road.
- (5 for roundabout option; 1 for traffic signal option) I agree that something must be done. I have waited at times up to 5 minutes to make a left turn onto Lake Road from Sierra. Not a safe intersection at all.
- (5 for roundabout option; 1 for traffic signal option) Spend the money now. Everything will be more expensive in the future. The loudest complainers are not representative of the majority.
- (1 for roundabout option; 5 for traffic signal option) I would like to see the less costly improvement and spend the extra money on other City projects of which there are many I'm sure. Also the lights seems that it would have less impact on surrounding area.
- (5 for roundabout option; 1 for traffic signal option) Roundabout is best option, or 3-way stop, please include plants. Also – yes to bike lanes.
- (4 for roundabout option; 5 for traffic signal option) Some sort of traffic control at this intersection is imperative. Currently it's impossible to enter northbound, the intersection during commuting time. I'll frequently take a longer alternate route to get north, but this adds mileage to my drive each day. I was in favor of a roundabout until my experience with the Everett Street one through traffic ravels too fast to enter safely. I would prefer NW Lake Road traffic has to stop rather than simply swerve through a roundabout.
- (1 for roundabout option; 1 for traffic signal option)
- (5 for roundabout option; 4 for traffic signal option)
- (1 for roundabout option; 5 for traffic signal option)

APPENDIX C: EMAIL RESPONSES

- My wife and I would suggest a roundabout for this location.*Requires little or no maintenance *Needs no power *Works during power failures *Has no overhead sight pollution (like stoplights) *Cars use less fuel and saves on brakes
- I was just checking out the information you've posted about options. I'm still kind of undecided on round-abouts but the mock-ups you're using aren't going to sway many people. The colors and lane markings are very confusing. There has to be a better way show traffic lanes and vehicle flow. Why would you use the same color in a bike lane as the main traffic circle of the round-about? People get confused going around those and I think people looking at your page will be concerned with that.
- Hello Mr. Carothers,
  I posted about this issue on Nextdoor, there are over 56 responses in one day. One person pointed out that the city has spent $156,528 studying this intersection and found a 39 sec delay and has now proposed a potential $3 million solution.
  This is quite unacceptable. We moved here for the small town feel and know that with increased growth comes improvements to infrastructure. However, we've all been frustrated at the lack of accountability by our elected officials on such matters. Putting in a light or roundabout will have other unwarranted consequences and does not guarantee a solution to a minor problem. Citizens have proposed multiple less expensive options the city should consider. Someone mentioned these costs were not covered at the open house. I will be honest it's hard to take time away from other responsibilities to attend meetings in which transparency and open discussions are not maintained.
  Please review the Nextdoor comments and provide the public with a response that takes into account the financial details and where this project is at with honest transparency.
- How about using the $3 million dollars improving our water resources!!!! Enough with over population, making improvements on things when we have a water crisis! Tightening our belts first, make basis primary needs for things such as good water pressure for everyone including older neighborhoods!!! We live near JDZ and often earlier in the day, shower time there's barely any pressure!
  Please stop with the new developments until we can care for our infrastructure, roads and traffic management. It's not rocket science! Tighten the belts when there's a problem with the basics!!!! Please!
  My husband has lived in this community for 75 years and I, 64 years.
  Can we please count too???
- Please not another one
- We DO NOT need a roundabout at 1st & Sierra. Cancel this project immediately. DO IT NOW.
- PLEASE ISE THIS MONEY TO FIX OUR WATER SITUATION!!!
- Just to add to those that believe this is not needed…I travel that intersection almost daily, coming north along Sierra Dr to Sierra St. If I have to wait more than a minute, even with cars in front of me waiting to turn, that is rare. This is even true during the morning rush to Camas HS.
  There is an easy work-around for impatient drivers, by continuing west (not turning north on Sierra St) and following along to Parker, turning north there, and meeting Lake at the traffic light.

Camas seems to want to do everything all at once (new fire station, improvements to city buildings, etc). this can wait. Our taxes are high enough!

- Dear City Council Members,

  I am writing to express my full support for the proposed traffic control measures at the intersection of Sierra and Lake Road. As a resident in the area, I am directly impacted by the challenges posed by the high rates of traffic at this intersection, particularly during peak hours.

  The congestion and safety concerns at Sierra and Lake Road are of utmost importance to our community. Despite residing on NW 29th Ave, I frequently navigate through this intersection, and I have witnessed firsthand the hazardous conditions and near-misses that occur frequently.

  I understand that both a roundabout and a traffic light have been proposed as potential solutions to address these issues. I firmly believe that implementing either of these measures would greatly improve traffic flow and enhance safety for all road users. As someone who directly experiences the impacts of this intersection on a daily basis, I am eager to see these improvements implemented and am confident that they will have a positive impact on our community.

  Thank you for your continued efforts to address traffic issues in our city.

- Greetings!

  I am strongly in favor of a roundabout at the intersection of Sierra and Lake Road. Those who oppose it are ignoring the data that's been collected, and the growth projections. Postponing this effective plan to improve traffic flow is shortsighted. It will become necessary before very long, and every part of the project will be even more expensive. The efficient movement of vehicles through the intersection will mean less pollution from the exhaust of idling car engines, and less noise from braking and starting from a full stop.

  We should consider this an investment for the safety of everyone who drives through the intersection.

  Thank you,

  Camas Resident

- Hi,

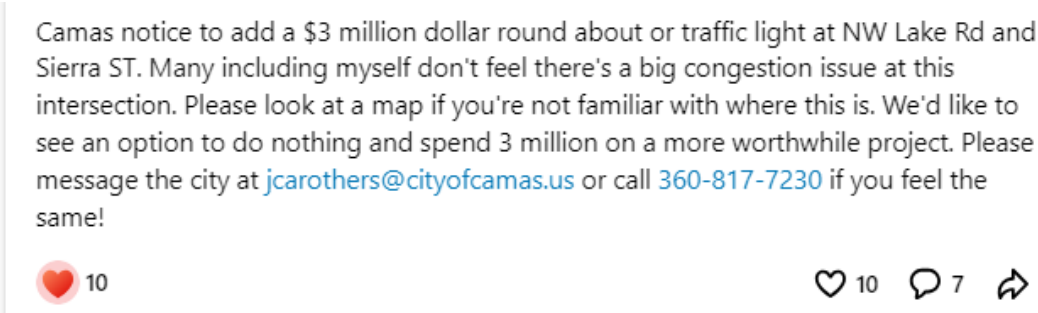
  I'm writing with my first hand experience driving down Sierra, stopping at Lake and turning left. I do this at least once a day, oftentimes more each day.

  95% of the time, I'm the first car at the stop sign. Usually I have to wait for once or two cars to pass and half the time, I stop and go. I have to say, I don't understand the need for a roundabout there. In the 6 years I've lived here, there's been very little new construction that would use that route - all lots are built, therefore no new congestion possible.

  Please reconsider. It's hard to live in Camas with the cost of living here.

- I live at [redacted] and use lake rd all the time.

In my opinion we do need something but a roundabout is not the solution.
A stop/go sign would work fine and be less expensive.
My worst fear when trying to get into make rd from Sierra would and is the traffic coming up the hill. They come up fast, too fast, and I am fearful that they are going to hit me when I turn onto lake rd.
There are definitely bust times, not all the time when we have congestion there.
I've lived in my house since 1992 so I have plenty of experience at this intersection. A stop/go sign would be the best. Thank you.



-
- Thank you for all you do for our City. We do have a great City that we live in.
  I am a Camas citizen and I have lived here more than half of my life (since 1996) and I drive on the Lake Road where it intersects with Sierra weekly, sometimes more. I have never seen congestion there other than a few seconds. I am amazed that we are going to spend more than $3m on providing two options (roundabaout or signal) when we have so many more pressing issues in our City.
  Where is the option in the survey to do nothing? Should that not be an option?
  I just did my duty as a citizen and did the survey at www.engagecamas.com and I was baffled that we only had two options (and no "do nothing" option). As an attorney for almost 30 years who has both served on and represented at least a dozen boards, I find this unfair to us citizens.
  Unfortunately, I feel like I need to copy many of my Camas neighbors and friends to at least weigh in on this.
  PS – I speak for myself, not for my wife. We disagree all the time, but on this, we are in lockstep. She told me not to send this email, but I felt obligated to.
  Thanks for hearing me.
- Dear Mr. Carothers,
  It was brought to our attention recently that you are doing a survey for this intersection. I've never experienced congestion of any problem here and my husband and I both assumed this was in regard to a different area. Upon checking a map we confirmed we've never seen a problem here. We've lived in Camas for 20 years and wondering how many other citizens also think this proposal is for a different intersection, one with congestion.

I have a friend who runs, bikes and walks her dog on lake rd and confirmed she's never seen or felt there was a problem in this area. She lives off of Jackson St, that also intersects with Lake Rd. We are thoroughly confused as to where the congestion is on Sierra. At busy times it can take a few seconds of waiting for passing traffic to turn onto Lake Rd. but not to be confused with an engineering dilemma, more a minor inconvenience. It would be nice to have a preferred option where nothing is done, as Camas has more important projects to consider. I was unable to attend tonights open house.
Thank you for the opportunity to voice my concerns.

- Hello Mr. Carothers,
  I posted about this issue on Nextdoor, there are over 56 responses in one day. One person pointed out that the city has spent $156,528 studying this intersection and found a 39 sec delay and has now proposed a potential $3 million solution.
  This is quite unacceptable. We moved here for the small town feel and know that with increased growth comes improvements to infrastructure. However, we've all been frustrated at the lack of accountability by our elected officials on such matters. Putting in a light or roundabout will have other unwarranted consequences and does not guarantee a solution to a minor problem. Citizens have proposed multiple less expensive options the city should consider.
  Someone mentioned these costs were not covered at the open house. I will be honest it's hard to take time away from other responsibilities to attend meetings in which transparency and open discussions are not maintained.
  Please review the Nextdoor comments and provide the public with a response that takes into account the financial details and where this project is at with honest transparency.
- Dear City Leaders,
  There are now 141 comments about the intersection of Lake Rd and Sierra. Please take these into consideration at your next meeting and please notify us if there will be a subsequent meeting for citizens on this issue.
  https://nextdoor.com/p/9KpGnpHrmMsS?utm_source=share&extras=Njc4MTgxMw%3D%3D&utm_campaign=1717439200355
- Good morning James and Bryan, it was great to meet you at the event for the NW Lake Rd. and NW Sierra Street Intersection Improvements meeting last week.
  I hope you both are doing well. I am reaching out with this email to send you an idea my wife and I have for it. I just quickly put this together and I hope it is clear and makes sense and is a good alternative.
  Please let us know what you think, I also believe I spoke with one other person, Alex and he said that he thought a 3-way stop sign was discussed at one point.
  I know this would not be the best "long" term solution, but it would be a less costly and quicker one as to construction time and minimal amount of traffic disruption.

Thank you for your time consideration, I look forward to hearing back from you as to your ideas. I also did fill out the city survey online.
Have a great day gentlemen and thank you again.

- Hi,
  After reading many comments about this on both FB and ND, it seems the problem is the fast traffic coming up Lake Rd. going northwest. The vision isn't great and cars are going too fast.
  I personally come down Sierra and turn left onto Lake rd daily at different times of the day and have never had to wait or had a problem myself. I do understand that if you are at the intersection when HS traffic is coming up Lake, it can be more of a problem.
  Why not, instead, put an enforced radar speeding camera just before the intersection for traffic traveling NW? You would bring income into the city, teach drivers to slow down and save $3mil.
  Thanks for your time,
- Hello,
  I saw the post on Nextdoor about the proposed roundabout at Lake and Sierra. I fully support this idea of adding the roundabout. I feel that many of the commenters must not travel the area during busy times such as during typical commute times to work or to Camas High School. There is a lot of congestion and a lot of unsafe behaviour as a result. I think this project is worthwhile.
  The roundabout that was added on Everett has made travel in that area so much more efficient during the commute times I mention above.

MacKay Sposito

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360.695.3411 www.mackaysposito.com

FINAL MEMORANDUM

TO: James Carothers, Jim Hodges, Justin Monsrud, City of Camas

FROM: Jason Irving, Gregory Oehley, MacKay Sposito

Justin Sheets, Alex Correa, DKS Associates

RE: **NW Lake Road and NW Sierra Street Intersection - Alternatives Analysis**

DATE: November 12th, 2023

Overview

The NW Lake Rd. and NW Sierra St. intersection is currently a 3-legged non-signalized intersection with a stop sign on NW Sierra Street located in Camas, Washington. A project area map is included below in Figure 1. NW Lake Rd. is an east-west arterial that runs from the western city limits to NE Everett St. NW Sierra St. is a north-south collector that runs from NW Lake Rd. to NW 43rd Ave. and primarily serves nearby residential properties. Average daily traffic (two-way) entering the intersection is approaching 16,000.

The City of Camas is considering intersection improvements to address vehicle queuing and delays while also improving safety and multimodal connectivity. This memorandum provides an alternatives analysis to evaluate the following eight criteria for comparing the two options of a new traffic signal versus a new roundabout.

Alternatives Analysis Criteria

1. Traffic Safety (vehicular, pedestrian, and bicyclist)
2. Traffic Operations (delay, Level of Service (LOS))
3. Right of Way Impacts and Costs
4. Project Cost
5. Construction Phase Impacts (e.g., impacts to the traveling public)
6. Project Schedule

7. Impacts to Steep Slopes and Need for Retaining Walls
8. Public and Private Utility Impacts
9. City Operation and Maintenance Considerations

Figure 1- Project Area Map

A. Proposed Project Improvements

The proposed options to improve intersection safety, efficiency, and LOS are the signalization of the intersection or construction of a roundabout. Both options will significantly improve the intersection LOS and reduce delays, but each has their unique challenges. Some of the challenges include vertical and horizontal constraints, steep slopes, private property impacts as well as the presence of existing private and public utilities. The two options are briefly described below:

Signalization

This improvement would replace the current stop-controlled intersection with a traffic signal and add an eastbound right turn lane with 300' of vehicle storage. Based on the traffic analysis, this intersection meets the requirements to warrant a signal. The LOS for the AM and PM peak hour will improve to a LOS of C and B respectively.

Roundabout

This improvement would replace the current stop-controlled intersection with a single lane roundabout, add an eastbound right turn lane on NW Lake Road, and a northbound right turn slip lane on NW Sierra Street. The biggest challenge for the roundabout option is the geometric constraints which in turn make it the lesser cost-effective option. The 2045 projected LOS for the AM and PM peak hour will improve from LOS of F (no-build scenario) to a LOS of B.

Notably, the roundabout option would generally serve off peak traffic better when compared to the signalized option, particularly on the minor approach (Sierra Street). Roundabouts typically treat all intersection movements equally, whereas a traffic signal may cause vehicle wait time, even during off peak hours, while the traffic signal detects the vehicle and cycles to a green light.

Although both options can accommodate the projected traffic in 2045 with relatively low delays when compared with the no build option, each option also presents challenges under the future traffic volume projections.

B. Traffic Operations and Safety Analysis Results

DKS Associates completed an evaluation for the two selected options and a no-build alternative in regard to traffic operations, multi-modal facilities, and safety. The following section details the results of the traffic operations analysis and safety evaluation for each alternative. The full traffic analysis memorandum, which primarily focuses on traffic operations of the two options, is included in Appendix C.

The traffic analysis and subsequent alternative evaluation concluded that each proposed alternative would provide the following benefits for the overall intersection operations:

- Significant reduction to overall intersection vehicle delay and queuing, with the exception of through traffic on NW Lake Road which will experience minor increased delays with both options
- Potential for decreased crash frequency and/or severity
- Improvements to multimodal travel

Safety Performance

Both the signalized and roundabout options have potential to improve safety compared with the existing condition, by reducing the risk that motorists traveling from NW Sierra St. will conflict with either the westbound or eastbound uncontrolled movements on NW Lake Road., Crash data sampled from the last five years (2018-2022) indicates that crashes are infrequent and low severity at this intersection under existing conditions. There were four crashes reported in the five-year period, with all four being property damage only crashes. It is also worth noting that crash risk is correlated with traffic volumes and traffic volumes at this intersection are expected to increase significantly over the next 20 years. It is expected that without improvements at this intersection, there will be fewer gaps and more potential conflicts between vehicles on NW Lake Rd. and turning vehicles into and out of NW Sierra St.

Signalized Option

The conversion of the stop-controlled intersection to a signal will primarily reduce the speed and frequency of the conflict between motorists turning from NW Sierra St. onto NW Lake Rd. In particular, a signal provided with a protected northbound left turn phase will reduce the risk of high-speed angle collisions. Using data sourced from the Federal Highway Administration's Crash Modification Factors (CMF) Clearinghouse, the conversion of a 3-leg stop-controlled intersection to a signal has a CMF of 0.86, corresponding to a crash reduction of 14% over the existing condition.

Roundabout Option

The conversion of the stop-controlled intersection to a roundabout would slow speeds for approaching vehicles, particularly on NW Lake Rd., by creating horizontal deflection on the approaches. By slowing vehicles, crashes are more likely to be lower severity. Using data sourced from CMF Clearinghouse, an online repository for CMFs of different transportation countermeasures, the conversion of a 3-leg or 4-leg stop-controlled intersection to a mini-roundabout has a CMF of 0.8 for all crashes[1]. A CMF of 0.8 corresponds to a 20% decrease in crash frequency for all crashes over the existing condition.

Multimodal Travel

Under existing conditions, pedestrians and cyclists utilize the study intersection, however there are gaps in those facilities and areas for improvement in terms of quality, connectivity, and comfort. Today, a 5-foot curb-tight sidewalk runs west of the study intersection on the south side of NW Lake Rd., but this sidewalk terminates at a curb ramp just east of the study intersection. There is no sidewalk on the north side of NW Lake Rd. near the intersection. North-side residential properties to the west on NW Lake Rd. do not have continuous sidewalk access to the intersection or nearby options to cross NW Lake Rd. The nearest NW Lake Rd. crossing is approximately 1,800 feet to the west at NW Leadbetter Drive. A five-foot curb-tight sidewalk

[1] https://www.cmfclearinghouse.org/detail.php?facid=11240

exists on both sides of NW Sierra St. NW Lake Rd. includes a westbound bike lane through the study intersection but does not include an eastbound bike lane. An existing eastbound bike lane on NW Lake Rd. terminates approximately 600 feet west of NW Sierra St. No dedicated bike facilities exist on NW Sierra St.

Signalized Option

This option would improve the safety and comfort of pedestrians crossing Sierra St. by adding a protected signalized crossing, pavement markings, and reconstructing curb ramps to improve accessibility. The eastbound bike lane on NW Lake Rd. will be extended to the study intersection by combining with the existing sidewalk and widening it to 10ft. as a multi-use path. The bike lane will then merge into general traffic east of the study intersection. Alternatively, the bike lane can be configured to direct eastbound bicycles south onto NW Sierra St. and to the local road network. The westbound bike lane on NW Lake Rd. will remain and continue through the study intersection. Additional analysis, design, and coordination will be required to determine the best treatments for eastbound cyclists at the study intersection under this alternative. Possible treatments for cyclists include the addition of a conventional bike lane to the left of the eastbound right turn lane, a combined bike lane/turn lane, or terminating the eastbound bike lane prior to the signalized intersection. Based on the steep wooded slopes along the southwest side of Lake Road, it is not anticipated that continuing the bike lane east of the intersection is feasible with either option.

Roundabout Option

The roundabout option would add marked crossings across NW Sierra St. with islands separating traffic movements. This would break the existing 60-foot unmarked crossing into three 10–15-foot marked crossings divided by raised medians, thereby increasing pedestrian comfort and safety. This option would add facilities for eastbound cyclists on NW Lake Rd. by combining with the existing sidewalk which will be widened to 10ft. to the intersection of NW Sierra St. as a multi-use path. Given geometric limitations east of the intersection, the lack of a dedicated bicycle lane for eastbound cyclists from NW Sierra St. to NE Everett St. will remain. It is anticipated that eastbound bicyclists may utilize NW Sierra St. and nearby local streets to continue traveling east to NE Everett Street. The westbound bike lane on NW Lake Rd. will transition to a buffered bike lane at the roundabout, which could be constructed as a grade-separated path for additional cyclist protection and separation from vehicular traffic or at-grade buffered with pavement markings (See Figure 2 below for a sample grade-separated cycle path).

Figure 2: Grade Separated Cycle Track Example

Source: National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide

Traffic Operations Analysis

Traffic analysis was conducted for three future scenarios: 2045 no build, 2045 roundabout, and 2045 signalized. In both the 2045 roundabout and 2045 signalized scenarios, the City of Camas operating standard of Level of Service (LOS) D or better is met during the peak hours. Table 1 below details the intersection delay and LOS for each alternative.

Table 1: NW Lake Rd./NW Sierra St. Future Scenario (2045) Traffic Operations

INTERSECTION CONTROL	OPERATING STANDARD	AM PEAK HOUR[A]			PM PEAK HOUR[A]		
		V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
STOP-CONTROL (NO BUILD)	LOS D	0.29/2.83	11.8/>100	B/F	0.36/3.63	15.4/>100	C/F
SIGNALIZED	LOS D	0.93	20.5	C	0.73	12.3	B
ROUNDABOUT	LOS D	0.78	11.9	B	0.83	13.0	B

[A] Results shown for two way stop controlled intersections are shown as major approach results/minor approach results.

Another important operational measure analyzed is the amount of queuing present under each build alternative. For each approach in the roundabout alternative, queuing does not exceed the storage capacity that will be present at the intersection. For the signalized alternative, most movements can fit into the existing storage capacity with some minor striping alterations that will not require any pavement widening. However, the northbound right queues will exceed the available storage capacity and is expected to have queuing in the a.m. peak hour that will spillback through the NW 45th Ave. intersection.

C. Conceptual Intersection Designs and Engineer's Estimate of Probable Construction Cost

Conceptual intersection designs (see Appendix A) were prepared by the project team for both options to develop preliminary geometrics and to assess construction costs and impacts to right of way, steep slopes, and utilities.

Project cost estimates, including estimates of probable construction cost and associated soft costs (design, permitting, etc.) were also prepared for each option and are summarized below. See Appendix B for the detailed cost estimates.

New Traffic Signal - $1,675,000

New Roundabout - $3,115,000

D. Alternatives Analysis and Results

Analysis Summary

The following table summarizes the results of the alternatives analysis and is followed by a more detailed analysis related to each of the eight analysis criteria.

Table 2 – Alternative Analysis Evaluation Summary

Analysis Criteria	Traffic Signal	Roundabout	No Build
Traffic Safety	**Med**	**High**	**Low**
Level of Service (Lake Rd/Sierra St) AM Peak	**C**	**B**	**B/F**

Analysis Criteria	Traffic Signal	Roundabout	No Build
PM Peak	**B**	**B**	**C/F**
Vehicle Capacity Ratio (Lake Rd/Sierra St)			
AM Peak	**0.93**	**0.78**	**0.29/2.83**
PM Peak	**0.73**	**0.83**	**0.36/3.63**
Vehicle Delay (secs.) (Lake Rd/Sierra St)			
AM Peak	**20.5**	**11.9**	**11.8/>100**
PM Peak	**12.3**	**13.0**	**15.4/>100**
Right of Way Impacts/Costs	**Low**	**High**	**N/A**
Project Cost	**$1.67M**	**$3.12M**	**N/A**
Construction Phase Impacts	**Med**	**High**	**N/A**
Schedule	**Low**	**High**	**N/A**
Impacts to Steep Slopes and Need for Retaining Walls	**Low**	**High**	**N/A**
Private Utility Impacts	**Med**	**High**	**N/A**

1. Traffic Safety

Please refer to Section B on page 3 for a discussion and comparison of traffic safety for the two options.

2. Traffic Operations

Please refer to Section B on page 5 for a discussion and comparison of traffic operations for the two options.

3. Right of Way Impacts and Costs

Based on the preliminary traffic signal conceptual design, right of way acquisition is not anticipated for the signal option. A temporary construction easement may be needed to reconstruct the retaining wall on the southwest corner of the intersection, but further design development is needed to confirm.

The roundabout option is very likely to require right of way acquisition on the north side and the southeast and southwest corners of the intersection. This is due to the need for a northbound right turn slip lane on the southeast corner, eastbound right turn lane on the southwest corner, and the roundabout footprint extending to the north of the intersection, impacting the existing steep slope and requiring construction of a retaining wall. Right-of-way acquisition costs are estimated at approximately $150,000 and the right-of-way acquisition process typically takes nine months to one year to complete.

4. Project Cost

Project cost is a primary determining factor for selecting the preferred option and ensuring a fully funded and feasible project. Conceptual project cost estimates, including engineer's estimates of probable construction cost (see Appendix B) were developed for each option based on the conceptual designs provided in Appendix A. Other hard and soft costs were then considered including:

- Design and permitting
- Public engagement
- Right of way acquisition
- Construction management and inspection
- Escalation to the anticipated time of bidding for construction (fall 2024)

Traffic Signal - The total estimated project cost for the traffic signal option is $1,675,000. Primary cost factors for this option include:

1. $155,000 - Traffic signal equipment, poles, and foundations
2. $30,000 - Vehicle Detection and preemption
3. $110,0000 - Conduit, wiring, trenching and backfill, and associated junction boxes
4. $305,000 - Roadway and multi-use path construction
5. $145,000 - Retaining wall on southwest corner

Operations and Maintenance – The following are anticipated items that would incur costs over the lifetime of a traffic signal for maintenance.

1. Routine timing adjustments
2. Energy consumption
3. Preventative maintenance (replacing LEDs, etc.)

Roundabout - The total estimated project cost for the roundabout option is $3,115,000. Primary cost factors for this option include:

1. $900,000 - Road/roundabout and multi-use path construction
2. $260,000 - Retaining wall southwest corner and north side
3. $150,000 - ROW acquisition and costs
4. $140,000 - Stormwater treatment
5. $333,000 - Construction cost escalation (2 years)

Operations and Maintenance – The following are anticipated items that would incur costs over the lifetime of a roundabout for maintenance.

1. Lighting inspection and maintenance
2. Pavement, sign and pavement marking maintenance
3. Inspection and maintenance of structural elements of the roundabout, such as retaining walls, curbs, and center island features

It is assumed that there will be no landscaping and vegetation to be maintained since the center of the roundabout will be paved in this case.

Note that the conceptual project cost estimates assume local funding and that Federal Highway Administration or Washington State Department of Transportation funding will not be utilized for the project. Additional costs may be incurred if these or other funding sources are utilized that require additional studies, permits, etc. such as completing National Environmental Policy Act (NEPA) requirements and approvals. It is worth noting that if future funding triggers NEPA requirements, recent changes to NEPA requirements may add as much as one to two years to the project schedule, primarily dependent on whether the project increases the amount of pollution generating impervious surfacing.

5. Construction Phase Impacts

While impacts on the traveling public and adjacent residents are not typically primary considerations when selecting the preferred option, they must be considered. In general, the roundabout option will have the greatest impact to the traveling public due to limited roadway width to allow for vehicle access during construction activities within the intersection. Roundabout construction must occur in the center of the intersection and will disrupt vehicle access on NW Lake Rd. Additionally, there are limited detour options available due to nearby Lacamas Lake, the local topography and roadway network. The most direct and likely feasible detour option for NW Lake Rd. traffic is to turn south on NW Sierra St., east on NW 45th Ave./NW Oregon St, south east on NW 44th Ave., then north on NW Lacamas Ln. to NW Lake Rd. Note this detour route is mostly a residential neighborhood that may not be well positioned to support a significant increase in traffic volumes for long periods of time. Prior to approving this detour, an in-depth public outreach is recommended to be completed with impacted residents. While the traffic signal option will also impact NW Lake Rd. traffic, it is very likely that at least one lane of traffic on NW Lake Rd. would remain open throughout construction and a long duration detour would not likely be required.

6. Project Schedule

For each option, the anticipated project schedule for design, permitting, public engagement, and construction is similar, likely within a few months of each other. A potential schedule driver for both options will be the likely need for private natural gas and fiber utility relocations, primarily on the southwest corner of the intersection, in order to construct a new dedicated right turn lane for east bound traffic on NW Lake Rd. The roundabout option will likely increase the project schedule by one to two years due to the need for right of way acquisition, more significant private utility relocations, and to secure additional funding to fully fund the project. Section 3 Right of Way Impacts and Costs above describes the need for right of way to construct the roundabout and Section 8 Private Utility Impacts below discusses the required private utility relocations.

7. Impacts to Steep Slopes and Need for Retaining Walls

There is an existing two- to three-foot-tall retaining wall west of the intersection along the south side of NW Lake Rd. Both options will require reconstructing and increasing the height of this retaining wall and relocating it adjacent to the ROW line in order to construct a new right turn lane for eastbound traffic on NW Lake Rd. Additionally, the roundabout option will require widening of NW Lake Rd. to the north and southeast at the intersection and require new retaining walls. On the north side of the intersection the widening will impact an existing 2:1 steep slope down to residential properties and require constructing a new eight to ten foot tall and estimated 130 foot long retaining wall and guardrail or concrete barrier. It may also require a critical areas slope permit, geotechnical review for slope stability and wall foundation considerations, and structural engineering design. It is estimated that the north side retaining

wall may cost an estimated additional $200,000 to design, permit, acquire the necessary right of way or easement, and construct.

8. Private Utility Impacts

Private utility impacts are similar for both options on the southwest corner of the intersection and west on NW Lake Rd. Existing private utilities anticipated to be impacted include both an existing 12-inch-high pressure and 4-inch natural gas mains and gate station as well as fiber optic lines. While further design and coordination is needed with Northwest Natural for relocation of their facilities, oftentimes the relocation of high pressure mainlines must be completed during warmer months when natural gas demand is lower. This can impact the timing of when the City's intersection improvements can be constructed. In the southeast corner of the intersection, the roundabout option will require the relocation of a large transformer. The existing power transformer has heavy circuits to the south and west, and smaller circuits to the south and northeast. If possible, we recommend that all private utility locations be completed prior to the City's construction contractor beginning their work in order to prevent conflicts between multiple contractors and to reduce risk. Public utility impacts are relatively minimal, primarily consisting of relocating or constructing new stormwater catch basins and piping.

9. City Operation and Maintenance Considerations

Traffic signals require electricity to operate, contributing to ongoing operational costs. The costs can vary based on the efficiency of the signal system. Traffic signals have more mechanical and electrical components, including signal lights and control systems. This can result in higher maintenance and replacements costs compared to roundabouts. Also, traffic signals and associated control systems can be damaged by traffic collisions which can be very costly to repair and render the intersection inoperable. Power outages, which can be more frequent in heavily forested and high wind areas such as Camas, may impact traffic signals and render them inoperable.

Roundabouts are generally associated with improved safety, leading to potential cost savings related to motor vehicle damage. While roundabouts may have higher initial construction costs, they often result in lower ongoing operational and maintenance costs compared to traffic signals without the potential of losing operation during a power outage or after a traffic incident.

E. Conclusions and Recommendation

In conclusion, as compared to a traffic signal the operational benefits of the roundabout option include a higher LOS, less delay and a higher level of safety. Undesirable aspects of the roundabout option include the need to acquire right of way, a much higher project cost, greater impacts to traffic during construction, a longer project schedule, steep slope impacts, and more significant private utility relocations.

Traffic signals require electricity to operate, contributing to ongoing operational costs. The costs can vary based on the efficiency of the signal system. Traffic signals have more mechanical components, including signal lights and control systems. This can result in higher maintenance costs compared to roundabouts.

Roundabouts are generally associated with improved safety, leading to potential cost savings related to accidents and emergency response. Roundabouts often provide smoother traffic flow, reducing congestion and potentially lowering overall costs related to delays and fuel consumption.

In summary, while roundabouts may have higher initial construction costs, they often result in lower ongoing operational and maintenance costs compared to traffic signals without the potential of losing operation during a power outage or after a traffic incident.

The following provides a high-level summary of key findings of the traffic safety and operations analysis and the alternatives analysis.

- LOS - Both options will significantly improve the LOS of the intersection over the no build condition, with the roundabout option having a slight advantage in LOS for the peak AM condition (LOS C for a signal vs LOS B for the roundabout).
- Vehicle Delays - Both options will significantly reduce delays for traffic on NW Sierra St. Delays are very similar for both options, with the roundabout providing slightly less delay in the peak AM condition (11.9 seconds for a roundabout vs 20.5 seconds for a signal).
- Safety - Both options will improve intersection safety. Roundabouts typically provide a higher level of safety than a traffic signal by reducing conflict points and vehicle speeds, which reduces crash severity.
- Right of Way - Right of way is likely not required for the traffic signal. Impacts are higher for the roundabout option and anticipated to add $150,000 to the project cost and up to a year to the project schedule.
- Project Cost - The estimated roundabout cost is $1.44M higher than the signalized option (an 86% increase in cost).
- Construction Impacts - During construction the roundabout is anticipated to impact traffic operations more than the traffic signal and will likely require a one-to-two-month detour.
- Schedule - The roundabout may add one to two years to the project schedule in order to acquire right of way, complete significant private utility relocations, and to secure additional funding.
- Impacts to Steep Slopes/Retaining Walls - Both options will require reconstructing an existing retaining wall on the southwest corner. The roundabout will require steep slope analysis, structural design, and additional right of way acquisition to construct a new retaining wall on the north side and southeast corner of the intersection.
- Private Utility Impacts - Both options will likely require private utility relocations. The roundabout has greater utility impacts and will likely require relocating an existing power transformer on the southeast corner of the intersection.

F. Next Steps

Following selection of the preferred intersection improvement alternative, traffic signal or roundabout, the design team will prepare a scope and fee to complete public outreach, design, permitting, and right of way acquisition (if needed). Once approved by the city, the design and public outreach team will progress with the work with a goal of completing design and permitting in time to start construction in winter 2024/spring 2025.

Appendix

Appendix A - Conceptual Design Plans

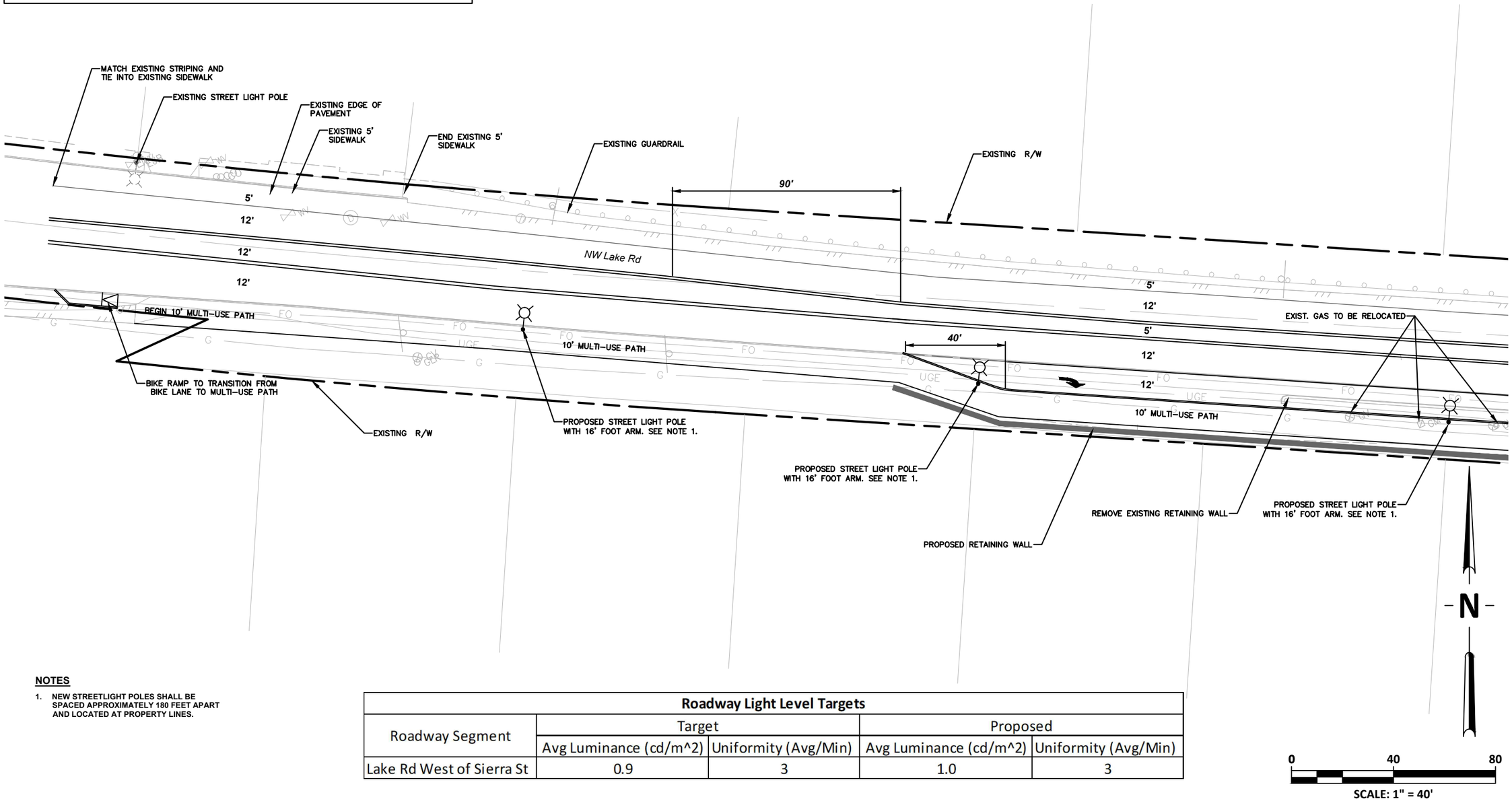
Appendix B - Conceptual Project Cost Estimates

Appendix C - DKS Traffic Analysis Memo September 2023

Appendix A

Conceptual Design Plans

Lake Road/Sierra Street
Signalized Alternative 30% Design Exhibit
Page 1 of 2



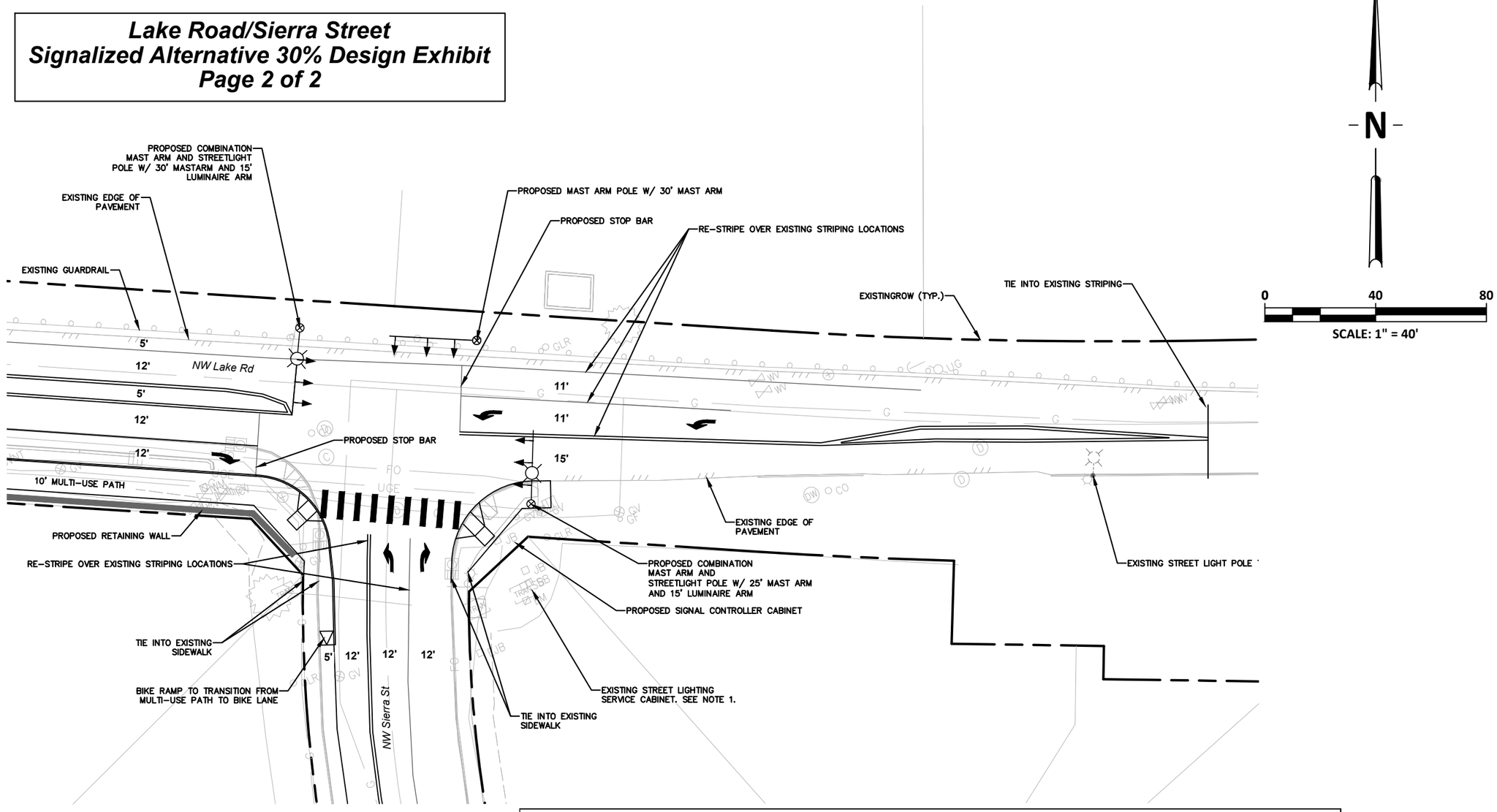
NOTES

1. NEW STREETLIGHT POLES SHALL BE SPACED APPROXIMATELY 180 FEET APART AND LOCATED AT PROPERTY LINES.

Roadway Light Level Targets

Roadway Segment	Target		Proposed	
	Avg Luminance (cd/m^2)	Uniformity (Avg/Min)	Avg Luminance (cd/m^2)	Uniformity (Avg/Min)
Lake Rd West of Sierra St	0.9	3	1.0	3

Lake Road/Sierra Street
Signalized Alternative 30% Design Exhibit
Page 2 of 2



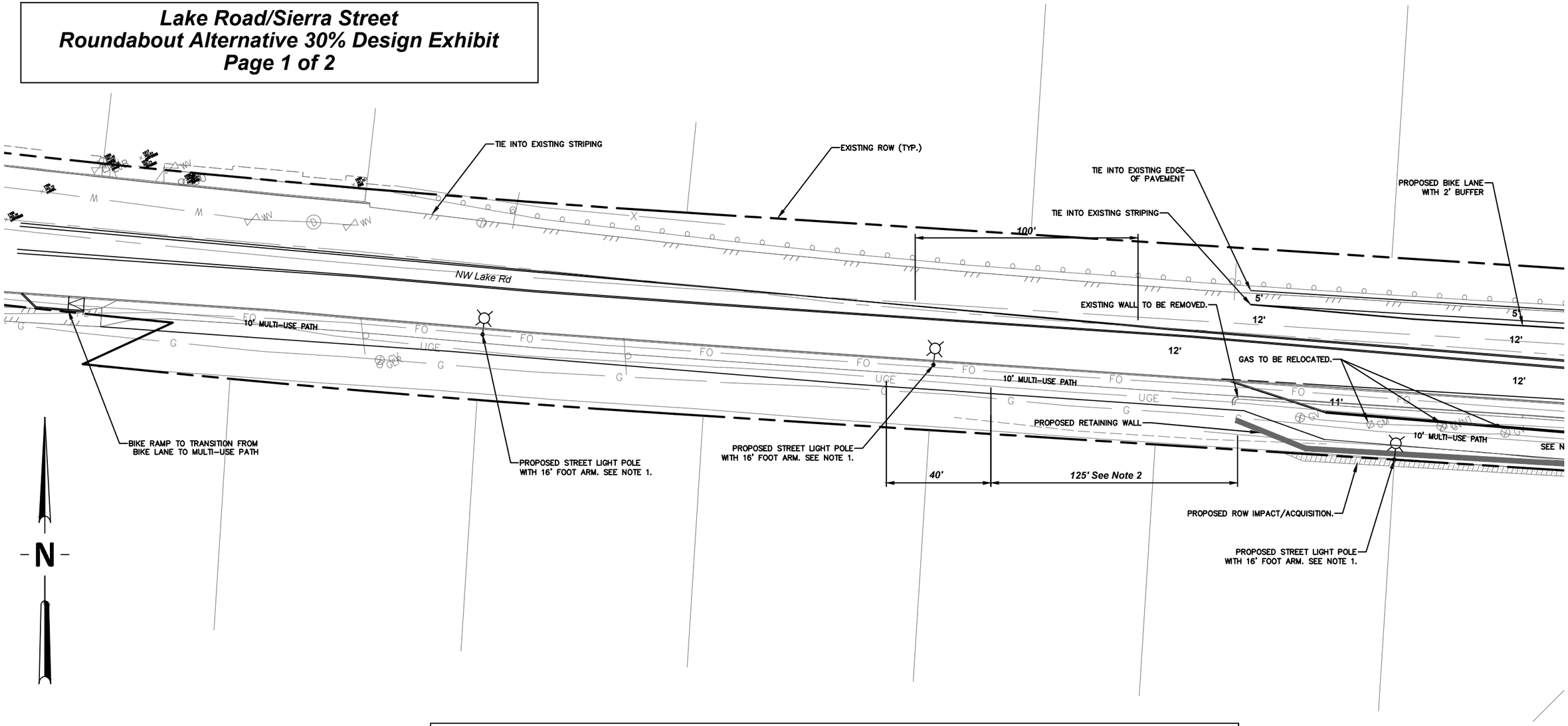
NOTES

1. ALL PROPOSED STREETLIGHTS WILL BE POWERED VIA EXISTING STREET LIGHTING SERVICE CABINET. ADDITIONAL INVESTIGATION WILL BE REQUIRED TO DETERMINE IF THIS IS POSSIBLE.

Intersection Light Level Targets (Signalized Alternative)

Intersection	Target		Proposed	
	Avg Illuminance (fc)	Uniformity (Avg/Min)	Avg Illuminance (fc)	Uniformity (Avg/Min)
Lake Rd/Sierra St	1.4	3	1.8	3

Lake Road/Sierra Street
Roundabout Alternative 30% Design Exhibit
Page 1 of 2



NOTES

1. NEW STREETLIGHT POLES SHALL BE SPACED APPROXIMATELY 180 FEET APART AND LOCATED AT PROPERTY LINES.
2. 125' TAPER CONTINUES TO NEXT SHEET.

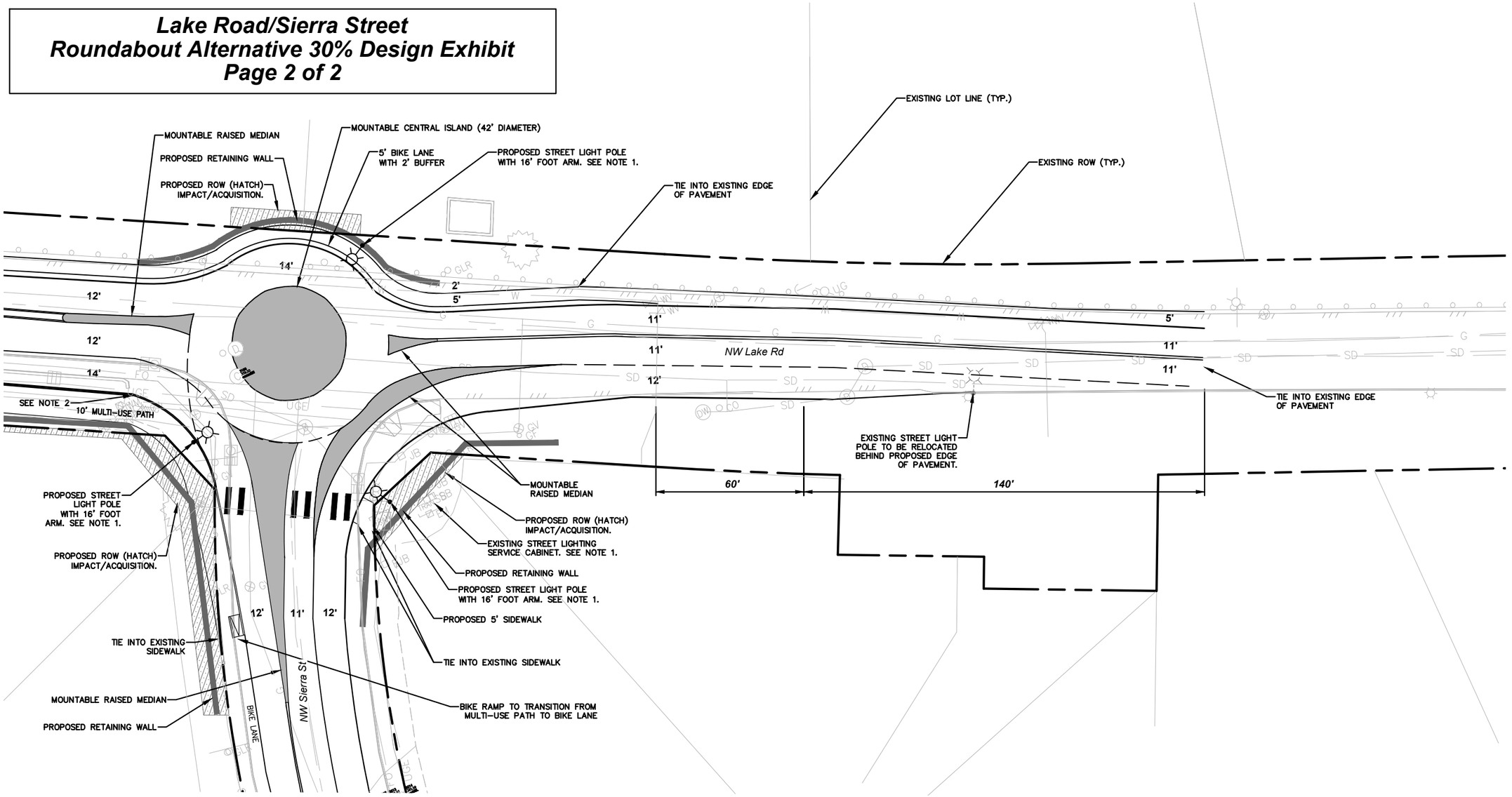
Roadway Light Level Targets

Roadway Segment	Target		Proposed	
	Avg Luminance (cd/m^2)	Uniformity (Avg/Min)	Avg Luminance (cd/m^2)	Uniformity (Avg/Min)
Lake Rd West of Sierra St	0.9	3	1.0	3

0 40 80

SCALE: 1" = 40'

Lake Road/Sierra Street
Roundabout Alternative 30% Design Exhibit
Page 2 of 2



NOTES

1. ALL PROPOSED STREETLIGHTS WILL BE POWERED VIA EXISTING STREET LIGHTING SERVICE CABINET. ADDITIONAL INVESTIGATION WILL BE REQUIRED TO DETERMINE IF THIS IS POSSIBLE.
2. END OF 125' TAPER.

0 40 80

SCALE: 1" = 40'

Intersection Light Level Targets (Roundabout Alternative)				
Intersection	Target		Proposed	
	Avg Illuminance (fc)	Uniformity (Avg/Min)	Avg Illuminance (fc)	Uniformity (Avg/Min)
Lake Rd/Sierra St	1.4	3	1.9	2

Appendix B

Conceptual Project Cost Estimates

MacKay Sposito

Vancouver Office

18405 SE Mill Plain Boulevard, Suite 100 Vancouver, WA 98683
360.695.3411 www.mackaysposito.com

NW Lake Road and NW Sierra Street Intersection Improvements

ROM Project Cost Estimates

10/30/2023

Roundabout Option

PROJECT COSTS					
Item #	**Description**	**Unit**	**Quantity**	**Unit Price ($)**	**Total ($)**
1	ROW acquisition	L.S.	1	$150,000	$150,000
2	Survey/Design/Permitting/Public Involvement	L.S.	1	$250,000	$250,000
3	Construction	L.S.	1	-	$1,650,000
	General Conditions	L.S.	1	$350,000	$350,000
	Road Improvements	L.S.	1	$700,000	$700,000
	Roundabout	L.S.	1	$200,000	$200,000
	Stormwater Treatment	L.S.	1	$140,000	$140,000
	Steep Slope Impacts/Retaining Walls	L.S.	1	$260,000	$260,000
4	Construction Management/Inspection	L.S.	1	$90,000	$90,000
				Sub Total	$2,140,000
				Contingency (30%)	$642,000
				Escalation (6%)	$333,840
				TOTAL	**$3,115,840**

Assumptions

1. Two years of escalation and an October 2024 construction bid date
2. Survey, design, permitting, and public involvement costs assumed at approximately 15% of construction
3. Construction management and inspection costs assumed at approximately 5% of construction
4. Right of way costs include ROW consultant services and easement and land purchase.
5. Assumes no federal or WSDOT funding for design or construction

Traffic Signal Option

PROJECT COSTS					
Item #	**Description**	**Unit**	**Quantity**	**Unit Price ($)**	**Total ($)**
1	TCE acquisition	L.S.	1	$20,000	$20,000
2	Survey/Design/Permitting/Public Involvement	L.S.	1	$150,000	$150,000
3	Construction				$995,000
	General Conditions	L.S.	1	$200,000	$200,000
	Road Improvements	L.S.	1	$305,000	$305,000
	Traffic Signal Equipment, Poles, Foundations	L.S.	1	$155,000	$155,000
	Vehicle Detection, Preemption	L.S.	1	$30,000	$30,000
	Conduit, Wiring, Trenches, Junction Boxes	L.S.	1	$110,000	$110,000
	Stormwater Treatment	L.S.	1	$50,000	$50,000
	Retain Wall	L.S.	1	$145,000	$145,000
4	Construction Management/Inspection	L.S.	1	$50,000	$50,000
				Sub Total	$1,215,000
				Contingency (30%)	$364,500
				Escalation (6%)	$94,770
				TOTAL	**$1,674,270**

Assumptions

1. One year of escalation and an October 2024 construction bid date
2. Survey, design, permitting, and public involvement costs assumed at approximately 15% of construction
3. Construction management and inspection costs assumed at approximately 5% of construction
4. Right of way costs include ROW consultant services and easement and land purchase.
5. Assumes no federal or WSDOT funding for design or construction

Appendix C

DKS Traffic Analysis Memo September 2023

DKS 1050 SW 6TH AVENUE, SUITE 600 • PORTLAND, OR 97204 • 503.243.3500 • DKSASSOCIATES.COM

TECHNICAL MEMORANDUM

DATE: September 22nd, 2023

TO: James E. Carothers, PE | City of Camas

FROM: Justin Sheets, PE, Alex Correa, EIT | DKS Associates

SUBJECT: NW Lake Road/NW Sierra Street Traffic Analysis Project #24032-000

The following memorandum documents the traffic analysis performed at the NW Lake Road/NW Sierra Street intersection in Camas, Washington. This memorandum summarizes the existing conditions of the transportation facilities near the study intersection, existing operational conditions of the study intersection, safety analysis at the study intersection, and evaluates year 2045 operational conditions under different intersection improvement scenarios.

EXISTING CONDITIONS

This section summarizes existing conditions of the NW Lake Road/NW Sierra Street study intersection, including discussion of existing transportation facilities, traffic data, safety analysis, and traffic operations.

EXISTING TRANSPORTATION FACILITIES

The study intersection is located at NW Lake Road and NW Sierra Street in Camas, Washington. NW Lake Road is an east-west arterial that runs from the western city limits to NE Everett Street. NW Sierra Street is a north-south collector that runs from NW Lake Road to NW 43rd Avenue. The study intersection is located near several key vehicle trip generators to the east, such as two parks (Heritage Park, Lacamas Park) and three schools (Camas High School, Woodburn Elementary School, and Camas Community Education).

Today, the NW Sierra Street corridor has two five-foot curb-tight sidewalks on each side of the street. NW Lake Road includes a five-foot sidewalk on the south side of the street, west of the study intersection. East of the study intersection, NW Lake Road does not include any pedestrian facilities. There is currently a westbound bike lane on NW Lake Road, but there are no bike facilities along the other approaches to the study intersection. However, NW Lake Road does include an eastbound bike lane located west of the study intersection that terminates east of the NW Lake Road/NW Leadbetter Drive intersection.

The study intersection currently operates as stop-controlled on the minor approach (NW Sierra Street) with two northbound approach lanes (northbound left, northbound right), one eastbound approach lane (eastbound through/right), and two westbound approach lanes (westbound through, westbound left). The NW Lake Road approaches have a posted speed of 35 miles per hour (mph) and the NW Sierra Street approach has a posted speed of 25 mph. There are no transit facilities at or nearby the study intersection.

TRAFFIC DATA

24-hour Average Daily Traffic (ADT) data was collected at the study intersection on June 6th, 2023 and June 7th 2023 while school was still in session. Turning Movement Counts (TMC) were also collected at the study intersection on the same day as the ADT counts were collected during the a.m. peak (7-9 a.m.) and p.m. peak (4-6 p.m.) hours. Table 1 below summarizes the ADT counts collected and Table 2 summarizes the highest vehicular volume hour of TMC counts collected. All raw count sheets are included in the Appendix.

TABLE 1: 2023 AVERAGE DAILY TRAFFIC COUNT SUMMARY (2-DAY AVERAGE)

ROADWAY	ADT (TWO-WAY)
LAKE ROAD	10,392
SIERRA STREET	5,258

TABLE 2: 2023 TURNING MOVEMENT COUNT SUMMARY

INTERSECTION	TURNING MOVEMENT COUNT					
	NBL	NBR	EBT	EBR	WBL	WBT
A.M. PEAK HOUR						
LAKE ROAD/SIERRA STREET	103	251	371	89	96	357
P.M. PEAK HOUR						
LAKE ROAD/SIERRA STREET	91	125	504	148	93	318

As seen in the TMC data, the a.m. peak hour generally has less traffic than the p.m. peak hour, except on the northbound approach, where a.m. northbound right turn volumes are twice that of the p.m. peak hour.

In addition to the ADT and TMC counts, speed data was obtained at the intersection on the same day that counts were collected. The 85th percentile and 50th percentile speeds near the intersection are summarized in Table 3.

TABLE 3: 2023 SPEED DATA SUMMARY

ROADWAY	POSTED SPEED (MPH)	85TH PERCENTILE SPEED (MPH)	50TH PERCENTILE SPEED (MPH)
LAKE ROAD (WEST OF SIERRA ST)	35	39	36
LAKE ROAD (EAST OF SIERRA ST)	35	39	34
SIERRA STREET	25	32	27

SAFETY ANALYSIS

Crash data was obtained for the last five years of crash data available (2018-2022). The crash data was sourced from the City of Camas Crash Data online repository[1]. The crash data is summarized in Table 4.

TABLE 4: CRASH DATA SUMMARY

INTERSECTION	FATAL	SERIOUS INJURY	MINOR INJURY	POSSIBLE INJURY	PROPERTY DAMAGE ONLY	TOTAL
LAKE ROAD/SIERRA ST	0	0	0	0	4	4

As shown in Table 4, four crashes occurred at the intersection in the last five years, none of which resulted in injury. All crashes had different listed contributing circumstances, and no crashes indicated involvement with a pedestrian or cyclist. One crash involved a motorist exceeding the speed limit, another involved a motorist making an improper turn/merge, one involved a motorist failing to grant the right of way to another vehicle, and the last involved a driver becoming distracted while driving.

[1] https://www.arcgis.com/apps/webappviewer/index.html?id=1f0770574b0b4a0b8749ca2e52713612

EXISTING TRAFFIC OPERATIONS

Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures to describe the operations of an intersection.

- **Level of Service (LOS):** A "report card" rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive, and demand has exceeded capacity.

- **Volume-to-capacity (v/c) ratio:** A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases, and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

The study intersection is under the jurisdiction of the City of Camas, which requires an operating standard of LOS D at arterial/collector intersections, such as the study intersection[2].

Existing traffic operations at the study intersection was determined for the a.m. and p.m. peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology.[3] The results were then compared with the City of Camas' minimum acceptable operating standards. Table 5 lists the estimated v/c ratio, delay, and LOS of the study intersection. HCM 6 worksheets are included in the appendix.

TABLE 5: EXISTING (2023) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR[A]			PM PEAK HOUR[A]		
		V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
LAKE ROAD/SIERRA STREET	LOS D	0.23/0.51	8.8/36.4	A/E	0.20/0.49	9.4/39.4	A/E

[A] Results shown for two way stop controlled intersection are shown as major approach results/minor approach results.

As shown, the existing operations for the minor approach at the study intersection does not meet the City of Camas' operating standards.

[2] https://www.cityofcamas.us/sites/default/files/fileattachments/public_works/page/9501/transportation_impact_study.pdf

[3] Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

FUTURE 2045 CONDITIONS

This section summarizes future conditions of the Lake Road/Sierra Street study intersection, including discussion of methods and assumptions used to discuss the planning scenarios used and traffic volumes forecasts, and a discussion about the operations and feasibility for each of the build options analyzed.

METHODS AND ASSUMPTIONS

The following section details the methods and assumptions utilized to develop conditions for the future scenarios analyzed.

DESIGN YEAR AND SCENARIOS

The design year for all future scenarios is 2045 - 20 years from the assumed year of opening. The following scenarios were analyzed as potential future options for intersection control at Lake Road/Sierra Street in the a.m. and p.m. peak hours.

1. No Build – This scenario maintains the current configuration of the study intersection, with a stop-controlled leg for the northbound movement and free flowing conditions on the east and west legs.
2. Signalization – This scenario would replace the current intersection control with a traffic signal at the study intersection and add an eastbound right turn lane with 200 feet of storage.
3. Roundabout – This scenario would replace the current intersection control with a single lane roundabout with an additional eastbound right turn lane and a northbound right turn slip lane.

VOLUME FORECAST

Year 2045 scenario analysis utilized volumes developed for the 2023 Camas Transportation System Plan (TSP) update as a baseline for the forecast. The 2023 Camas TSP update volume forecasts use the SWRTC regional model to assign traffic volumes to the transportation system and considered the diversion effects of financially constrained projects to be built in the city by the TSP planning horizon. For the 2023 Camas TSP update, 2040 p.m. peak hour volumes were forecast. To adjust these to 2045 for the p.m. peak, a 1% growth rate was assumed between 2040 and 2045.

A.m. peak volumes were developed using the following steps:

1. Determine the percentage growth rate for each turning movement at the study intersection during the p.m. peak between the 2023 p.m. peak volumes collected for this project and the 2040 forecast volumes from the Camas TSP update.
2. Apply this growth rate to the 2023 a.m. peak volumes collected for this project.
3. Adjust to 2045 using a 1% growth rate for the 5 years between 2040 and 2045.

The 2045 a.m. and p.m. peak hour volume forecasts are shown in Table 6.

TABLE 6: 2045 VOLUME FORECASTS

PEAK HOUR	TURN MOVEMENT VOLUMES					
	NBL	NBR	EBT	EBR	WBL	WBT
A.M. PEAK HOUR	170	540	685	175	190	455
P.M. PEAK HOUR	150	270	930	290	185	405

FUTURE SCENARIO OPERATIONS ANALYSIS

The following section details the operational results and geometric needs for each future scenario.

SCENARIO 1: NO BUILD

This scenario shows the operational results of the intersection if no mitigations were made at the intersection in the design year.

No Build traffic operations at the study intersection was determined for the a.m. and p.m. peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology.[4] The results were then compared with the City of Camas' minimum acceptable operating standards. Table 7 lists the estimated v/c ratio, delay, and LOS of the study intersection. HCM 6 worksheets are included in the appendix. Table 8 shows the 95th percentile queuing that would be present under these conditions. Queuing information is obtained by averaging queues for 10 runs of SimTraffic (11th edition).

TABLE 7: SCENARIO 1 (NO BUILD) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR[A]			PM PEAK HOUR[A]		
		V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
LAKE ROAD/SIERRA STREET	LOS D	0.29/2.83	11.8/>100	B/F	0.36/3.63	15.4/>100	C/F

[A] Results shown for two way stop controlled intersection are shown as major approach results/minor approach results.

[4] Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

TABLE 8: SCENARIO 1 (NO BUILD) QUEUING RESULTS

SCENARIO	NBL	NBR	EBT	EBR	WBL	WBT
STORAGE SPACE	175'	400'	1750'	1750'	125'	1780'
A.M. PEAK HOUR 95TH PERCENTILE QUEUE	**250'**	**>1000'**	50'	50'	100'	150'
P.M. PEAK HOUR 95TH PERCENTILE QUEUE	**250'**	**>1000'**	50'	50'	150'	1175'

BOLD AND RED indicate queue that exceeds storage.

As shown in Tables 7 and 8, under No Build conditions the operating standards would fail to be met, and the 95th percentile queues for the northbound right, northbound left, and westbound through movements are expected to surpass the amount of storage.

SCENARIO 2: SIGNALIZATION

This scenario shows the operational results of the intersection if the existing intersection control were replaced with a traffic signal in the design year.

Signal Warrant Analysis

A necessary pre-requisite to the consideration of this alternative is determining whether the study intersection would meet traffic signal warrants per the Manual for Uniform Traffic Control Devices (MUTCD)[5]. The signal warrants evaluated include Warrant 1: Eight-Hour Vehicular Volumes and Warrant 2: Four-Hour Vehicular Volumes. To determine if these warrants are met, the 24-hour ADT counts collected for this study were used to determine the vehicular traffic on both the major and minor roadway.

Warrant 1 is met if either/both conditions are satisfied from Table 4C-1 of the MUTCD for eight hours of vehicle volume. The geometry of the existing intersection indicates that the volume thresholds necessary for meeting Condition A of this warrant are 500 on the major approach (total of both approaches) and 150 on the minor approach (one direction only). The volumes thresholds for Condition B are 750 on the major approach (total of both approaches) and 75 for the minor approach. Table 9 below shows the number of hours in the day that these thresholds are met at the intersection.

[5] https://mutcd.fhwa.dot.gov/htm/2009/part4/part4c.htm

TABLE 9: WARRANT 1 RESULTS

WARRANT CONDITION	HOURS EXCEEDING VOLUME THRESHOLDS	HOURS REQUIRED TO MEET WARRANT
CONDITION A	9	8
CONDITION B	4	8

Warrant 2 is met if 4 hours of the vehicle volumes, when plotted on the graph presented in MUTCD Figure 4C-1, fall above the appropriate curve. Figure 1 shows the hourly volumes at the study intersection plotted on Figure 4C-1.

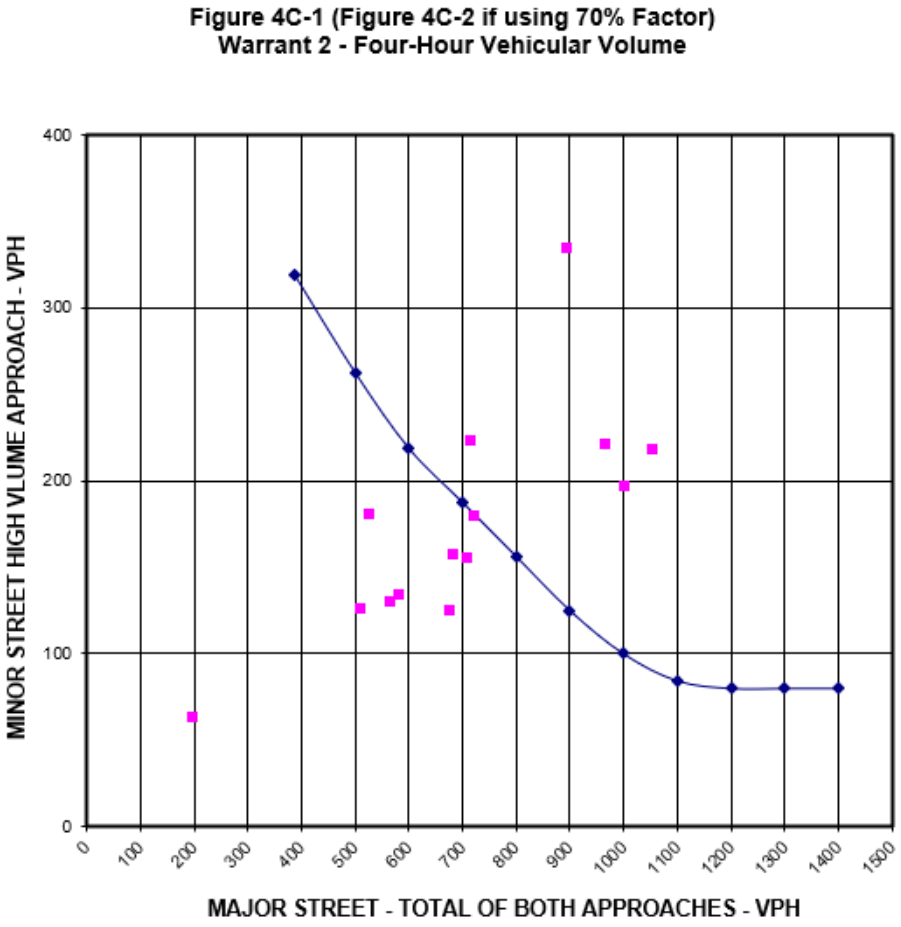


FIGURE 1: SIGNAL WARRANT 2 RESULTS

Utilizing MUTCD methodology for Signal Warrant Analysis, both Warrant 1 and Warrant 2 are met under existing conditions without reduction factors.

Geometric Requirements

Intersection operations analysis revealed necessary changes to the intersection geometry that would be necessary to see operations that meet mobility standards. Namely, it will be vital to widen the west leg of Lake Road to include a dedicated eastbound right turn lane approaching the new signalized intersection. This dedicated right turn lane is necessary because of the high volume of eastbound through movements present at the intersections, particularly in the p.m. peak.

Signalization Assumptions

The following signal timing assumptions were made for the operations analysis of the signalized intersection scenario:

- 100 second cycle length.
- Minimum recall on eastbound and westbound through movements.
- Protected-permissive phasing for westbound left movements.
- Protected with overlap phasing for northbound right movements.
- Right-turn-on-red is allowed.

Intersection Operations

Signalized traffic operations at the study intersection were determined for the a.m. and p.m. peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology. The results were then compared with the City of Camas' minimum acceptable operating standards. Table 11 lists the estimated v/c ratio, delay, and LOS of the study intersection. HCM 6 worksheets are included in the appendix. Table 12 shows the 95th percentile queuing that would be present under these conditions. Queuing information is obtained by averaging queues for 10 runs of SimTraffic (11th edition).

TABLE 10: SCENARIO 2 (SIGNALIZATION) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR[A]			PM PEAK HOUR[A]		
		V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
LAKE ROAD/SIERRA STREET	LOS D	0.93	20.5	C	0.73	12.3	B

TABLE 11: SCENARIO 2 (SIGNALIZATION) QUEUING RESULTS

SCENARIO	NBL	NBR	EBT	EBR	WBL	WBT
STORAGE SPACE	175′	400′	1750′	300′	125′	1780′
A.M. PEAK HOUR 95TH PERCENTILE QUEUE	**275′**	**550′**	800′	275′	**150′**	600′
P.M. PEAK HOUR 95TH PERCENTILE QUEUE	150′	225′	800′	300′	**150′**	350′

BOLD AND RED indicate queue that exceeds storage.

As shown in Tables 11, under signalized conditions the expectation is that operating standards would be met. Based on the results in Table 12, the new eastbound right turn lane must be at least 300 feet to meet queuing needs, and the northbound left turn lane needs to be extended to accommodate storage needs. Moreover, the westbound left turn lane should be extended by at least 25 feet to meet queuing needs and the northbound right turn lane 95th percentile a.m. peak hour queue will spill back past 45th Avenue.

SCENARIO 3: ROUNDABOUT

This scenario shows the operational results of the intersection if the existing intersection control were replaced with a roundabout in the planning horizon year.

Geometric Requirements

The geometric design requirements for a roundabout are a very important consideration any time a roundabout is being considered as an intersection control type. At the site of the study intersection, there is a significant grade drop that makes it challenging to widen to the north, and widening south of the intersection is also challenging due to utility conflicts and right of way constraints. In testing the type of roundabout that would meet operational needs in 2045, the first iteration was a single lane roundabout on all approaches. This approach was determined to fail in the p.m. peak because there is not enough capacity under these conditions to accommodate eastbound traffic (1.16 v/c ratio on west leg). Failure would also occur in the a.m. peak because there is not enough capacity to accommodate northbound traffic (1.56 v/c). The high level of eastbound through

movements do not provide enough gaps for northbound traffic, resulting in significant delays and queuing.

In order to meet mobility standards, additional lanes were added to the roundabout to alleviate the capacity constraints given the site characteristics and context of surrounding roadways. The final roundabout layout includes an additional eastbound right turn only lane, and an additional northbound right turn slip lane. Figure 2 below shows a snip from the Sidra model used for analysis of the final layout.

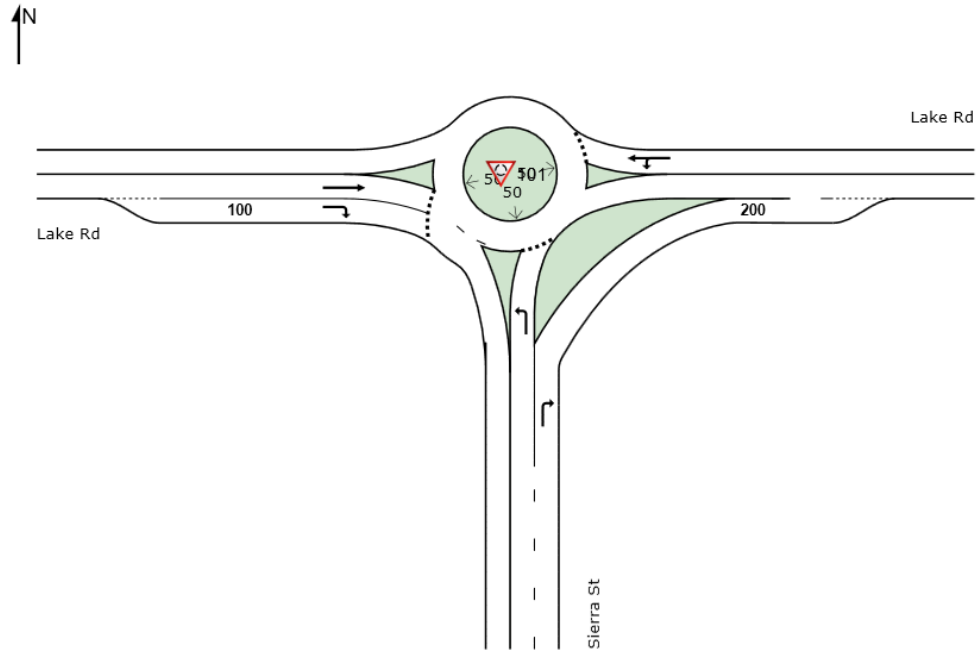


FIGURE 2: SCENARIO 3 ROUNDABOUT LAYOUT

Storage lengths shown for turn lanes in Figure 2 were used as placeholders and should be refined based on site conditions in the design phase. The northbound right turn slip lane shown is schematic, the radius of the median separating the slip lane from the roundabout is shown for illustrative purposes only. The specific geometrics will be determined in the conceptual design section of the alternatives analysis.

Intersection Operations

Roundabout traffic operations at the study intersection were determined for the a.m. and p.m. peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology. The results were then compared with the City of Camas' minimum acceptable operating standards. Table 13 lists the estimated v/c ratio, delay, and LOS of the study intersection. HCM 6 worksheets are included in the appendix. Table 14 shows the 95th percentile queuing that would be present under these conditions. Queuing information is obtained by using queues reported in the movement summary of Sidra 9th Edition Reports.

TABLE 12: SCENARIO 3 (ROUNDABOUT) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR[A]			PM PEAK HOUR[A]		
		V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
LAKE ROAD/SIERRA STREET	LOS D	0.78	11.9	B	0.83	13.0	B

TABLE 13: SCENARIO 3 (ROUNDABOUT) QUEUING RESULTS

SCENARIO	NBL	NBR	EBT	EBR	WBT/L
STORAGE SPACE	175'	400'	1750'	50'	1780'
A.M. PEAK HOUR 95TH PERCENTILE QUEUE	30'	0'	425'	20'	200'
P.M. PEAK HOUR 95TH PERCENTILE QUEUE	30'	0'	650'	50'	100'

BOLD AND RED indicate queue that exceeds storage.

As shown in Table 11, operating standards would be met under the proposed roundabout design. Based on the results in Table 12, the new eastbound right turn lane must be at least 50 feet to meet queuing needs but should be built out to the maximum length feasible to benefit operations in the p.m. peak.

CONCLUSIONS

Overall, based on intersection operational analyses alone, both Build Scenario 2 and Build Scenario 3 would be able to accommodate the projected traffic in 2045 at the NW Lake Road/NW Sierra Street intersection under the assumed geometric layouts. However, while both options operate in 2045 with relatively low delays, especially compared with the No Build, each option presents challenges under the future volume projections.

Due to the high amount of northbound right turning traffic, this movement is expected to have queuing in the a.m. peak hour that will spillback through the NW 45th Avenue intersection under a traffic signal configuration. For the roundabout alternative, a northbound right turn slip lane is critical for intersection operations. However, given the geometric constraints and existing roadway width east of the intersection along NW Lake Road, this option has additional physical challenges and is more expensive financially.

Lastly, it is worth noting that this report is meant to summarize the results of the traffic operational performance of the proposed scenarios. Further detailed alternatives analysis between Build Scenario 2 and Build Scenario 3 is needed to determine the appropriate intersection treatment.