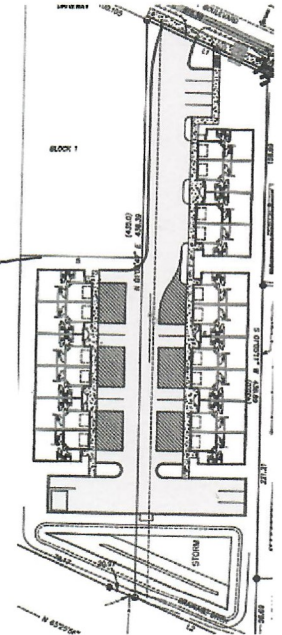


Chehalis

2061 JACKSON MULTIFAMILY TRANSPORTATION MEMORANDUM

December 27, 2023



Jake Traffic Engineering, Inc.

Mark J. Jacobs, PE (OR and WA), PTOE, President
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President

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December 27, 2023

RB ENGINEERING
Attn: Chris Aldrich, RLA
91 SW 13th Street
Chehalis, WA 98532

Re: 2061 Jackson Multifamily – Chehalis
Transportation Memorandum

Dear Mr. Aldrich,

I am pleased to provide this Transportation Memorandum for the proposed project located at 2061 Jackson Highway to replace an existing SFDU with 16 multifamily units. Access to the site would be relocating to the northwest and upgrading an existing driveway on Jackson Hwy. to current standards.

This Transportation Memorandum documents the delta Traffic Generation of the proposed redevelopment. In addition, I have inspected the existing site. Below is an aerial view of the site obtained from Lewis County GIS:

2061 Jackson Multifamily - Chehalis



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Attn: Chris Aldrich, RLA
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The site comprises parcel #005604183030 and the southern half of parcel # 005604183029. Parcel #005604183030 lot contains a SFDU that is to be removed to make way for the subject redevelopment project. The existing SFDU on the northern portion of lot #005604183029 is to remain and is not a part of the proposed project.

Attached to this letter is a Preliminary Site Plan prepared by RB Engineering I received on 12.14.2023. The plan depicts the new 16 multifamily dwelling units, the proposed new lot line, 35 parking stalls including 16 garage stalls, site circulation and access on Jackson Highway via relocating and reconstructing the existing driveway to current City standards.

Site Traffic Generation

Definitions

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the proposed development.

Traffic generated by development projects consists of the following types:

Pass-By Trips:	Trips made as intermediate stops on the way from an origin to a primary trip destination.
Diverted Link Trips:	Trips attracted from the traffic volume on a roadway within the vicinity of the generator, but which require a diversion from that roadway to another roadway in order to gain access to the site.
Captured Trips:	Site trips shared by more than one land use in a multi-use development.
Primary (New) Trips:	Trips made for the specific purpose of using the services of the project.

Trip Generation

The future residents of the proposed 2061 Jackson Multifamily redevelopment project are projected to generate the vehicular trips during the average weekday, street traffic AM and PM peak hours as shown in Table 1. The trip generation for the project is calculated using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, for Multi-Family Housing (ITE LUC 220) and Single Family Detached Housing for the existing use (ITE LUC 210). All site trips made by all vehicles for all purposes, including commuter, visitor, and service and delivery vehicle trips are included in the trip generation values.

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TABLE 1 - VEHICULAR TRIP GENERATION 2061 JACKSON MULTIFAMILY - CHEHALIS TRANSPORTATION MEMORANDUM										
Time Period	Size (X)	TG Rate	Enter%	Enter Trips	Exit%	Exit Trips	Total (T)	Pass-by %*	Pass-by Trips	Net Total
Proposed: Multi-Family Housing (Low-Rise) - General Urban/Suburban (ITE LUC 220; 16-units)										
Weekday	16	6.74	50%	54	50%	54	108	-	-	-
AM peak hour	16	0.4	24%	2	76%	5	6	-	-	-
PM peak hour	16	0.51	63%	5	37%	3	8	-	-	-
Existing: Single-Family Detached Housing - General Urban/Suburban (ITE LUC 210; 1 - existing unit)										
Weekday	(1)	9.43	50%	(5)	50%	(5)	(9)	-	-	-
AM peak hour	(1)	0.7	26%	(0)	74%	(1)	(1)	-	-	-
PM peak hour	(1)	0.94	63%	(1)	37%	(0)	(1)	-	-	-
Delta Site Traffic: Proposed - Existing										
Weekday	-	-	-	49	-	49	98	-	-	-
AM peak hour	-	-	-	1	-	4	6	-	-	-
PM peak hour	-	-	-	5	-	3	7	-	-	-

Where X = number of units or sf and T = Trips; parenthesis (xx) denote negative values
 * - Pass-by rates per ITE, local Agency data and JTE, Inc. Traffic Engineering Experience, residential trips are typically considered new thus for analysis no pass-by to account for service/delivery type trips is taken.
 Trip rates per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
 Note: Due to rounding some values may not add up

This project would generate about seven net new PM peak hour trips.

Site Access Inspection

Sight Lines:

The existing site driveway will be relocated northwest and reconstructed to current City standards. Below are Google Street View photographs at the access on Jackson Highway looking to the Northwest and Southeast, respectively.



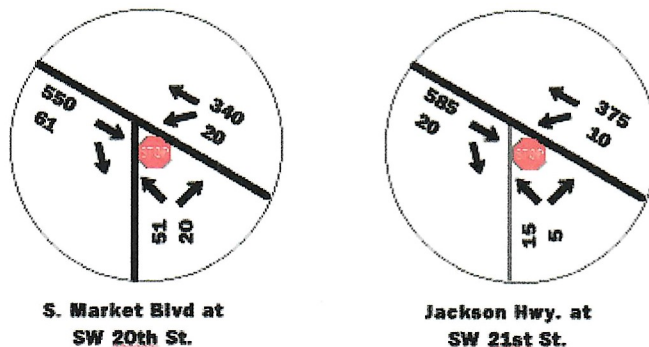
RB ENGINEERING
 Attn: Chris Aldrich, RLA
 December 27, 2023
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Per the Google Street View good sight lines exist in both directions, presuming no cars parked on the street encroach into the sight triangle.

Operational Inspection:

Jake Traffic Engineering Inc. conducted Jackson Park Phase III – Transportation and Parking Impact Analysis – Revised dated 11.18.2022. This report conducted a detailed traffic study in the site vicinity including the City street intersections to the northwest and southeast of the site. Below are the projected 2030 PM peak hour traffic volumes at these intersections:



The overall traffic operations of the above intersections are LOS 'A' with the stop-controlled approaches at LOS 'C' that meets the City's operational standard. The traffic volumes turning into and out of the 2061 Jackson Multifamily project are less and thus via Traffic Engineering Inspection would operate acceptably, per City operating criteria.

RB ENGINEERING
Attn: Chris Aldrich, RLA
December 27, 2023
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The Jackson Park Phase III – Transportation and Parking Impact Analysis – Revised also inspected safety and access channelization needs. No apparent safety issue was noted and no auxiliary channelization was needed. I've attached the pertinent pages from the 11.18.2022 report in the Appendix of this memorandum.

Chehalis Traffic Impact Analysis Guidelines

The City of Chehalis Municipal Code Section **12.04.330.B** notes when a TIA would be required:

B. When Required.

1. The need for a TIA will be based on the size of the proposed development, existing street and intersection conditions, traffic volumes, accident history, community concerns, and other pertinent factors associated with the proposed project.

2. A TIA will be required if a proposed development meets two or more of the following conditions:

a. The proposed project generates more than 10 vehicles in the peak direction of the peak hour on the adjacent streets and intersections. This includes the summation of all turning movements that affect the peak direction of traffic.

b. The proposed project generates more than 25 percent of the site-generated peak hour traffic through a signalized intersection or "critical" movement at a non-signalized intersection.

c. The proposed project is within an existing or proposed transportation benefit area. This may include transportation benefit districts (TBD), local improvement districts (LID), or local/state transportation improvement areas programmed for development reimbursements.

d. The proposed project may potentially affect the implementation of the street system outlined in the transportation element of the comprehensive plan, the six-year transportation improvement program, or any other documented transportation project.

e. If the original TIA was prepared more than two years before the proposed project completion date.

f. The increase in traffic volume as measured by ADT, peak hour, or peak hour of the "critical" movement is more than 10 percent.

3. Even if it is determined that a TIA is not required, the director of public works or designated consultant may require the developer to have a trip generation study (TGS) conducted. TGS's will be used to forecast project-generated traffic for an established future horizon.

Per my review of the above TIA conditions only item 2.c, I understand that the City as a whole is considered a LID, is met. The other conditions are not met; in particular the proposed redevelopment is projected to generate seven PM peak hour trips that are less than the 10 PM peak in the peak direction on the adjacent street hour trips threshold.

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Attn: Chris Aldrich, RLA
December 27, 2023
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Agency Traffic Impact Mitigation

The applicant will be required to construct the project in conformance to City requirements.

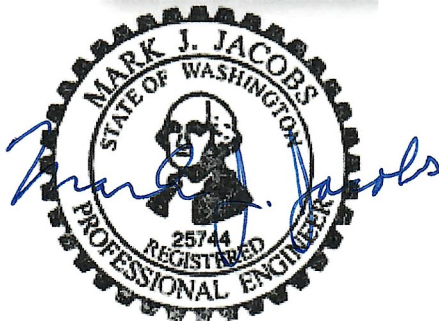
Summary

This Transportation Memorandum documents the delta Traffic Generation of the proposed redevelopment project. In addition, I inspected the existing site access and discussed the City's Traffic Impact Guidelines. Good sight lines exist at the site access driveway and the projected addition of seven PM peak hour trips are below the City's threshold requiring a full TIA be conducted.

Based on my analysis I recommend that 2061 Jackson Multifamily project be allowed with the following traffic impact mitigation measure.

- Construct the site in accordance with applicable City requirements.

Please contact me at 206.762.1978 or email me at jaketraffic@comcast.net if you have any questions.



Sincerely,

Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC

12.27.2023

MJJ: mjj

DRIVEWAY

ASPHALT DRIVEWAY 100.105

SOUTH MARKET BOULEVARD
S 65°41'09" E 815.86

BLOCK 1

(435.0)
N 01°02'23" E 435.89

(435.0)
N 01°00'41" E 436.39

S 01°05'11" W 436.89
(0.524)

221.21

EDGE OF ASPHALT PARKING

317.42

N 89°31'26"

STORM

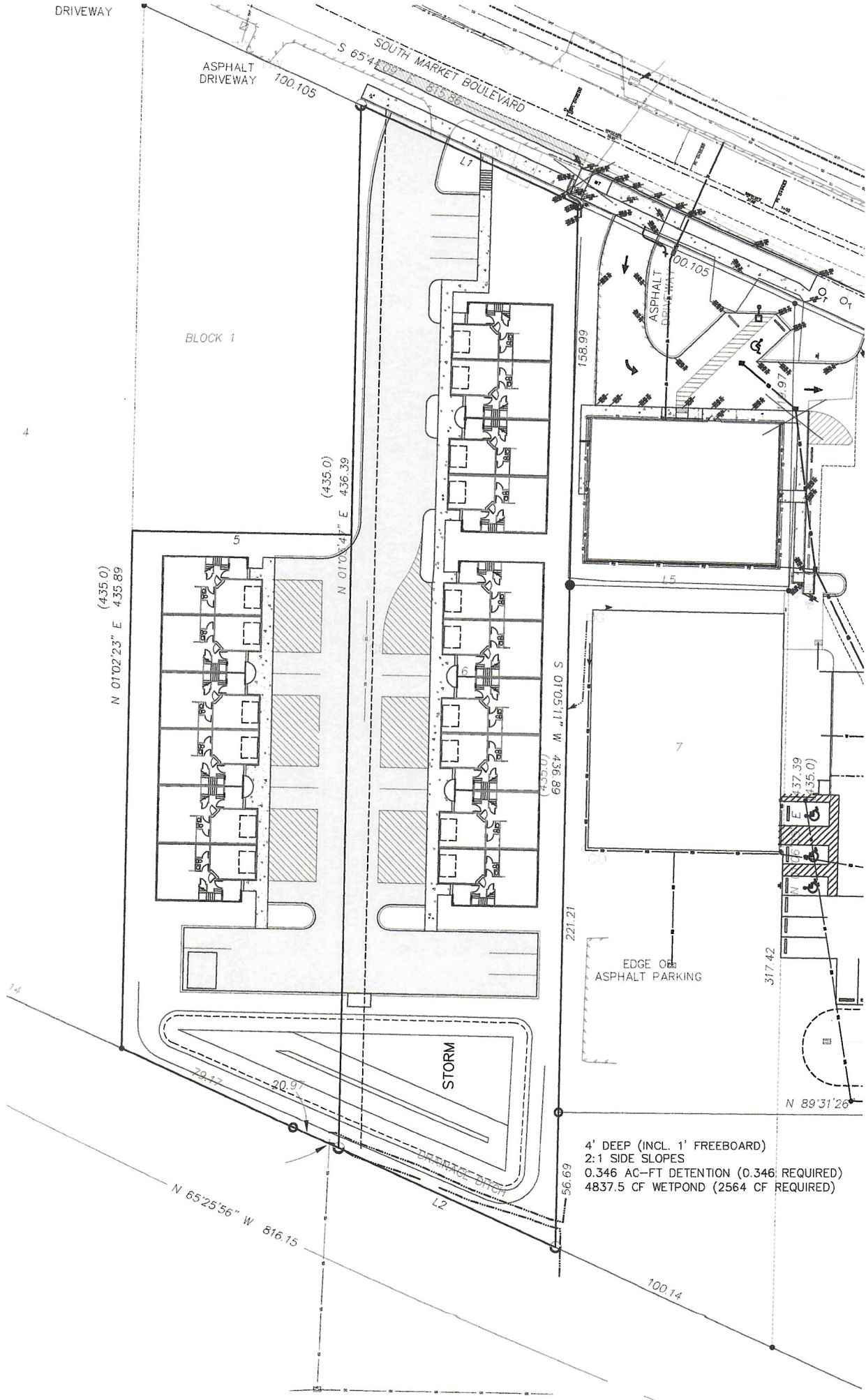
N 65°25'56" W 816.15

4' DEEP (INCL. 1' FREEBOARD)
2:1 SIDE SLOPES
0.346 AC-FT DETENTION (0.346 REQUIRED)
4837.5 CF WETPOND (2564 CF REQUIRED)

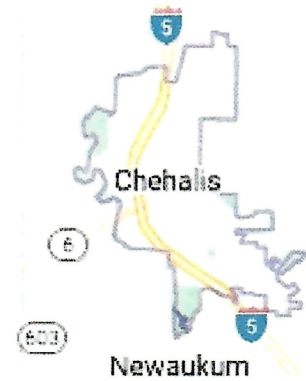
100.14

74

4



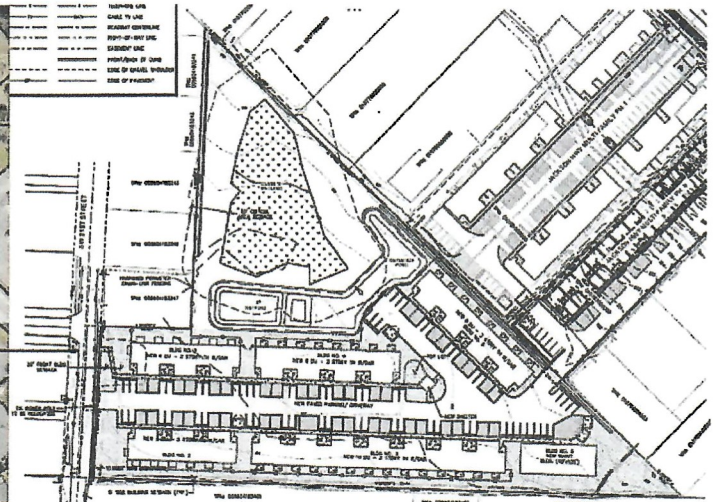
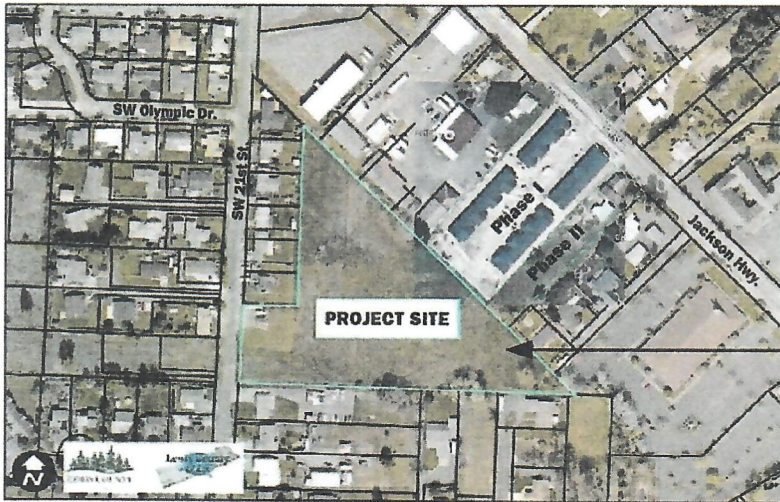
APPENDIX



Chehalis

JACKSON PARK PHASE III TRANSPORTATION AND PARKING IMPACT ANALYSIS - REVISED

November 18, 2022



Jake Traffic Engineering, Inc.

Mark J. Jacobs, PE (OR and WA), PTOE, President

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K & W PROPERTIES, LLC
 Attn: Stephanie Werner
 November 18, 2022
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Intersection Type	Level of Service					
	A	B	C	D	E	F
Signalized	<10	>10 and <20	>20 and <35	>35 and <55	>55 and <80	>80
Stop Control	<10	>10 and <15	>15 and <25	>25 and <35	>35 and <50	>50

LOS Analysis Software

The LOS of the study intersections were calculated using the Synchro software program (v11). Table 1R, at the end of report prior to Figure, shows the existing LOS operations of the study intersections.

LOS Criteria

The City of Chehalis Municipal Code Section **12.04.330** subsection J.1 below identifies the City’s operational standard at LOS C.

J. Mitigation.

1. The TIA will include a proposed mitigation plan. The mitigation may be either the construction of necessary transportation improvements or contributions to the city for the proposed project’s fair share cost of identified future transportation improvements, as identified in the city’s comprehensive plan. Levels of service “E” and “F” will be used as the threshold for determining appropriate mitigating measures on roadways and intersections in the study area. Mitigating measures will be required to the extent that the transportation facilities operate at a LOS “C” (LOS-C) condition or better upon completion of the development.

Incident/Safety History

Incident data was reviewed using the WSDOT accident data portal available online at <https://remoteapps.wsdot.wa.gov/highwaysafety/collision/data/portal/public/>. This portal was used to review incidents in the site vicinity for the years 2017 to 2021. The WSDOT data is attached.

Inspection of the five years of recorded incidents near the site:

- SW 21st St. from S. Market Blvd-Jackson Hwy to SW Salsbury St. Ave. none recorded
- SW 20th St. from S. Market Blvd to SW Salsbury St. Ave. none recorded
- SW Salsbury St: SW 20th St. to Jackson Hwy no recorded incidents

K & W PROPERTIES, LLC
Attn: Stephanie Werner
November 18, 2022
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- S. Market Blvd.-Jackson Hwy. from just NW of SW 20th St. to just SE of Salsbury Ave. 15 incidents (10-fender benders, three-possible injury and two-suspected minor injury) in 5 years with no apparent pattern.

Summarizing - Safety inspection of the study intersections and street corridors near the site did not reveal any apparent safety issue.

INFRASTRUCTURE IMPROVEMENT PROJECTS

City of Chehalis

I have reviewed the City of Chehalis Six Year Transportation Improvement Program 2022 to 2027 for transportation projects near the site, copy attached. One project of note near the site is the City TIP includes a project on S. Market Blvd. from SW 13th St. to the south City limit to reconstruct the street and provide pedestrian improvements. The planned start year is 2025.

Other: as iterated earlier in this report I understand the City has applied for a grant funding for safe-walking-routes on several street segments in the site vicinity.

Lewis County

Lewis County's draft Six Year Transportation Improvement Program 2022 to 2027 available on-line 03.15.2022 was inspected for transportation projects near the site. No County road improvements are noted near the site.

HORIZON YEAR CONDITIONS "WITHOUT" THE PROJECT

Figure 5R shows the projected 2030 PM peak hour traffic volumes "without" the project. These volumes include the existing traffic volume counts plus background growth. JTE, Inc. conducted a traffic report in Lewis County in 2015 near the site that included a Turning Movement Count at the SW Salsbury Ave. at Jackson Highway intersection. The recorded entering traffic at the intersection in 2015 was 575 versus the 588 noted in the 2022 count, little changed. However to ensure a conservative analysis I have applied a 2% per year growth rate. This growth rate is also consistent with the WSDOT data noted below for SR - 5 in Lewis County.

Highway traffic

Highway traffic volume
Data from 36 locations statewide

2%

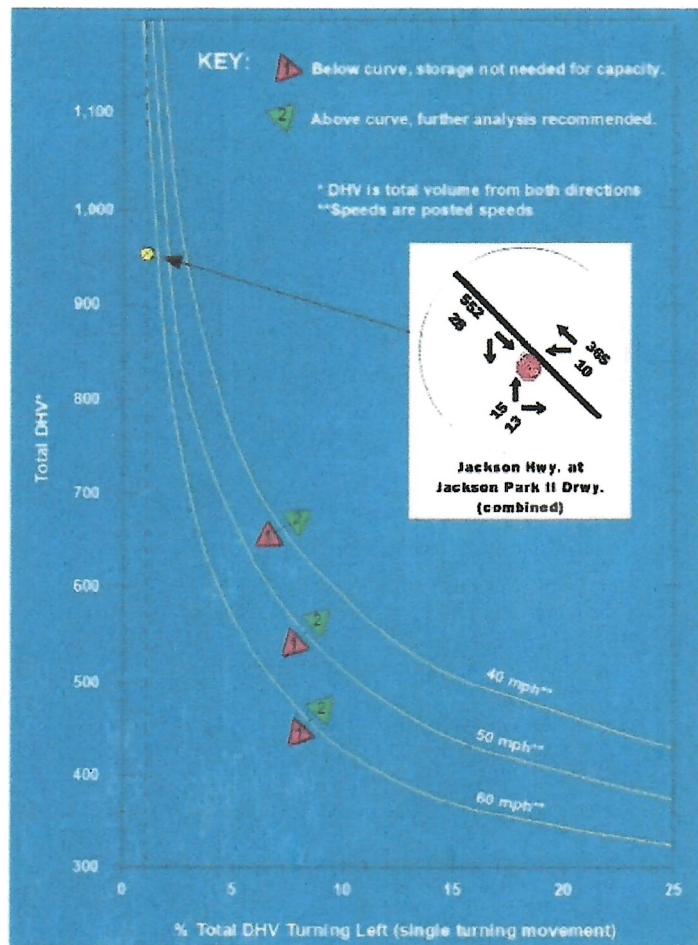
County	Highway
Lewis	I-5

Wed 09/28/22
compared to
Wed 10/04/17

K & W PROPERTIES, LLC
 Attn: Stephanie Werner
 November 18, 2022
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Access Channelization

I have reviewed channelization at the Jackson Park II at Jackson Highway intersection for the 2030 with project conditions using the WSDOT Design Manual Exhibit 1310-7a "Left Turn Storage Guidelines: 2-Lane Unsignalized" to ascertain the need for left turn channelization. A copy of the WSDOT figure is below:



The traffic volumes are well below the threshold for storage. Further, the intersection is projected to operate at a very good LOS "with" the project.

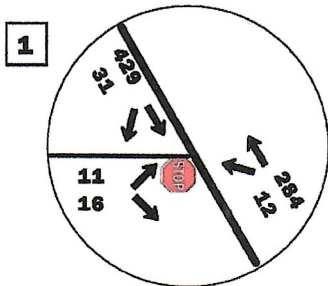
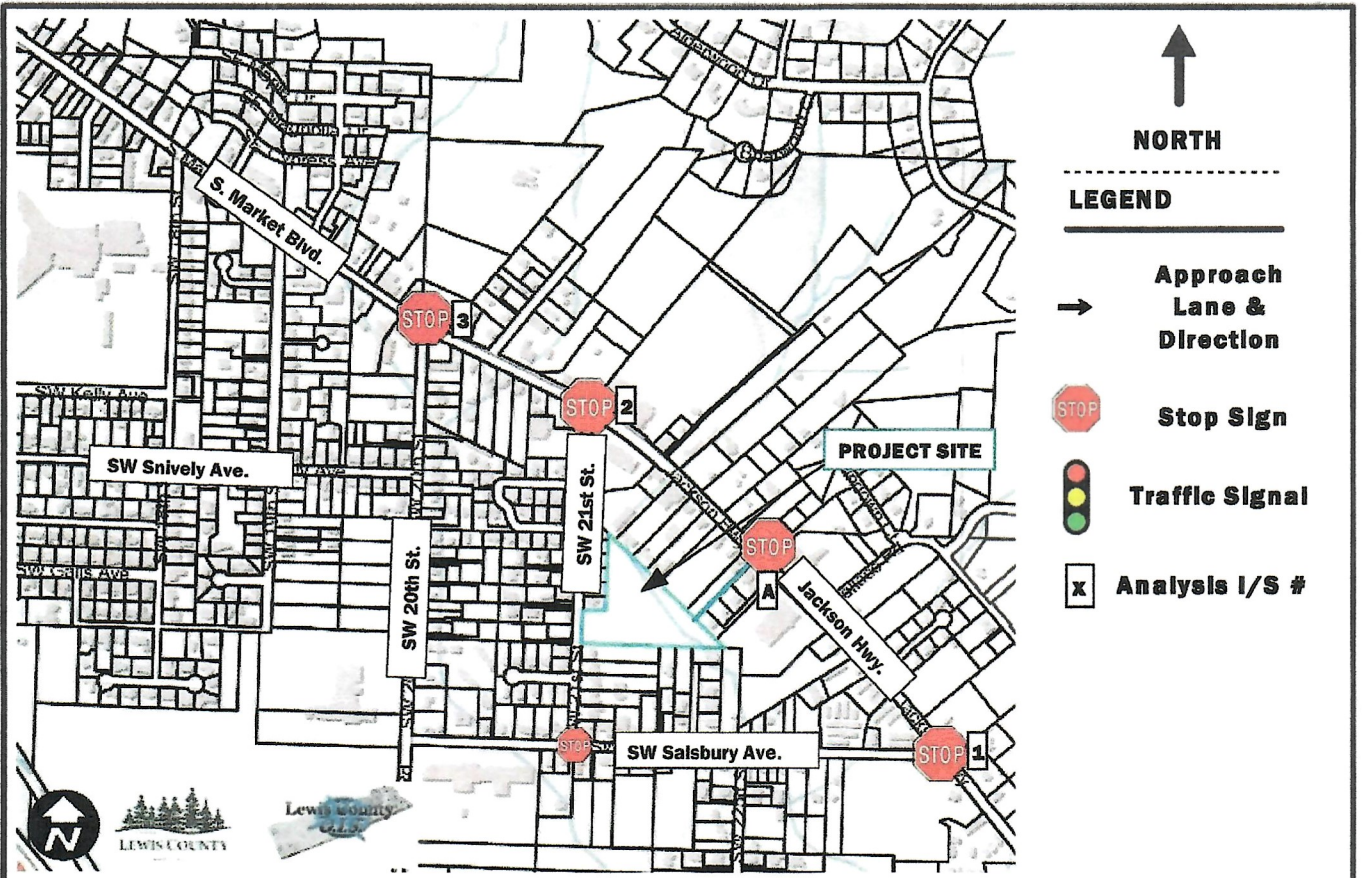
PARKING ANALYSIS

The project includes 105 parking stalls that correlate into 2.50 stall unit. Chehalis Municipal Code parking requirement per Chapter **17.84 PARKING AND LOADING** identifies for use code R121 Apartments that two parking stalls per unit be provided. The proposed project provides the City code required parking.

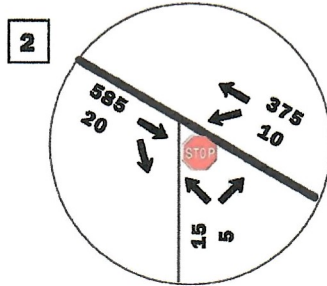
**TABLE 1R - PM PEAK HOUR LEVEL OF SERVICE
JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS - REVISED**

INTERSECTION	APPROACH	2022 EXISTING	2030 W/O PROJECT	2030 W/ PROJECT
1. SW Salsbury Ave. at Jackson Hwy	Overall EB	A (0.6) B (11.8)	A (0.6) B (13.3)	A (0.6) B (13.5)
2. SW 21st St. at S. Market Blvd.-Jackson Hwy	Overall NB	A (0.4) C (15.0)	A (0.4) C (18.7)	A (0.5) C (19.4)
3. SW 20th St. at S. Market Blvd.	Overall NB	A (1.7) C (21.8)	A (1.7) C (21.8)	A (1.7) C (22.3)
A. Site Access at Jackson Highway	Overall EB	A (0.3) B (13.7)	A (0.4) C (16.2)	A (0.6) B (17.2)

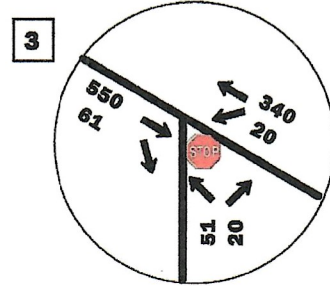
Number shown in parenthesis is the average control delay in seconds per vehicle for the intersection as a whole or approach movement, which determines the LOS per the Highway Capacity Manual.



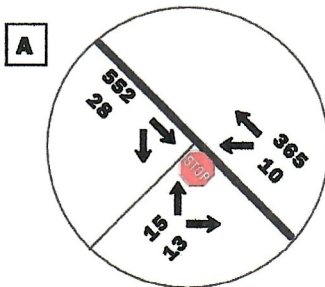
1
Jackson Hwy. at SW Salsbury Ave.



2
Jackson Hwy. at SW 21st St.



3
S. Market Blvd at SW 20th St.



A
Jackson Hwy. at Jackson Park II Drwy. (combined)

JTE, Inc.
FIGURE 7R

Reprint in Color Only

**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS - REVISED
PROJECTED 2030 PM PEAK HOUR TRAFFIC VOLUMES
WITH THE PROJECT**