



## MEMORANDUM

DATE: January 7, 2022

TO: Randy Boehm | Urban Resources, Inc.  
Thomas Eldridge | Community Development Partners

FROM: Scott Mansur, P.E., PTOE | DKS Associates  
Jenna Bogert, P.E. | DKS Associates

SUBJECT: Salem Gateway Housing Development



P#21030-001

This memorandum documents the trip generation estimates for the proposed affordable housing development located at 5205 Battle Creek Road in Salem, Oregon. The proposed land use consists of a mix of senior and family affordable housing, totaling 184 units.

The purpose of this memorandum is to estimate the weekday and AM and PM peak hour trip generation for the site's proposed land use. The memorandum will also contain a site plan review which evaluates the site accesses, internal circulation, bicycle and pedestrian needs, and parking.

### VEHICLE TRIP GENERATION

Trip generation is the method used to estimate the number of vehicles added to site driveways and the adjacent roadway network by a development during a specified period (e.g., the PM peak hour). Table 1 shows the estimated vehicle trip generation for affordable senior and family housing from the Institute of Transportation Engineers *Trip Generation Manual*, 11th Edition.<sup>1</sup> Using the ITE trip rates, the proposed development is estimated to generate a total of 58 AM peak hour trips, 67 PM peak hour trips, and 706 weekday trips.

<sup>1</sup> Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

**TABLE 1: VEHICLE TRIP GENERATION**

LAND USE	SIZE	AM PEAK HOUR	PM PEAK HOUR	WEEKDAY
Affordable Housing – Income Limit (223)	138 Units	50 trips	63 trips	664 trips
Affordable Housing – Senior (223)	46 units	8 trips	4 trips	42 trips <sup>a</sup>
<b>TOTAL</b>	<b>184 units</b>	<b>58 trips</b>	<b>67 trips</b>	<b>706 trips</b>

<sup>a</sup> Weekday trips for Affordable Housing - Senior (223) is based on the ratio of weekday trips to PM peak hour trips for Affordable Housing – Income Limit (223).

Based on City of Salem code, any development that generates 1,000 or more daily vehicle trips onto a collector, minor arterial, major arterial, or parkway shall provide a traffic impact analysis.<sup>2</sup> As shown, the total number of weekday trips are estimated to be less than 1,000 vehicle trips per day on the adjacent street, Battle Creek Road (minor arterial); therefore, a transportation impact study will not be required.

## SITE PLAN EVALUATION

This section reviews the proposed site plan including site accesses, internal circulation, bicycle and pedestrian needs, and parking. The project applicant has provided a preliminary site plan which is provided in the attachments. The site plan shows 8 multifamily apartment buildings containing a total of 138 affordable family housing units and two senior living building containing 46 affordable senior housing units. The site plan also shows a community center that will be for resident-use only.

## SITE ACCESS

The site plan shows a new local street driveway on Battle Creek Road, aligned opposite the existing Foxhaven Drive local street. Based on preliminary sight distance evaluation, there is sufficient sight distance at the proposed site access.

The site will also be accessed by an extension of Salal Street to the south and an extension of Teal Drive to the west. These connections shown on the site plan are consistent with the desired local street network, safe, and will improve the site’s accessibility for pedestrians and bicyclists.

It should be noted that the City’s vision clearance standards shall be met at all proposed street intersections per City Code<sup>3</sup>. Prior to occupancy, sight distance at any existing or proposed access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

<sup>2</sup> Title X, Chapter 803, Section 015 -Traffic Impact Analysis, Salem Revised Code, Revised August 23, 2021.

<sup>3</sup> Title X, Chapter 805, Section 005 – Vision Clearance Areas, Salem Revised Code, Revised August 23, 2021.

## FRONTAGE IMPROVEMENTS

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Battle Creek Road fronting the proposed project site is classified by the City of Salem as a Minor Arterial.<sup>4</sup> Minor Arterial cross-section standards are identified in the City's Transportation System Plan<sup>5</sup> and include sidewalk with planter strips, bike lanes, two travel lanes with left turn pockets or raised medians where appropriate, and a minimum of 72 feet of right-of-way.

Through conversations with City staff, the proposed half-street improvements on Battle Creek Road will include a new multi-use path to preserve existing white oak trees along the street. Because the multi-use path will accommodate both pedestrians and bicyclists, no on-street bike lanes will be provided. Curb ramps will be provided that will transition on-street bicyclists on and off the multi-use path for a smooth riding experience. The developer will also be providing half-street improvements on the west side of Battle Creek Road for a center lane/median along the project site frontage.

## INTERNAL CIRCULATION

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The site plan for the proposed affordable housing development shows an internal public street that is accessed via the proposed site driveway on Battle Creek Road opposite Foxhaven Drive. The internal public street width varies between 24 feet to 34 feet, which is sufficient for safe and efficient two-way traffic flow as well as can accommodate on-street parallel parking on one side of the street where the width totals 34 feet. The internal public street will need to meet the City's local street design standards, which includes two travel lanes, sidewalks, and planter strips. On-street parking is permitted on local streets.

Access to the parking lot, housing buildings, and community building is provided via the internal public street at two internal driveway locations. There is no stated requirement for spacing for driveways on local streets in the Salem Revised Code.

Based on the site plan, the internal roadway network appears to provide adequate turning radii at all vehicle access points to allow for safe vehicle circulation.

## BICYCLE AND PEDESTRIAN FACILITIES

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As discussed previously, a new multi-use path will be provided along the west side of Battle Creek Road. Sidewalks are shown along both sides of the proposed public internal street and on-site, connecting the proposed parking lot to all buildings. Based on the site plan, there is adequate bicycle and pedestrian facilities proposed, therefore, no additional bicycle and pedestrian facilities are recommended.

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<sup>4</sup> City of Salem Classification Map: <https://www.cityofsalem.net/Pages/street-classification-system-map.aspx>

<sup>5</sup> Figure 3-1, City of Salem Transportation System Plan, Amended January 13, 2020.

## PARKING

The proposed affordable housing development is required to comply with the City of Salem Code for the number of vehicular parking stalls and bicycle parking spaces that are provided on site.<sup>6</sup> Table 2 lists the vehicular and bicycle parking requirements for the proposed development. The required stall counts are based on the type and number of bedrooms in the dwelling unit. Below are the City Code required vehicle and bicycle parking rates.

- Vehicle Parking:
  - 1 stall per studio or 1 bedroom
  - 1.5 stalls per 2 or more bedrooms
  - 1 stall per 4 dwelling units for low income senior (elderly) housing
- Bicycle Parking: greater of 4 bicycle parking spaces or 0.1 spaces per dwelling unit

The minimum number of vehicle parking spaces per dwelling unit may be reduced by 25% for dwelling units that meet the City's criteria for affordable housing.

**TABLE 2: VEHICULAR AND BICYCLE PARKING SUMMARY**

LAND USE	BEDROOM SIZE (UNIT TYPE)	UNIT QUANTITY	VEHICLE STALL MINIMUM	VEHICLE STALL MINIMUM (25% REDUCTION)	BICYCLE STALL MINIMUM
Multifamily	1 Bedroom (Senior)	40	10	7	4
	2 bedrooms (Senior)	6	2	2	1
	1 Bedroom (Family)	0	0	0	0
	2 Bedroom (Family)	84	126	94	8
	3 Bedroom (Family)	54	81	61	5
<b>TOTAL</b>		<b>184</b>	<b>219</b>	<b>164</b>	<b>18</b>

As shown in the table above, a minimum of 164 vehicular stalls are needed to meet the minimum City Code requirements (given the 25% reduction for affordable housing). Because the site plan shows a total of 167 vehicle parking stalls, the proposed site meets the City Code requirements.

The table above also indicates that 18 new bicycle parking spaces are needed to meet the minimum City Code requirements. At minimum, 18 bicycle parking spaces will need to be provided on-site and should be located near the building entrances in order to provide convenient access.

<sup>6</sup> Title X, Chapter 806, Section 015 – Amount of Off-Street Parking, Salem Revised Code, Revised August 23, 2021.  
Title X, Chapter 806, Section 055 – Amount of Bicycle Parking, Salem Revised Code, Revised August 23, 2021.



## SUMMARY

Key findings of the trip generation memo are as follows:

- The current proposed land use is estimated to generate 706 daily weekday trips, 58 AM peak hour trips, and 67 PM peak hour trips. Because the site will generate fewer than 1,000 vehicle trips, no traffic impact study is required per City of Salem Code.
- All street intersections shall meet the City's vision clearance standards.
- Prior to occupancy, sight distance at any existing or proposed access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.
- The proposed internal public local street will need to meet the City's local street design standards, which includes two travel lanes, sidewalks, and planter strips. On-street parking is permitted on local streets.
- The street design plans shows a multi-use path along the project frontage as well as half-street improvements for a center lane/median (where appropriate) on Battle Creek Road along the project site frontage.
- Based on the site plan, the internal roadway network and pedestrian and bicycle facilities appear to be adequate for safe on-site circulation.
- The site plan shows a total of 167 vehicle parking stalls, which meets the City Code requirements.
- At a minimum, 18 bicycle parking spaces will need to be provided and should be located near the building entrances in order to provide convenient access.

### **Attachments:**

- Site Plan
- Battle Creek Road Plans



NOT FOR  
CONSTRUCTION

CDP SALEM  
SITE

Job Number: 21031

PARCEL 2 & PARCEL 3,  
BATTLECREAK RD SE  
SALEM, OR 97306



PLACE

735 NW 18TH AVE  
PORTLAND, OR 97209  
(503) 334 2080

LAND USE 01.11.22

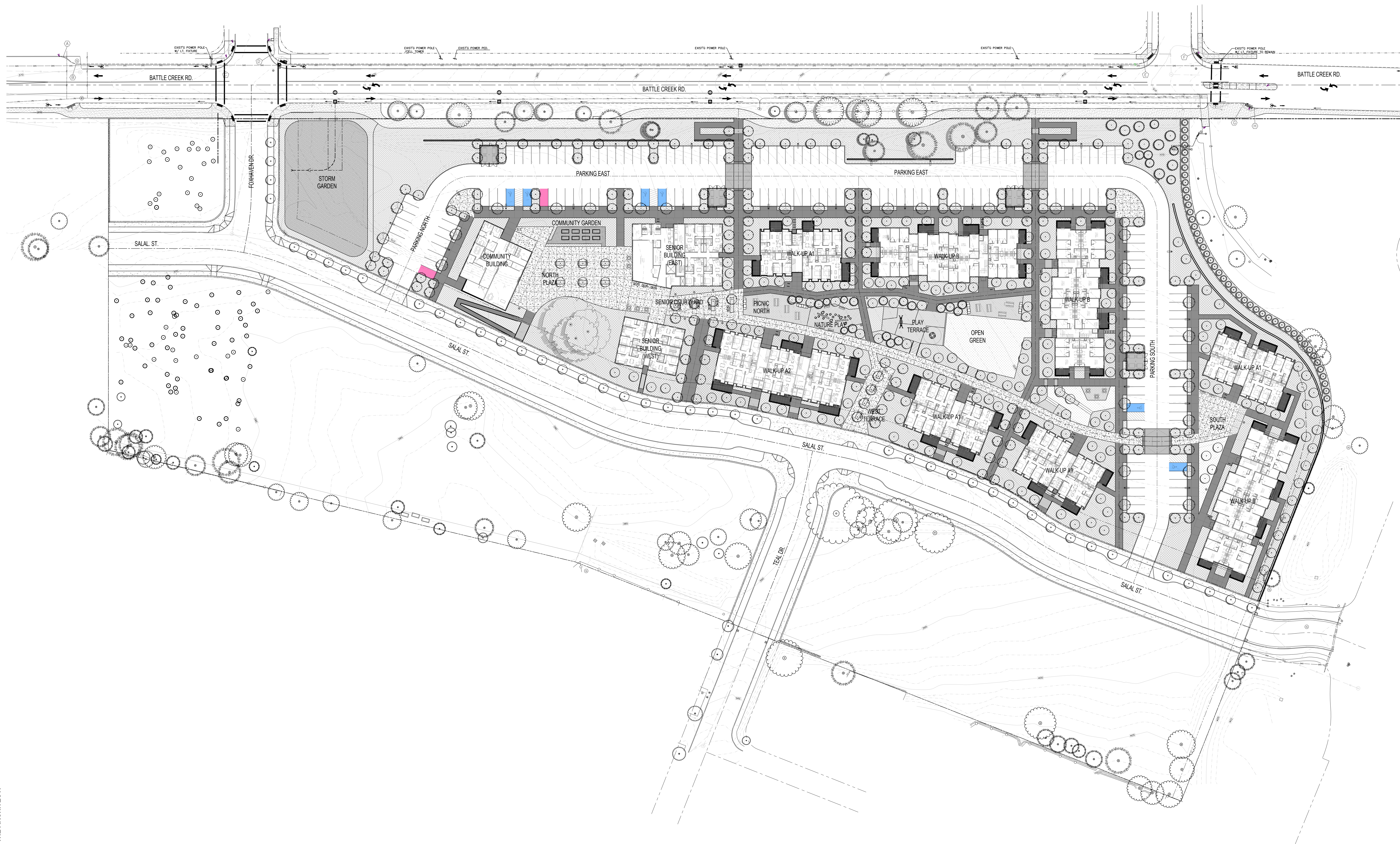
ISSUE DATE

Drawing:

OVERALL SITE PLAN

Sheet No:

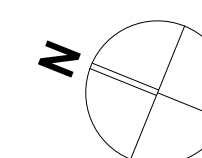
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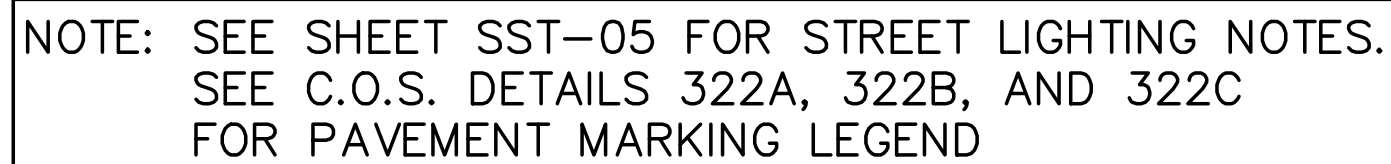
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STANDARD	159
A.D.A.	6
LOADING	2
TOTAL	167 (164 REQUIRED)

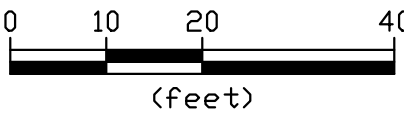
SCALE: 1" = 40'







NOTE: ALL NEW STRIPING NORTH OF FOXHAVEN DR. SHALL  
BE PAINTING PER COS STANDARDS.



MATCH LINE STA. 13+00  
SEE SHT. SST-2 FOR CONTINUATION



**WE**

**WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

41 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302  
Phone: (503) 585-2474 Fax: (503) 585-3986  
E-mail: [westech@westech-eng.com](mailto:westech@westech-eng.com)

BATTLE CREEK ROAD IMPROVEMENTS

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BATTLE CREEK ROAD  
SIGNING, STRIPING & LIGHTING

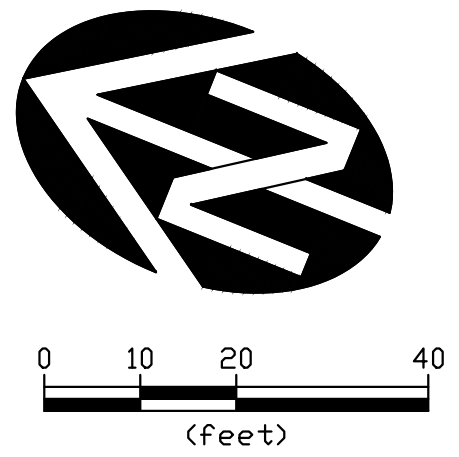
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JOB NUMBER

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RENEWALS: 6/30/2022



**REVIEW**

REVIEW: 6/30/2022

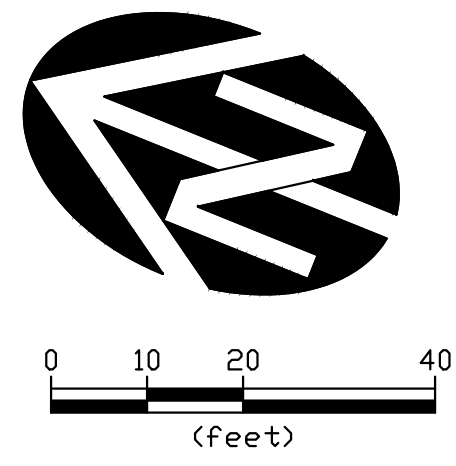
**WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97303  
Phone: (503) 585-2474 Fax: (503) 585-3966  
E-mail: [westech@westech-eng.com](mailto:westech@westech-eng.com)

CDP – GATEWAY  
BATTLE CREEK ROAD IMPROVEMENTS  
BATTLE CREEK ROAD  
SIGNING, STRIPING & LIGHTING

DRAWING  
SST-2

JOB NUMBER  
2152.1112.1



**WE** **WESTECH ENGINEERING, INC.**  
CONSULTING ENGINEERS AND PLANNERS

341 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97301  
Phone: (503) 585-2474 Fax: (503) 585-3986  
E-mail: [westech@westech-eng.com](mailto:westech@westech-eng.com)

CDP – GATEWAY  
BATTLE CREEK ROAD IMPROVEMENTS  
BATTLE CREEK ROAD  
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DRAWING  
SST-3  
JOB NUMBER  
2152.1112.1