

CITY OF CORVALLIS
LAND DEVELOPMENT HEARINGS BOARD AGENDA

5:30 pm, Wednesday, November 16, 2016
Downtown Fire Station, 400 NW Harrison Blvd., 2nd Floor

- I. Community Comments
Opportunity for public input on matters of interest to the Land Development Hearings Board.

- II. New Business
 - a. Selection of Land Development Hearings Board chair

- III. Public Hearing

Pacific Fruit Properties Zone Change (ZDC16-00004)

Location: 960 SW Washington Ave

- IV. Adjournment

If you need special assistance to participate in this meeting, please call [enter contact # here] (for TTY services, dial 7-1-1). Notification at least two business days prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting. (In compliance with the Americans with Disabilities Act, 28 CFR 35.102-35.104 ADA Title I and ORS 192.630(5)).

Proposed Tentative Public Meeting Schedule for 2016

CC = City Council (for agendas or questions about meetings, call 541.766.6901)

For questions about listed cases or about the following Boards or Commissions, call 541-766-6908

PC Planning Commission (usually meets first and third Wednesdays at 7 p.m.)

LDHB Land Development Hearings Board (meets as needed)

DAB Downtown Advisory Board (meets second Wednesday at 5:30 pm in the Madison Avenue Meeting Room)

HRC Historic Resources Commission (meets second Tuesday at 6:30 p.m.) - *Meetings are now held at the Fire Station Meeting Room. On occasion, an additional meeting may be held on the 4th Tuesday of the month, usually in the Madison Avenue Meeting Room.*

THE OFFICIAL ORDER OF BUSINESS FOR EACH MEETING WILL BE DETERMINED BY THE AGENDA. CC AGENDAS ARE DISTRIBUTED THE THURSDAY BEFORE A CITY COUNCIL MEETING; AGENDAS FOR OTHER MEETINGS (PC, LDHB, CCI, HRC) ARE USUALLY DISTRIBUTED ONE WEEK BEFORE EACH MEETING.

Meeting	Date	Description	Location
PC, 7 pm	Nov. 16	Regular Meeting including LDC Code Review	*Fire Station
CC, 6:30 pm	Nov. 21	Regular Meeting	*Fire Station
LDHB, 5:30 pm	Dec. 7	Deliberations for Pacific Fruit Properties Zone Change (if necessary)	*Fire Station
PC, 7pm	Dec. 7	Regular Meeting including LDC Code Review	*Fire Station
HRC, 6:30 pm	Dec. 13	Regular Meeting	*Fire Station
DAB, 5:30 pm	Dec. 14	Regular Meeting	**MAMR
PC, 7pm	Dec. 21	Regular Meeting including LDC Code Review	*Fire Station

- * Fire Station, 400 NW Harrison Boulevard, second floor meeting room
- ** Madison Meeting Room, 500 SW Madison Avenue
- *** Library Main Meeting Room, 645 NW Monroe Avenue, main level
- **** LaSells Stewart Ctr. 875 SW 26th Street, Corvallis
- ***** Majestic Theater, 115 SW 2nd Street
- tbd To be decided

The City's website is located at www.corvallisoregon.gov.
For additional information about upcoming land use decisions please visit www.corvallisoregon.gov/cd-staffreports.



CASE	PACIFIC FRUIT PROPERTIES (ZDC16-00004)
TOPIC	REVIEW OF A ZONE CHANGE
APPLICANT	Pacific Fruit Properties, LLC PO Box 1442 Corvallis, OR 97339
OWNER	GD Corvallis, LLC 7 Jackson Walkway Providence, RI 02903
REQUEST	Approval for a Zone Change from General Industrial (GI) to Mixed Use Employment (MUE).
SITE LOCATION	The 0.56 acre subject site is located on the south side of SW Washington Ave between the terminus of SW 9th and 10th Streets. The site is identified on Benton County Assessor's Map 12-5-02BB as Tax Lot 7100.
SITE AREA	0.56 acres
COMPREHENSIVE PLAN DESIGNATION	GI (General Industrial)
EXISTING ZONE DESIGNATION	GI (General Industrial)
PUBLIC COMMENT	A pre-notification of this hearing was sent to all neighborhood associations, concerned citizens, and groups on record on October 26, 2016. On October 26, 2016, public notices were mailed or emailed, and the public notice sign was posted on the site. Written testimony received as of noon on November 8, 2016 is included as Exhibit LDHB-B .

EXHIBITS

- **Exhibit LDHB-A** – Application Materials *
 - Application Form
 - Application Narrative
 - Attachment A – Public Notice Map
 - Attachment B – Existing Comprehensive Plan Designations
 - Attachment C – Existing Zoning Designations
 - Attachment D – Existing Land Uses
 - Attachment E – Significant Natural Features
 - Attachment F – Existing Utilities
 - Attachment G – Utility Capacity Study
 - Attachment H – Traffic Impact Analysis
- **Exhibit LDHB-B** – Application Form, revised November 8, 2016 **
- **Exhibit LDHB-C** – Written Public Testimony received as of noon on November 8, 2016
- **Exhibit LDHB-D** – Proposed deed restriction recognizing the industrial character and underlying industrial land use designation
- **Exhibit LDHB-E** – Proposed deed restriction limiting future vehicle trip generation from the site
- **Exhibit LDHB-F** – Comment letter from ODOT Rail and Public Transit Division (dated August 2, 2016)

* The physical copy of **Exhibit LDHB-A** is under separate cover

** The property ownership changed since the application was originally submitted. The revised application included as **Exhibit LDHB-B** reflects the current ownership status.

Vicinity Map

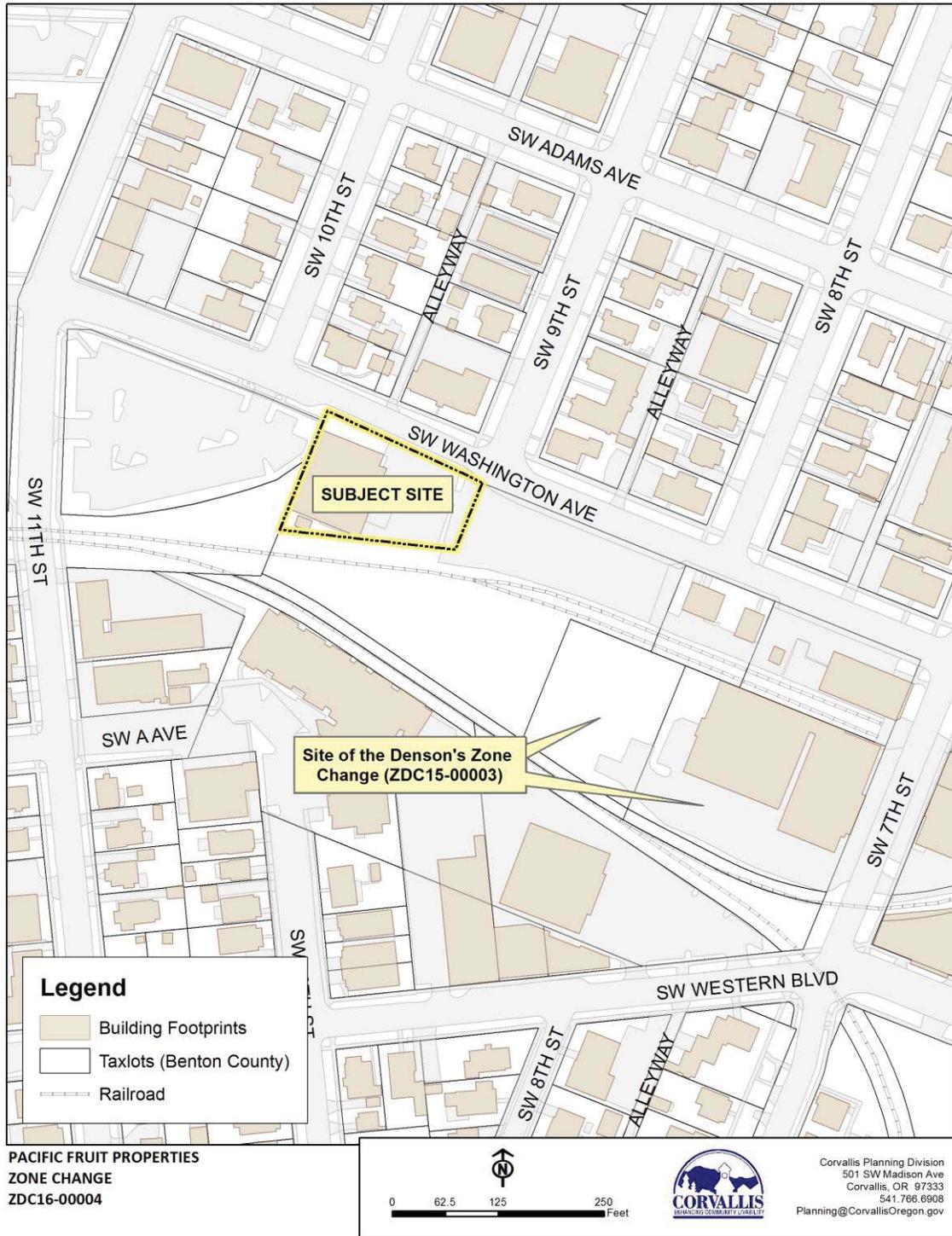


Figure 1 – Vicinity Map for Pacific Fruit Properties Zone Change

SITE AND VICINITY

The 0.56-acre subject site is identified as Tax Lot 7100 on Benton County Assessor's Map 12-5-02BB. It has frontage on SW Washington Avenue between SW 9th and 10th Streets. The western half of the property contains a high bay single story metal building, while the eastern half is a gravel parking lot. The applicant states that the building is approximately 8,000 square feet in size and is currently used by a business that specializes in high tech machining.

The Comprehensive Plan designation on the subject property is General Industrial (GI) (see **Exhibit LDHB-A-35**). The 1.94-acre parcel abutting the subject site to the east and south has the same General Industrial Comprehensive Plan Designation, and is zoned MUE. That property is largely undeveloped, with the exception of a private rail spur off the Toledo branch of the Willamette & Pacific Railroad.

The abutting property to the west is a surface parking lot owned and operated by Oregon State University. It is zoned OSU and has a Comprehensive Plan Designation of Public Institutional.

Adjacent properties to the north, across SW Washington Avenue, have a Residential Medium-High Density Comprehensive Plan Designation, and are zoned RS-12. The structure directly across the street (440 SW 9th Street) is used as a place of worship, while most other nearby properties north of SW Washington Avenue contain single- or multi-family residential uses.

APPLICANT'S PROPOSAL

The applicant is requesting approval for a Zone Change from General Industrial (GI) to Mixed Use Employment (MUE). The requested Zone Change would allow the introduction of some commercial and residential uses, along with industrial uses, into an area designated as General Industrial on the Comprehensive Plan. The Zone Change application was received on July 26, 2016.

Staff notes that on November 3, 2016, the Planning Division received applications for a Minor Replat and a Plan Compatibility Review ("PCR") for a site comprising approximately four acres, including the subject site, the site of the Denson's Zone Change (ZDC15-00003, which converted 1.83 acres from GI to MUE), and the large MUE-zoned parcel in between. The Minor Replat (MRP16-00007) would combine several lots, resulting in a single large development parcel. The PCR (PCR16-00006) would allow the square footage of non-industrial uses of the combined site to exceed the square footage of industrial uses. The PCR application states:

"The applicant proposes developing a mixed use project on the property which will consist of over 41,000 square feet of industrial use floor space, a multi-dwelling structure of approximately 248 living units which will exceed the floor area allocated to industrial use, approximately 2,740 square feet of retail space within the multi-dwelling structure, and the project includes structured parking to meet LDC vehicle and bicycle parking requirement."

In the respective application narratives, the applicants state that these applications are made under the assumption that the present Zone Change will be approved. Staff has until December 2, 2016 to evaluate those applications for completeness and notify the applicants of any outstanding issues. Once the applications are deemed complete, public notice will be issued to all owners and residents within 100 feet of the site in question. Following the 14-day public comment period, the Community Development Director (or designee) will approve, approve with conditions, or deny the applications.

PREVIOUS LAND USE DECISIONS

According to City records, the development site is subject to the following previous land use actions:

- **1891** – Site was annexed as part of the 7th to 15th Street Annexation.
- **1996** – The Willamette Valley & Coast Railroad Yard subdivision plat (S-96-1) was approved and subsequently recorded. This seven lot subdivision plat comprised most of the land bound by SW Washington Avenue, SW 7th Street, and SW 10th Street. Lot 7 of that plat included a small portion of the subject site.
- **1999** – Modification of the western boundary of Lot 7 of the Willamette Valley & Coast Railroad Yard plat, establishing the current configuration of the subject site (LLA99-00010).

MUE ZONE STANDARDS (LDC CHAPTER 3.27)

Section 3.27.20 - GENERAL PROVISIONS - Establishment of the MUE Zone

The MUE Zone shall be applied to properties with industrial designations on the Comprehensive Plan Map or to lands designated through a quasi-judicial or legislative process. When the Zone is applied to parcels via the quasi-judicial Zone Change process, the proposal shall meet the Zone Change criteria of Section 2.2.40 in Chapter 2.2 – Zone Changes, and the following criteria for MUE Zone location, dimensions, and size.

a. Locational Criteria –

The following locational criteria shall be applied to Zone Changes, in conjunction with Chapter 2.2 - Zone Changes.

- 1. The MUE Zone shall be located in areas with lot sizes of generally less than 20 acres; AND EITHER**
- 2. All portions of the MUE Zone shall be located within .25 mile of existing or planned transit service;**
- OR**
- 3. The MUE Zone shall be located in areas determined through the Planned Development process in Chapter 2.5 - Planned Development to be necessary to provide mixed use opportunities and services to adjacent areas.**

Staff Discussion and Conclusion

The subject site is less than 20 acres in size (0.56 acres) and is entirely within ¼ mile of four transit routes (CTS Routes 3, 6 and 8, as well as the Philomath Connector route), satisfying subsections “1” and “2” above.

b. Zone Size and Dimensions

1. The Zone shall have a minimum size of .50 block or one acre. It may be composed of smaller parcels when the total area of the Zone is equal to or greater than one acre. Public street rights-of-way shall not count toward the total area of a Zone.
2. A Planned Development zoning Overlay shall be applied to MUE Zones that exceed five acres or involve multiple parcels. If all parcels within the Zone are not concurrently developed, the Planned Development review in Chapter 2.5 - Planned Development shall focus on the developing parcel and ensure that the proposed development does not preclude development of the adjacent parcels within the mixed use area.
3. The Zone shall have a minimum of 50 ft. of frontage onto an existing or planned public street.

Although the subject site less than one acre, it is contiguous with approximately 3.7 acres of existing MUE. The larger MUE zone would be comprised of multiple parcels totaling approximately 4.3 acres in size. Subsection “1” above is therefore satisfied.

Staff interprets subsection “2” above to apply to specific site plan proposals rather than more general Zone Change applications. This is because it would not be reasonable to require a property owner to initiate a Planned Development overlay on adjacent MUE-zoned property that may be already developed and/or under different ownership. If the subject site were to ultimately become part of a larger development proposal under MUE zoning, as appears to be the current intent of the property’s owners (see the earlier description of the applicant’s proposal), the entire development site would be subject to subsection “2,” and would require a Nonresidential Planned Development Overlay or lot consolidation at that time (**Development Related Concern A**). Indeed, on November 3, 2016 the Planning Division received an application for a Minor Replat (MRP16-00007) that would combine the subject site with several other lots.

The subject site’s frontage of approximately 200 feet along SW Washington Avenue exceeds the minimum frontage of 50 feet required by subsection “3” above. Including adjacent properties, the entire MUE zone would have approximately 540 feet of frontage along SW Washington Avenue.

Section 3.27.40 - DEVELOPMENT STANDARDS

The following provisions identify development standards within the MUE Zone.

3.27.40.01 - Preservation of Industrial Land Supply

- d. When an MUE Zone is approved for a site, a deed restriction recognizing the industrial character and underlying industrial land use designation of the property shall be recorded on the parcel(s) involved at the time the MUE Zone is approved.

Staff Discussion and Conclusion

A deed restriction has been prepared by the Applicant (see **Exhibit LDHB-D**). The City Attorney's Office has reviewed this restriction and is satisfied that it meets the requirements of LDC § 3.27.40.01.d. Since this deed restriction was drafted, the property ownership has changed. A new deed restriction signed by the current owner is expected to be placed in escrow at Ticor Title with instructions by the City Attorney's Office to record it should a Zone Change to MUE on the subject site be approved within 24 months. Staff finds that this requirement has been satisfied if the deed restriction is in escrow by the date of the LDHB public hearing. Staff will confirm the status of the deed restriction at the public hearing.

REVIEW CRITERIA FOR A QUASI-JUDICIAL ZONE CHANGE SUBJECT TO A PUBLIC HEARING (LDC § 2.2.40.05)

Per LDC § 2.2.40, this Zone Change request requires quasi-judicial action and is subject to a public hearing. The following criteria apply to a quasi-judicial Zone Change request subject to a public hearing; each of these criteria with respect to this application will be evaluated within this section:

2.2.40.05 - Review Criteria

a. Review Criteria for Zone Changes, Except Those Requesting to Apply or Remove a Historic Preservation Overlay

Quasi-judicial Zone Changes shall be reviewed to determine how they affect City facilities and services, and to ensure consistency with the policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council. The application shall demonstrate compatibility in the following areas, as applicable:

1. **Basic site design (e.g., the organization of uses on a site and the uses' relationships to neighboring properties);**
2. **Visual elements (scale, structural design and form, materials, etc.);**
3. **Noise attenuation;**
4. **Odors and emissions;**
5. **Lighting;**
6. **Signage;**
7. **Landscaping for buffering and screening;**
8. **Transportation facilities;**
9. **Traffic and off-site parking impacts;**
10. **Utility infrastructure;**
11. **Effects on air and water quality (note: a DEQ permit is not sufficient to meet this criterion);**
12. **Consistency with the applicable development standards, including the applicable Pedestrian Oriented Design Standards;**
13. **Preservation and/or protection of Significant Natural Features, consistent with Chapter 2.11 - Floodplain Development Permit, Chapter 4.2 - Landscaping, Buffering, Screening, and Lighting, Chapter 4.5 - Floodplain Provisions, Chapter 4.11 – Minimum Assured Development Area (MADA), Chapter 4.12 – Significant Vegetation Protection Provisions, Chapter 4.13 - Riparian Corridor and Wetland Provisions, and Chapter 4.14 - Landslide Hazard and Hillside Development Provisions. Streets shall also be designed along**

contours, and structures shall be designed to fit the topography of the site to ensure compliance with these Code standards.

A specific development proposal has not been submitted for review. Therefore, where applicable, the Review Criteria above are evaluated in this staff report in terms of potential development within the existing and proposed Zones.

APPLICABLE REVIEW CRITERION: a. Consistency with Comprehensive Plan (Map Designations)

LDC Table 2.2-1 includes a list of Comprehensive Plan Map designations, and corresponding Zoning Map designations that are consistent with the Comprehensive Plan. The portions of Table 2.2-1 applicable to the Zone Change request are as follows:

TABLE 2.2-1 COMPREHENSIVE PLAN AND CORRESPONDING ZONING MAP DESIGNATIONS (not including zone overlays)	
IF THE COMPREHENSIVE PLAN DESIGNATION IS:	THE OFFICIAL ZONING MAP DESIGNATION SHALL BE:
INDUSTRIAL	INDUSTRIAL
General	RTC Research Technology Center MUE Mixed Use Employment GI General Industrial C-OS Conservation - Open Space

As illustrated on **Exhibit LDHB-A-35**, the subject site has a Comprehensive Plan Map designation of General Industrial (GI). According to LDC Table 2.2-1, both the existing General Industrial (GI) and proposed Mixed Use Employment (MUE) zoning designations correspond to the GI Comprehensive Plan Map designation. Therefore, the proposal is consistent with the site’s Comprehensive Plan land use designation on the property.

APPLICABLE REVIEW CRITERION: a. Consistency with Comprehensive Plan (Policies)

3.2.1 The desired land use pattern within the Corvallis Urban Growth Boundary will emphasize:

- A. Preservation of significant open space and natural features;**
- B. Efficient use of land;**
- C. Efficient use of energy and other resources;**
- D. Compact urban form;**
- E. Efficient provision of transportation and other public services; and**
- F. Neighborhoods with a mix of uses, diversity of housing types, pedestrian scale, a defined center, and shared public areas.**

3.2.7 All special developments, lot development options, intensifications, changes or modifications of nonconforming uses, Comprehensive Plan changes, and district changes

shall be reviewed to assure compatibility with less intensive uses and potential uses on surrounding lands. Impacts of the following factors shall be considered:

- A. Basic site design (i.e., the organization of uses on a site and its relationship to neighboring properties);
- B. Visual elements (i.e., scale, structural design and form, materials, etc.);
- C. Noise attenuation;
- D. Odors and emissions;
- E. Lighting;
- F. Signage;
- G. Landscaping for buffering and screening;
- H. Transportation facilities; and
- I. Traffic and off-site parking impacts.

Staff Discussion and Conclusion – Article 3

Consistent with CPP 3.2.1, rezoning the site to MUE will allow for a mix of industrial, commercial, and residential uses within the site and surrounding neighborhood. The permitted uses in the zone may serve to create new employment opportunities, and to some extent, housing opportunities and commercial services, in an area where transportation and other public services exist. The site is approximately 1,000 linear feet by sidewalk to a bus stop served by Corvallis Transit Service Route 6 (which connects downtown to OSU campus via SW Western Boulevard), and adjacent streets provide pedestrian and bicycle facilities. The site is also in close proximity to the downtown area, the OSU campus, and existing residential and commercial uses. The proximity to these areas and availability of transit services may serve to reduce vehicle miles traveled to and from the site and thus, energy dependence. Furthermore, the MUE zone includes standards requiring pedestrian-scale design as well as pedestrian amenities, such as pocket parks or plazas visible and accessible to the general public.

Compatibility factors recommended by CPP 3.2.7 have been incorporated into the review criteria for a quasi-judicial Zone Change. Findings in response to LDC § 2.2.40.05 are provided later in this staff report. Based on the finding that the proposed Zone Change complies with the compatibility factors in LDC § 2.2.40.05, staff find that the proposal is consistent with CPP 3.2.7.

- 8.2.1 The City and County shall support diversity in type, scale, and location of professional, industrial, and commercial activities to maintain a low unemployment rate and to promote diversification of the local economy.**
- 8.9.1 The City shall designate appropriate and sufficient land in a variety of different parcel sizes and locations to fulfill the community's industrial needs.**
- 8.9.3 Lands designated for industrial use shall be preserved for industrial and other compatible uses and protected from incompatible uses.**
- 8.9.18 The Mixed Use Employment district shall be encouraged in industrial districts that are easily accessible by transit and pedestrians.**
- 8.10.4 New commercial development shall be concentrated in designated mixed use districts, which are located to maximize access by transit and pedestrians.**

Staff Discussion and Conclusion – Article 8

Re-zoning the site to MUE would diversify and increase the mix of commercial and industrial uses in the vicinity that are within walking distance from downtown Corvallis, the Oregon State University campus, and existing transit services. Staff find that the proposal is consistent with CPP 8.2.1, as the MUE zone permits a range of industrial and commercial uses, including commercial use types beyond those permitted in the General Industrial zone.

Consistent with CPP 8.9.1 and 8.9.3, the proposed change from GI to MUE would continue to provide area available for industrial uses while implementing the site's Comprehensive Plan designation of General Industrial.

ODOT Rail has provided comments indicating concerns about the compatibility of nonindustrial uses and the loss of industrial property in proximity to an active rail line (**Exhibit LDHB-F**). On **Exhibit LDHB-A-21**, the applicant notes that the opportunity for service to the site may be possible if it is warranted by uses developed at the site. On balance, MUE zoning permits less intensive industrial and commercial uses than does GI, such as Construction Sales and Service; Research Services; Technology Support Services; and Wholesale, Storage, and Distribution. While uses permitted in GI may be more commonly associated with rail service, Staff consider the types of uses permitted in MUE to be more compatible with the immediate land use context without eliminating the possibility that the rail line could still be utilized.

Staff find that the proposal is also consistent with CPP 8.10.4, given that MUE is a mixed use district that is specifically intended to be located near transit and "provide options for pedestrian oriented lifestyles" (LDC § 3.27.10.e). Additionally, the site is part of a Neighborhood Center study area as identified on the Comprehensive Plan map, and re-zoning the site MUE would be consistent with the intent of serving neighborhood shopping and office needs, with public transit available in proximity to the site. Staff conclude that the proposal is consistent with the applicable policies of Comprehensive Plan Article 8.

- 9.2.2 In new development, City land use actions shall promote neighborhood characteristics (as defined in 9.2.5) that are appropriate to the site and area.**
- 9.2.5 Development shall reflect neighborhood characteristics appropriate to the site and area. New and existing residential, commercial, and employment areas may not have all of these neighborhood characteristics, but these characteristics shall be used to plan the development, redevelopment, or infill that may occur in these areas. These neighborhood characteristics are as follows:**
 - A. Comprehensive neighborhoods have a neighborhood center to provide services within walking distance of homes. Locations of comprehensive neighborhood centers are determined by proximity to major streets, transit corridors, and higher density housing. Comprehensive neighborhoods use topography, open space, or major streets to form their edges.**
 - B. Comprehensive neighborhoods support effective transit and neighborhood services and have a wide range of densities. Higher densities generally are located close to the focus of essential services and transit.**

- C. Comprehensive neighborhoods have a variety of types and sizes of public parks and open spaces to give structure and form to the neighborhood and compensate for smaller lot sizes and increased densities.
- D. Neighborhood development provides for compatible building transitions in terms of scale, mass, and orientation.
- E. Neighborhoods have a mix of densities, lot sizes, and housing types.
- F. Neighborhoods have an interconnecting street network with small blocks to help disperse traffic and provide convenient and direct routes for pedestrians and cyclists. In neighborhoods where full street connections cannot be made, access and connectivity are provided with pedestrian and bicycle ways. These pedestrian and bicycle ways have the same considerations as public streets, including building orientation, security-enhancing design, enclosure, and street trees.
- G. Neighborhoods have a layout that makes it easy for people to understand where they are and how to get to where they want to go. Public, civic, and cultural buildings are prominently sited. The street pattern is roughly rectilinear. The use and enhancement of views and natural features reinforces the neighborhood connection to the immediate and larger landscape.
- H. Neighborhoods have buildings (residential, commercial, and institutional) that are close to the street, with their main entrances oriented to the public areas.
- I. Neighborhoods have public areas that are designed to encourage the attention and presence of people at all hours of the day and night. Security is enhanced with a mix of uses and building openings and windows that overlook public areas.
- J. Neighborhoods have automobile parking and storage that does not adversely affect the pedestrian environment. Domestic garages are behind houses or otherwise minimized (e.g., by setting them back from the front facade of the residential structure.) Parking lots and structures are located at the rear or side of buildings. On-street parking may be an appropriate location for a portion of commercial, institutional, and domestic capacity. Curb cuts for driveways are limited, and alleys are encouraged.
- K. Neighborhoods incorporate a narrow street standard for internal streets which slows and diffuses traffic.
- L. Neighborhood building and street proportions relate to one another in a way that provides a sense of enclosure.
- M. Neighborhoods have street trees in planting strips in the public right-of-way.

Staff Discussion and Conclusion – Article 9

Consistent with CPP 9.2.2 and CPP 9.2.5, rezoning the site to MUE will allow for development of industrial, and to some extent, commercial and/or residential uses within the site in proximity to existing transportation and transit facilities. Additionally, the site is located within proximity of a Proposed Minor Neighborhood Center identified on the Comprehensive Plan map and existing commercial services.

As discussed below in relation to applicable review criteria #1 and #2 (“Basic site design” and “Visual elements”), Staff find that the proposed zone would allow for development that is

incompatible with surrounding industrial, commercial, and medium-high residential density uses. Furthermore, the proposed zone will support a mix of housing types and densities, as the MUE zone permits a variety of residential housing types and does not include a minimum or maximum density requirement.

Future development will be required to comply with the design standards of the MUE zone, which require the orientation of buildings towards private or public streets, a maximum 20-foot setback from public streets, as well as pedestrian-scale architectural design elements and amenities. Staff anticipate that the MUE standards will support building designs that relate to streets in a way that provides a sense of enclosure, and that considers the pedestrian environment when establishing the location of vehicular parking and access.

For these reasons, staff conclude that the proposal is consistent with Comprehensive Plan Article 9.

11.8.2 Corvallis shall pursue methods to increase the safety of railroad crossings.

11.8.3 The City shall work with industry and rail service providers to retain rail service to this community's industrial areas.

Staff Discussion and Conclusion – Article 11

The LDC does not include specific standards related to railroad crossing safety. Consistent with CPP 11.8.2, City staff typically route application materials to ODOT Rail and Transit Division when issues regarding railroad safety crossings may exist. Given the proximity of the site to a rail line and its crossing over SW 7th Street, this application was also routed to the Oregon Department of Transportation and Portland and Western Railroad, Inc. ODOT Rail and Transit Division submitted comments expressing safety concerns where residential development is in close proximity to rail lines, but specific methods at the crossings were not recommended (**Exhibit LDHB-F**). As the proposed Zone Change to MUE would not preclude future site development supportive of rail service, Staff finds that the proposal is consistent with CPP 11.8.3.

Staff Discussion and Conclusion – Article 14

14.3.1 Infill and redevelopment within urban areas shall be preferable to annexations.

Staff Discussion and Conclusion

Consistent with CPP 14.3.1, the site is located within City limits. Rezoning the site to MUE will permit a wider variety of use types than permitted under GI and, in Staff's view, will increase the likelihood that the site's development potential will be maximized.

APPLICABLE REVIEW CRITERIA:

- 1. Basic site design (e.g., the organization of uses on a site and the uses' relationships to neighboring properties);**

2. Visual elements (scale, structural design and form, materials, etc.)

Staff Discussion and Conclusion

The applicant addresses these criteria beginning on **Exhibit LDHB-A-9**.

The applicant discusses permitted uses in the existing and proposed zones beginning on **Exhibit LDHB-A-12**. Unlike the GI zone, the MUE zone permits a variety of residential development types, including Single Attached, Duplex, Attached-Townhouse, and Multi-dwelling building types. Permitted industrial uses in MUE are slightly less intensive than in GI. The MUE maintains at least some industrial character by requiring a minimum industrial floor area ratio of 0.25, and requiring Plan Compatibility Review (“PCR”) if the square footage of non-industrial uses within a development exceeds the square footage of industrial uses. (As mentioned in the earlier description of the applicant’s proposal, a PCR application (PCR16-00006) was submitted on November 3, 2016 to request that non-industrial square footage to exceed industrial square footage. Although that application states an intent to construct “41,000 square feet of industrial use floor space,” the precise ratio of industrial to non-industrial square footage that the applicant would like is not immediately clear.)

A number of commercial uses are permitted in MUE that are not permitted in GI, such as Convenience Sales and Personal Services, Eating and Drinking Establishments, and Professional and Administrative Services. The site is located within a proposed Minor Neighborhood Center study area designated on the Comprehensive Plan map. As described in CPP 8.10.7, a Minor Neighborhood Center is intended to serve neighborhood shopping and office needs. The introduction of additional permitted commercial uses within the MUE zone is consistent with this purpose.

A recent Director’s Decision (DDI16-00001) determined that when an MUE-zoned property has a Comprehensive Plan Map designation of General Industrial, as is the case here, the permitted height is 75 feet – the same as is permitted in the General Industrial zone. The MUE zone includes a “height step-down” provision requiring that, when the property is adjacent to a residential zone, the closest 20 feet of structures within the MUE zone cannot exceed the height of the adjacent residential structures by more than one story (LDC § 3.27.50.09.a). The MUE zone also requires the installation of pedestrian amenities (LDC § 3.27.50.07; discussed further in relation to applicable review criterion #12), specific building orientation standards (LDC § 3.27.50.02), and a minimum Green Area of 20% (LDC § 3.27.40.04). These standards combine to encourage pedestrian-oriented development patterns within the MUE zone.

By comparison, the GI zone requires a 100-foot building setback from any residential property line. In the case of the subject property, the nearest residential zone is approximately 42 feet to the north, on the opposite side of SW Washington Avenue; consequently, under GI zoning, new buildings could not be built within approximately 58 feet of the SW Washington Avenue frontage. The GI zone does not include building orientation standards, a minimum Green Area requirement, or a requirement for pedestrian amenities other than continuous internal sidewalks (LDC § 4.10.70.03.a.1).

In summary, as applied to the subject site, MUE zoning would permit buildings to be constructed closer to SW Washington than would GI zoning, potentially resulting in greater building massing along the street frontage. However, Staff find that, on balance, the MUE zone

provides development standards in close proximity to nearby residential properties. Staff further find that uses permitted by the MUE zone are compatible with existing uses in the area, and support the vision established by the area's Minor Neighborhood Center designation. For these reasons, staff find that compatibility issues surrounding basic site design and visual elements are satisfied.

APPLICABLE REVIEW CRITERIA:

3. **Noise attenuation**
4. **Odors and emissions**
5. **Lighting**
6. **Signage**

Staff Discussion and Conclusion

The applicant addresses these criteria beginning on **Exhibit LDHB-A-18**, indicating that uses permitted in the MUE zone are not anticipated to generate greater noise, odors and emissions, lighting, and signage impacts when compared to uses permitted within the General Industrial Zone. Staff note that future development would be subject to standards and requirements in the Land Development Code for such elements of development, regardless of whether the site is zoned for GI or MUE development. Staff find that there are no additional anticipated compatibility impacts related to these elements associated with the proposal. Therefore, compatibility criteria related to noise, odors and emissions, and lighting are satisfied.

APPLICABLE REVIEW CRITERION:

7. Landscaping for buffering and screening

Staff Discussion and Conclusion

The applicant addresses this criterion on **Exhibit LDHB-A-19**. Development within both the existing GI zone and proposed MUE zone is subject to the same standards in LDC Chapter 4.2 for landscaping, buffering and screening. Generally, these standards address requirements for street trees (LDC § 4.2.30.a), buffering of parking lots and vehicular maneuvering areas (LDC § 4.2.40), and screening of service facilities, outdoor storage areas, and mechanical equipment (LDC § 4.2.50).

Beyond Chapter 4.2 standards, the existing GI zone also requires 100 foot setback areas between buildings proposed to be developed on the site and any abutting residential zone boundary. As discussed in relation to applicable review criteria #1 and #2, if the site were redeveloped under GI standards, new buildings would be restricted within approximately 58 feet along the entire SW Washington Avenue frontage. This area could be used for landscaping or for off-street parking and loading. In addition, when the site abuts a residential zone, a landscape buffer is required that is at least six ft. in height and at least 80 percent opaque as viewed from any point along the lot boundary.

The MUE zone does not require screening beyond what is required in Chapter 4.2. However, the MUE zone requires 20 percent of the gross lot area to be permanent Green Area including landscape areas, natural areas, and/or pedestrian amenities consistent with LDC § 3.27.50.07.

Some additional landscape standards found in LDC § 3.27.50.05 regarding compatible street tree species apply to the proposed MUE zone.

Overall, the screening requirements for the GI zone are more robust. However, the GI zone also permits more intensive commercial and industrial uses than does the MUE zone. In addition, the MUE zone requires more landscaping than does the GI zone. Staff finds that this criterion is satisfied.

APPLICABLE REVIEW CRITERION:

8. Transportation facilities

Staff Discussion

The applicant addresses this criterion beginning on **Exhibit LDHB-A-20**. The applicant's site is located along SW Washington Ave. Rail facilities are located along the south side of the site.

SW Washington Avenue is classified as a collector in the Corvallis Transportation Plan. According to LDC table 4.0-1, minimum right-of-way (ROW) width is 68-feet without parking or turn lanes. Right-of-way along the parcel frontage varies from one end to the other based on the assessor maps and the Willamette Valley & Coast Railroad Yard subdivision plat. The exact ROW width in this area is not clear based on those maps and will need to be determined by survey with future development of the site. The existing street width appears to be 26 feet. Collector street standards are a minimum 34 feet of pavement width with two 6-foot bike lanes, two 11-foot travel lanes and no on-street parking. The site does not have sidewalks or planter strips along the frontage. Street improvements including street widening, 12-foot planter strips and 5-foot sidewalks would be required with future development. If on-street parking is to be maintained or turn lanes are required at 9th Street, additional ROW beyond the 68 feet minimum (34 feet from original centerline) would be required. (**Development Related Concerns B and C**)



Figure 2 – Looking West on SW Washington at 9th Street

Staff Conclusion

Since the potential trips would not be outside the threshold for traffic on a collector street (see the discussion on traffic impacts below) the transportation facilities are compatible with the zone change. Street improvements are expected with development of the site based on the actual development impacts.

APPLICABLE REVIEW CRITERION:

9. Traffic and off-site parking impacts

Staff Discussion

The applicant addresses this criterion beginning on **Exhibit LDHB-A-21**. According to the State’s Transportation Planning Rule (“TPR”), OAR 660-012-0060:

- (1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:**

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
(b) Change standards implementing a functional classification system; or
(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

(9) Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not significantly affect an existing or planned transportation facility if all of the following requirements are met.

(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;

(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and

(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.

The proposed Zone Change would convert approximately 0.56 acres of General Industrial (GI) to Mixed Use Employment (MUE).

The applicant provided a Transportation Impact Analysis ("TIA") dated October 14, 2016 (beginning at **Exhibit LDHB-A-107**). The TIA included a Reasonable Worst Case Development Trip Generation in Table 2 on page 5 of the study (found at **Exhibit LDHB-A-114**, and included as Figure 3 below).

TABLE 2 – REASONABLE WORST-CASE DEVELOPMENT TRIP GENERATION								
Land Use	ITE Code	Size (SF) ¹	AM Peak Hour Trip Generation			PM Peak Hour Trip Generation		
			Enter	Exit	Total	Enter	Exit	Total
Current GI Zone Designation								
ITE – Hardware/Paint Store (LDC – Construction Sales and Service)	816	7,500	5	3	8	24	28	52
Total External Trip Generation			5	3	8	24	28	52
<i>Pass-By Trips (13%AM, 26%PM ITE Code 816)</i>			(1)	(0)	(1)	(6)	(8)	(14)
Primary (Net New) GI Zone Trip Generation			4	3	7	18	20	38
Proposed MUE Zone Designation								
Non-Industrial Uses								
ITE – Daycare Center (LDC – Day Care, Commercial Facility)	565	1,800	12	10	22	10	12	22
ITE – Convenience Market (Open 24 Hours) (LDC – Convenience Sales and Personal Service)	851	3,000	101	100	201	80	77	157
Industrial Uses								
ITE – Animal Hospital/Veterinary Clinic (LDC – Animal Sales and Service)	640	5,000	15	5	20	9	15	24
Total Trip Generation			128	115	243	99	104	203
<i>Internal Capture Trips</i>			(0)	(0)	(0)	(0)	(0)	(0)
Total External Trip Generation			128	115	243	99	104	203
<i>Pass-By Trips (51%AM, 51%PM ITE Code 851)</i>			(65)	(59)	(124)	(50)	(53)	103
Primary (Net New) MUE Zone Trip Generation			63	56	119	49	51	100
Increase in Primary (Net New) Trip Generation (MUE – GI)			59	53	112	31	31	62

¹ Reasonable worst-case development scenarios in both GI and MUE zone designations limited by building setback areas and resulting building footprints.

Figure 3 – Table 2 from the submitted Transportation Impact Analysis (dated October 14, 2016)

The site development assumptions are listed on page 4 of the TIA. The uses selected were a variety of higher trip generators (“reasonable worse case”) allowed by-right (in other words, no further discretionary review would be required) in both the existing and proposed zones. Building square footages were based on LDC criteria for a “reasonable worse case” development. Staff reviewed the “reasonable worse case” development scenarios and found them to be realistic.

Trip generation for the site was determined using Institute of Transportation Engineers (“ITE”) codes for uses allowed in each zone. The total trip estimate for the GI Zone is 52 trips during the PM peak hour. Total trip generation was adjusted for pass-by trips. Net trips estimated for the GI Zone is 38 trips during the PM peak hour.

For the MUE Zone, the total trip estimate is 203 trips in the PM peak hour. Total trip generation was adjusted for pass-by trips, and internal capture trips within the zone. The net trips estimated for the MUE Zone is 100 PM peak hour trips. The increase in potential trips for the MUE zone could result in “significant effects” to the transportation system.

Typically, if there is an increase in estimated trips with a zone change, the applicant provides a traffic analysis of surrounding intersections to determine if there is a change in level-of-service resulting in a “significant effect”. The TIA included intersection analyses on page 8 for the 20-year horizon (2036). The analyses include level of service (LOS) for both the current zone and the proposed zone. With the increase in trips from the zone change, all intersections except one are expected to operate at acceptable level of service. Since this one intersection (15th and Washington) is estimated to not meet minimum standards and the zone change makes the intersection worse, the TPR classifies this impact as a “significant effect.”

To address the potential “significant effects,” the applicant has prepared a deed restriction limiting trips generated under the MUE Zone to the “reasonable worst case” scenario under the existing zoning (see **Exhibit LDHB-E**). The deed restriction identifies the trip cap at 52 peak hour trips, the “reasonable worst case” trip estimate scenario for the existing GI Zone. City staff would evaluate future development proposals on the site for compliance with the trip cap. Staff has reviewed the deed restriction and finds it effectively prevents the Zone Change from resulting in a “significant effect” on the transportation system.

Note that since this deed restriction was drafted, the property ownership has changed. A new deed restriction signed by the current owner is expected to be placed in escrow at Ticor Title with instructions by the City Attorney’s Office to record it should a Zone Change to MUE on the subject site be approved within 24 months. With the trip cap deed restriction set to take effect with Zone Change approval, staff will be able to make positive findings per LDC § 2.2.40.05.a which states, in part, that Zone Change applications “shall be reviewed to determine how they affect City facilities and services.” Staff will confirm the status of the deed restriction at the LDHB public hearing.

Staff Conclusion

With a deed restriction in escrow which will enforce a trip cap, as proposed, the application will be consistent with the applicable LDC criteria and the Transportation Planning Rule. Staff will confirm the status of the deed restriction at the LDHB public hearing. With future site development, additional traffic studies may be required to meet LDC requirements (**Development Related Concern D**).

APPLICABLE REVIEW CRITERION:

10. Utility infrastructure

Staff Discussion

The applicant addresses this criterion beginning on **Exhibit LDHB-A-25**. Utilities are located in the vicinity of the site. There is an existing 20-inch waterline which runs along the south side and NE through the parking lot to SW Washington Avenue. Sewer service is located west of the site and flows north under the OSU parking lot to the sewer manhole located in Washington Avenue between 10th and 11th Streets. A substandard six-inch storm drain line is located in SW Washington along the property frontage.

Utility capacity studies are provided in the application (found at **Exhibit LDHB-A-41**). According to the calculations, utility demand for the existing and proposed zones are similar, therefore the zone change itself would not impact City utilities. Future development of the site would need to address utility extensions and/or capacity issues.

Street lighting is located at the corner of 9th and Washington, and 10th and Washington.

Staff Conclusion

Since an increase in utility demand is not expected based on the zone change, there is not an impact to utilities from the zone change, and the zone change can be found to be compatible with the existing utilities. It is expected public improvements including City utility extensions will be required with redevelopment of the site and building permits (**Development Related Concerns B, E, and F**).

APPLICABLE REVIEW CRITERION:

11. Effects on air and water quality (note: a DEQ permit is not sufficient to meet this criterion)

Staff Discussion and Conclusion

The applicant addresses this criterion on **Exhibit LDHB-A-29**. Staff have no concerns that storm water and waste water discharge from the site can be treated to comply with City water quality standards. Compliance with these requirements will be assured through the building permit process in conjunction with redevelopment on the site (**Development Related Concerns B and F**). Given the relatively small scale of the proposed Zone Change, and given that the MUE zone permits similar industrial use types compared to the existing GI zone, no significant impact to air quality is expected to result from the proposed change. For these reasons, staff find that the proposal complies with this criterion.

APPLICABLE REVIEW CRITERION:

12. Consistency with the applicable development standards, including the applicable Pedestrian Oriented Design Standards

Staff Discussion and Conclusion

The applicant addresses this criterion starting on **Exhibit LDHB-B-29**. New development within the GI zone is required to comply with only one subsection of the Pedestrian Oriented Design Standards (PODS) chapter, LDC § 4.10.70.03.a.1, which requires continuous internal sidewalks. While development within the MUE zone is not subject to Pedestrian Oriented Design Standards, it is subject to zone-specific design guidelines and standards per LDC § 3.27.50. Like PODS, these standards are intended to reinforce public spaces and enhance the pedestrian environment through building orientation, exterior design features, weather protection elements, and pedestrian amenities. Therefore, staff anticipate that future development in accordance with MUE requirements would result in a more pedestrian-compatible environment than would development in accordance with GI requirements.

Consistency with applicable development standards is evaluated at time of development (either building permits and/or land division). Future development must conform to applicable LDC development standards, or if variations to those standards are proposed, compensating benefits must be provided to mitigate for the requested variation. Any variations are subject to additional land use approvals and public involvement. Therefore, staff find that the proposed Zone Change satisfies this compatibility criterion.

APPLICABLE REVIEW CRITERION:

- 13. Preservation and/or protection of Significant Natural Features, consistent with Chapter 2.11 - Floodplain Development Permit, Chapter 4.2 - Landscaping, Buffering, Screening, and Lighting, Chapter 4.5 - Floodplain Provisions, Chapter 4.11 - Minimum Assured Development Area (MADA), Chapter 4.12 - Significant Vegetation Protection Provisions, Chapter 4.13 - Riparian Corridor and Wetland Provisions, and Chapter 4.14 - Landslide Hazard and Hillside Development Provisions. Streets shall also be designed along contours, and structures shall be designed to fit the topography of the site to ensure compliance with these Code standards.**

Staff Discussion and Conclusion

The subject site does not contain any mapped Natural Resources, Natural Hazards, or jurisdictional wetlands regulated by the LDC.

CONCLUSION ON ZONE CHANGE PROPOSAL

Based on the analysis presented in this staff report, staff find that the industrial uses permitted in the MUE zone are generally similar to those permitted in the existing GI zone. The MUE zone introduces additional residential and commercial use types to industrially-designated property within a Minor Neighborhood Center study area, and future development under the MUE zone is not anticipated to result in any compatibility-related impacts to surrounding areas. Development standards that address compatibility and that are associated with building orientation, pedestrian amenities, visual elements, and basic site design can be implemented through the application of the requirements in LDC Chapter 3.27 and Article IV. After balancing all of the applicable compatibility criteria and development standards, when comparing the existing GI zone to the proposed MUE zone, and the proposed MUE zone to surrounding areas designated Mixed Use Employment, Medium High Density Residential, and OSU, staff recommend that the Land Development Hearings Board approve the Zone Change request described in **Exhibit LDHB-A**.

The above conclusion assumes that, prior to the LDHB public hearing, deed restrictions related to LDC § 3.27.40.01 and LDC § 2.2.40.05.a.9 (both discussed earlier in this Staff Report) will be placed in escrow at Ticor Title with instructions by the City Attorney's Office to record it should a Zone Change to MUE on the subject site be approved within 24 months. Staff will confirm the status of these deed restrictions at the LDHB public hearing.

MOTIONS

Following review of this Staff Report, the Land Development Hearings Board may commence deliberations on this application. Potential motions on the matter are as follows:

Motion to Approve (Recommended):

I move to approve the proposed Zone Change (ZDC16-00004) to change the zoning of the site from GI (General Industrial) to MUE (Mixed Use Employment). This motion is based on the criteria, discussions, and conclusions contained within the Staff Report to the Land Development Hearings Board; and based on the findings presented by the Land Development Hearings Board during its deliberations.

Motion to Deny:

I move to deny the proposed Zone Change (ZDC16-00004), based on the findings presented by the Land Development Hearings Board during its deliberations.

DEVELOPMENT RELATED CONCERNS

- A. LDC § 3.27.20.b.2 – In accordance with LDC § 3.27.20.b.2, if the subject site were to ultimately become part of a larger development proposal under MUE zoning, lot consolidation or a Nonresidential Planned Development Overlay would be required.
- B. Public Improvements - In accordance with LDC § 4.0.60.e and LDC § 4.0.70, all development sites shall be provided with access to a street improved to City standards, public water, sanitary sewer, storm drainage, and street lights. Any plans for public improvements referenced within the application or this staff report shall not be considered final engineered public improvement plans. Prior to issuance of any structural or site utility construction permits, the applicant shall obtain approval of, and permits for, engineered plans for public improvements by private contract (PIPC) from the City's Engineering Division per LDC § 4.0.80. The applicant shall submit necessary engineered plans and studies for public utility and transportation systems to ensure that adequate street, water, sewer, storm drainage and street lighting improvements are provided consistent with LDC requirements. Street signs and curb markings will be reviewed and approved with the PIPC plans. Final utility alignments that maximize separation from adjacent utilities and street trees shall be engineered with the plans for public improvements in accordance with all applicable LDC criteria and City, DEQ and Oregon Health Division requirements for utility separations. Public improvement plan submittals will be reviewed and approved by the City Engineer under the procedures outlined in LDC § 4.0.80.
- C. ROW dedication along SW Washington - To meet minimum LDC standards 34-feet of ROW will be required from the existing centerline. Additional ROW will be required if future development proposals require on-street parking or turn lanes at 9th Street and Washington Avenue.
- D. Traffic Study - With development of the site, an updated traffic study will be required. The traffic study will need to include updated counts for all intersections which include recent development in the area and address the trip cap for the site. The traffic study will need to evaluate intersections receiving more than 30 vehicle trips and the railroad crossing. Building placement shall consider City standard vision clearance and vision clearance necessary for the railroad crossing.
- E. Waterline Relocation - If there are conflicts with future buildings and the existing waterline, the waterline will need to be relocated at the applicant's expense to provide a minimum of 10-feet of horizontal clearance between any structure and the 20-inch waterline.
- F. Stormwater Management Measures – Concurrent with building permits for the site, the applicant will need to address stormwater management measures consistent with LDC § 4.0.130.
- G. Franchise Utility Easements - According to LDC § 4.0.100.b, a minimum 7-foot Utility Easement (UE) is required adjacent to all street ROWs.
- H. Future Public Improvements and Issuance of Building Permits – Consistent with LDC § 4.0.20 and Council Policy CP91-7.04, no building permits for foundations or structures shall be issued until all public improvements required for the approved development are complete and accepted by the City Engineer. The applicant will need to address street and utility requirements to serve the specific site development consistent with LDC criteria.

- I. Erosion Control, Excavation and Grading Plans - Prior to issuance of any construction permits, the applicant shall submit an erosion control plan and any required excavation and grading plans to the City's Development Services Division for review and approval.
- J. Other Permits - Prior to issuance of any construction permits, the applicant shall be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit if construction activity will disturb, through clearing, grading, and/or excavation, one or more acres of the site. Additionally, any permits required by other agencies such as the Division of State Lands; Army Corps of Engineers; Railroads; County; or Oregon Department of Transportation, shall be approved and submitted to the City prior to issuance of any City permits.
- K. Infrastructure Cost Recovery – If there are applicable Infrastructure Cost Recovery charges for water and/or sewer, the developer shall pay their required share of the costs prior to making any connection to any infrastructure system, in accordance with Corvallis Municipal Code 2.18.040.
- L. Streetscape Plan - As part of public improvement plans, the applicant shall include a "streetscape" plan that incorporates the following features: composite utility plan; street lights; proposed driveway locations; vision clearance triangles for each intersection; street striping and signing (in conformance with the MUTCD); and proposed street tree locations.
- M. Tree Plantings - Tree planting locations shall not block street signs, or traffic signals. In addition, trees shall not be planted in areas outlined in LDC § 4.2.30.b.



City of Corvallis - Planning Division
 501 SW Madison Avenue
 Corvallis, OR 97333
 phone (541) 766-6908
Planning@CorvallisOregon.gov
www.CorvallisOregon.gov/cd-planning

Application for General & Special Development Activities

STAFF USE ONLY

Case Number(s) : Date Filed :

Amount Receipt # Received By:

Required Deposit (General: \$100; Special: \$1,000)

Approval(s) Requested

<input type="radio"/> Annexation <input type="radio"/> Major <input type="radio"/> Minor	<input type="radio"/> Planned Development
<input type="radio"/> Comprehensive Plan Amendment	<input type="radio"/> Conceptual Development Plan
<input type="radio"/> Conditional Development Permit	<input type="radio"/> Detailed Development Plan
<input type="radio"/> New	<input type="radio"/> Conceptual & Detailed Development Plan
<input type="radio"/> Master Site Plan (New or Modification)	<input type="radio"/> Modification
<input type="radio"/> Modification	<input type="radio"/> Major <input type="radio"/> Minor
<input type="radio"/> Willamette River Greenway Permit	<input type="radio"/> Nullification
<input type="radio"/> Director's Interpretation	<input type="radio"/> Property Line Adjustment
<input type="radio"/> Extension of Service	<input type="radio"/> Solar Access Permit
<input type="radio"/> Floodplain Development Permit Variance	<input type="radio"/> Subdivision
<input type="radio"/> LDC Text Amendment	<input type="radio"/> New <input type="radio"/> Residential <input type="radio"/> Non-Residential
<input type="radio"/> Lot Development Option	<input type="radio"/> Modification
<input type="radio"/> Major <input type="radio"/> Minor	<input type="radio"/> Major Replat
<input type="radio"/> Minor Land Partition	<input type="radio"/> Vacation - Right-of-Way / Plat
<input type="radio"/> Minor Replat	<input checked="" type="radio"/> Zone Change

Please provide a brief summary of the requested approval

Project Description:

Please attach separate sheet if additional space is needed.

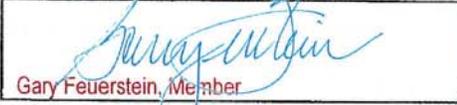
Project Name:

Primary Contact and Owner Information

Applicant's Name

Phone E-mail

Mailing Address

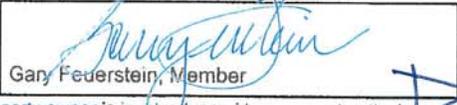
Applicant Signature  Date

Gary Feuerstein, Member

Property Owner Name

Phone E-mail

Mailing Address

Owner Signature  Date

Gary Feuerstein, Member

 If more than one property owner is involved, provide a separate attachment listing each owner's or legal representative's signature(s)



Project Staff

Developer

Phone E-mail

Planner

Phone E-mail

Civil Engineer

Phone E-mail

Architect

Phone E-mail

Landscape Architect

Phone E-mail

Geotechnical Engineer

Phone E-mail

Other

Phone E-mail

Property Description (or general vicinity, side of street, distance to intersection)

Street Address

General Location Description

Assessor's Map Number(s)

Map #

Map #

Related Tax Lot(s)

Tax Lot(s) #

Tax Lot(s) #

The Assessor's Map Number (Township, Section/Range) and the Tax Lot Number (parcel) can be found on the property's(ies) tax statement, at the Benton County Assessor's Office, or on-line at <http://maps.co.benton.or.us/benton/geomoose.html>

Gross Lot Area

Net Lot Area

Net Lot Area : Total area of a Development Site, usually expressed in acres and excluding proposed public street rights-of-way and, if a developer desires, excluding public parks, Significant Natural Feature areas dedicated to the public, land dedicated for other public purposes, and/or other areas permanently precluded from development due to development constraints or conservation easements.

Land Use and Natural Features Information

Existing Zone(s)

Existing Comprehensive Plan Designation(s)

Natural Hazards Overlay

N/A

- 0.2' Floodway
- Landslide Hazards
- 100-Year Floodplain
- Slopes > 10%

Natural Resources Overlay

N/A

- Riparian Corridor
- Significant Vegetation
- Wetlands - Locally Protected
- Wetlands - Non-Locally Protected

For more information about land use and natural features information that may apply to your property visit www.corvallisoregon.gov/propertysearch

Please select any of the following zone overlays or areas that apply to the subject site :

N/A Historic Preservation Overlay

Willamette River Greenway

Planned Development

North Campus Area

N/A Downtown Parking Assessment District

Downtown Residential Neighborhood

Downtown Pedestrian Core

University Neighborhoods Overlay

Please include a discussion in the project narrative indicating how these overlays affect your proposal.

Check the box next to included attachments.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Narrative (address all applicable LDC review criteria) * | <input type="checkbox"/> Site Cross Sections |
| <input checked="" type="checkbox"/> Assessor's Map with Applicable Tax Lots Highlighted | <input type="checkbox"/> Architectural Elevations |
| <input checked="" type="checkbox"/> Vicinity Map | <input type="checkbox"/> Architectural Floor Plans |
| <input type="checkbox"/> Site Plan | <input type="checkbox"/> Natural Hazards Map(s) |
| <input type="checkbox"/> Grading Plan | <input type="checkbox"/> Natural Resources Map(s) |
| <input type="checkbox"/> Survey / ALTA | <input type="checkbox"/> Utilities Plan |
| <input checked="" type="checkbox"/> Existing Land Use(s) Map | <input type="checkbox"/> Geotechnical Report / Site Assessment |
| <input checked="" type="checkbox"/> Zoning Map(s) if applicable, show proposed change(s) | <input checked="" type="checkbox"/> Electronic Versions of Attachments |
| <input checked="" type="checkbox"/> Comprehensive Plan Map(s) if applicable, show proposed change(s) | <input type="checkbox"/> Minimum Assured Development Area Study |
| <input type="checkbox"/> Tentative Subdivision or Partition Plat | <input checked="" type="checkbox"/> Application Fees (Deposit Only) |
| <input type="checkbox"/> Conceptual Landscape / Irrigation Plans | <input checked="" type="checkbox"/> Other |
| <input type="checkbox"/> Significant Vegetation Management Plan (SVMP) | Traffic Study |
| <input type="checkbox"/> Floodplain Development Variance Materials (refer to LDC 2.11.60.02) | |

 * Written narrative is required for all application types. Typical drawings sizes are 24"x 36", 11"x17", or 8.5"x11". Sizes of required drawings will depend on the type and scope of applications involved. Contact staff to verify requirements. On your plans, include the following: property lines, points of access for vehicles, pedestrians, bicycles, topography (show existing and proposed), water courses, all natural features identified on the City's Wetlands, Riparian Corridors, Significant Vegetation, and Natural Hazards Maps, existing and proposed streets and driveways, parking areas, utilities pedestrian and bicycle paths, existing easements. Please note there are additional specific graphic and narrative requirements for each type of application. Refer to the "Application Requirements" section(s) within the [Land Development Code](#).

Please tell us more about the proposed development and its site

1. Are there existing structures on the site ? Yes No If Yes, please explain.

Tax Lot 7100 is developed with a single story commercial building with a floor area of roughly 16,000 square feet
2. For your project, please indicate the uses proposed and describe the intended activities:

Re-development consistent with the standards of Mixed Use Employment Zone.
3. Will the project be completed in phases ? Yes No If Yes, please explain.
4. How will open space, common areas and recreational facilities be maintained?
5. Are there previous land use approvals on the development site ? Yes No
 If Yes, please include a discussion in the project narrative indicating how the prior approvals impact your proposal.

 For more information, contact the Planning Division at (541) 766-6908 or by [e-mail](#).

Please identify any citizen outreach efforts that you have undertaken prior to submitting this application.

(outreach efforts are encouraged, but not required)

- Mailed information regarding the proposed development to adjacent property owners / residents
- Held one or more neighborhood meetings or open houses
- Met individually and/or conferred over the phone with citizens
- Held a project design workshop
- Made site plans available for review.
- Posted the project site with information about the proposal, and where to go for more info
- Canvassed the neighborhood.
- Other (please describe)

Were changes made to the proposal as a result of citizen input? If so, what were they?

- Yes No

No changes were necessary based on citizen input

Authorization for Staff and Decision Makers to Enter Land

City staff, Planning Commissioners, and City Councilors are encouraged to visit the sites of proposed developments as part of their review of specific land use applications. Decision maker site visits are disclosed through the public hearing process. Please indicate below whether you authorize City staff and decision makers to enter onto the property(-ies) associated with this application as part of their site visits.

- I authorize City staff and decision makers to enter onto the property(-ies) associated with this application
- I do not authorize City decision makers to enter onto the property(-ies) associated with this application

Public Notice Signs

The applicant is responsible for posting public notice signs in at least one conspicuous place along each street frontage of a site 20 days prior to the public hearing date*. Staff will prepare the signs and will let you know when the signs are ready to be picked up from City Hall.

Please indicate who will be responsible for posting any required signs:

Name Lyle E. Hutchens

Phone 541.757.8991

E-mail lyle@devcoengineering.com

(* failure to post the development site at the appropriate time may make the land use decision vulnerable to appeal)

Pacific Fruit Properties Zone Change

An Application for a Zoning District Change

submitted to



The City of Corvallis
501 SW Madison Avenue
Corvallis, Oregon 97333

submitted by

Pacific Fruit Properties
P.O. Box 1442
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Willamette Valley Planning

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Pacific Fruit Properties Zone Change Request

APPLICANT'S REQUEST

The applicant requests approval of a Zone Change affecting a parcel that is currently designated on the Corvallis Zoning Map as General Industrial (GI), which would be rezoned to Mixed Use Employment (MUE).

SITE AND VICINITY

The 0.56-acre subject property is located on the south side of SW Washington Avenue, between the terminus of SW 9th and SW 10th Streets, (Attachment A). The address of the parcel is 960 SW Washington Avenue and is Tax Lot 7100 on Benton County Assessor's Map 12-5-02BB. The western half of the property contains a high bay single story metal building while the eastern half is a gravel parking lot. The existing 8,000 square foot building is currently used for CNC high tech machining. A private rail spur off the Toledo branch of the Willamette & Pacific Railroad is just south of the property.

The site is essentially flat. Access is currently gained from a single driveway along the south side of SW Washington Avenue at the terminus of 9th Street. This driveway approach is shared with the abutting property to the east. None of the natural resources or natural hazards regulated by Corvallis Land Development Code Chapters 2.11, 4.5, 4.12, 4.13, or 4.14 are mapped on the site, (Attachment E). The Corvallis Local Wetland Inventory Map does not show any wetlands within the boundaries of the site.

Immediately north of the site are uses including a church and a restored historic single family home. South and east of the site is a vacant parcel that is used for parking, while further east is the historic OSU Poultry Building that was relocated to this site and restored for office and residential uses. Further south is the Willamette & Pacific Railroad line and a large apartment building. To the west is a surface parking lot owned by Oregon State University.

As noted above, the subject site is designated on the Corvallis Zoning Map as General Industrial, (Attachment B). Properties located immediately to the north are zoned Medium-High Density Residential. The property directly to the south and east is zoned Mixed Use Employment while lands further to the south are zoned High Density Residential and General Industrial. West of the site is zoned Oregon State University.

ATTACHMENTS

- A - Public Notice Map
- B - Existing Comprehensive Plan Designations
- C - Existing Zoning Designations
- D - Existing Land Uses
- E - Significant Natural Features
- F - Existing Utilities
- G - Utility Capacity Study
- H - Traffic Impact Analysis

CRITERIA, DISCUSSION, AND CONCLUSIONS

Applicable Comprehensive Plan Policies:

- 1.2.9 The applicable criteria in all land use decisions shall be derived from the Comprehensive Plan and other regulatory tools that implement the Plan.**

The following narrative responds to criteria from the Corvallis Comprehensive Plan and the Land Development Code (LDC) that are applicable to the subject land use request.

REVIEW CRITERIA

Applicable Comprehensive Plan Policy:

- 3.2.7 All special developments, lot development options, intensifications, changes or modifications of nonconforming uses, Comprehensive Plan changes, and district changes shall be reviewed to assure compatibility with less intensive uses and potential uses on surrounding lands. Impacts of the following factors shall be considered:**

- A. Basic site design (i.e., the organization of uses on a site and its relationship to neighboring properties);
- B. Visual elements (i.e., scale, structural design and form, materials, etc.);
- C. Noise attenuation;
- D. Odors and emissions;
- E. Lighting;
- F. Signage;
- G. Landscaping for buffering and screening;
- H. Transportation facilities; and
- I. Traffic and off-site parking impacts.

Applicable Land Development Code Section:

2.2.40.05 - Review Criteria

- a. **Review Criteria for Zone Changes, Except Those Requesting to Apply or Remove a Historic Preservation Overlay**

Quasi-judicial Zone Changes shall be reviewed to determine how they affect City facilities and services, and to ensure consistency with the policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council. The application shall demonstrate compatibility in the following areas, as applicable:

- 1. Basic site design (e.g., the organization of uses on a site and the uses' relationships to neighboring properties);
- 2. Visual elements (scale, structural design and form, materials, etc.);
- 3. Noise attenuation;
- 4. Odors and emissions;
- 5. Lighting;

6. Signage;
7. Landscaping for buffering and screening;
8. Transportation facilities;
9. Traffic and off-site parking impacts;
10. Utility infrastructure;
11. Effects on air and water quality (note: a DEQ permit is not sufficient to meet this criterion);

12. Consistency with the applicable development standards, including the applicable Pedestrian Oriented Design Standards;

13. Preservation and/or protection of Significant Natural Features, consistent with Chapter 2.11 - Floodplain Development Permit, Chapter 4.2 - Landscaping, Buffering, Screening, and Lighting, Chapter 4.5 - Floodplain Provisions, Chapter 4.11 - Minimum Assured Development Area (MADA), Chapter 4.12 – Significant Vegetation Protection Provisions, Chapter 4.13 - Riparian Corridor and Wetland Provisions, and Chapter 4.14 - Landslide Hazard and Hillside Development Provisions. Streets shall also be designed along contours, and structures shall be designed to fit the topography of the site to ensure compliance with these Code standards.

The following narrative, which is organized based on the compatibility criteria from Land Development Code (LDC) Section 2.2.40.05.a, responds to policies from the Corvallis Comprehensive Plan and other applicable review criteria from the LDC. Findings presented below are intended to apply equally to the compatibility criteria listed in Comprehensive Plan Policy 3.2.7 and LDC Section 2.2.40.05.a given the similarity of factors considered by each criterion.

Basic Site Design and Visual Elements

Applicable Comprehensive Plan Policies:

3.2.1 The desired land use pattern within the Corvallis Urban Growth Boundary will emphasize:

- A. Preservation of significant open space and natural features;
- B. Efficient use of land;
- C. Efficient use of energy and other resources;
- D. Compact urban form;
- E. Efficient provision of transportation and other public services; and
- F. Neighborhoods with a mix of uses, diversity of housing types, pedestrian scale, a defined center, and shared public areas.

8.2.1 The City and County shall support diversity in type, scale, and location of professional, industrial, and commercial activities to maintain a low unemployment rate and to promote diversification of the local economy.

8.2.2 The City shall monitor changes in demographic information to assure that the type, quantity, and location of services, facilities, and housing remain adequate to meet changing needs.

8.9.1 The City shall designate appropriate and sufficient land in a variety of different parcel sizes and locations to fulfill the community's industrial needs.

- 8.9.3** Lands designated for industrial use shall be preserved for industrial and other compatible uses and protected from incompatible uses.
- 8.9.18** The Mixed Use Employment district shall be encouraged in industrial districts that are easily accessible by transit and pedestrians.
- 8.10.2** Given the community's intention to prevent decline in existing commercial areas, the City shall explore opportunities to facilitate and assist in the redevelopment of existing commercial areas, in a manner that meets current standards.
- 8.10.4** New commercial development shall be concentrated in designated mixed use districts, which are located to maximize access by transit and pedestrians.
- 9.2.2** In new development, City land use actions shall promote neighborhood characteristics (as defined in 9.2.5) that are appropriate to the site and area.
- 9.2.5** Development shall reflect neighborhood characteristics appropriate to the site and area. New and existing residential, commercial, and employment areas may not have all of these neighborhood characteristics, but these characteristics shall be used to plan the development, redevelopment, or infill that may occur in these areas. These neighborhood characteristics are as follows:
- A.** Comprehensive neighborhoods have a neighborhood center to provide services within walking distance of homes. Locations of comprehensive neighborhood centers are determined by proximity to major streets, transit corridors, and higher density housing. Comprehensive neighborhoods use topography, open space, or major streets to form their edges.
 - B.** Comprehensive neighborhoods support effective transit and neighborhood services and have a wide range of densities. Higher densities generally are located close to the focus of essential services and transit.
 - C.** Comprehensive neighborhoods have a variety of types and sizes of public parks and open spaces to give structure and form to the neighborhood and compensate for smaller lot sizes and increased densities.
 - D.** Neighborhood development provides for compatible building transitions in terms of scale, mass, and orientation.
 - E.** Neighborhoods have a mix of densities, lot sizes, and housing types.
 - F.** Neighborhoods have an interconnecting street network with small blocks to help disperse traffic and provide convenient and direct routes for pedestrians and cyclists. In neighborhoods where full street connections cannot be made, access and connectivity are provided with pedestrian and bicycle ways. These pedestrian and bicycle ways have the same considerations as public streets, including building orientation, security enhancing design, enclosure, and street trees.

- G. Neighborhoods have a layout that makes it easy for people to understand where they are and how to get to where they want to go. Public, civic, and cultural buildings are prominently sited. The street pattern is roughly rectilinear. The use and enhancement of views and natural features reinforces the neighborhood connection to the immediate and larger landscape.
 - H. Neighborhoods have buildings (residential, commercial, and institutional) that are close to the street, with their main entrances oriented to the public areas.
 - I. Neighborhoods have public areas that are designed to encourage the attention and presence of people at all hours of the day and night. Security is enhanced with a mix of uses and building openings and windows that overlook public areas.
 - J. Neighborhoods have automobile parking and storage that does not adversely affect the pedestrian environment. Domestic garages are behind houses or otherwise minimized (e.g., by setting them back from the front facade of the residential structure.) Parking lots and structures are located at the rear or side of buildings. On-street parking may be an appropriate location for a portion of commercial, institutional, and domestic capacity. Curb cuts for driveways are limited, and alleys are encouraged.
 - K. Neighborhoods incorporate a narrow street standard for internal streets which slows and diffuses traffic.
 - L. Neighborhood building and street proportions relate to one another in a way that provides a sense of enclosure.
 - M. Neighborhoods have street trees in planting strips in the public right-of-way.
- 9.3.3 The City shall encourage a mix of residential land uses and densities throughout the City through the application of the criteria of the Land Development Code and through exploration of new approaches that respect the community's values.
- 9.4.1 To meet Statewide and Local Planning goals, the City shall continue to identify housing needs and encourage the community, university, and housing industry to meet those needs.
- 9.5.1 The City shall plan for affordable housing options for various income groups, and assure that such options are dispersed throughout the City.
- 9.4.7 The City shall encourage development of specialized housing for the area's elderly, disabled, students, and other groups with special housing needs.
- 9.4.9 Residential development should consider and accommodate to the maximum extent possible, the future needs of senior citizens.
- 9.5.1 The City shall plan for affordable housing options for various income groups, and assure that such options are dispersed throughout the City.

9.6.1 The City shall preserve and encourage a mix of housing types in the downtown residential neighborhood.

14.3.1 Infill and redevelopment within urban areas shall be preferable to annexations.

An assessment of the potential differences between the GI and MUE zones, in terms of basic site design and visual elements, requires a comparison of the uses allowed in each zone and their corresponding development standards. Table 1, below, lists the civic, commercial, and industrial uses permitted outright in each zone, and highlights differences between the two zones.

Table 1: Civic, Commercial, and Industrial Uses Permitted Outright¹ in the GI and MUE Zones

Zone	Civic Uses	Commercial Uses	Industrial Uses
GI	<i>Minor Utilities</i> Parking Services Public Safety Services Wireless Telecommunication Facilities	Agricultural Sales Agricultural Services Animal Sales and Services Grooming Kennels <i>Auctioning</i> <i>Automotive and Equipment</i> <i>Fleet Storage</i> <i>Repairs – Heavy Equipment</i> <i>Sales/Rentals of Farm and Heavy Equipment</i> Building Maintenance Services Construction Sales and Services Laundry Services Research Services <i>Scrap Operations</i> Technology Support Services Temporary Outdoor Markets Vocational or Professional Training	General Industrial Limited Manufacturing <i>Technological Production</i>

Zone	Civic Uses	Commercial Uses	Industrial Uses
		Wholesaling, Storage, and Distribution Light Mini Warehouse	
MUE	Administrative Services Essential Services Cultural Exhibits and Library Services Lodge, Fraternal, and Civic Assembly Parking Services Postal Services Public Safety Services Social Service Facilities Religious Assembly Transit Facilities Wireless Telecommunication Facilities	Agricultural Sales Agricultural Services Animal Sales and Services Grooming Indoor Kennels Veterinary Building Maintenance Services Business Equipment Sales and Services Building Support Services Communications Service Establishments Construction Sales and Services Convenience Sales and Personal Services Day Care, Commercial Eating and Drinking Establishments Financial, Insurance, and Real Estate Services Food and Beverage Sales Laundry Services Participant Sports and Recreation Professional and Administrative Services Repair Services – Consumer Research Services Retail Sales – General Technology Support Services Temporary Outdoor Markets Vocational or Professional Training Wholesaling, Storage, and Distribution	Limited Manufacturing – 20 or fewer employees per shift General Industrial Uses – in conjunction with sales General Industrial Uses that do not generate nuisance noise, odor, vibration, etc.

NOTES:

¹ Uses that are permitted outright do not require any land use decisions (e.g., Conditional Development approval).

Shaded uses are those permitted outright in the GI zone.

Uses in *italics* are not permitted outright in the MUE zone.

Eight of the Civic uses and 13 of the Commercial uses permitted outright in the MUE zone are not permitted outright in the GI zone. In comparison, all of the Industrial uses permitted outright in the MUE zone are also permitted outright in the GI zone. The MUE zone also allows several residential dwelling types, including: Single Attached, Duplexes, Attached – Townhouse, and Multi-dwelling (e.g., apartments) that are not permitted in the GI zone.

Despite its allowance of residential uses, and the fact that a wider variety of Civic and Commercial uses are permitted in the MUE zone than in the GI zone, it can be concluded that the two zones are compatible with one another given the existing configuration of zones within the immediate proximity of the site and elsewhere. Two parcels, totaling two-acres are immediately east and south of the site, and are zoned MUE and flanked by other properties zoned GI. The Planning Commission recently approved another MUE zone change for the Denson’s property of just over 1.5 acres further to the east. These two zones abut or are immediately adjacent to one another in three other areas of the city based on the current Corvallis Zoning Map. In each location, the MUE zone comprises less total acreage than nearby GI properties, which aligns with the purpose of the MUE zone.

Section 3.27.10 of LDC Chapter 3.27 notes that the MUE zone is intended to introduce residential and commercial uses within areas otherwise designated for industrial development, while doing so at an appropriate scale in relation to surrounding employment areas. If the subject site were rezoned to MUE, the total area of this zone would account for roughly 4 acres of the industrially zoned properties in the immediate area. The remaining nearby GI properties would still constitute approximately five acres. The LDC doesn't specify an acreage ratio that should exist between the two zones, but it is clear that rezoning this half acre site to MUE would provide opportunities for introducing a wider variety of commercial and residential uses to the immediate area; particularly those that may support further development of the remaining GI properties.

Comprehensive Plan Policies 8.9.1 and 8.9.3 encourage the City to support use of existing industrially zoned properties – taking into consideration their size and location. The subject site is ideally situated to complement and provide continuity among the other industrial and commercial zones within the immediate area. Additionally, Comprehensive Plan Policies 8.2.1, 8.9.1, 8.9.3, 8.9.15, 8.9.18, 8.10.2, 8.10.4, 9.2.5.B, and 14.3.1 each support rezoning the site to MUE, as doing so would diversify the potential mixture, types, and sizes of commercial and industrial uses located within an existing neighborhood that is near downtown Corvallis and OSU, and is easily accessed by walking or using transit.

With respect to the spectrum of commercial uses allowed in the MUE zone, the site is located within the boundaries of a Minor Neighborhood Center, as designated on the Comprehensive Plan Map. Several other properties within the immediate vicinity of the site are currently zoned to facilitate commercial uses, including 0.3-acre of Neighborhood Center – Minor (NC-Minor), 0.7-acre of Mixed Use Commercial with a Planned Development Overlay (PD(MUC)), and approximately one acre of MUCS. Portions of the Central Business zone also fall within the eastern extent of the Minor Neighborhood Center boundary. Of these zones, the MUE zone most closely aligns with the set of commercial uses allowed in the MUCS and CB zones. All but two of the commercial uses allowed in the MUE zone are also permitted outright in the MUCS zone, while the CB zone permits all uses that are also allowed in the MUE zone, with the exception of General Industrial uses.

Like the MUCS zone, the MUE zone limits the size of certain commercial uses, but those limitations apply to different uses in each zone. Thus, the MUE zone is able to facilitate a similar mixture of commercial uses as the MUCS zone in a manner that does not directly detract from the vitality of the MUCS zone. A similar relationship exists with the NC-Minor zone. As a result, rezoning the site to MUE will allow a set of commercial uses that are comparable to those already allowed by commercial zones within the immediate vicinity of the site without directly competing with those zones as development or redevelopment occurs. This arrangement of zones is consistent with direction from Comprehensive Plan Policies 8.10.2 and 8.10.4.

As noted above, residential uses are permitted in the MUE zone in addition to the industrial and commercial uses discussed above. However, a minimum Floor Area Ratio (FAR) of 0.25 preserves the zone's intended purpose of facilitating industrial mixed-use development. Also, Section 3.27.40.01.c requires approval of a Plan Compatibility Review if the square footage of non-industrial uses is greater than industrial uses. These regulations would likely limit the amount of residential use to the minimum density allowed, which, per Section 3.27.40.02.b, would equate to about 11 dwellings, assuming 20 units per acre. Most of the other residential zones within the immediate vicinity of the site facilitate densities of 20 units per acre or more, and allow the same spectrum of dwelling types as the MUE zone. Thus,

rezoning the site to MUE could contribute residential uses at densities already possible in this portion of the community.

Although this may not substantially enhance the mixture of residential uses and densities called for by Comprehensive Plan Policy 9.2.5, it will increase opportunities for housing within the subject neighborhood center and near downtown. The site is located near the southwest corner of the Downtown Residential Neighborhood area, and within approximately a quarter-mile of the Downtown Core. The site abuts university land and is within roughly a quarter-mile of the core of the Oregon State University campus. Several policies from the Comprehensive Plan referenced above encourage increased housing opportunities that can capitalize on proximity to these community amenities; particularly when those opportunities could provide affordable housing. The site is ideally located to enable potential residents to conveniently walk or ride bikes to reach many community services, employers, and recreational amenities. When compared to locations where daily use of a private car is essential, these options can reduce a household's cost of living – significantly so for those that are “housing cost burdened.” The 2013 Five Year Consolidated Plan, which was recently updated by the City of Corvallis Housing Division, documented substantial increases in the number of such households within the community over the 10-year period between 2000 and 2010. Based on research completed for the plan, there is a significant shortage of affordable housing within the community; particularly for households earning 80 percent or less of area median income. The following excerpt from the 2013 Consolidated Plan captures the severity of this issue.

“What are the most common housing problems?”

As noted in the summary comments provided at the beginning of this section, the most common housing problem in Corvallis, by far, is housing cost burden. The severity and frequency of this problem is worst for households with the lowest incomes: Approximately 26% of low income renters (those with incomes between 50% and 80% of the Corvallis area median family income) are either moderately or severely cost burdened, while 78% of very low income (those with incomes between 30% and 50% of area median) and 83% of extremely low income (those with incomes below 30% of area median) renters have a housing cost burden of 30% or more. Looking more closely at and comparing the two levels of cost burden among lower income households magnifies the severity of the problem for those with the lowest incomes: 3% of low income renters and 19% of very low income renters are severely cost burdened; a comparatively high 73% of extremely low income households are extremely cost burdened - again, paying more than 50% of their monthly incomes on housing.

One outcome of the continuing growth of Corvallis' renter population has been a declining rental vacancy rate. In 2000 according to Census data, 7.1% of renter units were vacant; in 2010 (again according to Census) that rate had fallen to 3.9%. Anecdotal information gathered over the last year by the City of Corvallis and its housing partners suggests that the current rental vacancy rate is more likely closer to 2%.

Does the Availability of Housing Units Meet the Needs of the Population?

Based on the analyses of the physical condition and affordability of housing presented in the Needs Assessment section of this Consolidated Plan, it is clear that while the vast majority of housing in Corvallis is physically suitable in terms of size and the presence of plumbing and kitchen facilities, much of what exists is not affordable, especially to those with very low and extremely low incomes. Based on

this finding it can be concluded that the availability of housing units does not meet the needs of the population.

Need for Specific Types of Housing

Again citing the Needs Assessment section of this Consolidated Plan and its calculations of unmet needs for affordable housing among low, very low and extremely low income households, it is clear that an increased supply of both affordable renter and owner housing is needed in Corvallis. And given the standard real estate market assumption that a vacancy rate of approximately 5% is representative of a relatively healthy market, the rental vacancy rates cited in the Introduction to this section suggest that approximately 300 more rental units are needed in Corvallis if the population of renters remains static.

As discussed above, the site's current zoning designation of GI precludes development of housing. Rezoning the site to MUE will enable developing portions of the site with new dwelling units that could meet a portion of the existing need for affordable housing; specifically households earning 80 percent or less of Area Median Income. Such opportunities are supported by Comprehensive Plan Policies 8.2.2, 9.3.3, 9.4.1, 9.5.1, 9.5.2, 9.5.4, and 9.5.6. Utilizing the MUE zone to facilitate mixed-use development of the site would take advantage of its close proximity to Downtown Corvallis, OSU, and other nearby community services, while also capitalizing on existing public utilities and services that are immediately adjacent to it. Optimizing these characteristics through the development process is encouraged by Comprehensive Plan Policy 3.2.1.

Comprehensive Plan Policy 9.2.5.D specifies that neighborhood scale development should incorporate compatible transitions in terms of building mass and orientation. As discussed in more detail below, the base development standards of the MUE zone are similar to those of the GI zone, but would likely facilitate development that is more compatible with the surrounding uses. Limitations on site coverage, building mass, and building height are expected to align better with the existing patterns of development within the surrounding neighborhood – even though the site could be developed exclusively with industrial uses. Consistent with its ability to facilitate mixed-use development, the MUE zone also contains a more diverse and robust set of design guidelines and standards that address building orientation, architectural features, and pedestrian amenities. The GI zone is limited in this regard to a single standard requiring pedestrian connections between buildings constructed on the same site (see LDC Section 3.24.40.a).

Applicable Land Development Code Sections:

Section 3.27.20 - GENERAL PROVISIONS - Establishment of the MUE Zone

The MUE Zone shall be applied to properties with industrial designations on the Comprehensive Plan Map or to lands designated through a quasi-judicial or legislative process. When the Zone is applied to parcels via the quasi-judicial Zone Change process, the proposal shall meet the Zone Change criteria of Section 2.2.40 in Chapter 2.2 - Zone Changes, and the following criteria for MUE Zone location, dimensions, and size.

a. Locational Criteria -

The following locational criteria shall be applied to Zone Changes, in conjunction with

Chapter 2.2 - Zone Changes.

- 1. The MUE Zone shall be located in areas with lot sizes of generally less than 20 acres;**

AND EITHER

- 2. All portions of the MUE Zone shall be located within .25 mile of existing or planned transit service;**

OR

- 3. The MUE Zone shall be located in areas determined through the Planned Development process in Chapter 2.5 - Planned Development to be necessary to provide mixed use opportunities and services to adjacent areas.**

b. Zone Size and Dimensions –

- 1. The Zone shall have a minimum size of .50 block or one acre. It may be composed of smaller parcels when the total area of the Zone is equal to or greater than one acre. Public street rights-of-way shall not count toward the total area of a Zone.**
- 2. A Planned Development zoning Overlay shall be applied to MUE Zones that exceed five acres or involve multiple parcels. If all parcels within the Zone are not concurrently developed, the Planned Development review in Chapter 2.5 - Planned Development shall focus on the developing parcel and ensure that the proposed development does not preclude development of the adjacent parcels within the mixed use area.**
- 3. The Zone shall have a minimum of 50 ft. of frontage onto an existing or planned public street.**

As noted above, the subject site is designated on the Comprehensive Plan Map as GI and the parcel is 0.56 acres, (Attachment B). Although the site itself is less than one acre, when combined with the adjacent MUE zoned parcels immediately to the south and east, the acreage of the zone would increase to roughly 4.3 acres. Although LDC Section 3.27.20.a.1 doesn't provide a specific measure for assessing whether lots within the same area of a MUE zone are less than 20 acres, the applicant notes that none of the lots within the subject Minor Neighborhood Center boundary exceed 20 acres. Based on information obtained from the City of Corvallis, four routes of the Corvallis Transit System are within a quarter-mile of the site. The site fronts on SW Washington Avenue for a distance of approximately 175 feet. Given these findings, the subject request is consistent with LDC Sections 3.27.20.a and 3.27.20.b.

In order to assess the potential for compatibility conflicts resulting from differences between the base development standards of the MUE and GI zones, we have conducted a comparison of the maximum building footprint, setbacks, and maximum building height allowed in each zone.

The maximum building height allowed in the MUE zone is 75-feet, the same as the GI zone. The MUE zone also requires building height "step-down" when a site is adjacent to an existing residential structure. The minimum setbacks in the MUE zone are less restrictive than those of the GI zone, which is intended to facilitate mixed use development patterns by incorporating a wider variety of commercial and residential uses than are allowed in the GI zone. However, after accounting for the minimum

amount of Green Area required, development of this site under the MUE zone standards would result in less site coverage than would be possible through the GI zone. This is expected to reduce the overall mass of buildings that could be constructed on the site – an outcome that would be more compatible with nearby residential development than what could occur in the GI zone.

Both the MUE and GI zones require minimum setbacks intended to buffer residential development from more intensive development allowed in either zone. A 100-foot setback from residential development is required internal to the GI zone (LDC Section 3.24.30.02.a.1), while the MUE zone requires a 25-foot setback in such situations (LDC Section 3.27.40.02.a). The lesser setback is reflective of the potential for comparatively less intensive uses and building mass in the MUE zone. It should be noted that the property is currently adjacent to a group of properties zoned RS-12 along the north side of SW Washington Avenue, (Attachment C). The existing building located at the site does not comply with the GI setback described above, nor does it comply with the 25-foot setback required in the MUE zone either. The building setback along the northern boundary at SW Washington Way is approximately 20-feet while the western wall of the building straddles the property line adjacent to the OSU parking lot. Regardless, the proposed zone change will lessen the degree of “nonconformity” concerning minimum building setbacks.

Given these considerations, the MUE zone presents a comparative advantage for achieving compatibility with existing development patterns in the immediate area, due to its limitations on site coverage, building height, and building mass, which would result in improved visual aesthetics. This is particularly true with respect to the residential uses north and further south of the site.

The existing structure on the site is approximately 25-feet in height. However, the structure does not comply with the design standards contained in LDC Sections 3.27.50.08 and 3.27.50.09. In this regard the building is considered to be legally non-conforming per LDC Section 1.4.30, which is a status presently afforded to the structure due to non-compliance with setbacks required in the GI zone. Upon further development or redevelopment of the site per the MUE zone, any expansion or alteration of the existing building would be required to comply with the corresponding development standards, including those from Sections 3.27.50.08 and 3.27.50.09.

Noise Attenuation, Odors, Lighting, and Signage

Applicable Comprehensive Plan Policies:

7.2.6 The City will encourage new development to be sensitive to the environment by having the development avoid significant negative impacts on:

- A. Air and water quality;**
- B. Noise or light pollution; and**

Both the MUE and GI zones are primarily intended for industrial development. While the MUE zone permits a wider variety of commercial uses as well as the opportunity for residential development, the potential for increased impacts due to noise, odors, or exterior lighting is negligible. Noise and odors typically expected to be associated with the forms of commercial development allowed in the GI zone are not any more likely to occur in the MUE zone. Activities such as vehicles traveling to and from the site, materials being delivered to or stored within outdoor storage areas, and emissions typical of a

small-scale manufacturing facility or a restaurant are some of the more significant impacts that would be expected in the MUE zone. Overall, these use characteristics would be less onerous if not comparable to the spectrum of commercial uses allowed in the GI zone. The potential for residential development in the MUE zone does not alter this conclusion, as the intensity of associated noise and emission impacts is typically less than what would be expected with commercial and industrial development.

In comparison to the GI zone, General Industrial uses allowed in the MUE zone must not generate any noxious odors, fumes, dust, or emissions.

Chapter 4.2 of the LDC contains regulations that limit the potential for glare from exterior lighting fixtures that might impact adjacent properties. These standards apply evenly to all forms of development. Thus, re-zoning the site to MUE should not cause an increased potential for lighting impacts on the abutting neighborhood.

Similar to lighting, LDC Chapter 4.7 contains standards that regulate the size, type, and placement of signs. The same standards apply to the MUE and GI zones. Therefore, re-zoning the site to MUE should not cause an increased potential for impacts from signage.

Landscaping for Buffering and Screening

As noted above, other than requiring a landscaped buffer within setback areas, the GI zone standards do not stipulate a minimum percentage of a site that must contain landscaping or open space. In comparison, the MUE zone standards limit site coverage by requiring that a minimum of 20 percent of a site contain landscaping and open space. Development occurring in both zones is subject to the buffering and screening standards contained in LDC Chapter 4.2. These regulations specify minimum widths of landscaping planters that are required along the perimeter of parking and circulation areas, as well as stipulate when screening measures are necessary to shield outdoor refuse containers and other service equipment from view. The standards contained in Chapter 4.2 also address loading facilities (i.e., loading docks), which could be included with many of the uses permitted in the GI and MUE zones. In general, the landscape buffering and screening measures contained in LDC Chapter 4.2 apply evenly to the uses allowed in both zones.

When applied to the subject site, the Green Area and landscaping standards of the MUE zone should result in development that is more compatible with the surrounding neighborhood. At least 20 percent of the site, or roughly 4,879 square feet, would be required to contain landscaping and open space. In comparison, the GI zone standards would only require a landscape buffer along the site's SW Washington Avenue frontage within the corresponding 25-foot setback. This would amount to an area of roughly 4,375 square feet – although additional landscape buffering would also be required around any surface parking lots and along either side of internal pedestrian walkways. Such features would also be required along with development occurring consistent with the MUE zone standards, so it's very likely a greater portion of the site would contain landscaping under the MUE standards.

Given these considerations, rezoning the site to MUE should not cause adverse impacts on the abutting neighborhood with respect to landscape buffering and screening.

Transportation Facilities

Applicable Comprehensive Plan Policies:

- 8.9.15 Industrial and commercial development adjacent to rail lines shall be designed and constructed in a way that does not preclude the future use of the rail facility.**
- 10.2.9 All developments shall comply with adopted utility and facility master plans and the Capital Improvement Plan.**
- 10.2.12 Developers will be responsible for the construction of all facilities internal to and fronting their properties and for needed extensions of facilities to and through their site.**
- 11.2.1 The transportation system shall be planned and developed in a manner which contributes to community livability, recognizes and respects the characteristics of natural features, and minimizes the negative effects on abutting land uses.**
- 11.2.2 The transportation system shall be managed to reduce existing traffic congestion and facilitate the safe, efficient movement of people and commodities within the community.**
- 11.2.12 The transportation system shall reflect consistency with the Corvallis Comprehensive Plan, land use designations, and regional and statewide transportation planning efforts.**
- 11.8.2 Corvallis shall pursue methods to increase the safety of railroad crossings.**
- 11.8.3 The City shall work with industry and rail service providers to retain rail service to this community's industrial areas.**

The following discussion responds to LDC Sections 2.2.40.02.a.8, 2.2.40.02.a.9, 2.2.40.02.a.10 with respect to public transportation facilities that currently serve the site.

The subject site has frontage along SW Washington Avenue, which is designated as a collector by the Corvallis Transportation Master Plan. Regulations contained in LDC Chapter 4.0 stipulate certain improvement standards for all public streets, and require substandard facilities to be upgraded through the development process. The current improvements for SW Washington Avenue are not consistent with the design standards for a Collector Roadway.

The existing right-of-way along the portion of SW Washington Avenue fronting the site varies between 40 and 50-feet in width. Typically, a collector roadway without parking, requires a right-of-way width of 68 feet, which accommodates construction of a 34-foot wide pavement section for two travel lanes and two bike lanes, curb and gutter, two 12-foot wide planter strips, and two five-foot wide sidewalks. The existing right-of-way for SW Washington Avenue is inadequate to support these improvements, therefore additional right of way will likely be required when the site is developed further or redeveloped, regardless of its zoning designation. Thus, consistent with Comprehensive Plan Policies 10.2.9, 10.2.12, 11.2.1, 11.2.2, and 11.2.12, rezoning the site to MUE will have no impact on whether the transportation system improvements needed to serve the site and support the transportation system are secured.

Accompanying standards from Chapter 4.0 mandate the creation of complete blocks bounded by streets, and typically do not allow block faces of greater than 400 feet as part of new development within the MUE zone. The site has approximately 175 feet of frontage along SW Washington Avenue and additional properties separate it from the 4-way intersections at 7th Street and 11th Street. The distance between those two intersections is just over 1,000-feet. A number of years ago the neighbors north of the subject site opposed the extension of 9th Street south to Western Boulevard. Although it would have provided enhanced connectivity, the city honored the neighbors request and backed off the proposal. That is reflected in the City's Functional Classification System exhibit in the Corvallis Transportation Master Plan. The railroad tracks provide a further barrier and ODOT Rail and the railroad have no desire to permit additional rail crossings for vehicles or pedestrians. Therefore the configuration of the abutting properties and the rail line preclude the extension of a new street through the site.

Although direct rail service has not been established to the site, the opportunity may exist if warranted by uses developed at the site consistent with the MUE zone. As noted earlier, a private rail spur is directly south of the subject site. None of the development standards particular to the MUE zone preclude construction of a rail spur into the site, so long as the design specifications for a rail spur can be met within the boundaries of the property. This scenario would also require compatible arrangement of uses on the site such that safety was not an issue for employees, patrons, or residents who may work, shop, or live at the site. These issues as well as the safety of existing rail crossings near the site, would be addressed through the development process by regulations implemented by the Oregon Department of Transportation's Rail Division – regardless of the site's zoning designation. Hence, the subject request is consistent with Comprehensive Plan Policies 8.9.15, 11.8.2, and 11.8.3.

The discussion provided below in response to "Traffic and Off-site Parking Impacts" addresses potential trip generation impacts that might place a greater demand on the transportation system as a result of rezoning the subject site to MUE.

Traffic and Off-site Parking Impacts

Applicable Comprehensive Plan Policies:

- 10.2.6 The type, location, and phasing of public facilities and utilities shall be based on actual needs, desired levels of service, cost-effectiveness, and/or property owner willingness to pay for infrastructure.**
- 11.3.10 In addition to level-of-service and capacity demands, factors such as livability, sustainability, and accessibility shall be considered in managing the City's transportation system.**
- 11.4.1 The City shall manage on-street parking to permit the safe and efficient operation of the transportation system.**
- 11.4.3 All traffic generators shall provide adequate parking.**

Section 4.0.60 - PUBLIC AND PRIVATE STREET REQUIREMENTS

- a. Traffic evaluations shall be required of all development proposals in accordance with the following:**

1. All development site proposals shall provide an estimate of site generated trips based on ITE standards. A traffic impact analysis (TIA) is required for any proposal generating 30 or more peak hour trips to an intersection/access. If there are specific safety or capacity issues associated with a site, staff may request those be addressed, regardless of the number of site trips generated. The TIA shall include Level of Service (LOS) analyses for the impacted intersections. A proposed TIA scope with preliminary trip estimates and trips distribution shall be prepared by a registered professional engineer, and submitted to the City Engineer for review and approval based on established procedures. The applicant shall complete the evaluation consistent with the approved scope in accordance with accepted traffic engineering practices and present the results with the site development proposal.

Statewide Transportation Planning Rule Criteria:

OAR 660-012-0060 (1) states, "If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
- (b) Change standards implementing a functional classification system; or
- (c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.
 - (A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
 - (B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or
 - (C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan."

The discussion included in the revised Transportation Impact Analysis (Attachment H) responds to LDC Sections 2.2.40.02.a.8, 2.2.40.02.a.9, 2.2.40.02.a.10 with respect to potential transportation system impacts that might occur as a result of rezoning the site to MUE. The traffic impact study analyzes the potential, for developing the site consistent with the standards of the MUE zone, to cause adverse impacts to the transportation system. Because specific development is unknown, the transportation analysis evaluates impacts resulting from reasonable worst-case development scenarios in both the current GI and proposed MUE zone designations. The following development assumptions are made based on previous discussions with Corvallis staff and an evaluation of the development standards in the Corvallis Development Code.

GI Zone Assumptions

- Gross site area is 0.56 acres (24,393 square feet).
- Net developable area for all developed uses is 24,393 square feet.
- Required building setback area is 40 feet from SW Washington Avenue and 35 feet on the eastern and southern property boundaries resulting in a maximum building footprint of 7,500 square feet.
- The maximum zone-allowed building height is 75 feet. It is assumed office uses are 2 stories and industrial uses are 1 story.
- There is no maximum industrial development floor area ratio (FAR).
- Parking is provided at code-required ratios, is outside the building footprint, and ground level.
- Parking spaces are 325 square feet including associated circulation area.

MUE Zone Assumptions

- Gross site area is 0.56 acres (24,393 square feet).
- Minimum green area is 20% (4,879 square feet).
- Net developable area is 19,514 square feet.
- Required building setback area is 25 feet from all property boundaries resulting in a maximum building footprint of 9,800 square feet.
- The maximum building height is 75 feet. It is assumed office uses are 2 stories and commercial and industrial uses are 1 story.
- Minimum industrial FAR is 0.25; however, Plan Compatibility Review approval is required when square-footage of non-industrial uses is greater than industrial uses. As such, the maximum assumed non-industrial floor area is 49% of total development floor area.
- Parking is provided at code-required ratios, is outside the building footprint, and ground level.
- Parking spaces are 325 square feet including associated circulation area.

Development Trip Generation

Specific development is unknown. Therefore, reasonable worst-case development scenarios for the current and proposed zone designations were developed based on permitted Corvallis Land Development Code uses and trip generation was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition and practices from the ITE *Trip Generation Handbook*, 3rd Edition.

The following summary and recommendations are based on materials contained in the Traffic Impact Analysis.

1. The proposed land use action rezones the 0.56 acre Pacific Fruit property from General Industrial (GI) to Mixed Use Employment (MUE).
2. The subject land use action includes a Zone Change request; therefore, the TIA addresses Transportation Planning Rule (TPR) criteria outlined in Oregon Administrative Rule (OAR) 660 012- 0060 and requirements from City of Corvallis Land Development Code Section 4.0.60.
3. This land use action is specifically for the subject zone change and is not for a specific development application; therefore, the analysis intent is to compare the relative transportation impacts of the current and proposed zone designations.
4. Trip generation was determined for reasonable worst-case development scenarios in the current GI and proposed MUE zone designations with input from City staff. The reasonable worst-case development scenario in the proposed MUE zone designation generates an additional 112 net new AM peak hour trips and 62 net new PM peak hour trips over the current GI zone designation.
5. Operations at all intersections are anticipated to be better than City of Corvallis mobility standards during the AM and PM peak hours in the plan year with the proposed zone designation except at the Washington Avenue/15th Street intersection.
6. Operations at the Washington Avenue/15th Street intersection are anticipated to exceed mobility standards in the plan year, with or without the proposed rezone as a result of background growth and high north and southbound traffic volumes on 15th Street.
7. With increased MUE trip generation the proposed zone designation significantly affects the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan. Recognizing this effect, and the uncertainty, difficulty and timeliness of providing off-site mitigation, the Applicant proposes to follow OAR 660-012-0060(2)(a) which states, *"If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through... ..adopting measures that demonstrate a/lowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility."*
8. To ensure proposed/allowed land use consistency, the Applicant proposes a deed restriction to limit/restrict trip generation to that identified by the reasonable worst-case development scenario in the GI zone designation which is 52 external PM peak hour motor vehicle trips. With this restriction in place, the proposed MUE zone designation will not significantly affect the transportation system.

Chapter 4.1 of the LDC contains off-street parking standards for all forms of development permitted in Corvallis. Minimum parking demand ratios are stipulated for each of the civic, commercial, industrial and residential uses permitted in the MUE zone, and include standards for both vehicle and bicycle parking. Although the MUE zone permits a wider variety of uses than the GI zone, off-site parking impacts are not anticipated from rezoning the site, as the minimum number of spaces required for any allowed use would be ensured through the development review process.

Utility Infrastructure

Applicable Comprehensive Plan Policies:

- 10.2.5 The City shall consider the level and type of public facilities that can be provided when planning for various densities and types of urban land uses.**
- 10.2.9 All developments shall comply with adopted utility and facility master plans and the Capital Improvement Plan.**
- 10.2.12 Developers will be responsible for the construction of all facilities internal to and fronting their properties and for needed extensions of facilities to and through their site.**

The following discussion responds to LDC Sections 2.2.40.02.a.8, 2.2.40.02.a.9, 2.2.40.02.a.10 with respect to public utilities, public schools, and public parks that currently serve the site.

Water

The site is located within the North Hills/ Baldy First Level water service area. Based upon the information from the Corvallis Water System Distribution Facilities Plan, no adjacent improvements are scheduled to be implemented for population growth.

There is currently a 20-inch waterline that is located in the right-of-way of SW Washington Avenue, which is a first level transmission line, (Attachment F). The first level water service area typically serves properties that are at topographic elevation 290 feet and below.

The City of Corvallis Water Distribution System Facility Plan, dated July 1998, predates the proposed MUE zone so the industrial zone is used to calculate the worst case scenario for the proposed MUE Zone. In the MUE zone, commercial and residential uses are allowed, but the industrial zone demand has a comparatively higher demand ratio. The MUE industrial uses are of less magnitude than the general industrial zone use, therefore, the industrial zone calculations are likely to over-estimate the actual demand generated by a development in the MUE zone.

As shown in the waterline calculations which are in Attachment G, a summary of the projected water demands are summarized below.

- Water demand for the site under the existing zoning designations of General Industrial (GI) is as follows:
 - Average Daily Demand = 2,100 gal/day = 1.46 gpm
 - Peak Daily Demand = 3 gpm
 - Peak Hour Demand = 7 gpm
 - Maximum Water Demand including fire flows = 3,007 gpm

- Water demand for the site under the proposed zoning designation of Mixed Use Employment (MUE) is as follows:
 - Average Daily Demand = 2,100 gal/day = 1.46 gpm
 - Peak Daily Demand = 3 gpm
 - Peak Hourly Demand = 7 gpm
 - Maximum Water Demand including fire flows = 3,007 gpm

- No increase or decrease in the maximum water demand occurs due to the proposed zone change from GI to MUE.

To serve the site, a 12" waterline currently runs along 9th Street. The 12" waterline connects to the 20" water main which is located in near SW Washington Avenue on the property. Based upon existing projects in the area, the fire flows appear to have sufficient capacity to support the additional flows from the zoning change.

Any proposed public waterlines that are located outside of the City's public right-of-way shall be located within a 15-foot wide public utility and access easement. Any proposed public waterlines will meet the separation requirements to proposed buildings, sanitary sewer and storm drain mainlines and laterals.

Sanitary Sewer

The site is located within the Western Boulevard Drainage Basin of the public sanitary sewer system. There are currently no planned improvements for the area in the relative future, based on population growth.

As shown in the sanitary sewer calculations which are found in Attachment G, a summary of the projected design flows are below. The City of Corvallis Wastewater Master Plan, dated November 1998, predates the proposed MUE zone so the industrial zone is used to calculate the worst case scenario for the proposed MUE Zone. In the MUE zone, commercial and residential uses are allowed, but the industrial zone demand has a comparatively higher demand ratio. The MUE industrial uses are of less magnitude than the general industrial zone use, therefore, the industrial zone calculations are likely to over-estimate the actual demand generated by a development in the MUE zone.

- Sanitary sewer design flows for the site under the existing zoning designations of General Industrial (GI) is as follows:
 - Maximum Number of Dwelling Units = 5 dwelling units
 - Peak Daily Design Flows = 2,123 gpd = 1.47 gpm

- Inflows and Infiltration = 2,240 gpd = 1.56 gpm
- Total Peak Design Flows = 3.03 gpm
- Sanitary sewer design flows for the site under the proposed zoning designation of Mixed Use Employment (MUE) is as follows:
 - Maximum Number of Dwelling Units = 5 dwelling units
 - Peak Daily Design Flows = 2,123 gpd = 1.47 gpm
 - Inflows and Infiltration = 2,240 gpd = 1.56 gpm
 - Total Peak Design Flows = 3.03 gpm
- No increase or decrease in the maximum sanitary sewer flows occur due to the proposed zone change from GI to MUE.

There is an 8" combined sanitary sewer/ storm line which is currently constructed in Washington Avenue approximately 150' away, (Attachment F). As shown in the sanitary sewer calculations, there is no increase in the peak design flows from 3.03 gpm to 3.03 gpm from the proposed zone change. The current sanitary sewer infrastructure is adequate to serve the site.

Storm Drainage

The site is located within the Western drainage basin of the City of Corvallis Stormwater Master Plan. There are currently no planned improvements for the area in the relative future, based on population growth.

As noted in the sanitary section above, there is an 8" combined sanitary sewer/ storm line which is currently constructed in Washington Avenue approximately 150' away, (Attachment F). This flows into a 30-inch Storm Pipe located in the right-of-way in Western Blvd, to the south of the subject site.

Any new on-site private storm drainage facilities will consist of on-site private storm drainage lines that, if required, will include detention and water quality treatment facilities. The required private detention volumes will be achieved through the use of an underground detention system and a flow control manhole which will control storm water runoff to historic predevelopment runoff rates. A water quality structure can address treatment requirements consistent with the City's SWMP.

All public and private storm drainage facilities shall be constructed to applicable SWMP, the City of Corvallis Standard Construction and Specification, and the Oregon Plumbing Specialty Code Requirements.

A summary of the storm water calculations for developed conditions under the existing zone designation of GI and the proposed zone change designation of MUE are below. The MUE zone is divided into both industrial and commercial parts for the storm water calculations.

- Existing General Industrial (GI) Zone Designation:
 - ✓ The 10-year peak storm water runoff is 0.113 cfs.
- Proposed Mixed Use Employment (MUE) Zoning Designation:

- ✓ The 10-year peak storm water runoff is 0.116 cfs.
- An increase of 2.6 % in storm water runoff due to the proposed zone change for the 10-year, 24-hour storm event.

Under the requirements of the City's SWMP, the development of this site should not increase the storm water flows into the City's storm drainage system. This is due to the requirement of the development to provide detention facilities and flow control structures to limit storm water runoff to historic pre-developed runoff rates.

Currently, there is an 8" combined storm/sanitary line located in the Washington Avenue right-of-way. The pipe leads to the current 30" combination storm/sanitary sewer drainage mainline which flows in Western Blvd to the south. As-builts for the existing 8" line in 7th Street provides a slope of 0.0036 ft/ft, the pipe does provide adequate capacity, if the site follows the City's SWMP practices.

In summary, findings from the Utility Capacity Study (Attachment G) show that the existing water, sanitary sewer, and stormwater drainage facilities within immediate proximity of the site have the capacity to facilitate development consistent with the MUE zone. The potential for increased stormwater run-off as a result of developing the site consistent with standards of the MUE zone is slightly greater in comparison to the site's existing zoning. Given that the City's Stormwater Master Plan requires construction of on-site detention facilities and release of run-off from such facilities at or below the rate that would have occurred when the site was completely undeveloped (i.e., historic, predeveloped run-off rates), the existing drainage facilities downstream of the site will not convey a greater peak volume of stormwater than is currently the case. This requirement applies to all development proposals regardless of the zoning designation.

Franchise Utilities

All necessary franchise utility facilities are located along the frontage of the site in the Washington Avenue right-of-way. At the time of future development, the developer or owner will coordinate with the appropriate franchise utility companies to ensure that these services are available to the site. Any franchise utilities that are extended onto this site will be installed within a new 7-foot Utility Easement (UE) adjacent to an existing right-of-way or within easements that extend to the individual structures.

As required by LDC Section 4.0.90, the Utility Capacity Study also addresses the ability for franchise utilities to serve the site, and concludes that existing services within the immediate vicinity have the capacity to accommodate development consistent with the MUE zone.

In addition to public utilities and transportation facilities, Section 2.2.40.02.a.8 of the LDC requires a statement addressing the availability and capacity of park and school facilities that may serve the site. The public parks nearest to the site include Little Fields Park, Peanut Park, and Central Park, all of which are within a quarter-mile of the site. The site is within the designated service area of these parks. The proposed zoning designation does have the potential for increasing demand on these parks due to the possibility of residential development. However, the applicant is not aware of any capacity issues that would prevent these parks from being able to serve the site if developed consistent with the MUE zone. Therefore, the proposed zone change is consistent with Comprehensive Plan Policy 9.2.5.C.

Based on information obtained from Corvallis School District 509J, students who may live at the site would likely attend Adams Elementary, Linus Pauling Middle School, or Corvallis High School. Enrollment capacity at these schools should not be exceeded as a result of rezoning and developing the site consistent with the MUE zone standards. The average household size in Corvallis is 2.2 people, with an average of 0.5 school-age children per household. The site could theoretically be developed with approximately 11 dwelling units based on a density of 20 units per acre, which would be allowed in the MUE zone under certain circumstances. This equates to approximately 24 people who might live in dwellings developed on the site, assuming a density of 20 units per acre is attainable under the MUE standards. An average increase of approximately 6 additional school aged children would be expected based on these assumptions. In comparison to development of the site through the GI zone, this relatively minor increase in population should not place significant strain on public parks or public schools serving the site.

Effects on Air and Water Quality

Applicable Comprehensive Plan Policies:

7.2.6 The City will encourage new development to be sensitive to the environment by having the development avoid significant negative impacts on:

A. Air and water quality;

Similar to the potential for adverse impacts from noise, odors, and lighting, the forms of development permitted in the MUE zone are not typically associated with air and water quality impacts. Emissions affecting air quality could be generated by motor vehicles or other types of relatively innocuous emissions typically associated with commercial and industrial development. In comparison to the GI zone, General Industrial uses allowed in the MUE zone must not generate any noxious odors, fumes, dust, or emissions. Water quality issues related to development are addressed through the City of Corvallis Stormwater Master Plan, which requires construction of stormwater detention and water quality features as part of development. These standards apply evenly to development occurring in all zones. Thus, rezoning the site to MUE should not cause adverse impacts to either air or water quality.

Consistency with Applicable Development Standards and PODS

Applicable Comprehensive Plan Policies:

9.2.2 In new development, City land use actions shall promote neighborhood characteristics (as defined in 9.2.5) that are appropriate to the site and area.

9.2.5 Development shall reflect neighborhood characteristics appropriate to the site and area. New and existing residential, commercial, and employment areas may not have all of these neighborhood characteristics, but these characteristics shall be used to plan the development, redevelopment, or infill that may occur in these areas. These neighborhood characteristics are as follows:

A. Comprehensive neighborhoods have a neighborhood center to provide services within walking distance of homes. Locations of comprehensive neighborhood centers are determined by proximity to major streets, transit corridors, and higher density housing.

Comprehensive neighborhoods use topography, open space, or major streets to form their edges.

- B. Comprehensive neighborhoods support effective transit and neighborhood services and have a wide range of densities. Higher densities generally are located close to the focus of essential services and transit.
- C. Comprehensive neighborhoods have a variety of types and sizes of public parks and open spaces to give structure and form to the neighborhood and compensate for smaller lot sizes and increased densities.
- D. Neighborhood development provides for compatible building transitions in terms of scale, mass, and orientation.
- E. Neighborhoods have a mix of densities, lot sizes, and housing types.
- F. Neighborhoods have an interconnecting street network with small blocks to help disperse traffic and provide convenient and direct routes for pedestrians and cyclists. In neighborhoods where full street connections cannot be made, access and connectivity are provided with pedestrian and bicycle ways. These pedestrian and bicycle ways have the same considerations as public streets, including building orientation, security enhancing design, enclosure, and street trees.
- G. Neighborhoods have a layout that makes it easy for people to understand where they are and how to get to where they want to go. Public, civic, and cultural buildings are prominently sited. The street pattern is roughly rectilinear. The use and enhancement of views and natural features reinforces the neighborhood connection to the immediate and larger landscape.
- H. Neighborhoods have buildings (residential, commercial, and institutional) that are close to the street, with their main entrances oriented to the public areas.
- I. Neighborhoods have public areas that are designed to encourage the attention and presence of people at all hours of the day and night. Security is enhanced with a mix of uses and building openings and windows that overlook public areas.
- J. Neighborhoods have automobile parking and storage that does not adversely affect the pedestrian environment. Domestic garages are behind houses or otherwise minimized (e.g., by setting them back from the front facade of the residential structure.) Parking lots and structures are located at the rear or side of buildings. On-street parking may be an appropriate location for a portion of commercial, institutional, and domestic capacity. Curb cuts for driveways are limited, and alleys are encouraged.
- K. Neighborhoods incorporate a narrow street standard for internal streets which slows and diffuses traffic.
- L. Neighborhood building and street proportions relate to one another in a way that provides a sense of enclosure.

M. Neighborhoods have street trees in planting strips in the public right-of-way.

Development occurring in the MUE zone is not subject to the standards from LDC Chapter 4.10. Instead, Section 3.27.50 presents several design guidelines and standards that address building architecture and orientation, landscaping, weather protection, pedestrian connectivity and amenities in a manner that is very similar to the standards from Chapter 4.10. Comprehensive Plan Policy 9.2.5 speaks to several of these development considerations. For example, Section 3.27.50.02 requires all new buildings to be oriented toward either a public or a private street, and requires that at least one public entrance should face each street abutting a site, as encouraged by Comprehensive Plan Policy 9.2.5.H. Minimum weather protection and window coverage requirements addressed by Sections 3.27.50.40 and 3.27.50.08, are consistent with similar standards from Chapter 4.10 related to commercial, industrial, and residential development. Depending on the square footage of new buildings constructed in the MUE zone, Section 3.27.50.07 requires a minimum number of pedestrian amenities, similar to the standard from Section 4.10.70.05.a.2 and encouraged by Comprehensive Plan Policy 9.2.5.I. In comparison to these requirements, development occurring in the GI zone is subject to only one standard from Chapter 4.10, as stipulated by Section 3.24.40.a, which addresses internal pedestrian connectivity between buildings.

Given these considerations, rezoning the site to MUE should have a beneficial impact on the aesthetics and architecture of the surrounding area. The various design elements addressed through Section 3.27.50 are more responsive to existing development patterns in the surrounding neighborhood – particularly residential uses north of the site. The site is visible from Washington Way, so it is desirable for new development to positively contribute to the overall design and aesthetics of the area. The standards contained in Section 3.27.50 are better able to accomplish that outcome than the limited requirements of the GI zone.

Consistency with Natural Resource and Natural Hazard Standards

Applicable Comprehensive Plan Policies:

- 4.2.2 Natural features and areas determined to be significant shall be preserved, or have their losses mitigated, and/or reclaimed. The City may use conditions placed upon development of such lands, private nonprofit efforts, and City, State, and Federal government programs to achieve this objective.**

- 4.11.1 Consistent with State and Federal policy, the City adopts the goal of no net loss of significant wetlands in terms of both acreage and function. The City shall comply with at least the minimum protection requirements of applicable State and Federal wetland laws as interpreted by the State and Federal agencies charged with enforcing these laws.**

- 4.11.8 City wetland management plans for significant wetlands, as defined by the State through the Statewide Planning Goal 5 process or by a formally adopted plan, shall require protection of these lands consistent with State provisions.**

As noted above, the subject site contains none of the natural resources or natural hazards regulated by LDC Chapters 2.11, 4.2, 4.5, 4.12, 4.13, and 4.14, (Attachment E).

CONCLUSIONS ON ZONE CHANGE REQUEST

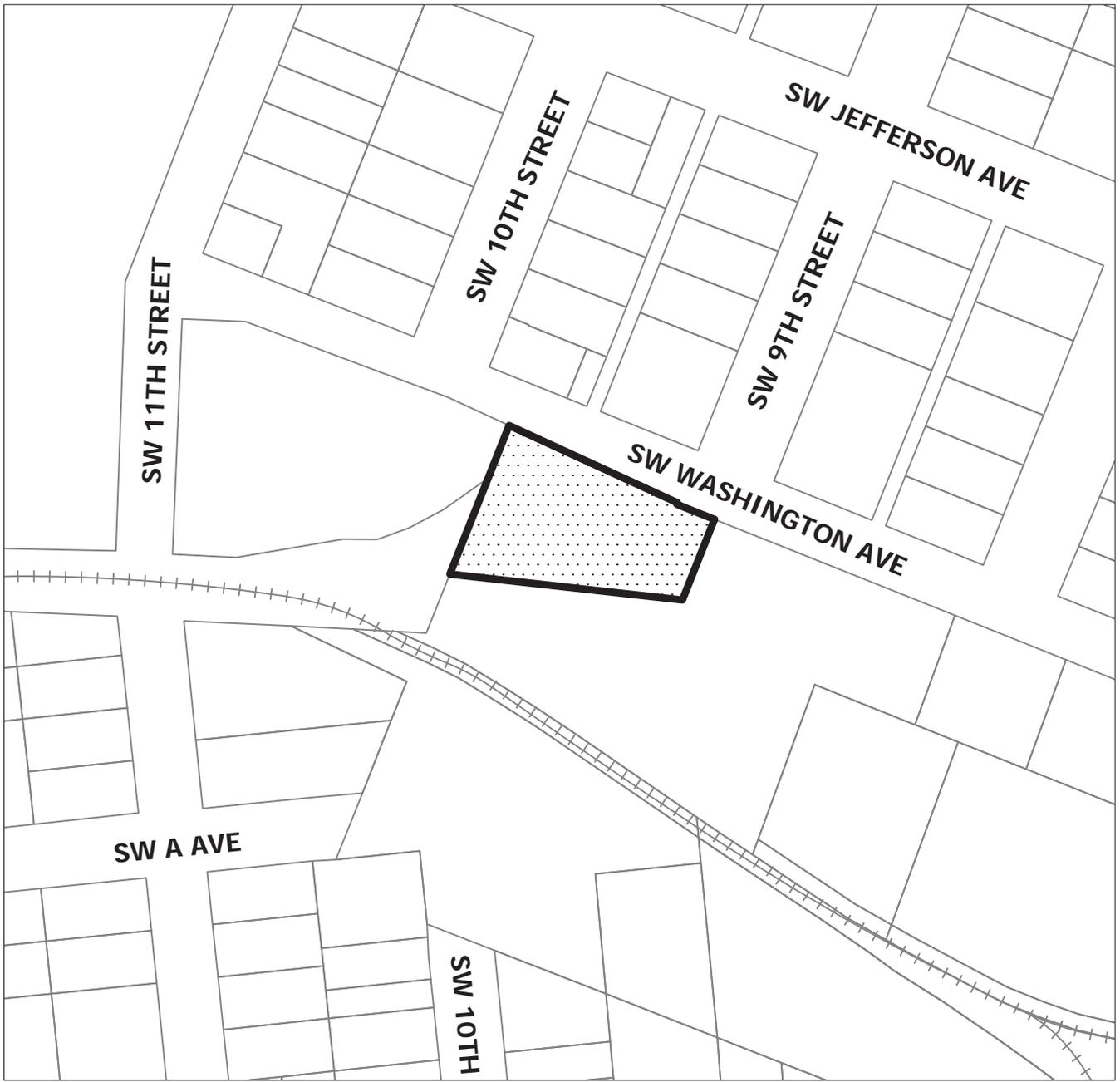
The discussion provided above has demonstrated that the proposed Zone Change request is consistent with the corresponding general review criteria and relevant Policies of the Comprehensive Plan. Rezoning the site to MUE will allow it to be further developed in a manner that is compatible with surrounding properties, while also enhancing the streetscape to a greater degree than would be required through the GI zone. The opportunity to provide desperately needed affordable housing within the community is another considerable advantage of the MUE zone, as discussed above. Given the proximity of existing commercial services and major employers, the site is an ideal location for capitalizing on the spectrum of uses allowed in the MUE zone to complement formation of a comprehensive neighborhood in this portion of the community.

Documentation submitted by the applicant confirms that the site can be served by all necessary public transportation facilities and utilities. Existing transportation and utility systems that serve the site have been shown to possess adequate capacity to support the range and potential intensity of development allowed in the MUE zone. To the extent that existing facilities abutting or adjacent to the site do not satisfy corresponding public improvement standards, such deficiencies can be rectified through the development process – regardless of the site’s zoning designation.

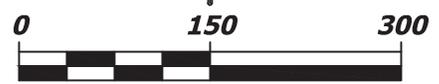
The applicable development standards addressing, exterior lighting, signage, pedestrian oriented design, significant trees, and landscape buffering and screening will ensure that development of the site per the MUE zone will be more compatible with the nearby residential and university zones than the GI zone.

Attachments A through E

PUBLIC NOTICE MAP



 Subject Site



Scale: 1" = 150'

ATTACHMENT A

EXISTING COMPREHENSIVE PLAN DESIGNATIONS



-  RESIDENTIAL - HIGH DENSITY
-  RESIDENTIAL - MEDIUM-HIGH DENSITY
-  RESIDENTIAL - MEDIUM DENSITY
-  MIXED USE COMMERCIAL
-  PUBLIC INSTITUTIONAL
-  GENERAL INDUSTRIAL

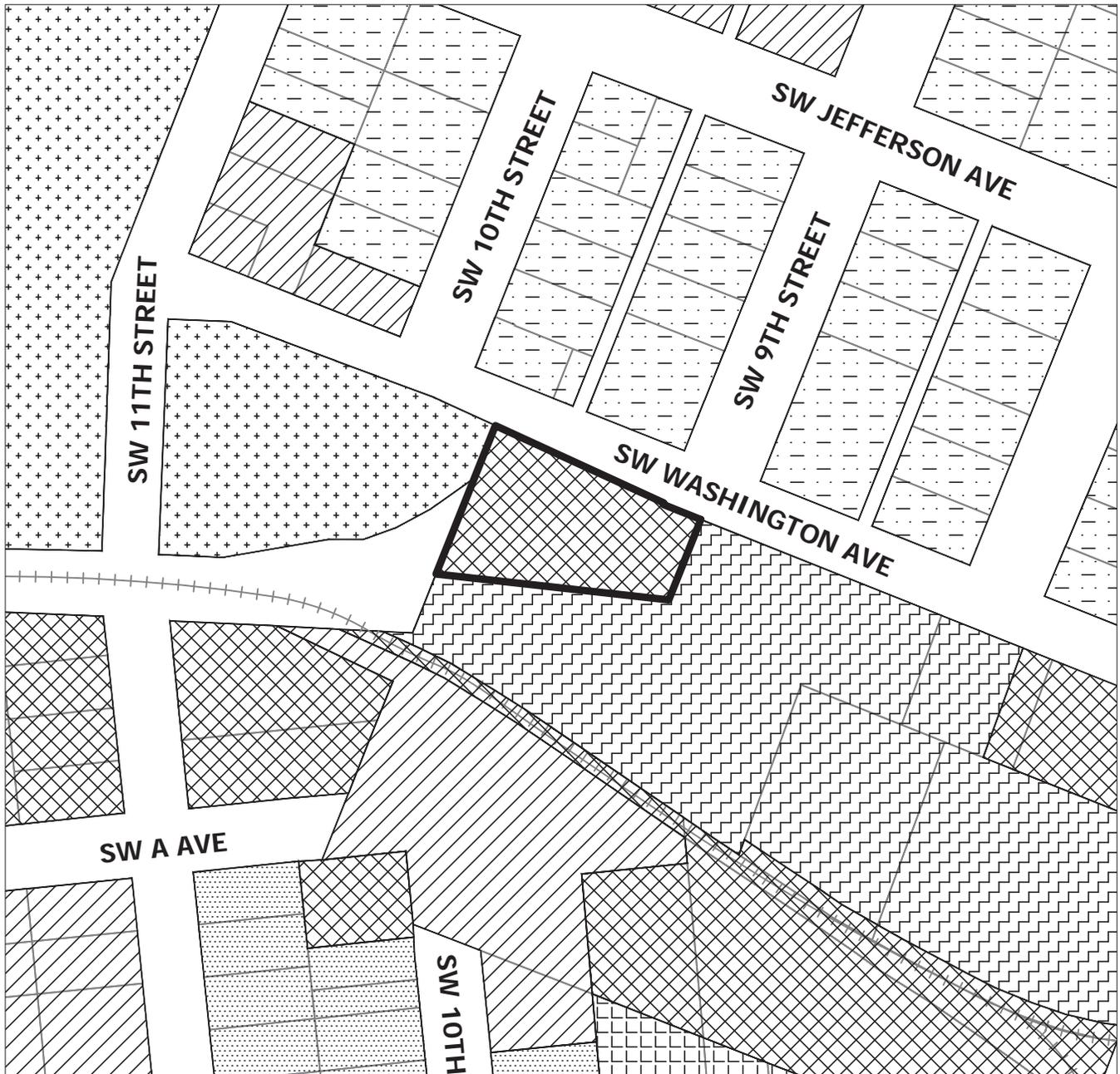
 Subject Site



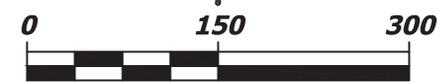
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ATTACHMENT B

EXISTING ZONING DESIGNATIONS



	RS-9 - MEDIUM DENSITY RES.		GI - GENERAL INDUSTRIAL
	RS-20 - HIGH DENSITY RES.		Subject Site
	RS-12 - MEDIUM-HIGH DENSITY RES.		
	MUCS - MIXED USE COMMUNITY SHOPPING		
	MUE - MIXED USE EMPLOYMENT		
	OSU - OREGON STATE UNIVERSITY		



Scale: 1" = 150'

ATTACHMENT C

EXISTING LAND USES



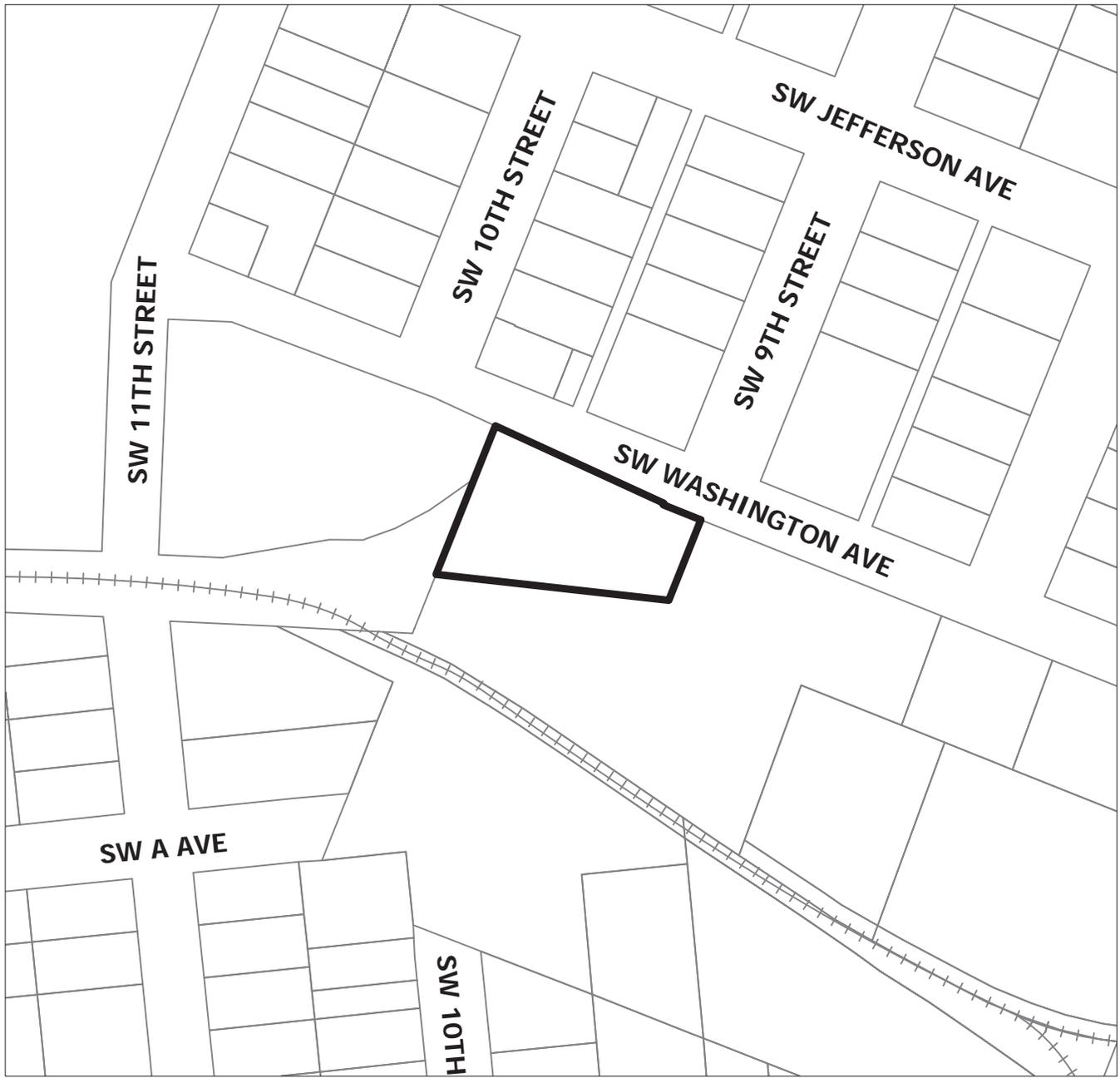
 Subject Property



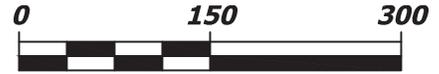
Scale: 1" = 200'

ATTACHMENT D

SIGNIFICANT NATURAL FEATURES



 Subject Site



Scale: 1" = 150'

ATTACHMENT E

Attachment F Existing Utilities

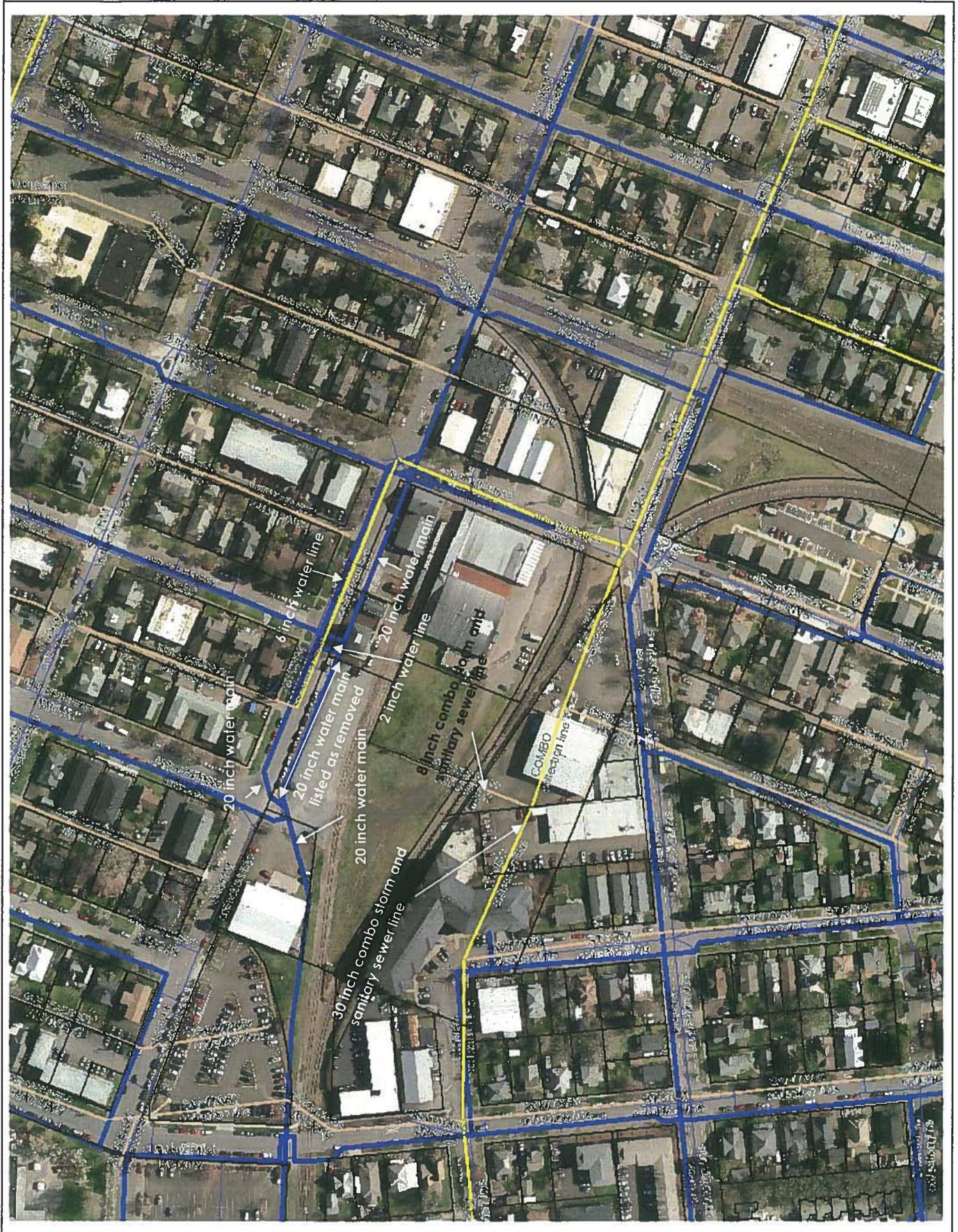


Exhibit LDHB - A - 40

Attachment G

Utilities Capacity Study

Utilities Narrative

Public Waterline

The site is located within the North Hills/ Baldy First Level water service area. Based upon the information from the Corvallis Water System Distribution Facilities Plan, no adjacent improvements are scheduled to be implemented for population growth.

There is currently a 20-inch waterline that is located in the right-of-way of SW Washington Avenue, which is a first level transmission line. The first level water service area typically serves properties that are at topographic elevation 290 feet and below.

The City of Corvallis Water Distribution System Facility Plan, dated July 1998, predates the proposed MUE zone so the industrial zone is used to calculate the worst case scenario for the proposed MUE Zone. In the MUE zone, commercial and residential uses are allowed, but the industrial zone demand has a comparatively higher demand ratio. The MUE industrial uses are of less magnitude than the general industrial zone use, therefore, the industrial zone calculations are likely to over-estimate the actual demand generated by a development in the MUE zone.

As shown in the waterline calculations which are in the appendix, a summary of the projected water demands are summarized below.

- Water demand for the site under the existing zoning designations of General Industrial (GI) is as follows:
 - Average Daily Demand = 2,100 gal/day = 1.46 gpm
 - Peak Daily Demand = 3 gpm
 - Peak Hour Demand = 7 gpm
 - Maximum Water Demand including fire flows = 3,007 gpm

- Water demand for the site under the proposed zoning designation of MUE is as follows:
 - Average Daily Demand = 2,100 gal/day = 1.46 gpm
 - Peak Daily Demand = 3 gpm
 - Peak Hourly Demand = 7 gpm
 - Maximum Water Demand including fire flows = 3,007 gpm

- No increase or decrease in the maximum water demand occurs due to the proposed zone change from General Industrial (GI) to MUE.

To serve the site, a 12" waterline currently runs along 9th Street. The 12" waterline connects to the 20" water main which is located in near SW Washington Ave. on the property. Based upon previously existing projects in the area, the fire flows appear to have sufficient capacity to support the additional flows from the zoning change.

Any proposed public waterlines that are located outside of the City's public right-of-way shall be located within a 15-foot wide public utility and access easement. Any proposed public waterlines will meet the separation requirements to proposed buildings, sanitary sewer and storm drain mainlines and laterals.

Sanitary Sewer Facilities

The site is located within the Western Boulevard Drainage Basin of the public sanitary sewer system. There are currently no planned improvements for the area in the relative future, based on population growth.

As shown in the sanitary sewer calculations which are found in the Appendix, a summary of the projected design flows are below. The City of Corvallis Wastewater Master Plan, dated November 1998, predates the proposed MUE zone so the industrial zone is used to calculate the worst case scenario for the proposed MUE Zone. In the MUE zone, commercial and residential uses are allowed, but the industrial zone demand has a comparatively higher demand ratio. The MUE industrial uses are of less magnitude than the general industrial zone use, therefore, the industrial zone calculations are likely to over-estimate the actual demand generated by a development in the MUE zone.

- Sanitary sewer design flows for the site under the existing zoning designations of General Industrial (GI) is as follows:
 - Maximum Number of Dwelling Units = 5 dwelling units
 - Peak Daily Design Flows = 2,123 gpd = 1.47 gpm
 - Inflows and Infiltration = 2,240 gpd = 1.56 gpm
 - Total Peak Design Flows = 3.03 gpm

- Sanitary sewer design flows for the site under the proposed zoning designation of MUE is as follows:
 - Maximum Number of Dwelling Units = 5 dwelling units
 - Peak Daily Design Flows = 2,123 gpd = 1.47 gpm
 - Inflows and Infiltration = 2,240 gpd = 1.56 gpm
 - Total Peak Design Flows = 3.03 gpm

- No increase or decrease in the maximum sanitary sewer flows occur due to the proposed zone change from General Industrial (GI) to MUE.

There is an 8" combined sanitary sewer/ storm line which is currently constructed in Washington Avenue approximately 150' away. As shown in the sanitary sewer calculations, there is no increase in the peak design flows from 3.03 gpm to 3.03 gpm from the proposed zone change. The current sanitary sewer infrastructure is adequate to serve the site.

Storm Drainage

The site is located within Western drainage basin of the City of Corvallis Stormwater Master Plan. There are currently no planned improvements for the area in the relative future, based on population growth.

As noted in the sanitary section above, there is an 8" combined sanitary sewer/ storm line which is currently constructed in Washington Avenue approximately 150' away. It flows into a 30-inch Storm Pipe located in the right-of-way in Western Blvd, to the south of the proposed zoning site.

Any new on-site private storm drainage facilities will consist of on-site private storm drainage lines that, if required, will include detention and water quality treatment facilities. The required private detention volumes will be achieved through the use of an underground detention system and a flow control manhole which will control storm water runoff to historic predevelopment runoff rates. A water quality structure can address treatment requirements consistent with the City's SWMP.

All public and private storm drainage facilities shall be constructed to applicable SWMP, the City of Corvallis Standard Construction and Specification, and the Oregon Plumbing Specialty Code Requirements.

A summary of the storm water calculations for developed conditions under the existing zone designation of General Industrial (GI) and the proposed zone change designation of MUE. The MUE zone is divided into both industrial and commercial parts for the storm water calculations.

❖ Existing General Industrial (GI) Zone Designation:

- The 10-year peak storm water runoff is 0.113 cfs.

❖ Proposed MUE Zoning Designation:

- The 10-year peak storm water runoff is 0.116 cfs.

- An increase of 2.6 % in storm water runoff due to the proposed zone change for the 10-year, 24-hour storm event.

Under the requirements of the City's SWMP, the development of this site should not increase the storm water flows into the City's storm drainage system. This is due to the requirement of the development to provide detention facilities and flow control structures to limit storm water runoff to historic pre-developed runoff rates.

Currently, there is an 8" combined storm/sanitary line located in the Washington Avenue right-of-way. The pipe leads to the current 30" combination storm/sanitary sewer drainage mainline which flows in Western Blvd to the east. As-builts for the existing 8" line in 7th Street provides a slope of 0.0036 ft/ft, the pipe does provide adequate capacity, if the site follows the City's SWMP practices.

Franchise Utilities

All necessary franchise utility facilities are located along the frontage of the site in the Washington Avenue right-of-way. At the time of any development proposal, the developer or owner will coordinate with the appropriate franchise utility companies to ensure that these services are available to the site. Any franchise utilities that are extended onto this site will be installed within a new 7-foot Public Utility Easement (PUE) adjacent to an existing right-of-way or within easements that extend to the individual structures.



EXPIRES: 6/30/17

Waterline, Sanitary Sewer and Storm Drainage
Calculations for the

**Pacific Fruit Properties Zoning Change
for
GILBANE DEVELOPMENT COMPANY**

Devco Job #16-405
July 2016

Table of Contents

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Sanitary Sewer Calculations	9
Storm Drainage Calculations	31

Waterline Calculations

Waterline Calculations

- 1) Calculate maximum water demand for site based upon current zoning of General Industrial
 - 2) What are the design flows for the proposed site if the zoning changes from GI to MUE?
- Calculate maximum water demand
 - Maximum water demand = Peak hour demand + Fire flows
 - Per City of Corvallis Water Distribution System Facilities Plan (WDSFP), the fire flow requirements for
 - General Industrial (GI) is 3,000 gpm
 - MUE
 - MUE is not listed in the effective Corvallis Water Distribution System Facility Plan, dated July 1998, so the industrial zone requirements are used in place of MUE as a worst case scenario. MUE fire flow requirement is 3,000 gpm.

1) Water Demand Calculations for General Industrial Zone (Current)

- Area Information:
 - Per City of Corvallis WDSFP, the annual average water consumption for the general industrial zone is 3,750 gal/ac/day.
 - General Industrial Zone, Gross Site Area = 0.56 Ac
- General Industrial Zone Calculations
 - Number of gallons/day = $(0.56 \text{ Ac})(3,750 \text{ gal/ac/day}) = 2,100 \text{ gal/day}$
 - Average Demand = $2,100 \text{ gal/day} = 1.46 \text{ gpm}$ (Divide by 1440 min/day)
 - Peak Day Demand = $(1.46 \text{ gpm})(2) = 2.91 \text{ gpm} \Rightarrow \text{Use } 3 \text{ gpm}$
 - Peak Hour Demand = $(1.46 \text{ gpm})(4.6) = 6.72 \text{ gpm} \Rightarrow \text{Use } 7 \text{ gpm}$
 - Maximum water demand = $7 \text{ gpm} + 3,000 \text{ gpm}$
 - Maximum water demand = 3,007 gpm

* The maximum water demand for site based upon current zoning of GI is 3,007 gpm.

2) Proposed Zone Change from General Industrial (GI) to MUE Scenario (MUE is not listed in the effective Corvallis Water Distribution System Facility Plan, dated July 1998, so the industrial zone requirements are used in place of MUE as a worst case scenario).

- Area Information:

- Per City of Corvallis WDSFP, the annual average water consumption for the MUE zone is based on an industrial zone rate of 3,750 gal/ac/day.
- MUE Zone, Gross Site Area = 0.56 Ac

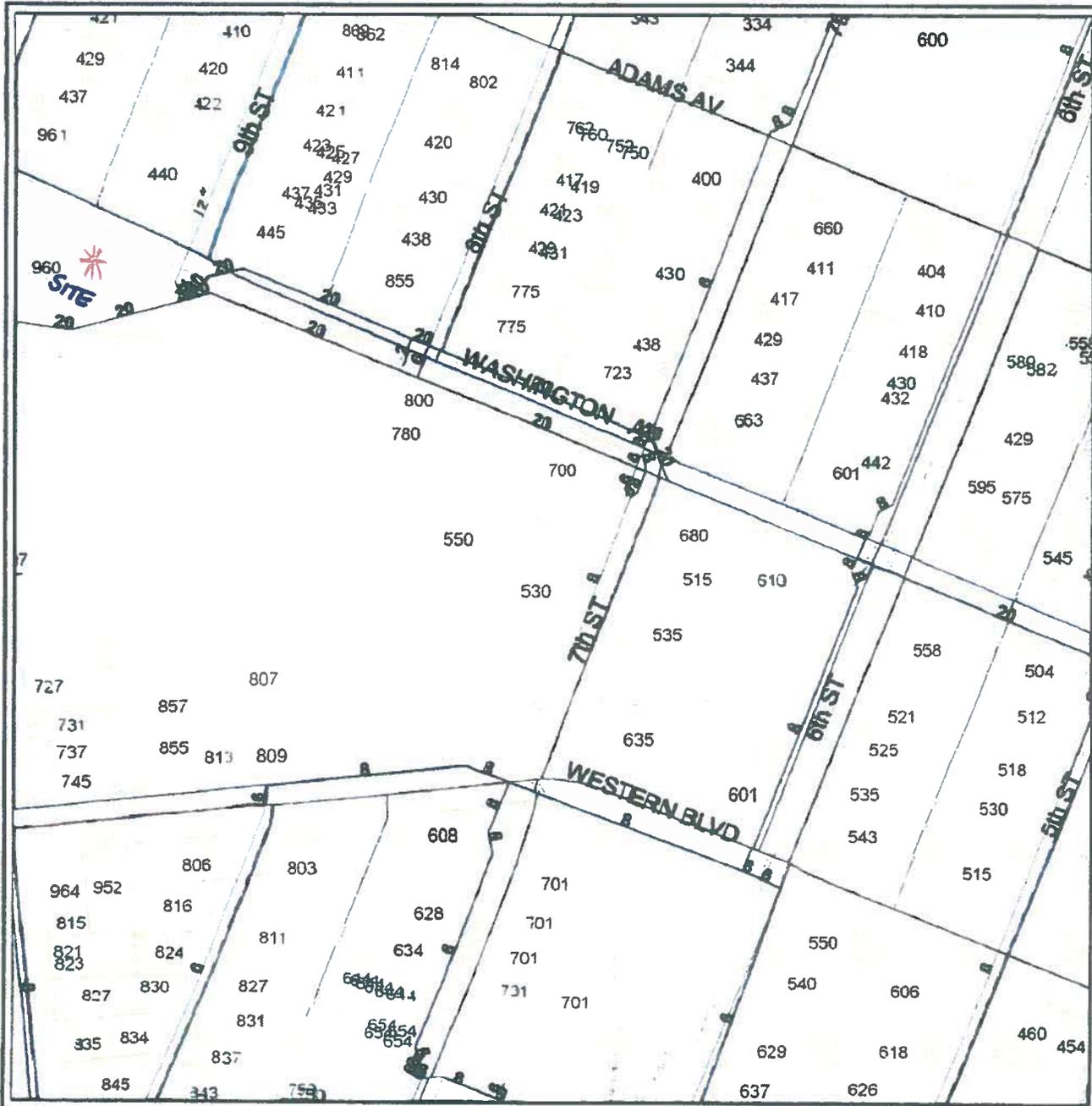
- MUE Zone Calculations

- Number of gallons/day = $(0.56 \text{ Ac})(3,750 \text{ gal/ac/day}) = 2,100 \text{ gal/day}$
- Average Demand = $2,100 \text{ gal/day} = 1.46 \text{ gpm}$ (Divide by 1440 min/day)
- Peak Day Demand = $(1.46 \text{ gpm})(2) = 2.91 \text{ gpm} \Rightarrow \text{Use } 3 \text{ gpm}$
- Peak Hour Demand = $(1.46 \text{ gpm})(4.6) = 6.72 \text{ gpm} \Rightarrow \text{Use } 7 \text{ gpm}$
- Maximum water demand = $7 \text{ gpm} + 3,000 \text{ gpm}$
- Maximum water demand = 3,007 gpm

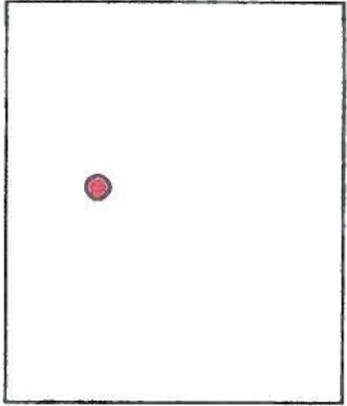
* The maximum water demand for site based upon proposed zoning of MUE is 3,007 gpm.

- Summary

- Per City of Corvallis WDSFP, the minimum diameter distribution pipeline size for MUE (MUE is not listed in the effective Corvallis WDSFP, so the industrial zone requirements are used in place of MUE as a worst case scenario) is 12". [Table 5-2, City of Corvallis WDSFP]
- Based on the calculations shown previously, no increase or decrease in maximum water demand occurs from the zoning change of General Industrial to MUE.
- The water flows after the zone change are able to be served by the existing water infrastructure.



Water with Diameters of Pipes



4





245 NE. Conifer, P.O. Box 1211
Corvallis, OR 97339
Fax: (541) 757-9885

(541) 757-8991

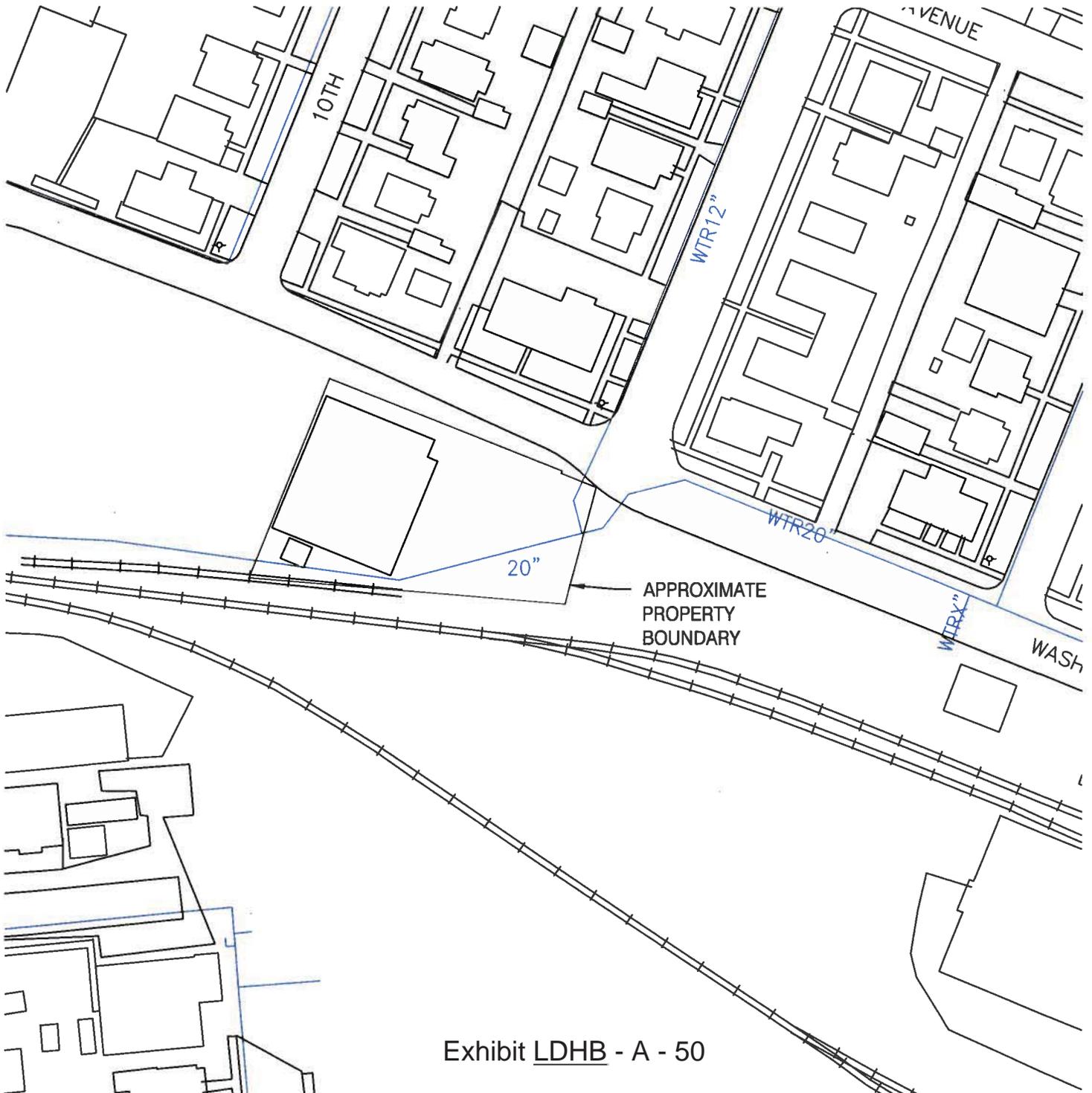
SCALE: 1" = 100'



SCALE IN FEET



WATER SKETCH



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EXECUTIVE SUMMARY

The Corvallis water distribution system needs to be expanded to improve operational characteristics and to accommodate planned growth in the community. This facility plan evaluates the existing water distribution system, identifies the planned growth for the community, projects water demand which will accompany the future growth, and recommends improvements to the water distribution system. Also included as part of the development of the facility plan is a computer model of the water distribution system to evaluate system operation and the impact of proposed improvements.

The 1996 Comprehensive Plan for the City of Corvallis is the basis for the growth projections in the water system facility plan. Service is planned for the urban growth boundary of Corvallis based upon the zoning that is currently designated for the growth areas. No provisions for water service are included in the facility plan for areas outside the urban growth area.

POPULATION AND WATER DEMAND PROJECTIONS

To develop the water facility plan, land use and population are the primary criteria for estimating future water demands. The projected population for the City of Corvallis are as follows:

<u>Planning Period</u>	<u>Population</u>
1997	50,000
Within 10 to 20 years	60,000
Within 20 to 40 years	80,000
At build out of urban growth boundary	120,000

The annual average water demand for Corvallis for the years 1992 through June 1997 was 7.5 million gallons per day (mgd) while the peak monthly water demand was 11.9 mgd, occurring in July 1996. Based on current water use records, existing development, and the existing population in Corvallis, the following unit water consumption values have been developed for the City of Corvallis:

<u>Land use</u>	<u>Annual Average water consumption</u>
Residential	76 gallons per capita per day
Commercial	1,000 gallons per acre per day
Industrial	3,750 gallons per acre per day
Institutional	1,550 gallons per acre per day

Experience shows that water demand in Corvallis varies seasonally based upon temperature and irrigation needs. Based on recent water production records and on residential water use data, the peaking factors used to estimate water use variations are shown in Table 1.

Table 1. Peaking Factors*

Description	Factor
Maximum month demand	1.5
Maximum daily demand	
Residential only	4.0
Average for city	2.0
Peak hourly demand	
Residential only	11.75
Average for city	4.6

- * The annual average demand multiplied by the peaking factor yields the respective peak demand.

Given these factors and the unit consumption values presented above, the water demand for the community is summarized in Table 2.

Table 2. Water Demand Summary

Population inside urban growth boundary	Average daily water demands, mgd	Maximum daily water demand, mgd
50,000	7.5	15
60,000	10.0	20
80,000	13.5	27
120,000	20.0	40

Population

The projected population of the City of Corvallis is presented in Table 2-1. This information was provided by the Corvallis Planning Department. The 1997 population in the service area is estimated at 50,000. The estimated total population at build out in the urban growth boundary is 120,000 people.

Table 2-1. Corvallis Population Projections

	1997	Within 10 to 20 years	Within 20 to 40 years	Build out
Urban growth boundary	50,000	60,000	80,000	120,000

Land Use Planning

The City of Corvallis adopted its Comprehensive Plan in 1980 and revised the plan in 1996. The 1996 plan has been used in the preparation of this study. Land use classifications are the basis for estimating future water demand and the distribution of this demand. The Comprehensive Plan is currently being reviewed.

Residential Land Use. Residential land use is composed of the following five types of land use designation: low-density, medium-density, medium high-density, high-density, and intensive development sector. The intensive development sector land is planned for residential development in excess of six units per acre and neighborhood or community commercial development. Table 2-2 shows the range of residential units per acre for each of the residential land use designations. The typical values for dwelling units per acre were used for this study. To estimate population density, 2.3 people per living unit were assumed based on recommendations from the Corvallis Planning Department.

Commercial Land Use. Commercial land is made up of the central business district, shopping areas, linear, and professional offices. Linear commercial land is planned for auto-oriented and related commercial uses located along a major arterial street.

Industrial Land Use. Industrial land use is made up of light industrial, intensive industrial, limited industrial, and research technology centers. This area includes Hewlett-Packard which is the largest industrial account within the city.

Public/Institutional Land Use. Institutional land is that used for churches, schools, hospitals, parks, and airports. Oregon State University is the single largest institutional water customer in Corvallis.

Table 2-2. Residential Housing Densities

Land use designations	Density range units/acre	Typical density units/acre	Typical density ^a persons/acre
Low-density residential	2-6	4	9.2
Medium-density residential	6-12	9	20.7
Medium high-density residential	12-20	16	36.8
High-density residential	20+	20	46.0
Intensive development sector	6-20 residential + commercial	75% of area @ 12 and 25% commercial	20.7

^a Value used for estimating water demand.

Projected Population Density

The City of Corvallis 1996 Comprehensive Plan Map was used to determine the amount of land within each one of the land use categories. A geographical information systems computer program was used to calculate the acreage of each land use area. Present and future populations for these sub-areas were derived by multiplying the area of residential land by the density of population per unit area. The land areas were also used to derive present and future water use by multiplying population by per capita water demand for residential use and by multiplying land use area by water demand per acre for commercial, industrial, and public/institutional users. The water demands on a per capita and per acre basis are developed in Chapter 4.

Using the existing developed residential area, average residential unit densities, and 2.3 persons for each unit, a population of 55,600 people was calculated. A similar evaluation of ultimate development population within the urban growth boundary indicates the urban growth boundary area will support 128,400 people. Higher population capacity for both existing development and ultimate buildout reflects the factor that 100 percent buildout is not achieved.

Table 4-5. Corvallis Water Use for 1996/1997

Month	Average daily demand, mg	Peak daily demand, mg
July	11.92	14.42
August	11.41	13.10
September	8.46	11.42
October	7.05	8.10
November	6.76	8.16
December	6.28	7.22
January	6.62	7.35
February	6.52	7.22
March	6.34	6.90
April	6.60	7.01
May	8.10	10.12
June	8.54	9.87
Average	7.90	---

The average annual demand over the 5-year period was 7.49 million gallons per day (mgd). The peak monthly demand occurred in July 1996 and averaged 11.92 mgd. The lowest monthly demand occurred in December 1994 and averaged 5.66 mgd. The peak daily demand of 14.94 mgd occurred in July 1994.

Table 4-6 shows the average daily water demand for 1992 to 1997 divided by the population for those years. The average daily water demand varies from 153 gallons per capita per day (gpcd) to 160 gpcd, with an average of 157 gpcd. Note that these demands include all uses, including residential, commercial, industrial, and public/institutional.

Unit Consumption Values

An evaluation of the water use records for individual classes of users was prepared. These data are useful in planning future water demands based upon current consumption patterns and land use plans for future growth. Table 4-7 shows the water use of selected customers for the year 1992/1993. As shown in Table 4-6, the average demand in 1992/1993 was 153 gpcd, a value 2.6 percent lower than the average demand between 1992 and 1997 of 157 gpcd. Therefore, the demand values from Table 4-7 should be increased by 2.6 percent to more closely approximate average demand.

Residential Water Use. The average annual residential water use in 1992/1993 was 3.42 mgd. Since the population was approximately 46,000 people, residential demand averaged 74 gpcd. A value of 76 gpcd is calculated by increasing the value by 2.6 percent. For planning purposes, the average residential water demand of 76 gpcd is used for residential development.

Table 4-6. Corvallis Water Use for 1992 to 1997, gpcd

Year	Population	Average demand, mgd	Average demand ^a , gpcd
1992-1993	46,260	7.06	153
1993-1994	46,195	7.23	157
1994-1995	47,485	7.59	160
1995-1996	49,275	7.68	156
1996-1997	50,000	7.90	158

^a Demands include all uses, including residential, commercial, industrial, and public/institutional.

Table 4-7. Corvallis Water Use of Customer Classes for 1992/1993

Month	Demand (mgd)			
	All residential	All commercial/industrial	Hewlett-Packard	OSU
December	2.86	2.04	0.55	0.71
January	2.52	1.89	0.60	0.55
February	2.97	2.04	0.61	0.74
March	2.70	1.77	0.52	0.63
April	2.77	1.83	0.60	0.59
May	2.62	1.94	0.58	0.73
June	3.38	2.29	0.58	0.74
July	4.21	2.68	0.67	0.85
August	4.74	3.07	0.71	1.08
September	5.17	3.15	0.74	1.10
October	4.15	2.97	0.74	0.93
November	2.93	2.29	0.66	0.77
Annual average	3.42	2.33	0.63	0.79
Percent of total annual average demand	47.7	32.5	8.8	11.0

Commercial Water Use. Commercial water demand was estimated based on an average use rate of 1,000 gallons per acre per day (gpad). This planning value represents a typical value for commercial development.

Industrial Water Use. Using the total of 1992 to 1993 water used by all industrial and commercial users and assuming an average commercial water use of 1,000 gpad, the average industrial water use was 3,560 gpad. Increasing the total industrial and commercial use by 2.6 percent and assuming an average commercial use of 1,000 gpad, the average industrial water use is 3,653 gpad. Hewlett-Packard's water use was 3,778 gpad, spread out over the 167 acres the Hewlett-Packard property covers. For planning purposes, the average industrial demand of 3,750 gpad is used.

Public/Institutional Water Use. Institutional water use in Corvallis includes churches, schools, hospitals, parks, and the airport. Oregon State University, which covers approximately 532 acres, represents approximately 65 percent of the public and institutional land area within the current city limits. The water use for Oregon State University for 1992 to 1993 averaged 1,477 gpad. With an increase of 2.6 percent, the average demand is 1,515 gpad. For planning purposes, the public and institutional average demand of 1,550 gpad is used.

The water use values derived above were used to calculate existing water demand as well as future demand.

Nonrevenue Water Production

Water supply and distribution systems experience unaccounted water losses due to the combined effect of unmetered customers, leakage, inaccurate meters, system flushing, and miscellaneous hydrant uses. As a result, a portion of the water produced cannot be accounted for when the results of treatment plant production are compared to the summation of metered uses.

Nonrevenue water production for Corvallis has been determined by comparison of the total of all metered water consumption with the amount of water metered at the water treatment plants. A 5-year history of unaccounted water is shown in Table 4-8. A rate of 10 to 15 percent is considered good performance.

The city has a program to test and repair meters and all customers are metered. An audit of the system may or may not discover additional savings. As new pipes are added to the system and older pipes replaced, the loss of water through leakage may be reduced.

Table 4-8. Unaccounted for Water; 1992 to 1997

Year	Million gallons	Percent of total water production
1992/1993	157.38	6.1
1993/1994	315.42	12.0
1994/1995	248.41	9.0
1995/1996	287.09	10.2
1996/1997	177.74	6.2

Rates of Water Use

Effective planning and design of water supply, treatment and distribution facilities requires consideration of short-term water demand variations as well as average annual usage. Treatment plant design and operation is influenced by monthly and daily demands, and transmission and distribution mains, storage reservoirs and pumping stations are sized based on peak demands. Factors have been developed to convert average demands to peak demands based on water use records for the Corvallis system. These factors are discussed below.

Annual Water Demand. As shown in Tables 4-1 through 4-5, the average annual water demand varied between 7.06 and 7.90 mgd. Average annual demand for the Corvallis water system for the years 1992 to 1997 was 7.49 mgd.

Monthly Water Variations. Monthly water demand variations for the Corvallis water distribution systems are shown in Tables 4-1 through 4-5. The tables illustrate the seasonal nature of water demand in Corvallis. The monthly water use ranges from a low of 75 percent of the average annual demand, to a maximum of 153 percent of average annual demand. The maximum monthly water use averaged 149 percent of the average annual demand. This variation is mainly due to water use for irrigation during the summer months. For this study, maximum month water demand is determined by multiplying average day demand by a factor of 1.5.

Maximum Daily Demand. Maximum daily demand varies with the extremes of climate and the mix of customers using the water. Maximum daily demand is almost always on days of highest summer temperatures, when landscape irrigation and other uses peak. Table 4-9 shows that for the period between 1992 and 1997, the ratio of peak to average is approximately 2.0. This is a relatively low peak to average ratio, perhaps as a result of larger industrial demands that tend to be uniform around the year. A typical value is 2.5. For comparison, the peaking factor in Portland is approximately 2.4.

Table 4-9. Maximum Daily Demand Ratio for Corvallis; 1992 to 1997

Year	Annual average demand, mgd	Peak day demand, mgd	Ratio of maximum day to annual average demand
1992/1993	7.06	13.39	1.90
1993/1994	7.23	14.87	2.06
1994/1995	7.59	14.94	1.97
1995/1996	7.68	14.65	1.91
1996/1997	7.90	14.42	1.83
Average	7.49	14.45	1.92

For this study the maximum daily water demand was determined by multiplying average daily demand by a factor of 4.0 for areas which are predominantly residential (second and third service levels). For the combination of all users within the service area, including residential, commercial, industrial, and public/institutional users, the maximum daily water demand was determined by multiplying average daily demand by a factor of 2.0. The same value is used for projecting future water demands.

Peak Hourly Demand. Based on actual water meter readings in specific areas of the city, this study uses a peak hourly demand factor of 11.75 for residential users and by a factor of 4.6 for the combination of all users within the service area to estimate peak hourly demand.

The peaking factors used in this study are presented in Table 4-10.

Table 4-10. Peaking Factors*

Description	Factor
Maximum month demand	1.5
Maximum daily demand	
Residential only	4.0
Average for city	2.0
Peak hourly demand	
Residential only	11.75
Average for city	4.6

* The average demand multiplied by the peaking factor yields the respective peak demand.

FUTURE WATER USE

Planning of water supply and distribution systems requires projection of future water requirements, based on population forecasts, land use plans and unit water use values.

Present Water Use

Currently, the population within the urban growth boundary is approximately 50,000. The average daily water demand is 7.5 mgd and maximum daily demand is 15 mgd.

Water Demand in 10 to 20 Years

The anticipated 10 to 20-year growth is an increase of 10,000 people and a population of 60,000 within the city limits. Average daily water demands is projected to be 10 mgd with a corresponding maximum daily demand of 20 mgd.

Water Demand in 20 to 40 Years

The projected population in 20 to 40 years is 80,000 within the city limits. Average daily water demand is projected to be 13.5 mgd and the maximum daily demand 27 mgd.

Build Out Development

The projected population within the urban growth boundary at build out development is 120,000. Average daily water demands for build out development is 20 mgd and the maximum daily demand 40 mgd.

Water demands are summarized in Table 4-11.

Table 4-11. Water Demand Summary

Population inside urban growth boundary	Average daily water demands, mgd	Maximum daily water demand, mgd
50,000	7.5	15
60,000	10.0	20
80,000	13.5	27
120,000	20.0	40

water supply and distribution system. The adequacy of the system is determined by comparing it to an ideal system. Forty percent of the ISO rating is determined by the condition and adequacy of the water system.

Fire Flow Requirements. The ISO has also developed a method of determining the required fire flow for structures that is based on the structures, size, materials of construction and exposure distance to adjacent buildings. A water system should be designed to deliver the required fire flow during a maximum day demand for the prescribed duration. Using ISO guidelines, the fire flow requirements within the Corvallis urban growth boundary have been established by the Corvallis Fire Department. These requirements are shown in Table 5-1. The table shows the total volume of water required for one typical fire. These values were used to size storage reservoirs. The reservoirs are sized for each service level by using the largest volume from one typical fire occurring on that service level. As an example, the largest fire flow volume which may be needed on the first service level is 2.3 MG. The reservoirs on the first service level are sized to accommodate this volume.

Fire Pressure Requirements. The fire flow standards set by the ISO require a minimum residual water pressure of 20 psi during a fire. Residual pressure, in this instance, is defined as the pressure in the main system near or within the zone where hydrant flows are occurring.

Pipeline Network. The distribution system should be designed with looped systems. The looped systems allow water to be delivered to a demand through more than one pipeline, increasing system reliability, improving water quality, and reducing headlosses. The ISO standards require that primary and secondary feeders extend throughout the system. These should be of sufficient size, considering their length and the characteristics of the area served, to deliver fire flow and consumption demands to all areas. The grid of distribution mains should consist of mains described in Table 5-2, which shows the minimum size recommended for the distribution system. If street layout or topography are not well suited to this arrangement, or dead ends and poor gridding are unavoidable, the minimum main size should be determined by hydraulic evaluation.

Because this report is concerned with larger distribution pipelines, a detailed layout of minor distribution pipelines is beyond its scope. Minor distribution pipelines carry water to customers throughout the service area. Transmission and distribution pipelines should be routed through proposed new roadway right-of-ways and past planned residential developments and schools to provide the highest degree of fire protection.

Table 5-1. Fire Flow Requirements

Land-use classifications	Recommended fire flows ^a		
	Quantity, gpm	Duration, hours	Total volume for one typical fire, MG
Principal Business District	4,500	4	1.10
Minor Business Districts			
Partially or Unsprinklered Businesses	4,500	4	1.10
Fully Sprinklered Businesses	3,000	3	0.54
Schools and Institutions			
Elementary and Junior High Schools			
Typical Without Sprinkler Systems	4,000	4	1.00
Typical With Sprinkler System	3,000	3	0.54
High Schools			
Corvallis	5,500	5	1.60
Crescent Valley	5,500	5	1.60
Oregon State University			
Low Fire Hazard—1-2 stories, sprinklered, separated from nearby structures	3,000	3	0.54
Medium Fire Hazard—multi-story, sprinklered, some exposure to nearby structures	5,000	5	1.50
High Fire Hazard—multi-story, partly (or not at all) sprinklered, exposed to nearby structures	6,500	6	2.30
Hospital			
Good Samaritan	1,750	2	0.21
Industrial Areas and Tracts			
Partially or Unsprinklered Buildings	4,500	4	1.10
Fully Sprinklered Buildings	3,000	3	0.54
Hewlett-Packard	4,500	4	1.10
Residential			
Rural	1,000	2	0.12
Single-Family, Low Density	1,000	2	0.12
Single-Family, Medium Density	1,500	2	0.18
Single-Family, High Density	2,000	2	0.24
Multi-Family, High Density	3,000	3	0.54
Apartments and Dormitories	4,000	4	1.10

^a Recommended fire flows were determined by following ISO guidelines and were reviewed by the Corvallis Fire Department in 1994.

Table 5-2. Minimum Size of Distribution Pipelines

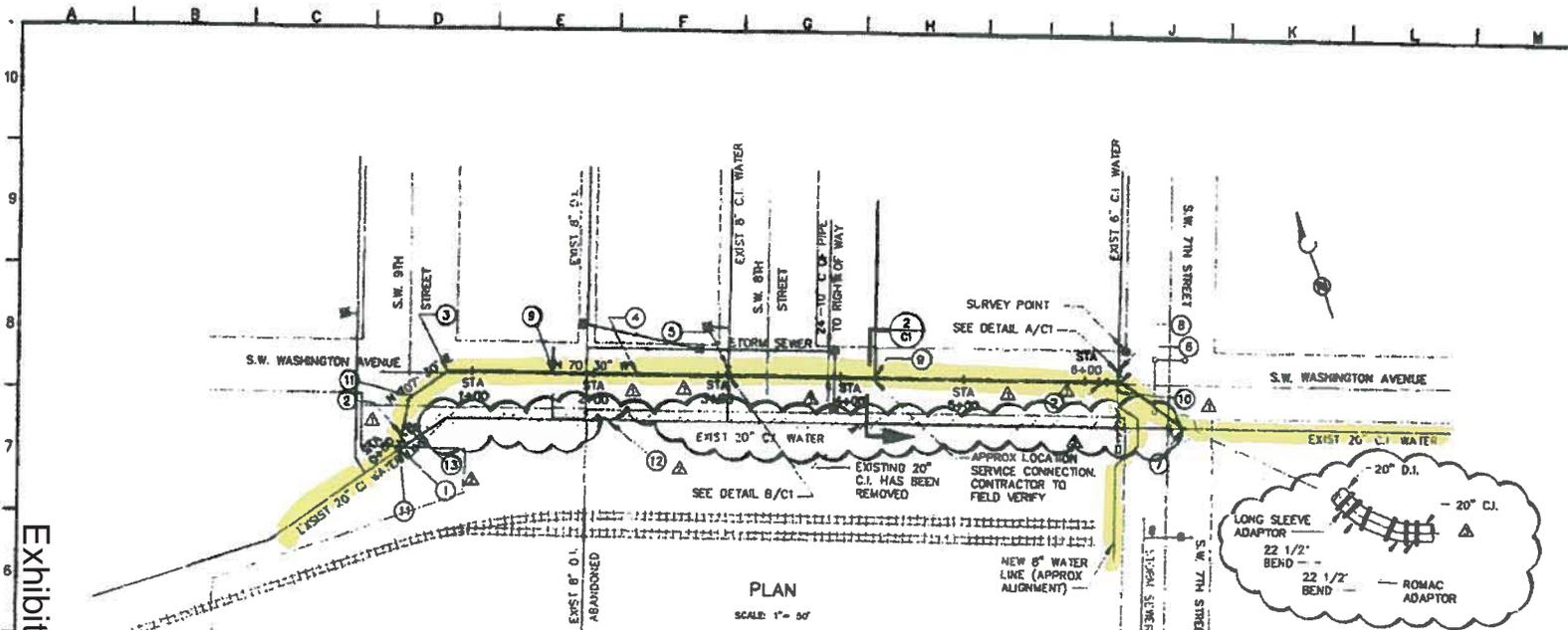
Area ^a	Minimum diameter (inches)
Residential, low density	8
Residential, low density	8
Residential, medium density	10
Commercial	10
Industrial	12
Public use	10

^a Guide for Determination of Required Fire Flow, Insurance Services Office, December 1974.

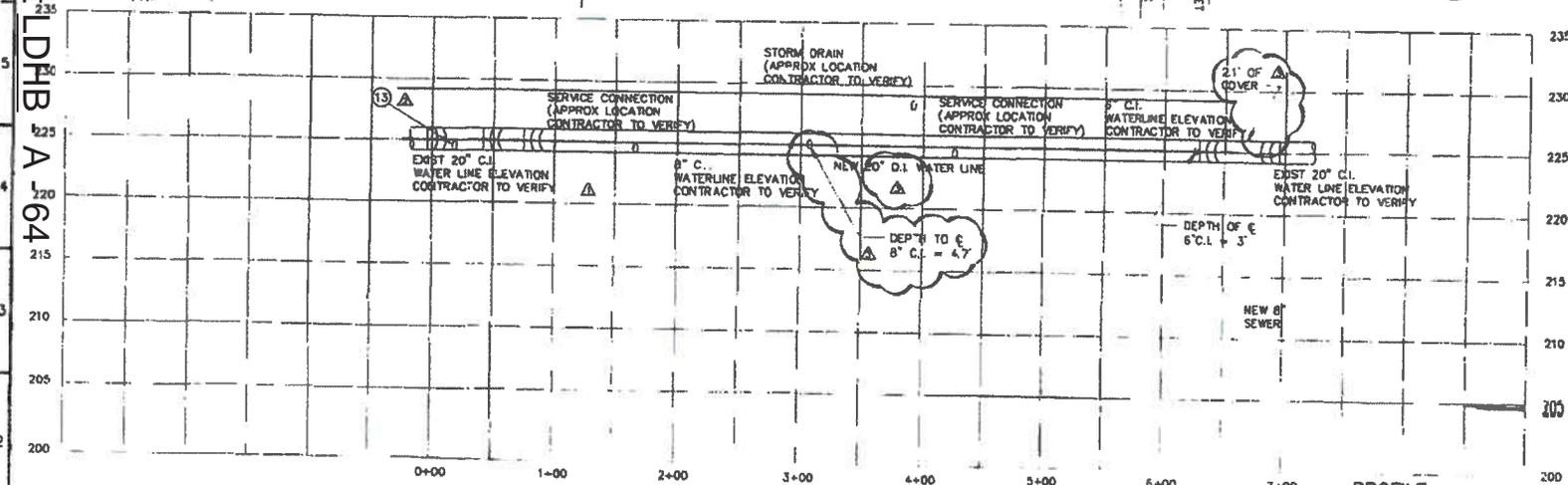
Valves. To isolate sections of main in the event of a break or for new construction, ISO standards require that the system be equipped with an adequate number of properly located valves. Table 5-3 presents the maximum valve spacing for long runs of pipelines that serve different functions. Connections of smaller mains in the distribution system to transmission pipelines should be valved so that the service disruption in any of the smaller mains does not require the major transmission line to be shut down. Service taps to transmission pipelines larger than 12-inches should be avoided. Within the distribution gridwork, valves should be placed on all but one leg at tees and crosses in an organized pattern that minimizes the length of pipeline shut down whenever repairs are needed.

Table 5-3. Maximum Valve Spacing Recommended by ISO

Pipeline function	Maximum spacing
Supply pipeline	1 mile
Transmission pipeline	1/4 mile
Residential distribution	800 feet
Commercial distribution	500 feet



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: H = 1" = 50'
V = 1" = 5'

- GENERAL NOTES**
- MEGA-LUC RESTRAINT SHALL BE USED ON ALL MECHANICAL JOINT FITTINGS.
 - THRUST BLOCKS SHALL BE USED AS SPECIFIED IN SD 301.
 - CITY TO MAKE FINAL CONNECTION AT BOTH ENDS OF NEW PIPE AND SERVICE CONNECTIONS. PROVIDE 7 DAYS NOTICE TO CITY. CONTRACTOR EXCAVATE AT CONNECTION LOCATION AND BACKFILL AFTER CITY COMPLETES THE WORK.
- KEY NOTES:**
- CUT EXISTING 20" PIPE, TRENCH DEPTH 5±. Δ
 - INSTALL NEW 20" FLANGED BUTTERFLY VALVE WITH VALVE BOX AND EXTENSION TO SURFACE.
 - INSTALL 22.5' BEND AND 1.25' BEND AND THRUST BLOCK STA 0+70.88± WITH RESTRAINED MECHANICAL JOINTS. Δ
 - NEW 20" DUCTILE IRON WATER LINE.
 - INSTALL NEW 6" FLANGED BUTTERFLY VALVE AND CONNECT EXISTING 6" PIPE TO NEW 20" D.I.P. Δ
 - INSTALL 45° BEND AND BLOCK STA 6+30.19± Δ
 - INSTALL 45° BEND AND BLOCK CUT IN AT STA 6+93.38±. Δ
 - INSTALL NEW 6" BUTTERFLY VALVE AND CONNECT EXISTING 6" PIPE TO NEW 20" D.I.P. Δ
 - RECONNECT SERVICE LATERAL TO NEW PIPE.
 - INSTALL 6" FLANGED BUTTERFLY VALVE. Δ
 - INSTALL 45° BEND WITH THRUST BLOCK AND RESTRAINED MECHANICAL JOINT AT STA 0+00 AND STA 0+48.87±. Δ
 - REMOVE EXIST 20" PIPE FROM STA 0+00 TO 6 7th STREET. DO NOT DISTURB CONCRETE PANEL ON EAST HALF OF 7th STREET. LOOSE BACKFILL FROM STA 0+00 TO STA 4+50. RECONSTRUCT TO EXISTING CONDITION INCLUDING SIDEWALK FROM STA 4+50 TO 6 7th STREET. FILL ABANDONED SECTION UNDER EAST HALF OF 7th STREET WITH GROUT.
 - INSTALL NEW 20" 45° TEE AND 6" VALVE. CAP END OF VALVE. AT STA 0+00 AND STA 0+48.87±. Δ

Exhibit DHB A 64

BROWN AND CALDWELL
EUGENE, OREGON

LINE IS 2 INCHES AT FULL SIZE (BY 40% ZONAL REDUCTION)

FILE: 17807

DRAWN: REJ
DESIGNED: DSM
CHECKED: MHS

DATE: _____
DATE: _____
DATE: _____

REVISIONS

This record drawing was prepared using information reported to Brown and Caldwell and contains only the standard and customary level of detail. The information was not independently verified. There is no ongoing program to update the drawings to reflect changes subsequent to the date indicated. Therefore, this drawing cannot be relied upon as an exact representation of actual conditions.

NO.	DATE	DESCRIPTION	BY	APP.
1		AS BUILTS		
2		CHANGE ORDER NO. 1		
3		REALIGNMENT AND RESTORATION OF PIPE		

CITY OF CORVALLIS, OREGON

RAILROAD YARD UTILITY RELOCATION PROJECT

SCALE: AS NOTED
DRAWING NUMBER: C103
SHEET NUMBER: 5 OF 5
REVISION: _____

WATER LINE RELOCATION

PLAN AND PROFILE

659137

Sanitary Sewer Calculations

Sanitary Sewer Calculations

- 1) What are the design flows for the proposed site based upon the existing General Industrial (GI) zone?
 - 2) What are the design flows for the proposed site if the zoning changes from GI to MUE?
 - Design flows per City of Corvallis Wastewater Master Plan (WWMP)
 - Design Flows = 193 gal/person/day + 4,000 gal/ac/day for I & I
-
- 1) Sanitary Demand Calculations for General Industrial Zone (Current)
 - Area Information:
 - Per City of Corvallis WWMP, annual average sanitary usage is 193 gal/person/day + 4,000 gal/ac/day for I & I.
 - General Industrial Zone, Gross Site Area = 0.56 Ac
 - Number of Dwelling Units in GI is 8.7 units per acre [Corvallis WWMP]
 - Number of Dwelling Units = (0.56 Ac)(8.7 Units/Ac) = 4.87 Units = 5 Units
 - Number of People = (5 Units)(2.14 People/Unit) = 10.7 People = 11 People
 - Design Flows = 193 gpcd * 11 People + 4,000 gal/Ac/day * 0.56 Ac
 - Design Flows = 4,363 gal/day = 3.03 gpm
 - 2) Design flows for proposed zone change from General Industrial to MUE Scenario (MUE is not listed in the effective Wastewater Master Plan, dated November 1998, so General Industrial is used in place of MUE as a worst case scenario for the MUE zone).
 - Area Information:
 - MUE Zone, Gross Site Area = 0.56 Ac
 - Number of Dwelling Units in MUE is 8.7 units per acre [Corvallis WWMP]
 - Number of Dwelling Units = (0.56 Ac)(8.7 Units/Ac) = 4.87 Units = 5 Units
 - Number of People = (5 Units)(2.14 People/Unit) = 10.7 People = 11 People
 - Design Flows = 193 gpcd * 11 People + 4,000 gal/Ac/day * 0.56 Ac
 - Design Flows = 4,363 gal/day = 3.03 gpm

Summary:

- Existing general industrial (GI) zoning produces a design flow of 3.03 gpm.
- The design flow for the proposed zoning change to MUE is 3.03 gpm. The sanitary sewer design flows for the proposed zoning change to MUE from GI would not increase or decrease.
- The sanitary sewer flows after the zone change are able to be served by the existing sanitary sewer infrastructure.



245 NE. Conifer, P.O. Box 1211
Corvallis, OR 97339
Fax: (541) 757-9885

(541) 757-8991

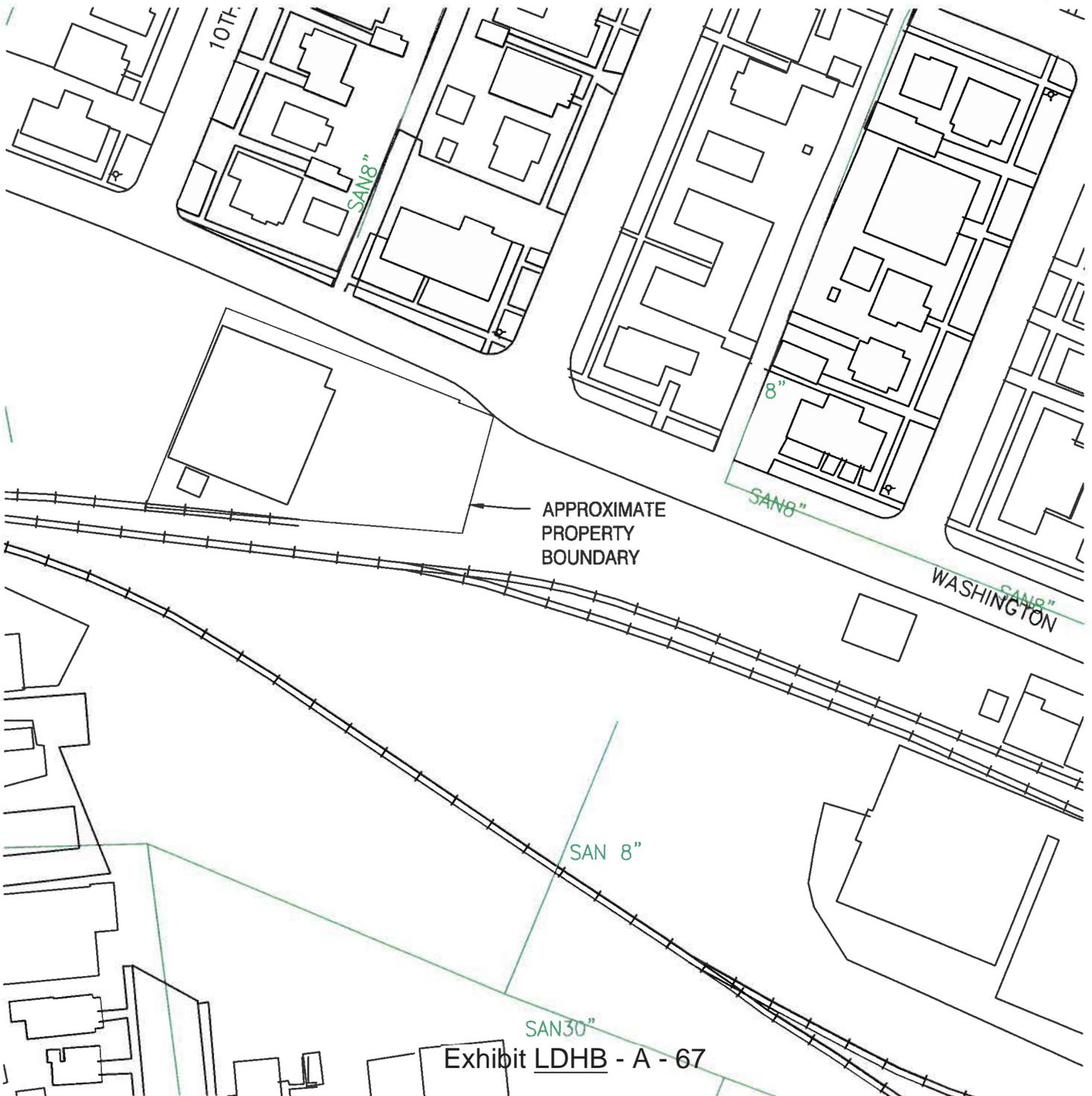
SCALE: 1" = 100'



SCALE IN FEET



SANITARY SEWER SKETCH



FILE: I:\CIVIL3D Projects\16405\Reports\16405 UTILITY_EXHIBITS.dwg [SSWR] 7/13/2016 11:41 AM - Scott

Sanitary Sewer Mainline Capacity Verification

* See attached sketch for zones contributing to 30" mainline in Western Blvd.

Zone	Area (Acres)	Units/Ac	Units	People
OSU	202.89	4.4	892.72	2.14 People/ Unit
PA-O	0.34	4.4	1.50	
	3.45	4.4	15.18	
	0.55	4.4	2.42	
MU-Res	14.96	4.4	65.82	
	2.2	4.4	9.68	
	2.44	4.4	10.74	
GI	4.59	8.7	39.93	
	0.9	8.7	7.83	
	3.82	8.7	33.23	
MUE	2.01	4.4	8.84	
RS-9	15.42	9	138.78	
RS-12	4.16	12	49.92	
Open	0.49	0	0.00	
	258.22		1277	

Contributing Zones Design Flows

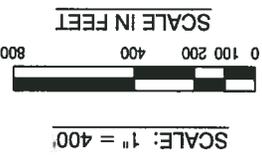
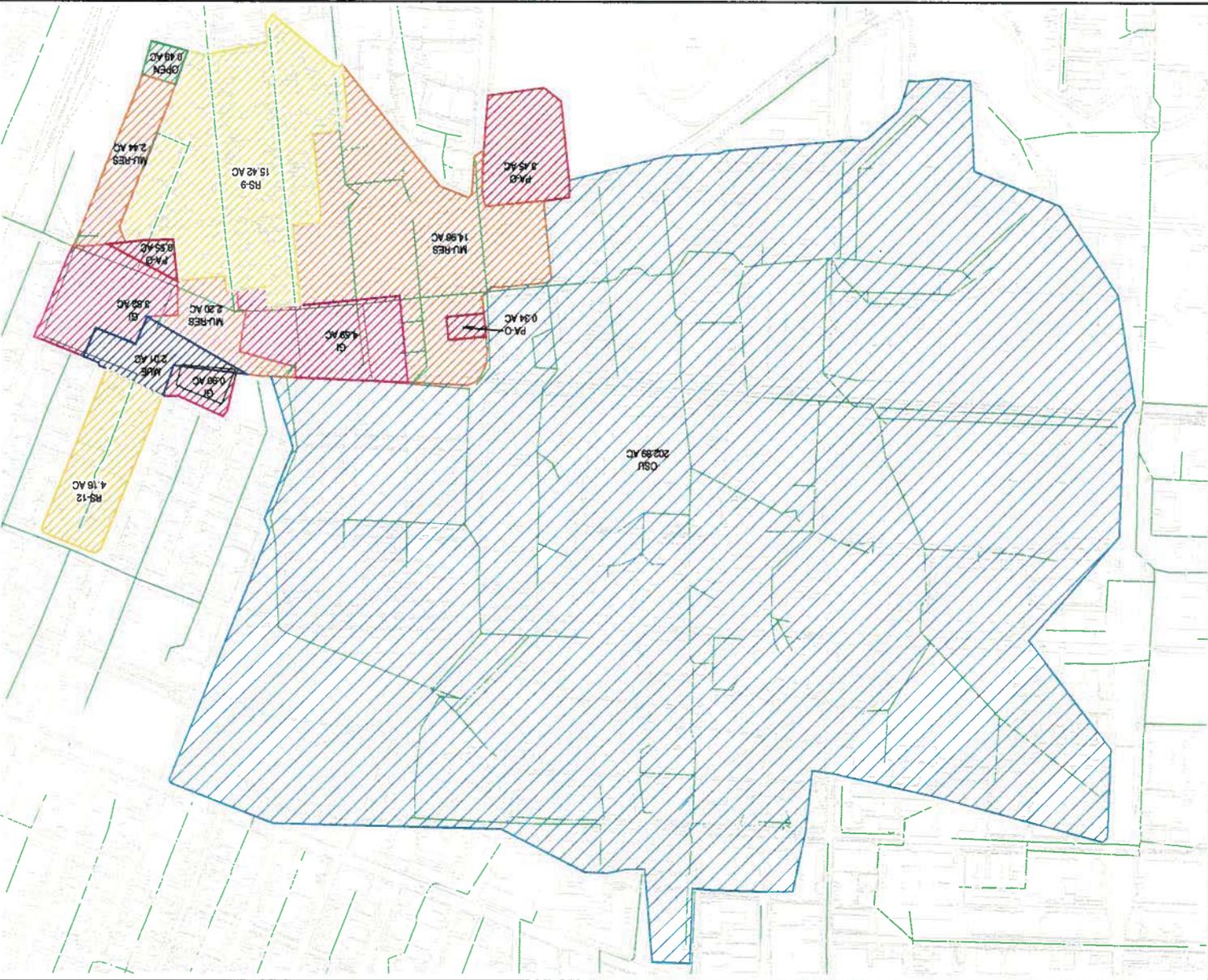
Peak Daily Design Flows = People x 193 gpcd

I & I = Acres x 4,000 gal/ac

	gpd	gpm	cfs
Peak Daily Design Flows	527469	366.30	0.82
I & I	1032880	717.28	1.60
Total Peak Design Flows	1560349	1083.58	2.41

Pipe Capacity Calculations

	30" Main	8"
Slope (ft/ft)	0.0025	0.0036
Radius (inches)	30	8
n	0.015	0.013
Q (cfs)	17.774	0.725



JOB NO. 16-405
 DRAWN BY: DEVCO
 SHEET TITLE:
 ZONES
 CX.XX

PROJECT:
 WASHINGTON YARD ZONING
 CHANGE
 PROJECT LOCATION:
 CORVALLIS, OH
 CLIENT:
 GILBANE DEVELOPMENT
 COMPANY

Devco Central Ohio
 Engineering Inc.
 200 WEST MAIN ST. SUITE 200
 CORVALLIS, OH 44622
 WWW.DEVCOENGINEERING.COM

DATE OF PREPARATION: 06/20/16
 DRAWN BY: J. W. BROWN
 CHECKED BY: J. W. BROWN
EXHIBIT DHB

NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DRAWING STATUS	DATE
<input checked="" type="checkbox"/> PRELIMINARY	06/20/16
<input type="checkbox"/> SUBMITTED	
<input type="checkbox"/> BID SET	
<input type="checkbox"/> PERMIT SET	
<input type="checkbox"/> CONST. SET	

DATE: 06/20/16

City of Corvallis Wastewater Utility Master Plan

Wastewater	
Wet	Dry
Per capita, wet season, dry weather	193 gallons per capita per day—peak rate
Per acre, wet season, wet weather	4,000 gallons per acre per day—peak for 5-year, 24-hour event

*2.14 population per EDU assumed for Master Planning purposes

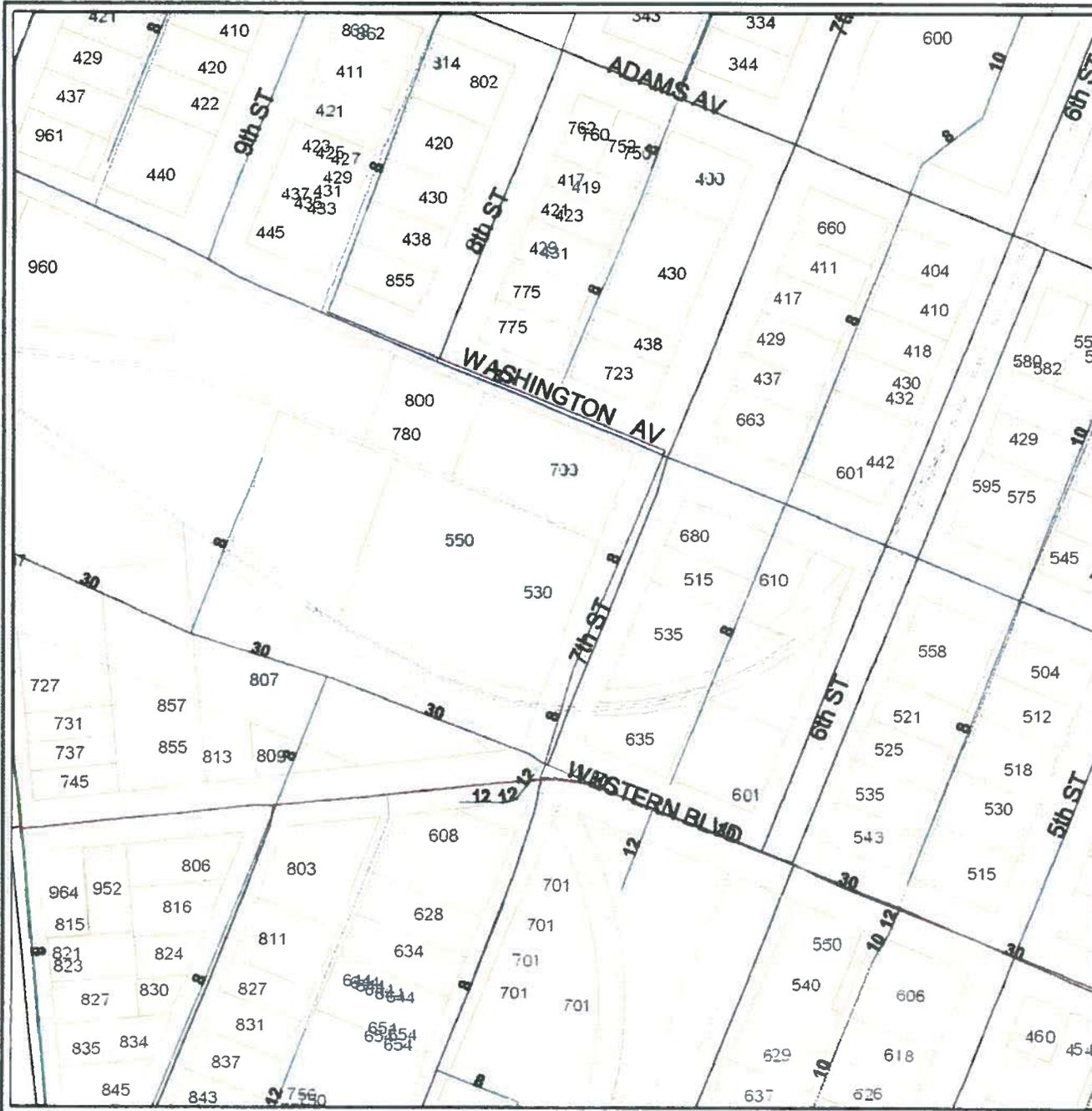
Zone	Density
AG-OS	-
CB	4.4
CBF	4.4
CS	4.4
GI	7.4
GI	8.7
II	8.7
LC	4.4
LI	4.4
OSU	
P-AO	4.4
PD(12U)	16
PD(CS)	4.4
PD(GI)	8.7
PD(LC)	4.4
PD(LI)	8.4
PD(P-AO)	4.4
PD(RS-12)	12.0
PD(RS-12)	16.0
PD(RS-12U)	12.0
PD(RS-12U)	16.0
PD(RS-20)	25.0
PD(RS-3.5)	4.0
PD(RS-5)	4
PD(RS-6)	4.0
PD(RS-9)	9.0
PD(RTC)	4.4
PD(SA)	4.35
RS-12	12.0
RS-12	16.0
RS-12U	12.0
RS-20	25
RS-3.5	4
RS-5	4
RS-6	4.0
RS-9	9
RTC	4.4
SA	4.35
SAU	4.35
SSD	4.4

EXISTING ZONE

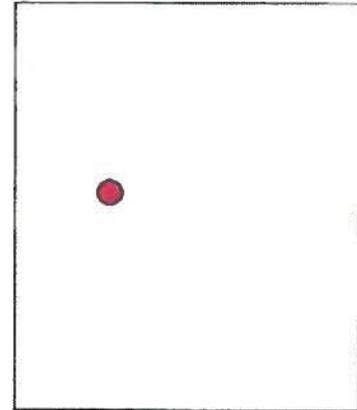
Land Use	Density
Res-Low	4.0
Res-Medium	9.0
Res-MH	12-16
Commercial (SA)	4.4
Ind-Limited	8.7
Ind-Intensive	7.4

PROPOSED MUE* ZONE

* MUE IS NOT LISTED IN THE EFFECTIVE WASTEWATER MASTER PLAN, SO INDUSTRIAL IS USED IN PLACE OF MUE AS A WORST CASE SCENARIO

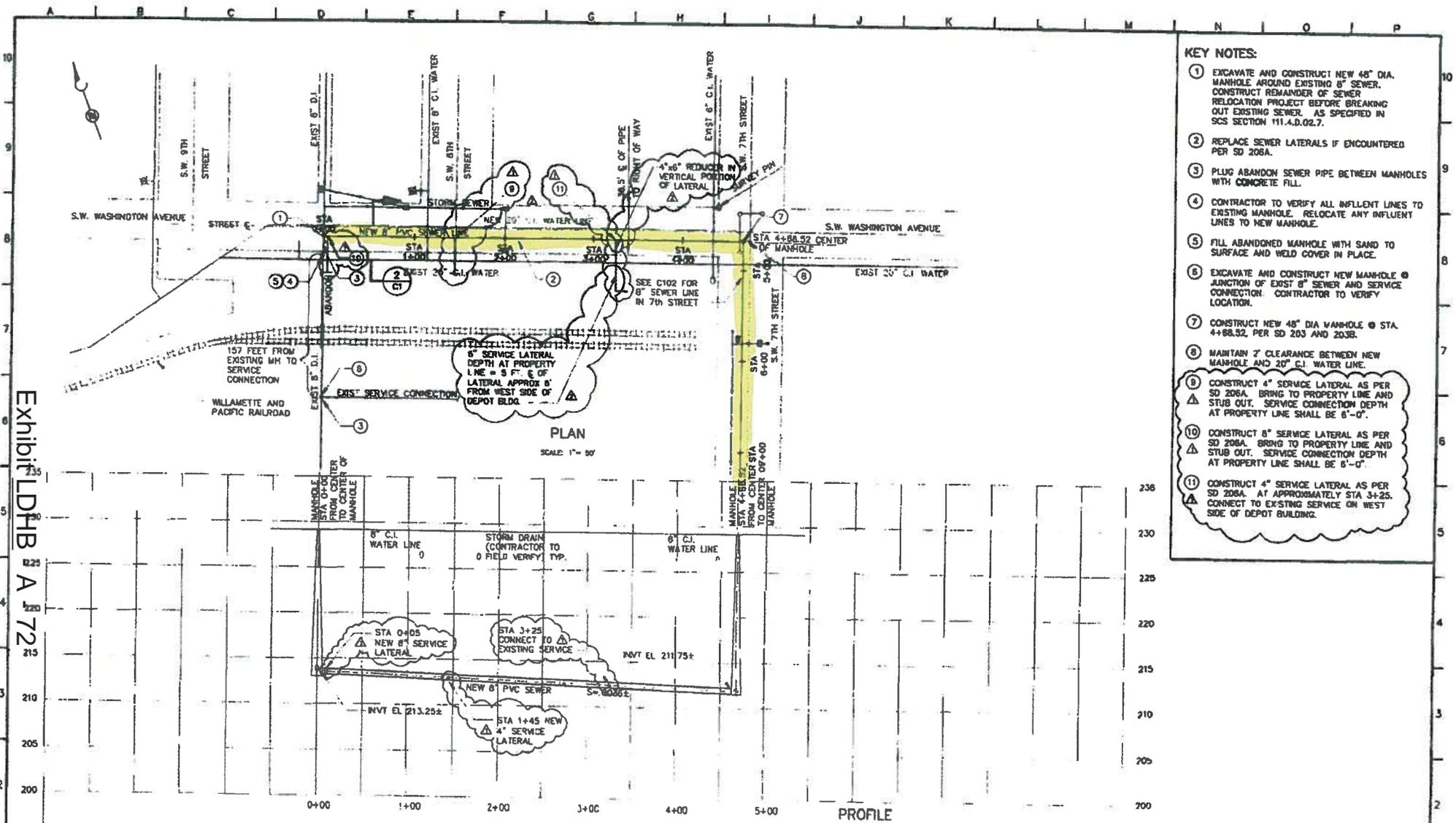


Sanitary Pipes with Diameters



4





- KEY NOTES:**
- ① EXCAVATE AND CONSTRUCT NEW 48" DIA. MANHOLE AROUND EXISTING 8" SEWER. CONSTRUCT REMAINDER OF SEWER RELOCATION PROJECT BEFORE BREAKING OUT EXISTING SEWER. AS SPECIFIED IN SCS SECTION 111.4.D.02.7.
 - ② REPLACE SEWER LATERALS IF ENCOUNTERED PER SD 206A.
 - ③ PLUG ABANDONED SEWER PIPE BETWEEN MANHOLES WITH CONCRETE FILL.
 - ④ CONTRACTOR TO VERIFY ALL INFLUENT LINES TO EXISTING MANHOLE. RELOCATE ANY INFLUENT LINES TO NEW MANHOLE.
 - ⑤ FILL ABANDONED SEWER PIPE WITH SAND TO SURFACE AND WELD COVER IN PLACE.
 - ⑥ EXCAVATE AND CONSTRUCT NEW MANHOLE @ JUNCTION OF EXIST 8" SEWER AND SERVICE CONNECTION. CONTRACTOR TO VERIFY LOCATION.
 - ⑦ CONSTRUCT NEW 48" DIA MANHOLE @ STA. 4+88.92. PER SD 203 AND 203B.
 - ⑧ MAINTAIN 2' CLEARANCE BETWEEN NEW MANHOLE AND 20" C.I. WATER LINE.
 - ⑨ CONSTRUCT 4" SERVICE LATERAL AS PER SD 206A. BRING TO PROPERTY LINE AND STUB OUT. SERVICE CONNECTION DEPTH AT PROPERTY LINE SHALL BE 6'-0".
 - ⑩ CONSTRUCT 8" SERVICE LATERAL AS PER SD 206A. BRING TO PROPERTY LINE AND STUB OUT. SERVICE CONNECTION DEPTH AT PROPERTY LINE SHALL BE 6'-0".
 - ⑪ CONSTRUCT 4" SERVICE LATERAL AS PER SD 206A. AT APPROXIMATELY STA 3+25. CONNECT TO EXISTING SERVICE ON WEST SIDE OF DEPOT BUILDING.

Exhibit LDHB A 72

BROWN AND CALDWELL
EUGENE, OREGON

DATE: _____
APPROVED: _____

LINE IS 3/8" INCHES AT FULL SIZE (AS NOTED OTHERWISE)

FILE: 17207

DESIGNED: GJM
CHECKED: NKS

RECORD DRAWING: This record drawing was prepared using information reported to Brown and Caldwell and contains only the standard and customary level of detail. The information was not independently field verified. There is no ongoing program to update the drawings to reflect changes subsequent to the date indicated. Therefore, this drawing cannot be relied upon as an exact representation of actual conditions.

AS-BUILT	REVISION	DATE	APP.
CHANGE ORDER NO. 1	REVISION	DATE	APP.



CITY OF CORVALLIS, OREGON

RAILROAD YARD UTILITY RELOCATION PROJECT

SEWER LINE RELOCATION

PLAN AND PROFILE - 1

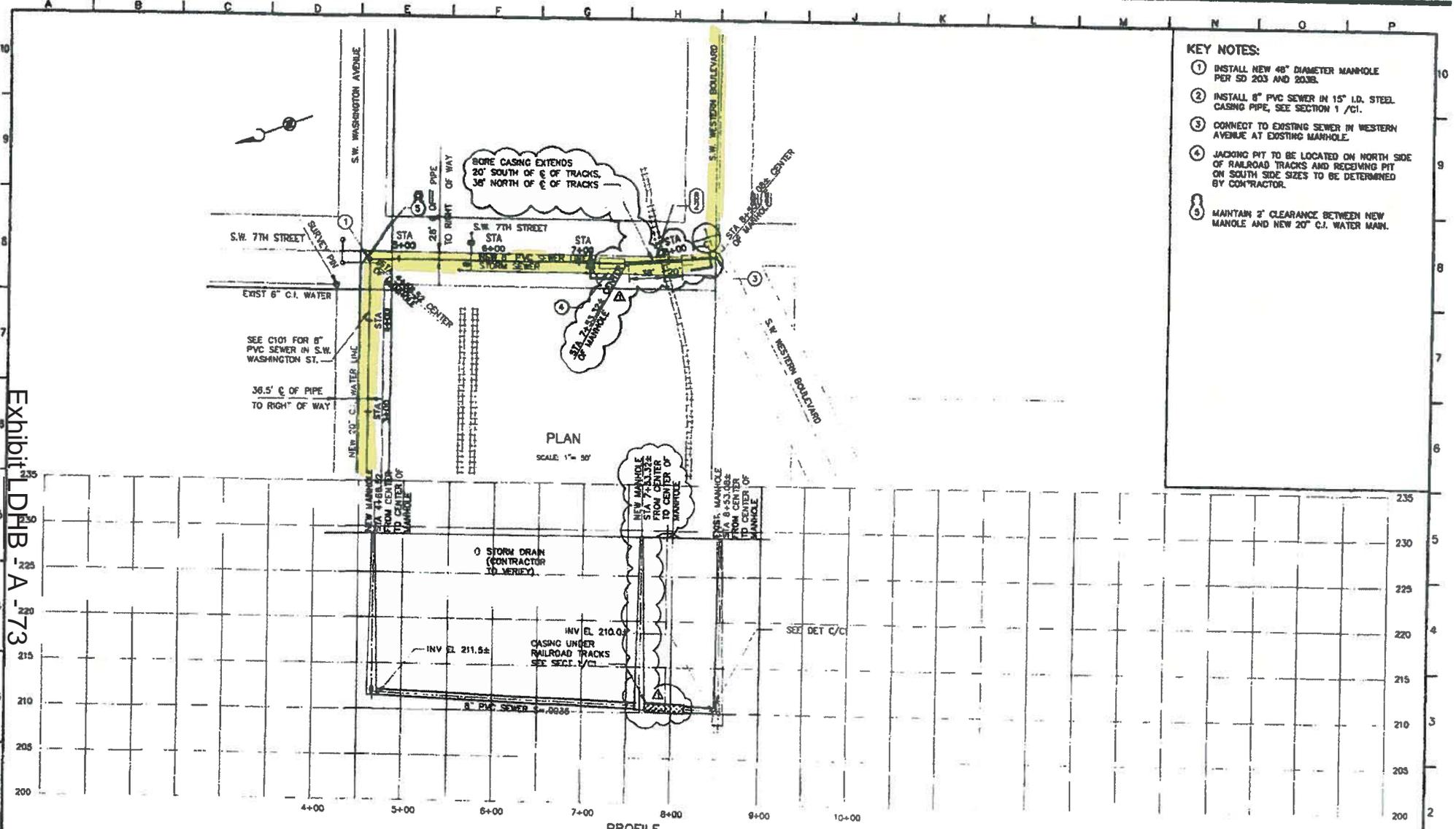
SCALE: AS NOTED

DRAWING NUMBER: C101

SHEET NUMBER: 3 OF 5

REVISION:

659137



- KEY NOTES:**
- ① INSTALL NEW 48" DIAMETER MANHOLE PER SD 203 AND 203B.
 - ② INSTALL 8" PVC SEWER IN 15" I.D. STEEL CASING PIPE, SEE SECTION 1 /C1.
 - ③ CONNECT TO EXISTING SEWER IN WESTERN AVENUE AT EXISTING MANHOLE.
 - ④ JACKING PIT TO BE LOCATED ON NORTH SIDE OF RAILROAD TRACKS AND RECEIVING PIT ON SOUTH SIDE SIZES TO BE DETERMINED BY CONTRACTOR.
 - ⑤ MAINTAIN 2' CLEARANCE BETWEEN NEW MANHOLE AND NEW 20" C.I. WATER MAIN.

Exhibit 1
LDHB - A - 73

BROWN AND CALDWELL
EUGENE, OREGON

SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 APPROVED: _____ DATE: _____

LINE IS 3 INCHES AT FULL SIZE (IF NOT FULL SIZE INDICATED)
 FILE 17907
 DRAWN: RES
 DESIGNED: DZN
 CHECKED: RES
 CHECKED: _____

RECORD DRAWING
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 By: _____ Date: _____

NO.	REV	DESCRIPTION	BY	DATE	APP
1	AS-BUILT		RES		



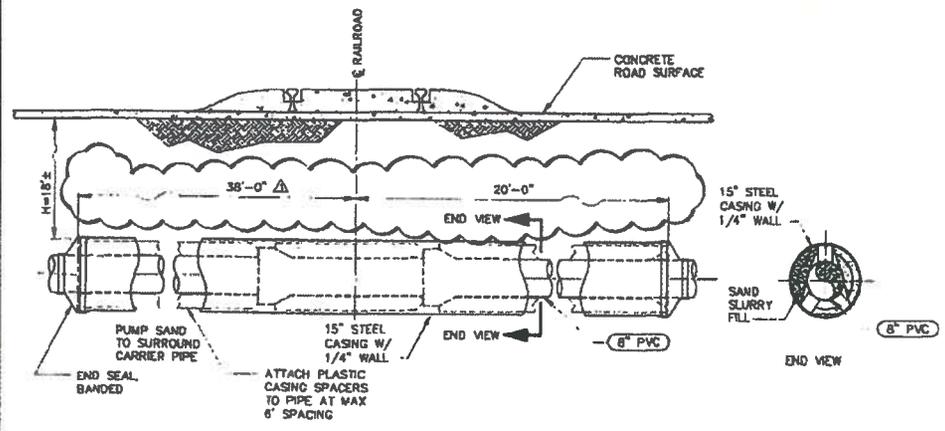
CITY OF CORVALLIS, OREGON
RAILROAD YARD UTILITY RELOCATION PROJECT

SEWER LINE RELOCATION
 PLAN AND PROFILE - 2

SCALE AS NOTED
 DRAWING NUMBER C102
 SHEET NUMBER 4 OF 5
 REVISION

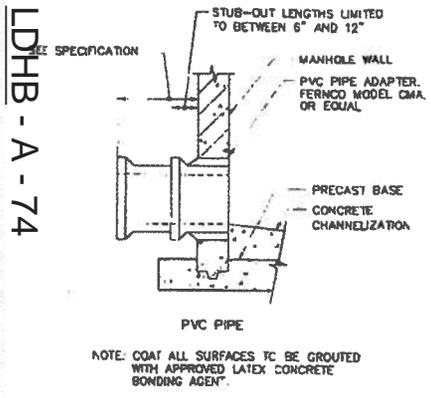
059137

A B C D E F G H I J K L M N O P

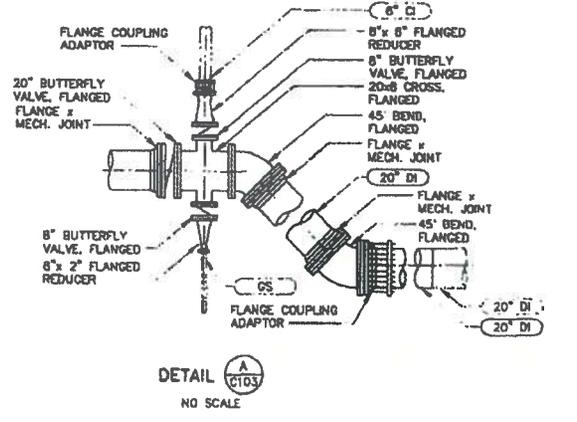


PIPE INSERTION DETAIL
SECTION C102
NO SCALE

Exhibit LDHB - A - 74

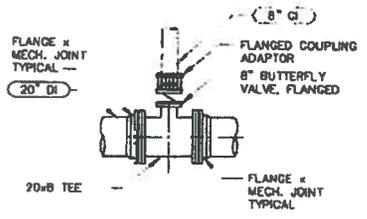


FLEXIBLE MANHOLE CONNECTION
DETAIL C VAR
NO SCALE

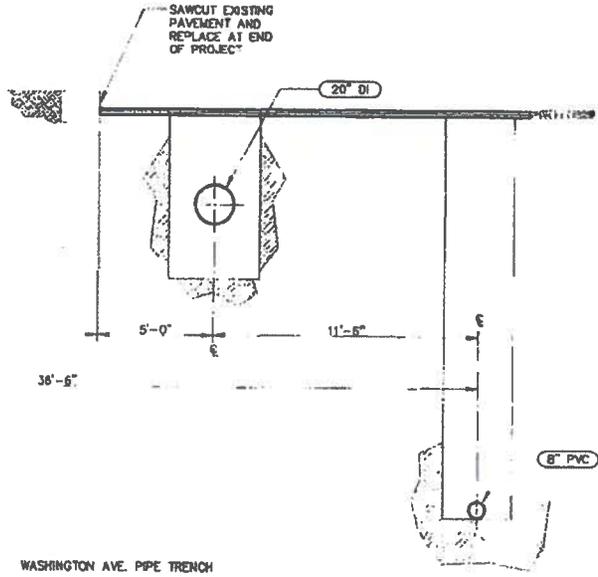


DETAIL A C103
NO SCALE

- GENERAL NOTES:**
1. ALL EXCAVATIONS FOR THIS PROJECT SHALL BE SHEETED SO AS TO MINIMIZE IMPACTS TO SURROUNDING IMPROVEMENTS AND TO COMPLY WITH SCS SECTION III.1.D.04.
 2. COMPACT PIPE ZONE AND TRENCH BACKFILL TO COMPLY WITH SCS SECTION III.1.D.08.



8-INCH WATER CONNECTION
DETAIL B C103
NO SCALE



SECTION 2
NO SCALE

Microfilmed 3/01

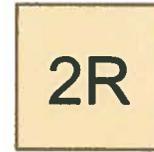
BROWN AND CALDWELL EUGENE, OREGON DESIGNED: [] DATE: [] DRAWN: [] DATE: [] CHECKED: [] DATE: [] APPROVED: [] DATE: []	LINE IS 1 INCHES AT FULL SIZE FILE: 17897 DRAWN: [] DESIGNED: [] CHECKED: [] DATE: []	REVISIONS This record drawing was prepared using information reported to Brown and Caldwell and contains only the standard and customary level of detail. The information was not independently field verified. There is no existing program to update the drawings to reflect changes subsequent to the date indicated. Therefore, this drawing cannot be relied upon as an exact representation of actual conditions. DATE: []	AS BUILT BY: [] DATE: []		CITY OF CORVALLIS, OREGON RAILROAD YARD UTILITY RELOCATION PROJECT	SEWER LINE RELOCATION DETAILS - 1	SCALE: NO SCALE DRAWING NUMBER: C1 SHEET NUMBER: 1 OF 5 REVISION:
	659137						

A B C D E F G H I J K L M N O P

Storm Calculations



Existing



Existing Peak Flows



Developed Conditions -
General Industrial (GI)



Developed Conditions
Peak Flows - General
Industrial (GI)



Developed Conditions -
Industrial and
Commercial (Mixed
Use)



Developed Conditions -
Industrial and
Commercial
(Mixed-Use)



Drainage Diagram for 16-405 Stormwater Calculations
Prepared by Steven C. P. Hattori, P.E., Devco Engineering, Inc., Printed 7/12/2016
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16-405 Stormwater Calculations

Prepared by Steven C. P. Hattori, P.E., Devco Engineering, Inc.
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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.560	84	50-75% Grass cover, Fair, HSG D (1S)
0.560	93	Urban Industrial (3S)
0.121	93	Urban industrial, 72% imp, HSG D (5S)
0.439	95	Urban commercial, 85% imp, HSG D (5S)
1.680		TOTAL AREA

16-405 Stormwater Calculations

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Page 3

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.120	HSG D	1S, 5S
0.560	Other	3S
1.680		TOTAL AREA

16-405 Stormwater Calculations

Type IA 24-hr 2-Year Rainfall=2.55"

Prepared by Steven C. P. Hattori, P.E., Devco Engineering, Inc.

Printed 7/12/2016

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Page 4

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>0.96"
Flow Length=150' Slope=0.0025 '/' Tc=34.9 min CN=84 Runoff=0.12 cfs 0.045 af

Subcatchment 3S: Developed Conditions -

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>1.56"
Tc=5.0 min CN=93 Runoff=0.27 cfs 0.073 af

Subcatchment 5S: Developed Conditions -

Runoff Area=0.560 ac 82.19% Impervious Runoff Depth>1.70"
Tc=5.0 min CN=95 Runoff=0.30 cfs 0.079 af

Reach 2R: Existing Peak Flows

Inflow=0.12 cfs 0.045 af
Outflow=0.12 cfs 0.045 af

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

Inflow=0.27 cfs 0.073 af
Outflow=0.27 cfs 0.073 af

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

Inflow=0.30 cfs 0.079 af
Outflow=0.30 cfs 0.079 af

Total Runoff Area = 1.680 ac Runoff Volume = 0.197 af Average Runoff Depth = 1.40"
72.60% Pervious = 1.220 ac 27.40% Impervious = 0.460 ac

16-405 Stormwater Calculationis

Type IA 24-hr 2-Year Rainfall=2.55"

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Summary for Subcatchment 1S: Existing

Runoff = 0.12 cfs @ 8.32 hrs, Volume= 0.045 af, Depth> 0.96"

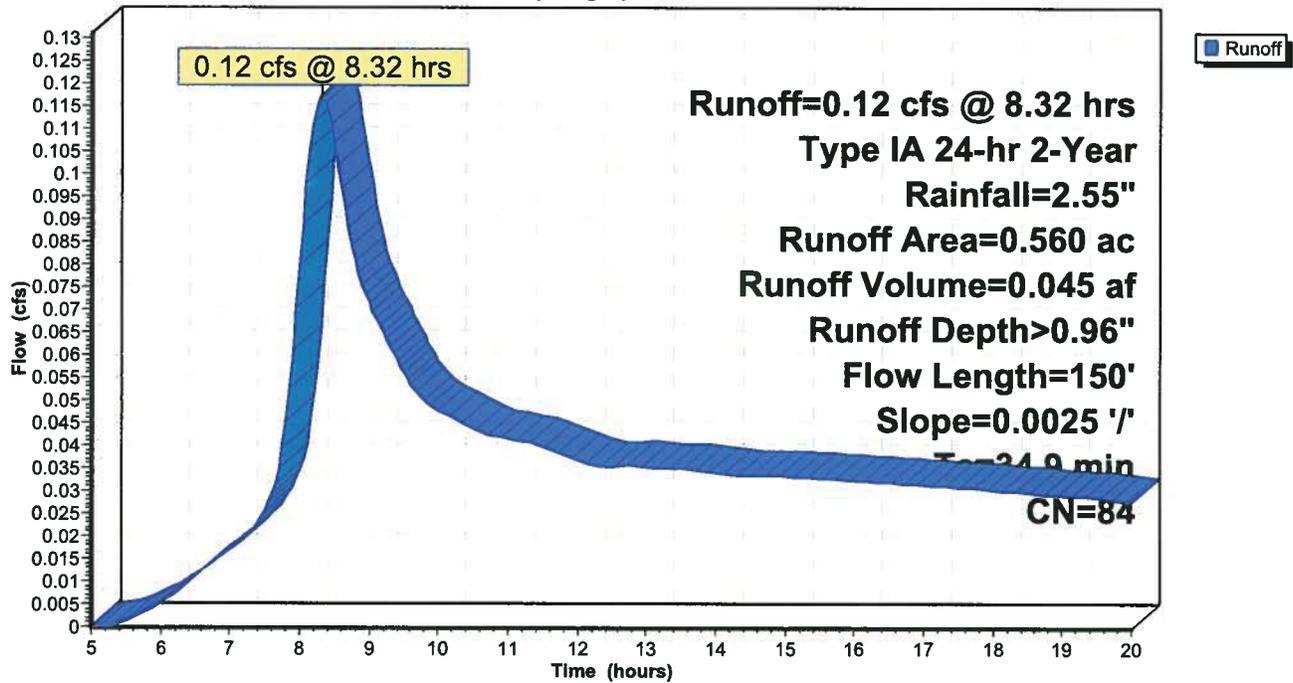
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type IA 24-hr 2-Year Rainfall=2.55"

Area (ac)	CN	Description
0.560	84	50-75% Grass cover, Fair, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.9	150	0.0025	0.07		Sheet Flow, EXISTING Grass: Short n= 0.150 P2= 2.55"

Subcatchment 1S: Existing

Hydrograph



16-405 Stormwater Calculations

Type IA 24-hr 2-Year Rainfall=2.55"

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Summary for Subcatchment 3S: Developed Conditions - General Industrial (GI)

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.27 cfs @ 7.90 hrs, Volume= 0.073 af, Depth> 1.56"

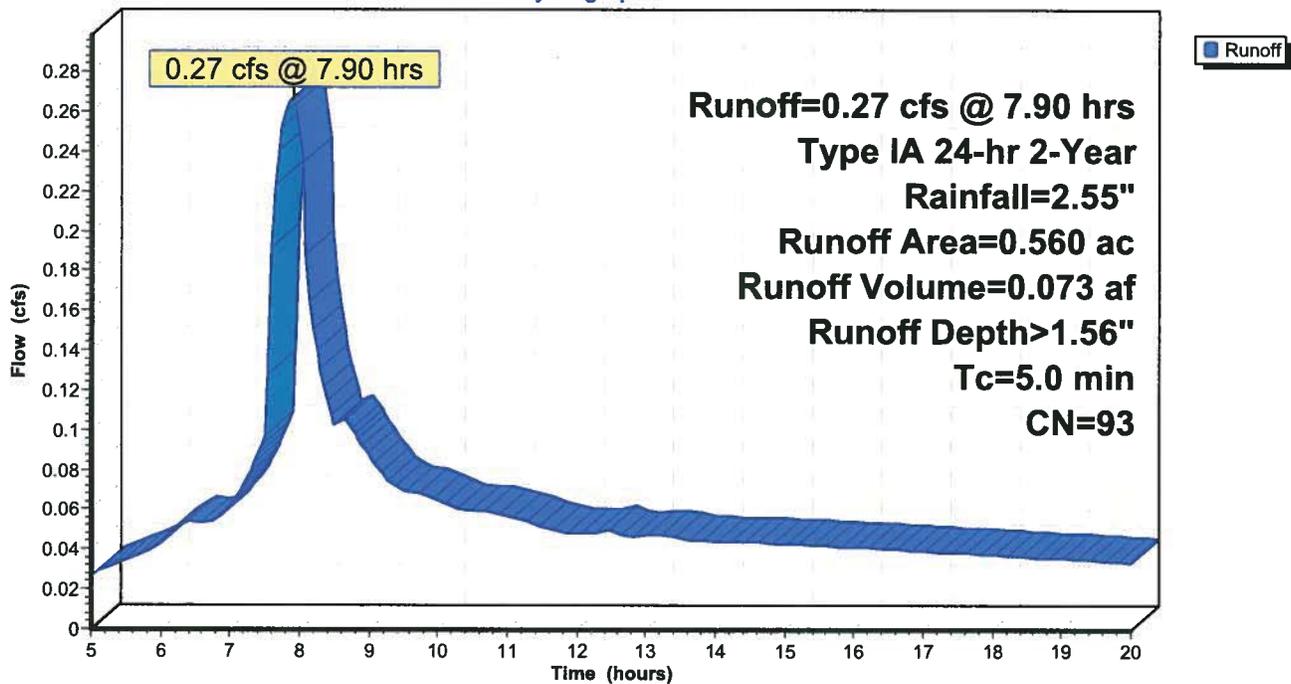
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, $dt= 0.05$ hrs
 Type IA 24-hr 2-Year Rainfall=2.55"

Area (ac)	CN	Description
* 0.560	93	Urban Industrial
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 3S: Developed Conditions - General Industrial (GI)

Hydrograph



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Type IA 24-hr 2-Year Rainfall=2.55"

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Summary for Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.30 cfs @ 7.88 hrs, Volume= 0.079 af, Depth> 1.70"

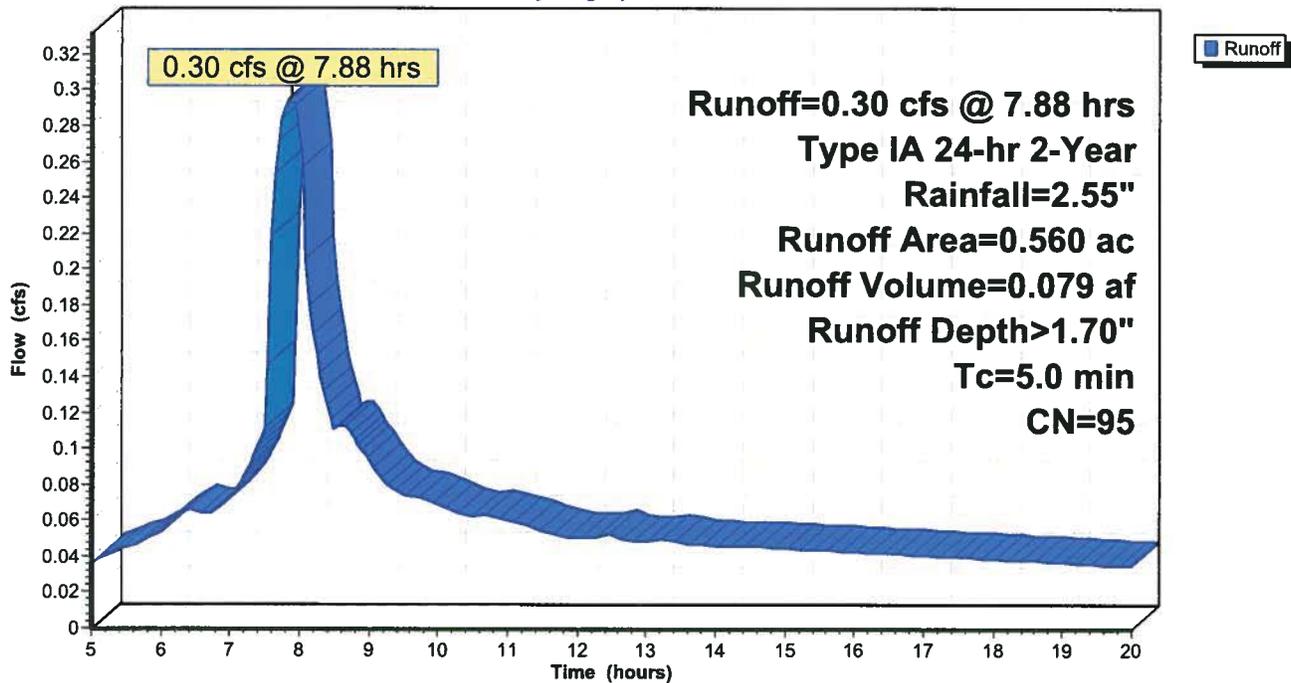
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 2-Year Rainfall=2.55"

Area (ac)	CN	Description
0.121	93	Urban industrial, 72% imp, HSG D
0.439	95	Urban commercial, 85% imp, HSG D
0.560	95	Weighted Average
0.100		17.81% Pervious Area
0.460		82.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 2-Year Rainfall=2.55"

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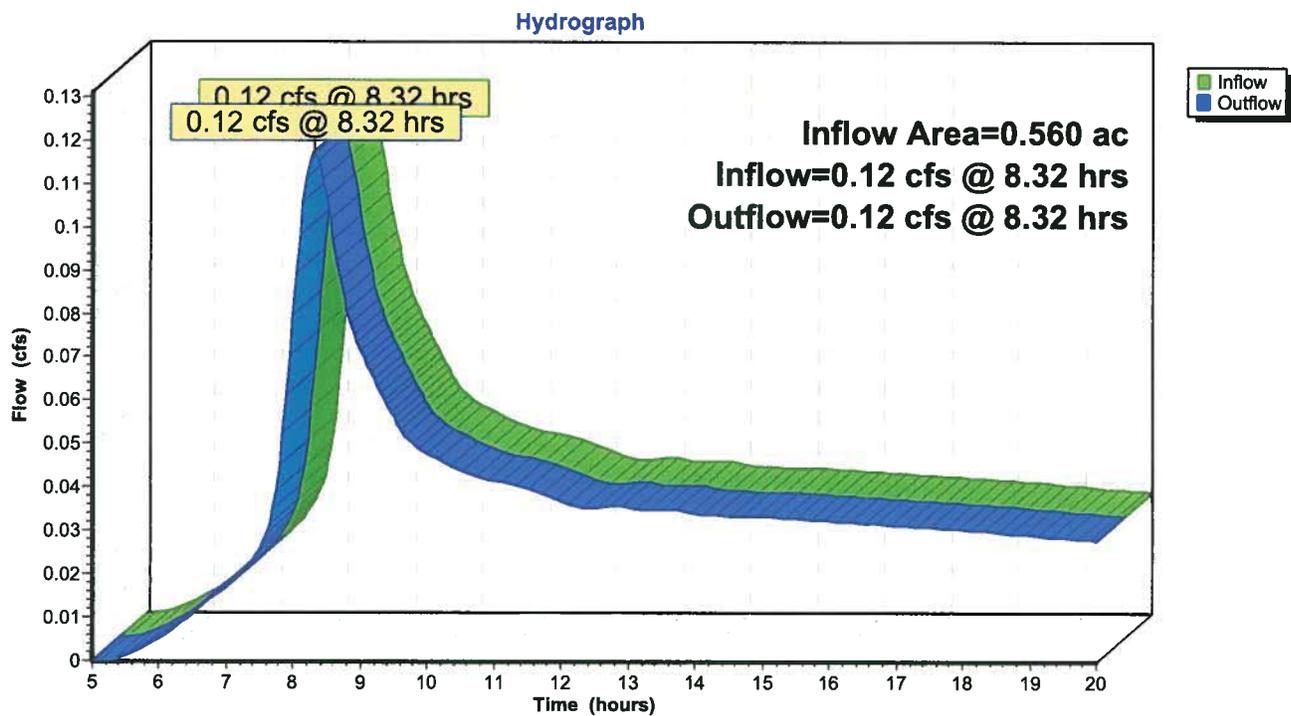
Summary for Reach 2R: Existing Peak Flows

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 0.96" for 2-Year event
Inflow = 0.12 cfs @ 8.32 hrs, Volume= 0.045 af
Outflow = 0.12 cfs @ 8.32 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Existing Peak Flows



16-405 Stormwater Calculationis

Type IA 24-hr 2-Year Rainfall=2.55"

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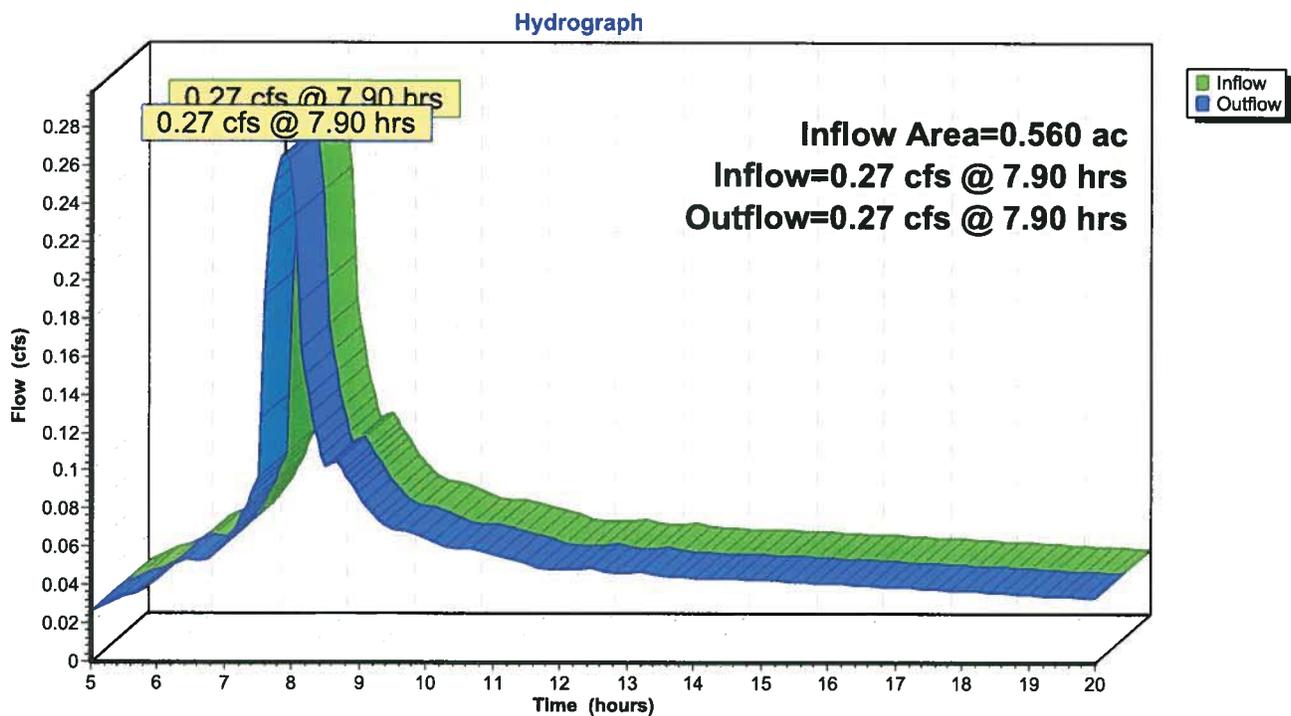
Summary for Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 1.56" for 2-Year event
Inflow = 0.27 cfs @ 7.90 hrs, Volume= 0.073 af
Outflow = 0.27 cfs @ 7.90 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)



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Type IA 24-hr 2-Year Rainfall=2.55"

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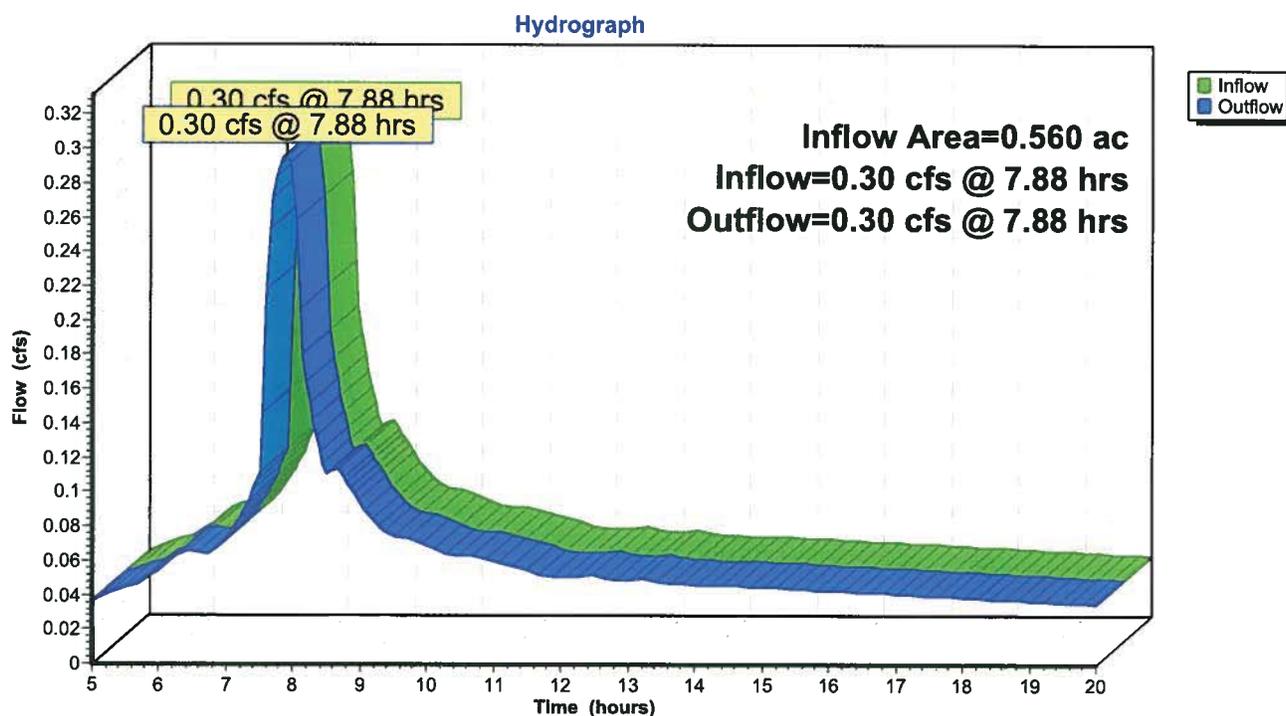
Summary for Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 82.19% Impervious, Inflow Depth > 1.70" for 2-Year event
Inflow = 0.30 cfs @ 7.88 hrs, Volume= 0.079 af
Outflow = 0.30 cfs @ 7.88 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)



16-405 Stormwater Calculations

Type IA 24-hr 5-Year Rainfall=2.91"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>1.21"

Flow Length=150' Slope=0.0025 '/' Tc=34.9 min CN=84 Runoff=0.15 cfs 0.056 af

Subcatchment 3S: Developed Conditions -

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>1.84"

Tc=5.0 min CN=93 Runoff=0.32 cfs 0.086 af

Subcatchment 5S: Developed Conditions -

Runoff Area=0.560 ac 82.19% Impervious Runoff Depth>1.98"

Tc=5.0 min CN=95 Runoff=0.35 cfs 0.092 af

Reach 2R: Existing Peak Flows

Inflow=0.15 cfs 0.056 af

Outflow=0.15 cfs 0.056 af

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

Inflow=0.32 cfs 0.086 af

Outflow=0.32 cfs 0.086 af

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

Inflow=0.35 cfs 0.092 af

Outflow=0.35 cfs 0.092 af

Total Runoff Area = 1.680 ac Runoff Volume = 0.235 af Average Runoff Depth = 1.68"
72.60% Pervious = 1.220 ac 27.40% Impervious = 0.460 ac

16-405 Stormwater Calculationis

Type IA 24-hr 5-Year Rainfall=2.91"

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Summary for Subcatchment 1S: Existing

Runoff = 0.15 cfs @ 8.31 hrs, Volume= 0.056 af, Depth> 1.21"

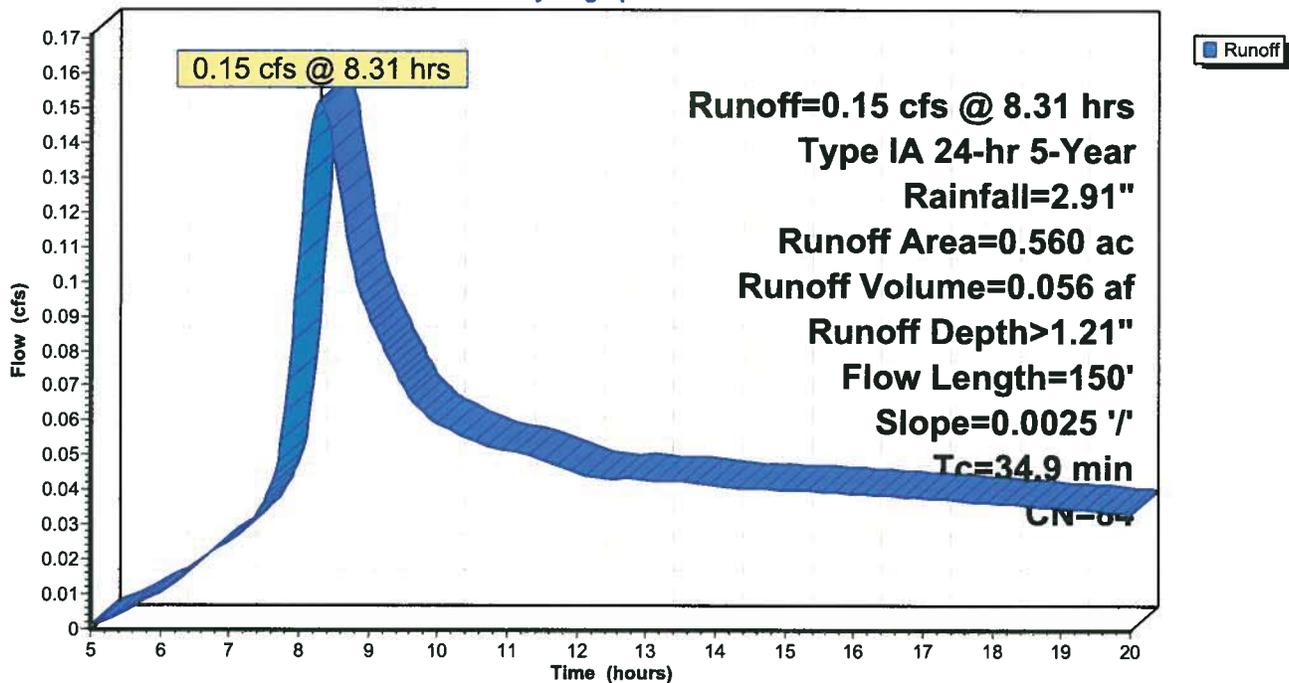
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type IA 24-hr 5-Year Rainfall=2.91"

Area (ac)	CN	Description
0.560	84	50-75% Grass cover, Fair, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.9	150	0.0025	0.07		Sheet Flow, EXISTING Grass: Short n= 0.150 P2= 2.55"

Subcatchment 1S: Existing

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 5-Year Rainfall=2.91"

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Summary for Subcatchment 3S: Developed Conditions - General Industrial (GI)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.32 cfs @ 7.89 hrs, Volume= 0.086 af, Depth> 1.84"

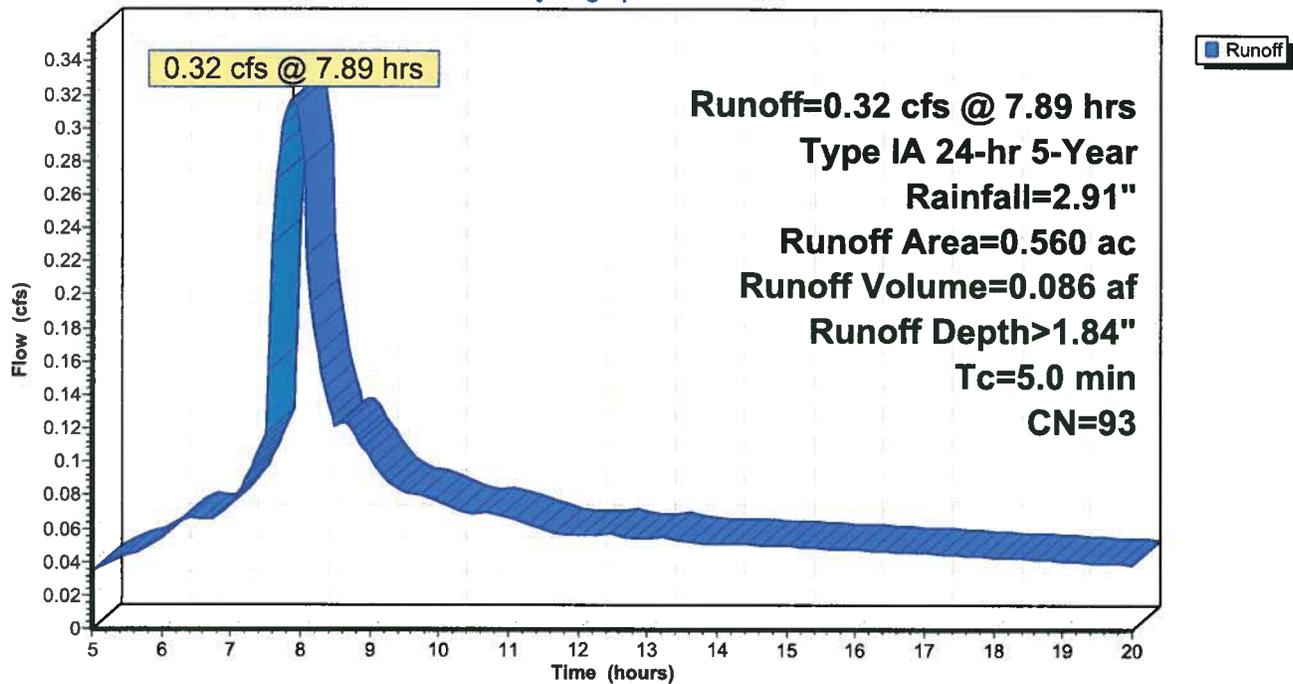
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type IA 24-hr 5-Year Rainfall=2.91"

Area (ac)	CN	Description
* 0.560	93	Urban Industrial
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 3S: Developed Conditions - General Industrial (GI)

Hydrograph



16-405 Stormwater Calculationis

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Type IA 24-hr 5-Year Rainfall=2.91"

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Summary for Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.35 cfs @ 7.88 hrs, Volume= 0.092 af, Depth> 1.98"

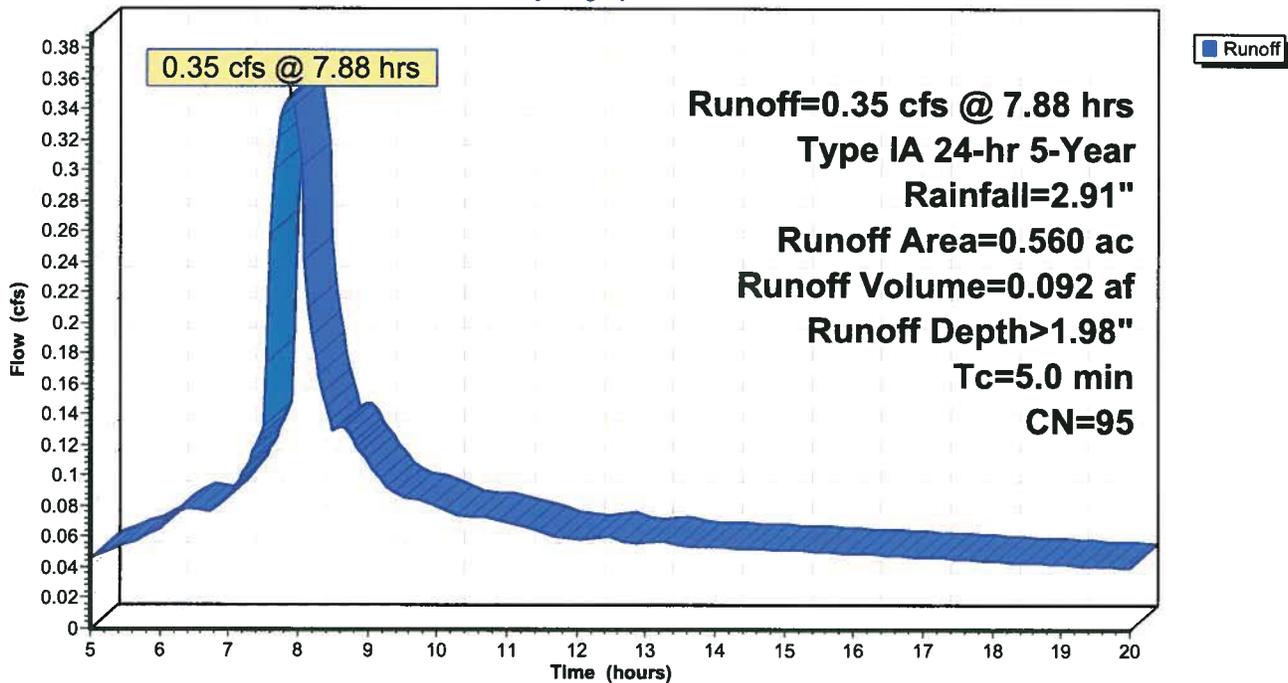
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 5-Year Rainfall=2.91"

Area (ac)	CN	Description
0.121	93	Urban industrial, 72% imp, HSG D
0.439	95	Urban commercial, 85% imp, HSG D
0.560	95	Weighted Average
0.100		17.81% Pervious Area
0.460		82.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 5-Year Rainfall=2.91"

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Summary for Reach 2R: Existing Peak Flows

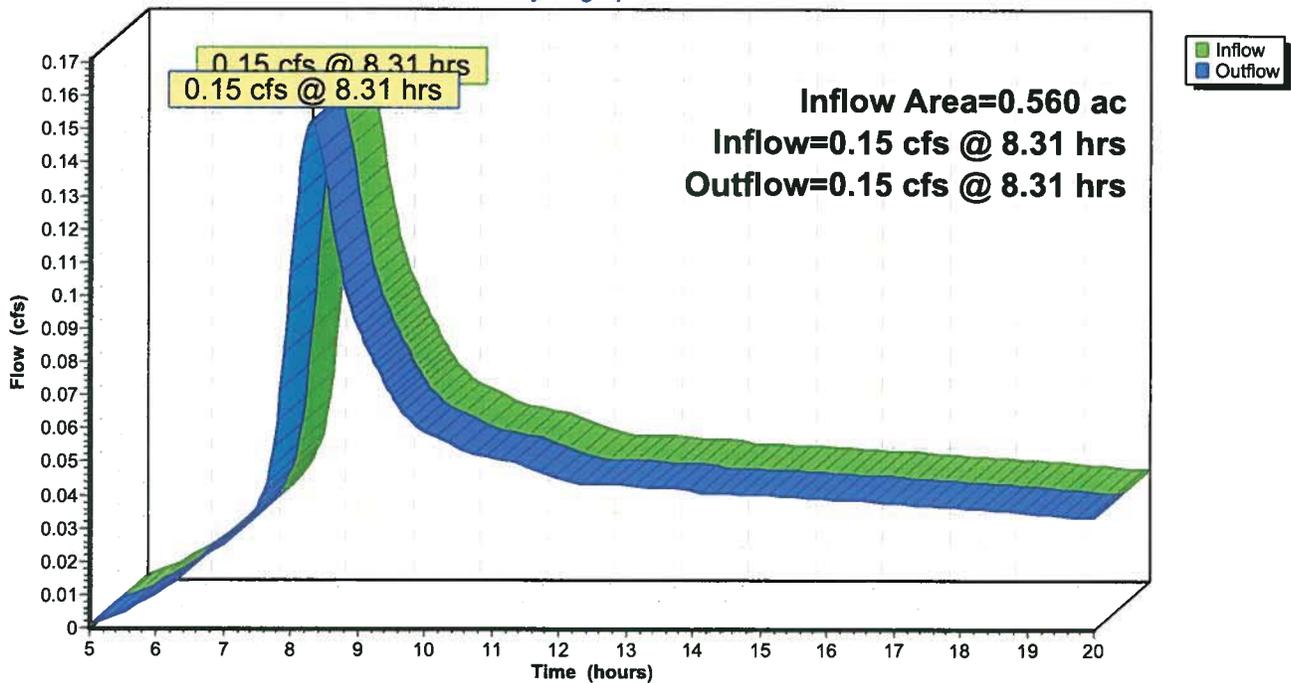
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 1.21" for 5-Year event
Inflow = 0.15 cfs @ 8.31 hrs, Volume= 0.056 af
Outflow = 0.15 cfs @ 8.31 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Existing Peak Flows

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 5-Year Rainfall=2.91"

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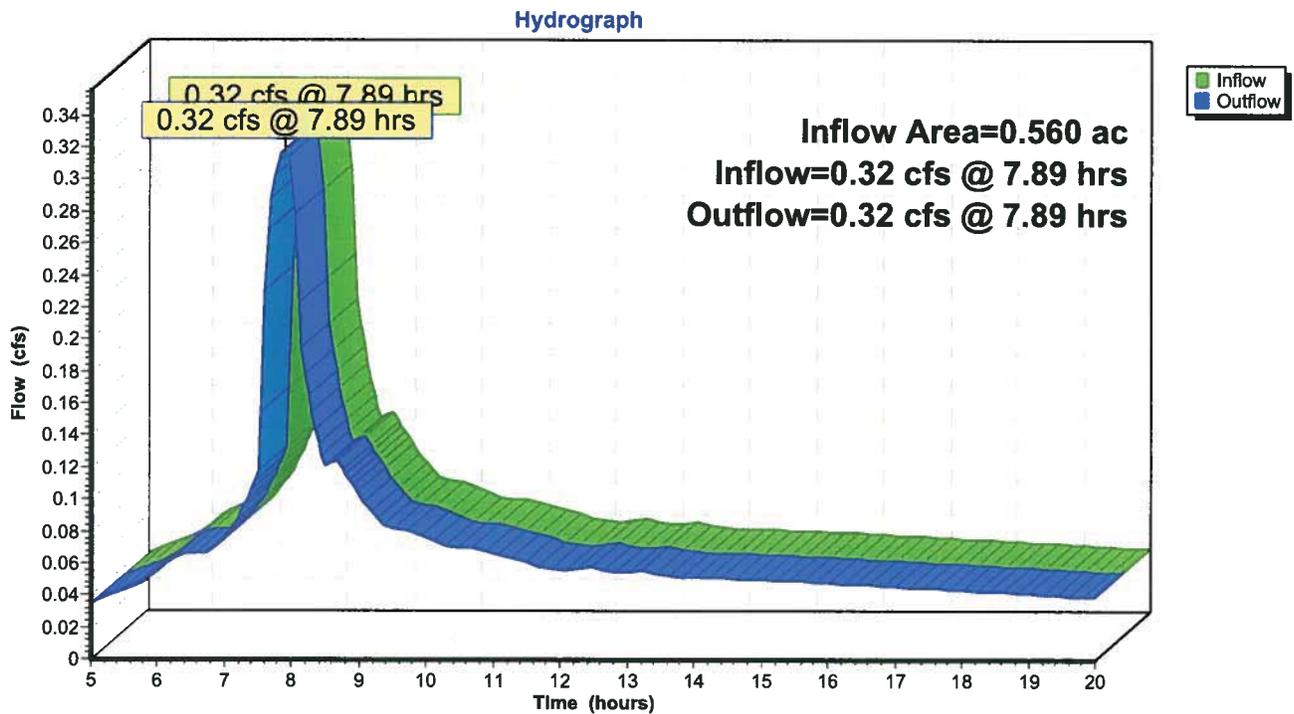
Summary for Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 1.84" for 5-Year event
Inflow = 0.32 cfs @ 7.89 hrs, Volume= 0.086 af
Outflow = 0.32 cfs @ 7.89 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)



16-405 Stormwater Calculationis

Type IA 24-hr 5-Year Rainfall=2.91"

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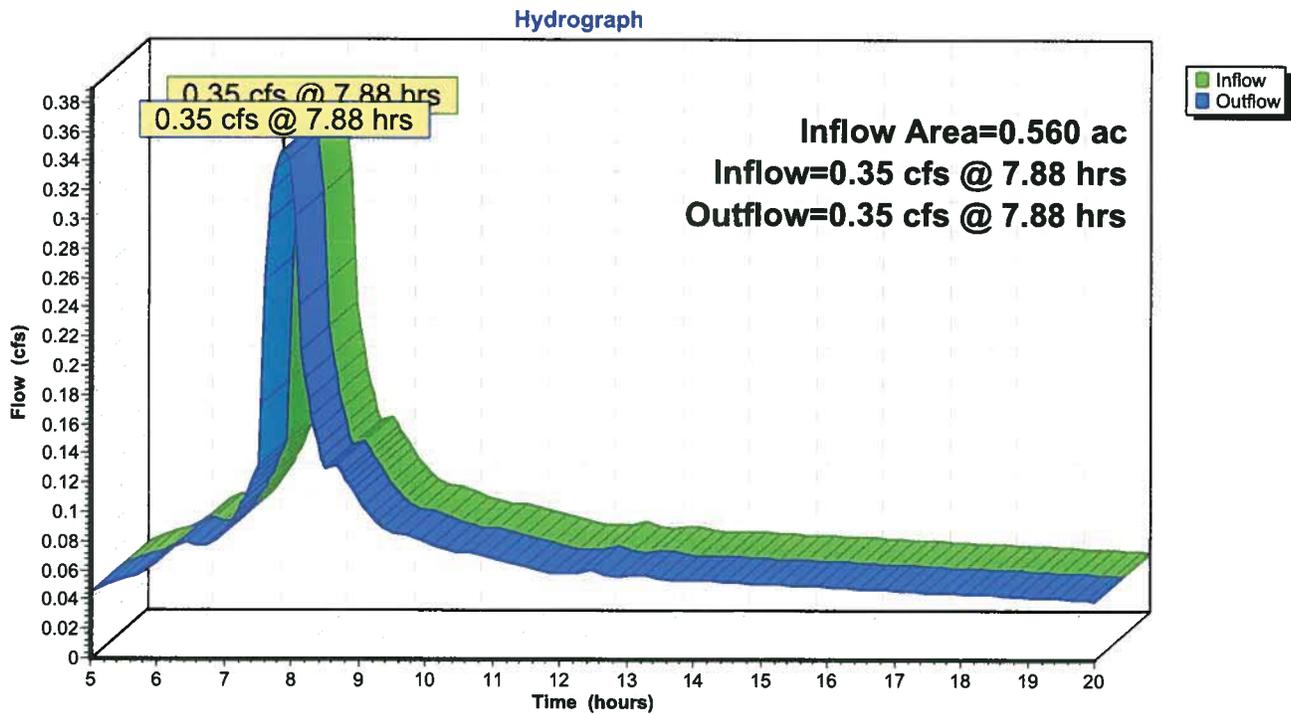
Summary for Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 82.19% Impervious, Inflow Depth > 1.98" for 5-Year event
Inflow = 0.35 cfs @ 7.88 hrs, Volume= 0.092 af
Outflow = 0.35 cfs @ 7.88 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)



16-405 Stormwater Calculationis

Type IA 24-hr 10-Year Rainfall=3.64"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>1.74"

Flow Length=150' Slope=0.0025 '/' Tc=34.9 min CN=84 Runoff=0.23 cfs 0.081 af

Subcatchment 3S: Developed Conditions -

Runoff Area=0.560 ac 0.00% Impervious Runoff Depth>2.42"

Tc=5.0 min CN=93 Runoff=0.42 cfs 0.113 af

Subcatchment 5S: Developed Conditions -

Runoff Area=0.560 ac 82.19% Impervious Runoff Depth>2.56"

Tc=5.0 min CN=95 Runoff=0.45 cfs 0.119 af

Reach 2R: Existing Peak Flows

Inflow=0.23 cfs 0.081 af

Outflow=0.23 cfs 0.081 af

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

Inflow=0.42 cfs 0.113 af

Outflow=0.42 cfs 0.113 af

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

Inflow=0.45 cfs 0.119 af

Outflow=0.45 cfs 0.119 af

Total Runoff Area = 1.680 ac Runoff Volume = 0.313 af Average Runoff Depth = 2.24"
72.60% Pervious = 1.220 ac 27.40% Impervious = 0.460 ac

16-405 Stormwater Calculations

Type IA 24-hr 10-Year Rainfall=3.64"

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Summary for Subcatchment 1S: Existing

Runoff = 0.23 cfs @ 8.29 hrs, Volume= 0.081 af, Depth> 1.74"

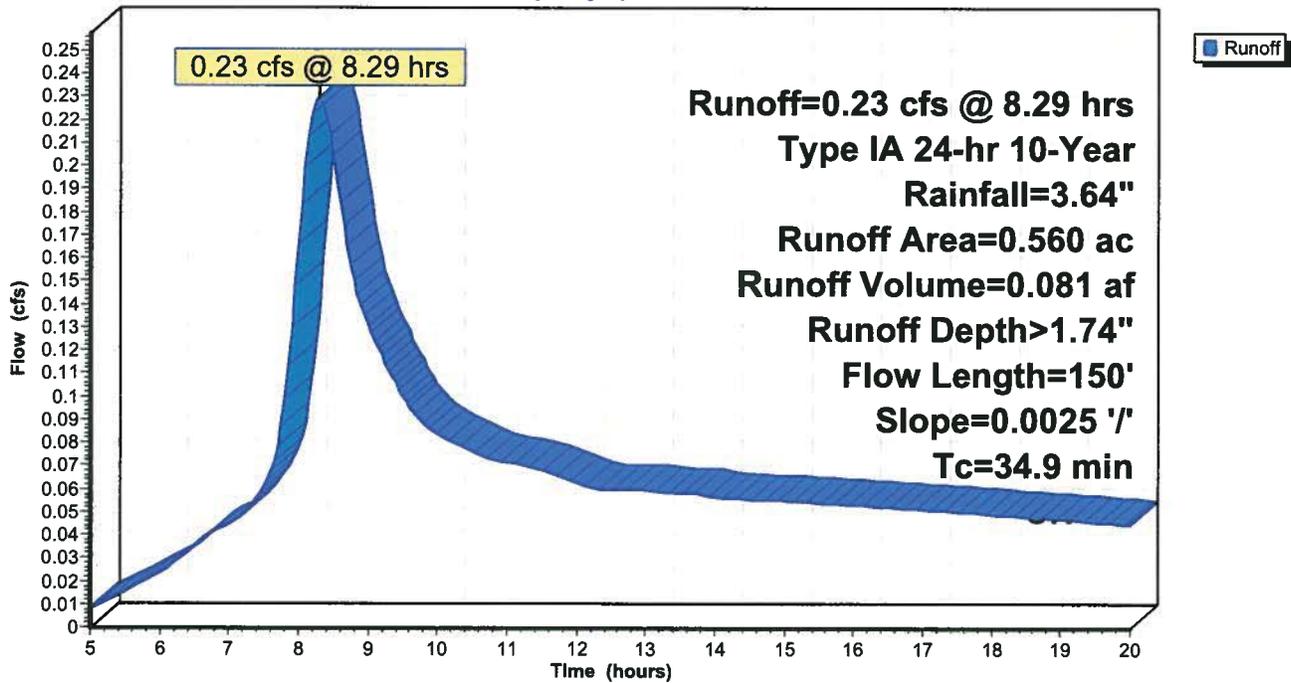
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 10-Year Rainfall=3.64"

Area (ac)	CN	Description
0.560	84	50-75% Grass cover, Fair, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.9	150	0.0025	0.07		Sheet Flow, EXISTING Grass: Short n= 0.150 P2= 2.55"

Subcatchment 1S: Existing

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 10-Year Rainfall=3.64"

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Summary for Subcatchment 3S: Developed Conditions - General Industrial (GI)

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.42 cfs @ 7.88 hrs, Volume= 0.113 af, Depth> 2.42"

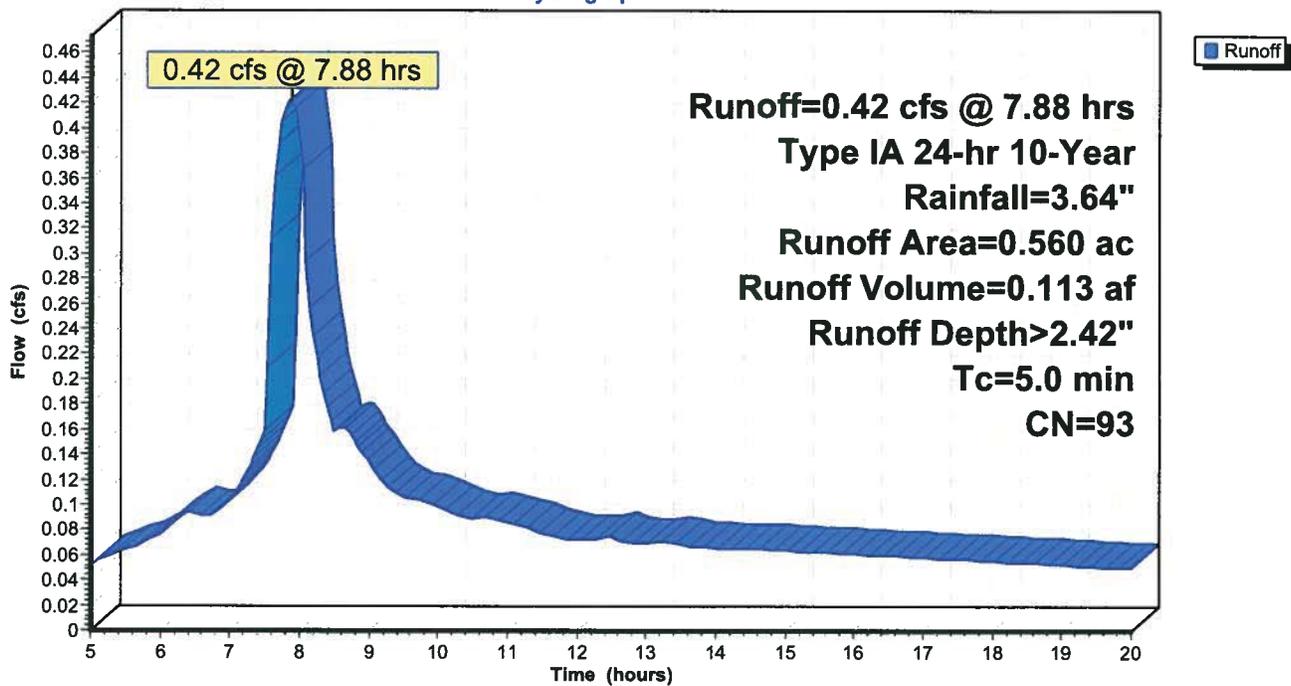
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 10-Year Rainfall=3.64"

Area (ac)	CN	Description
* 0.560	93	Urban Industrial
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 3S: Developed Conditions - General Industrial (GI)

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 10-Year Rainfall=3.64"

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Summary for Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.45 cfs @ 7.87 hrs, Volume= 0.119 af, Depth> 2.56"

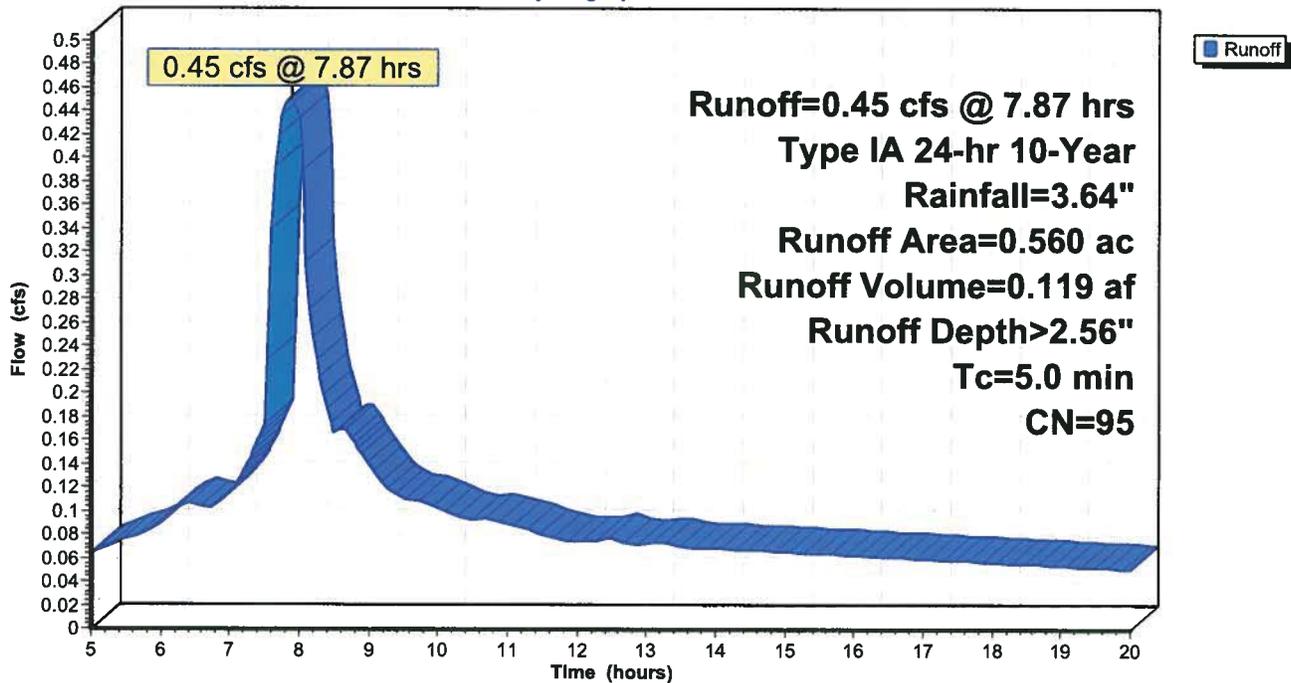
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type IA 24-hr 10-Year Rainfall=3.64"

Area (ac)	CN	Description
0.121	93	Urban industrial, 72% imp, HSG D
0.439	95	Urban commercial, 85% imp, HSG D
0.560	95	Weighted Average
0.100		17.81% Pervious Area
0.460		82.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, By Inspection

Subcatchment 5S: Developed Conditions - Industrial and Commercial (Mixed Use)

Hydrograph



Summary for Reach 2R: Existing Peak Flows

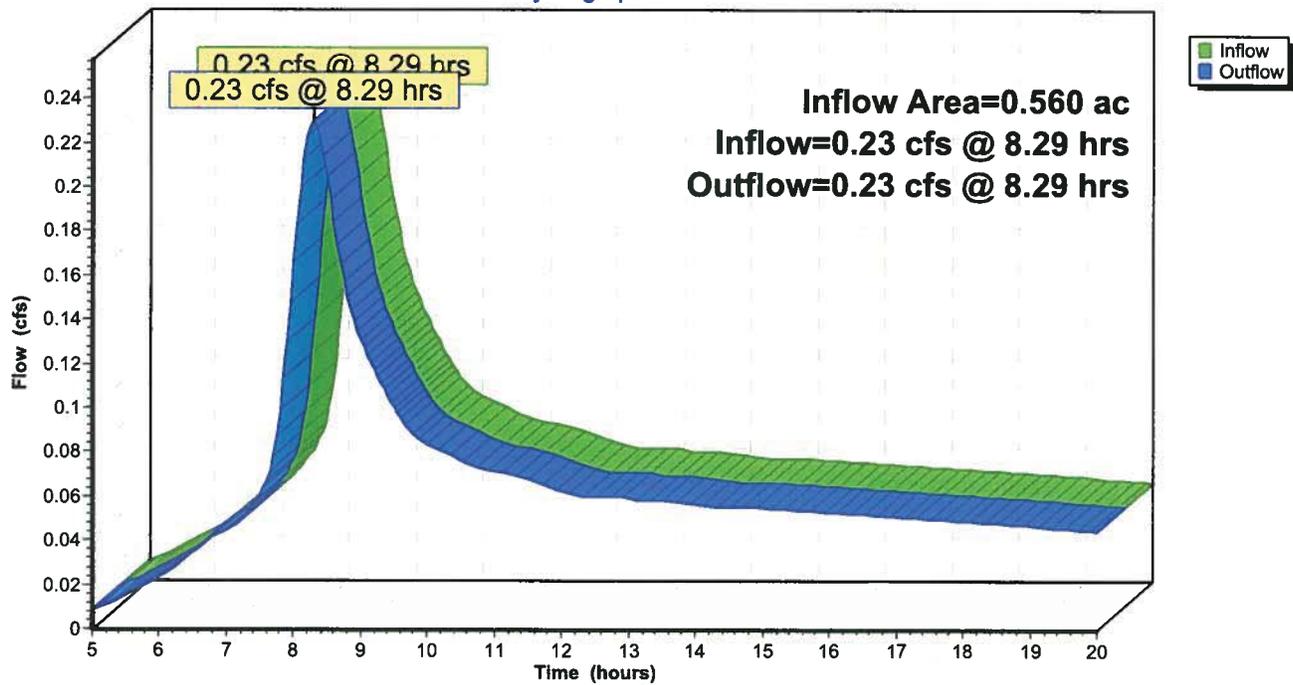
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 1.74" for 10-Year event
 Inflow = 0.23 cfs @ 8.29 hrs, Volume= 0.081 af
 Outflow = 0.23 cfs @ 8.29 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Existing Peak Flows

Hydrograph



16-405 Stormwater Calculationis

Type IA 24-hr 10-Year Rainfall=3.64"

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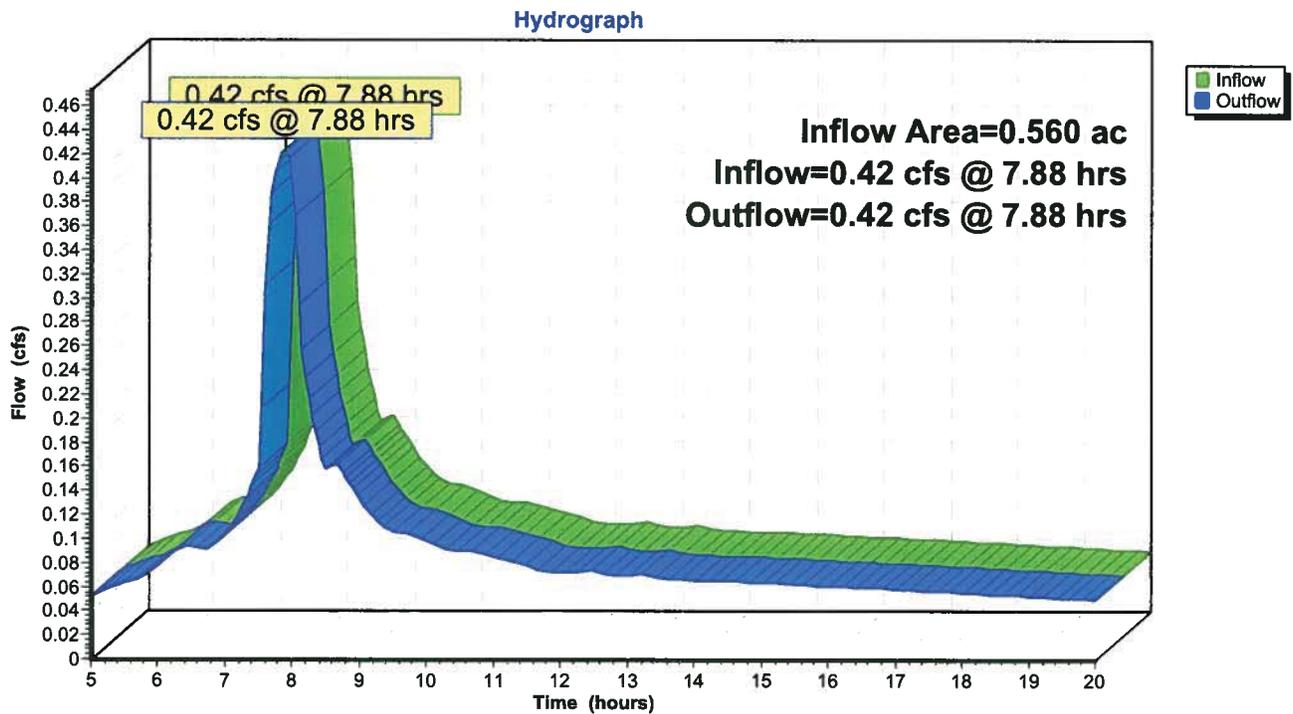
Summary for Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 0.00% Impervious, Inflow Depth > 2.42" for 10-Year event
Inflow = 0.42 cfs @ 7.88 hrs, Volume= 0.113 af
Outflow = 0.42 cfs @ 7.88 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Developed Conditions Peak Flows - General Industrial (GI)



16-405 Stormwater Calculationis

Type IA 24-hr 10-Year Rainfall=3.64"

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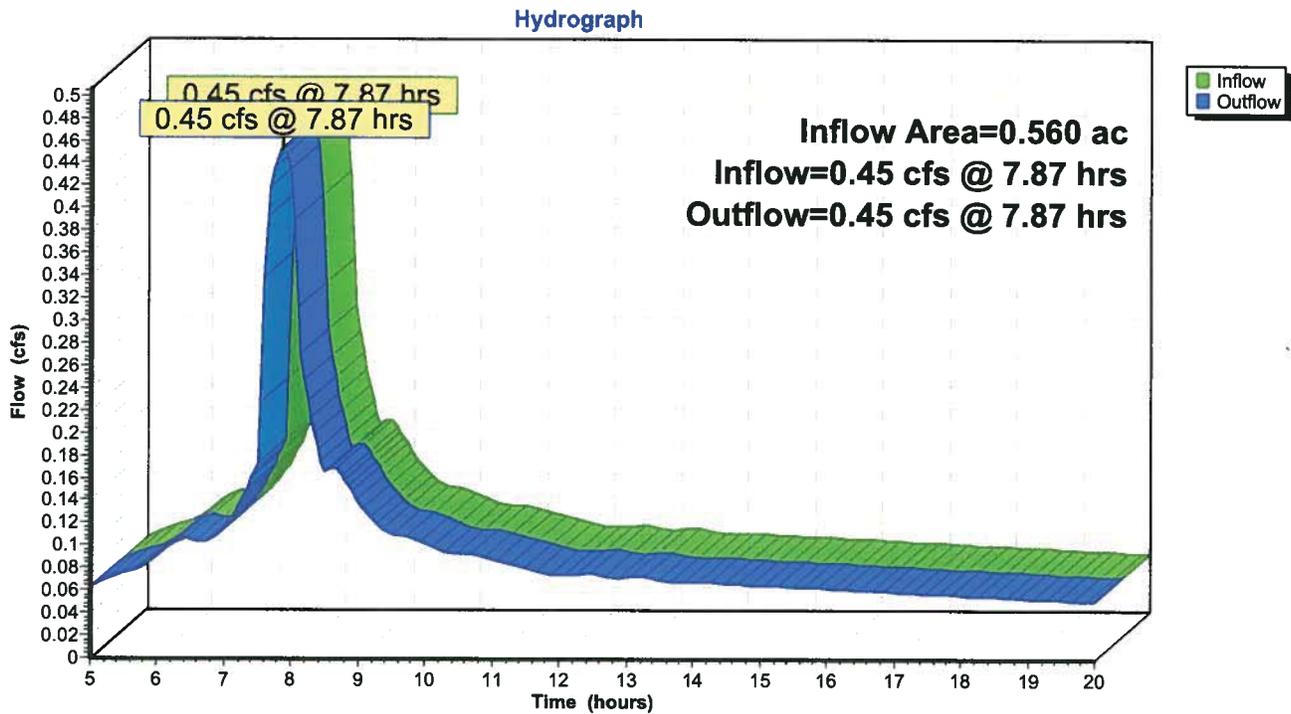
Summary for Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.560 ac, 82.19% Impervious, Inflow Depth > 2.56" for 10-Year event
Inflow = 0.45 cfs @ 7.87 hrs, Volume= 0.119 af
Outflow = 0.45 cfs @ 7.87 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 6R: Developed Conditions - Industrial and Commercial (Mixed-Use)





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Fax: (541) 757-9885

(541) 757-8991

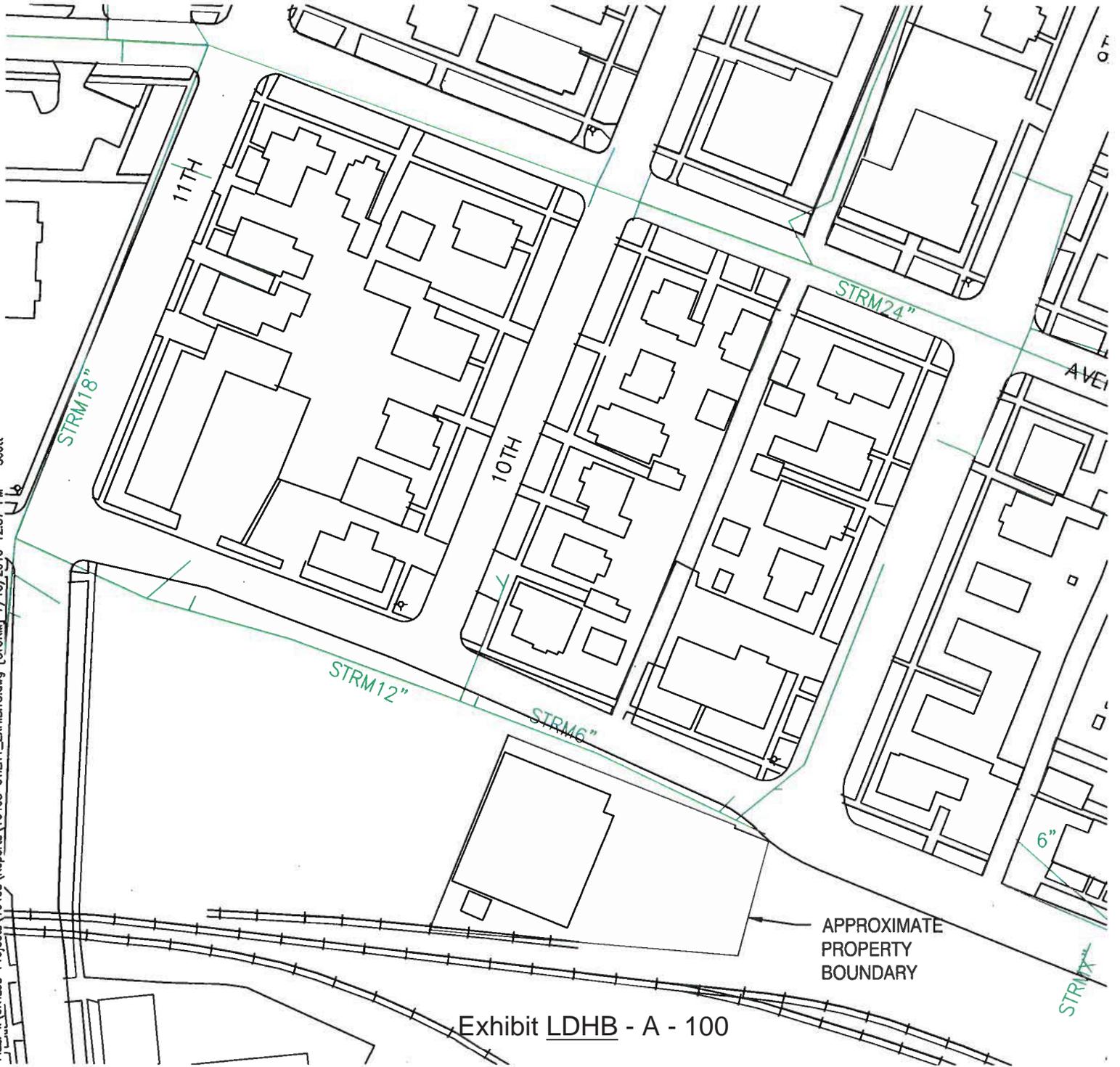
SCALE: 1" = 100'



SCALE IN FEET



STORM SKETCH



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Exhibit LDHB - A - 100

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas					
(pervious areas only, no vegetation) ^{5/}		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

^{1/} Average runoff condition, and $I_a = 0.2S$.^{2/} The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.^{3/} CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.^{4/} Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.^{5/} Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

TECHNICAL MEMORANDUM No. 1

December 2000

Page 2 of 8

Table TM1-1. Watershed and Subwatershed Areas

Watershed name	Watershed, acres	Number of subwatersheds	Subwatershed minimum, acres	Subwatershed mean, acres	Subwatershed maximum, acres
Dixon Creek	2,712	96	2	28	250
Frazier Creek	2,254	12	39	188	424
Garfield Creek	346	12	5	29	151
Jackson Creek	1,798	9	109	200	316
Marys River	78	3	12	26	44
Oak Creek	8,308	30	21	277	2,352
Sequoia Creek	1,357	25	10	54	233
South Corvallis (Goodnight)	298	23	0.7	13	48
South Corvallis (Millrace)	349	6	19	44	84
Squaw Creek	2,363	31	12	76	468
Village Green Creek	380	9	7	42	77
Total	20,243	256			

3.2 Design Storm

The design storm utilized for this project was the rainfall pattern from December 24 to 29, 1998 (see Table A-1 in the Appendix). During this 5-day period, 5.15 inches of rain fell, 3.64 inches of which fell in the 24-hour period beginning at 1:00 p.m. on December 27. This 24-hour intensity is approximately equal to the 10-year event for Corvallis predicted by the Oregon Climate Service. (The 10-year event has a 10 percent chance of occurring in any given year or, in other words, is expected to occur on average once in every 10 years). The days before and after the critical 24 hours were included in the model runs to allow the model time to come to equilibrium. The entire December 24 to 29, 1998 storm distribution is graphed in TM1-3.

The rainfall distribution for the other storms modeled, the 2-, 5-, 25-, and 100-year storms, was obtained by multiplying the 10-year storm volume by the factors listed in Table TM1-2.

Table TM1-2. Design Storm Rainfall Multiplier

Return Frequency (years)	2	5	10	25	100
Multiplier	0.7	0.8	1.0	1.1	1.3

$$3.64 \text{ in (10-year storm)} \times 1.3 \text{ (100-year multiplier)} = 4.732 \text{ in (100-year design storm)}$$

$$3.64 \text{ in (10-year storm)} \times 0.8 \text{ (5-year multiplier)} = 2.912 \text{ in (5-year design storm)}$$

$$3.64 \text{ in (10-year storm)} \times 0.7 \text{ (2-year multiplier)} = 2.548 \text{ in (2-year design storm)}$$

Hydrologic Soil Group—Benton County, Oregon

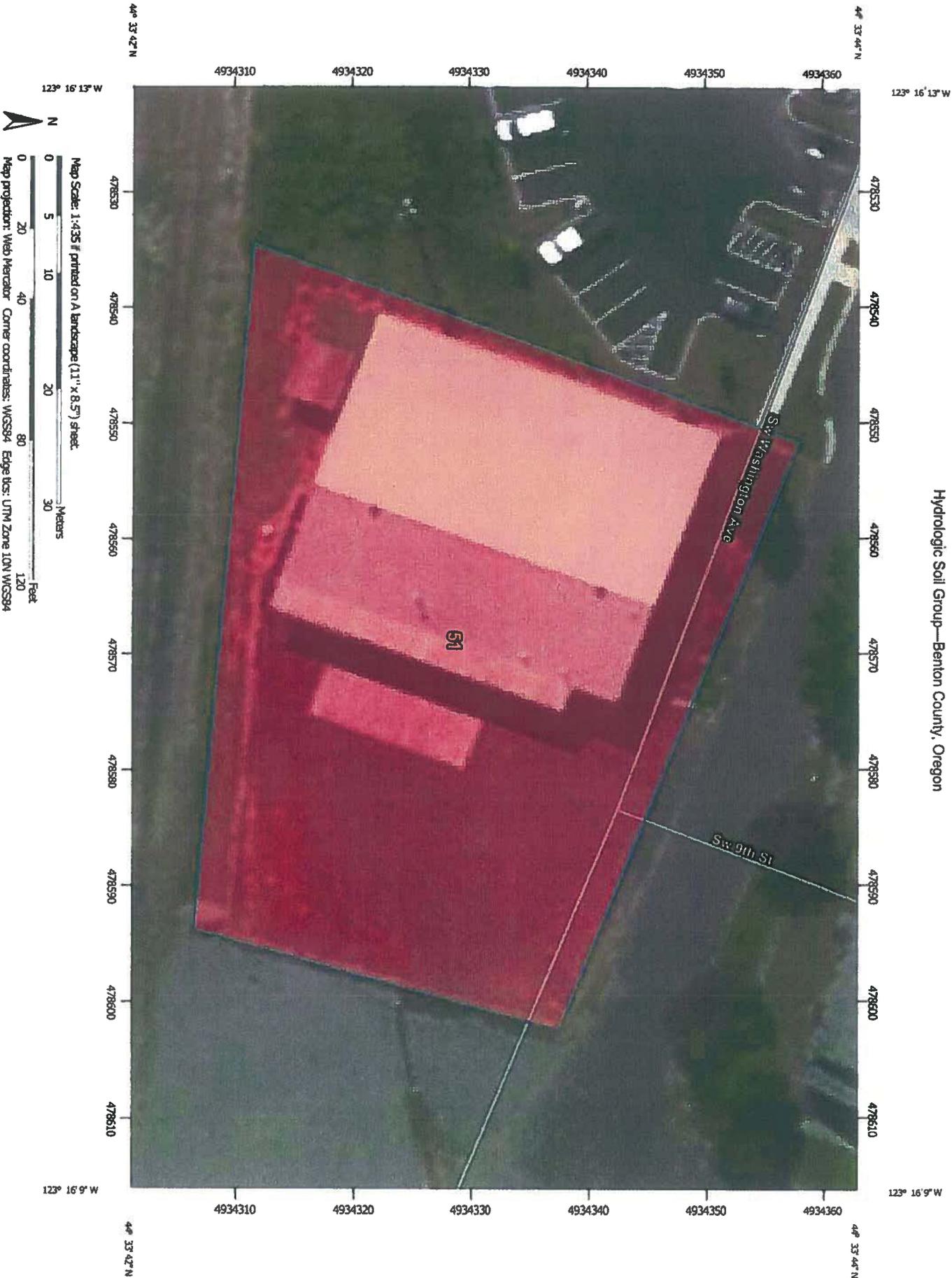


Exhibit LDHB - A - 103

MAP LEGEND

- Area of Interest (AOI)**
 -  Area of Interest (AOI)
- Soils**
 - Soil Rating Polygons**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Lines**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Points**
 -  A
 -  A/D
 -  B
 -  B/D
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography
- Other**
 -  C
 -  C/D
 -  D
 -  Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Benton County, Oregon
 Survey Area Data: Version 13, Sep 18, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 5, 2011—Jul 6, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Benton County, Oregon (OR003)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
51	Concord silt loam, 0 to 2 percent slopes	D	0.6	100.0%
Totals for Area of Interest			0.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified



Tie-break Rule: Higher

Attachment H Transportation Impact Analysis



RECEIVED

OCT 17 2016

Community Development
Planning Division



**TRANSPORTATION
IMPACT ANALYSIS**

To
City of Corvallis

For
Pacific Fruit Properties, LLC

Revised
October 14, 2016

Project Number
20160701.00

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I. INTRODUCTION

Property Description and Proposed Land Use Action

This Transportation Impact Analysis (TIA) supports the proposed rezoning of the Pacific Fruit Properties, LLC property from General Industrial (GI) to Mixed Use Employment (MUE). The subject property is described as Assessor's Map 12-5-02BB Tax Lot 7100, is 0.56 acres in size and is located west of SW 9th Street, south of SW Washington Avenue and north of the Burlington Northern Santa Fe Railroad tracks. Property access is to SW Washington Avenue.

The proposed land use action rezones the subject property from General Industrial (GI) to Mixed Use Employment (MUE). The zone designations are more specifically described as follows:

- The **Current GI zone** allows a variety of general industrial uses including manufacturing and related activities with few, if any, nuisance characteristics.
- The **Proposed MUE zone** introduces some commercial and residential uses into areas with industrial designations with the intent to provide a variety of employment uses at an appropriate scale.

Transportation Analysis Description

The subject land use action includes a Zone Change request; therefore, the TIA addresses Transportation Planning Rule (TPR) criteria outlined in Oregon Administrative Rule (OAR) 660 012-0060 and requirements from City of Corvallis Land Development Code (LDC) Section 4.0.60. It is important to note, this land use action is specifically for the subject zone change and is not for a specific development application; therefore, the analysis intent is to compare the relative transportation impacts of the current and proposed zone designations.

OAR 660-012-0060 (1) states, *"If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.”

Corvallis Land Development Code Section 4.0.60(a) states, “Traffic evaluations shall be required of all development proposals in accordance with the following:

1. All development site proposals shall provide an estimate of site generated trips based on ITE standards. A traffic impact analysis (TIA) is required for any proposal generating 30 or more peak hour trips to an intersection/access. If there are specific safety or capacity issues associated with a site, staff may request those be addressed, regardless of the number of site trips generated. The TIA shall include Level of Service (LOS) analyses for the impacted intersections. A proposed TIA scope with preliminary trip estimates and trips distribution shall be prepared by a registered professional engineer, and submitted to the City Engineer for review and approval based on established procedures. The applicant shall complete the evaluation consistent with the approved scope in accordance with accepted traffic engineering practices and present the results with the site development proposal.”

Based on the trip distribution and traffic assignment described in this report, the following intersections are analyzed:

- SW Washington Avenue/SW 9th Street
- SW Washington Avenue/Site Access
- SW Washington Avenue/SW 11th Street (AM peak hour only)

The proposed land use action is for a zone change and not a specific development application and the TIA addresses both TPR and City requirements. As such, peak hour conditions are evaluated assuming reasonable worst-case development for the following 20-year (2036) analysis scenarios:

- 2036 Current Zone Designation
- 2036 Proposed Zone Designation

II. EXISTING CONDITIONS

Existing Site Conditions

The subject property is described as Assessor's Map 12-5-02BB Tax Lot 7100, is 0.56 acres in size and is located west of SW 9th Street, south of SW Washington Avenue and north of the Burlington Northern Santa Fe Railroad tracks. Property access is to SW Washington Avenue.

Roadway Facilities

The following table summarizes existing roadway classifications and characteristics within the study area.

TABLE 1 – EXISTING ROADWAY CHARACTERISTICS						
Roadway	Functional Classification	Lanes	Speed Limit (mph) ¹	Sidewalks	Bicycle Lanes	On-Street Parking
SW Washington Avenue	Collector	2	25	Yes	No	Yes
SW 9 th Street	Collector	2	25	Yes	No	Yes
SW 11 th Street	Local	2	25	Yes	No	Yes

¹ Speed limit is not posted and the stated value is assumed.

Rail Facilities

There is an existing railroad wye south of, and adjacent to, the subject property. The site does not currently have direct rail access and is not assume to in the future.

Transit Facilities

Corvallis Transit System (CTS) currently operates one bus route in the study area: Route 6. The route originates at the Downtown Intermodal Mall at 5th Street and Monroe Avenue. The route is described as follows:

- Route 6 – South Corvallis/Western Boulevard/OSU (southeast side) – operates with 30 minute headways on weekdays and weekends primarily on 3rd Street, 4th Street, Western Boulevard, and Jefferson Avenue.

Existing Traffic

Existing mid-week AM and PM peak hour intersection turning movement traffic counts were obtained at the following intersections:

- SW Washington Avenue/SW 7th Street
- SW Washington Avenue/SW 9th Street
- SW Washington Avenue/SW 11th Street
- SW Washington Avenue/SW 15th Street

Traffic count summaries are provided in the Appendix.

III. SITE DEVELOPMENT

Zone Development Assumptions

Because specific development is unknown, the transportation analysis evaluates impacts resulting from reasonable worst-case development scenarios in both the current GI and proposed MUE zone designations. The following development assumptions are made based on discussions with Corvallis staff and an evaluation of Corvallis Development Code standards.

GI Zone Assumptions

- Gross site area is 0.56 acres (24,393 square feet).
- Net developable area for all developed uses is 24,393 square feet.
- Required building setback area is 40 feet from SW Washington Avenue and 35 feet on the eastern and southern property boundaries resulting in a maximum building footprint of 7,500 square feet.
- The maximum zone-allowed building height is 75 feet. It is assumed office uses are 2 stories and industrial uses are 1 story.
- There is no maximum industrial development floor area ratio (FAR).
- Parking is provided at code-required ratios, is outside the building footprint, and ground level.
- Parking spaces are 325 square feet including associated circulation area.

MUE Zone Assumptions

- Gross site area is 0.56 acres (24,393 square feet).
- Minimum green area is 20% (4,879 square feet).
- Net developable area is 19,514 square feet.
- Required building setback area is 25 feet from all property boundaries resulting in a maximum building footprint of 9,800 square feet.
- The maximum building height is 75 feet. It is assumed office uses are 2 stories and commercial and industrial uses are 1 story.
- Minimum industrial FAR is 0.25; however, Plan Compatibility Review approval is required when square-footage of non-industrial uses is greater than industrial uses. As such, the maximum assumed non-industrial floor area is 49% of total development floor area.
- Parking is provided at code-required ratios, is outside the building footprint, and ground level.
- Parking spaces are 325 square feet including associated circulation area.

Development Trip Generation

Specific development is unknown. Therefore, reasonable worst-case development scenarios for the current and proposed zone designations were developed based on permitted Corvallis Land Development Code uses and trip generation was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition and practices from the *ITE Trip Generation Handbook*, 3rd Edition.

The intensity, proximity, and variety of proposed land uses suggest it is likely some trips will travel between proposed uses in the Pacific Fruit development. This characteristic is referred to as internal (or shared) trip capture. For conservative analysis purposes, no internal capture reductions were assumed.

For commercial uses, a portion of the trips generated are primary (new trips on the roadway system travelling specifically to/from the proposed development), and a portion are pass-by (existing trips on the roadway system that 'divert' to the subject development before continuing on their original trip path to their destination.) Pass-by reductions are assumed based on data contained in the *ITE Trip Generation Handbook* for the PM peak hour. Pass-by reductions for the AM peak are assumed to be 50% of the PM peak hour except for convenience sales and service where it is assumed to be similar.

The highest trip generating GI and MUE development scenarios are summarized in the following table. Detailed assumptions including pass-by calculations are attached for reference.

TABLE 2 – REASONABLE WORST-CASE DEVELOPMENT TRIP GENERATION								
Land Use	ITE Code	Size (SF) ¹	AM Peak Hour Trip Generation			PM Peak Hour Trip Generation		
			Enter	Exit	Total	Enter	Exit	Total
Current GI Zone Designation								
ITE – Hardware/Paint Store (LDC – Construction Sales and Service)	816	7,500	5	3	8	24	28	52
Total External Trip Generation			5	3	8	24	28	52
<i>Pass-By Trips (13%AM, 26%PM ITE Code 816)</i>			(1)	(0)	(1)	(6)	(8)	(14)
Primary (Net New) GI Zone Trip Generation			4	3	7	18	20	38
Proposed MUE Zone Designation								
Non-Industrial Uses								
ITE – Daycare Center (LDC – Day Care, Commercial Facility)	565	1,800	12	10	22	10	12	22
ITE – Convenience Market (Open 24 Hours) (LDC – Convenience Sales and Personal Service)	851	3,000	101	100	201	80	77	157
Industrial Uses								
ITE – Animal Hospital/Veterinary Clinic (LDC – Animal Sales and Service)	640	5,000	15	5	20	9	15	24
Total Trip Generation			128	115	243	99	104	203
<i>Internal Capture Trips</i>			(0)	(0)	(0)	(0)	(0)	(0)
Total External Trip Generation			128	115	243	99	104	203
<i>Pass-By Trips (51%AM, 51%PM ITE Code 851)</i>			(65)	(59)	(124)	(50)	(53)	103
Primary (Net New) MUE Zone Trip Generation			63	56	119	49	51	100
Increase in Primary (Net New) Trip Generation (MUE – GI)			59	53	112	31	31	62

¹ Reasonable worst-case development scenarios in both GI and MUE zone designations limited by building setback areas and resulting building footprints.

As identified in the above table, the reasonable worst-case development scenario in the proposed MUE zone designation generates an additional 112 net new AM peak hour trips and 62 net new PM peak hour trips over the current GI zone designation.

Background Growth

Consistent with the Corvallis Transportation Plan, background growth is assumed to be 1.5% per year and is used to estimate 2036 Base traffic volumes.

Trip Distribution and Traffic Assignment

Pacific Fruit Properties development trip distribution on the roadway system is based on existing traffic patterns and engineering judgment. Traffic from the reasonable worst-case GI and MUE development scenarios is assigned based on this distribution and is presented on the attached Figures 1 and 2 for the AM and PM peak hours.

Future Year Traffic

2036 Current GI Zone Designation traffic volumes are the sum of 2036 Base traffic volumes and GI development volumes. 2036 Proposed MUE Zone Designation traffic volumes are the sum of 2036 Current GI Zone Designation traffic volumes and the net new trips resulting from MUE development.

Note, 2016 (existing) Pacific Fruit Company site trip generation is low and GI and MUE reasonable worst-case development trip generation is higher. Therefore, as a conservative assumption, no existing site trip generation reductions are assumed for future year scenarios.

IV. INTERSECTION ANALYSIS

Analysis Scope

Based on development trip distribution and traffic assignment described in this report, the following intersections are analyzed:

- SW Washington Avenue/SW 7th Street
- SW Washington Avenue/SW 9th Street
- SW Washington Avenue/Site Access
- SW Washington Avenue/SW 11th Street
- SW Washington Avenue/SW 15th Street

Analysis Description

Intersection operations analyses described in this report are performed in accordance with Transportation Research Board's *Highway Capacity Manual 2000* (HCM 2000) procedures. AM and PM system peak hours were used based on the maximum one-hour volumes of all intersections.

Future intersection peak hour factors (PHFs) are based on the Oregon Department of Transportation *Analysis Procedures Manual* Version 2, Section 5.8.3. Specifically, the following future intersection PHFs are assumed:

- 0.95 for major arterial-major arterial
- 0.90 for minor arterial-minor arterial
- 0.85 for collector-collector or lower classification

Intersection operation characteristics are generally defined by two mobility standards: volume-to-capacity (v/c) ratio and level-of-service (LOS), which is based on seconds of delay. At unsignalized intersections, the v/c ratio and LOS are calculated for intersection approach movements yielding right-of-way. The City of Corvallis mobility standards for unsignalized intersections have been interpreted to be a v/c ratio ≤ 0.85 and a minimum LOS D for critical movements.

Operations Analysis

Intersection operations calculations are prepared using Trafficware's *Synchro* software (Version 9) implementing *HCM 2000* methodologies. Because the proposed land use action is for a zone change and not a specific development application, this TIA addresses both TPR and City requirements. As such, peak hour conditions are evaluated assuming reasonable worst-case development for the following 20-year (2036) analysis scenarios:

- 2036 Current Zone Designation
- 2036 Proposed Zone Designation

The following table summarizes weekday AM and PM peak hour operation analysis results. Data output sheets from all operations calculations are in the Appendix.

TABLE 3 – INTERSECTION OPERATIONS ANALYSIS							
Intersection	Critical Movement Lane Group	2036 Current Zone Designation			2036 Proposed Zone Designation		
		v/c Ratio	LOS	95 th Percentile Queue Length (FT)	v/c Ratio	LOS	95 th Percentile Queue Length (FT)
AM Peak Hour							
SW Washington Avenue/ SW 7 th Street	NB L/T/R	0.07	A	6	.08	B	6
	SB L/T/R	0.03	A	2	.03	A	2
	EB L/T/R	0.00	A	0	0.00	A	0
	WB L/T/R	0.00	A	0	0.00	A	0
SW Washington Avenue/ SW 9 th Street	NB L/T/R	0.02	A	2	0.03	B	2
	SB L/T/R	0.12	A	10	0.15	B	14
	EB L/T/R	0.02	A	2	0.03	A	3
	WB L/T/R	0.00	A	0	0.00	A	0
SW Washington Avenue/ Site Access	NB L/R	0.01	A	1	0.19	B	17
	WB L	0.00	A	0	0.06	A	5
SW Washington Avenue/ SW 11 th Street	NB L/T/R	0.01	A	0	0.01	A	0
	SB L/T/R	0.00	A	0	0.01	A	0
	EB L/T/R	0.17	B	15	0.20	B	18
	WB L/T/R	0.17	B	15	0.24	B	24
SW Washington Avenue/ SW 15 th Street	SB L/T/R	0.07	A	6	0.08	A	6
	WB L/T/R	0.28	C	29	0.35	C	39
PM Peak Hour							
SW Washington Avenue/ SW 7 th Street	NB L/T/R	0.18	B	16	0.19	B	18
	SB L/T/R	0.04	B	3	0.04	B	3
	EB L/T/R	0.00	A	0	0.00	A	0
	WB L/T/R	0.00	A	0	0.00	A	0
SW Washington Avenue/ SW 9 th Street	NB L/T/R	0.03	B	3	0.04	B	3
	SB L/T/R	0.30	B	32	0.35	C	39
	EB L/T/R	0.09	A	7	0.11	A	9
	WB L/T/R	0.00	A	0	0.00	A	0
SW Washington Avenue/ Site Access	NB L/R	0.03	B	2	0.21	B	19
	WB L	0.00	A	0	0.03	A	3
SW Washington Avenue/ SW 11 th Street	NB L/T/R	0.00	A	0	0.00	A	0
	SB L/T/R	0.01	A	0	0.01	A	1
	EB L/T/R	0.57	C	89	0.63	C	112
	WB L/T/R	0.18	B	16	0.22	B	21
SW Washington Avenue/ SW 15 th Street	SB L/T/R	0.06	A	5	0.08	A	6
	WB L/T/R	1.19	F	323	1.30	F	368

As identified in the table above, operations at all intersections are anticipated to be better than City of Corvallis mobility standards during the AM and PM peak hours in the plan year with the proposed zone designation except at the Washington Avenue/15th Street intersection.

Operations at the Washington Avenue/15th Street intersection are anticipated to exceed mobility standards in the plan year, with or without the proposed rezone as a result of background growth and high north and southbound traffic volumes on 15th Street.

With increased MUE trip generation the proposed zone designation significantly affects the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan. Recognizing this effect, and the uncertainty, difficulty and timeliness of providing off-site mitigation, the Applicant proposes to follow OAR 660-012-0060(2)(a) which states, *"If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through... ..adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility."*

To ensure proposed/allowed land use consistency, the Applicant proposes a deed restriction to limit/restrict trip generation to that identified by the reasonable worst-case development scenario in the GI zone designation which is 52 external PM peak hour motor vehicle trips. With this restriction in place, the proposed MUE zone designation will not significantly affect the transportation system.

V. CONCLUSION

The following summary and recommendations are based on materials contained in this analysis.

1. The proposed land use action rezones the 0.56 acre Pacific Fruit property from General Industrial (GI) to Mixed Use Employment (MUE).
2. The subject land use action includes a Zone Change request; therefore, the TIA addresses Transportation Planning Rule (TPR) criteria outlined in Oregon Administrative Rule (OAR) 660 012-0060 and requirements from City of Corvallis Land Development Code Section 4.0.60.
3. This land use action is specifically for the subject zone change and is not for a specific development application; therefore, the analysis intent is to compare the relative transportation impacts of the current and proposed zone designations.
4. Trip generation was determined for reasonable worst-case development scenarios in the current GI and proposed MUE zone designations with input from City staff. The reasonable worst-case development scenario in the proposed MUE zone designation generates an additional 112 net new AM peak hour trips and 62 net new PM peak hour trips over the current GI zone designation.
5. Operations at all intersections are anticipated to be better than City of Corvallis mobility standards during the AM and PM peak hours in the plan year with the proposed zone designation except at the Washington Avenue/15th Street intersection.
6. Operations at the Washington Avenue/15th Street intersection are anticipated to exceed mobility standards in the plan year, with or without the proposed rezone as a result of background growth and high north and southbound traffic volumes on 15th Street.
7. With increased MUE trip generation the proposed zone designation significantly affects the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan. Recognizing this effect, and the uncertainty, difficulty and timeliness of providing off-site mitigation, the Applicant proposes to follow OAR 660-012-0060(2)(a) which states, *"If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through... ..adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility."*
8. To ensure proposed/allowed land use consistency, the Applicant proposes a deed restriction to limit/restrict trip generation to that identified by the reasonable worst-case development scenario in the GI zone designation which is 52 external PM peak hour motor vehicle trips. With this restriction in place, the proposed MUE zone designation will not significantly affect the transportation system.

VI. APPENDICES

- A. Figures
- B. Traffic Count Summaries
- C. Trip Generation Summaries
- D. Synchro HCM Reports

Appendix A

Figures

3K 9 PG 57

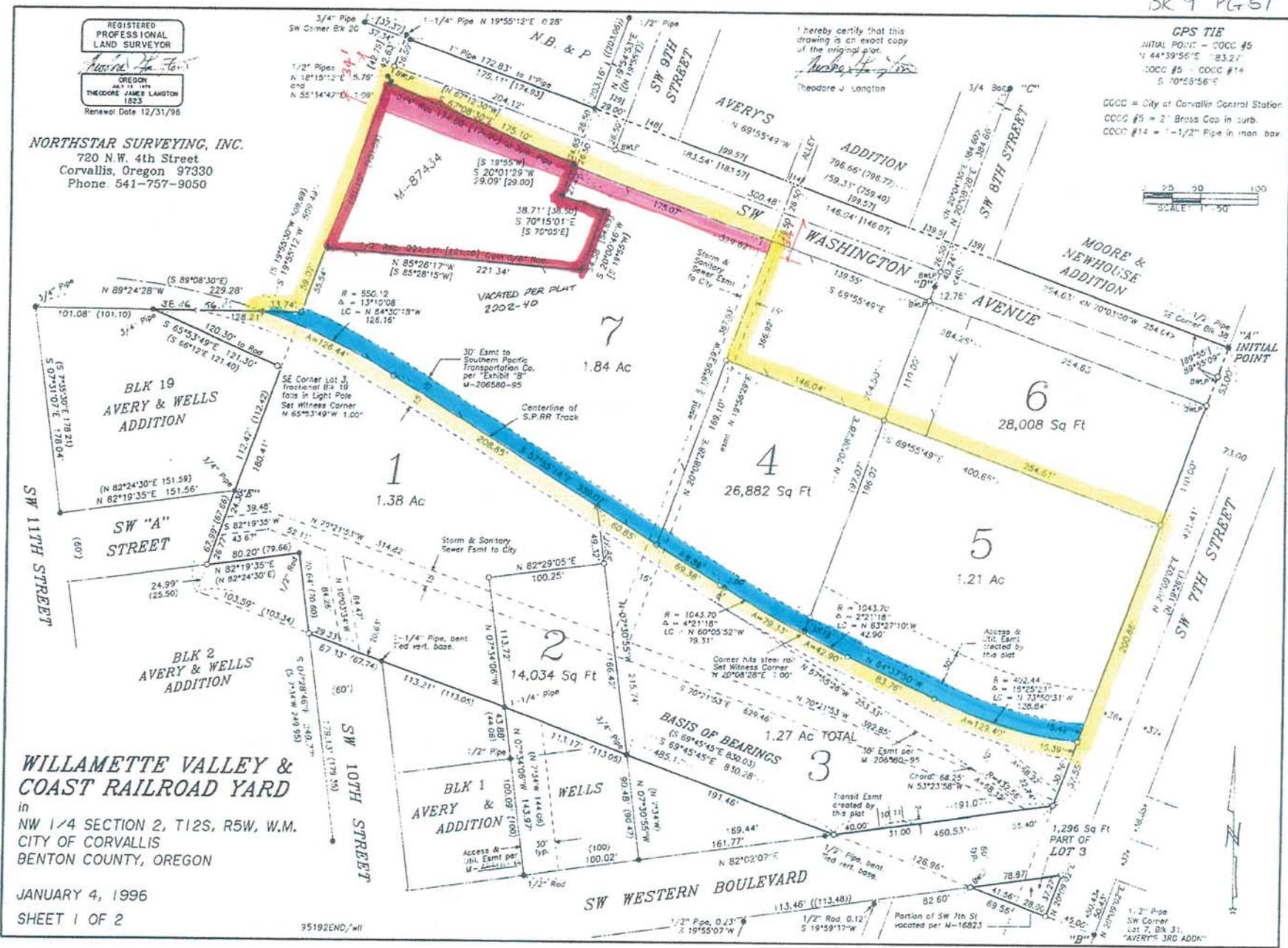
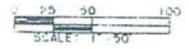
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Theodore J. Langton
CREATED
APR 11 1994
THEODORE JAMES LANGTON
1823
Renewal Date 12/31/98

NORTHSTAR SURVEYING, INC.
720 N.W. 4th Street
Corvallis, Oregon 97330
Phone 541-757-9050

I hereby certify that this drawing is an exact copy of the original plot.
Theodore J. Langton
Theodore J. Langton

CPS TIE
INITIAL POINT - COCC #5
N 44°39'56"E 183.21'
COCC #5 - COCC #14
S 70°55'56"E

COCC = City of Corvallis Central Station
COCC #5 = 2" Brass Cap in curb
COCC #14 = 1-1/2" Pipe in man box

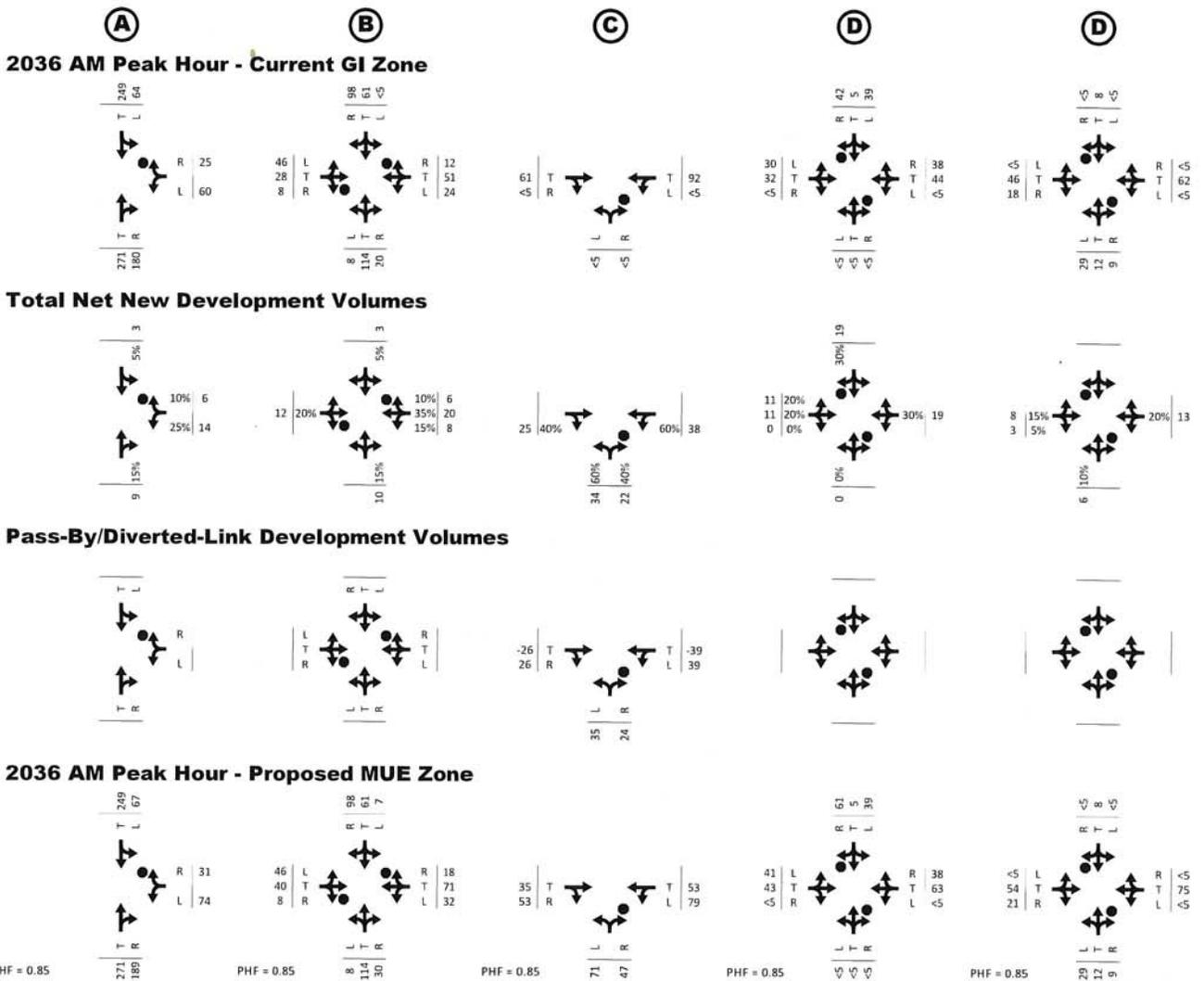


**WILLAMETTE VALLEY &
COAST RAILROAD YARD**
in
NW 1/4 SECTION 2, T12S, R5W, W.M.
CITY OF CORVALLIS
BENTON COUNTY, OREGON

JANUARY 4, 1996
SHEET 1 OF 2

95192END,111

Exhibit LDHB - A - 122



1582 Fetters Loop
 Eugene, Oregon 97402
 541-579-8315
 clemow@clemow-associates.com

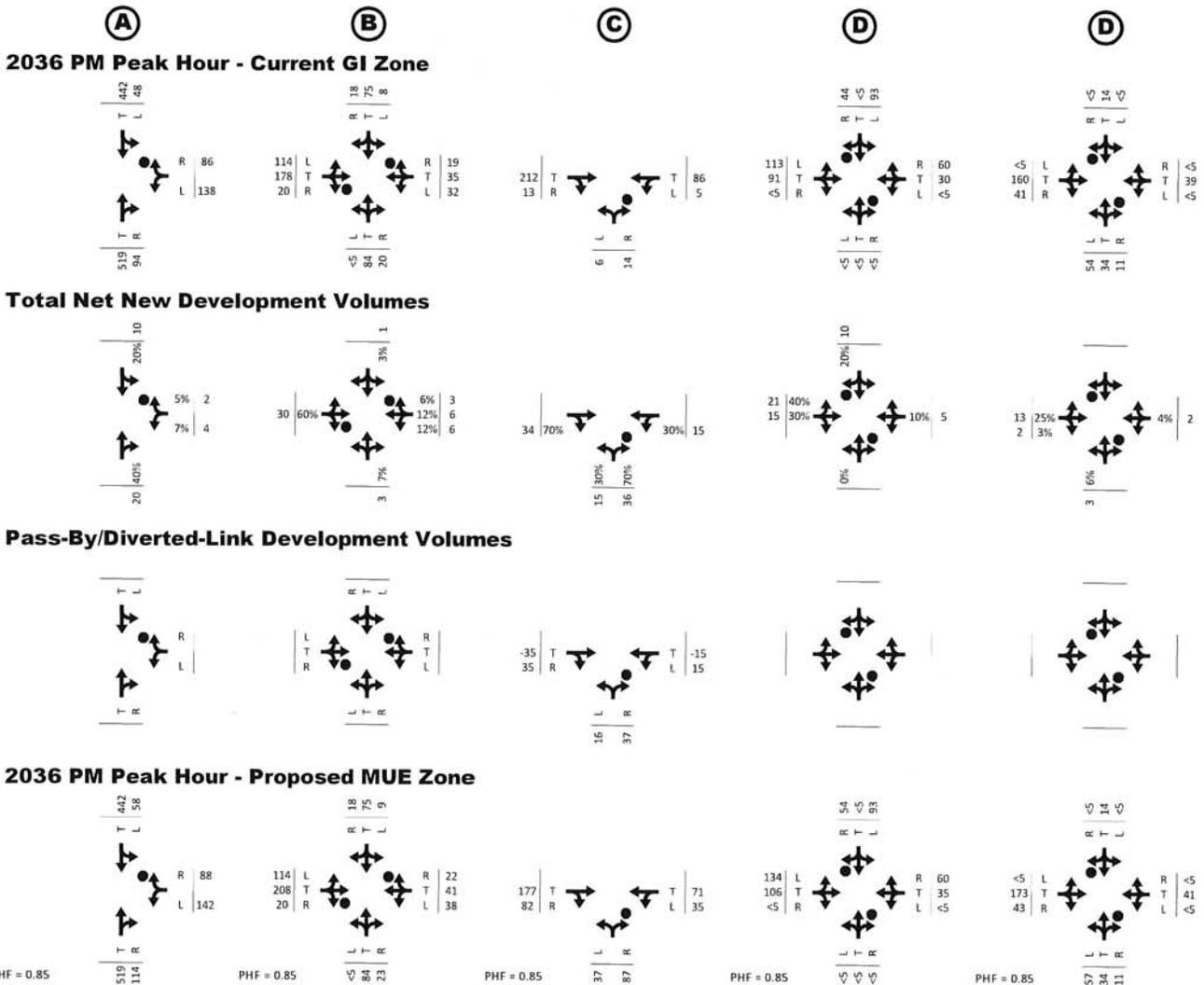
2036 AM PEAK HOUR TRAFFIC VOLUMES

Pacific Fruit Properties - Corvallis, OR

Project No. 20160701.00

FIGURE

1




 1582 Fettes Loop
 Eugene, Oregon 97402
 541-579-8315
 clemow@clemow-associates.com

2036 PM PEAK HOUR TRAFFIC VOLUMES
 Pacific Fruit Properties - Corvallis, OR
 Project No. 20160701.00

FIGURE
2

Appendix B

Traffic Count Summaries

Intersection A: SW Washington Aveni SW 15th Street System AM peak hour is 7:45-8:45AM

ALL-VEHICLE VOLUMES PHF = 0.82

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Hourly Totals	All Ints
7:00 AM	1	25	7	1	14	4	0	0	0	5	0	0	57		
7:15 AM	0	37	19	6	23	2	0	0	2	4	0	0	94		
7:30 AM	0	37	28	11	40	0	0	0	2	10	0	2	130		
7:45 AM	0	57	46	16	59	2	0	0	1	8	0	5	194	475	964
8:00 AM	0	54	38	5	42	1	0	0	0	11	0	2	153	571	1154
8:15 AM	0	41	23	10	31	1	0	0	1	11	0	6	124	601	1225
8:30 AM	0	46	25	16	50	3	1	1	1	14	0	5	162	633	1304
8:45 AM	0	54	14	10	41	2	0	0	2	9	1	1	134	573	1194

Cells shaded this color have manual inputs

development affected movements enter

development affected movements exit

2015 peak hour	0	198	132	47	187	7	1	1	3	44	0	18			
1.5%/yr background growth	0	73	48	17	67	3	0	0	1	16	0	7			
2036 current zone pk hr	0	271	180	64	249	10	1	1	4	60	0	25			
Total Development			9	3						14		6			
P-B/D-L															
2036 proposed zone pk hr	0	271	189	67	249	10	1	1	4	74	0	31			

Intersection B: SW Washington Aveni SW 11th Street System AM peak hour is 7:45-8:45AM

ALL-VEHICLE VOLUMES PHF = 0.78

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Hourly Totals	All Ints
7:00 AM	0	6	0	0	0	3	0	2	1	8	1	1	22		
7:15 AM	0	12	5	3	9	8	3	4	1	1	7	2	55		
7:30 AM	3	24	6	1	2	15	9	4	1	10	10	2	88		
7:45 AM	3	32	4	0	16	23	8	9	2	4	11	1	113	278	
8:00 AM	3	20	4	1	13	12	3	4	2	3	5	3	74	330	
8:15 AM	0	15	3	2	5	14	10	1	0	8	6	3	67	342	
8:30 AM	0	18	4	0	11	24	13	7	2	3	16	2	100	354	
8:45 AM	2	19	4	3	8	11	3	5	2	2	10	2	71	312	

Cells shaded this color have manual inputs

development affected movements enter

development affected movements exit

2016 peak hour	6	85	15	3	45	75	34	21	6	18	38	9			
1.5%/yr background growth	2	29	5	1	16	25	12	7	2	6	13	3			
2036 current zone pk hr	8	114	20	4	61	98	46	28	8	24	51	12			
Total Development			10	3				12		8	20	6			
P-B/D-L															
2036 proposed zone pk hr	8	114	30	7	61	98	46	40	8	32	71	18			

Intersection C: SW Washington Aveni Site Access System AM peak hour is 7:45-8:45AM

ALL-VEHICLE VOLUMES PHF =

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Hourly Totals	All Ints
7:00 AM															
7:15 AM															
7:30 AM															
7:45 AM															
8:00 AM															
8:15 AM															
8:30 AM															
8:45 AM															

Cells shaded this color have manual inputs

Master Intersection

development affected movements enter

development affected movements exit

2036 peak hour	0	0	0	0	0	0	0	43	0	0	65	0	0		
1.5%/yr background growth	2	0	1	0	0	0	0	18	7	2	27	0	0		
2036 current zone pk hr	2	0	1	0	0	0	0	61	2	2	92	0	0		
Total Development	34		22						25	38					
P-B/D-L	35		24					-26	26	39	-39				
2036 proposed zone pk hr	71	0	47	0	0	0	0	35	53	79	53	0	0		

Intersection D: SW Washington Avenue SW 9th Street		System AM peak hour is 7:45-8:45AM											Hourly	
ALL-VEHICLE VOLUMES		PHF = 0.79											Totals	
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	
7:00 AM	0	0	0	2	0	8	1	2	0	1	2	0	16	
7:15 AM	0	0	0	2	0	2	5	4	0	0	6	4	23	
7:30 AM	1	0	0	3	1	10	6	5	0	0	8	3	37	
7:45 AM	0	0	0	7	1	5	7	5	0	0	11	14	50	126
8:00 AM	0	0	0	7	2	6	7	5	0	1	6	4	38	148
8:15 AM	0	0	1	9	1	8	2	3	1	0	5	3	33	158
8:30 AM	0	0	0	6	0	12	6	11	0	1	11	7	56	177
8:45 AM	0	0	0	10	0	8	8	5	0	0	7	9	49	176
2016 peak hour	0	0	1	29	4	31	22	24	1	2	33	28		
1.5%/yr background growth	0	0	0	10	1	11	8	8	0	1	11	10		
2036 current zone pk hr	0	0	1	39	5	42	40	32	1	3	44	38		
Total Development						19	11	11			19			
P-B/D-L														
2036 proposed zone pk hr	0	0	1	39	5	61	41	43	1	3	63	38		

Cells shaded this color have manual inputs
 development affected movements enter
 development affected movements exit

Intersection E: SW Washington Avenue SW 7th Street		System AM peak hour is 7:45-8:45AM											Hourly	
ALL-VEHICLE VOLUMES		PHF = 0.85											Totals	
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	
7:00 AM	1	2	0	0	0	0	0	3	0	0	1	0	7	
7:15 AM	3	1	0	0	1	0	0	5	2	1	5	0	18	
7:30 AM	3	2	1	0	0	1	0	3	3	0	6	0	19	
7:45 AM	4	2	3	0	2	0	0	8	2	0	19	1	41	85
8:00 AM	2	4	0	1	0	2	0	6	2	0	10	0	27	105
8:15 AM	4	3	3	0	4	0	1	8	5	1	7	1	37	124
8:30 AM	7	0	1	0	0	0	0	12	4	1	10	0	35	140
8:45 AM	5	1	0	0	2	1	1	9	6	0	9	0	34	133
2016 peak hour	17	9	7	1	6	2	1	34	13	2	46	2		
1.5%/yr background growth	6	3	2	0	2	1	0	12	5	1	16	1		
2036 current zone pk hr	23	12	9	1	8	3	1	46	18	3	62	3		
Total Development	6					0	0	8	3		13			
P-B/D-L														
2036 proposed zone pk hr	29	12	9	1	8	3	1	54	21	3	75	3		

Cells shaded this color have manual inputs
 development affected movements enter
 development affected movements exit

Intersection A: SW Washington Aven-SW 15th Street													System PM peak hour is 5:00-6:00PM			
ALL-VEHICLE VOLUMES													PHF = 0.86		Hourly	All
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Totals	Ints	
4:00 PM	0	81	13	0	65	1	0	0	0	15	0	4	179			
4:15 PM	2	71	14	7	62	0	0	0	1	12	0	10	179			
4:30 PM	0	89	16	4	57	0	0	1	2	26	1	7	204			
4:45 PM	0	83	16	8	75	3	1	1	1	25	0	16	229	791	1634	
5:00 PM	0	105	23	11	93	1	0	0	0	29	0	20	282	894	1831	
5:15 PM	0	86	23	11	83	0	1	0	0	25	0	18	247	962	1951	
5:30 PM	0	89	6	7	84	0	0	0	0	22	0	10	218	976	1968	
5:45 PM	1	100	17	6	63	0	0	1	0	25	0	15	228	975	1991	
2016 peak hour	1	380	69	35	323	1	1	1	0	101	0	63	975			
1.5%/yr background growth	0	139	25	13	119	0	0	0	0	37	0	23	358			
2036 current zone pk hr	1	519	94	48	442	1	1	1	0	138	0	86	1333			
Total Development			20	10						4		2				
P-B/D-L																
2036 proposed zone pk hr	1	519	114	58	442	1	1	1	0	142	0	88				

Intersection B: SW Washington Aven-SW 11th Street													System PM peak hour is 5:00-6:00PM			
ALL-VEHICLE VOLUMES													PHF = 0.92		Hourly	All
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Totals	Ints	
4:00 PM	0	12	3	0	10	1	14	19	4	7	6	1	77			
4:15 PM	0	13	1	3	14	4	13	15	3	7	10	0	83			
4:30 PM	1	22	6	2	16	4	10	20	3	6	8	2	100			
4:45 PM	1	19	3	1	13	5	26	12	5	2	8	1	96	356		
5:00 PM	0	13	5	1	16	2	25	42	6	1	7	4	122	401		
5:15 PM	0	23	6	2	12	2	22	31	4	7	4	2	115	433		
5:30 PM	1	11	0	1	15	4	24	27	3	8	9	5	108	441		
5:45 PM	0	15	4	2	13	5	14	32	2	8	6	3	104	449		
2016 peak hour	1	62	15	6	56	13	85	142	15	24	26	14				
1.5%/yr background growth	0	22	5	2	19	5	29	46	5	8	9	5				
2036 current zone pk hr	1	84	20	8	75	18	114	178	20	32	35	19				
Total Development			3	1				30		6	6	3				
P-B/D-L																
2036 proposed zone pk hr	1	84	23	9	75	18	114	208	20	38	41	22				

Intersection C: SW Washington Aven-Site Access													System PM peak hour is 5:00-6:00PM			
ALL-VEHICLE VOLUMES													PHF =		Hourly	All
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Totals	Ints	
4:00 PM																
4:15 PM																
4:30 PM																
4:45 PM																
5:00 PM																
5:15 PM																
5:30 PM																
5:45 PM																
2016 peak hour	0	0	0	0	0	0	0	148	0	0	60	0	0			
1.5%/yr background growth	6	0	18	0	0	0	0	64	11	5	26	0	0			
2036 current zone pk hr	6	0	14	0	0	0	0	212	13	5	86	0	0			
Total Development	15		36						34	15						
P-B/D-L	16		37					-35	35	15	-15					
2036 proposed zone pk hr	37	0	87	0	0	0	0	177	82	35	71	0	0			

Cells shaded this color have manual inputs

development affected movements enter

development affected movements exit

Master Intersection

Intersection D: SW Washington Aveni SW 9th Street														System PM peak hour is 5:00-6:00PM	
ALL-VEHICLE VOLUMES														PHF = 0.89	
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Hourly Totals	
4:00 PM	0	1	0	14	0	8	14	9	0	0	3	14	63		
4:15 PM	0	0	1	16	0	10	9	11	0	0	6	13	66		
4:30 PM	0	0	0	18	0	11	12	19	0	2	3	13	78		
4:45 PM	0	2	0	18	0	5	10	8	0	1	2	17	63	270	
5:00 PM	0	2	3	13	0	4	25	24	0	0	3	13	87	294	
5:15 PM	0	0	0	21	0	5	23	10	0	0	5	11	76	304	
5:30 PM	0	0	0	15	0	15	13	15	0	0	7	12	77	303	
5:45 PM	1	1	0	16	1	7	18	15	0	0	6	6	71	311	
2016 peak hour	1	3	3	65	1	31	79	64	0	0	21	42			
1.5%/yr background growth	0	1	1	28	0	13	34	27	0	0	9	18			
2036 current zone pk hr	1	3	4	93	1	44	113	91	0	0	30	60			
Total Development						10	21	15			5				
P-B/D-L															
2036 proposed zone pk hr	1	4	4	93	1	54	134	106	0	0	35	60			

Cells shaded this color have manual inputs
 development affected movements enter
 development affected movements exit

Intersection E: SW Washington Aveni SW 7th Street														System PM peak hour is 5:00-6:00PM	
ALL-VEHICLE VOLUMES														PHF = 0.93	
Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total	Hourly Totals	
4:00 PM	12	3	1	0	1	0	0	36	6	1	4	0	44		
4:15 PM	8	6	2	0	0	1	0	23	4	0	6	0	50		
4:30 PM	8	3	4	0	1	0	0	32	7	1	9	1	66		
4:45 PM	13	8	2	0	0	0	0	23	4	0	7	0	57	217	
5:00 PM	8	5	5	0	2	0	1	30	8	2	7	1	69	242	
5:15 PM	10	5	1	0	3	0	0	26	9	0	6	0	60	252	
5:30 PM	12	4	2	0	1	1	0	27	6	0	9	0	62	248	
5:45 PM	8	10	0	1	4	0	1	29	6	0	5	1	65	256	
2016 peak hour	38	24	8	1	10	1	2	112	29	2	27	3			
1.5%/yr background growth	16	10	3	0	4	0	1	48	12	1	12	1			
2036 current zone pk hr	54	34	11	1	14	1	3	160	41	3	39	3			
Total Development		3				0	0	13	2		2				
P-B/D-L															
2036 proposed zone pk hr	57	34	11	1	14	1	3	173	43	3	41	3			

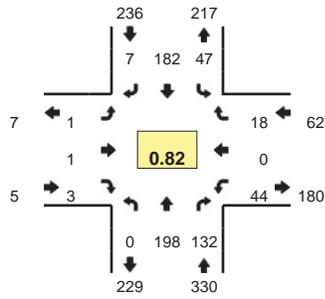
Cells shaded this color have manual inputs
 development affected movements enter
 development affected movements exit

Type of peak hour being reported: Intersection Peak

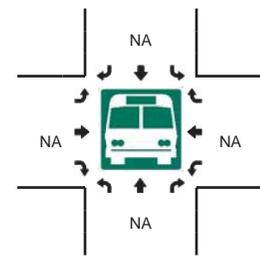
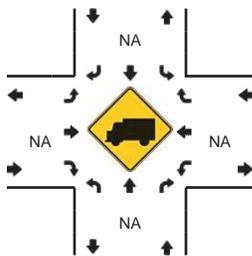
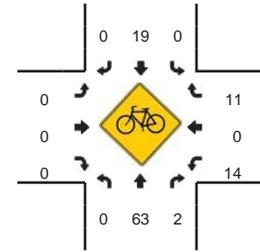
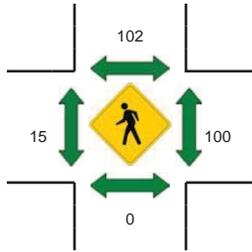
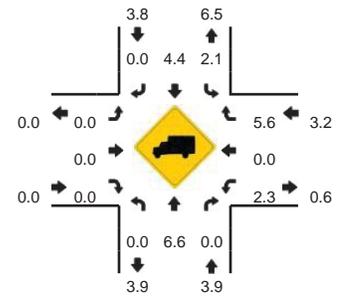
Method for determining peak hour: Total Entering Volume

LOCATION: SW 15th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13631818
DATE: Wed, Nov 04 2015



Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

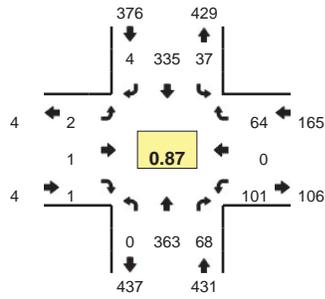


15-Min Count Period Beginning At	SW 15th St (Northbound)				SW 15th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	25	7	0	1	14	4	0	0	0	0	0	5	0	0	0	57	
7:15 AM	0	37	19	1	6	23	2	0	0	0	2	0	4	0	0	0	94	
7:30 AM	0	37	28	0	11	40	0	0	0	0	2	0	10	0	2	0	130	
7:45 AM	0	57	46	0	16	59	2	0	0	0	1	0	8	0	5	0	194	475
8:00 AM	0	54	38	0	5	42	1	0	0	0	0	0	11	0	2	0	153	571
8:15 AM	0	41	23	0	10	31	1	0	0	0	1	0	11	0	6	0	124	601
8:30 AM	0	46	25	0	16	50	3	0	1	1	1	0	14	0	5	0	162	633
8:45 AM	0	54	14	0	10	41	2	0	0	0	2	0	9	1	1	0	134	573
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	228	184	0	64	236	8	0	0	0	4	0	32	0	20	0	776	
Heavy Trucks	0	8	0		0	8	0		0	0	0		0	0	0		16	
Pedestrians		0				112				12				132			256	
Bicycles	0	32	1		0	9	0		0	0	0		8	0	4		54	
Railroad																		
Stopped Buses																		

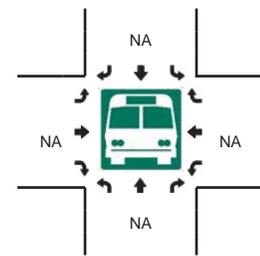
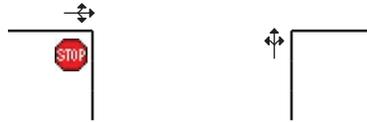
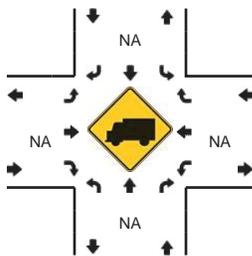
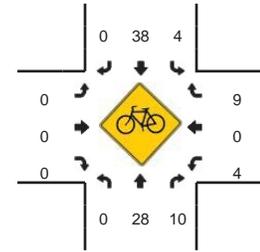
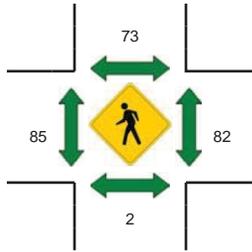
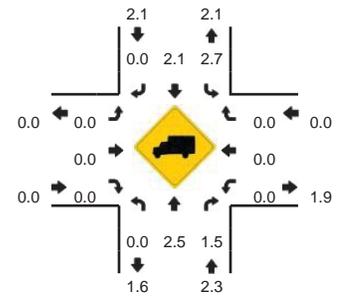
Comments:

LOCATION: SW 15th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13631819
DATE: Wed, Nov 04 2015



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

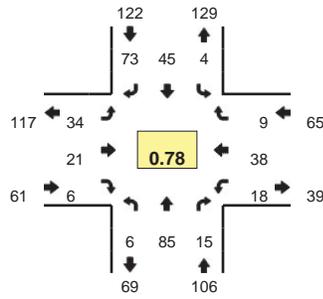


15-Min Count Period Beginning At	SW 15th St (Northbound)				SW 15th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	81	13	0	0	65	1	0	0	0	0	0	15	0	4	0	179	
4:15 PM	2	71	14	0	7	62	0	0	0	0	1	0	12	0	10	0	179	
4:30 PM	0	89	16	0	4	57	0	1	0	1	2	0	26	1	7	0	204	
4:45 PM	0	83	16	0	8	75	3	0	1	1	1	0	25	0	16	0	229	791
5:00 PM	0	105	23	0	11	93	1	0	0	0	0	0	29	0	20	0	282	894
5:15 PM	0	86	23	0	11	83	0	0	1	0	0	0	25	0	18	0	247	962
5:30 PM	0	89	6	0	7	84	0	0	0	0	0	0	22	0	10	0	218	976
5:45 PM	1	100	17	0	6	63	0	0	0	1	0	0	25	0	15	0	228	975
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	420	92	0	44	372	4	0	0	0	0	0	116	0	80	0	1128	
Heavy Trucks	0	8	0		0	0	0		0	0	0		0	0	0		8	
Pedestrians		4				68				88				120			280	
Bicycles	0	9	6		0	6	0		0	0	0		1	0	0		22	
Railroad																		
Stopped Buses																		

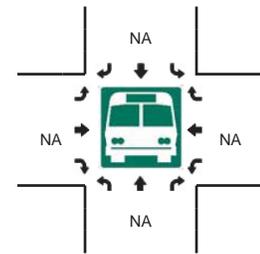
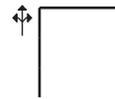
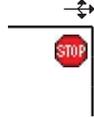
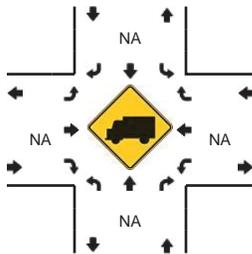
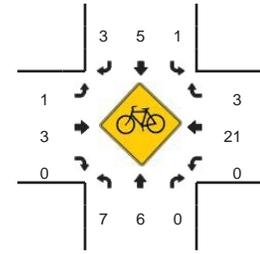
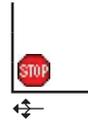
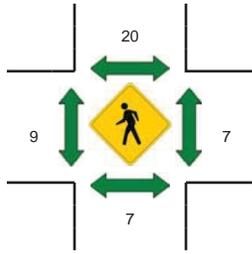
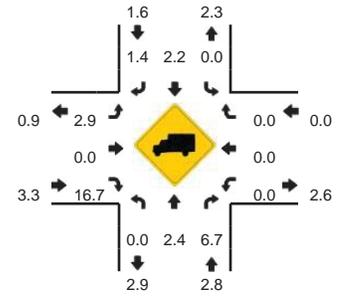
Comments:

LOCATION: SW 11th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924201
DATE: Wed, Oct 05 2016



Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM



15-Min Count Period Beginning At	SW 11th St (Northbound)				SW 11th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	6	0	0	0	0	3	0	0	2	1	0	8	1	1	0	22	
7:15 AM	0	12	5	0	3	9	8	0	3	4	1	0	1	7	2	0	55	
7:30 AM	3	24	6	0	1	2	15	0	9	4	1	0	10	10	2	1	88	
7:45 AM	3	32	4	0	0	16	23	0	8	9	2	0	4	11	1	0	113	278
8:00 AM	3	20	4	0	1	13	12	1	3	4	2	0	3	5	3	0	74	330
8:15 AM	0	15	3	0	2	5	14	0	10	1	0	0	8	6	3	0	67	342
8:30 AM	0	18	4	0	0	11	24	0	13	7	2	0	3	16	2	0	100	354
8:45 AM	2	19	4	0	3	8	11	0	3	5	2	0	2	10	2	0	71	312
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	128	16	0	0	64	92	0	32	36	8	0	16	44	4	0	452	
Heavy Trucks	0	0	0		0	0	0		4	0	0		0	0	0		4	
Pedestrians		4				24				4				0			32	
Bicycles	5	5	0		0	2	1		0	1	0		0	10	2		26	
Railroad																		
Stopped Buses																		

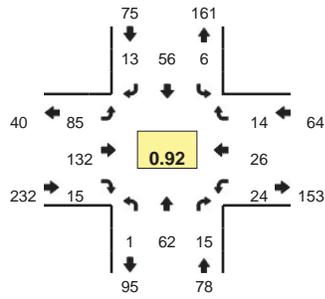
Comments:

Type of peak hour being reported: Intersection Peak

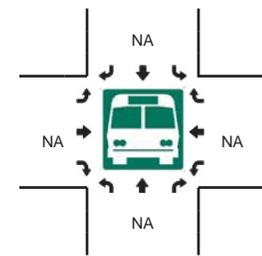
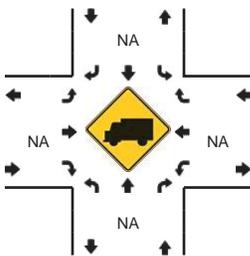
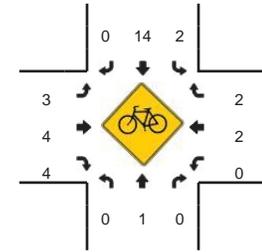
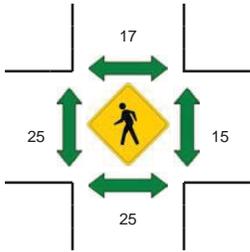
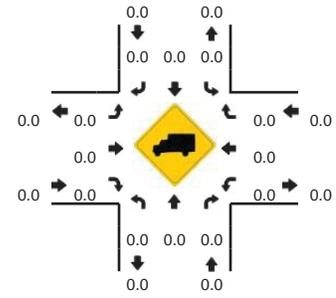
Method for determining peak hour: Total Entering Volume

LOCATION: SW 11th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924202
DATE: Wed, Oct 05 2016



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

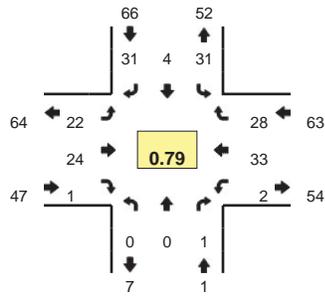


15-Min Count Period Beginning At	SW 11th St (Northbound)				SW 11th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	12	3	0	0	10	1	0	14	19	4	0	7	6	1	0	77	
4:15 PM	0	13	1	0	3	14	4	0	13	15	3	0	7	10	0	0	83	
4:30 PM	1	22	6	0	2	16	4	0	10	20	3	0	6	8	2	0	100	
4:45 PM	1	19	3	0	1	13	5	0	26	12	5	0	2	8	1	0	96	356
5:00 PM	0	13	5	0	1	16	2	0	25	42	6	0	1	7	4	0	122	401
5:15 PM	0	23	6	0	2	12	2	0	22	31	4	0	7	4	2	0	115	433
5:30 PM	1	11	0	0	1	15	4	0	24	27	3	0	8	9	5	0	108	441
5:45 PM	0	15	4	0	2	13	5	0	14	32	2	0	8	6	3	0	104	449
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	52	20	0	4	64	8	0	100	168	24	0	4	28	16	0	488	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	
Pedestrians		28				44				28				12			112	
Bicycles	0	0	0		0	2	0		1	2	1		0	0	0		6	
Railroad																		
Stopped Buses																		

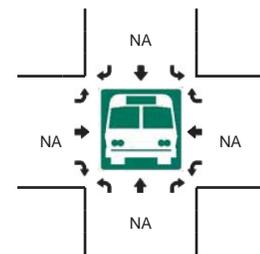
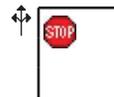
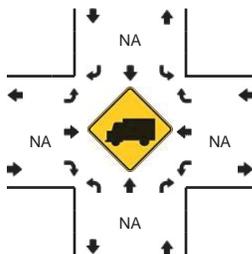
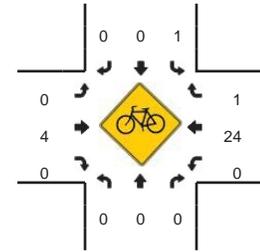
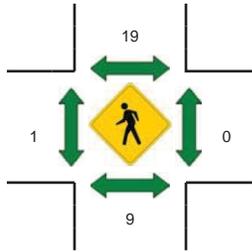
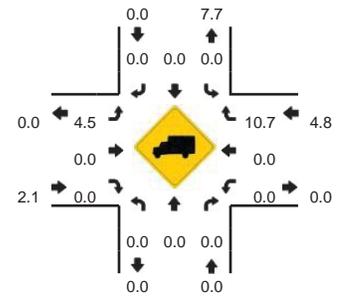
Comments:

LOCATION: SW 9th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924203
DATE: Wed, Oct 05 2016



Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

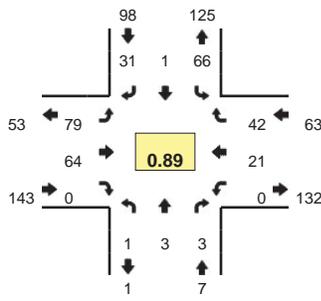


15-Min Count Period Beginning At	SW 9th St (Northbound)				SW 9th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	8	0	1	2	0	0	1	2	0	0	16	
7:15 AM	0	0	0	0	2	0	2	0	5	4	0	0	0	6	4	0	23	
7:30 AM	1	0	0	0	3	1	10	0	6	5	0	0	0	8	3	0	37	
7:45 AM	0	0	0	0	7	1	5	0	7	5	0	0	0	11	14	0	50	126
8:00 AM	0	0	0	0	7	2	6	0	7	5	0	0	1	6	4	0	38	148
8:15 AM	0	0	1	0	9	1	8	0	2	3	1	0	0	5	3	0	33	158
8:30 AM	0	0	0	0	6	0	12	2	6	11	0	0	1	11	7	0	56	177
8:45 AM	0	0	0	0	10	0	8	1	8	5	0	1	0	7	9	0	49	176
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	24	0	48	8	24	44	0	0	4	44	28	0	224	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians		16				12				4				0			32	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	
Railroad																		
Stopped Buses																		

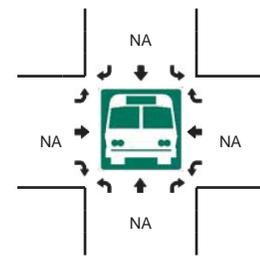
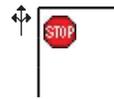
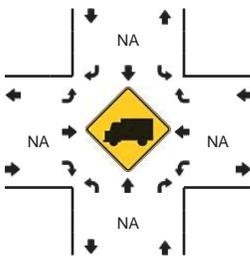
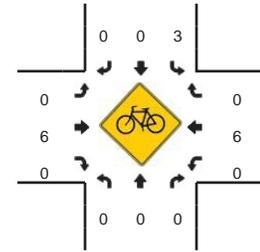
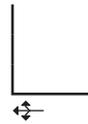
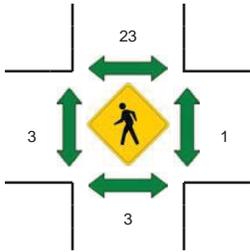
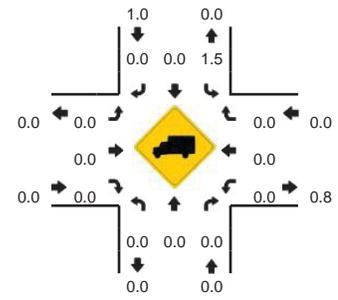
Comments:

LOCATION: SW 9th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924204
DATE: Wed, Oct 05 2016



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

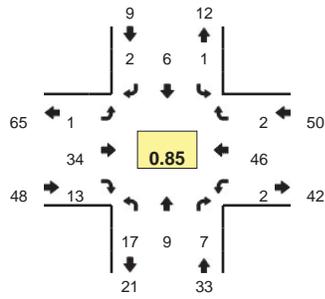


15-Min Count Period Beginning At	SW 9th St (Northbound)				SW 9th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	1	0	0	14	0	8	0	14	9	0	0	0	3	14	0	63	
4:15 PM	0	0	1	0	16	0	10	0	9	11	0	0	0	6	13	0	66	
4:30 PM	0	0	0	0	18	0	11	0	12	19	0	0	2	3	13	0	78	
4:45 PM	0	2	0	0	18	0	5	0	10	8	0	0	1	2	17	0	63	270
5:00 PM	0	2	3	0	13	0	4	0	25	24	0	0	0	3	13	0	87	294
5:15 PM	0	0	0	0	21	0	5	1	23	10	0	0	0	5	11	0	76	304
5:30 PM	0	0	0	0	15	0	15	0	13	15	0	0	0	7	12	0	77	303
5:45 PM	1	1	0	0	16	1	7	0	18	15	0	0	0	6	6	0	71	311
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	8	12	0	52	0	16	0	100	96	0	0	0	12	52	0	348	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	
Pedestrians		8				44				4				4			60	
Bicycles	0	0	0		0	0	0		0	3	0		0	0	0		3	
Railroad																		
Stopped Buses																		

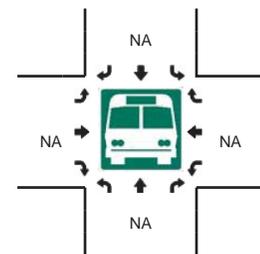
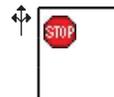
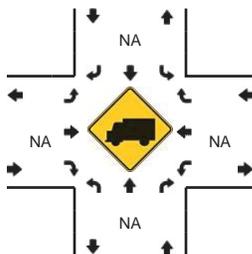
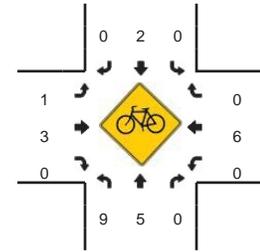
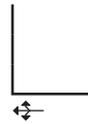
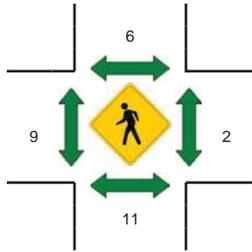
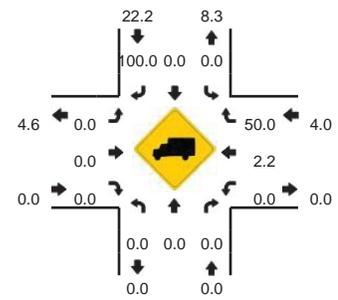
Comments:

LOCATION: SW 7th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924205
DATE: Wed, Oct 05 2016



Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

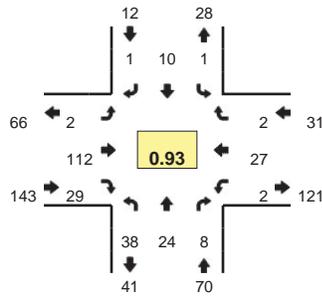


15-Min Count Period Beginning At	SW 7th St (Northbound)				SW 7th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	2	0	0	0	0	0	0	0	3	0	0	0	1	0	0	7	
7:15 AM	3	1	0	0	0	1	0	0	0	5	2	0	1	5	0	0	18	
7:30 AM	3	2	1	0	0	0	1	0	0	3	3	0	0	6	0	0	19	
7:45 AM	4	2	3	0	0	2	0	0	0	8	2	0	0	19	1	0	41	85
8:00 AM	2	4	0	0	1	0	2	0	0	6	2	0	0	10	0	0	27	105
8:15 AM	4	3	3	0	0	4	0	0	1	8	5	0	1	7	1	0	37	124
8:30 AM	7	0	1	0	0	0	0	0	0	12	4	0	1	10	0	0	35	140
8:45 AM	5	1	0	0	0	2	1	0	1	9	6	0	0	9	0	0	34	133
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	16	8	12	0	0	8	0	0	0	32	8	0	0	76	4	0	164	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	4		8	
Pedestrians		0				4				8				0			12	
Bicycles	3	1	0		0	1	0		0	2	0		0	3	0		10	
Railroad																		
Stopped Buses																		

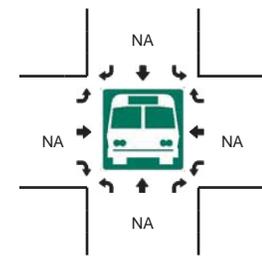
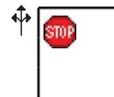
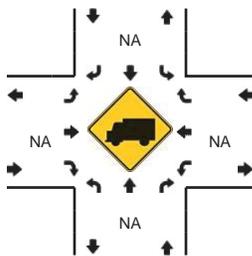
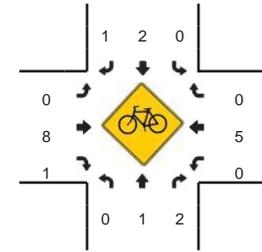
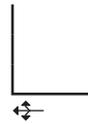
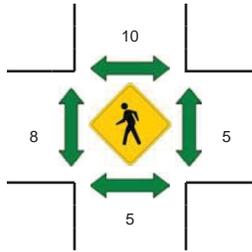
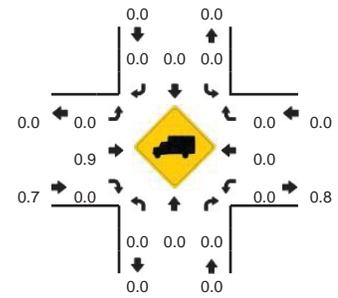
Comments:

LOCATION: SW 7th St -- SW Washington Ave
CITY/STATE: Corvallis, OR

QC JOB #: 13924206
DATE: Wed, Oct 05 2016



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



15-Min Count Period Beginning At	SW 7th St (Northbound)				SW 7th St (Southbound)				SW Washington Ave (Eastbound)				SW Washington Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	12	3	1	0	0	1	0	0	0	16	6	0	1	4	0	0	44	
4:15 PM	8	6	2	0	0	0	1	0	0	23	4	0	0	6	0	0	50	
4:30 PM	8	3	4	0	0	1	0	0	0	32	7	0	1	9	1	0	66	
4:45 PM	13	8	2	0	0	0	0	0	0	23	4	0	0	7	0	0	57	217
5:00 PM	8	5	5	0	0	2	0	0	1	30	8	0	2	7	1	0	69	242
5:15 PM	10	5	1	0	0	3	0	0	0	26	9	0	0	6	0	0	60	252
5:30 PM	12	4	2	0	0	1	1	0	0	27	6	0	0	9	0	0	62	248
5:45 PM	8	10	0	0	1	4	0	0	1	29	6	0	0	5	1	0	65	256

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	20	20	0	0	8	0	0	4	120	32	0	8	28	4	0	276
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				12				12				8			32
Bicycles	0	1	1		0	1	0		0	1	1		0	0	0		5
Railroad																	
Stopped Buses																	

Comments:

Appendix C

Trip Generation Summaries

Pacific Fruit Properties, LLC Zone Change

GI Zone Trip Generation

Date Entry Cell
 Land Uses not evaluated - Not reasonable for subject site
 Notes
 Area per Parking space (PT) 325
 Net Developable Site Area (FT) 24,197
 Maximum Building Footprint (FT) 7,500

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL			
																																						Assumed ITE Land Use Description	PM Peak Trip Generation Rate	ADT
City Uses																																								
Minor Utilities	170			0.76		exempt																																		
Parking Services	700			1.21	88.99	400																																		
Public Safety Services	170			0.76		exempt																																		
Wireless Telecommunication Facilities																																								
Commercial Uses																																								
Agricultural Sales	817	Nursery (Landscape)		6.84	39	400			1	-																														
Agricultural Services																																								
Animal Sales and Services (not allowed with grooming)	640	Animal Hospital/Veterinary Clinic		4.72		400			1	7,500				19	6,094	13,594																							2.60	Site limited by maximum building footprint
Automotive and Equipment - Fleet Storage																																								
Automotive and Equipment - Heavy Equipment Repairs	922	Automobile Care Center		3.11	15.86	800			1	7,500				9	3,047	10,547																							2.21	Site limited by maximum building footprint
Automotive and Equipment - Sales/Rental Heavy Equipment	811	Construction Equipment Rental Store		0.99	33.34	500			1	-																														
Building Maintenance Services	715	Single Tenant Office Building		1.74	11.57	400				15,000	2	7,500		39	12,188	19,688																								
Construction Sales and Service	812	Building Materials and Lumber Store		4.49	45.16	400			1	-																														
Construction Sales and Service	816	Hardware/Paint Store		EDN	51.29	400			1	7,500				19	6,094	13,594																								
Construction Sales and Service	862	Home Improvement Superstore		2.23	80.74	400			1	7,500																														
Laundry Services																																								
Research and Development Center	760	Research and Development Center		EDN	8.11	300			2	7,500				50	16,250	23,750																								
Scrap Operations																																								
Technology and Support Services	710	General Office Building		1.49	11.1	150			2	4,543				61	19,771	24,313																								
Temporary Outdoor Markets																																								
Vocational or Professional Training	540			2.54	27.49	1.3 students																																		
Wholesaling, Storage, Distribution	150	Warehousing		0.32	3.56	5000			1	-																														
Industrial Uses																																								
Limited Manufacturing	140	Manufacturing		0.74	3.82	400			1	7,500				19	6,094	13,594																								
General Industrial	130	General Light Industrial		6.97	6.97	1000			1	7,500				8	2,436	9,230																								
Technological Production	760	Research and Development Center		EDN		300			2	7,500				50	16,250	23,750																								

Potential Development Scenarios

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL				
Assumed ITE Land Use Description	PM Peak Trip Generation Rate	ADT	Required Parking (1 Space/5F)	Assumed Building Size (SF)	# of Stories	Building Floor Area (SF)	Site Area Encumbered by Non-Building Use (Estimated SF)	Parking Spaces (PT)	Parking Area (SF)	Total Developed Site Area (SF)	PM Peak Trip Generation Rate	Enter	Enter %	Exit	Exit %	Total	Internal Capture Trips	Enter	Enter %	Exit	Exit %	Total	External Trips	Enter	Exit	Total	P/B/D-L Trips	Enter	Exit	Total	Net New External Trips	Enter	Exit	Total	Trip Gen Rate/Total Developed Site Area (Adj/1000)	Notes					
Commercial Uses																																									
Construction Sales and Service	816	Hardware/Paint Store		EDN	51.29	400			1	7,500				19	6,094	13,594																									
Total																																									

Exhibit LDHB - A - 139

Appendix D

Synchro HCM Reports

HCM Unsignalized Intersection Capacity Analysis
101: 15th Street

10/14/2016



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Volume (veh/h)	60	25	271	180	64	249
Future Volume (Veh/h)	60	25	271	180	64	249
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	71	29	319	212	75	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868	425			531	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868	425			531	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	95			93	
cM capacity (veh/h)	299	629			1036	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	100	531	368			
Volume Left	71	0	75			
Volume Right	29	212	0			
cSH	353	1700	1036			
Volume to Capacity	0.28	0.31	0.07			
Queue Length 95th (ft)	29	0	6			
Control Delay (s)	19.2	0.0	2.4			
Lane LOS	C		A			
Approach Delay (s)	19.2	0.0	2.4			
Approach LOS	C					
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			56.7%		ICU Level of Service	B
Analysis Period (min)			15			

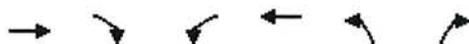
HCM Unsignalized Intersection Capacity Analysis
 102: 11th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	28	8	24	51	12	8	114	20	5	61	98
Future Volume (Veh/h)	46	28	8	24	51	12	8	114	20	5	61	98
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	54	33	9	28	60	14	9	134	24	6	72	115
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	350	318	130	331	363	146	187			158		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	350	318	130	331	363	146	187			158		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	94	99	95	89	98	99			100		
cM capacity (veh/h)	542	592	920	585	559	901	1387			1422		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	96	102	167	193								
Volume Left	54	28	9	6								
Volume Right	9	14	24	115								
cSH	582	597	1387	1422								
Volume to Capacity	0.17	0.17	0.01	0.00								
Queue Length 95th (ft)	15	15	0	0								
Control Delay (s)	12.4	12.3	0.5	0.3								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.4	12.3	0.5	0.3								
Approach LOS	B	B										
Intersection Summary												
Average Delay			4.6									
Intersection Capacity Utilization			26.1%	ICU Level of Service							A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
103: Washington Ave

10/14/2016



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Volume (veh/h)	61	5	5	92	5	5
Future Volume (Veh/h)	61	5	5	92	5	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	72	6	6	108	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			78		195	75
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			78		195	75
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1520		791	986
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	78	114	12			
Volume Left	0	6	6			
Volume Right	6	0	6			
cSH	1700	1520	878			
Volume to Capacity	0.05	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.4	9.2			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.4	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			18.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
104: 9th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	32	5	5	44	38	5	5	5	39	5	42
Future Volume (Veh/h)	30	32	5	5	44	38	5	5	5	39	5	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	35	38	6	6	52	45	6	6	6	46	6	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	97			44			250	220	41	206	200	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	97			44			250	220	41	206	200	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	99	99	94	99	95
cM capacity (veh/h)	1496			1564			651	660	1030	726	677	987
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	79	103	18	101								
Volume Left	35	6	6	46								
Volume Right	6	45	6	49								
cSH	1496	1564	746	829								
Volume to Capacity	0.02	0.00	0.02	0.12								
Queue Length 95th (ft)	2	0	2	10								
Control Delay (s)	3.4	0.5	9.9	9.9								
Lane LOS	A	A	A	A								
Approach Delay (s)	3.4	0.5	9.9	9.9								
Approach LOS			A	A								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			24.5%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 105: 7th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	46	18	5	62	5	29	12	9	5	8	5
Future Volume (Veh/h)	5	46	18	5	62	5	29	12	9	5	8	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	54	21	6	73	6	34	14	11	6	9	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	79			75			175	168	64	182	175	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	79			75			175	168	64	182	175	76
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	98	99	99	99	99
cM capacity (veh/h)	1519			1524			771	720	1000	754	713	985
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	81	85	59	21								
Volume Left	6	6	34	6								
Volume Right	21	6	11	6								
cSH	1519	1524	791	787								
Volume to Capacity	0.00	0.00	0.07	0.03								
Queue Length 95th (ft)	0	0	6	2								
Control Delay (s)	0.6	0.5	9.9	9.7								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.6	0.5	9.9	9.7								
Approach LOS			A	A								
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			17.0%	ICU Level of Service							A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
101: 15th Street

10/14/2016



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	74	31	271	189	67	249
Future Volume (Veh/h)	74	31	271	189	67	249
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	87	36	319	222	79	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	881	430			541	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	881	430			541	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	94			92	
cM capacity (veh/h)	293	625			1028	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	123	541	372			
Volume Left	87	0	79			
Volume Right	36	222	0			
cSH	347	1700	1028			
Volume to Capacity	0.35	0.32	0.08			
Queue Length 95th (ft)	39	0	6			
Control Delay (s)	21.0	0.0	2.5			
Lane LOS	C		A			
Approach Delay (s)	21.0	0.0	2.5			
Approach LOS	C					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization		58.6%		ICU Level of Service		B
Analysis Period (min)			15			

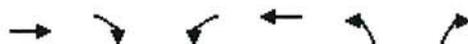
HCM Unsignalized Intersection Capacity Analysis
 102: 11th Street & Washington Ave

10/14/2016

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	46	40	8	32	71	18	8	114	30	7	61	98	
Future Volume (Veh/h)	46	40	8	32	71	18	8	114	30	7	61	98	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Hourly flow rate (vph)	54	47	9	38	84	21	9	134	35	8	72	115	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type							None						
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	378	332	130	348	372	152	187					169	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	378	332	130	348	372	152	187					169	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1					4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2					2.2	
p0 queue free %	89	92	99	93	85	98	99					99	
cM capacity (veh/h)	495	580	920	559	551	895	1387					1409	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	110	143	178	195									
Volume Left	54	38	9	8									
Volume Right	9	21	35	115									
cSH	550	586	1387	1409									
Volume to Capacity	0.20	0.24	0.01	0.01									
Queue Length 95th (ft)	18	24	0	0									
Control Delay (s)	13.2	13.1	0.4	0.4									
Lane LOS	B	B	A	A									
Approach Delay (s)	13.2	13.1	0.4	0.4									
Approach LOS	B	B											
Intersection Summary													
Average Delay			5.5										
Intersection Capacity Utilization			27.5%	ICU Level of Service	A								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
103: Washington Ave

10/14/2016



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	35	53	79	53	71	47
Future Volume (Veh/h)	35	53	79	53	71	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	41	62	93	62	84	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			103		320	72
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			103		320	72
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		87	94
cM capacity (veh/h)			1489		631	990
Direction, Lane #						
	EB 1	WB 1	NB 1			
Volume Total	103	155	139			
Volume Left	0	93	84			
Volume Right	62	0	55			
cSH	1700	1489	737			
Volume to Capacity	0.06	0.06	0.19			
Queue Length 95th (ft)	0	5	17			
Control Delay (s)	0.0	4.7	11.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	4.7	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization		27.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 104: 9th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	43	5	5	63	38	5	5	5	39	5	61
Future Volume (Veh/h)	41	43	5	5	63	38	5	5	5	39	5	61
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	48	51	6	6	74	45	6	6	6	46	6	72
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	119			57			334	281	54	268	262	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			57			334	281	54	268	262	96
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			99	99	99	93	99	92
cM capacity (veh/h)	1469			1547			553	605	1013	657	620	960
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	105	125	18	124								
Volume Left	48	6	6	46								
Volume Right	6	45	6	72								
cSH	1469	1547	674	802								
Volume to Capacity	0.03	0.00	0.03	0.15								
Queue Length 95th (ft)	3	0	2	14								
Control Delay (s)	3.6	0.4	10.5	10.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.6	0.4	10.5	10.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			5.1									
Intersection Capacity Utilization			26.6%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
105: 7th Street & Washington Ave

10/14/2016

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	5	54	21	5	75	5	29	12	9	5	8	5	
Future Volume (Veh/h)	5	54	21	5	75	5	29	12	9	5	8	5	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Hourly flow rate (vph)	6	64	25	6	88	6	34	14	11	6	9	6	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	94			89			202	194	76	210	204	91	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	94			89			202	194	76	210	204	91	
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			100			95	98	99	99	99	99	
cM capacity (veh/h)	1500			1506			740	695	985	724	687	967	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	95	100	59	21									
Volume Left	6	6	34	6									
Volume Right	25	6	11	6									
cSH	1500	1506	763	761									
Volume to Capacity	0.00	0.00	0.08	0.03									
Queue Length 95th (ft)	0	0	6	2									
Control Delay (s)	0.5	0.5	10.1	9.9									
Lane LOS	A	A	B	A									
Approach Delay (s)	0.5	0.5	10.1	9.9									
Approach LOS			B	A									
Intersection Summary													
Average Delay			3.3										
Intersection Capacity Utilization			17.8%		ICU Level of Service				A				
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
101: 15th Street

10/14/2016



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	86	519	94	48	442
Future Volume (Veh/h)	138	86	519	94	48	442
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	162	101	611	111	56	520
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1298	666			722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1298	666			722	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	3	78			94	
cM capacity (veh/h)	167	459			880	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	263	722	576			
Volume Left	162	0	56			
Volume Right	101	111	0			
cSH	221	1700	880			
Volume to Capacity	1.19	0.42	0.06			
Queue Length 95th (ft)	323	0	5			
Control Delay (s)	166.9	0.0	1.7			
Lane LOS	F		A			
Approach Delay (s)	166.9	0.0	1.7			
Approach LOS	F					
Intersection Summary						
Average Delay			28.7			
Intersection Capacity Utilization			81.8%	ICU Level of Service	D	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
102: 11th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	178	20	32	35	19	5	84	20	8	75	18
Future Volume (Veh/h)	114	178	20	32	35	19	5	84	20	8	75	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	134	209	24	38	41	22	6	99	24	9	88	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	282	252	98	368	250	111	109			123		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	282	252	98	368	250	111	109			123		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	78	68	97	91	94	98	100			99		
cM capacity (veh/h)	618	645	957	426	646	942	1481			1464		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	367	101	129	118								
Volume Left	134	38	6	9								
Volume Right	24	22	24	21								
cSH	649	574	1481	1464								
Volume to Capacity	0.57	0.18	0.00	0.01								
Queue Length 95th (ft)	89	16	0	0								
Control Delay (s)	17.5	12.6	0.4	0.6								
Lane LOS	C	B	A	A								
Approach Delay (s)	17.5	12.6	0.4	0.6								
Approach LOS	C	B										
Intersection Summary												
Average Delay			11.0									
Intersection Capacity Utilization			36.5%	ICU Level of Service							A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
103: Washington Ave

10/14/2016



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	212	13	5	86	6	14
Future Volume (Veh/h)	212	13	5	86	6	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	249	15	6	101	7	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			264		370	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			264		370	256
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	98
cM capacity (veh/h)			1300		628	782
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	264	107	23			
Volume Left	0	6	7			
Volume Right	15	0	16			
cSH	1700	1300	728			
Volume to Capacity	0.16	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.5	10.1			
Lane LOS			A	B		
Approach Delay (s)	0.0	0.5	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			21.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 104: 9th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	91	5	5	30	60	5	5	5	93	5	44
Future Volume (Veh/h)	113	91	5	5	30	60	5	5	5	93	5	44
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	133	107	6	6	35	71	6	6	6	109	6	52
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	106			113			514	494	110	468	462	70
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	106			113			514	494	110	468	462	70
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			99	99	99	76	99	95
cM capacity (veh/h)	1485			1476			411	432	943	462	451	992
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	246	112	18	167								
Volume Left	133	6	6	109								
Volume Right	6	71	6	52								
cSH	1485	1476	516	553								
Volume to Capacity	0.09	0.00	0.03	0.30								
Queue Length 95th (ft)	7	0	3	32								
Control Delay (s)	4.5	0.4	12.2	14.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	4.5	0.4	12.2	14.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			6.9									
Intersection Capacity Utilization			39.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 105: 7th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	160	41	5	39	5	54	34	11	5	14	5
Future Volume (Veh/h)	5	160	41	5	39	5	54	34	11	5	14	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	188	48	6	46	6	64	40	13	6	16	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	52			236			299	288	212	318	309	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	52			236			299	288	212	318	309	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			90	94	98	99	97	99
cM capacity (veh/h)	1554			1331			632	617	828	590	600	1020
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	242	58	117	28								
Volume Left	6	6	64	6								
Volume Right	48	6	13	6								
cSH	1554	1331	644	656								
Volume to Capacity	0.00	0.00	0.18	0.04								
Queue Length 95th (ft)	0	0	16	3								
Control Delay (s)	0.2	0.8	11.8	10.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.8	11.8	10.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			30.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
101: 15th Street

10/14/2016



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	142	88	519	114	58	442
Future Volume (Veh/h)	142	88	519	114	58	442
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	167	104	611	134	68	520
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1334	678			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1334	678			745	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	77			92	
cM capacity (veh/h)	156	452			863	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	271	745	588			
Volume Left	167	0	68			
Volume Right	104	134	0			
cSH	209	1700	863			
Volume to Capacity	1.30	0.44	0.08			
Queue Length 95th (ft)	368	0	6			
Control Delay (s)	210.2	0.0	2.1			
Lane LOS	F		A			
Approach Delay (s)	210.2	0.0	2.1			
Approach LOS	F					
Intersection Summary						
Average Delay			36.3			
Intersection Capacity Utilization			84.0%		ICU Level of Service	E
Analysis Period (min)			15			

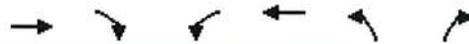
HCM Unsignalized Intersection Capacity Analysis
 102: 11th Street & Washington Ave

10/14/2016

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	114	208	20	38	41	22	5	84	23	9	75	18	
Future Volume (Veh/h)	114	208	20	38	41	22	5	84	23	9	75	18	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Hourly flow rate (vph)	134	245	24	45	48	26	6	99	27	11	88	21	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type							None						
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	295	258	98	392	256	112	109					126	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	295	258	98	392	256	112	109					126	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1					4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2					2.2	
p0 queue free %	78	62	97	88	93	97	100					99	
cM capacity (veh/h)	597	638	957	385	641	940	1481					1460	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	403	119	132	120									
Volume Left	134	45	6	11									
Volume Right	24	26	27	21									
cSH	636	542	1481	1460									
Volume to Capacity	0.63	0.22	0.00	0.01									
Queue Length 95th (ft)	112	21	0	1									
Control Delay (s)	19.9	13.5	0.4	0.7									
Lane LOS	C	B	A	A									
Approach Delay (s)	19.9	13.5	0.4	0.7									
Approach LOS	C	B											
Intersection Summary													
Average Delay			12.6										
Intersection Capacity Utilization			38.2%	ICU Level of Service	A								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
103: Washington Ave

10/14/2016



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	177	82	35	71	37	87
Future Volume (Veh/h)	177	82	35	71	37	87
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	208	96	41	84	44	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			304		422	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			304		422	256
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		92	87
cM capacity (veh/h)			1257		569	783
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	304	125	146			
Volume Left	0	41	44			
Volume Right	96	0	102			
cSH	1700	1257	703			
Volume to Capacity	0.18	0.03	0.21			
Queue Length 95th (ft)	0	3	19			
Control Delay (s)	0.0	2.8	11.5			
Lane LOS			A	B		
Approach Delay (s)	0.0	2.8	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			37.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
104: 9th Street & Washington Ave

10/14/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	106	5	5	35	60	5	5	5	93	5	54
Future Volume (Veh/h)	134	106	5	5	35	60	5	5	5	93	5	54
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	158	125	6	6	41	71	6	6	6	109	6	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			131			600	568	128	542	536	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			131			600	568	128	542	536	76
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			98	98	99	73	99	93
cM capacity (veh/h)	1478			1454			350	385	922	406	401	985
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	289	118	18	179								
Volume Left	158	6	6	109								
Volume Right	6	71	6	64								
cSH	1478	1454	458	514								
Volume to Capacity	0.11	0.00	0.04	0.35								
Queue Length 95th (ft)	9	0	3	39								
Control Delay (s)	4.6	0.4	13.2	15.7								
Lane LOS	A	A	B	C								
Approach Delay (s)	4.6	0.4	13.2	15.7								
Approach LOS			B	C								
Intersection Summary												
Average Delay			7.3									
Intersection Capacity Utilization			42.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 105: 7th Street & Washington Ave

10/14/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	173	43	5	41	5	57	34	11	5	14	5
Future Volume (Veh/h)	5	173	43	5	41	5	57	34	11	5	14	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	204	51	6	48	6	67	40	13	6	16	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	54			255			318	308	230	338	330	51
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	54			255			318	308	230	338	330	51
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			89	93	98	99	97	99
cM capacity (veh/h)	1551			1310			613	601	810	572	584	1017
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	261	60	120	28								
Volume Left	6	6	67	6								
Volume Right	51	6	13	6								
cSH	1551	1310	626	640								
Volume to Capacity	0.00	0.00	0.19	0.04								
Queue Length 95th (ft)	0	0	18	3								
Control Delay (s)	0.2	0.8	12.1	10.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.8	12.1	10.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			31.7%	ICU Level of Service							A	
Analysis Period (min)			15									

RECEIVED

NOV 08 2016



Community Development
Planning Division

City of Corvallis - Planning Division
501 SW Madison Avenue
Corvallis, OR 97333
phone (541) 766-6908
Planning@CorvallisOregon.gov
www.CorvallisOregon.gov/cd-planning

Application for General & Special Development Activities

STAFF USE ONLY			
Case Number(s):	<input type="text" value="ZDC16-00004"/>	Date Filed:	<input type="text"/>
Amount	<input type="text"/>	Receipt #	<input type="text"/>
<input type="checkbox"/> Required Deposit (General: \$100; Special: \$1,000)		Received By:	<input type="text"/>

Approval(s) Requested	
<input type="radio"/> Annexation <input type="radio"/> Major <input type="radio"/> Minor	<input type="radio"/> Planned Development
<input type="radio"/> Comprehensive Plan Amendment	<input type="radio"/> Conceptual Development Plan
<input type="radio"/> Conditional Development Permit	<input type="radio"/> Detailed Development Plan
<input type="radio"/> New	<input type="radio"/> Conceptual & Detailed Development Plan
<input type="radio"/> Master Site Plan (New or Modification)	<input type="radio"/> Modification
<input type="radio"/> Modification	<input type="radio"/> Major <input type="radio"/> Minor
<input type="radio"/> Willamette River Greenway Permit	<input type="radio"/> Nullification
<input type="radio"/> Director's Interpretation	<input type="radio"/> Property Line Adjustment
<input type="radio"/> Extension of Service	<input type="radio"/> Solar Access Permit
<input type="radio"/> Floodplain Development Permit Variance	<input type="radio"/> Subdivision
<input type="radio"/> LDC Text Amendment	<input type="radio"/> New <input type="radio"/> Residential <input type="radio"/> Non-Residential
<input type="radio"/> Lot Development Option	<input type="radio"/> Modification
<input type="radio"/> Major <input type="radio"/> Minor	<input type="radio"/> Major Replat
<input type="radio"/> Minor Land Partition	<input type="radio"/> Vacation - Right-of-Way / Plat
<input type="radio"/> Minor Replat	<input checked="" type="radio"/> Zone Change

Please provide a brief summary of the requested approval

Project Description	<input type="text" value="A zone change request that would rezone a 0.56 acre site from General Industrial to Mixed Use Employment."/>
Please attach separate sheet if additional space is needed	
Project Name	<input type="text" value="Pacific Fruit Properties Zone Change"/>

Property Owner's and Applicant Information

Applicant's Name

Phone **E-mail**

Mailing Address

Applicant Signature  **Date**
David Livingston, Member

Property Owner Name

Phone **E-mail**

Mailing Address

Owner Signature **Date**
Molly M. Stolmeier, Manager

If more than one property owner is involved, provide a separate attachment listing each owner's or legal representative's signature(s).

Project Staff

Developer

Phone **E-mail**

Planner

Phone **E-mail**

Civil Engineer

Phone **E-mail**

Architect

Phone **E-mail**

Landscape Architect

Phone **E-mail**

Geotechnical Engineer

Phone **E-mail**

Other Transportation Engineer

Phone **E-mail**

Primary Contact and Owner Information

Applicant's Name Pacific Fruit Properties, LLC

Phone **E-mail** davidlivingston@exchangenet.net

Mailing Address P.O. Box 1442, Corvallis, Oregon 97339-1442

Applicant Signature **Date** 08 NOV 16
David Livingston, Member

Property Owner Name GD Corvallis, LLC

Phone **E-mail** rbroderick@gilbaneco.com

Mailing Address 7 Jackson Walkway, Providence, RI 02903

Owner Signature **Date** 10 NOV 16
Molly M. Stolmeier, Manager

 If more than one property owner is involved, provide a separate attachment listing each owner's or legal representative's signature(s).

Project Staff

Developer

Phone **E-mail**

Planner Lyle Hutchens, Devco Engineering, Inc.

Phone 541.757.8991 **E-mail** lyle@devcoengineering.com

Civil Engineer Steve Hattori, P.E.

Phone 541.757.8991 **E-mail** steve@devcoengineering.com

Architect

Phone **E-mail**

Landscape Architect

Phone **E-mail**

Geotechnical Engineer

Phone **E-mail**

Other Transportation Engineer Chris Clemow P.E., Clemow Associates

Phone 541.579.8315 **E-mail** cclemow@clemow-associates.com

Property Description (or general vicinity, side of street, distance to intersection)

Street Address

General Location Description

Assessor's Map Number(s) **Related Tax Lot(s)**

Map # **Tax Lot(s) #**

Map # **Tax Lot(s) #**

The Assessor's Map Number (Township, Section/Range) and the Tax Lot Number (parcel) can be found on the property's(ies) tax statement, at the Benton County Assessor's Office, or on-line at: <http://maps.co.benton.or.us/benton/geomoose.html>

Gross Lot Area **Net Lot Area**

Net Lot Area : Total area of a Development Site, usually expressed in acres and excluding proposed public street rights-of-way and, if a developer desires, excluding public parks, Significant Natural Feature areas dedicated to the public, land dedicated for other public purposes, and/or other areas permanently precluded from development due to development constraints or conservation easements.

Land Use and Natural Features Information

Existing Zone(s)

Existing Comprehensive Plan Designation(s)

N/A <input type="checkbox"/>	Natural Hazards Overlay	N/A <input type="checkbox"/>	Natural Resources Overlay
<input type="checkbox"/>	0.2' Floodway	<input type="checkbox"/>	Riparian Corridor
<input type="checkbox"/>	Landslide Hazards	<input type="checkbox"/>	Significant Vegetation
<input type="checkbox"/>	100-Year Floodplain	<input type="checkbox"/>	Wetlands - Locally Protected
<input type="checkbox"/>	Slopes > 10%	<input type="checkbox"/>	Wetlands - Non-Locally Protected

For more information about land use and natural features information that may apply to your property visit: www.corvallisoregon.gov/propertysearch

Please select any of the following zone overlays or areas that apply to the subject site :

N/A <input type="checkbox"/>	Historic Preservation Overlay	N/A <input type="checkbox"/>	Downtown Parking Assessment District
N/A <input type="checkbox"/>	Willamette River Greenway	N/A <input type="checkbox"/>	Downtown Residential Neighborhood
N/A <input type="checkbox"/>	Planned Development	N/A <input type="checkbox"/>	Downtown Pedestrian Core
N/A <input type="checkbox"/>	North Campus Area	<input checked="" type="checkbox"/>	University Neighborhoods Overlay

Please include a discussion in the project narrative indicating how these overlays affect your proposal

Check the box next to included attachments

- | | |
|--|--|
| <input checked="" type="checkbox"/> Narrative (address all applicable LDC review criteria) * | <input type="checkbox"/> Site Cross Sections |
| <input checked="" type="checkbox"/> Assessor's Map with Applicable Tax Lots Highlighted | <input type="checkbox"/> Architectural Elevations |
| <input checked="" type="checkbox"/> Vicinity Map | <input type="checkbox"/> Architectural Floor Plans |
| <input type="checkbox"/> Site Plan | <input type="checkbox"/> Natural Hazards Map(s) |
| <input type="checkbox"/> Grading Plan | <input type="checkbox"/> Natural Resources Map(s) |
| <input type="checkbox"/> Survey / ALTA | <input type="checkbox"/> Utilities Plan |
| <input checked="" type="checkbox"/> Existing Land Use(s) Map | <input type="checkbox"/> Geotechnical Report / Site Assessment |
| <input checked="" type="checkbox"/> Zoning Map(s) if applicable, show proposed change(s) | <input checked="" type="checkbox"/> Electronic Versions of Attachments |
| <input checked="" type="checkbox"/> Comprehensive Plan Map(s) if applicable, show proposed change(s) | <input type="checkbox"/> Minimum Assured Development Area Study |
| <input type="checkbox"/> Tentative Subdivision or Partition Plat | <input checked="" type="checkbox"/> Application Fees (Deposit Only) |
| <input type="checkbox"/> Conceptual Landscape / Irrigation Plans | <input checked="" type="checkbox"/> Other <input type="text" value="Traffic Study"/> |
| <input type="checkbox"/> Significant Vegetation Management Plan (SVMP) | |
| <input type="checkbox"/> Floodplain Development Variance Materials (refer to LDC 2.11.60.02) | |

* Written narrative is required for all application types. Typical drawings sizes are 24"x 36", 11"x17", or 8.5"x11". Sizes of required drawings will depend on the type and scope of applications involved. Contact staff to verify requirements. On your plans include the following: property lines, points of access for vehicles, pedestrians, bicycles, topography (show existing and proposed), water courses, all natural features identified on the City's Wetlands, Riparian Corridors, Significant Vegetation, and Natural Hazards Maps, existing and proposed streets and driveways, parking areas, utilities, pedestrian and bicycle paths, existing easements. Please note there are additional specific graphic and narrative requirements for each type of application. Refer to the "Application Requirements" section(s) within the Land Development Code.

Please tell us more about the proposed development and its site

- Are there existing structures on the site? Yes No If Yes, please explain.

Tax Lot 7100 is developed with a single story commercial building with a floor area of roughly 8,000 square feet
- For your project, please indicate the uses proposed and describe the intended activities:

Re-development consistent with the standards of Mixed Use Employment Zone.
- Will the project be completed in phases? Yes No If Yes, please explain.
- How will open space, common areas and recreational facilities be maintained?
- Are there previous land use approvals on the development site? Yes No
If Yes, please include a discussion in the project narrative indicating how the prior approvals impact your proposal.

For more information, contact the Planning Division at (541) 766-6908 or by [e-mail](#).

Please identify any citizen outreach efforts that you have undertaken prior to submitting this application

(outreach efforts are encouraged, but not required)

- Mailed information regarding the proposed development to adjacent property owners / residents
- Held one or more neighborhood meetings or open houses
- Met individually and/or conferred over the phone with citizens
- Held a project design workshop
- Made site plans available for review.
- Posted the project site with information about the proposal, and where to go for more info
- Canvassed the neighborhood.
- Other (please describe)

Were changes made to the proposal as a result of citizen input? If so, what were they?

- Yes No

Authorization for Staff and Decision Makers to Enter Land

City staff, Planning Commissioners, and City Councilors are encouraged to visit the sites of proposed developments as part of their review of specific land use applications. Decision maker site visits are disclosed through the public hearing process. Please indicate below whether you authorize City staff and decision makers to enter onto the property(-ies) associated with this application as part of their site visits.

- I authorize City staff and decision makers to enter onto the property(-ies) associated with this application
- I do not authorize City decision makers to enter onto the property(-ies) associated with this application

Public Notice Signs

The applicant is responsible for posting public notice signs in at least one conspicuous place along each street frontage of a site 20 days prior to the public hearing date*. Staff will prepare the signs and will let you know when the signs are ready to be picked up from City Hall.

Please indicate who will be responsible for posting any required signs:

Name Lyle Hutchens
Phone 541.757.8991
E-mail lyle@devcoengineering.com

(* failure to post the development site at the appropriate time may make the land use decision vulnerable to appeal)



Application for Authority to Transact Business - Foreign Limited Liability Company

Secretary of State - Corporation Division - 255 Capitol St. NE, Suite 151 - Salem, OR 97310-1327 - http://www.FilingInOregon.com - Phone: (503) 986-2200

FILED

OCT 11 2016

10/11/2016 5:59PM 000001 #8387 SECRETARY OF STATE

REGISTRY NUMBER: 125758599 For office use only

BUSINESS REG For office use only \$275.00 CHECK

In accordance with Oregon Revised Statute 192.410-192.490, the information on this application is public record. We must release this information to all parties upon request and it will be posted on our website.

Please Type or Print Legibly in Black Ink. Attach Additional Sheet if Necessary.

1) NAME: GD Corvallis LLC

NOTE: (Must contain the words "Limited Liability Company" or the abbreviations "LLC" or "L.L.C.") Must be identical to the name of record in home jurisdiction.

2) REGISTRY NUMBER IN HOME JURISDICTION

OR: CERTIFICATE OF EXISTENCE (ATTACHED)

(Please provide a web-verifiable registry number from the entity's home jurisdiction. Certain states, such as Delaware and New Jersey, do not provide status information online. Entities from such places must instead attach an official certificate of existence, current within 60 days of delivery to this office.)

7) REGISTERED AGENT'S PUBLICLY AVAILABLE ADDRESS:

(Must be an Oregon Street Address, which is identical to the registered agent's business office.)

388 State Street, Ste. 420

Salem, OR 97301

3) DATE OF ORGANIZATION: DURATION, IF NOT PERPETUAL:

10/07/2016

8) ADDRESS OF PRINCIPAL OFFICE OF THE BUSINESS:

7 Jackson Walkway

Providence, RI 02903

4) STATE OR COUNTRY OF ORGANIZATION:

Delaware

9) ADDRESS WHERE THE DIVISION MAY MAIL NOTICES:

7 Jackson Walkway

Providence, RI 02903

5) THIS FOREIGN LIMITED LIABILITY COMPANY SATISFIES THE REQUIREMENTS OF ORS 63.714(3).

6) NAME OF OREGON REGISTERED AGENT:

C T Corporation System

10) HOW WILL THIS LIMITED LIABILITY COMPANY BE MANAGED?

- This LLC will be member-managed by one or more members.
This LLC will be manager-managed by one or more managers.

11) EXECUTION: (At least one member or manager must sign.)

By my signature, I declare as an authorized authority, that this filing has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete. Making false statements in this document is against the law and may be penalized by fines, imprisonment or both.

Signature:

[Handwritten signature]

Printed Name:

Molly M. Stolmeier

Title:

Secretary, Gilbane

Development Company, its

Manager

CONTACT NAME: (To resolve questions with this filing.)

PHONE NUMBER: (Include area code.)

Fees section containing: Required Processing Fee \$275, Processing Fees are non-refundable, Free copies are available at FilingInOregon.com.

110 - Application for Authority to Transact Business - Foreign Limited Liability Company (03/12)

GD CORVALLIS LLC



125758599-17369428

NEWAUT

Amiton, Rian

From: Gary Feuerstein <garyc@peak.org>
Sent: Monday, November 07, 2016 12:03 PM
To: Amiton, Rian
Cc: 'CASEY DENSON'; 'Ang, S. Andrew'; David Livingston; Lyle@devcoengineering.com
Subject: Pacific Fruit Properties Zone Change (ZDC16-00004)

Follow Up Flag: Follow up
Flag Status: Flagged

Re: Pacific Fruit Properties Zone Change
(ZDC16-00004)

City of Corvallis:

I represent the property owners East of the subject parcel. We fully support the application.

I was a member of the committee that drafted the MUE section in 1998. The subject property is exactly the type that MUE was created for in an effort to allow better use of close-in Industrial properties.

The opportunity to add high density residences and neighborhood commercial/industrial in this location is a significant benefit to our community in terms of efficiency, utilities and traffic. Indeed, there is no better place in Corvallis to add housing.

We ask that the Planning Commission approve the Pacific Fruit Application.

Thank you for your consideration.

Gary Feuerstein, PE
223 NW 2nd St., Alley Suite 110
Corvallis, OR 97330
garyc@peak.org

AFTER RECORDING RETURN TO:

CITY OF CORVALLIS
Planning Division
P.O. Box 1083
Corvallis, OR 97339

RECORDING REQUESTED BY:

CITY OF CORVALLIS
Planning Division
P.O. Box 1083
Corvallis, OR 97339

DEED RESTRICTION

RECITALS

Whereas, Pacific Fruit Properties, LLC, an Oregon Limited Liability Company, is the Owner of the real property, described in Exhibits "A" and "B", and hereinafter referred to as **The Property**; and,

Whereas Pacific Fruit Properties, LLC, has submitted an application to the City of Corvallis, Application Case File designated ZDC16-00004, for a zoning district change on **The Property** from General Industrial to Mixed-Use Employment; and,

Whereas, the City of Corvallis Land Development Code subsection 3.27.40.01.d states:

"When an MUE Zone is approved for a site, a deed restriction recognizing the industrial character and underlying industrial land use designation of the property shall be recorded on the parcel(s) involved at the time the MUE Zone is approved"; and,

Whereas, should the zoning district change under Application Case ZDC16-00004 be approved by the City of Corvallis, Pacific Fruit Properties, LLC intends to comply with LDC 3.27.40.01.d, by recording this Deed Restriction.

DECLARATION OF DEED RESTRICTION

Pacific Fruit Properties, LLC acknowledges the industrial character and the underlying industrial use designation of **The Property** consistent with LDC 3.27.40.01.d.

This Declaration shall bind future owners, successors, heirs, and assigns of **The Property**.

Pacific Fruit Properties, LLC

By: David Livingston, Registered Agent

Date

State of Oregon)
) ss.
County of Benton)

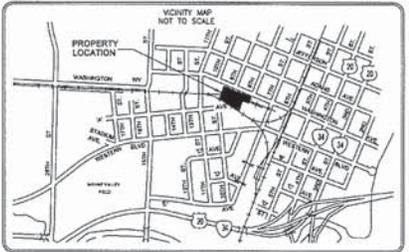
The foregoing instrument was acknowledged before me on the _____ day of _____, 2016, by David Livingston, as Registered Agent, on behalf of Pacific Fruit Properties, LLC.

Notary Public for Oregon
My commission expires: _____

EXHIBIT A

THAT PROPERTY CONVEYED TO PACIFIC FRUIT PROPERTIES, LLC., IN BENTON COUNTY DEED RECORD 2004-372709, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A 5/8 INCH IRON ROD AT THE MOST NORTHERLY NORTHWEST CORNER OF SAID PARCEL 1 OF PARTITION PLAT 2002-40, SAID POINT ALSO BEING ON THE SOUTH RIGHT OF WAY LINE OF SW WASHINGTON AVENUE; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE NORTH 59°55'49" WEST 26.20 FEET TO A 5/8 INCH IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 20°05'37" EAST 1.86 FEET TO A 5/8 INCH IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 67°08'30" WEST 175.10 FEET TO THE NORTHWEST CORNER OF SAID PACIFIC FRUIT PROPERTIES PROPERTY, SAID CORNER BEING WITNESSED BY A 3/4 INCH IRON ROD WHICH BEARS SOUTH 67°08'30" EAST 0.24 FEET FROM THE TRUE CORNER; THENCE ALONG THE WEST LINE OF SAID PROPERTY SOUTH 19°56'43" WEST 151.17 FEET TO THE SOUTHWEST CORNER OF SAID PROPERTY, SAID CORNER BEING WITNESSED BY A 1/2 INCH IRON ROD WHICH BEARS SOUTH 85°26'17" EAST 0.26 FEET FROM THE TRUE CORNER; THENCE ALONG THE SOUTH LINE OF SAID PROPERTY SOUTH 85°26'17" EAST 208.44 FEET TO THE SOUTHEAST CORNER OF SAID PROPERTY; THENCE ALONG THE EAST LINE OF SAID PROPERTY NORTH 20°00'46" EAST 85.06 FEET TO THE POINT OF BEGINNING.

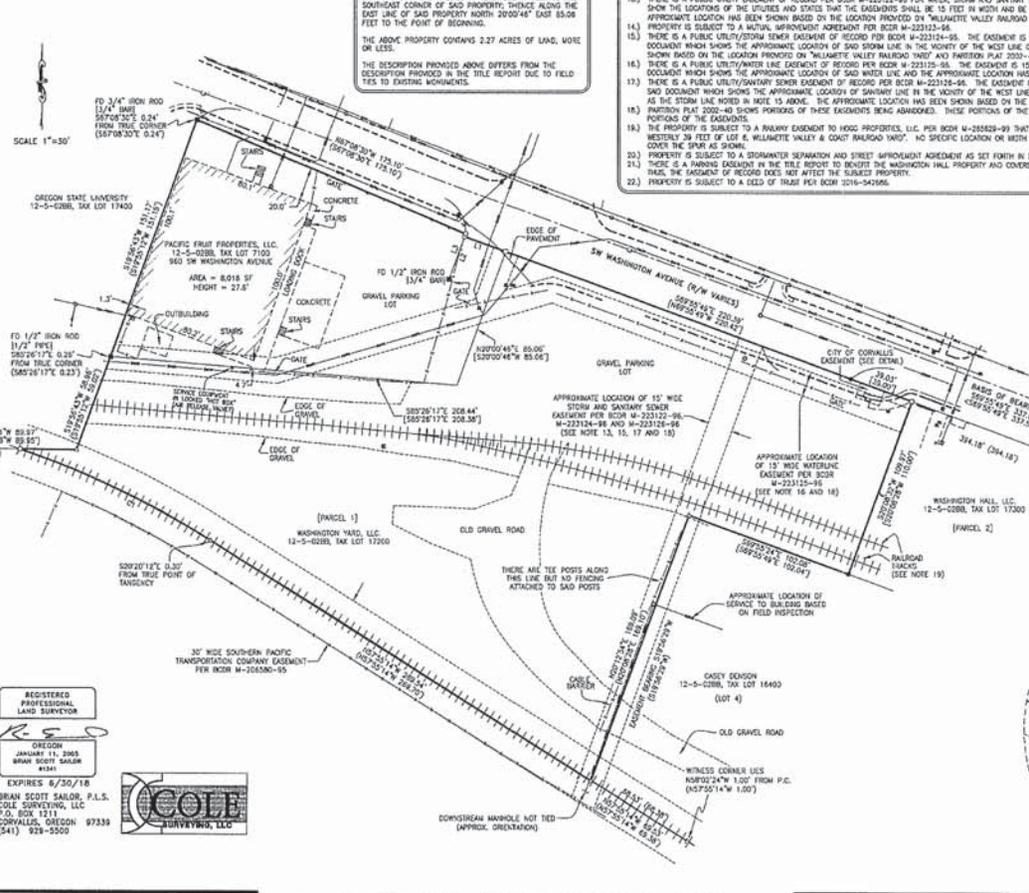
ALTA/ACSM LAND TITLE SURVEY
DATE:
 WASHINGTON YARD, LLC AND PACIFIC FRUIT PROPERTIES, LLC
LOCATED IN:
 NORTHWEST 1/4 OF SECTION 2 OF
 TOWNSHIP 12 SOUTH, RANGE 5 WEST OF
 THE WILLAMETTE MERIDIAN, CITY OF CORVALLIS
 COUNTY OF BENTON, STATE OF OREGON
PROPERTY DESCRIPTION:
 BENTON COUNTY TAX MAP 12-5-0208
 TAX LOTS 17000 AND 7100
 532 AND 552 SW 7th STREET, CORVALLIS, OREGON
DATE OF SURVEY: JULY 22, 2016



LEGAL DESCRIPTION
 PARCEL 1 OF PARTITION PLAT 2002-40, A PARTITION PLAT OF RECORD OF THE NORTHEAST QUARTER OF SECTION 2 OF TOWNSHIP 12 SOUTH, RANGE 5 WEST OF THE WILLAMETTE MERIDIAN, CITY OF CORVALLIS, BENTON COUNTY, OREGON. TOGETHER AND WITH THAT PROPERTY CONVEYED TO PACIFIC FRUIT PROPERTIES, LLC, IN BENTON COUNTY DEED RECORD 2004-37269, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A 5/8" IRON ROD AT THE MOST NORTHERLY NORTHEAST CORNER OF SAID PARCEL 1 OF PARTITION PLAT 2002-40, SAID POINT ALSO BEING ON THE SOUTH RIGHT OF WAY LINE OF SW WASHINGTON AVENUE; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE NORTH 69°54'49" WEST 26.20 FEET TO A 5/8" IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 20°05'23" EAST 1.86 FEET TO A 5/8" IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 67°56'30" WEST 176.10 FEET TO THE NORTHWEST CORNER OF SAID PACIFIC FRUIT PROPERTIES PROPERTY; SAID CORNER BEING WITNESSED BY A 3/4" IRON ROD WHICH BEARS SOUTH 67°04'30" EAST 0.24 FEET FROM THE TRUE CORNER; THENCE ALONG THE WEST LINE OF SAID PROPERTY SOUTH 89°28'17" WEST 151.17 FEET TO THE SOUTHWEST CORNER OF SAID PROPERTY; SAID CORNER BEING WITNESSED BY A 1/2" IRON ROD WHICH BEARS SOUTH 89°28'17" EAST 0.26 FEET FROM THE TRUE CORNER; THENCE ALONG THE SOUTH LINE OF SAID PROPERTY SOUTH 89°28'17" EAST 208.44 FEET TO THE SOUTHWEST CORNER OF SAID PROPERTY; THENCE ALONG THE EAST LINE OF SAID PROPERTY NORTH 30°00'45" EAST 83.56 FEET TO THE POINT OF BEGINNING.

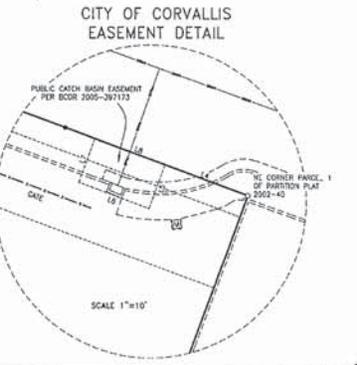
- GENERAL ALTA NOTES:**
- SOURCE OF TITLE IS FROM TITLE REPORT NUMBER 47181002139 BY TROOP TITLE COMPANY OF GRESHAM, 1433 SW 8TH AVENUE, PORTLAND, OREGON, EFFECTIVE DATE FEBRUARY 3, 2016. TITLE BY THIS REPORT IS VESTED IN WASHINGTON YARD, LLC, AN OREGON LIMITED LIABILITY COMPANY AND PACIFIC FRUIT PROPERTIES, LLC, AN OREGON LIMITED LIABILITY COMPANY.
 - THE BOUNDARY OF THE PROPERTY WAS ESTABLISHED BY HOLDING THE MONUMENTS FOUND OF RECORD AS SHOWN. THE MOST WESTERLY SOUTHWEST CORNER OF THE PROPERTY WAS DETERMINED BY HOLDING THE SOUTHWEST CORNER OF THE PROPERTY AND CALCULATED POINT OF CURVATURE TO THE EAST. THE SOUTH BOUNDARY LINE WAS ESTABLISHED BY HOLDING THE WESTERLY EXTENSION OF THE POINT OF BEGINNING FOR THE CLUMP TO THE WEST. THE CLUMP THAT HAS SET IN BETWEEN THE POINT AND THE ABOVE DETERMINED SOUTHWEST CORNER AGREES VERY WELL WITH THE RECORD DATA AND SHOWS THE MONUMENT FOUND NEAR THE POINT OF BEGINNING IS BEING CALLED OFF. THE TRACE MONUMENTS SET ON THE NORTH PROPERTY LINES WERE ESTABLISHED BY HOLDING THE RECORD DATA, WHICH FIT VERY WELL WITH THE VARIOUS FOUND MONUMENTS.
 - LOCATIONS OF UTILITIES SHOWN ON THIS DRAWING ARE BASED ON FIELD EVIDENCE AND UTILITY LOCATES MARKED ON THE GROUND BY THE WORKS UTILITY ALIQUOTS.
 - THIS PACIFIC FRUIT PROPERTIES PARCEL IS CURRENTLY ZONED COMMERCIAL (C1) AND THE WASHINGTON YARD PARCEL IS CURRENTLY ZONED MIXED USE DEVELOPMENT (MUD) BY THE CITY OF CORVALLIS AND IS SUBJECT TO THE RESTRICTIONS SET FORTH IN THE CITY OF CORVALLIS LAND DEVELOPMENT CODE, ADOPTED OCT. 16, 2008 AND AMENDED THROUGH DECEMBER 11, 2014, CHAPTER 334 AND CHAPTER 337, THE BUILDING SPECIFIC, HEIGHT, AND FLOOD AREA RESTRICTIONS CAN BE FOUND WITHIN SAID CHAPTERS OF THE DEVELOPMENT CODE.
 - SW WASHINGTON AVENUE IS A PUBLIC ROADWAY WITH A VARIOUS RIGHT OF WAY WIDTH. MONUMENTS TO THE ORIGINAL CENTERLINE CAN BE FOUND ON THE PLAT OF WILLAMETTE VALLEY & COAST RAILROAD TRACT.
 - THE PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD HAZARD AREAS OR OTHER FLOOD ZONES AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 4100020107, EFFECTIVE DATE JUNE 2, 2011.
 - THERE IS A DRAINAGE PAVING AREA ON SITE BUT NO STRIPING HAS BEEN DONE TO IDENTIFY INDIVIDUAL PAVING SPACES.
 - THERE IS NO EVIDENCE OF EARTH MOVING ACTIVITIES OR BUILDING CONSTRUCTION ON THE PROPERTY.
- TITLE EXCEPTIONS PER TITLE REPORT NUMBER 47181002139:**
- EASEMENTS WHICH MAY AFFECT THE PROPERTY BUT WHICH ARE NOT SHOWN DUE TO THE LACK OF A SPECIFIC LOCATION BEING PROVIDED IN THE EASEMENT DOCUMENTS. (a) CITY OF CORVALLIS WATER PIPELINE EASEMENT PER BOOK 132, PAGE 111; (b) CITY OF CORVALLIS SEWER LINE EASEMENT PER BOOK 191, PAGE 501; (c) CITY OF CORVALLIS SEWER LINE EASEMENT PER BOOK 195, PAGE 228; AND (d) CITY OF CORVALLIS WATER PIPELINE EASEMENT PER BOOK M-26324-71.
 - PROPERTY IS SUBJECT TO ANY OIL, GAS, AND/OR MINERAL INTERESTS PER BOOK M-40060-95-95.
 - PROPERTY IS SUBJECT TO EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS AS SET FORTH IN BOOK M-26508-16.
 - PROPERTY IS SUBJECT TO EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS AS SET FORTH IN BOOK M-26508-16.
 - PROPERTY IS SUBJECT TO RESTRICTIONS AS SET FORTH ON "WILLAMETTE VALLEY & COAST RAILROAD TRACT" RECORDED IN VOLUME 9, PAGE 52, BENTON COUNTY BOOK OF SUBDIVISION PLATS.
 - THERE IS A PUBLIC UTILITY EASEMENT OF RECORD PER BOOK M-22312-95 FOR WATER, STORM AND SANITARY SEWER PURPOSES. THE DESCRIPTION WITHIN SAID DOCUMENT REFERS TO AN "EASEMENT" THAT IS TO SHOW THE LOCATIONS OF THE UTILITIES AND STATES THAT THE EASEMENTS SHALL BE 15 FEET IN WIDTH AND BE CENTERED ON THE UTILITIES. HOWEVER, NO "EASEMENT" IS PROVIDED IN SAID DOCUMENT. THE APPROXIMATE LOCATION HAS BEEN SHOWN BASED ON THE LOCATION PROVIDED ON "WILLAMETTE VALLEY RAILROAD TRACT" AND PARTITION PLAT 2002-40.
 - PROPERTY IS SUBJECT TO A MINERAL INTEREST AGREEMENT FOR BOOK M-23313-86.
 - THERE IS A PUBLIC UTILITY/STORM SEWER EASEMENT OF RECORD PER BOOK M-22312-95. THE EASEMENT IS 15 FEET WIDE AND TO BE CENTERED ON THE EXISTING STORM LINE. THERE IS AN EXHIBIT IN SAID DOCUMENT WHICH SHOWS THE APPROXIMATE LOCATION OF SAID STORM LINE IN THE VICINITY OF THE WEST LINE OF LOT 4 OF "WILLAMETTE VALLEY & COAST RAILROAD TRACT". THE APPROXIMATE LOCATION HAS BEEN SHOWN BASED ON THE LOCATION PROVIDED ON "WILLAMETTE VALLEY RAILROAD TRACT" AND PARTITION PLAT 2002-40.
 - THERE IS A PUBLIC UTILITY/WATER EASEMENT OF RECORD PER BOOK M-22312-95. THE EASEMENT IS 15 FEET WIDE AND TO BE CENTERED ON THE EXISTING WATER LINE. THERE IS AN EXHIBIT IN SAID DOCUMENT WHICH SHOWS THE APPROXIMATE LOCATION OF SAID WATER LINE AND THE APPROXIMATE LOCATION HAS BEEN SHOWN BASED ON PARTITION PLAT 2002-40.
 - THERE IS A PUBLIC UTILITY/STORM SEWER EASEMENT OF RECORD PER BOOK M-22312-95. THE EASEMENT IS 15 FEET WIDE AND TO BE CENTERED ON THE EXISTING SANITARY LINE. THERE IS AN EXHIBIT IN SAID DOCUMENT WHICH SHOWS THE APPROXIMATE LOCATION OF SANITARY LINE IN THE VICINITY OF THE WEST LINE OF LOT 4 OF "WILLAMETTE VALLEY & COAST RAILROAD TRACT" AND APPEARS TO BE THE SAME LINE AS THE STORM LINE NOTED IN NOTE 15 ABOVE. THE APPROXIMATE LOCATION HAS BEEN SHOWN BASED ON THE LOCATION PROVIDED ON "WILLAMETTE VALLEY RAILROAD TRACT" AND PARTITION PLAT 2002-40.
 - PARTITION PLAT 2002-40 SHOWS PORTIONS OF THESE EASEMENTS BEING ABANDONED. THESE PORTIONS OF THE UTILITIES MAY BE ABANDONED BUT I FIND NO RECORD OF ANY ABANDONMENT OR RELEASE OF THESE PORTIONS OF THE EASEMENTS.
 - THE PROPERTY IS SUBJECT TO A MINERAL EASEMENT TO HOOD PROPERTIES, LLC, PER BOOK M-20529-99 THAT IS DESCRIBED AS THE RIGHT TO USE THE MINERAL SPILL LOCATED ON BOTH LOT 7 AND THE NEIGHBORING 20 FEET OF LOT 6, WILLAMETTE VALLEY & COAST RAILROAD TRACT. NO SPECIFIC LOCATION OR BIRTH IS PROVIDED IN SAID DOCUMENT. HOWEVER, AN ACQUISITION MAY BE MADE THAT IS WIDE TO COVER THE SPUR AS SHOWN.
 - PROPERTY IS SUBJECT TO A DISSEMINATED SEPARATION AND STREET APPROACHMENT AGREEMENT AS SET FORTH IN DEED RESTRICTION FOR BOOK 2005-38153.
 - THERE IS A PAVING AGREEMENT IN THE TITLE REPORT TO BENEFIT THE WASHINGTON HALL PROPERTY AND COVERS SITES LOCATED ON THE PROPERTY IMMEDIATELY EAST OF SAID WASHINGTON HALL PROPERTY. THE EASEMENT OF RECORD DOES NOT AFFECT THE SUBJECT PROPERTY. PROPERTY IS SUBJECT TO A DEED TRUST PER BOOK 2016-542566.

- LEGEND**
- FOUND 5/8" IR WITH RVC MARKED "COLE SURV. PLS 16341", PER C.S. 10777
 - FOUND 5/8" IR WITH RVC MARKED "NORTHSTAR PLS 18221", PER PARTITION PLAT 2002-40, UNLESS OTHERWISE NOTED
 - ◆ FOUND 5/8" IR WITH RVC MARKED "NORTHSTAR PLS 18223", PER C.S. 9498
 - ▲ FOUND 5/8" IR WITH RVC MARKED "NORTHSTAR PLS 18227", PER "WILLAMETTE VALLEY & COAST RAILROAD TRACT"
 - FOUND 3/4" IRON ROD OR 1/2" IRON ROD PER C.S. 6532
 - YELLOW PLASTIC CAP
 - RVC RED PLASTIC CAP
 - IR IRON ROD
 - FD FOUND
 - R/W RIGHT OF WAY
 - SF SQUARE FEET
 - CL CENTERLINE
 - BCR BENTON COUNTY DEED RECORD
 - C.S. BENTON COUNTY SURVEY
 - [] RECORD INFORMATION AS PER PARTITION PLAT 2002-40
 - <> RECORD INFORMATION AS C.S. 9972
 - [] RECORD INFORMATION AS C.S. 9498
 - [] RECORD INFORMATION AS C.S. 6532
 - [] RECORD INFORMATION AS PER "WILLAMETTE VALLEY & COAST RAILROAD TRACT", UNLESS OTHERWISE NOTED
 - [] RECORD INFORMATION AS PER BOOK 2009-397173
 - EXISTING MANHOLE
 - EXISTING CLEANOUT
 - EXISTING CATCH BASIN
 - EXISTING CURB INLET
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING UTILITY POLE
 - EXISTING SIGN
 - EXISTING GUYS/WIRE
 - EXISTING UTILITY POLE WITH LIGHT
 - EXISTING RAIL SWITCH
 - EXISTING MAIL BOX
 - EXISTING GAS METER
 - EXISTING POWER METER
 - EXISTING GAS VALVE
 - EXISTING WATER METER
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATER LINE
 - EXISTING OVERHEAD POWER
 - EXISTING GAS LINE
 - EXISTING COMMUNICATIONS



C/L	Bearing	Delta	Length	Meaning	Chord
C1	S50.12°	1.210'04"	126.43'	N 64°20'19" W	126.15'
C1	S50.12°	1.210'08"	126.44'	N 64°20'18" W	126.16'

L#	Bearing	Length
L1	N 69°50'49" W	26.20'
(L1)	N 69°50'49" W	26.20'
L2	N 20°05'23" W	22.16'
(L2)	S 20°05'23" W	22.23'
(L2)	N 20°05'23" W	28.64'
(L3)	S 20°05'23" W	28.09'
L4	N 69°50'49" W	17.68'
(L4)	N 69°50'49" W	17.68'
(L5)	S 20°04'11" W	1.25'
(L6)	N 69°50'49" W	15.50'
(L7)	N 20°04'11" E	8.23'
(L8)	S 69°50'49" E	15.00'
(L8)	S 69°50'49" E	15.00'



SURVEYORS CERTIFICATION
 TO WASHINGTON YARD, LLC, AND PACIFIC FRUIT PROPERTIES, LLC, ITS SUCCESSORS AND ASSIGNS:
 THIS IS TO CERTIFY THAT THIS MAP OR PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 UNIFORM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND MEPS, AND INCLUDES ITEMS 1, 3, 4, 6(a), 7(a), 7(b)(1), 7(c), 8, 11(a)(1), 13, AND 18 OF SAID A THOROUGH. THE FIELD WORK WAS COMPLETED JULY 22, 2016.

REGISTERED PROFESSIONAL LAND SURVEYOR
 OREGON
 JANUARY 11, 2003
 BRAN SCOTT SARGENT
 #1341

EXPIRES 6/30/18
 BRAN SCOTT SARGENT, P.L.S.
 COLE SURVEYING, LLC
 P.O. BOX 1211
 CORVALLIS, OREGON 97339
 (541) 924-5500

COLLE SURVEYING, LLC

AFTER RECORDING RETURN TO:

CITY OF CORVALLIS
Planning Division
P.O. Box 1083
Corvallis, OR 97339

RECORDING REQUESTED BY:

CITY OF CORVALLIS
Planning Division
P.O. Box 1083
Corvallis, OR 97339

DEED RESTRICTION

RECITALS

Whereas, Pacific Fruit Properties, LLC, is the Owner of the real property, described in M2004-372709 of the Benton County, Oregon Deed Records and restated on Exhibits “A” and “B” attached hereto, hereinafter referred to as **The Property**; and,

Whereas Pacific Fruit Properties, LLC has submitted an application to the City of Corvallis, Application Case File designated ZDC16-00004, for a zoning district change on **The Property** from General Industrial to Mixed-Use Employment; and,

Whereas, the zoning district change, from General Industrial to Mixed-Use Employment, potentially increases peak hour vehicle trips to and from the property; and

Whereas, OAR Division 12, Transportation Planning Rule, Subsection 660-012-0060(2)(a) states in part –

- (2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.
- (a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility; and

Whereas, the Owner’s Traffic Impact Study and supplemental information has determined that a feasible worst case scenario of any peak hour period of traffic generation for **The Property** at full build out, and developed under its existing general industrial zoning designation, is 52 external trips; and

Whereas, the calculation of peak hour trips for proposed and existing uses shall be based upon the current ITE Trip Generation Manual and ITE Trip Generation Handbook practices at the time of any permit application for development on the property; and

Whereas, the Owner's Traffic Impact Study and the Owner's supplemental information which determined the maximum peak hour trip cap is included in the record of the City of Corvallis Case File ZDC16-00004, and which is available to be reviewed at any time; and

Whereas, should the zoning district change under Application Case ZDC16-00004 be approved by the City of Corvallis, Pacific Fruit Properties, LLC intends to comply with OAR 660-12-0060(2)(a), by recording this Deed Restriction.

DECLARATION OF DEED RESTRICTION

Pacific Fruit Properties, LLC hereby acknowledges that in accordance with the recitals above, which specifically includes the maximum peak hour trip generation of 52 external trips, the future developable quantity of building floor area and the related and subsequent uses of that floor area shall be limited by a combination of the applicable City of Corvallis zoning standards at the time of any permit application and by the cumulative total of any external peak hour trips generated by the existing and proposed uses on the property.

This Declaration shall bind future owners, successors, heirs, and assigns of **The Property**, and this **Deed Restriction** may only be removed by written consent of the City of Corvallis.

Pacific Fruit Properties, LLC

By; David Livingston, Registered Agent

State of Oregon)
) ss.
County of Benton)

The foregoing instrument was acknowledged before me on the _____ day of _____, 2016, by David Livingston, as Registered Agent for Pacific Fruit Properties, LLC.

Notary Public for Oregon
My commission expires: _____

Approved As to Form:

City Attorney

EXHIBIT A

THAT PROPERTY CONVEYED TO PACIFIC FRUIT PROPERTIES, LLC., IN BENTON COUNTY DEED RECORD 2004-372709, BEING MORE PARTICULAR/LY DESCRIBED AS FOLLOWS: BEGINNING AT A 5/8 INCH IRON ROD AT THE MOST NORTHERLY NORTHWEST CORNER OF SAID PARCEL 1 OF PARTITION PLAT 2002-40, SAID POINT ALSO BEING ON THE SOUTH RIGHT OF WAY LINE OF SW WASHINGTON AVENUE; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE NORTH 59°55'49" WEST 26.20 FEET TO A 5/8 INCH IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 20°05'37" EAST 1.86 FEET TO A 5/8 INCH IRON ROD; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 67°08'30" WEST 175.10 FEET TO THE NORTHWEST CORNER OF SAID PACIFIC FRUIT PROPERTIES PROPERTY, SAID CORNER BEING WITNESSED BY A 3/4 INCH IRON ROD WHICH BEARS SOUTH 67°08'30" EAST 0.24 FEET FROM THE TRUE CORNER; THENCE ALONG THE WEST LINE OF SAID PROPERTY SOUTH 19°56'43" WEST 151.17 FEET TO THE SOUTHWEST CORNER OF SAID PROPERTY, SAID CORNER BEING WITNESSED BY A 1/2 INCH IRON ROD WHICH BEARS SOUTH 85°26'17" EAST 0.26 FEET FROM THE TRUE CORNER; THENCE ALONG THE SOUTH LINE OF SAID PROPERTY SOUTH 85°26'17" EAST 208.44 FEET TO THE SOUTHEAST CORNER OF SAID PROPERTY; THENCE ALONG THE EAST LINE OF SAID PROPERTY NORTH 20°00'46" EAST 85.06 FEET TO THE POINT OF BEGINNING.

Amiton, Rian

From: MARTIN Carrie A <Carrie.A.MARTIN@odot.state.or.us>
Sent: Tuesday, August 02, 2016 8:27 AM
To: Amiton, Rian
Subject: RE: Pacific Fruit Properties Zone Change (ZDC16-00004)
Attachments: Fence details.pdf

Hello,

Thank you for providing ODOT Rail & Public Transit with an opportunity to review this requested zone change from General Industrial (GI) to Mixed Use Employment (MUE).

As a general observation, there is a shortage of industrial-zoned land adjacent to rail lines in Oregon and this proposed change will only exacerbate the problem. The issue involves the Mixed Use Employment zoning next to an active rail line. Today, we hear much concern being voiced over "livability" issues and quality of life. Yet, surprisingly, many don't grasp that allowing Mixed Use Employment development next to a railway corridor is a recipe for decades of future land-use conflict, especially when you consider that local governments have zero regulatory authority over construction, maintenance, and operation of railroads due to federal preemption. What may be a sleepy, low-volume rail line today might become a busy mainline corridor five years from now for reasons that aren't on anyone's radar screen at present. Moreover, experience has taught us that once a new homes/businesses become occupied then complaints ensue about neighboring train whistles, noise, vibrations, and odors. A minimal forethought is given to the risk of a train injuring trespassing children who often come to view the corridor as a playground, or to the dangers posed to lives and property in the event of a derailment that results in release of hazardous materials. In the case at hand, when freight cars that can be 90 feet in length start to jackknife they don't always respect the right of way boundaries and can land in backyards and crash into homes. Yet, despite these possibilities, planning authorities who would never approve residences/businesses adjacent to an oil refinery will allow housing to snuggle up next to a rail line even though railroads are a form of heavy industry. Creating circumstances that could foster such potential conflicts on purpose seems counter to good land-use planning.

There is low fencing with an access gate along the rail line and when developed a higher fence is recommended with no gates for the protection of the public from trespassing and safety. I will attach a standard drawing of railroad fencing.

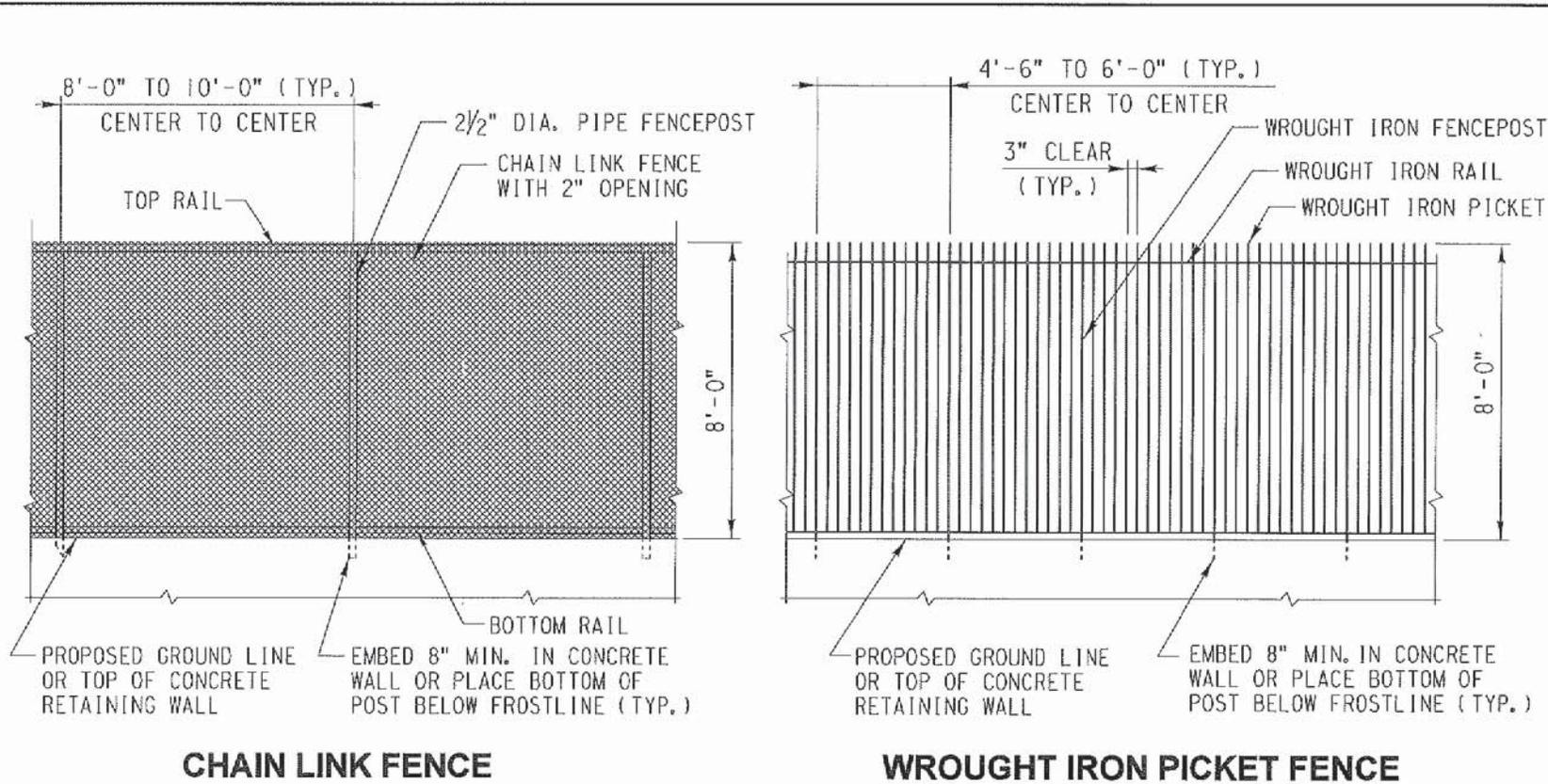
To summarize, the line can be a powerful magnet for attracting new industry provided there is adequate industrially-zoned land contiguous to the railroad where businesses can locate. Having any of the parcels Mixed Use Employment zoned land would have detrimental consequences for economic development by further reducing the supply of industrial land reasonably accessible by rail. It also would set the stage for future quality-of-life conflicts between residents/businesses and railroad operations because of the proximity of residences/businesses to the rail corridor. ODOT's Rail Division recommends that the parcels be zoned General Industrial, and not Mixed Use Employment.

Thank you for your consideration.

Carrie Martin

ODOT Rail and Public Transit Division
Crossing Compliance Specialist
503-986-6801

FILE NAME: P:\ustation\dgn\std\pp-guidelines.dgn



FENCE ELEVATION

SCALE: 3/16" = 1'-0"

REVISIONS		
DATE	LTR.	DESCRIPTION
/		
/		
/		
/		
/		
/		

DESIGN BY: RAF | DRAWN BY: FJS | CHECKED BY: KJH
 APPROVED:
K.H. Jennison
 BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN
George J. Meyer
 UPRR - MGR SPECIAL PROJECTS STRUCTURES DESIGN




BRIDGE STANDARDS
 RIGHT-OF-WAY FENCING

FENCE DETAILS

FILE OWNER: UPRR	DATE: 1/24/07
PLAN NO.: 711030	SHEET: 1

PLOTTED: 5/30/2007 2:53:20 PM