

**UMATILLA CITY COUNCIL
REPORT AND DECISION
FOR
PLAN AMENDMENT PA-2-20**

DATE OF HEARING: August 2, 2021

REPORT PREPARED BY: Brandon Seitz, Community Development Director

I. GENERAL INFORMATION AND FACTS

Applicant: Cleaver Land, LLC, 78757 Westland Rd, Hermiston, OR 97838

Land Use Review: An Urban Growth Boundary (UGB) expansion.

II. NATURE OF REQUEST AND GENERAL FACTS

The applicant, Cleaver Land, LLC, is requesting approval of an Urban Growth Boundary Expansion to include approximately 146.69 acres land. The applicant also submitted an Annexation and Zone Change applications with the desired outcome to have approximately 450 acres of land planned and zoned for industrial use. Current use of the property is agricultural. Crops under circle pivot irrigation regularly in rotation are potatoes, onions, corn, and grass seed. Improvements to the property include circle pivot irrigation systems and a general use storage building.

Applicants Intended Outcomes of Application Process:

The applicant is working with the City of Umatilla to achieve approval of three applications – an Urban Growth Boundary (UGB) expansion, an Annexation, and a Zone Change – with the desired outcome to have some 450 acres of available land planned and zoned for industrial use. The UGB expansion will add about 150 acres to the UGB; the Annexation will add those same acres within the City Limits; and those actions combined with a Zone Change will add about 450 acres to the industrial land supply. The proposed zoning designation of Light Industrial will support the types of uses – data centers, warehousing and light manufacturing – outlined in the Economic Opportunities Analysis completed by Johnson Economics that indicates that the City of Umatilla is in need of large lot industrial parcels. On page 43 of the Economic Opportunities Analysis it states, “For industrial users, there is an estimated deficit of sites of some sizes. Most notably there is a deficit of suitable large industrial sites, and a deficit of small industrial sites.” This statement is expanded on pages 44 and 45 providing more definition to the needs. At the top of page 45 the report states, “Given the projected short-term growth, and prospective long-term growth in this industry [data centers], Johnson Economics estimates a need for at least one site of 100+ acres meeting serviceability requirements for data center or large manufacturing users, and at least two sites of 50+ acres.” Johnson Economics also states on page 41 the following, “...this does not address the more specific site needs from specific categories of employment land users. Some of the forecasted growth includes employers who may have specific site needs and preferences that are not reflected in the available buildable inventory, even though *in total* the

available parcels sum to a significant amount. In particular, there is forecasted demand for more suitable large-lot industrial sites while relatively few of these sites were found in the inventory.” The Johnson Economics provided Economic Opportunities Analysis, while using acreage ranges to discuss needs, does acknowledge that needs for large lots over 100 acres might easily mean upwards of 200 acres for any single user. Examples are a data center request at more than 120 acres and the Walmart Distribution Center at 190 acres. This would also be applicable to the range of 50 to 99.9 acres which could result in users needing 65 acres or 92 acres, an example being the FedEx freight distribution facility at 62.5 acres.

This suite of applications seeks to add 450 acres to the industrial land inventory for the City of Umatilla, meeting this need with the ability to also meet future needs for smaller lot or clustered industrial development which is also identified as a need. The Johnson Economics report on page 45 states the following about small lots, “There is also a projected need from small industrial firms for smaller sites. It is also common for these types of users to also be accommodated in multi-tenant industrial buildings on larger sites.”

The zone change component of this suite of applications does propose to rezone approximately 300 acres from Residential to Industrial. In 2019 the City of Umatilla completed a Goal 10 update that included a buildable lands inventory and a Housing Strategies Report (2019) that indicates an overabundance of residential land. Removal of 300 acres of residential land from the inventory does not negatively impact the land supply for residential development in the 20-year planning period, leaving a continuing surplus of approximately 750 acres.

III. ANALYSIS

The criteria applicable to this request are shown in underlined text and the responses are shown in standard text. All of the following criteria must be satisfied in order for this request to be approved.

Oregon Administrative Rule Chapter 660 Division 24 Section 0020 Adoption or Amendment of a UGB identifies which Statewide Planning Goals and related administrative rules are applicable. The following are considered:

(1) All statewide goals and related administrative rules are applicable when establishing or amending a UGB, except as follows:

(a) The exceptions process in Goal 2 and OAR chapter 660, division 4, is not applicable unless a local government chooses to take an exception to a particular goal requirement, for example, as provided in OAR 660-004-0010(1);

Applicants Response: Based on the provisions outlined here no exceptions to any of the Statewide Planning Goals are necessary. Later analyzed are additional Division 24 requirements meeting current planning requirements for an urban growth boundary expansion.

Conclusion: The City is not claiming a goal exception.

(b) Goals 3 and 4 are not applicable;

Applicants Response: The applicant is relying on the Economic Opportunities Analysis (October

2019) which utilizes Oregon Administrative Rule Chapter 660 Division 24. This allows for an application to expand the urban growth boundary without an exception to Goal 3 Agricultural Land. The land under consideration for this urban growth boundary expansion is zoned Exclusive Farm Use and is currently inventoried in Umatilla County as part of Goal 3 protected lands. This action would remove approximately 150 acres from that inventory, adding it to the City of Umatilla urban growth boundary and city limits (by way of the included annexation application if approved).

Conclusion: Expansion of the urban growth boundary is allowed without an exception to State Goal 3 by way of Oregon Administrative Rule Chapter 660 Division 24. Goal 4 is not applicable as there are no Forest Lands found in or surrounding the City of Umatilla.

(c) Goal 5 and related rules under OAR chapter 660, division 23, apply only in areas added to the UGB, except as required under OAR 660-023-0070 and 660-023-0250;

Applicants Response: The applicant, based on conversations with City of Umatilla staff, is not aware of or has identified any Goal 5 resources within the subject property for either the urban growth boundary expansion and associated annexation or within the area proposed to be zoned or rezoned to Light Industrial.

Conclusion: According to the City of Umatilla Comprehensive Plan there are no identified Goal 5 resources on the subject property. The proposed urban growth boundary expansion, associated annexation, and rezone would not affect any known Goal 5 resources.

(d) The transportation planning rule requirements under OAR 660-012-0060 need not be applied to a UGB amendment if the land added to the UGB is zoned as urbanizable land, either by retaining the zoning that was assigned prior to inclusion in the boundary or by assigning interim zoning that does not allow development that would generate more vehicle trips than development allowed by the zoning assigned prior to inclusion in the boundary;

Applicants Response: The included Traffic Impact Analysis finds that the conversion of the residential land to industrial creates a reduction in trips. For the land that is subject to the urban growth boundary expansion and annexation, approximately 150 acres, there would be an increase in traffic over current Exclusive Farm Use zoning. That increase is consumed by the change in zoning of nearly 300 acres with a decrease in total daily trips. Transportation impacts are further analyzed later in this narrative and are evaluated in the included Traffic Impact Analysis.

Conclusion: A decrease in total daily trips is the net result from all three applications. Transportation impacts are further analyzed later in this narrative.

(e) Goal 15 is not applicable to land added to the UGB unless the land is within the Willamette River Greenway Boundary;

Applicants Response: The City of Umatilla is not within the Willamette River Greenway Boundary. Goal 15 is not considered here or elsewhere in this narrative.

Conclusion: The City of Umatilla is not within the Willamette River Greenway Boundary. Goal 15 is not applicable.

(f) Goals 16 to 18 are not applicable to land added to the UGB unless the land is within a coastal shorelands boundary;

Applicants Response: The City of Umatilla is not within a coastal shorelands boundary. Goals 16 through 18 are not considered here or elsewhere in this narrative.

Conclusion: The City of Umatilla is not within a coastal shorelands boundary. Goals 16 through 18 are not applicable.

(g) Goal 19 is not applicable to a UGB amendment.

Applicants Response: Goal 19 is not considered here or elsewhere in this narrative.

Conclusion: Goal 19 is not applicable.

(2) The UGB and amendments to the UGB must be shown on the city and county plan and zone maps at a scale sufficient to determine which particular lots or parcels are included in the UGB. Where a UGB does not follow lot or parcel lines, the map must provide sufficient information to determine the precise UGB location.

Applicants Response: Maps are included as part of the application package. The area subject to the urban growth boundary expansion (and related annexation) is the portion of Tax Lot 1400 of Assessor's Map 5N28C that is outside of the current urban growth boundary and city limit line. Also included is Tax Lot 6601 of Assessor's Map 5N28C. The acreage of the urban growth boundary expansion is approximately 150 acres. The Powerline Road right-of-way is also included in the urban growth boundary expansion to facilitate the future transfer of the portion of the Road from Umatilla County to the City of Umatilla.

Conclusion: The maps included in the application package clearly show the intention of the application. They are all at a scale sufficient to determine which particular lots or parcels are included in the UGB and subsequent applications.

Applicants Note: As part of the Economic Opportunities Analysis, Johnson Economics evaluated Oregon Administrative Rule Chapter 660 Division 24 Section 0040 Land Need and Section 0050 Land Inventory and Response to Deficiency. See pages 28 through 36 of the Economic Opportunities Analysis for evaluation and analysis of these two sections of OAR 660 Division 24.

Oregon Administrative Rule Chapter 660 Division 24 Section 0065 Establishment of Study Area to Evaluate Land for Including in the UGB is a continuation of the work embodied in the included Economic Opportunities Analysis which determines a need for large lot industrial opportunities. As part of the Economic Opportunities Analysis, Johnson Economics evaluated Oregon Administrative Rule Chapter 660 Division 24 Section 0040 Land Need and Section 0050 Land Inventory and Response to Deficiency. Section 0065 is reviewed here:

(1) When considering a UGB amendment to accommodate a need deficit identified in OAR 660-024-0050(4), a city outside of Metro must determine which land to add to the UGB by evaluating alternative locations within a “study area” established pursuant to this rule. To establish the study area, the city must first identify a “preliminary study area” which shall not include land within a different UGB or the corporate limits of a city within a different UGB. The preliminary study area shall include:

(a) All lands in the city’s acknowledged urban reserve, if any;

Applicants Response: The City of Umatilla does not have an acknowledged urban reserve. This is not applicable.

Conclusion: The City of Umatilla does not have an acknowledged urban reserve. This is not applicable.

(b) All lands that are within the following distance from the acknowledged UGB:

(A) For cities with a UGB population less than 10,000: one-half mile;

(B) For cities with a UGB population equal to or greater than 10,000: one mile;

(c) All exception areas contiguous to an exception area that includes land within the distance specified in subsection (b) and that are within the following distance from the acknowledged UGB:

(A) For cities with a UGB population less than 10,000: one mile;

(B) For cities with a UGB population equal to or greater than 10,000: one and one-half miles;

(d) At the discretion of the city, the preliminary study area may include land that is beyond the distance specified in subsections (b) and (c).

Applicants Response: The applicant, working with City staff, originally identified three sites to evaluate as alternatives to the subject property. These three Sites along with the subject property are identified on maps included with this application package.

Based on comment from the Department of Land Conservation and Development additional lands have been included and are identified in the tables below. The three alternative sites that are most fully analyzed are: 1) land to the east of the Port of Umatilla development and north of Highway 730 along the banks of the Columbia River (Site 1), 2) land east and south of the Port of Umatilla and both north and south of Highway 730 (Site 2), and 3) land to the south of the City of Umatilla between Highway 395 and Interstate 82 (Site 3). The subject property is along Powerline Road to the south of the City of Umatilla. It should be noted that to the north of the City of Umatilla is the Columbia River and the State of Washington thereby restricting expansion and development.

The following sites are within the city limits and over 90 acres:

Tax Account #	Map & tax lot	OWNER	Acreage	Current Use
133088	5N28210000200	AMAZON DATA SERVICES INC	178.2	Data Center
135855	5N29B00000600	PORT OF UMATILLA	161.36	Empty land
135832	5N28A00000101	OREGON DEPT OF CORRECTIONS	268.15	Prison

<u>124632</u>	<u>5N28C0000140</u> <u>0</u>	<u>CLEAVER LAND, LLC</u>	214	Subject Property
<u>124632</u>	<u>5N28C0000140</u> <u>0</u>	<u>CLEAVER LAND, LLC</u>	106.34	Subject Property

Based on discussion with City of Umatilla staff the Amazon data center site is under development, the Port of Umatilla property is under consideration for development at the time of application, and the Oregon Department of Corrections property, while partially vacant, is considered unavailable for development. The property owned by Cleaver Land is the subject property.

The following sites are within the study area and are generally over 90 acres:

Tax Account #	Map & tax lot	OWNER	Acreage	Current Use
128455	5N28C00001300	TOPAZ LAND INC	635.74	Agriculture
129006	5N27000000401	N & C LAND LLC	432.44	Agriculture
124666	5N28C00006701	TOPAZ LAND INC	319.89	Agriculture
128459	5N28C00001401	TOPAZ LAND INC	155.45	Agriculture
158438	5N28330000200	BROKEN SPUR RANCH LLC	106.56	Agriculture
133096	5N28C00001200	TOPAZ LAND INC	595.5	Agriculture
129011	5N27000000501	N & C LAND LLC	594.29	Agriculture
148171	5N28C00001404	BROKEN SPUR RANCH LLC	135.4	Agriculture
127025	5N29B00000203	DEPT OF INTERIOR BIA	713.88	Federal Land
150061	5N29B00000601	USA Site 2	479.15	Federal Land
133108	5N28230000100	DEPT OF INTERIOR BIA Site 2	318	Federal Land
126982	5N28240000100	DEPT OF INTERIOR BIA Site 2	200.59	Federal Land
127030	5N29B00000301	OREGON DEPT FISH & WILDLIFE	160	State Land
135854	5N29B00000400	USA	102.31	Federal Land
136210	5N2828C000200	USA	95.76	Federal Land
126980	5N28A00001300	DEPT OF INTERIOR BIA Site 2	465.36	Federal Land
136246	5N28A00000400	USA	659.59	Federal Land
136258	5N28090000100	USA	256.17	Federal Land
127039	5N29B00000500	USA (TRS) Site 1	195.23	Federal Land
135814	5N28A00000100	USA	134.98	Federal Land
136249	5N28140001600	USA	105.21	Federal Land
136324	5N28180000601	USA	95.1	Federal Land
136228	5N27130001001	USA	90.82	Federal Land
136211	5N2828A000100	USA (BLM) Site 3	77.43	Federal Land

137707	5N2828D000100	USA (BLM) Site 3	77.27	Federal Land
<u>124632</u>	<u>5N28C00001400</u>	<u>CLEAVER LAND, LLC</u>	214	Subject Property
<u>124632</u>	<u>5N28C00001400</u>	<u>CLEAVER LAND, LLC</u>	106.34	Subject Property

Many of the parcels identified as Agricultural land are west of Powerline Road with better growth characteristics so have not been included for consideration. Most are captured within the study area having just a small portion of their acreage included. Two of the Agricultural parcels (Broken Spur) are situated in a location that make access difficult for industrial development.

Site 1 is Federal land under the management of the Confederated Tribes of the Umatilla Indian Reservation and is identified for future tribal uses with a Goal 11 exception in place. As Federal land it is not subject to Oregon’s statewide planning program and is not available to the City to direct economic opportunity. While the City of Umatilla would encourage economic opportunity to occur on this property it is unavailable for current inclusion in any inventory.

The McNary Dam and its associated Federal land holdings make up a large expanse of parks and natural areas. These areas would not be available for economic development opportunities. Site 2 lands are in Federal ownership, most under the purview of the Bureau of Indian Affairs. These properties are also protected in a partnership between the Confederated Tribes of the Umatilla Indian Reservation and the Bonneville Power Administration managed as the Wanaket Wildlife Mitigation Area (see attachment). There are also significant wetlands in this area, a portion identified within the Goal 5 inventory of Umatilla County.

There are two parcels in Federal ownership, managed by the Bureau of Land Management, identified as Site 3. Previous use of a portion of this land was a landfill operated many years ago and subsequently closed. Total acreage of the two parcels equals approximately 154 acres, driving its inclusion as an alternative Site.

See Exhibit E – supplemental findings addressing the City’s site selection analysis addressing OAR 660-02406605.

Conclusion: As addressed in this report three alternative locations have been determined and evaluated. The three alternative areas are 1) land to the east of the Port of Umatilla development and north of Highway 730 along the banks of the Columbia River (site 1), 2) land east and south of the Port of Umatilla and both north and south of Highway 730 (site 2), and 3) land to the south of the City of Umatilla between Highway 395 and Interstate 82 (site 3). In addition, as outline in the Exhibit E no other properties we identified as suitable alternative locations.

(2) A city that initiated the evaluation or amendment of its UGB prior to January 1, 2016, may choose to identify a preliminary study area applying the standard in this section rather than section (1). For such cities, the preliminary study area shall consist of:

- (a) All land adjacent to the acknowledged UGB, including all land in the vicinity of the UGB that has a reasonable potential to satisfy the identified need deficiency, and
- (b) All land in the city’s acknowledged urban reserve established under OAR chapter 660, division 21, if applicable.

Applicants Response: It is after January 1, 2016, making this provision not available.

Conclusion: It is after January 1, 2016, making this provision not available.

(3) When the primary purpose for expansion of the UGB is to accommodate a particular industrial use that requires specific site characteristics, or to accommodate a public facility that requires specific site characteristics, and the site characteristics may be found in only a small number of locations, the preliminary study area may be limited to those locations within the distance described in section (1) or (2), whichever is appropriate, that have or could be improved to provide the required site characteristics. For purposes of this section:

(a) The definition of “site characteristics” in OAR 660-009-0005(11) applies for purposes of identifying a particular industrial use.

(b) A “public facility” may include a facility necessary for public sewer, water, storm water, transportation, parks, schools, or fire protection. Site characteristics may include but are not limited to size, topography and proximity.

Applicants Response: This application is specifically designed to identify opportunities for large lot industrial development. While no specific industrial or public facility is identified, the Economic Opportunities Analysis calls out several industry clusters with this application focusing on data centers, light industrial manufacturing, and warehousing opportunities that require 50-100 acres or more than 100 acres. Based on this requirement, at least one of the alternative sites falls out of consideration as it does not have enough land to meet the total identified need – the site south of the City of Umatilla and west of Highway 395 (site 3).

Conclusion: Site 3 which is land to the south of the City of Umatilla between Highway 395 and Interstate 82, does not have enough acreage to meet the needed lot sizes as identified in the EOA, Site 3 is not considered a viable option.

(4) The city may exclude land from the preliminary study area if it determines that:

(a) Based on the standards in section (7) of this rule, it is impracticable to provide necessary public facilities or services to the land;

(b) The land is subject to significant development hazards, due to a risk of:

(A) Landslides: The land consists of a landslide deposit or scarp flank that is described and mapped on the Statewide Landslide Information Database for Oregon (SLIDO) Release 3.2 Geodatabase published by the Oregon Department of Geology and Mineral Industries (DOGAMI) December 2014, provided that the deposit or scarp flank in the data source is mapped at a scale of 1:40,000 or finer. If the owner of a lot or parcel provides the city with a site-specific analysis by a certified engineering geologist demonstrating that development of the property would not be subject to significant landslide risk, the city may not exclude the lot or parcel under this paragraph;

(B) Flooding, including inundation during storm surges: the land is within the Special Flood Hazard Area (SFHA) identified on the applicable Flood Insurance Rate Map (FIRM);

(C) Tsunamis: the land is within a tsunami inundation zone established pursuant to ORS 455.446;

(c) The land consists of a significant scenic, natural, cultural or recreational resource described in this subsection:

(A) Land that is designated in an acknowledged comprehensive plan prior to initiation of the UGB amendment, or that is mapped on a published state or federal inventory at a scale sufficient to determine its location for purposes of this rule, as:

- (i) Critical or essential habitat for a species listed by a state or federal agency as threatened or endangered;
- (ii) Core habitat for Greater Sage Grouse; or
- (iii) Big game migration corridors or winter range, except where located on lands designated as urban reserves or exception areas;
- (B) Federal Wild and Scenic Rivers and State Scenic Waterways, including Related Adjacent Lands described by ORS 390.805, as mapped by the applicable state or federal agency responsible for the scenic program;
- (C) Designated Natural Areas on the Oregon State Register of Natural Heritage Resources;
- (D) Wellhead protection areas described under OAR 660-023-0140 and delineated on a local comprehensive plan;
- (E) Aquatic areas subject to Statewide Planning Goal 16 that are in a Natural or Conservation management unit designated in an acknowledged comprehensive plan;
- (F) Lands subject to acknowledged comprehensive plan or land use regulations that implement Statewide Planning Goal 17, Coastal Shoreland, Use Requirement 1;
- (G) Lands subject to acknowledged comprehensive plan or land use regulations that implement Statewide Planning Goal 18, Implementation Requirement 2;
- (d) The land is owned by the federal government and managed primarily for rural uses.

Applicants Response: The alternative location (Site 2) east of the City of Umatilla lying both north and south of Highway 730 has significant wetlands with a portion specifically called out and protected within the Umatilla County Comprehensive Plan. Protection of wetlands and any required mitigation severely limit this site for development of large lot industrial activity, a primary objective of this application. Additionally, much of this area is also managed jointly between the Confederated Tribes of the Umatilla Indian Reservation and the Bonneville Power Administration as the Wanaket Wildlife Mitigation Area negatively impacting its availability for economic opportunity development.

The area east of the Port of Umatilla along the banks of the Columbia River (Site 1) does have an adopted Goal 11 exception which could be seen as making this an ideal location for large lot expansion. Current ownership is the primary factor in removing it from consideration as it is currently under Federal ownership and managed by the Confederated Tribes of the Umatilla Indian Reservation, is not subject to local land use authority or the statewide planning program, and is not available for development generally.

See Exhibit E – supplemental findings addressing the City’s site selection analysis addressing OAR 660-02406605.

Conclusion: Due to the wetlands that are inventoried on the National Wetland Inventory as well as in the Umatilla County’s Comprehensive plan found on Site 2, this alternative location becomes impracticable and not viable. Site 3 is currently owned and managed by the Confederated Tribes of the Umatilla Indian Reservation. While the City supports development on the CTUIR property, it is not subject to local land use authority or the state-wide planning goals. The City would have no authority to ensure the land was maintained or developed to meet the City’s need for large lot industrial sites.

(5) After excluding land from the preliminary study area under section (4), the city must adjust the area, if necessary, so that it includes an amount of land that is at least twice the amount of land

needed for the deficiency determined under OAR 660-024-0050(4) or, if applicable, twice the particular land need described in section (3). Such adjustment shall be made by expanding the distance specified under the applicable section (1) or (2) and applying section (4) to the expanded area.

Applicants Response: The table above identifies significant lands that have been considered. Much of the agricultural land has been excluded to not impact the local agricultural economy. The subject property (the approximate 150-acre urban growth boundary expansion), when combined with the other property that is part of the change in zoning request (approximately 300 acres), does accommodate the identified need as stated in the Economic Opportunities Analysis. The need is identified as two parcels in the range of 50 to 99.9 acres and a third parcel at over 100 acres. Given regional development trends that need could easily consume up to if not more than the 450 identified acres.

Conclusion: Given regional development trends that need could easily consume up to if not more than the 450 identified acres.

(6) For purposes of evaluating the priority of land under OAR 660-024-0067, the “study area” shall consist of all land that remains in the preliminary study area described in section (1), (2) or (3) of this rule after adjustments to the area based on sections (4) and (5), provided that when a purpose of the UGB expansion is to accommodate a public park need, the city must also consider whether land excluded under subsection (4)(a) through (c) of this rule can reasonably accommodate the park use.

Applicants Response: Parks are not a part of this application.

Conclusion: Parks are not a part of this application.

(7) For purposes of subsection (4)(a), the city may consider it impracticable to provide necessary public facilities or services to the following lands:

(a) Contiguous areas of at least five acres where 75 percent or more of the land has a slope of 25 percent or greater, provided that contiguous areas 20 acres or more that are less than 25 percent slope may not be excluded under this subsection. Slope shall be measured as the increase in elevation divided by the horizontal distance at maximum ten-foot contour intervals;

(b) Land that is isolated from existing service networks by physical, topographic, or other impediments to service provision such that it is impracticable to provide necessary facilities or services to the land within the planning period. The city’s determination shall be based on an evaluation of:

(A) The likely amount of development that could occur on the land within the planning period;

(B) The likely cost of facilities and services; and,

(C) Any substantial evidence collected by or presented to the city regarding how similarly situated land in the region has, or has not, developed over time.

(c) As used in this section, “impediments to service provision” may include but are not limited to:

(A) Major rivers or other water bodies that would require new bridge crossings to serve planned urban development;

(B) Topographic features such as canyons or ridges with slopes exceeding 40 percent and vertical relief of greater than 80 feet;

(C) Freeways, rail lines, or other restricted access corridors that would require new grade separated

crossings to serve planned urban development;

(D) Significant scenic, natural, cultural or recreational resources on an acknowledged plan inventory and subject to protection measures under the plan or implementing regulations, or on a published state or federal inventory, that would prohibit or substantially impede the placement or construction of necessary public facilities and services.

Applicants Response: The City of Umatilla had J-U-B Engineers complete an Umatilla Industrial Area Utility Technical Memorandum (dated March 2020) which states that the subject property, including the area that would be subject to the change in zoning, can be served with water, wastewater and industrial wastewater. While there is slope on the subject property it is limited to the eastern edge, sloping down to Interstate 82. Most of the property, particularly the frontage along Powerline Road, is reasonably flat.

Conclusion: The City of Umatilla had J-U-B Engineers complete an Umatilla Industrial Area Utility Technical Memorandum (March 2020) which states that the subject property, including the area that would be subject to the change in zoning, can be served with water, wastewater and industrial wastewater. According to the UTM, the subject property has been deemed viable to be served with water, wastewater and industrial wastewater.

(8) Land may not be excluded from the preliminary study area based on a finding of impracticability that is primarily a result of existing development patterns. However, a city may forecast development capacity for such land as provided in OAR 660-024-0067(1)(d).

Applicants Response: Current development patterns were not a consideration in the application process. The three alternative Sites are currently bare. Development east of Umatilla, which includes alternative Sites 1 and 2, consists of significant land in Federal ownership, current economic development within the Port of Umatilla, various agricultural activities, and land maintained for habitat values. The alternative Site 3 south of Umatilla was deemed too small to meet the need, is in Federal ownership, and is configured long and narrow, which could be a hinderance to larger lot development opportunities.

Conclusion: Development patterns were not applicable to the three alternative sites, as they are currently bare.

(9) Notwithstanding OAR 660-024-0050(4) and section (1) of this rule, except during periodic review or other legislative review of the UGB, the city may approve an application under ORS 197.610 to 197.625 for a UGB amendment to add an amount of land less than necessary to satisfy the land need deficiency determined under OAR 660-024-0050(4), provided the amendment complies with all other applicable requirements.

Applicants Response: This application is not a part of the City of Umatilla's periodic review. It is submitted to meet a specific need of large lot industrial land as outlined in the Economic Opportunities Analysis that is included as part of the application. The amount of land included in the urban growth boundary expansion (150 acres), when coupled with the land in the associated change of zoning request (300 acres), meets the stated need for large lot industrial land within the Economic Opportunities Analysis

Conclusion: Neither periodic review or other legislative review of the UGB is being conducted. Filling the need of large lot industrial land highlighted by the Economic Opportunities Analysis is the purpose of this application. As addressed above the subject property is large enough to satisfy the land need deficiency as determined under OAR 660-024-0050(4).

Oregon Administrative Rule 660 Division 24 Section 0067 Evaluation of Land in the Study Area for Inclusion in the UGB continues this analysis.

See Exhibit E – See supplemental findings providing additional analysis for City’s site evaluation analysis addressing OAR 660-02406607.

- (1) A city considering a UGB amendment must decide which land to add to the UGB by evaluating all land in the study area determined under OAR 660-024-0065, as follows
- (a) Beginning with the highest priority category of land described in section (2), the city must apply section (5) to determine which land in that priority category is suitable to satisfy the need deficiency determined under OAR 660-024-0050 and select for inclusion in the UGB as much of the land as necessary to satisfy the need.
- (b) If the amount of suitable land in the first priority category is not sufficient to satisfy all the identified need deficiency, the city must apply section (5) to determine which land in the next priority is suitable and select for inclusion in the UGB as much of the suitable land in that priority as necessary to satisfy the need. The city must proceed in this manner until all the land need is satisfied, except as provided in OAR 660-024-0065(9).
- (c) If the amount of suitable land in a particular priority category in section (2) exceeds the amount necessary to satisfy the need deficiency, the city must choose which land in that priority to include in the UGB by applying the criteria in section (7) of this rule.
- (d) In evaluating the sufficiency of land to satisfy a need under this section, the city may use the factors identified in sections (5) and (6) of this rule to reduce the forecast development capacity of the land to meet the need.
- (e) Land that is determined to not be suitable under section (5) of this rule to satisfy the need deficiency determined under OAR 660-024-0050 is not required to be selected for inclusion in the UGB unless its inclusion is necessary to serve other higher priority lands.

Applicants Response: This application is focused on an urban growth boundary amendment for large lot industrial development. This need was identified in the attached Economic Opportunities Analysis completed for the City of Umatilla in October 2019. The requirements of OAR 660-024-0065 are addressed above. The alternative sites identified in the section above where shown to have limitations removing them from consideration. The subject site meets the identified need for two sites between 50 and 99.9 acres and a two sites over 100 acres. When regional patterns are considered for development patterns that need could easily be 450 acres.

Conclusion: The lack of large lot industrial parcels as identified in the Economic Opportunities Analysis can be met by the submitted applications. The requirements of OAR 660-024-0065 are addressed above. The subject site meets the identified need for 300 – 399.98 acres of land suitable for large lot industrial development as outlined in the Economic Opportunities Analysis. The subject property for inclusion and rezoning totals 450+/- acres.

(2) Priority of Land for inclusion in a UGB:

(a) First Priority is urban reserve, exception land, and nonresource land. Lands in the study area that meet the description in paragraphs (A) through (C) of this subsection are of equal (first) priority:

(A) Land designated as an urban reserve under OAR chapter 660, division 21, in an acknowledged comprehensive plan;

(B) Land that is subject to an acknowledged exception under ORS 197.732; and

(C) Land that is nonresource land.

Applicants Response: The City of Umatilla does not have any urban reserves; no lands with an acknowledged exception are available (the parcel with the Goal 11 exception is owned or managed by the Confederated Tribes of the Umatilla Indian Reservation, is not subject to local land use authority, and is not available for development to meet current needs); and no other non-resource land has been identified as being available or of sufficient size to meet the identified need.

See supplemental findings for additional site evaluation analysis.

Conclusion: The supplemental finding show two alternative locations would be considered first priority land for inclusion. However, those properties were not determined to be suitable to meet the City's identified need for large lot industrial sites.

(b) Second Priority is marginal land: land within the study area that is designated as marginal land under ORS 197.247 (1991 Edition) in the acknowledged comprehensive plan.

Applicants Response: There are no designated marginal lands within Umatilla County.

Conclusion: There are no designated marginal lands within Umatilla County.

(c) Third Priority is forest or farm land that is not predominantly high-value farm land: land within the study area that is designated for forest or agriculture uses in the acknowledged comprehensive plan and that is not predominantly high-value farmland as defined in ORS 195.300, or that does not consist predominantly of prime or unique soils, as determined by the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS). In selecting which lands to include to satisfy the need, the city must use the agricultural land capability classification system or the cubic foot site class system, as appropriate for the acknowledged comprehensive plan designation, to select lower capability or cubic foot site class lands first.

Applicants Response: There are no Goal 4 or Forest Lands adjacent to the City of Umatilla. Already excluded are areas with wetlands and an area not of sufficient size to accommodate the need. The subject area is comprised of Class VIIe Soils if not irrigated. Specifically, the soils are Burbank loamy find sand with 0 to 5 percent slopes for the area to the west and Quincy loamy find sand with 5 to 25 percent slopes for the area to the east. The lands are not considered prime or unique.

Conclusion: The supplemental findings clarify the soils for all other properties surrounding the

UGB considered as part of the site evaluation analysis are considered high-value farmland as defined by ORS 195.300. Therefore, no properties were identified as Third Priority land for inclusion.

(d) Fourth Priority is agricultural land that is predominantly high-value farmland: land within the study area that is designated as agricultural land in an acknowledged comprehensive plan and is predominantly high-value farmland as defined in ORS 195.300. A city may not select land that is predominantly made up of prime or unique farm soils, as defined by the USDA NRCS, unless there is an insufficient amount of other land to satisfy its land need. In selecting which lands to include to satisfy the need, the city must use the agricultural land capability classification system to select lower capability lands first.

Applicants Response: The land is not identified as high-value farmland, nor is it prime or unique. The approximate 150 acres identified for inclusion within the urban growth boundary is currently farmed with only about half under pivot irrigation. The balance is scrub land, unavailable based on the shape of the ownership and layout options for pivot irrigation. The most easterly portion of the property slopes down to Interstate 82.

Conclusion: As addressed in detail in the supplemental findings there are three sites identified as suitable alternative locations. The properties identified as East 395 property are located on class 1 soils and contained mapped wetlands as identified on both the National Wetlands Inventory and State Wetlands Inventory. Given these properties are the only site identified within the study area with class 1 soils the East 395 properties were not considered a suitable alternative location. The Topaz Land properties and the Cleaver Land properties are both considered high-value farmland given they have existing water rights on designated agricultural land. The supplemental findings conclude that the Cleaver Land properties would impact less high-value farmland than inclusion of the Topaz Lan properties as any expansion of the UGB would impact lands in irrigation crop production. A significant portion of the irrigated farm land that would be removed from production on the Cleaver land properties are already located within the UGB and therefore, no considered high-value farmland.

(3) Notwithstanding section (2)(c) or (d) of this rule, land that would otherwise be excluded from a UGB may be included if:

(a) The land contains a small amount of third or fourth priority land that is not important to the commercial agricultural enterprise in the area and the land must be included in the UGB to connect a nearby and significantly larger area of land of higher priority for inclusion within the UGB; or

(b) The land contains a small amount of third or fourth priority land that is not predominantly high-value farmland or predominantly made up of prime or unique farm soils and the land is completely surrounded by land of higher priority for inclusion into the UGB.

Applicants Response: This action does not seek to connect an area nor is it surrounded by land of higher priority. This action seeks to add approximately 150 acres to the urban growth boundary of which about half is under circle pivot irrigation, the balance scrub land not available for irrigation based on the shape and layout of the ownership. None of the land is prime or unique.

Conclusion: The above standards do not apply to the subject property.

(4) For purposes of categorizing and evaluating land pursuant to subsections (2)(c) and (d) and section (3) of this rule,

(a) Areas of land not larger than 100 acres may be grouped together and studied as a single unit of land;

(b) Areas of land larger than 100 acres that are similarly situated and have similar soils may be grouped together provided soils of lower agricultural or forest capability may not be grouped with soils of higher capability in a manner inconsistent with the intent of section (2) of this rule, which requires that higher capability resource lands shall be the last priority for inclusion in a UGB;

(c) Notwithstanding subsection (4)(a), if a city initiated the evaluation or amendment of its UGB prior to January 1, 2016, and if the analysis involves more than one lot or parcel or area within a particular priority category for which circumstances are reasonably similar, these lots, parcels and areas may be considered and evaluated as a single group;

(d) When determining whether the land is predominantly high-value farmland, or predominantly prime or unique, “predominantly” means more than 50 percent.

Applicants Response: The land is not identified as high-value farmland, nor is it prime or unique. This action seeks to add approximately 150 acres to the urban growth boundary of which about half is under circle pivot irrigation, the balance scrub land not available for irrigation based on the shape and layout of the ownership.

Conclusion: As addressed in the supplemental findings three areas were identified as high-value farmland. The subject property was determined to be the most suitable location and would impact the least amount of high-value farmland.

(5) With respect to section (1), a city must assume that vacant or partially vacant land in a particular priority category is “suitable” to satisfy a need deficiency identified in OAR 660-024-0050(4) unless it demonstrates that the land cannot satisfy the specified need based on one or more of the conditions described in subsections (a) through (g) of this section:

(a) Existing parcelization, lot sizes or development patterns of rural residential land make that land unsuitable for an identified employment need; as follows:

(A) Parcelization: the land consists primarily of parcels 2-acres or less in size, or

(B) Existing development patterns: the land cannot be reasonably redeveloped or infilled within the planning period due to the location of existing structures and infrastructure.

(b) The land would qualify for exclusion from the preliminary study area under the factors in OAR 660-024-0065(4) but the city declined to exclude it pending more detailed analysis.

(c) The land is, or will be upon inclusion in the UGB, subject to natural resources protections under Statewide Planning Goal 5 such that that no development capacity should be forecast on that land to meet the land need deficiency.

(d) With respect to needed industrial uses only, the land is over 10 percent slope, or is an existing lot or parcel that is smaller than 5 acres in size, or both. Slope shall be measured as the increase in elevation divided by the horizontal distance at maximum ten-foot contour intervals.

(e) With respect to a particular industrial use or particular public facility use described in OAR 660-024-0065(3), the land does not have, and cannot be improved to provide, one or more of the required specific site characteristics.

(f) The land is subject to a conservation easement described in ORS 271.715 that prohibits urban development.

(g) The land is committed to a use described in this subsection and the use is unlikely to be discontinued during the planning period:

(A) Public park, church, school, or cemetery, or

(B) Land within the boundary of an airport designated for airport uses, but not including land designated or zoned for residential, commercial or industrial uses in an acknowledged comprehensive plan.

Applicants Response: None of the alternative sites have been parcelized. The alternative site east of the City of Umatilla lying both north and south of Highway 730 (site 2) has significant wetlands, some identified within the Umatilla County Comprehensive Plan, that would be subject to development restrictions limiting opportunities for large lot industrial development. The alternative site south of the City of Umatilla and west of Highway 395 (site 3) is about 160 acres, long and narrow, which could limit large lot development and not of sufficient size to fulfill the need as identified within the Economic Opportunities Analysis. The subject site is of a size and shape to meet the needs as outlined in the Economic Opportunities Analysis.

Conclusion: Due to wetlands on site 2 and the lot sizes and shapes of site 3, the subject site is the only one that is a size and shape to meet the needs as outlined in the Economic Opportunities Analysis.

(6) For vacant or partially vacant lands added to the UGB to provide for residential uses:

(a) Existing lots or parcels one acre or less may be assumed to have a development capacity of one dwelling unit per lot or parcel. Existing lots or parcels greater than one acre but less than two acres shall be assumed to have an aggregate development capacity of two dwelling units per acre.

(b) In any subsequent review of a UGB pursuant to this division, the city may use a development assumption for land described in subsection (a) of this section for a period of up to 14 years from the date the lands were added to the UGB.

Applicants Response: This is not applicable as the intent is to create opportunities for large lot industrial uses.

Conclusion: This is not applicable as the intent is to create opportunities for the identified need for large lot industrial uses.

(7) Pursuant to subsection (1)(c), if the amount of suitable land in a particular priority category under section (2) exceeds the amount necessary to satisfy the need deficiency, the city must choose which land in that priority to include in the UGB by first applying the boundary location factors of Goal 14 and then applying applicable criteria in the acknowledged comprehensive plan and land use regulations acknowledged prior to initiation of the UGB evaluation or amendment. The city may not apply local comprehensive plan criteria that contradict the requirements of the boundary location factors of Goal 14. The boundary location factors are not independent criteria; when the factors are applied to compare alternative boundary locations and to determine the UGB location the city must show that it considered and balanced all the factors. The criteria in this section may not be used to select lands designated for agriculture or forest use that have higher land capability or cubic foot site class, as applicable, ahead of lands that have lower capability or cubic foot site class.

Applicants Response: No forest lands are being considered. The land classification of the subject area is Class VIIe, not high-value, prime or unique. The applicant would assert that the subject site balances the need for industrial land against other land needs.

Conclusion: No forest lands are being considered. As address in the supplemental finding no properties were identified that do not include high-value farmland. The subject site balances the need for industrial land against other land needs.

(8) The city must apply the boundary location factors of Goal 14 in coordination with service providers and state agencies, including the Oregon Department of Transportation (ODOT) with respect to Factor 2 regarding impacts on the state transportation system, and the Oregon Department of Fish and Wildlife (ODFW) and the Department of State Lands (DSL) with respect to Factor 3 regarding environmental consequences. “Coordination” includes timely notice to agencies and service providers and consideration of any recommended evaluation methodologies.

Applicants Response: The Oregon Department of Transportation was contacted early in the application process. The applicant anticipates that both the Oregon Department of Fish and Wildlife and Department of State Lands will be provided notice of the required public hearings to consider this application. The Department of Land Conservation and Development has been involved through pre-application contact and meetings.

Conclusion: The City of Umatilla noticed the above agencies on August 4, 2020.

(9) In applying Goal 14 Boundary Location Factor 2 to evaluate alternative locations under section (7), the city must compare relative costs, advantages and disadvantages of alternative UGB expansion areas with respect to the provision of public facilities and services needed to urbanize alternative boundary locations. For purposes of this section, the term “public facilities and services” means water, sanitary sewer, storm water management, and transportation facilities. The evaluation and comparison under Boundary Location Factor 2 must consider:

- (a) The impacts to existing water, sanitary sewer, storm water and transportation facilities that serve nearby areas already inside the UGB;
- (b) The capacity of existing public facilities and services to serve areas already inside the UGB as well as areas proposed for addition to the UGB; and
- (c) The need for new transportation facilities, such as highways and other roadways, interchanges, arterials and collectors, additional travel lanes, other major improvements on existing roadways and, for urban areas of 25,000 or more, the provision of public transit service.

Applicants Response: An Umatilla Industrial Area Utility Technical Memorandum was completed for the subject area concluding that public services can be reasonably provided. That memorandum evaluated water, wastewater, industrial process water, and the option of irrigation water. Also evaluated was how a connection to the Umatilla Army Depot reuse areas could create efficiencies and synergies. No other area was evaluated as they were eliminated from consideration for the reasons discussed above.

Conclusion: The Utility Technical Memorandum states that water, wastewater, industrial wastewater can be reasonably provided to the subject property. No other area was evaluated as they were eliminated from consideration for the reasons discussed above.

(10) The adopted findings for UGB amendment must describe or map all of the alternative areas evaluated in the boundary location alternatives analysis.

Applicants Response: Please see the included Study Area map.

Conclusion: Please see the included Study Area map.

Oregon Administrative Rule Chapter 660 Division 12 Section 0060 governs Plan and Land Use Regulation Amendments.

(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.

Applicants Response: As part of the application process the City of Umatilla accomplished a Traffic Impact Analysis (TIA), completed by J-U-B Engineers and dated May 2020. The TIA comes to several conclusions, summarized on page 17 of the Analysis, concerning the function of Powerline Road as well as its connection to both Interstate 82 and Highway 730. The effect of the urban growth boundary expansion and annexation, when coupled with the change in zoning, results in a net reduction in daily traffic including the pm peak hour (this is further discussed on page 7 of the TIA). The analysis does conclude there will be impacts to intersections at the Interstate 82 Interchange and the intersection with Highway 730. For this particular criterion the applicant would assert that the TIA provides evidence that Powerline Road along the frontage of the subject property does not require a change in functional classification or the standards to implement the functional classification, and in fact results in a lower pm peak hour by nearly 800

trips in 2040.

Comment has been received from the Oregon Department of Transportation dated August 21, 2020, and signed by Marilyn Holt, District 12 Manager (see attached letter). The letter provides the following guidance to the City of Umatilla, “Page 17 of the TIA identifies the intersection of Powerline Road/US 730 will need a higher level of traffic control such as a traffic signal or roundabout. Also, both a southbound right-turn lane at the southbound Interstate-82 ramps and a southbound left-turn will be needed at the Interstate-82 northbound ramp. Accordingly to reflect long-term changes with appropriate improvements, balancing access and circulation management require context sensitive designs to respond to growth. As this area urbanizes, frontage improvement, such as transit facilities, curb, sidewalk, crosswalk ramps(s), bikeways and street standards should be constructed as necessary to provide travel choices and to be consistent with the City’s Transportation System Plan (TSP) and ADA standards. ODOT recommends these elements should be addressed with emphasis on development contributing to implement the improvements that may be necessary to provide safe and acceptable Levels of Service in order to meet City and ODOT standards.” The applicant addresses these items in other locations within this narrative stating that City of Umatilla development standards, including requirements within the Transportation System Plan, would be applicable at the time of development, requiring many of these development components to be installed. There is also discussion within this narrative that connections to the recently adopted trails system within the City of Umatilla is possible with this development as it occurs over time. Residential development that has been occurring north of this location within the city limits has required developers to install curb, gutter and sidewalks along with widening of Powerline Road. It is anticipated that the City would require similar installations as part of any industrial development on the subject property.

Conclusion: The effect of the urban growth boundary expansion and annexation, when coupled with the change in zoning, results in a net reduction in daily traffic including the pm peak hour for the subject property.

(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.

(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.

(c) Amending the TSP to modify the planned function, capacity or performance standards

of the transportation facility.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:

(A) The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;

(B) The providers of facilities being improved at other locations provide written statements of approval; and

(C) The local jurisdictions where facilities are being improved provide written statements of approval.

Applicants Response: The TIA identifies that the function along Powerline Road could be improved based on this action. The intersections with both Interstate 82 and Highway 730 do not fare as well and will need improvements particularly when combined with the assumed background growth along Powerline Road. Specifically, the TIA calls for signalization or a round-about at the Powerline Road and Highway 730 intersection stating that, “The traffic signal would likely be required at about 10 years of background growth and 50% of the site generated trips if the low-cost improvements described above were implemented.”

The TIA also call for work at the Interstate 82 Interchange as follows, “A southbound right turn at the southbound I-82 ramps will be needed at approximately 80% of the background growth and 80% of the industrial development. A southbound left turn will be needed at the I-82 northbound ramps at approximately 33% of the background growth and 33% of the industrial development.”

The applicant would assert that the TIA provides evidence that the proposed urban growth boundary expansion and annexation along with the change in zoning would not significantly impact the identified function, capacity, and performance of Powerline Road. There will be impacts to the intersections with both Interstate 82 and Highway 730 at a future point in time based on both background growth and development of the proposed industrial area. The applicant expects to work with the City and other transportation providers to assure that necessary projects are identified for inclusion in the City and County Transportation System Plans. Funding for those projects could be secured through system development charges on industrial projects on the subject site.

Conclusion: The TIA provides evidence that the proposed urban growth boundary expansion and annexation along with the change in zoning would not significantly impact the identified function, capacity, and performance of Powerline Road. There will be impacts to the intersections with both Interstate 82 and Highway 730 at a future point in time based on both background growth and development of the proposed industrial area. Funding for those projects could be secured through system development charges on industrial projects on the subject site.

(3) Notwithstanding sections (1) and (2) of this rule, a local government may approve an amendment that would significantly affect an existing transportation facility without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility where:

(a) In the absence of the amendment, planned transportation facilities, improvements and services as set forth in section (4) of this rule would not be adequate to achieve consistency with the identified function, capacity or performance standard for that facility by the end of the planning period identified in the adopted TSP;

(b) Development resulting from the amendment will, at a minimum, mitigate the impacts of the amendment in a manner that avoids further degradation to the performance of the facility by the time of the development through one or a combination of transportation improvements or measures;

(c) The amendment does not involve property located in an interchange area as defined in paragraph (4)(d)(C); and

(d) For affected state highways, ODOT provides a written statement that the proposed funding and timing for the identified mitigation improvements or measures are, at a minimum, sufficient to avoid further degradation to the performance of the affected state highway. However, if a local government provides the appropriate ODOT regional office with written notice of a proposed amendment in a manner that provides ODOT reasonable opportunity to submit a written statement into the record of the local government proceeding, and ODOT does not provide a written statement, then the local government may proceed with applying subsections (a) through (c) of this section.

Applicants Response: The portion of Powerline Road that fronts the subject property is a paved county road, is not a state highway, nor is it within an interchange area or within an area with an adopted Interchange Area Management Plan. Based on the TIA the applicant would assert that Powerline Road is not significantly impacted by the urban growth boundary expansion and annexation, with the change in zoning providing a lower pm peak hour improving the future function of Powerline Road. The applicant does acknowledge the future impacts to the intersections of Powerline Road with both Interstate-82 and Highway 730. See the included comment letter from the Oregon Department of Transportation, dated August 21, 2020, and signed by Marilyn Holt, District 12 Manager.

Conclusion: Powerline Road is not significantly impacted by the urban growth boundary expansion and annexation. Future development will have impacts to the intersections on powerline road, these will be addressed at time of development.

(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.

(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:

(A) Transportation facilities, improvements or services that are funded for

construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.

(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.

(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.

(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.

(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.

(c) Within interstate interchange areas, the improvements included in (b)(A)–(C) are considered planned facilities, improvements and services, except where:

(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or

(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.

(d) As used in this section and section (3):

(A) Planned interchange means new interchanges and relocation of existing interchanges that are authorized in an adopted transportation system plan or comprehensive plan;

(B) Interstate highway means Interstates 5, 82, 84, 105, 205 and 405; and

(C) Interstate interchange area means:

(i) Property within one-quarter mile of the ramp terminal intersection of an existing or planned interchange on an Interstate Highway; or

(ii) The interchange area as defined in the Interchange Area Management Plan adopted as an amendment to the Oregon Highway Plan.

(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or

service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)–(C) to determine whether there is a significant effect that requires application of the remedies in section (2).

Applicants Response: The subject area proposed for inclusion within the City of Umatilla urban growth boundary and city limits, and the larger project area proposed for a change in Zoning to Light Industrial, are located north approximately one-half mile of the Powerline Road interchange on Interstate 82. There is no adopted Interchange Area Management Plan and no corresponding interchange area that has been applied.

The portion of Powerline Road fronting the subject property is an Umatilla County paved road (City if annexation approved). Based on the Joint Management Agreement between Umatilla County and the City of Umatilla a portion of Powerline Road has been transferred from the County to the City. Both Umatilla County and City of Umatilla transportation standards are discussed more fully later in this narrative.

The applicant asserts that the TIA provides evidence that the impacts to Powerline Road are an improvement to the pm peak hour. The applicant also asserts that the proposed changes are at least one-half mile from the Interstate-82 Interchange.

Conclusion: There is no adopted Interchange Area Management Plan and no corresponding interchange area that has been applied. The proposed changes are at least one-half mile from the Interstate-82 Interchange. Upon approval of UGB expansion, the portion of powerline road adjacent to the subject property will be subject to City of Umatilla transportation standards.

(5) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-004-0022 and 660-004-0028.

Applicants Response: This is not an application to allow industrial development on rural lands, but an application package seeking an expansion of the City of Umatilla urban growth boundary and annexation along with an associated application requesting a change in Zoning to Light Industrial. While the Powerline Road Interchange on Interstate 82 is a beneficial transportation improvement, it is not the sole or primary reason for these applications.

Conclusion: This application package is to expand the City of Umatilla urban growth boundary to allow for more large lot industrial parcels. This application is not to allow industrial development on rural lands.

(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in sections (1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in subsections (a)–(d) below;

(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or

neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;

(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in subsection (a) above;

(c) Where a local government assumes or estimates lower vehicle trip generation as provided in subsection (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in OAR 660-012-0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 660-012-0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and

(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to subsection (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.

Applicants Response: The proposed uses are industrial in nature – data centers, light manufacturing and warehousing – with traffic impacts addressed in the Traffic Impact Study for these activities. The growth of residential activity to the north of the subject property does include development of sidewalks and bicycle facilities along Powerline Road that could be connected to the proposed industrial area, creating a pedestrian and bicycle connection to the commercial and downtown area of the City of Umatilla. It is not known what the potential is for workers within the industrial area to either walk or bicycle to work, but that potential does exist and should be acknowledged. The proposed development can be connected to Powerline Road and the trail network that has been adopted by the City of Umatilla.

Conclusion: The proposed development can be connected to Powerline Road and the trail network that has been adopted by the City of Umatilla. Bike and pedestrian standards will be enforced at the time of development.

(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in subsections (a)–(c) below shall include an amendment to the comprehensive plan, transportation system plan, the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in OAR 660-012-0020(2)(b) and 660-012-0045(3):

(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;

(b) The local government has not adopted a TSP or local street plan which complies with OAR 660-012-0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and

(c) The proposed amendment would significantly affect a transportation facility as provided in section (1).

Applicants Response: This request is proposed to result in land designated Light Industrial, the City of Umatilla has an adopted Transportation System Plan and the Traffic Impact Analysis determined that there is a reduction in pm peak hour traffic. The applicant asserts that this criterion would not be applicable to this action.

Conclusion: Due to the adopted TSP and provided TIA, this criterion is not applicable.

(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:

(a) Any one of the following:

(A) An existing central business district or downtown;

(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;

(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or

(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.

(b) An area other than those listed in subsection (a) above which includes or is planned to include the following characteristics:

(A) A concentration of a variety of land uses in a well-defined area, including the following:

(i) Medium to high density residential development (12 or more units per acre);

(ii) Offices or office buildings;

(iii) Retail stores and services;

(iv) Restaurants; and

(v) Public open space or private open space which is available for public use, such as a park or plaza.

(B) Generally include civic or cultural uses;

(C) A core commercial area where multi-story buildings are permitted;

(D) Buildings and building entrances oriented to streets;

(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;

(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;

(G) One or more transit stops (in urban areas with fixed route transit service); and

(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.

Applicants Response: This proposal, if approved, will result in an industrial area Zoned Light Industrial. It is not proposed as a mixed-use area but could connect to the sidewalk or bicycle paths that are being incorporated along Powerline Road as the residential areas develop. As discussed above connections to the adopted pedestrian and bicycle network can be achieved to allow for industrial workers to walk or bike to work or to the downtown area of Umatilla. There may also be opportunity for future transit connections to the working Kayak system or other transit systems that may be developed.

Conclusion: The proposed subject property is not a mixed-use area. There is potential for alternative modes of transportation to future development on the property through use of walking, biking or public transit such as the CTUIR Kayak.

(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.

Applicants Response: This application addresses transportation impacts because these factors cannot be met.

Conclusion: This application addresses transportation impacts because these factors cannot be met.

(10) Notwithstanding sections (1) and (2) of this rule, a local government may amend a functional plan, a comprehensive plan or a land use regulation without applying performance standards related to motor vehicle traffic congestion (e.g. volume to capacity ratio or V/C), delay or travel time if the amendment meets the requirements of subsection (a) of this section. This section does not exempt a proposed amendment from other transportation performance

standards or policies that may apply including, but not limited to, safety for all modes, network connectivity for all modes (e.g. sidewalks, bicycle lanes) and accessibility for freight vehicles of a size and frequency required by the development.

(a) A proposed amendment qualifies for this section if it:

(A) Is a map or text amendment affecting only land entirely within a multimodal mixed-use area (MMA); and

(B) Is consistent with the definition of an MMA and consistent with the function of the MMA as described in the findings designating the MMA.

(b) For the purpose of this rule, “multimodal mixed-use area” or “MMA” means an area:

(A) With a boundary adopted by a local government as provided in subsection (d) or (e) of this section and that has been acknowledged;

(B) Entirely within an urban growth boundary;

(C) With adopted plans and development regulations that allow the uses listed in paragraphs (8)(b)(A) through (C) of this rule and that require new development to be consistent with the characteristics listed in paragraphs (8)(b)(D) through (H) of this rule;

(D) With land use regulations that do not require the provision of off-street parking, or regulations that require lower levels of off-street parking than required in other areas and allow flexibility to meet the parking requirements (e.g. count on-street parking, allow long-term leases, allow shared parking); and

(E) Located in one or more of the categories below:

(i) At least one-quarter mile from any ramp terminal intersection of existing or planned interchanges;

(ii) Within the area of an adopted Interchange Area Management Plan (IAMP) and consistent with the IAMP; or

(iii) Within one-quarter mile of a ramp terminal intersection of an existing or planned interchange if the mainline facility provider has provided written concurrence with the MMA designation as provided in subsection (c) of this section.

(c) When a mainline facility provider reviews an MMA designation as provided in subparagraph (b)(E)(iii) of this section, the provider must consider the factors listed in paragraph (A) of this subsection.

(A) The potential for operational or safety effects to the interchange area and the mainline highway, specifically considering:

(i) Whether the interchange area has a crash rate that is higher than the statewide crash rate for similar facilities;

(ii) Whether the interchange area is in the top ten percent of locations identified by the safety priority index system (SPIS) developed by ODOT; and

(iii) Whether existing or potential future traffic queues on the interchange exit ramps extend onto the mainline highway or the portion of the ramp needed to safely accommodate deceleration.

(B) If there are operational or safety effects as described in paragraph (A) of this subsection, the effects may be addressed by an agreement between the local government and the facility provider regarding traffic management plans favoring traffic movements away from the interchange, particularly those facilitating clearing traffic queues on the interchange exit ramps.

(d) A local government may designate an MMA by adopting an amendment to the comprehensive plan or land use regulations to delineate the boundary following an existing zone, multiple existing zones, an urban renewal area, other existing boundary, or establishing a new boundary. The designation must be accompanied by findings showing how the area meets the definition of an MMA. Designation of an MMA is not subject to the requirements in sections (1) and (2) of this rule.

(e) A local government may designate an MMA on an area where comprehensive plan map designations or land use regulations do not meet the definition, if all of the other elements meet the definition, by concurrently adopting comprehensive plan or land use regulation amendments necessary to meet the definition. Such amendments are not subject to performance standards related to motor vehicle traffic congestion, delay or travel time.

Applicants Response: This proposal is not for a development that would meet the requirements of the MMA. It is for an urban growth boundary expansion and associated change in zoning to Light Industrial.

Conclusion: This application is not subject to requirements of the MMA.

(11) A local government may approve an amendment with partial mitigation as provided in section (2) of this rule if the amendment complies with subsection (a) of this section, the amendment meets the balancing test in subsection (b) of this section, and the local government coordinates as provided in subsection (c) of this section.

(a) The amendment must meet paragraphs (A) and (B) of this subsection or meet paragraph (D) of this subsection.

(A) Create direct benefits in terms of industrial or traded-sector jobs created or retained by limiting uses to industrial or traded-sector industries.

(B) Not allow retail uses, except limited retail incidental to industrial or traded sector development, not to exceed five percent of the net developable area.

(C) For the purpose of this section:

(i) "Industrial" means employment activities generating income from the production, handling or distribution of goods including, but not limited to, manufacturing, assembly, fabrication, processing, storage, logistics, warehousing, importation, distribution and transshipment and research and development.

(ii) "Traded-sector" means industries in which member firms sell their goods or services into markets for which national or international competition exists.

(D) Notwithstanding paragraphs (A) and (B) of this subsection, an amendment complies with subsection (a) if all of the following conditions are met:

(i) The amendment is within a city with a population less than 10,000 and outside of a Metropolitan Planning Organization.

(ii) The amendment would provide land for "Other Employment Use" or "Prime Industrial Land" as those terms are defined in OAR 660-009-0005.

(iii) The amendment is located outside of the Willamette Valley as defined in ORS 215.010.

(E) The provisions of paragraph (D) of this subsection are repealed on January 1,

2017.

(b) A local government may accept partial mitigation only if the local government determines that the benefits outweigh the negative effects on local transportation facilities and the local government receives from the provider of any transportation facility that would be significantly affected written concurrence that the benefits outweigh the negative effects on their transportation facilities. If the amendment significantly affects a state highway, then ODOT must coordinate with the Oregon Business Development Department regarding the economic and job creation benefits of the proposed amendment as defined in subsection (a) of this section. The requirement to obtain concurrence from a provider is satisfied if the local government provides notice as required by subsection (c) of this section and the provider does not respond in writing (either concurring or non-concurring) within forty-five days.

(c) A local government that proposes to use this section must coordinate with Oregon Business Development Department, Department of Land Conservation and Development, area commission on transportation, metropolitan planning organization, and transportation providers and local governments directly impacted by the proposal to allow opportunities for comments on whether the proposed amendment meets the definition of economic development, how it would affect transportation facilities and the adequacy of proposed mitigation. Informal consultation is encouraged throughout the process starting with pre-application meetings. Coordination has the meaning given in ORS 197.015 and Goal 2 and must include notice at least 45 days before the first evidentiary hearing. Notice must include the following:

(A) Proposed amendment.

(B) Proposed mitigating actions from section (2) of this rule.

(C) Analysis and projections of the extent to which the proposed amendment in combination with proposed mitigating actions would fall short of being consistent with the function, capacity, and performance standards of transportation facilities.

(D) Findings showing how the proposed amendment meets the requirements of subsection (a) of this section.

(E) Findings showing that the benefits of the proposed amendment outweigh the negative effects on transportation facilities.

Applicants Response: This request is for the expansion of the City of Umatilla urban growth boundary with an associated request to change the Zoning on the subject property to Light Industrial. Should the City of Umatilla wish to pursue the provisions of this criterion the applicant would be willing to participate. The applicant would assert that the economic benefits of this proposal do outweigh the negative impacts of any transportation impacts that are outlined in the TIA.

Conclusion: Due to the fact that the proposed economic benefits of this application outweigh the negative impacts of transportation impacts. Staff recommendation is to not pursue the provisions of this criterion.

The Umatilla County Comprehensive Plan, Transportation System Plan and Development Code are applicable, specifically Comprehensive Plan Findings and Policies 2, 9 and 25, Transportation System Plan Goals 1 and 3, and Development Code provisions found at 152.019 Traffic Impact Study.

Umatilla County **Comprehensive Plan** Chapter 15. TRANSPORTATION

All segments of Umatilla County's economy depend on the County's transportation network for movement inside County borders and to markets outside of the area. Fortunately, the County and particularly the developing West County has access to five modes of transportation. Interstate and state highways flow east-west and north-south in the County. The Port of Umatilla provides commercial freight use of the Columbia River. Railroad lines including Union Pacific's major switch-yard at Hinkle, bring passenger and freight service to Umatilla County. Two municipal airports make a wide variety of services available to county and regional residents, i.e. agriculture, freight, passenger, business. Natural gas and oil pipelines transport fuel to the county and to other areas. Local traffic between urban areas and highways travels on a fairly extensive county and state roads network. Mass transit is presently limited to long distance commercial bus lines and small fleet bus systems that serves some transportation needs of senior citizens.

The ability of existing services and facilities to serve future regional needs, and the specific requirements necessary to provide balanced forms of transportation for all segments of the county's future population, hinge upon cooperative city/county development of a transportation system plan. A major mechanism insuring this cooperative effort is found within the "Transportation" section of the Joint Management Agreements entered into with all cities of Umatilla County. A Transportation System Plan will also serve to assist state/federal transportation agencies in setting priorities and planning improvements in their areas of responsibilities.

Applicants Response: The following findings and policies are evaluated to meet Umatilla County Comprehensive Plan requirements.

Conclusion: The following findings and policies are evaluated to meet Umatilla County Comprehensive Plan requirements.

Finding 2. Transportation planning within urban growth boundaries is important to insure adequate transportation facilities in the County.

Policy 2. To facilitate transportation system coordination within urban growth boundaries, the cities' TSPs shall apply within the UGB and shall be co-adopted by the County and addressed in the city/county joint management agreements.

Applicants Response: The Joint Management Agreement between Umatilla County and the City of Umatilla is considered as part of this application. Powerline Road is specifically called out in the Joint Management Agreement. There has been a recent transfer of a portion of Powerline Road from Umatilla County to the City of Umatilla. The portion of Powerline Road adjacent to the subject property is still a paved Umatilla County road.

Conclusion: If approved, Powerline road will be adopted by the City of Umatilla down from HWY 730 to the subject property, and be added to the City's TSP. The County co adopted the City's TSP on December 6th, 1999. The TSP was adopted via County Ordinance #99-07.

Finding 9. Many County and public roads are not constructed to an acceptable County standard,

and development is increasing along these roads.

Policy 9. Subdivision of land not on road constructed to County standards or not accepted for maintenance responsibility by the County or state shall not be permitted. A subdivision road shall be public and maintained by a public agency or homeowners association.

Applicants Response: Powerline Road is a paved county road, is classified as a minor collector and is not currently built to that standard. Future development in the subject area would be subject to development standards within the City of Umatilla Zoning Ordinance with appropriate development improvements to Powerline Road with the outcome of bringing the road to the applicable development standard. This will be affected as part of the zone change undertaken by the City of Umatilla once the urban growth boundary expansion is concluded.

Conclusion: Powerline Road is a paved county road, is classified as a minor collector and is not currently built to that standard. Future development in the subject area will be subject to development standards.

Finding 25. The development of I-82 after the County's Comprehensive Plan was acknowledged established new interchanges which could affect the location of industries, commercial businesses and highway-oriented business.

Policy 25A. Examine interchanges and other potential commercial and industrial locations for appropriateness of development taking into consideration access, sewer and water availability and environmental conditions.

Policy 25B. Identify and evaluate factors limiting development in this area.

Applicants Response: The Interstate 82 Powerline Road interchange offers an opportunity to the City of Umatilla to consider additional uses of land between residential areas and the interchange. This application is to expand the City of Umatilla urban growth boundary to allow for additional industrial land to serve data centers, warehousing and certain low impact manufacturing operations. Earlier analysis evaluated these factors, finding the location to be suitable for an urban growth boundary expansion. The associated proposed change in zoning to Light Industrial is compatible with the Interstate 82 Interchange and the adjacent farm uses to the south. The included Umatilla Industrial Area Utility Technical Memorandum indicates that the City of Umatilla does have the capacity to provide services to this area in support of future industrial uses.

Conclusion: The included Umatilla Industrial Area Utility Technical Memorandum indicates that the City of Umatilla does have the capacity to provide services to this area in support of future industrial uses.

The Umatilla County **Transportation System Plan**'s OVERALL TRANSPORTATION GOAL is "To provide and encourage a safe, convenient, and economic transportation system." Goals 1 and 3 are applicable; the appropriate Objectives are addressed here:

Goal 1 Preserve the function, capacity, level of service, and safety of the local streets, county

roads, and state highways.

Objectives

A. Develop access management standards.

F. Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.

Applicants Response: Upon completion of this urban growth boundary expansion and the zoning of approximately 450 acres for industrial purposes, the City of Umatilla Transportation System Plan and Development Code would be applicable to any development. Those applicable provisions would impose access and development standards meeting this Goal.

Conclusion: Upon approval of the proposed UGB expansion the City of Umatilla's Transportation System Plan and Development Code will be applicable to any development on the subject property. These will fulfil the purposes of this goal.

Goal 3 Improve coordination among the cities of Umatilla County, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the county.

Objectives

F. Continue to work with cities planning for the county land within their urban growth boundaries.

Applicants Response: The urban growth boundary expansion process is one of cooperation between Umatilla County and the City of Umatilla. Powerline Road, a paved county road, is identified in the Joint Management Agreement for consideration to transfer to the City of Umatilla, a process that was recently completed for a portion of the road north of the proposed action.

Conclusion: The City of Umatilla planning department has involved and informed Umatilla County planning department in preparation of this application. The urban growth boundary expansion process is one of cooperation between Umatilla County and the City of Umatilla. A portion of Powerline road was transferred to the City on June 2, 2020. The City & County will continue to work together as development occurs within the UGB.

Umatilla County **Development Code** provisions 152.019 TRAFFIC IMPACT STUDY.

(A) Purpose: The purpose of this section of the code is to implement Section 660- 012-0045(2)(e) of the State Transportation Planning Rule that requires the County to adopt a process to apply conditions to specified land use proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with an application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Analysis; and who is qualified to prepare the analysis.

(B) Applicability: A Traffic Impact Analysis shall be required to be submitted to the County with a land use application, when one or more of the following actions apply:

(1) A change in plan amendment designation; or

Applicants Response: A change in plan amendment designation is requested as part of the urban

growth boundary expansion process. A Traffic Impact Analysis is included as part of this application addressing the criteria in these provisions.

Conclusion: A change in plan amendment designation will be completed upon approval. The attached TIA addresses the criteria in these provisions.

(2) The proposal is projected to cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:

- (a) An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the County Engineer). The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips; or
- (b) An increase in use of adjacent gravel surfaced County roads by vehicles exceeding the 10,000-pound gross vehicle weights by 20 vehicles or more per day; or
- (c) The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or vehicles queue or hesitate, creating a safety hazard; or
- (d) A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area; or
- (e) Any development proposed within the Umatilla Army Chemical Depot boundary of the I-82/Lamb Road or I84/Army Depot Access Road Interchange Area Management Area prior to the completion of near-term improvements projects (Projects A and B) identified in the I-82/Lamb Road IAMP; or
- (f) For development within the I82/US 730 Interchange Area Management Plan (IAMP) Management Area, the location of the access driveway is inconsistent with the Access Management Plan in Section 7 of the IAMP; or
- (g) For development within the I84/Barnhart Road Interchange Area Management Plan (IAMP) Management Area.

Applicants Response: The completed Traffic Impact Analysis indicates that proposed development on the subject property would decrease pm peak hour traffic by 800 trips as analyzed against the current residential zoning of most of the rezone subject property (please see the earlier analysis). There are impacts to the intersections with both Interstate-82 and Highway 730 during the planning horizon.

Conclusion: The TIA indicates a decrease of pm peak hour traffic by 800 trips. Impacts to the intersections of I-82 and HWY 730 will be addressed at the time of proposed development.

(C) Traffic Impact Analysis Requirements

- (1) Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer. The Traffic Impact Analysis will be paid for by the applicant.
- (2) Transportation Planning Rule Compliance as provided in § 152.751.
- (3) Pre-filing Conference. The applicant will meet with the Umatilla County Public Works Director and Planning Director prior to submitting an application that requires a

Traffic Impact Analysis. The County has the discretion to determine the required elements of the TIA and the level of analysis expected. The County shall also consult the Oregon Department of Transportation (ODOT) on analysis requirements when the site of the proposal is adjacent to or otherwise affects a State roadway.

(4) For development proposed within the Umatilla Army Chemical Depot boundary of the I-82/Lamb Road or I84/Army Depot Access Road Interchange Area Management Plan (IAMP) Management Area Prior to the construction and completion of near-term improvements projects (Projects A and B) identified in the I-82/Lamb Road IAMP, the following additional submittal requirements may be required:

(a) An analysis of typical average daily vehicle trips using the latest edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE) or other data source deemed acceptable by the County Engineer;

(b) A truck and passenger vehicle mode split analysis;

(c) An analysis that shows the traffic conditions of the project at full buildout and occupancy, assuming the background traffic conditions at the year of expected completion;

(d) Findings related to the impacts of the proposed development and the need for Projects A and B to mitigate those impacts. Once Projects A and B have been completed, this Section 4 will no longer apply to new development.

Applicants Response: The included Traffic Impact Analysis, dated May 2020, was completed by J-U-B Engineers, meeting the credential requirements. Umatilla County Development Code provisions at 152.751 are met as this application addresses the transportation requirements in the Umatilla County Comprehensive Plan, Transportation System Plan, and Development Code. Coordination with Umatilla County and the Oregon Department of Transportation was accomplished through consultation with City of Umatilla staff; in-person meetings were limited due to the COVID-19 pandemic.

Conclusion: The TIA meets and addresses the above criterion.

(D) Approval Criteria: When a Traffic Impact Analysis is required; approval of the proposal requires satisfaction of the following criteria:

(1) Traffic Impact Analysis was prepared by an Oregon Registered Professional Engineer qualified to perform traffic engineering analysis;

(2) If the proposed action shall cause a significant effect pursuant to the Transportation Planning Rule, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis shall include mitigation measures that meet the County's Level-of-Service and/or Volume/Capacity standards and are satisfactory to the County Engineer, and ODOT when applicable; and

(3) The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:

(a) Have the least negative impact on all applicable transportation facilities;

(b) Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable;

(c) Make the most efficient use of land and public facilities as practicable;

(d) Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and

(e) Otherwise comply with applicable requirements of the Umatilla County Code.

Applicants Response: The Traffic Impact Analysis was completed by J-U-B Engineers and addresses both Level-of-Service and Volume/Capacity standards. The pm peak hour traffic, when compared with current zoning, is reduced by 800 trips. There are impacts to the intersections at both Interstate-82 and Highway 730 when this action is considered with background growth, creating impacts within the 20-year planning horizon.

Conclusion: Future impacts forecasted by the TIA will be addressed as future development is proposed.

(E) Conditions of Approval: The County may deny, approve, or approve a proposal with appropriate conditions.

(1) Where the existing transportation system is shown to be impacted by the proposed action, dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways may be required to ensure that the transportation system is adequate to handle the additional burden caused by the proposed action.

(2) Where the existing transportation system is shown to be impacted by the proposed action, improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed action may be required.

Applicants Response: The applicant request that the County approve this request to expand the urban growth boundary. The Traffic Impact Analysis does show that pm peak hour traffic will be lowered when compared to current zoning. Future development would be subject to City of Umatilla Development Code provisions concerning onsite and adjacent improvements.

Conclusion: The City of Umatilla staff foresee no complications in regards to the approval of the UGB expansion by Umatilla County. Preliminary conversations with the County have not identified any potential issues. Future development would be subject to City of Umatilla Development Code provisions concerning onsite and adjacent improvements.

The City of Umatilla Transportation System Plan, which is a part of the Comprehensive Plan, has certain Goals and Objectives that require review and analysis as well as the Zoning Ordinance Chapter 11 Supplementary Provisions 10-11-10: Traffic Impact Analysis should the transfer of Powerline Road be accomplished prior to the submittal of this application. Additionally, these provisions are applicable to the associated application for a change in Zoning to Light Industrial for the larger subject property. Both the County and City provisions are addressed to assure compliance.

City of Umatilla Comprehensive Plan Chapter 12 Goal 12: Transportation

Section 12:0 Transportation Goal

To develop and encourage a safe, convenient and economic transportation system.

Applicants Response: The applicant supports this overall Transportation Goal of the City of Umatilla. Development of an industrial area on the south side of the City of Umatilla along Powerline Road just north of the Interstate 82 Interchange creates transportation linkages to the larger regional transportation system in a safe and efficient matter, with the opportunity to limit truck traffic within the downtown and residential areas.

Conclusion: The subject property and proposed UGB expansion will allow for development of the Transportation System in a safe and efficient manner.

TSP Goal 1

Promote a balanced, safe, and efficient transportation system.

Objectives

Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.

Protect the qualities of neighborhoods and the community.

Provide for adequate street capacity and optimum efficiency.

Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.

Applicants Response: The applicant would support connection of the proposed industrial area to the residential areas north of the proposal along Powerline Road with appropriate pedestrian and bicycle facilities such as sidewalks or bike lanes. Further connections to downtown Umatilla via the walking bridge or other connections as envisioned in the City's recent trails visioning project are worthwhile.

Conclusion: At the time of future development the Umatilla Development Code provisions will be enforced. Required improvements to adopted City standard at the time development would meet the above criterion.

TSP Goal 2

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

Objectives

Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.

Evaluate the need for modifications to and/or the addition of traffic control devices, including evaluation of traffic signal warrants as appropriate.

Provide an acceptable level of service at all intersections in the City, recognizing the rural character of the area.

Applicants Response: The Traffic Impact Study addresses these three Objectives of Goal 2 by evaluating traffic impacts from the proposed urban growth boundary expansion and change in Zoning to Light Industrial. The current growth of residential uses along Powerline Road is creating additional pressure on the Powerline Road intersection with Highway 730 and will over time reduce the Level-of-Service of the intersection. The Traffic Impact Analysis provides an evaluation of traffic impacts along Powerline Road and at the intersections with both Interstate-82 and Highway 730. The Traffic Impact Analysis does provide both timing and the types of improvements that may be appropriate to address future impacts.

Conclusion: The included TIA evaluates in detail the above criterion. The TIA will be consulted for any future development of the subject site. Subsequent development would be subject to City review to ensure the City's roadway network is adequate.

City of Umatilla Title 10 Zoning Ordinance Chapter 11 Supplementary Provisions
10-11-10: TRAFFIC IMPACT ANALYSIS (TIA)

A. Purpose: The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to specified land use proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with an application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Analysis; and who is qualified to prepare the analysis.

Applicants Response: The applicant has included with this application the Traffic Impact Analysis completed by J-U-B Engineers dated May 2020 meeting these requirements.

Conclusion: The applicant has included with this application the Traffic Impact Analysis completed by J-U-B Engineers dated May 2020 meeting these requirements.

B. Applicability: A Traffic Impact Analysis shall be required to be submitted to the City with a land use application, when the following conditions apply:

1. The application involves one or more of the following actions:

a. A change in zoning or plan amendment designation; or

b. The proposal is projected to cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:

1) An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the City Engineer). The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips; or

2) An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or

3) The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or vehicles queue or hesitate, creating a safety hazard; or

4) The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or

5) A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.

Applicants Response: The completed Traffic Impact Analysis indicates that proposed development on the subject property would decrease pm peak hour traffic by 800 trips as analyzed against the current residential zoning of most of the rezone subject property (please see the earlier analysis). There are impacts to the intersections with both Interstate-82 and Highway 730 during the planning horizon.

Conclusion: The TIA indicates a decrease of pm peak hour traffic by 800 trips. Impacts to the intersections of I-82 and HWY 730 will be addressed at the time of proposed development.

C. Traffic Impact Analysis Requirements

1. Preparation. A Traffic Impact Analysis shall be prepared by an Oregon Registered Professional Engineer that is qualified to perform traffic engineering analysis and will be paid for by the applicant.
2. Transportation Planning Rule Compliance. See Section 10-13-3 Amendments to the Zoning Text or Map.
3. Pre-application Conference. The applicant will meet with the Umatilla Public Works Director and Planning Director prior to submitting an application that requires a Traffic Impact Analysis. The City has the discretion to determine the required elements of the TIA and the level of analysis expected. The City shall also consult the Oregon Department of Transportation (ODOT) on analysis requirements when the site of the proposal is adjacent to or otherwise affects a State roadway.

Applicants Response: The Traffic Impact Analysis was completed by J-U-B Engineers meeting the qualifications requirement. Section 10-13-3 of the Umatilla Zoning Ordinance is evaluated as part of the associated application for a change in zoning designation to Light Industrial. The applicant and their representatives have met with City staff on several occasions as these applications were being developed.

Conclusion: The TIA was prepared by Shae Talley, an Oregon Registered Professional Engineer meeting the qualifications requirement. Section 10-13-3 of the Umatilla Zoning Ordinance is evaluated as part of the associated application for a change in zoning designation to Light Industrial. City staff has met with the applicant and their representatives on several occasions in preparation for these applications. City staff requested a pre-application meeting with ODOT on June 19th, 2020 and never received any comment due to what staff assume to be Covid-19 delays.

D. Approval Criteria: When a Traffic Impact Analysis is required, approval of the proposal requires satisfaction of the following criteria:

1. Traffic Impact Analysis was prepared by an Oregon Registered Professional Engineer qualified to perform traffic engineering analysis;
2. If the proposed action shall cause a significant effect pursuant to the Transportation Planning Rule, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis shall include mitigation measures that meet the City's Level-of-Service and/or Volume/Capacity standards and are satisfactory to the City Engineer, and ODOT when applicable; and
3. The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:
 - a. Have the least negative impact on all applicable transportation facilities;
 - b. Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable;
 - c. Make the most efficient use of land and public facilities as practicable;
 - d. Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and

e. Otherwise comply with applicable requirements of the City of Umatilla Code.

Applicants Response: The Traffic Impact Analysis was completed by J-U-B Engineers and evaluates the proposed urban growth boundary expansion and associated change in Zoning to Light Industrial with a focus on the impacts to Powerline Road and its associated connections by evaluating both Level-of-Service and the Volume/Capacity standards. The Traffic Impact Study found that the pm peak hour traffic, when compared with current zoning, is reduced by 800 trips. There are impacts to the intersections at both Interstate-82 and Highway 730 when this action is considered with background growth, creating impacts within the 20-year planning horizon.

Conclusion: The TIA indicates a decrease of pm peak hour traffic by 800 trips. Impacts to the intersections of I-82 and HWY 730 will be addressed at the time of proposed development.

E. Conditions of Approval: The City may deny, approve, or approve a proposal with appropriate conditions.

1. Where the existing transportation system is shown to be impacted by the proposed action, dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways may be required to ensure that the transportation system is adequate to handle the additional burden caused by the proposed action.

2. Where the existing transportation system is shown to be impacted by the proposed action, improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed action may be required.

Applicants Response: The applicant requests that the City approve this request to expand the urban growth boundary. The Traffic Impact Analysis provides evidence that the proposed change in zoning achieves a lowered pm peak hour by 800 trips at buildout, creating benefits to the operation of Powerline Road. There are impacts to the intersections of Powerline Road with both Interstate-82 and Highway 730 when combined with background growth during the planning horizon. There is opportunity for the industrial area to be connected to the residential area north of the subject property and to the downtown area of the City of Umatilla via sidewalks and bicycle lanes, connecting to the trails network recently adopted by the City Council.

Conclusion: Approval of this application will be determined by the City of Umatilla Planning Commission recommendation and City Council's decision. Staff recommend approval based on findings and conclusions as contained in this report.

Analysis of the Statewide Planning Goals 1 through 14 follows.

Goal 1 Citizen Involvement: To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Applicants Response: The City of Umatilla Comprehensive Plan and development codes outline the City's citizen involvement program that includes the activities of the Planning Commission and provides for the public hearing process with its required notice provisions. These notice provisions provide for adjoining and affected property owner notice; notice to interested local, state and federal agencies; and allows for public comment to the process.

Conclusion: The required public notice process has been completed and staff hope for citizens to be involved at the Planning Commission and City Council meetings along with any other comments or participation.

Goal 2 Planning: To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Applicants Response: Goal 2 establishes the underlining process that a county or a city needs to utilize when considering changes to their Comprehensive Plans and development codes. This application meets those requirements for this request.

Conclusion: Established land use planning processes and policy framework were used in this application.

Goal 3 Agricultural Lands: To preserve and maintain agricultural lands.

Applicants Response: The Goal 3 requires counties to preserve and maintain agricultural lands for farm uses. Counties must inventory agricultural lands and protect them by adopting exclusive farm use zones consistent with Oregon Revised Statute 215.203 et. seq.

Goal 3 does not allow nonfarm uses like industrial development on lands zoned for exclusive farm use unless a local government adopts findings to justify an exception to Goal 3 or accomplishes an expansion of their urban growth boundary. The necessary analysis for an urban growth boundary is set out and included in this application and discusses why this particular location can support a change in designation from Agricultural to Industrial and be included in the City of Umatilla urban growth boundary.

The process the applicant has utilized under Oregon Revised Statute specifically allows an applicant or the community to not consider Goal 3 or Goal 4. The applicant is aware that much of the land surrounding the City of Umatilla is part of the Columbia Valley Viticultural Area as defined in Oregon Revised Statute 195.300 and is therefore consider high-value farmland. While there is significant viticultural development on the north side of the Columbia River in the greater area, at the locations considered as part of this application the aspect of much of the land is not favorable for this type of crop development (not south facing).

Conclusion: The necessary analysis for an urban growth boundary is set out and included in this application and discusses why this particular location can support a change in designation from Agricultural to Industrial and be included in the City of Umatilla urban growth boundary.

Goal 4 Forest Lands: To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

Applicants Response: There are no forest lands in the City of Umatilla. The community is,

however, a Tree City USA participant, encouraging tree planting to create an urban canopy of trees to provide the many benefits of an urban landscape that includes trees.

Conclusion: There is no forest land in or adjacent to the City of Umatilla.

Goal 5 Open Spaces, Scenic and Historic Areas, and Natural Resources: To protect natural resources and conserve scenic and historic areas and open spaces.

Applicants Response: The subject property does not have any overlays or other known cultural or historical sites. As part of the site analysis earlier in this narrative there was an area that was eliminated from consideration because of the wetlands that are found there. There are no mapped wetlands on the subject property.

Conclusion: The subject site has no inventoried or known features referenced in Goal 5.

Goal 6 Air, Water and Land Resources Quality: To maintain and improve the quality of the air, water and land resources of the state.

Applicants Response: Goal 6 addresses the quality of air, water and land resources. In the context of comprehensive plan amendments, a local government complies with Goal 6 by explaining why it is reasonable to expect that the proposed uses authorized by the plan amendment will be able to satisfy applicable federal and state environmental standards, including air and water quality standards.

The proposed plan amendments do not seek approval of a specific development but seek to apply the City of Umatilla's Light Industrial zoning designation with a specific intent of creating large lot industrial opportunities to serve data centers, transport facilities and manufacturing opportunities. This action can improve air quality by better facilitating the movement of freight along Interstate 82 with connections to Interstate 84 to the south and Highway 730 to the north. Industrial uses at this location will increase impervious surface, although by no more than could have occurred at another location and are subject to environmental requirements imposed by the City of Umatilla and the State of Oregon. The use of construction techniques that include temporary and permanent Best Management Practices for erosion and sediment control and spill control and prevention also can achieve compliance with clean water standards.

Noise is defined as unwanted sound. The uses authorized by the requested plan amendments should not create noise that differs from the types of industrially-related noise that could be comparable to agricultural activities already in the area. The location of these uses in very close proximity to Interstate 82 will reduce overall noise impacts because highway generated noise muffles and obscures other noises located nearby. Open space and landscaping provisions will provide additional protection from noise that may be generated.

Conclusion: As addressed above any negative impacts can be and will be required to be mitigated to the extent possible at time of proposed development.

Goal 7 Areas Subject to Natural Hazards and Disasters: To protect people and property from natural hazards.

Applicants Response: Goal 7 works to address natural hazards and disasters and through a comprehensive plan amendment process would seek to determine if there are known natural hazards and seek to mitigate any concerns. There are no known natural hazards on the subject property, and it is located significantly above and outside the flood plain for both the Umatilla and Columbia Rivers.

Conclusion: There are no known natural hazards on the subject property, and it is located significantly above and outside the flood plain for both the Umatilla and Columbia Rivers.

Goal 8 Recreation Needs: To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Applicants Response: No recreation components are included in this application. However as industrial activities are sited, an increase in tax base for the City of Umatilla would occur. That tax base would provide additional revenue to the City of Umatilla leading to the opportunity for increased investment in parks and recreation opportunities for its citizens and visitors.

Conclusion: The ability to meet Recreation needs will be increased in the City of Umatilla due to the potential increase of the tax base from future development on the subject site.

Goal 9 Economy: To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Applicants Response: Goal 9 requires local governments to adopt comprehensive plans and policies that contribute to a stable and healthy economy. Both Umatilla County and the City of Umatilla have comprehensive plans that have been acknowledged to comply with Goal 9. The City of Umatilla has completed an Economic Opportunities Analysis that is scheduled to be adopted prior to this suite of applications submitted in support of an urban growth boundary expansion, annexation, and change in zoning. The Economic Opportunities Analysis does identify the current inventory of employment lands and recommends adding land to the inventory to accommodate large lot industrial development, meeting the requirement to address a 20-year planning need.

This application is based upon the findings of the October 2019 Economic Opportunities Analysis completed under Goal 9. The major finding of the Analysis was a need for additional large lot industrial land, two opportunities between 50 and 99.9 acres and a third opportunity over 100-acres in size. This application has been done with a focus on data centers, warehousing and light manufacturing. The applicant would assert that adopting the Economic Opportunity Analysis and the update to Goal 9 along with the suite of applications submitted by the applicant would be consistent with Goal 9.

Conclusion: This application is based upon the findings of the October 2019 Economic Opportunities Analysis completed under Goal 9. The major finding of the Analysis was a need for additional large lot industrial land with a focus on data centers, warehousing and light manufacturing. Approving the urban growth boundary expansion would be consistent with Goal 9.

Goal 10 Housing: To provide for the housing needs of citizens of the state.

Applicants Response: Housing is not a specific consideration of this application but is addressed because the associated zone change does propose to rezone just shy of 300 acres of residential land to industrial. Based on the Housing Strategies Report (2019), adopted by the City of Umatilla as part of a Goal 10 update, there is an overabundance of land zoned for single family residential development. The associated application for a change in both Comprehensive Plan and Zoning designations from residential to industrial would not negatively impact the City of Umatilla's needed inventory of residential lands, leaving at least 750 acres over the identified need in the inventory. Please see the attached Housing Strategies Report, particularly the analysis on page 26, that outlines the over 2,100-unit capacity and over 1,000-acre overabundance of residentially zoned land. Removal of 300 acres would not impact the needed residential land supply in the 20-year planning horizon.

Conclusion: Housing is not a specific consideration of this application but is addressed because the associated zone change does propose to rezone just shy of 300 acres of residential land to industrial. Based on the Housing Strategies Report (2019), adopted by the City of Umatilla as part of a Goal 10 update, there is an overabundance of land zoned for single family residential development. The associated application for a change in both Comprehensive Plan and Zoning designations from residential to industrial would not negatively impact the City of Umatilla's needed inventory of residential lands, leaving at least 750 acres over the identified need in the inventory. Please see the attached Housing Strategies Report, particularly the analysis on page 26, that outlines the over 2,100-unit capacity and over 1,000-acre overabundance of residentially zoned land. Removal of 300 acres would not impact the needed residential land supply in the 20-year planning horizon.

Goal 11 Public Services: To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Applicants Response: Goal 11 requires local governments to plan and develop a timely, orderly and efficient arrangement of public facilities and services. The goal provides that urban and rural development be guided and supported by types and levels of services appropriate for, but limited to, the needs and requirements of the area to be served. Attached and discussed previously is the Umatilla Industrial Area Utility Technical Memorandum which concludes that the subject area can be adequately served and includes initial cost estimates for consideration.

Conclusion: The UTM addresses bringing public services to the Subject site and determines it to be technically feasible.

Goal 12 Transportation: To provide and encourage a safe, convenient and economic transportation system.

Applicants Response: Goal 12 requires local governments to provide and encourage a safe, convenient, and economic transportation system, implemented through the Transportation Planning Rule. The included Traffic Impact Analysis evaluates the urban growth boundary expansion and related change in designation and zoning based upon the requirements in both the Umatilla County and City of Umatilla Transportation System Plans and Development Codes,

meeting both local and state requirements. Please see the earlier analysis and discussion for specifics or refer to page 17 of the Traffic Impact Analysis for the summary and conclusions. Also included is a comment letter from the Oregon Department of Transportation dated August 21, 2020, signed by Marilyn Holt, District 12 Manager.

Conclusion: As addressed by the TIA and findings in this report the peak PM trips will be decreased by this application. It is reasonable to believe that the subject site will not negatively impact the transportation system in a way that can not be addressed by the findings in the TIA. Needed improvements will be addressed at the time of future development.

Goal 13 Energy: To conserve energy.

Applicants Response: Goal 13 directs local jurisdictions to manage and control land and uses developed on the land to maximize the conservation of all forms of energy, based on sound economic principles. Access to Interstate 82 creates easy connections to Interstate 84, Highway 730 and Highway 395. These connections provide energy efficiency and convenience as travel connections, for both trucks and workers, are easily accessed. It should also be noted that the proposed industrial area is also adjacent to a large and growing residential area with the ability for both pedestrian and bicycle connections creating additional energy conservation opportunities.

Conclusion: The applicants referenced energy conservation opportunities will improve energy conservation in the City of Umatilla.

Goal 14 Urbanization: To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Applicants Response: Goal 14 prohibits urban uses on rural lands. To locate urban uses on rural lands, local governments must either expand their urban growth boundaries to add property or take a Goal 14 exception setting forth reasons why urban development should be allowed on rural lands. This application seeks to expand the City of Umatilla urban growth boundary to allow urban light industrial uses within the city limits. The earlier analysis is in support of an urban growth boundary expansion.

Conclusion: This application seeks to expand the City of Umatilla urban growth boundary to allow urban light industrial uses within City limits. The earlier analysis is in support of an urban growth boundary expansion.

Applicants Conclusion:

In conclusion the applicant encourages the City of Umatilla Planning Commission and City Council, along with the Umatilla County Planning Commission and Board of Commissioners, to approve this request for an urban growth boundary expansion. There are two additional applications submitted to the City of Umatilla for a change in Zoning to Light Industrial and for Annexation of the proposed industrial area. Evidence has been provided in the form of the Economic Opportunities Analysis, Housing and Residential Land Needs Assessment (2019),

Umatilla Industrial Area Utility Technical Memorandum, and Traffic Impact Study to support this and the associated requests. These documents show a clear need for large lot industrial land and indicated that need can be met with city services and without impacts to the transportation system that cannot be mitigated. There is also shown to be no negative impact to the residential land supply leaving a continuing surplus of residential land at approximately 750 acres.

IV. SUMMARY AND RECOMMENDATION

The applicant, Cleaver Land LLC, is proposing to amend the City of Umatilla Comprehensive Plan. Evidence has been provided in the form of the Economic Opportunities Analysis, Umatilla Industrial Area Utility Technical Memorandum, and Traffic Impact Study to support this and the associated requests. These documents show a clear need for large lot industrial land and indicated that need can be met with city services and without impacts to the transportation system that cannot be mitigated. The request appears to meet all of the applicable criteria and standards for this type of request. Therefore, based on the information in Sections I and II of this report, and the above criteria, findings of fact and conclusions addressed in Section III, the Umatilla City Council approves Plan Amendment (PA-2-20).

VI. EXHIBITS

- Exhibit A - Draft Map Change
- Exhibit B - Economic Opportunity Analysis
- Exhibit C - Umatilla Industrial Area Utility Technical Memorandum
- Exhibit D - Traffic Impact Study
- Exhibit E – Supplement Findings
- Exhibit F – DLCDC Comment Letters
- Exhibit G – ODOT Comment Letter

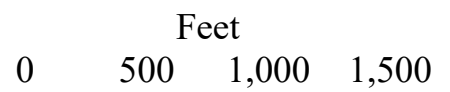


CLEAVER LAND UGB EXPANSION SITE PLAN

Legend

- City Limits
- Tax Lots (3/23/20)
- Urban Growth Boundary
- Proposed UGB Expansion Area

Exhibit A - Draft Map Change



Map should be used for reference purposes only.
Not survey grade or for legal use.

Exhibit B - Economic Opportunity Analysis



ECONOMIC OPPORTUNITIES ANALYSIS (OREGON STATEWIDE PLANNING GOAL 9)

Prepared For:
The City of Umatilla, Oregon

October 2019



Acknowledgments

Johnson Economics prepared this report for the City of Umatilla. Johnson Economics and the City of Umatilla thank the many people who helped to develop this document.

Advisory Committee

Mary Dedrick, Mayor

Ashley Wheeler, City Council

Bruce McLane, Planning Commission

Jodi Hinsley, Planning Commission

Kim Puzey, Port of Umatilla

Joseph Franell, Eastern Oregon Telecom

Tami Sinor, Umatilla Electric Cooperative

Lori Wyman, PacifiCorp

Bill Clemens, PacifiCorp

Cheryl Jarvis-Smith, Oregon Department of Transportation, Region V

Ryan DeGroft, Confederated Tribes of the Umatilla Indian Reservation

City Staff

David Stockdale, City Manager

Tamra Mabbott, Community Development Director

Brandon Seitz, Senior Planner

Consultants

Jerry Johnson, Johnson Economics

Brendan Buckley, Johnson Economics

State of Oregon Staff

Phil Stenbeck, Eastern Regional Representative, DLCD

Thanks To

City of Umatilla

Umatilla County

City of Umatilla
PO Box 130
700 Sixth Street
Umatilla, OR 97882
(503) 922-3226

Johnson Economics
621 SW Alder Street
Suite 605
Portland, OR 97205
(503) 295-7832

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I. INTRODUCTION

This report introduces analytical research presenting an Economic Opportunities Analysis (EOA) for the City of Umatilla, Oregon.

Cities are required to periodically reconcile estimates of future employment land demand with existing inventories of vacant and redevelopable employment land within their Urban Growth Boundary (UGB). The principal purpose of the analysis is to provide an adequate land supply for economic development and employment growth. The intent is to conduct this through a linkage of planning for an adequate land supply to infrastructure planning, community involvement and coordination among local governments and the state.

To this end, this report is organized into six primary sections:

- **Economic Trends:** Overview of national, state and local economic trends affecting Umatilla County and the city of Umatilla, including population projections, employment growth and a demographic profile.
- **Target Industries:** Analysis of key industry typologies the City should consider targeting as economic opportunities over the planning period.
- **Employment Land Needs:** Examines projected demand for industrial and commercial land based on anticipated employment growth rates by sector.
- **Capacity:** Summarizes the City's inventory of vacant and redevelopable industrial and commercial land (employment land) within the City of Umatilla's UGB.
- **Reconciliation:** Compares short- and long-term demand for employment land to the existing land inventory to determine the adequacy and appropriateness of capacity over a five and twenty-year horizon.
- **Economic Development Potential and Conclusions:** Summary of findings and policy implications.

This analysis reflects changes in employment, land supply, and macro-economic trends since the city of Umatilla last reviewed local economic development policies.

II. ECONOMIC TRENDS

This report section summarizes long and intermediate-term trends at the national, state, and local level that will influence economic conditions in Umatilla over the 20-year planning period. This section is intended to provide an economic context for growth projections and establish a socioeconomic profile of the community. This report’s national evaluation has a focus on potential changes in structural socioeconomic conditions both nationally and globally. Our localized analysis considers local growth trends, demographics, and economic performance.

NATIONAL TRENDS

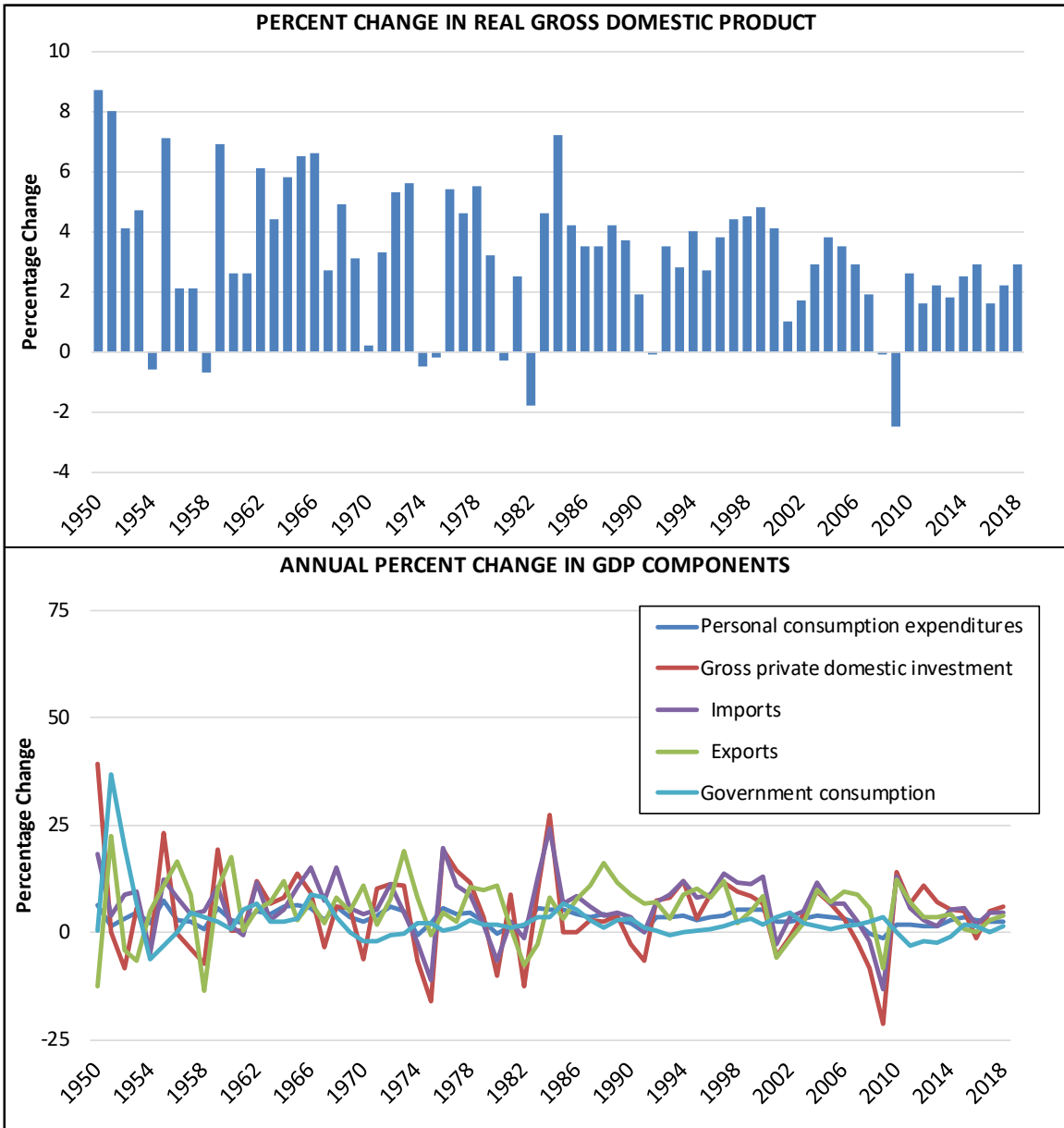
The long-term trend indicates that the United States economy has settled into a moderate growth trajectory at around 2.0% per year, after growing at above 4.0% per year during the 1960s and above 3.0% per year between 1970 and 2000. While the overall growth pace is moderating, there has been a shift within the economy from consumption of goods to consumption of services, especially services oriented around personal wellbeing (health, private education, finance). This reflects increasing levels of wealth and discretionary income in the population. Growth in fixed investment (equipment and structures) and government defense spending is also moderating – making manufactured goods a less significant part of the economy.

Increasing international trade led to strong growth in imports during the 1990s and 2000s, partly due to U.S. firms offshoring operations to lower-cost markets. Exports also grew over the period, but at a slower pace. The offshoring trend has partially reversed in the current decade, due to rising costs and greater awareness of cultural barriers and various associated risks. Greater emphasis on leaner and more agile supply chains, combined with demand for customized products and rapid delivery, has also contributed to growth in domestic production. This impact has been greatest in auto manufacturing. Despite this “reshoring” trend, imports from Asia continue to grow at a faster clip than domestic manufacturing.

The most commonly used measure of economic prosperity is real gross domestic product (GDP) per capita. Real GDP per capita is essentially a measure of national wealth considered on an individual basis, and the increased purchasing power of the population translates into greater investment in health care, education, housing, leisure, and many other sectors. U.S. real GDP per capita remains stable. Over the last century, the average annual growth rate has been 1.8%, despite considerable shifts in economic and social conditions—a finding that suggests long-term economic growth is more closely related to broad trends, such as population growth and investment in physical and human capital, than temporary economic fluctuations, like the recent recession and government policy.

The “Great Recession” officially spurred six consecutive quarters of negative economic growth in 2008 and early 2009. The depth and duration of this downturn was the most pronounced since World War II. The current expansion cycle has been sustained yet the pace of growth is modest to date. Credit markets have been more stringent, businesses are more cautious, and housing construction has yet to emerge as a driving catalyst.

FIGURE 2.01: NATIONAL GROSS DOMESTIC PRODUCT TRENDS

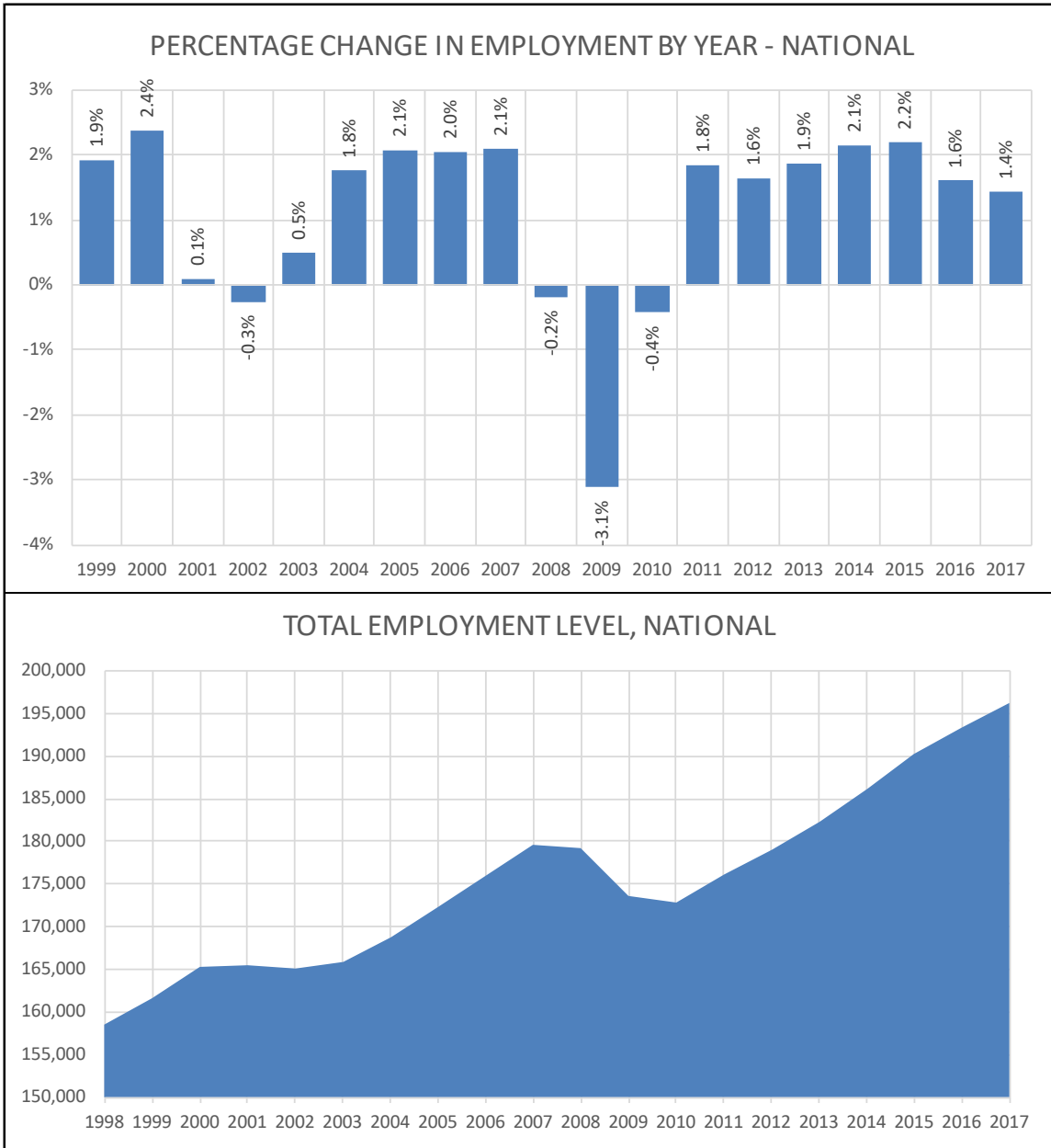


SOURCE: US Bureau of Economic Analysis

Overall, national economic output has seen a notable moderation in growth over the past two decades, with most of the current business cycle hovering around 2.0% growth per year. Economic forecasters generally expect a cyclical moderation over the 2020-23 period, reflecting downward pressures from the maturing of our decade-long economic expansion. Potential GDP growth, which measures the GDP growth that can be sustained at a constant rate of inflation, indicates future long-term growth will remain around 2.0% per year. In the near-term, considerable economic uncertainty exists due to global trade and currency conflicts among the US and many of its traditional trading partners.

The expansion in GDP has been reflected in employment growth, which has ranged between 1.4% and 2.2% in the current expansion cycle. Preliminary estimates indicate an acceleration in the rate of GDP as well as employment growth in 2018. While overall trends have been positive for almost a decade, there will likely be two to three downturns at the national level over the next twenty years.

FIGURE 2.02: NATIONAL EMPLOYMENT TRENDS



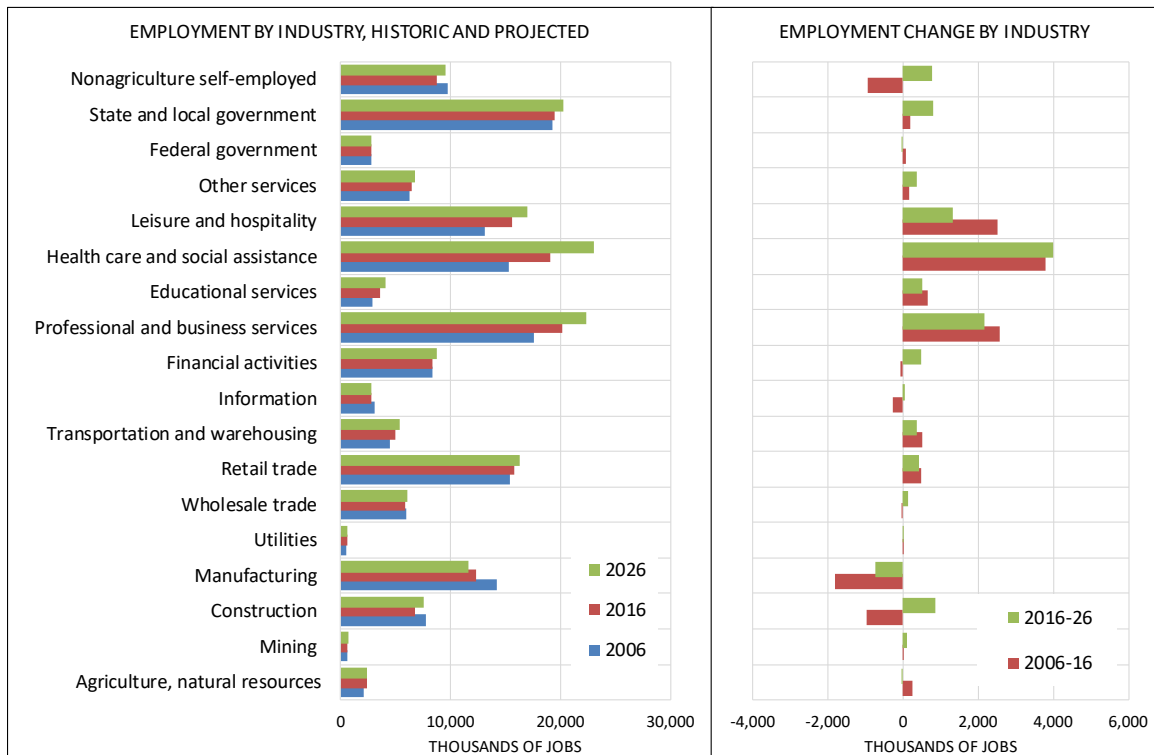
SOURCE: US Bureau of Economic Analysis

A few additional trends have significant implications for the industrial real estate market: E-commerce is rapidly taking market share from brick-and-mortar retailers, approaching 10% of all retail sales. This has caused a shift in storage needs from retail stores to warehouses and distribution centers. At the same time,

automation is causing a consolidation within the warehousing and distribution industry, leading to increasing reliance on larger third-party operators capable of making heavy investments in capital and expertise. Automation is also impacting the manufacturing industry, though to a lesser extent and primarily among larger industry leaders. Finally, changes in the use of electronic devices and growth in online services are causing a shift in the tech sector, from hardware manufacturing to software development.

Due to limited growth in demand for domestic goods and competition from low-cost markets, the U.S. manufacturing sector has lost one-third of its jobs since its peak in the late 1970s, with its share of total employment falling from 24% to 8%. With a strong dollar relative to the currencies of key trading partners, there remains significant headwinds for manufacturers that export a considerable level of product. Sectors seeing significant expansion over the prior decade include health care, professional and business services, and leisure and hospitality. Projections call for all major sectors except for manufacturing and federal government will see growth over the coming decade.

FIGURE 2.03: NATIONAL EMPLOYMENT GROWTH BY SECTOR, HISTORIC AND PROJECTED



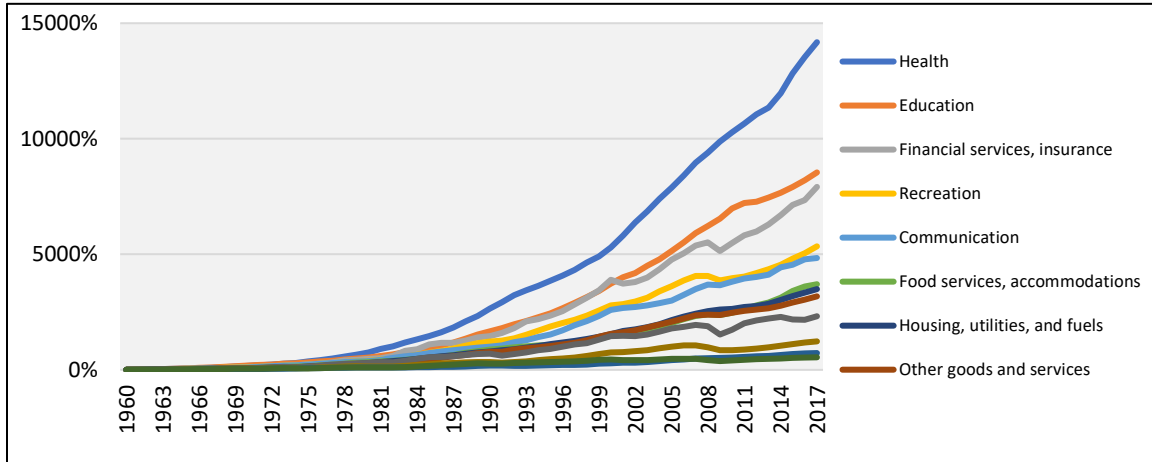
SOURCE: US Bureau of Economic Analysis

Recent trends and current forecasts reflect a shift from a goods economy, featuring manufacturing and natural resources, towards a service economy, which emphasizes technological innovation, research, and design.

Consumer spending accounts for more than two-thirds of the U.S. economy, therefore changing spending patterns dictate much of the shifts in the economy. The post-war era has been marked by increasing wealth and discretionary spending, which has shifted spending away from necessities and led households to buy goods and services that used to be produced in-house. The strongest spending growth over recent decades

has come in categories that represent investments in personal wellbeing, with healthcare/health products at the top of the list, followed by private education and financial services. Categories that represent more short-term enjoyment, like recreation, food services, and accommodations, occupy the middle segment, while necessities like groceries, clothing, transportation, and housing have seen only moderate growth. Spending on health is expected to continue to increase strongly over the coming decades as the baby boomer cohort ages.

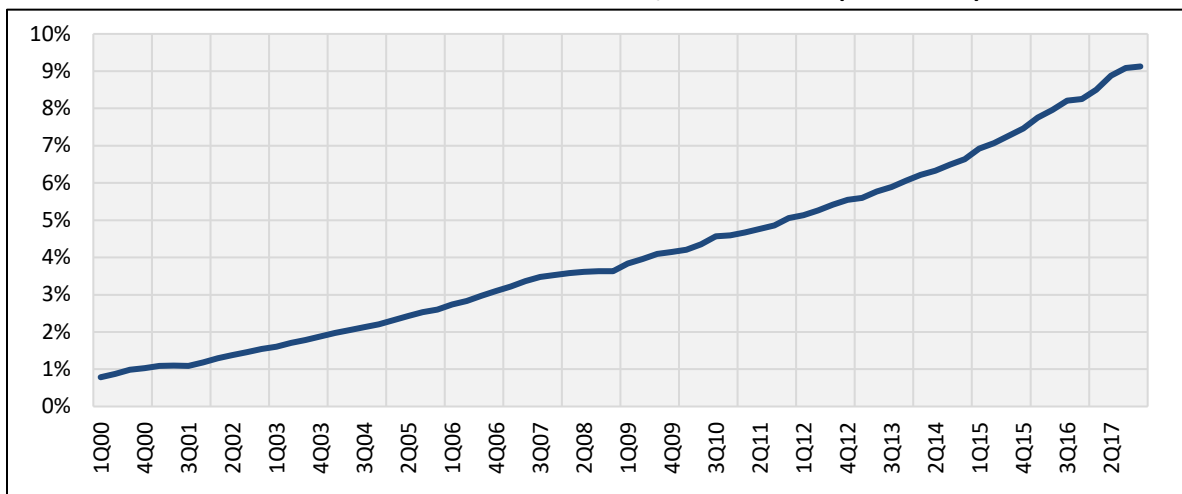
FIGURE 2.04: CONSUMER SPENDING GROWTH SINCE 1960, BY CATEGORY, UNITED STATES (1960-2017)



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The most dramatic spending shift in the context of real estate in recent times is the growth in online shopping, which has reduced the overall need for brick-and-mortar space, especially from retailers selling physical goods, while increasing the need for warehousing and distribution space. Online retailing accounted for an estimated 10% of all retail spending in 2018, at around \$500 billion in annual sales on a national level. Since the last recession, the segment has grown by around 15% per year, and it is currently taking market share from brick-and-mortar stores at a rate of nearly one percentage point annually.

FIGURE 2.05: ONLINE RETAIL MARKET SHARE, UNITED STATES (2000-2017)

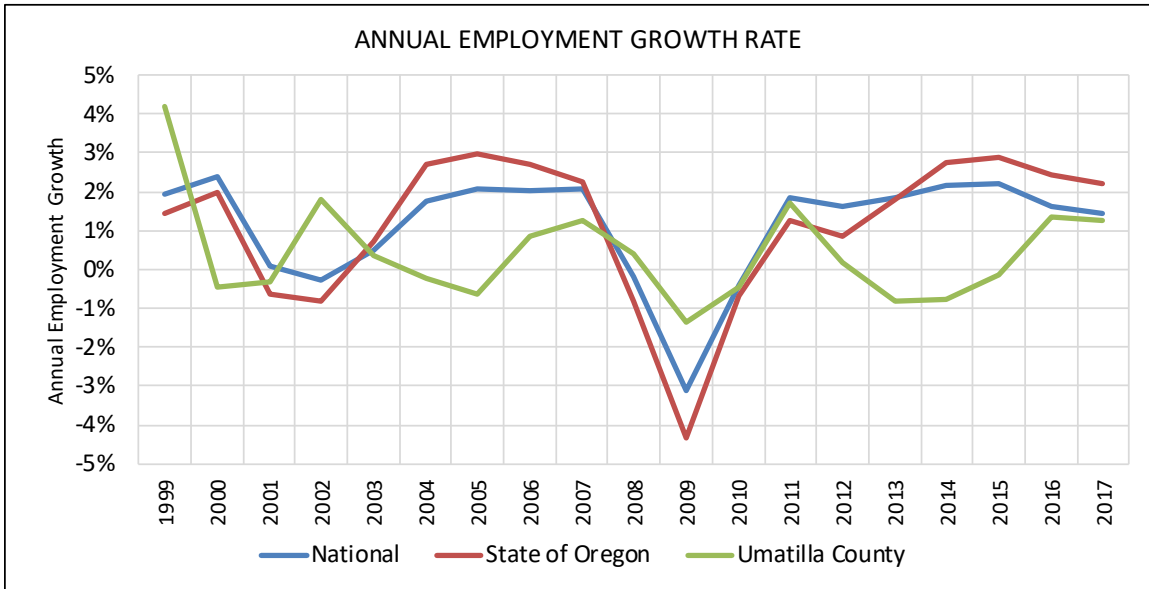


SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

UMATILLA COUNTY & CITY OF UMATILLA ECONOMIC TRENDS

The annual rate of employment growth in Umatilla County has mirrored the broad national and statewide trends. However, after the emerging from the recession in 2008/2009, the county again experienced job losses until 2016. In recent years, county employment has been growing at roughly 1% per year.

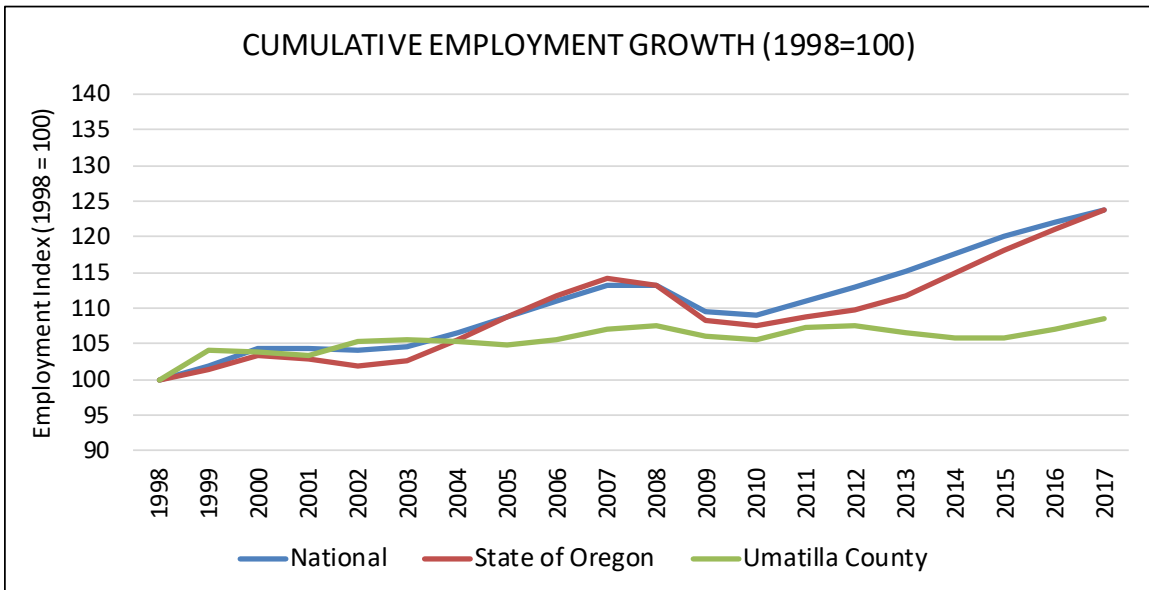
FIGURE 2.06: COMPARISON OF ANNUAL EMPLOYMENT GROWTH RATES



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

On a cumulative basis Umatilla County has fallen behind the national and statewide averages, with the employment base up less than 10% over the last twenty years.

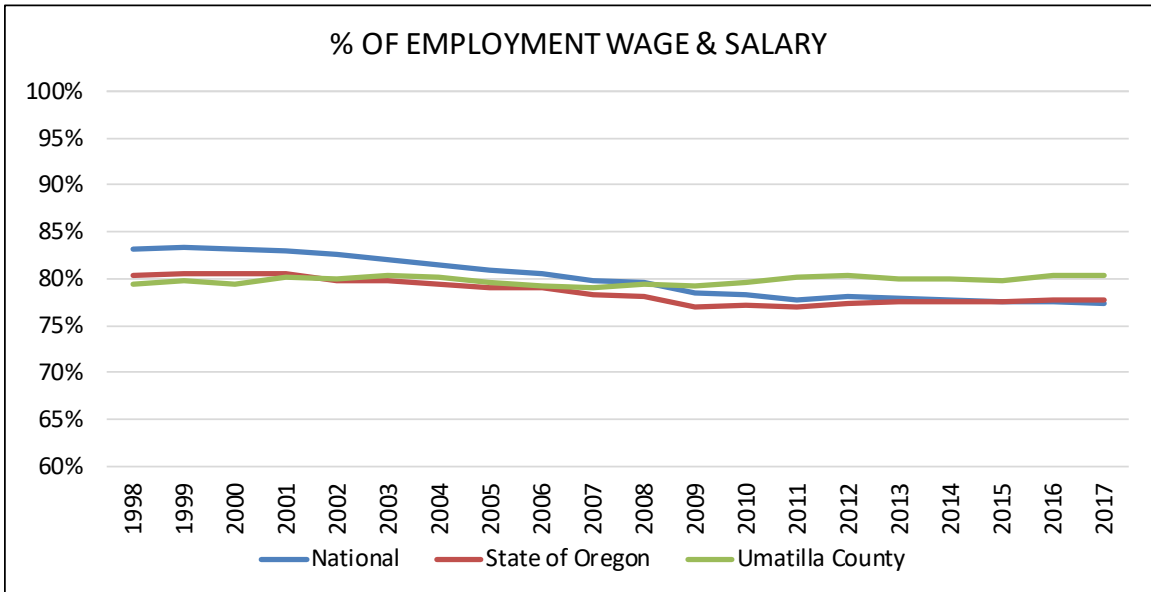
FIGURE 2.07: CUMULATIVE EMPLOYMENT GROWTH



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The employment base in Umatilla County has a somewhat lower share of self-employed than the national and state averages, with wage and salary employment accounting for roughly 80% of overall estimated employment in the county. This compares to rates approaching 78% statewide as well as nationally.

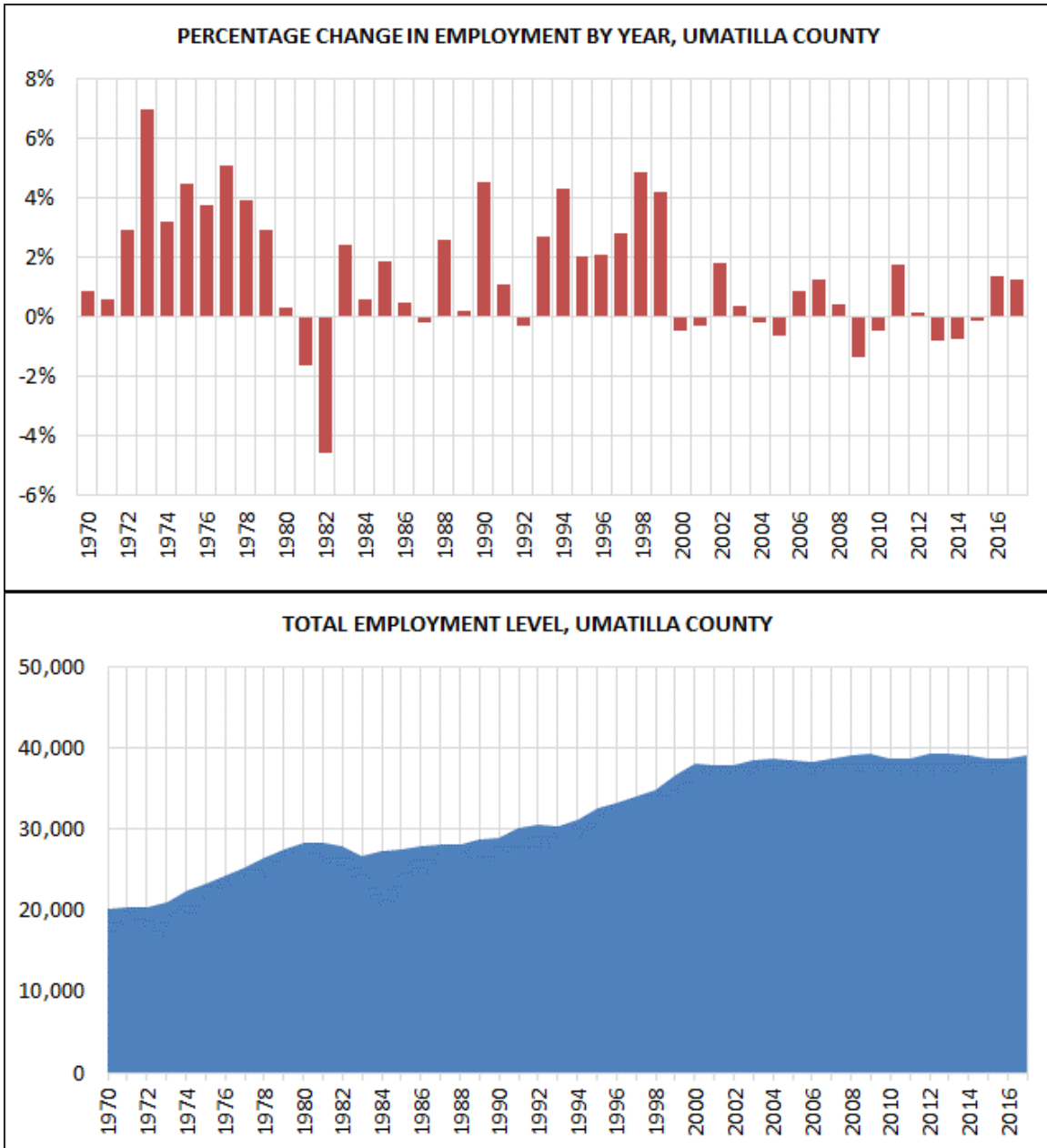
FIGURE 2.08: % OF TOTAL EMPLOYMENT REPRESENTED BY WAGE & SALARY



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

Umatilla County’s employment base has been relatively stable since 2000, with the economic expansion adding a notable number of new jobs since 2016. The local employment level is at an all-time high, with average employment levels approaching 40,000 in 2017. However, this level does not greatly exceed the employment level seen in 2008 prior to the outset of the recession.

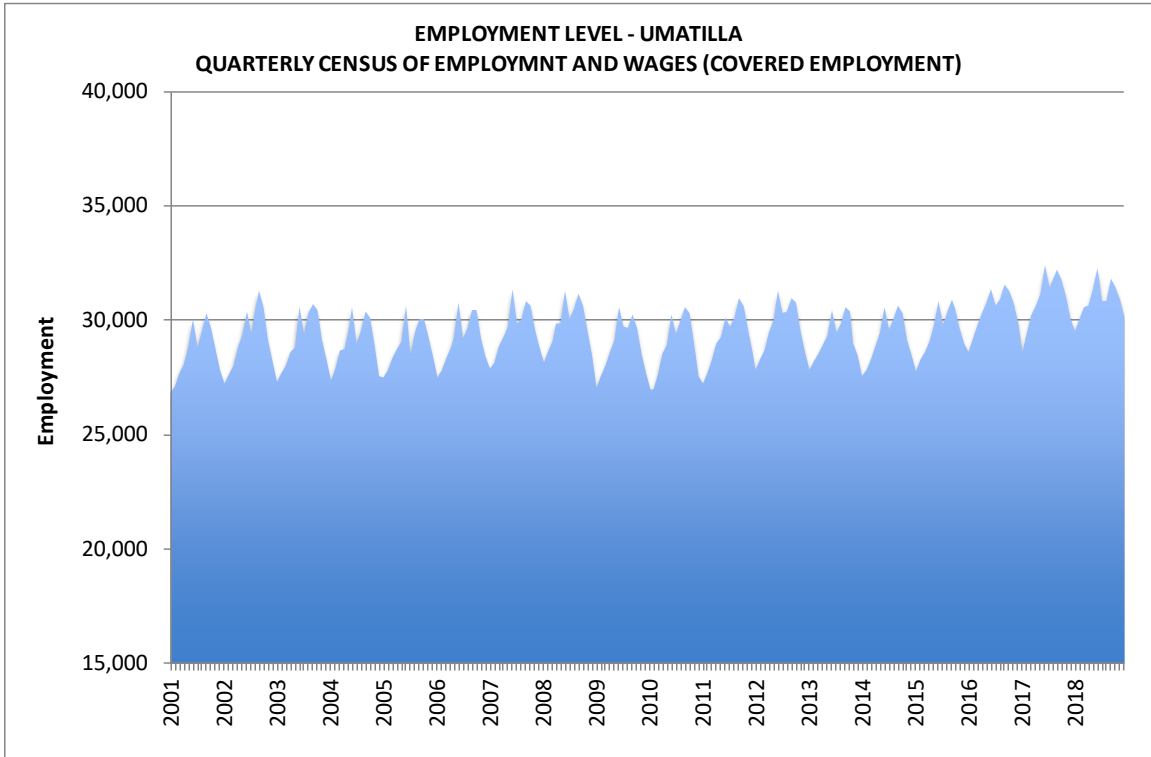
FIGURE 2.09: UMATILLA COUNTY EMPLOYMENT TRENDS



SOURCE: U.S. Bureau of Economic Analysis

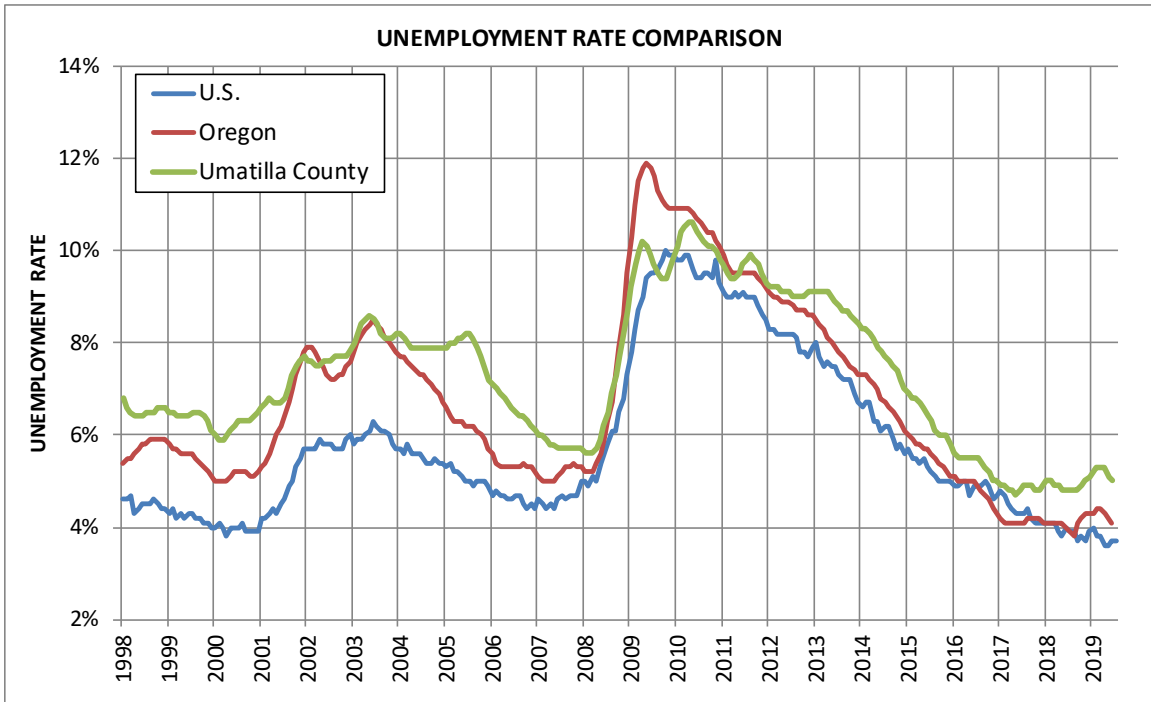
The local employment profile is highly seasonal, reflecting the area’s relatively high proportion of agricultural employment.

FIGURE 2.10: UMATILLA COUNTY EMPLOYMENT LEVEL BY MONTH



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

FIGURE 2.11: UNEMPLOYMENT RATE TRENDS

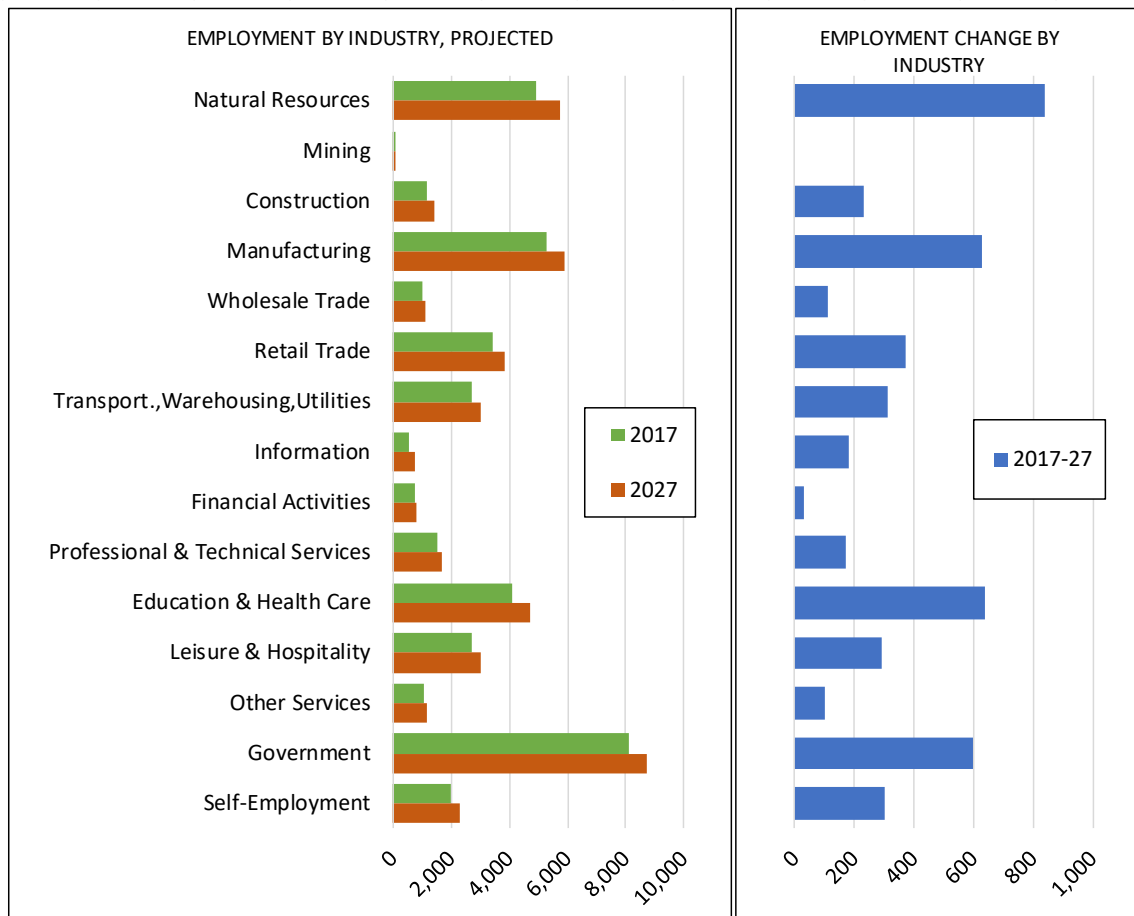


SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The economic expansion has facilitated a commensurate drop in the unemployment rate, with Umatilla County following the national and statewide patterns. Tight labor market conditions are likely to limit growth potential in the future both locally and nationally. The local area’s ability to attract and retain workforce will be critical to sustaining economic growth going forward. In mid-2019, the countywide unemployment rate had fallen to a healthy 5%, slightly higher than the statewide rate of 4%.

According to the Oregon Employment Department, most industries are forecast to expand at a modest rate over the next decade in the broader area (Morrow and Umatilla Counties). On an absolute basis, the greatest gains are forecast in professional and business services, leisure and hospitality, and construction. On a rate of growth basis, the most rapid expansion is expected in the natural resources, manufacturing, government, and education and health services sectors.

FIGURE 2.12: PROJECTED EMPLOYMENT GROWTH BY SECTOR, MORROW & UMATILLA COUNTIES

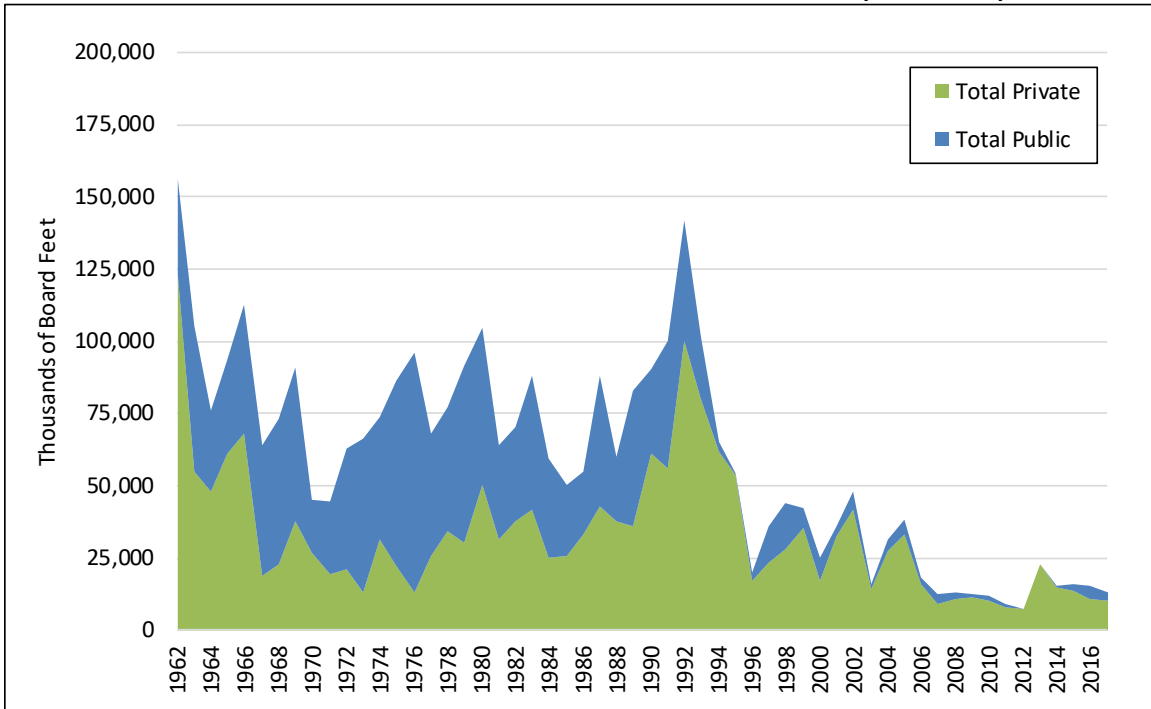


SOURCE: State of Oregon Employment Department

Like much of eastern and central Oregon, the forestry industry has seen a sharp decline in production, which is largely attributable to declines in production from public lands since 1993 (Figure 2.13). The broader region has been actively pursuing new and ongoing opportunities in the industry, including small diameter timber, biomass, and engineered wood products. Forestry is a smaller factor in communities along the river

gorge, such as Umatilla, however timber activity to the south can create some opportunities in wood manufacturing and shipping.

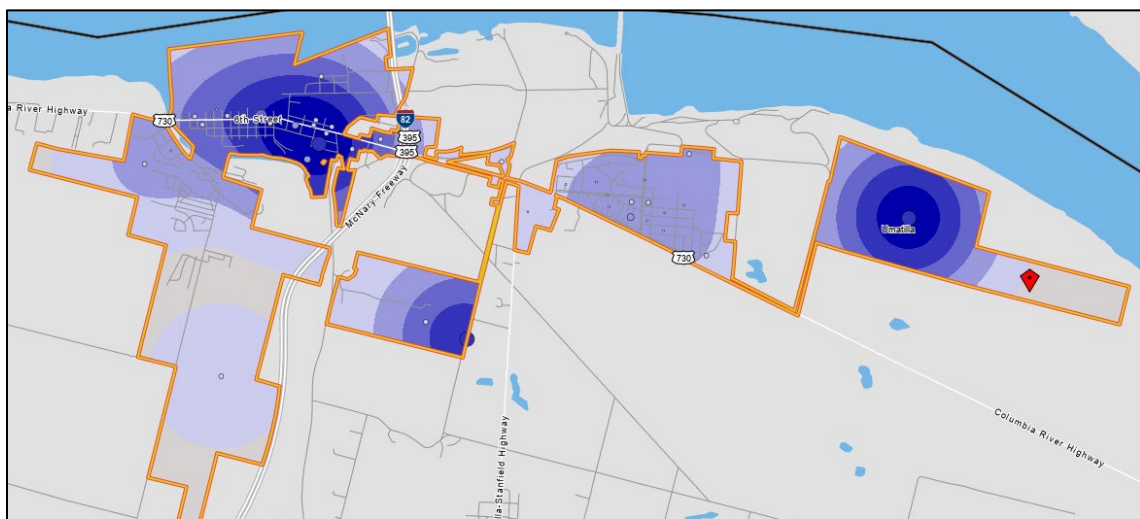
FIGURE 2.13: ANNUAL TIMBER PRODUCTION IN UMATILLA COUNTY (1962-2017)



SOURCE: Oregon Department of Forestry

Employment in Umatilla County is concentrated in the Hermiston/Umatilla corridor, as well as in the Pendleton area. Employment in the city of Umatilla is concentrated in the downtown area, in the area of the correctional facility and Port properties, and along Lind Road (Figure 2.14).

FIGURE 2.14: DISTRIBUTION OF EMPLOYMENT, CITY OF UMATILLA CITY, 2017



SOURCE: Census Bureau, LEHD Data

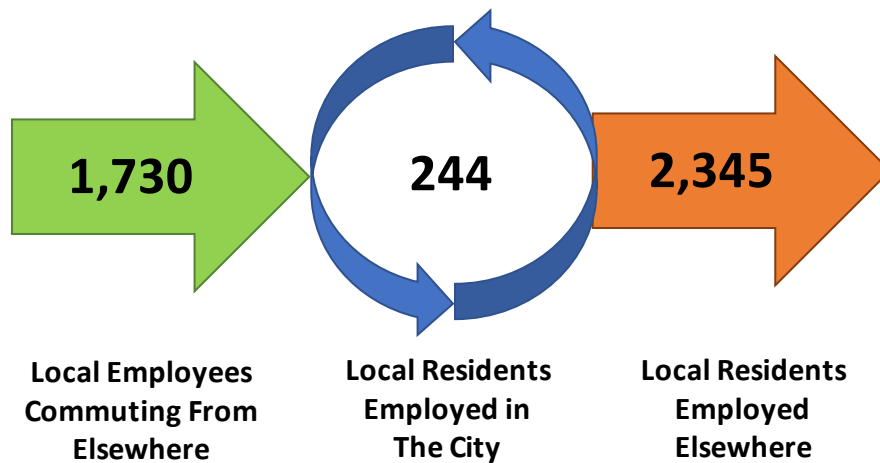
Commuting

Residents and employees commute broadly within Umatilla County and beyond. In the City of Umatilla, the local workforce was estimated at roughly 2,589 in 2017, of which 2,345 (90%) travelled outside of the city for employment while an estimated 244 both lived and worked within the city limits (Figure 2.15).

At the same time, an estimated 1,730 workers commuted into the city for employment, making up over 85% of the local job base of roughly 1,975. (These figures include covered employment and do not capture all forms of self-employment or contracting. Therefore, these figures are best used as an imprecise indicator of the overall pattern.)

This pattern is familiar to many communities across the state, but the extent to which local residents commute elsewhere for employment, and residents of other communities commute in for local jobs, seems somewhat starker in the case of Umatilla.

FIGURE 2.15: NET INFLOW-OUTFLOW OF EMPLOYEES, CITY OF UMATILLA, 2017



SOURCE: Census Bureau, LEHD Data

Commuting patterns are an important element in the local economy. They are indicative of the labor shed from which companies can draw workers, the extent to which job creation translates into increased demand for housing, goods, and services, and the overall balance of population and employment in the community.

Income and age demographics of the workforce commuting into and out of Umatilla are similar (Figure 2.16).

FIGURE 2.16: NET INFLOW-OUTFLOW DETAIL, CITY OF UMATILLA, 2017

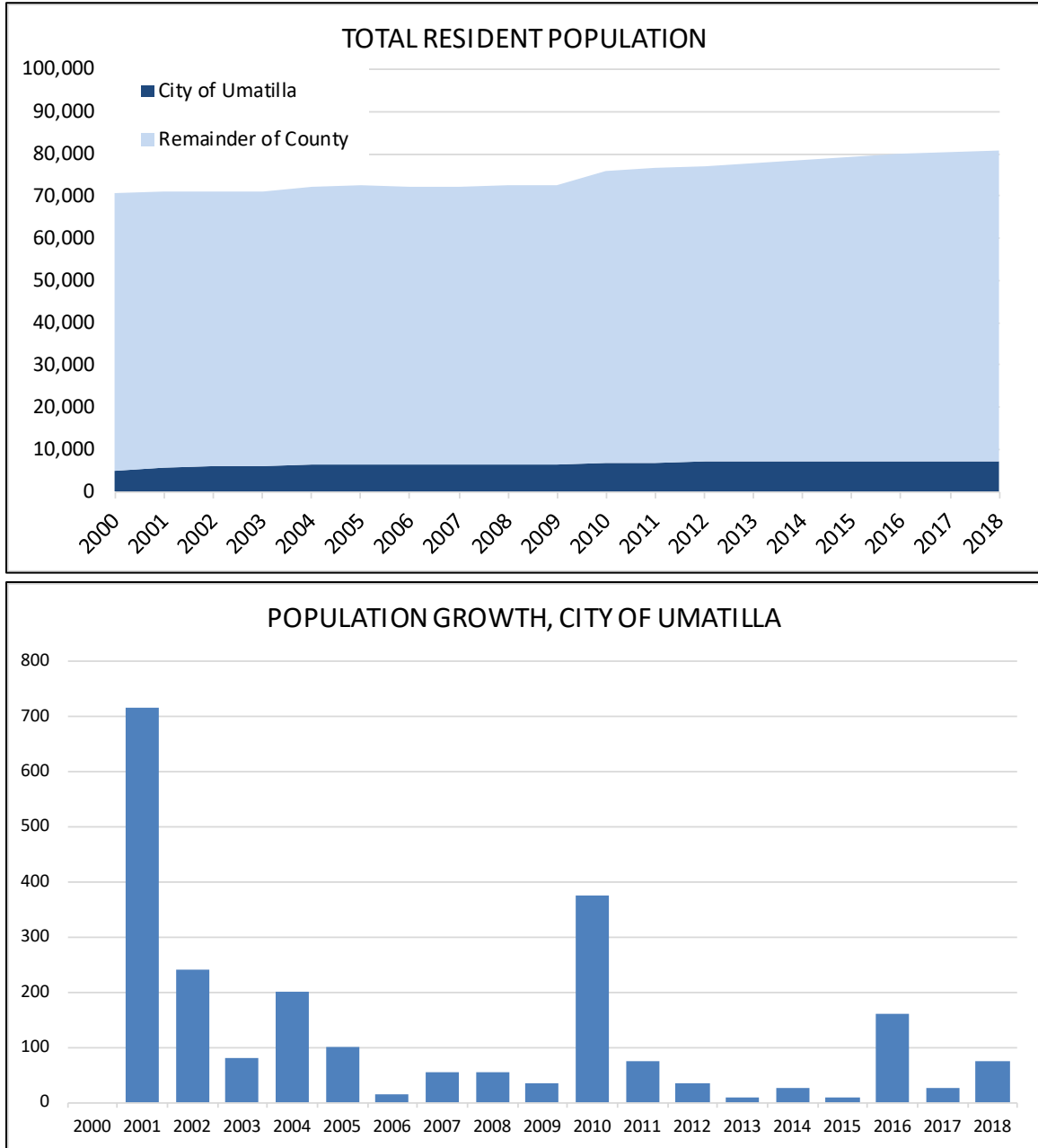
	Umatilla		Umatilla County	
	2017		2017	
	Count	Share	Count	Share
Selection Area Labor Market Size (Primary Jobs)				
Employed in the Selection Area	1,974	100.0%	31,226	100.0%
Living in the Selection Area	2,589	131.2%	31,621	101.3%
Net Job Inflow (+) or Outflow (-)	(615)	-	(395)	-
In-Area Labor Force Efficiency (Primary Jobs)				
Living in the Selection Area	2,589	100.0%	31,621	100.0%
Living and Employed in the Selection Area	244	9.4%	21,396	67.7%
Living in the Selection Area but Employed Outside	2,345	90.6%	10,225	32.3%
In-Area Employment Efficiency (Primary Jobs)				
Employed in the Selection Area	1,974	100.0%	31,226	100.0%
Employed and Living in the Selection Area	244	12.4%	21,396	68.5%
Employed in the Selection Area but Living Outside	1,730	87.6%	9,830	31.5%
Outflow Job Characteristics (Primary Jobs)				
External Jobs Filled by Residents	2,345	100.0%	10,225	100.0%
Workers Aged 29 or younger	570	24.3%	2,445	23.9%
Workers Aged 30 to 54	1,192	50.8%	5,222	51.1%
Workers Aged 55 or older	583	24.9%	2,558	25.0%
Workers Earning \$1,250 per month or less	443	18.9%	2,301	22.5%
Workers Earning \$1,251 to \$3,333 per month	1,010	43.1%	3,820	37.4%
Workers Earning More than \$3,333 per month	892	38.0%	4,104	40.1%
Workers in the "Goods Producing" Industry Class	835	35.6%	3,119	30.5%
Workers in the "Trade, Transportation, and Utilities" Industry Class	578	24.6%	2,235	21.9%
Workers in the "All Other Services" Industry Class	932	39.7%	4,871	47.6%
Inflow Job Characteristics (Primary Jobs)				
Internal Jobs Filled by Outside Workers	1,730	100.0%	9,830	100.0%
Workers Aged 29 or younger	318	18.4%	2,325	23.7%
Workers Aged 30 to 54	970	56.1%	5,078	51.7%
Workers Aged 55 or older	442	25.5%	2,427	24.7%
Workers Earning \$1,250 per month or less	372	21.5%	2,262	23.0%
Workers Earning \$1,251 to \$3,333 per month	594	34.3%	3,953	40.2%
Workers Earning More than \$3,333 per month	764	44.2%	3,615	36.8%
Workers in the "Goods Producing" Industry Class	715	41.3%	2,600	26.4%
Workers in the "Trade, Transportation, and Utilities" Industry Class	143	8.3%	2,683	27.3%
Workers in the "All Other Services" Industry Class	872	50.4%	4,547	46.3%
Interior Flow Job Characteristics (Primary Jobs)				
Internal Jobs Filled by Residents	244	100.0%	21,396	100.0%
Workers Aged 29 or younger	58	23.8%	4,975	23.3%
Workers Aged 30 to 54	128	52.5%	11,242	52.5%
Workers Aged 55 or older	58	23.8%	5,179	24.2%
Workers Earning \$1,250 per month or less	63	25.8%	4,566	21.3%
Workers Earning \$1,251 to \$3,333 per month	99	40.6%	9,214	43.1%
Workers Earning More than \$3,333 per month	82	33.6%	7,616	35.6%
Workers in the "Goods Producing" Industry Class	78	32.0%	5,105	23.9%
Workers in the "Trade, Transportation, and Utilities" Industry Class	26	10.7%	3,882	18.1%
Workers in the "All Other Services" Industry Class	140	57.4%	12,409	58.0%

SOURCE: US Census Bureau, LEHD Origin-Destination Employment Statistics

Population and Workforce

The population base in Umatilla County and Umatilla have grown at a rate of slightly under 1% since 2010, according to the Population Research Center at Portland State University. The growth rate is estimated to have increased in more recent years and is projected to accelerate over the coming 20-year period. The City of Umatilla had an estimated population of 7,320 in 2018, or 9% of the Umatilla County total of nearly 81,000 people.

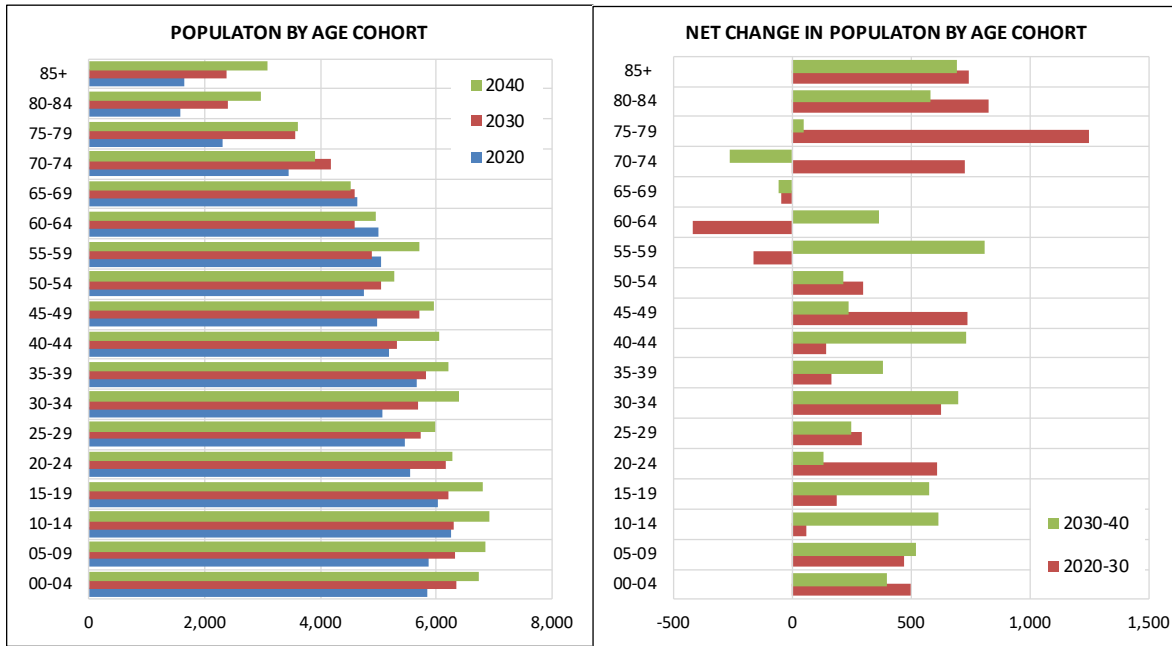
FIGURE 2.17: HISTORIC POPULATION TRENDS, UMATILLA COUNTY AND CITY OF UMATILLA



SOURCE: Population Research Center, Portland State University

The composition of the population base is expected to become generally older. The trend is most pronounced for residents over 75 years of age, but modest growth is also anticipated in age categories that are traditionally in the workforce.

FIGURE 2.18: HISTORIC AND PROJECTED DISTRIBUTION OF POPULATION BY AGE COHORT, UMATILLA COUNTY



SOURCE: Population Research Center, Portland State University

Race and Ethnicity: The population of Umatilla County is estimated to be 85% white and 15% minority or bi-racial, a very similar minority share as Oregon. The County is estimated to have a higher share of Native Americans, and a somewhat lower share of Black and Asian residents. Latinos are estimated to make up 26% of the county population, compared to 13% statewide.

FIGURE 2.19: DISTRIBUTION OF POPULATION BY RACE & ETHNICITY, UMATILLA COUNTY

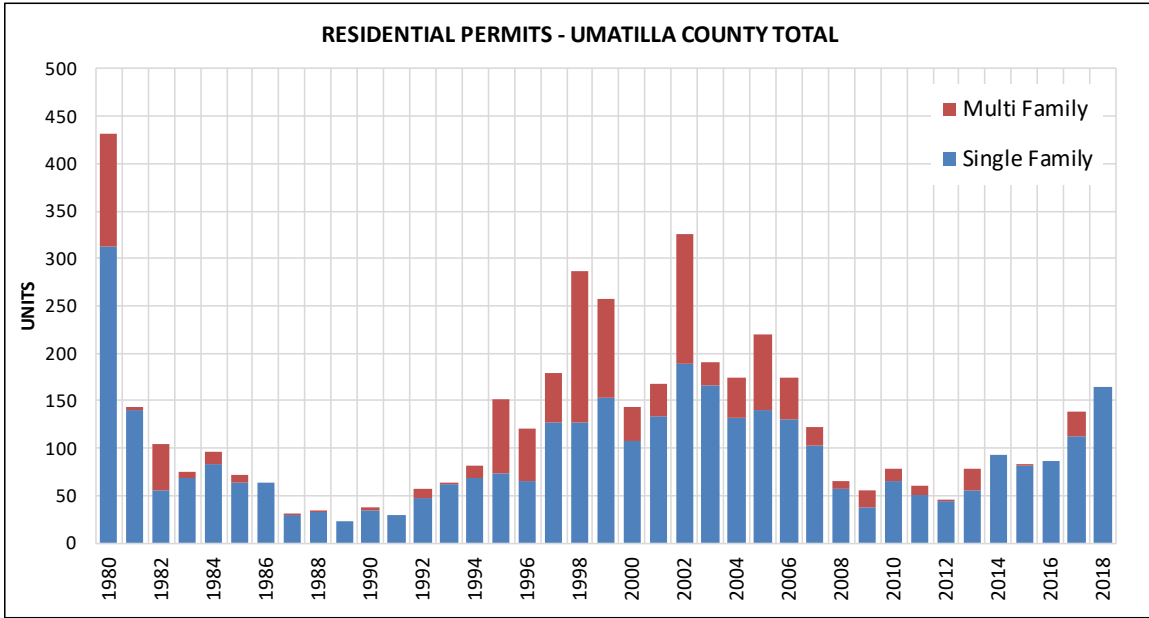
Distribution of Population	Umatilla County				Oregon			
	2000	2017	Change	Share	2000	2017	Change	Share
Total:	70,548	80,500	14%	100%	3,421,399	4,025,127	18%	100%
White	57,852	68,585	19%	85%	2,961,623	3,416,776	15%	85%
Black	582	626	8%	1%	55,662	76,347	37%	2%
Native American	2,375	2,514	6%	3%	45,211	45,332	0%	1%
Asian	530	635	20%	1%	101,350	166,351	64%	4%
Hawaiian or Pac. Islander	124	140	13%	0%	7,976	15,157	90%	0%
Other Race	7,529	4,263	-43%	5%	144,832	121,000	-16%	3%
Two or More Races	1,556	3,738	140%	5%	104,745	184,164	76%	5%
Latino (of any race)	11,366	20,917	84%	26%	275,314	509,507	85%	13%

SOURCE: Census (Tables QT-P3, B02001, B03002) Population Research Center, Portland State University

* 2017 Total county population is based on PSU 2017 estimate, applying the distribution of race and ethnicity from 2017 ACS.

With steady growth in population, residential permits in Umatilla County have averaged 137 per year since 2000, with the majority being single-family homes. After experiencing some multi-family development prior to the 2008 recession, permitting has been slow for the past decade.

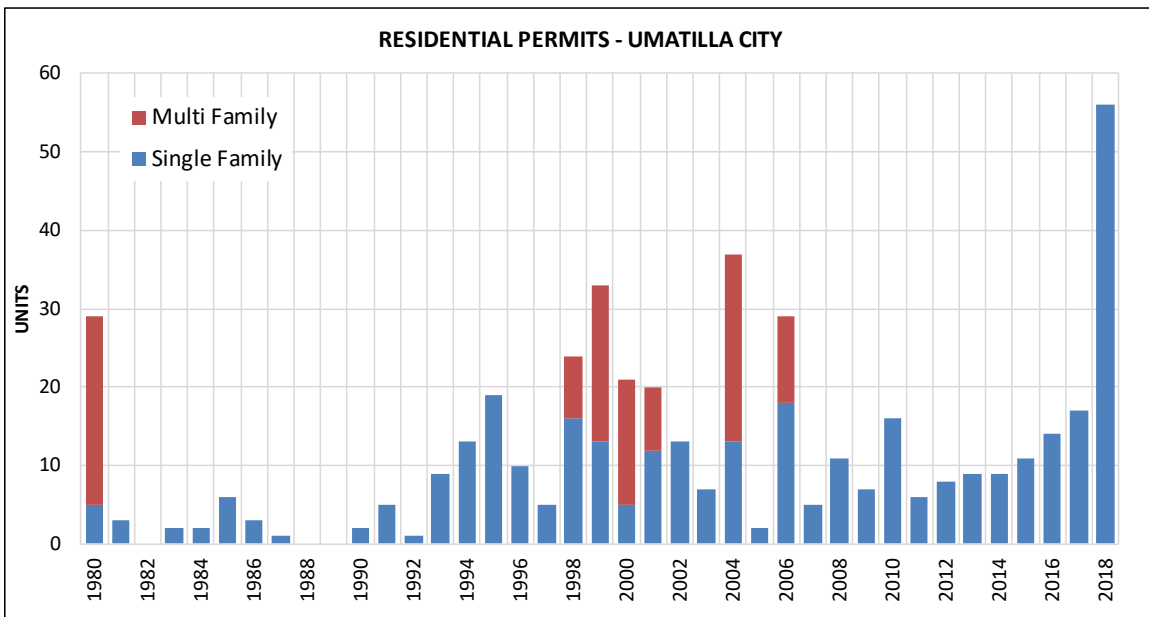
FIGURE 2.20: HISTORIC AND PROJECTED RESIDENTIAL PERMITS, UMATILLA COUNTY



SOURCE: HUD

The city of Umatilla has accounted for roughly 12% of the total county residential permits since 2000. Nearly 300 units have been permitted since 2000, with 20% being multi-family units permitted prior to 2008.

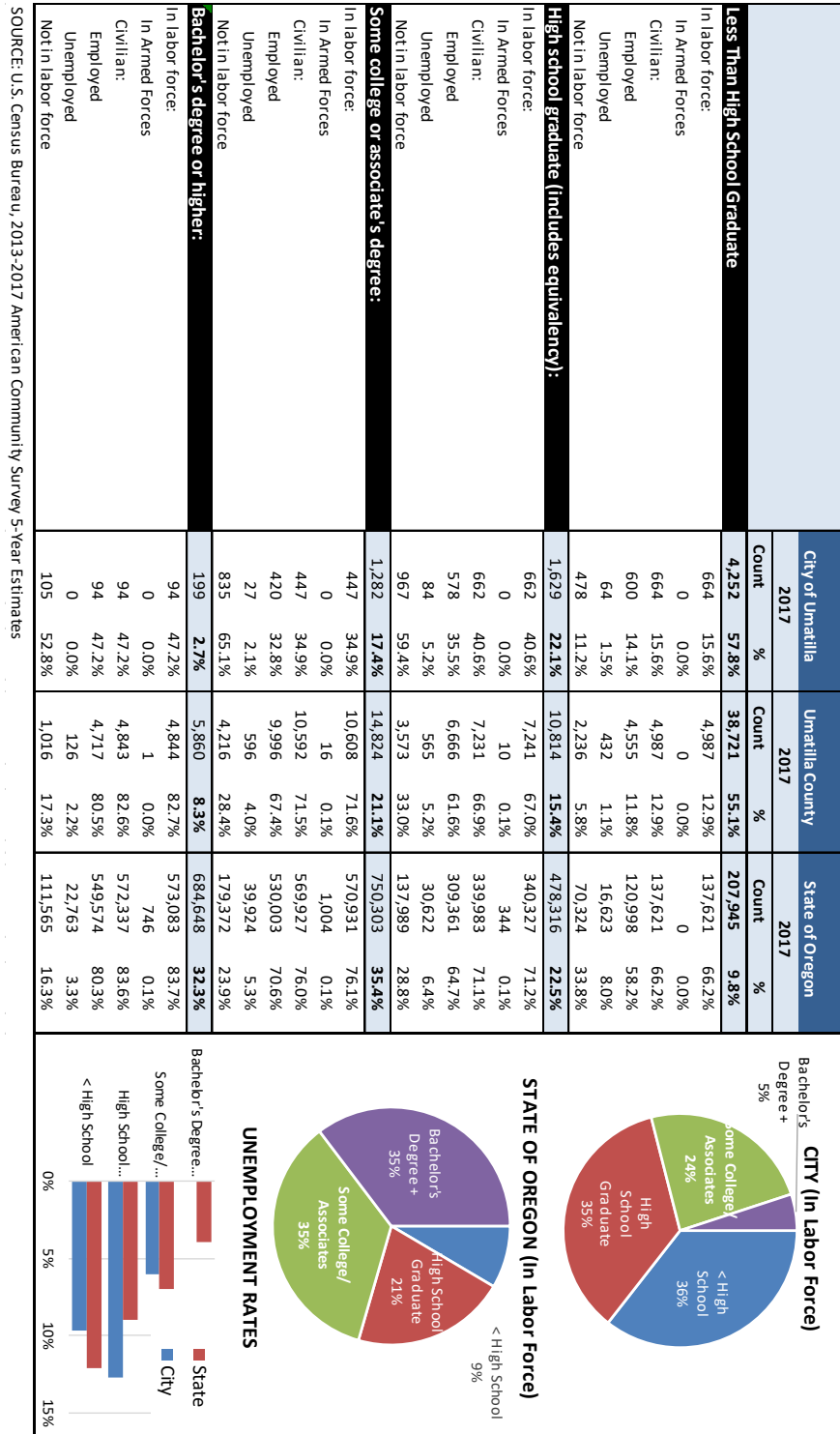
FIGURE 2.21: HISTORIC AND PROJECTED RESIDENTIAL PERMITS, CITY OF UMATILLA



SOURCE: HUD

The educational attainment level of the local workforce is lower in the city and county as the statewide profile. Residents of working age are more likely to have a high-school education, and less likely to have a college degree.

FIGURE 2.23: EDUCATIONAL ATTAINMENT PROFILE BY EMPLOYMENT STATUS, 2017



SOURCE: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

III. TARGET INDUSTRY ANALYSIS

This element of the Economic Opportunities Analysis uses analytical tools to assess the economic landscape in Umatilla and Umatilla County. The objective of this process is to identify a range of industry types that can be considered targeted economic opportunities over the 20-year planning period.

A range of analytical tools to assess the local and regional economic landscape are used to determine the industry typologies the City should consider targeting over the planning period. Where possible, we look to identify the sectors that are likely to drive growth in current and subsequent cycles.

ECONOMIC SPECIALIZATION

The most common analytical tool to evaluate economic specialization is a location quotient (LQ) analysis. This metric compares the concentration of employment in an industry at the local level to a larger geography. All industry categories are assumed to have a quotient of 1.0 on the national level, and a locality’s quotient indicates if the local share of employment in each industry is greater or less than the share seen nationwide. For instance, a quotient of 2.0 indicates that locally, that industry represents twice the share of total employment as seen nationwide. A quotient of 0.5 indicates that the local industry has half the expected employment.

We completed a location quotient analysis for Umatilla County, which compares the distribution of local employment relative to national averages, as well as average annual wage levels by industry (Figure 3.1). The most over-represented industries were natural resources and mining, manufacturing and government.

FIGURE 3.1: INDUSTRY SECTOR SPECIALIZATION BY MAJOR INDUSTRY, UMATILLA COUNTY, 2018¹

Industry	Annual Establishments	Avg. Annual Employment	Total Annual Wages	Avg. Annual Wages	Employment Loc. Quotient
1011 Natural resources and mining	193	3,386	\$111,161,727	\$32,832	8.3
1012 Construction	193	1,176	\$61,441,498	\$52,265	0.8
1013 Manufacturing	74	3,415	\$139,497,112	\$40,849	1.3
1021 Trade, transportation, and utilities	402	6,341	\$260,936,079	\$41,149	1.1
1022 Information	23	175	\$7,251,966	\$41,479	0.3
1023 Financial activities	153	698	\$32,889,517	\$47,137	0.4
1024 Professional and business services	201	1,403	\$55,157,349	\$39,319	0.3
1025 Education and health services	218	3,778	\$159,564,205	\$42,233	0.8
1026 Leisure and hospitality	211	2,578	\$44,250,408	\$17,166	0.8
1027 Other services	421	999	\$26,607,848	\$26,634	1.1
Federal Government	32	485	\$36,873,687	\$76,002	0.8
State Government	44	1,391	\$90,039,107	\$64,730	1.4
Local Government	104	5,047	\$216,324,995	\$42,861	1.7
Total	2,269	30,872	\$1,241,995,498	\$40,231	

SOURCE: Bureau of Labor Statistics

¹ QCEW Data, Annual Average 2018 Data

In terms of total employment, the largest sectors are government, transportation/warehousing/utilities, education and health services, and manufacturing. Natural resources (agriculture and forestry, and support services to these industries) as well as leisure and hospitality (tourism-related industry) are also major employment sectors in the county.

Figure 3.2 shows a more detailed analysis of the top 20 local industry subsectors in the county, as ranked by their LQ. The LQ shows that agricultural subsectors have the highest share of employment in comparison to nationwide averages, but also food manufacturing and wood product manufacturing. Various transportation and distribution-related industries are also well represented, as are utilities. Nursing and residential care, construction, and retailers are some of the subsectors rounding out the list.

The average wage LQ (right column) is an indicator of how much local wages paid in these industries are paid relative to the total wages in that industry typical across the nation. For instance, the agricultural and forestry subsector in Umatilla County represents 28.5 times the share of total wages paid as would be expected by looking at the national average.

FIGURE 3.2: INDUSTRY SECTOR SPECIALIZATION BY DETAILED INDUSTRY, UMATILLA COUNTY, 2018

Rank	NAICS	Description	Employment	Emp. L.Q.	Average Wage	Total Wages L.Q.
1	115	Agriculture and forestry support activities	1,685	20.6	\$32,950	28.5
2	111	Crop production	1,393	12.0	\$31,030	15.6
3	311	Food manufacturing	1,711	5.0	\$41,909	6.2
4	112	Animal production and aquaculture	237	4.2	\$38,318	5.9
5	321	Wood product manufacturing	357	4.2	\$44,516	5.8
6	814	Private households	235	3.9	\$18,252	3.8
7	484	Truck transportation	789	2.5	\$60,964	4.1
8	447	Gasoline stations	450	2.3	\$19,028	2.8
9	485	Transit and ground passenger transportation	151	1.5	\$23,353	1.4
10	221	Utilities	170	1.5	\$109,579	2.1
11	623	Nursing and residential care facilities	985	1.4	\$28,869	1.8
12	236	Construction of buildings	422	1.2	\$52,518	1.4
13	452	General merchandise stores	787	1.2	\$26,238	1.8
14	441	Motor vehicle and parts dealers	484	1.1	\$46,121	1.5
15	813	Membership associations and organizations	331	1.1	\$22,670	0.8
16	811	Repair and maintenance	295	1.1	\$34,824	1.2
17	445	Food and beverage stores	684	1.1	\$24,680	1.5
18	424	Merchant wholesalers, nondurable goods	449	1.0	\$56,184	1.1
19	312	Beverage and tobacco product manufacturing	54	0.9	\$24,687	0.6
20	562	Waste management and remediation services	85	0.9	\$45,727	1.0

SOURCE: Bureau of Labor Statistics

Sectors such as local government, education, health care and retail trade, are industries that are driven by serving a local population. The county also has a significant amount of employment in export or “traded sector” industries that send their products beyond the county, and thus bring new dollars into the region. These industries include manufacturing, utilities, and data centers.

ECONOMIC DRIVERS

The identification of the economic drivers of a local or regional economy is critical in informing the character and nature of future employment, and by extension land demand over a planning cycle. To this end, we employ a shift-share analysis of the local economy emerging out of the current expansion cycle².

A shift-share analysis measures local effect of economic performance within an industry or occupation. The process considers local economic performance in the context of national economic trends—indicating the extent to which local growth can be attributed to unique regional competitiveness or simply growth in line with broader trends.

For example, assume that Widget Manufacturing is growing at a 1.5% rate locally, about the same rate as the local economy. On the surface we would consider the Widget Manufacturing industry to be healthy and contributing soundly to local economic expansion. However, consider also that Widget Manufacturing is booming across the country, growing at a robust 4% annually. In this context, local widget manufacturers are struggling, and some local or regional condition is stifling economic opportunities.

We can generally classify industries, groups of industries, or clusters into four groups:

- **Growing, Outperforming:** Industries that are growing locally at a rate faster than the national average. These industries have local characteristics leading them to be particularly competitive.
- **Growing, Underperforming:** Industries that are growing locally but slower than the national average. These industries generally have a sound foundation, but some local factor is limiting growth.
- **Contracting, Outperforming:** Industries that are declining locally but slower than the national average. These industries have structural issues that are impacting growth industry wide. However, local firms are leveraging some local or regional factor that is making them more competitive than other firms on average.
- **Contracting, Underperforming:** Industries that are declining locally at a rate faster than the national average. These industries have structural issues that are impacting growth industry wide. However, some local or regional factor is making it increasingly tough on local firms.

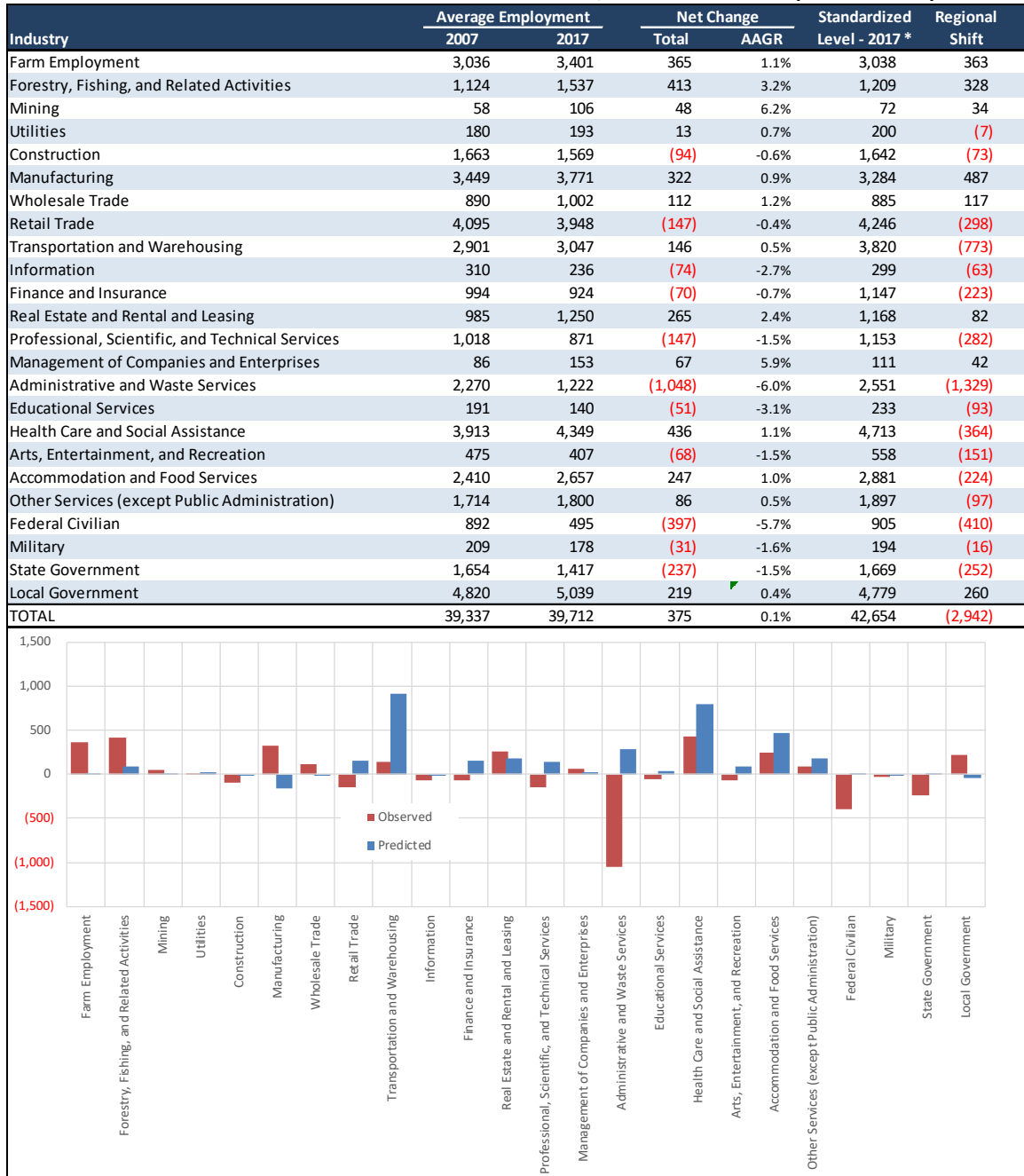
We evaluated the average annual growth rate by industry from 2008 through 2017 for Umatilla County relative to the national rate. The observed local change was compared to a standardized level reflecting what would be expected if the local industry grew at a rate consistent with national rates for that industry.

As shown in Figure 3.3, only a few industries showed growth in excess of national rates. These include manufacturing, natural resources industries, real estate rental and leasing, and wholesale trade.

² Measured from the trough of recent recession to 2017, the most recent period available for local employment data.

It is also known that in the last few years, Umatilla County has added significant employment and investment in the data center industry. This employment is not yet reflected in the most recent QCEW data (2017) of covered employment where it would appear under the “Information” sector. It is known that this industry has experienced significant and rapid growth in the county and the city of Umatilla itself. (This target industry is discussed more in the following section.)

FIGURE 3.3: INDUSTRY SECTOR SHIFT SHARE ANALYSIS, UMATILLA COUNTY (2008 – 2017)



* Employment level in each industry had it grown at the same rate as its counterparts at the national level over the same period.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis

ECONOMIC DEVELOPMENT ASSETS

In this section, we summarize some of the key economic development assets of the city and the area, which will shape the nature of economic growth in the foreseeable future.

1. *Abundance of Energy & Water*

Availability of quality power will continue to increase regional competitiveness over the long-term. This provides an advantage when pursuing users requiring large power sources, including data center investments, as well as durable goods manufacturing. While much of the local power production is exported outside of the region, there is substantial loss in transmission. Average electrical rates in Oregon are 23% below national levels, but higher than those in Washington or Idaho.

2. *Transportation Linkages*

Along with abundant affordable power, transportation linkages are arguably the region's best asset. The city of Umatilla is positioned near one of only five confluences of major interstates in Oregon and is the only one outside of the Willamette Valley. The City is also located at the border with Washington State, with the next nearest bridge crossings of the Columbia located 50 miles north, or 80 miles to the west. Further, the Port terminals and regional rail linkages provide access to world-wide shipping networks, particularly for the region's agricultural products.

3. *Amenity Values*

Amenity values are encompassed in the concept of livability. Amenity values are often characterized in the field of Economics and Economic Geography because amenity values have real economic impacts on attracting residents, employers and workforce to an area. The Columbia Basin has abundant natural amenities, with scenery and proximity to nature and recreational activities. However, the region is lacking in some urban amenities given the size of its communities.

4. *Proximity to a Large Well-Educated Workforce*

While the local workforce is underrepresented in higher skilled laborers, regional economic growth can tap into a large population base with above average training levels. Both Umatilla (15.6%) and Morrow Counties (10.7%) have lower rates of persons aged 25 and older holding bachelor's degrees than the State of Oregon (29.0%). In Benton County, the ratio is 27.7% while the State of Washington ratio is 31.4%.³ Benton and Franklin Counties in Washington combine for 42,000 adults with an Associate Degree or better. The size and commuting patterns of the greater region, allows for large new employers to draw sufficient workforce from beyond the immediate community if needed.

5. *Flat, Developable Land*

The study area has a diversity of potentially available land to accommodate a range of uses and intensity of uses. This diversity can expand regional marketability and offers the flexibility to plan uses meeting specific site criteria. Within the State of Oregon, there are very limited opportunities for large-lot industrial development. The region's potential supply of large sites can provide a strong competitive advantage, if it is made available. While the land in the county may be hypothetically suitable however, the right amount, location, and sizes of development sites for different employers may not be currently available within the Urban Growth Boundary. The suitability of buildable land in Umatilla is discussed elsewhere in this report.

³ 2010 Census

6. Economic Development Support & Partnerships

The region benefits from an aggressive and well-organized economic development climate. The Port Districts have had noted economic development success and local communities have undertaken countless initiatives to improve economic competitiveness. The Confederated Tribes of the Umatilla Indian Reservation also is an active participant in regional economic development efforts. The end result has been a region that has significantly outperformed non-metropolitan areas of the State over the last decade in terms of economic growth.

TARGET INDUSTRY CLUSTERS

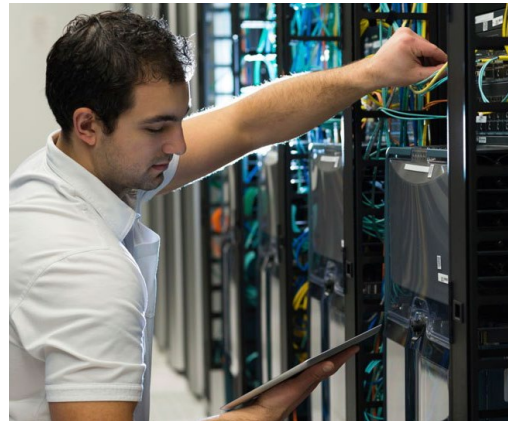
This section discusses potential target industries for the City of Umatilla based on the community's historical strengths and advantages, established economic development goals, and discussion of community priorities through this process. These are industries where the city might focus efforts to grow local business and attract new businesses. At the end of this section is a more detailed glossary of potential community partners for economic development.

Data Centers/ Cloud Storage Services

The City of Umatilla, along with other locations in Umatilla and Morrow Counties has quickly grown as a hub for large, very-high investment data center users who seek ready access to ample inexpensive power and water, as well as large suitable development sites.

These types of industrial land users make very large capital investments in facilities and equipment. They can employ hundreds of people at each site and pay wages far above the average income for the area.

This sector is a major target industry identified by the community. There are currently nine major data centers located in the Columbia Basin, demonstrating the suitability and desirability of the area and its infrastructure. The nation's largest tech companies continue to express interest in locating new data center and cloud-computing facilities in the area, and in Umatilla specifically. There have been recent real-world opportunities to recruit these types of businesses to Umatilla if suitable sites are available.



Cluster Strengths

- Proximity to abundant and inexpensive power and water sources
- Excellent fiber optic telecom connectivity
- Suitability of land for large, flat industrial sites
- Establishment of successful examples and building of skilled workforce in this sector
- Strong economic development support from local and regional partners

Cluster Challenges

- Limited supply of appropriately large, shovel-ready development sites, within the UGB
- Need to continually recruit and grow trained workforce and supply workforce housing.

Potential Opportunities

- Recruitment of additional data center facilities
- Ensure sufficient adequately-sized shovel-ready industrial parcels within UGB and/or City limits

- Partnerships with local education sector to train and recruit additional workforce

Manufacturing (Traditional and Advanced)

Manufacturing is typically a highly desirable sector, which creates considerable value, pays good wages, and often exports the bulk of its output. The manufacturing sector currently accounts for a relatively small share of the current employment base in the city of Umatilla but is targeted by the community as a potential growth sector in the future.



Umatilla has been home to food, wood and metals product manufacturers. Going forward, these will remain good opportunities for growth taking advantage of available industrial lands, power and water resources. These export industries also benefit from the ample transportation connections and shipping options in the area.

Advanced manufacturing is also expected to be an increasing opportunity. In general, this refers to modern manufacturers who use advanced technologies such as robots and software to increase productivity and make traditional methods more efficient. Like data centers, these manufacturers also benefit from ample power and their facilities may rely on significant mechanization. Despite the automation, these industries typically require a sizable trained workforce to run the advanced processes.

Manufacturing firms can be a full range of sizes with differing land needs from small sites to very large. Potential large-site manufacturers have made inquiries in the Umatilla area.

Cluster Strengths

- Proximity to abundant and inexpensive power and water sources
- Existing food and wood products industries with workforce expertise.
- Available and serviced land supply of smaller and medium sites

Cluster Challenges

- Limited supply of larger shovel-ready development sites, for largest manufacturers
- Need to continually recruit and grow trained workforce and supply workforce housing.

Potential Manufacturing Opportunities

- Food products/value-added specialty foods
- Advanced agricultural technology, such as robotics, precision tools, indoor-growing technology
- Specialty river recreation or other recreation equipment
- Drones and robotics
- Recruitment of other large-lot, large-power users

Tourism and Retail

Umatilla has physical and locational attributes that make recreation and hospitality an attractive target sector. The city offers access to the river and recreation and has plans to redevelop the marina to encourage more visitors, concessions, tours and related activity. Regional outdoor recreation includes camping, hiking,

hunting, fishing, and rafting. Major regional draws such as the Pendleton Round Up and tribal gaming also provide an opportunity to market to new visitors.

Tourism growth can be mutually reinforcing with new business development along the city's main downtown corridor of 6th Street, and elsewhere in the community. While retail trade is typically viewed as a function of growth in local population and buying power, developing a strong retail trade base in an area helps limit spending from leaking out of the market, retaining dollars in the local economy.

The amenities that tourism traffic supports are also largely consistent with what is desirable to local residents. Quality retail, restaurant, recreation, and hospitality businesses make a community an attractive place to live and work. Studies have shown that tourism-related supportive uses have a positive impact on housing values and attract residents and businesses alike. This is a growing phenomenon in the context of emerging consumer preferences observed across Millennial and Boomer generations. Attraction of these types of businesses would offer Umatilla the opportunity to raise its amenity profile.



Cluster Strengths

- Recreational amenities, river location
- Location on freeway, at state border
- Historic Oldtown site
- Investment in trails, and outdoor and recreation events

Cluster Challenges

- Need to raise awareness/visibility beyond the region

Cluster Opportunities

- Drawing visitors from other regional attractions
- Improved access use of the marina/river

Transportation, Warehousing and Distribution

Currently, Transportation & Warehousing is among the largest sectors in the county. The location quotient analysis indicated that the study area's concentration in truck transportation is more than two and a half times the national average. The region has succeeded in attracting and retaining large transportation firms, including three firms with 100-249 employees and two additional firms with more than 250 employees.

The reason for the emergence of this industry cluster is intuitively clear. The area's geographic position and transportation linkages afford a reasonable (distribution) drive-time from major population centers throughout the Northwest, Northern California, British Columbia, and the Western Mountain States. Other regional attributes include a refrigerator cargo dock on the Columbia River, fiber optic telecommunications, and the location of the Union Pacific switching station.

The area's strong transportation access and multi-modal opportunities makes it ideal for transportation and warehousing uses. Umatilla County has successfully attracted multiple large distribution centers, including a Walmart Distribution Center and Fed Ex Freight distribution facility. One or more such distribution facilities are a viable target recruitment for Umatilla City, if appropriate sites are available.

Cluster Strengths

- Multi-modal transportation connections, confluence of two freeways
- Port/rail access

Cluster Challenges

- Need for additional large, shovel-ready sites near the freeway and within the UGB

Cluster Opportunities

- Distribution centers
- Central hub for transportation/freight/logistics businesses

Health Care

Demand for health services tends to follow demographic trends. The local population and workforce are projected to continue growing at a strong rate. At the same time, a major segment of the population will be aging in place, increasing the demand for health services and continuing care. The following are key industry trends:

- Emphasis on leveraging cost advantages.
- Strong growth in utilization of mobile health systems, software, and access to information.
- Emerging care models including smaller, distributed clinics (i.e. Zoomcare).
- Video or phone appointments.
- An estimated 5% to 8% of Boomers will age in multi-family retirement and care facilities.



The community has identified a need for more local health services located in Umatilla for the local households, many of whom currently travel to Hermiston or beyond for needed health care. Needed services include urgent care, additional clinics, dental care and other specialists. As the population grows, there should be increasing opportunities for health care providers to locate in the community to serve the local population.

Cluster Strengths

- Growth and aging of population will support health services.
- Dedicated service area.
- Identified need and captive market.

Cluster Weakness

- Sector is concentrated in Hermiston.

Cluster Opportunities

- Development of expanded and/or new medical office clusters
- Expansion of training offerings for nurses and other medical professionals.

IV. FORECAST OF EMPLOYMENT AND LAND NEED

CITY OF UMATILLA EMPLOYMENT FORECASTS

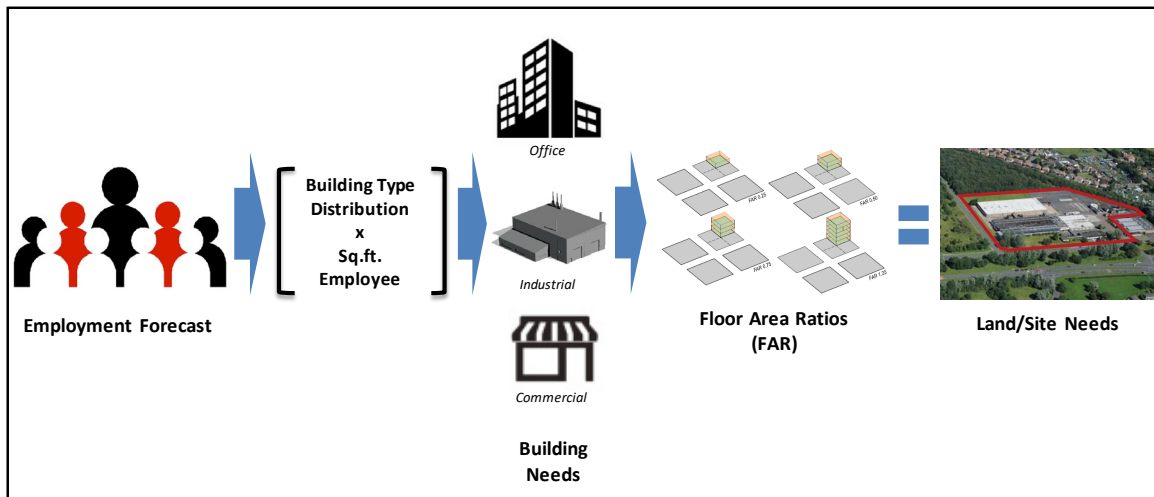
Goal 9 requires that jurisdictions plan for a 20-year supply of commercial and industrial capacity. Because employment capacity is the physical space necessary to accommodate new workers in the production of goods and services, employment needs forecasts typically begin with a forecast of employment growth in the community. The previous analysis of economic trends and targeted industries set the context for these estimates. This analysis translates those influences into estimates of employment growth by broad industry. Forecasts are produced at the sector or subsector level (depending on available information) and are subsequently aggregated to two-digit NAICS sectors. Estimates in this analysis are intended for long-range land planning purposes and are not designed to predict or respond to business cycle fluctuation.

The projections in this analysis are built on an estimate of employment in 2019, the commencement year for the planning period. Employment growth will come as the result of net-expansion of businesses in the community, new business formation, or the relocation/recruitment of new firms. Forecast scenarios consider a range of factors influencing growth. Long-range forecasts typically rely on a macroeconomic context for growth. Inflections in business cycles or the impact of a major shift in employment (i.e. a major unknown recruitment) are not considered.

Overview of Employment Forecast Methodology

Our methodology starts with employment forecasts by major commercial and industrial sector. Forecasted employment is allocated to building type, and a space demand is a function of the assumed square footage per employee ratio multiplied by projected change. The need for space is then converted into land and site needs based on assumed development densities using floor area ratios (FARs).

FIGURE 4.01: CONVERSION OF EMPLOYMENT FORECAST TO LAND NEED FORECAST - METHODOLOGY



Source: Johnson Economics

The first step of the analysis is to update covered employment to the 2019 base year. Our City of Umatilla Quarterly Census of Employment and Wages (QCEW) dataset provides covered employment by industry

through 2017. To update these estimates, we use observed industry specific growth rates for the region between 2017 and 2019.

The second step in the analysis is to convert “covered”⁴ employment to “total” employment. Covered employment only accounts for a share of overall employment in the economy. Specifically, it does not consider sole proprietors or some contracted workers. Covered employment was converted to total employment based on observed ratios at the national level derived from the Bureau of Economic Analysis from 2010 through 2017.

The differential is the most significant in construction, professional, and administrative services. The adjusted 2019 total non-farm employment base for the City of Umatilla is an estimated 1,968 jobs.

FIGURE 4.02: UPDATE TO 2019 BASELINE AND CONVERSION OF COVERED TO TOTAL EMPLOYMENT

Major Industry Sector	QCEW Employment			Total Emp. Conversion ²	2019 Estimate
	2017 Employment	'17-'19 County Δ ¹	2019 Estimate		
Construction	172	1.8%	178	73.5%	243
Manufacturing	59	1.1%	60	97.6%	62
Wholesale Trade	88	1.0%	90	97.3%	92
Retail Trade	145	1.0%	148	94.4%	157
T.W.U.	93	1.1%	95	91.3%	104
Information*	0	2.9%	200	94.7%	211
Finance & Insurance	8	0.4%	8	91.6%	9
Real Estate	11	0.4%	11	91.6%	12
Professional & Technical Services	9	1.1%	9	88.5%	10
Administration Services	20	1.1%	20	88.5%	23
Education	215	1.5%	221	94.5%	234
Health Care	126	1.5%	130	94.5%	137
Leisure & Hospitality	79	1.0%	81	94.4%	85
Other Services	45	0.9%	46	82.7%	55
Government	525	0.7%	533	100.0%	533
TOTAL	1,595	7.1%	1,830	93.0%	1,968

¹ Forecasted AAGR from 2017-2024 for Umatilla County. Oregon Employment Department

² Bureau of Economic Analysis. Calculated as an eight-year average between 2010 and 2017

T.W.U. = Transportation, Warehousing, and Utilities

*Information sector: Employment in 2019 is estimated from local sources

Source: Johnson Economics, Oregon Employment Department, BEA

Scenario 1: Safe Harbor Forecast

The Goal 9 statute does not have a required method for employment forecasting. However, OAR 660-024-0040(9)(a) outlines several safe harbor methods, which are intended to provide jurisdictions a methodological approach that will not be challenged. The most applicable for Umatilla County jurisdictions is 660-024-0040(9)(a)(B), which recommends reliance on the adopted projected population growth rate as determined by the Portland State University Population Research Center. This method applies the projected

⁴ The Department of Labor’s Quarterly Census of Employment and Wages (QCEW) tracks employment data through state employment departments. Employment in the QCEW survey is limited to firms with employees that are “covered” by unemployment insurance.

population growth rate to the 2019 Umatilla County base, essentially reflecting that employment growth is expected to keep track with population growth. For individual industries, the projected growth rate is based on the most recent regional forecast (2017-2027) published by the Oregon Employment Department for Morrow and Umatilla Counties.

This method results in an average annual growth rate of 1.7%, with total job growth of 805 jobs over the forecast period when applied to the employment profile in Umatilla.

Scenario 2: Alternative Employment Forecast

A second prepared forecast scenario was influenced by the research and analysis conducted in the EOA. This scenario formulates an employment growth trajectory based on identified trends, the growth outlook for targeted industries, and input from the project advisory committee. Further, the alternative scenario recognizes that the city's policy direction has influence over realized growth in targeted sectors. This scenario considers the influence of known or anticipated development over a near and medium-term horizon. The following identified factors that are expected to influence growth informed the forecast

Target Industries – The key industries that the community has identified for targeted growth and focused economic development efforts. Known real-world business interest and location scouting from industries have also been considered. The most significant changes were to reflect targeted growth in the information (data centers) and transportation & warehousing (distribution centers).

Power, Water and Fiber Resources – Umatilla has excellent infrastructure resources that have proven attractive to large, high-investment industrial users such as data centers.

Location - Umatilla's location within the region will influence the mix of employment uses it can attract. Transportation, labor shed, recreation, and livability are some key locational factors.

Household Growth - Growth in many sectors, including retail, hospitality, banking, and real estate, is a direct function of population and households in a community.

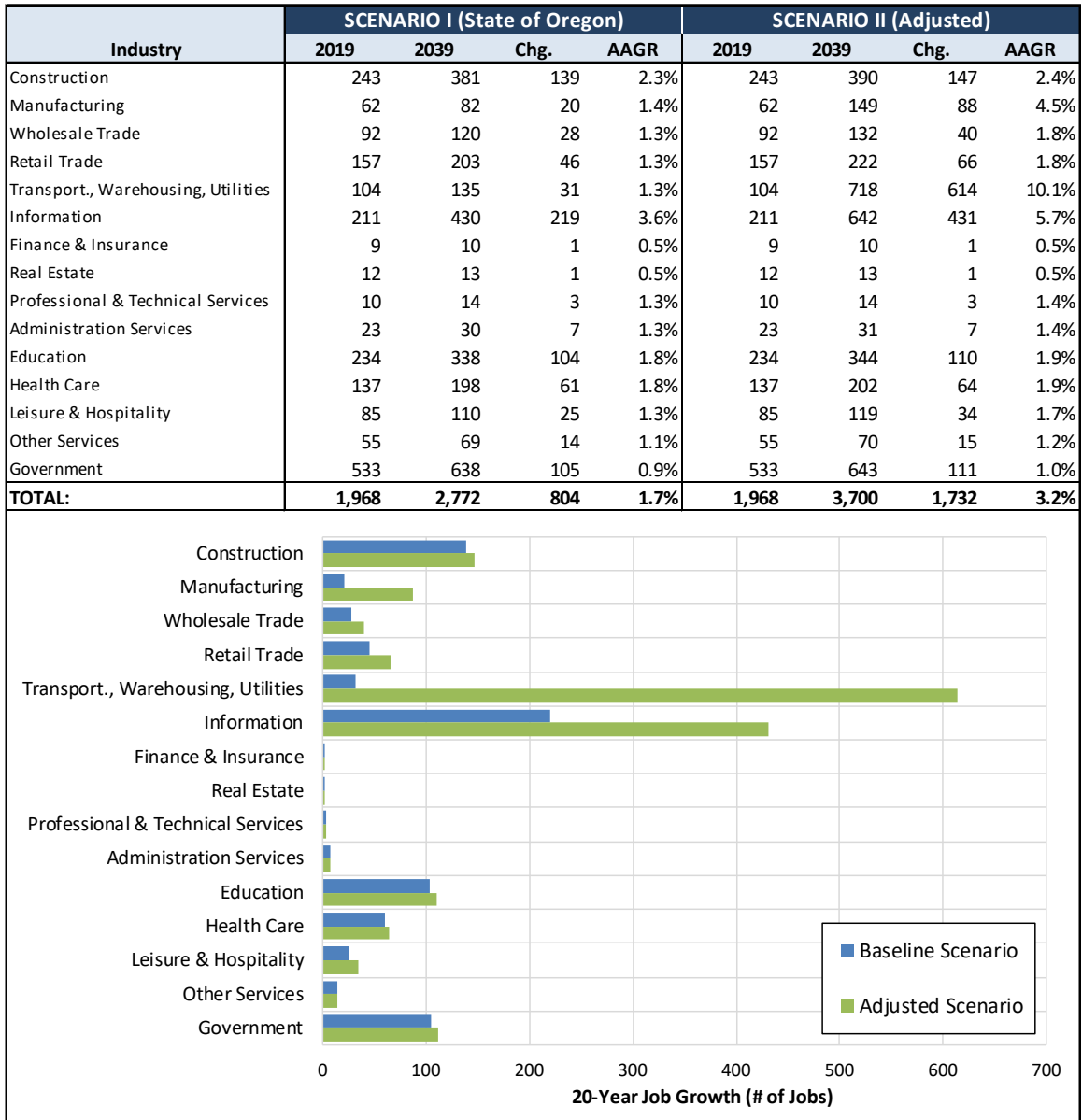
Taken together, the 20-year forecast in this scenario projects 3.2% average annual growth. Our outlook for growth in information, manufacturing, transportation and distribution, retail, and leisure & hospitality is more optimistic than macroeconomic forecasts indicate—reflecting the area's recent strength in these sectors.

Summary of Employment Forecast Scenarios

The two forecast scenarios in this analysis range from 1.7% to 3.1% average annual growth. Job growth estimates range from roughly 805 to 1,730 jobs. The first scenario is useful in creating a baseline understanding of macroeconomic growth prospects. These are common and broadly accepted approaches when looking at large geographic regions.

However, forecasts grounded in broad-based economic variables do not account for the realities of local businesses and trends among evolving industries. The second scenario is meant to reflect these unique circumstances along with local economic development goals. Any long-term forecast is inherently uncertain and should be updated on a regular basis to reflect more current information.

FIGURE 4.03: COMPARISON OF ALTERNATIVE FORECASTS, CITY OF UMATILLA



Source: Johnson Economics, Oregon Employment Department, BEA

FIGURE 4.04: SUMMARY OF PROJECTION SCENARIOS, CITY OF UMATILLA (5-YEAR INCREMENTS)

Industry	Overall Employment					Net Change by Period				Total 19-39
	2019	2024	2029	2034	2039	19-24	24-29	29-34	34-39	
SCENARIO 1 (State of Oregon)										
Construction	243	272	304	341	381	29	32	36	41	139
Manufacturing	62	66	71	77	82	5	5	5	6	20
Wholesale Trade	92	99	105	112	120	6	7	7	8	28
Retail Trade	157	167	178	190	203	10	11	12	13	46
Transport, Warehousing, Utilities	104	111	119	127	135	7	8	8	9	31
Information	211	252	302	360	430	41	49	59	70	219
Finance & Insurance	9	9	9	9	10	0	0	0	0	1
Real Estate	12	12	13	13	13	0	0	0	0	1
Professional & Technical Services	10	11	12	13	14	1	1	1	1	3
Administration Services	23	25	26	28	30	2	2	2	2	7
Education	234	257	281	308	338	22	25	27	30	104
Health Care	137	150	165	181	198	13	14	16	17	61
Leisure & Hospitality	85	91	97	103	110	6	6	6	7	25
Other Services	55	59	62	65	69	3	3	4	4	14
Government	533	557	583	610	638	25	26	27	28	105
TOTAL:	1,968	2,138	2,327	2,537	2,772	170	189	210	234	804
SCENARIO 2 (Modified)										
Construction	243	273	308	346	390	31	34	39	44	147
Manufacturing	62	77	96	120	149	15	19	24	30	88
Wholesale Trade	92	101	110	121	132	9	9	10	11	40
Retail Trade	157	171	187	204	222	14	16	17	19	66
Transport, Warehousing, Utilities	104	169	273	443	718	65	105	170	275	614
Information	211	279	368	486	642	68	89	118	156	431
Finance & Insurance	9	9	9	10	10	0	0	0	0	1
Real Estate	12	12	13	13	13	0	0	0	0	1
Professional & Technical Services	10	11	12	13	14	1	1	1	1	3
Administration Services	23	25	27	28	31	2	2	2	2	7
Education	234	258	284	313	344	24	26	29	32	110
Health Care	137	151	166	183	202	14	15	17	18	64
Leisure & Hospitality	85	93	101	110	119	7	8	9	10	34
Other Services	55	59	62	66	70	3	4	4	4	15
Government	533	558	585	614	643	26	27	28	30	111
TOTAL:	1,968	2,246	2,602	3,069	3,700	278	356	467	631	1,732

Source: Johnson Economics, Oregon Employment Department, BEA

EMPLOYMENT LAND NEED FORECAST – CITY OF UMATILLA

The next step in our analysis is to convert projections of employment into forecasts of land demand over the planning period. The generally accepted methodology for this conversion begins by allocating employment by sector into a distribution of building typologies that typically house those economic activities. As an example, insurance agents commonly locate in a traditional office space, usually along commercial corridors. However, a percentage of these firms locate in commercial retail space adjacent to retail anchors. Cross tabulating this distribution provides an estimate of employment in each typology.

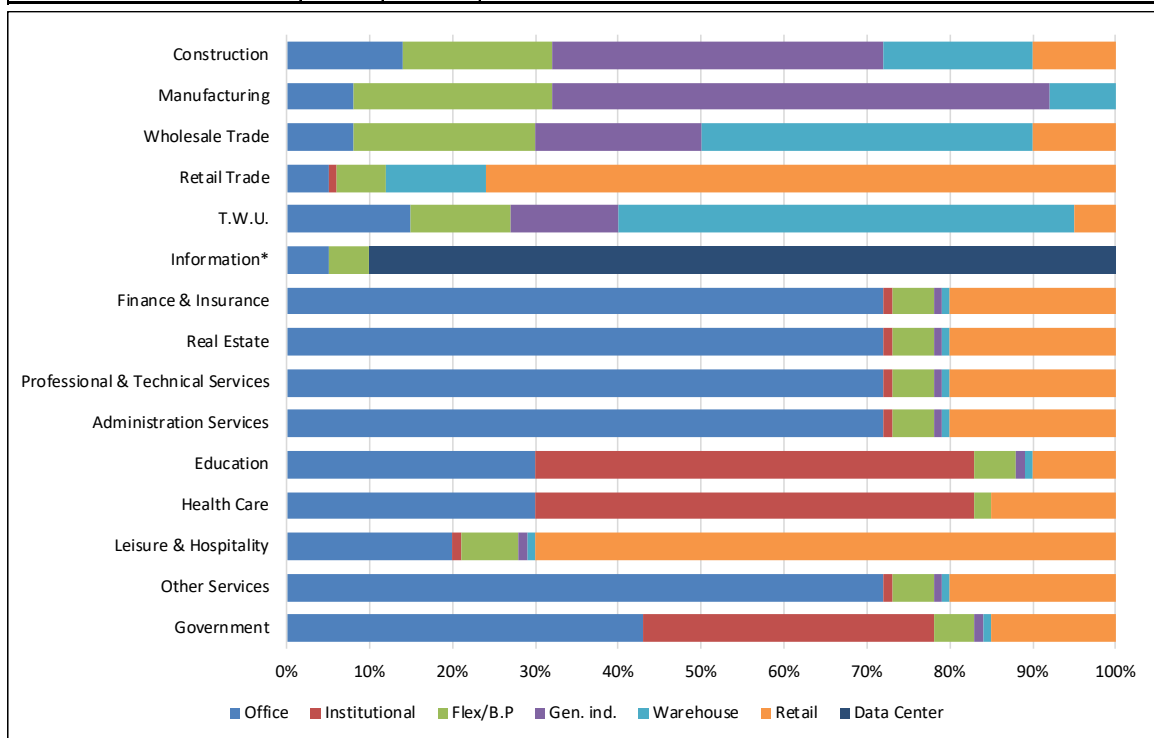
The next step converts employment into space using estimates of the typical square footage exhibited within each typology. Adjusting for market clearing vacancy we arrive at an estimate of total space demand for each building type. Finally, we can consider the physical characteristics of individual building types and the amount of land they typically require for development. The site utilization metric commonly used is referred to as a “floor area ratio” or FAR. For example, assume a 25,000-square foot general industrial building requires approximately two acres to accommodate its structure, setbacks, parking, and necessary yard/storage space. This building would have an FAR. of roughly 0.29. Demand for space is then converted to net acres using a standard FAR for each development form.

Land Demand Analysis (Adjusted Forecast)

To demonstrate the methodology used, this report will develop land need estimates in a step-by-step process, clearly presenting underlying assumptions. In this analytical step we allocate employment growth into standard building typologies. The building typology matrix represents the share of sectoral employment that locates across various building types.

FIGURE 4.05: DISTRIBUTION OF EMPLOYMENT BY SPACE TYPE, CITY OF UMATILLA

Industry Sector	20-year Job Forecast		BUILDING TYPE MATRIX						
	Number	AAGR	Office	Institutional	Flex/B.P	Gen. ind.	Warehouse	Data Center	Retail
Construction	147	2.3%	14%	0%	18%	40%	18%	0%	10%
Manufacturing	88	1.4%	8%	0%	24%	60%	8%	0%	0%
Wholesale Trade	40	1.3%	5%	0%	5%	10%	75%	0%	5%
Retail Trade	66	1.3%	5%	1%	6%	0%	12%	0%	76%
Transport, Warehousing, Utilities	614	1.3%	15%	0%	12%	13%	55%	0%	5%
Information	431	3.6%	5%	0%	5%	0%	0%	90%	0%
Finance & Insurance	1	0.5%	72%	1%	5%	1%	1%	0%	20%
Real Estate	1	0.5%	72%	1%	5%	1%	1%	0%	20%
Professional & Technical Services	3	1.3%	72%	1%	5%	1%	1%	0%	20%
Administration Services	7	1.3%	72%	1%	5%	1%	1%	0%	20%
Education	110	1.8%	30%	53%	5%	1%	1%	0%	10%
Health Care	64	1.8%	30%	53%	2%	0%	0%	0%	15%
Leisure & Hospitality	34	1.3%	20%	1%	7%	1%	1%	0%	70%
Other Services	15	1.1%	72%	1%	5%	1%	1%	0%	20%
Government	111	0.9%	43%	35%	5%	1%	1%	0%	15%
TOTAL	1,732	1.7%	16%	8%	10%	11%	24%	22%	9%



Source: Johnson Economics, Oregon Employment Department

Under the employment forecast scenario, employment housed in data center, office, retail, and general industrial space accounts for the greatest share of growth.

FIGURE 4.06: NET CHANGE IN EMPLOYMENT ALLOCATED BY BUILDING TYPE, CITY OF UMATILLA – 2019-2039

Industry Sector	20-year Job Forecast		NET CHANGE IN EMPLOYMENT BY BUILDING TYPE - 2019-2039							Total
	Number	AAGR	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Data Center	Retail	
Construction	147	2.3%	21	0	27	59	27	0	15	147
Manufacturing	88	1.4%	7	0	21	53	7	0	0	88
Wholesale Trade	40	1.3%	2	0	2	4	30	0	2	40
Retail Trade	66	1.3%	3	1	4	0	8	0	50	66
Transport., Warehousing, Utilities	614	1.3%	92	0	74	80	338	0	31	614
Information	431	3.6%	22	0	22	0	0	388	0	431
Finance & Insurance	1	0.5%	1	0	0	0	0	0	0	1
Real Estate	1	0.5%	1	0	0	0	0	0	0	1
Professional & Technical Services	3	1.3%	2	0	0	0	0	0	1	3
Administration Services	7	1.3%	5	0	0	0	0	0	1	7
Education	110	1.8%	33	58	5	1	1	0	11	110
Health Care	64	1.8%	19	34	1	0	0	0	10	64
Leisure & Hospitality	34	1.3%	7	0	2	0	0	0	24	34
Other Services	15	1.1%	11	0	1	0	0	0	3	15
Government	111	0.9%	48	39	6	1	1	0	17	111
TOTAL	1,732	1.7%	273	132	165	198	412	388	164	1,732

Source: Johnson Economics, Oregon Employment Department

Employment growth estimates by building type are then converted into demand for physical space. This conversion assumes the typical space needed per employee on average. This step also assumes a market clearing vacancy rate, acknowledging that equilibrium in real estate markets is not 0% vacancy. We assume a 10% vacancy rate for office, retail, and flex uses, as these forms have high rates of speculative multi-tenant usage. A 5% rate is used for general industrial, warehouse, and data centers—these uses have higher rates of owner occupancy that lead to lower overall vacancy. Institutional uses are assumed to have no vacancy.

The demand for space is converted into an associated demand for acreage using an assumed Floor Area Ratio (FAR). The combined space and FAR assumptions further provide estimates indicative of job densities, determined on a per net-developable acre basis.

FIGURE 4.07: NET ACRES REQUIRED BY BUILDING TYPOLOGY

ADJUSTED SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2019-2039							Total
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Data Center	Retail	
Employment Growth	273	132	165	198	412	388	164	1,732
Avg. SF Per Employee	350	600	990	600	1,850	8,000	500	2,542
Demand for Space (SF)	95,600	79,400	163,100	118,900	761,900	3,101,100	81,900	4,401,900
Floor Area Ratio (FAR)	0.35	0.35	0.30	0.30	0.35	0.35	0.25	0.32
Market Vacancy	10.0%	10.0%	10.0%	5.0%	5.0%	5.0%	10.0%	5.6%
Implied Density (Jobs/Acre)	39.2	22.9	11.9	20.7	7.8	1.8	19.6	5.6
Net Acres Required	7.0	5.8	13.9	9.6	52.6	214.1	8.4	311.3

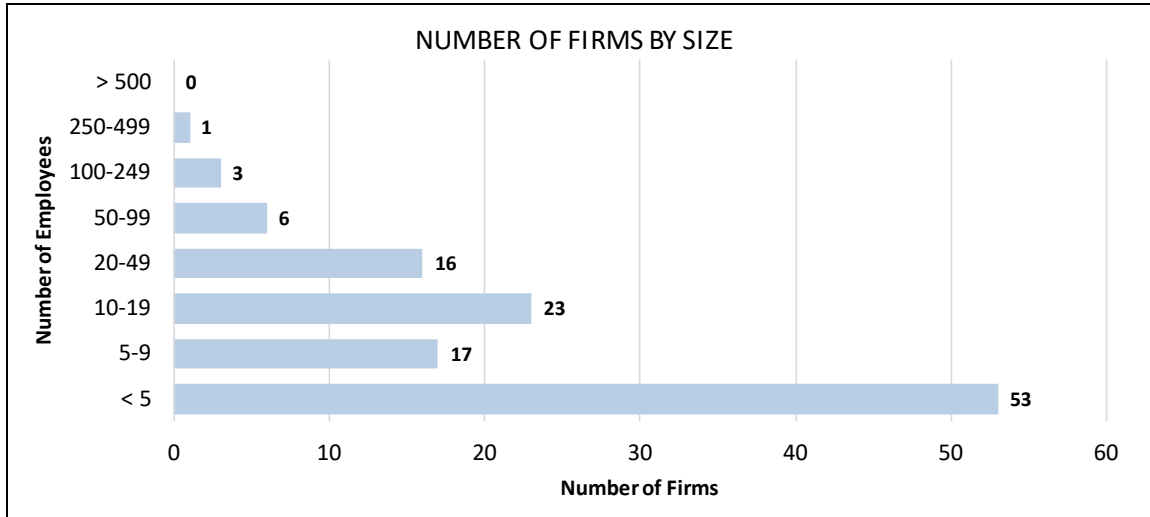
Source: Johnson Economics, Oregon Employment Department

Commercial office and retail densities are 39 and 20 jobs per acre, respectively. Industrial uses range from 21 jobs per acre for general industrial to 8 jobs per acre for warehouse/distribution to as few as 2 jobs per acre for data center users. The projected 1,730 job expansion in the local employment base would require an estimated 311 net acres of employment land to house.

EMPLOYMENT LAND NEED FORECAST – NEEDED SITE SIZES

The local employment base is largely dominated by small firms of 10 or fewer employees, with four employers currently accounting for more than 100 employees and one accounting for more than 250 (Figure 4.08).

FIGURE 4.08: DISTRIBUTION OF CURRENT FIRMS BY SIZE, UMATILLA OREGON



Source: Johnson Economics, Oregon Employment Department

Figure 4.09 presents the projected need for new commercial and industrial sites based on the industry growth projections presented above. These site needs are an estimate of future needs to aid comparison to available supply (see following Section.)

FIGURE 4.09: ESTIMATED SITE NEEDS (ACRES) OF FUTURE EMPLOYERS, UMATILLA OREGON

LAND USE	0 TO .9 acres	1 to 4.9 acres	5 to 9.9 acres	10 to 19.9 acres	20 to 29.9 acres	30 to 49.9 acres	50 to 99.9 acres	100+ acres	TOTAL
Office	10	1	0	0	0	0	0	0	11
Institutional	2	2	0	0	0	0	0	0	4
Retail	5	2	0	0	0	0	0	0	7
Commercial:	17	5	0	0	0	0	0	0	22
Flex/B.P	3	2	1	0	0	0	0	0	6
Gen. Ind.	5	3	1	0	0	0	0	0	9
Warehouse	2	3	2	0	0	0	1	0	8
Data Center	0	0	0	0	0	0	1	2	3
Industrial:	10	8	4	0	0	0	2	2	26
TOTAL:	27	13	4	0	0	0	2	2	48

Source: Johnson Economics, Oregon Employment Department

The estimates presented in Figure 4.09 are based on the average firm sizes of businesses in the different industry subsectors in Umatilla County. *However, economic development and job growth are dynamic, and this estimate of site needs is unlikely to match actual future needs exactly. Communities should maintain flexibility and ensure a supply of a variety of site types with short-term availability, as allowed through the Goal 9 EOA process.*

Local and regional employment trends in Umatilla and Morrow Counties support the likely ability to continue to recruit larger users such as data centers and larger manufacturers going forward. At the same time, there will be a continued demand for real estate space and sites of all size to accommodate the full range of employers across sectors.

Additional Considerations in Land Demand

Beyond a consideration of gross acreage, there is a significantly broader range of site characteristics that industries would require to accommodate future growth. We summarize some key findings here:

- Industrial buildings are generally more susceptible to slope constraints due to larger building footprints. For a site to be competitive for most industrial uses, a 5% slope is the maximum for development sites. Office and commercial uses are generally smaller and more vertical, allowing for slopes up to 15%.
- Most industries require some direct access to a major transportation route, particularly manufacturing and distribution industries that move goods throughout the region and beyond. A distance of 10-to-20 miles to a major interstate is generally acceptable for most manufacturing activities, but distribution activities require five miles or less and generally prefer a direct interstate linkage. Visibility and access are highly important to most commercial activities and site location with both attributes from a major commercial arterial is commonly required.
- Access and capacity for water, power, gas, and sewer infrastructure is more important to industrial than commercial operations. Water/sewer lines of up to 10" are commonly required for large manufacturers. Appendix A details utility infrastructure requirements by typology.
- Fiber telecommunications networks are likely to be increasingly required in site selection criteria for most commercial office and manufacturing industries. Medical, high-tech, creative office, research & development, and most professional service industries will prefer or require strong fiber access in the coming business cycles.

Section VI and Appendix A of this report discuss industry-specific site requirements in greater detail.

V. CURRENT EMPLOYMENT LAND SUPPLY

BUILDABLE LAND INVENTORY

The inventory of employment land provides a snapshot of the currently local capacity to accommodate more business and jobs. This current available land will be compared to the forecasted need for new land over the 20-year planning period.

Employment land includes land zoned for industrial, retail or other commercial use (i.e. office), and may also include mixed-use zoning that allows for employment uses. This inventory includes vacant parcels with the proper zoning, as well as “redevelopable” parcels. (The methodology used in this analysis is described in detail below.)

Methodology

The Buildable Lands Inventory (BLI) used in this analysis is based on tax account data from the County, supplemented with data from the State of Oregon. The data was provided in Geographic Information Systems (GIS) compatible format, providing information on land use, parcel size and other relevant data categories on the taxlot level. Zoning information was also provided by the City.

The tax account data was used to identify vacant and redevelopable parcels in the city and its UGB. Environmental constraints including wetlands, floodplain and steep slopes that might impact developability were also considered. The identified candidate parcels were then further screened and refined by Johnson Economics.

In keeping with State requirements, the BLI includes an assessment of vacant buildable lands and redevelopable parcels. This analysis applied the “safe harbor” assumptions allowed under state rules to determine the infill potential of developed parcels (OAR 660-024-0050):

FIGURE 5.01: SUMMARY OF EMPLOYMENT BUILDABLE LAND INVENTORY METHODOLOGY



Appendix B provides an in-depth summary of the Buildable Lands Inventory, including methodology and mapping of the identified parcels of employment land. The results are summarized below.

FIGURE 5.02: SUMMARY OF EMPLOYMENT BUILDABLE LAND INVENTORY (UMATILLA)

ZONE	VACANT		REDEVELOPABLE		TOTAL	
	Parcels	Acreage	Parcels	Acreage	Parcels	Acreage
C-1	4	8.5	2	1.0	6	9.5
DC	11	2.2	3	0.4	14	2.6
DT	8	1.4	0	0.0	8	1.4
GC	6	10.0	2	3.6	8	13.5
MC	3	4.1	0	0.0	3	4.1
NC	3	31.4	0	0.0	3	31.4
Commercial Total:	35	57.6	7	4.9	42	62.5
M1	6	23.5	5	27.6	11	51.1
M2	16	247.9	3	16.8	19	264.7
Industrial Total:	22	271.3	8	44.5	30	315.8
TOTAL:	57	328.9	15	49.4	72	378.3

Source: Umatilla County, Umatilla, Johnson Economics LLC

The inventory identifies over 378 acres of vacant or potentially redevelopable land in both commercial and industrial zones. A smaller share is in the Commercial zones, while the majority has Industrial zoning. 80% of the sites are identified as “vacant”, and 20% are potential “redevelopment” sites.

FIGURE 5.03: SUMMARY OF EMPLOYMENT BUILDABLE LAND INVENTORY, BY PARCEL SIZE (UMATILLA)

ZONE	0 TO .99 acres		1 to 4.99 acres		5 to 9.99 acres		10 to 19.99 acres		20 to 29.99 acres		30 to 49.99 acres		50+ acres		TOTALS	
	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage
C-1	4	2.2	1	1.9	1	5.5	0	0.0	0	0.0	0	0.0	0	0.0	6	9.5
DC	14	2.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	2.6
DT	8	1.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	1.4
GC	2	1.7	3	5.0	1	6.9	0	0.0	0	0.0	0	0.0	0	0.0	6	13.5
MC	1	0.7	2	3.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	4.1
NC	0	0.0	0	0.0	2	13.4	1	18.0	0	0.0	0	0.0	0	0.0	3	31.4
<i>Commercial Total:</i>	<i>29</i>	<i>8.6</i>	<i>6</i>	<i>10.2</i>	<i>4</i>	<i>25.8</i>	<i>1</i>	<i>18.0</i>	<i>0</i>	<i>0.0</i>	<i>0</i>	<i>0.0</i>	<i>0</i>	<i>0.0</i>	<i>40</i>	<i>62.5</i>
M1	0	0.0	8	20.7	2	13.4	1	17.0	0	0.0	0	0.0	0	0.0	11	51.1
M2	0	0.0	3	10.3	6	39.7	4	53.3	0	0.0	0	0.0	1	161.4	14	264.7
<i>Industrial Total:</i>	<i>0</i>	<i>0.0</i>	<i>11</i>	<i>31.0</i>	<i>8</i>	<i>53.2</i>	<i>5</i>	<i>70.3</i>	<i>0</i>	<i>0.0</i>	<i>0</i>	<i>0.0</i>	<i>1</i>	<i>161.4</i>	<i>25</i>	<i>315.8</i>
TOTAL:	29	8.6	17	41.2	12	78.9	6	88.2	0	0.0	0	0.0	1	161.4	65	378.3

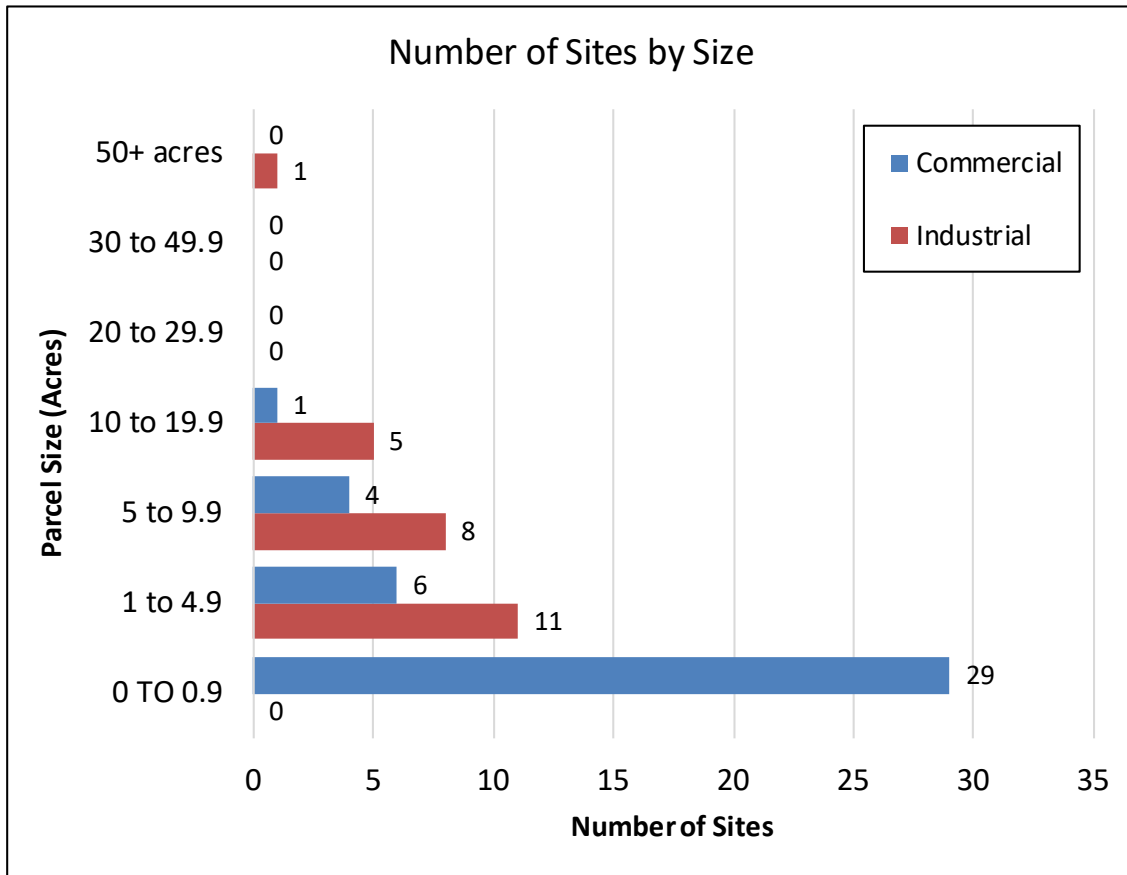
Source: Umatilla County, Umatilla, Johnson Economics LLC

Figure 5.03 presents the inventory broken down by the size of parcels. Most of the buildable unconstrained parcels identified are smaller than 20 acres, with the largest share of commercial parcels being smaller than

one acre in size. The largest share of industrial parcels (over one third) are between one and five acres. There is one large industrial parcel of roughly 160 acres located at the Port.

The following chart provides a visual presentation of the site-size data.

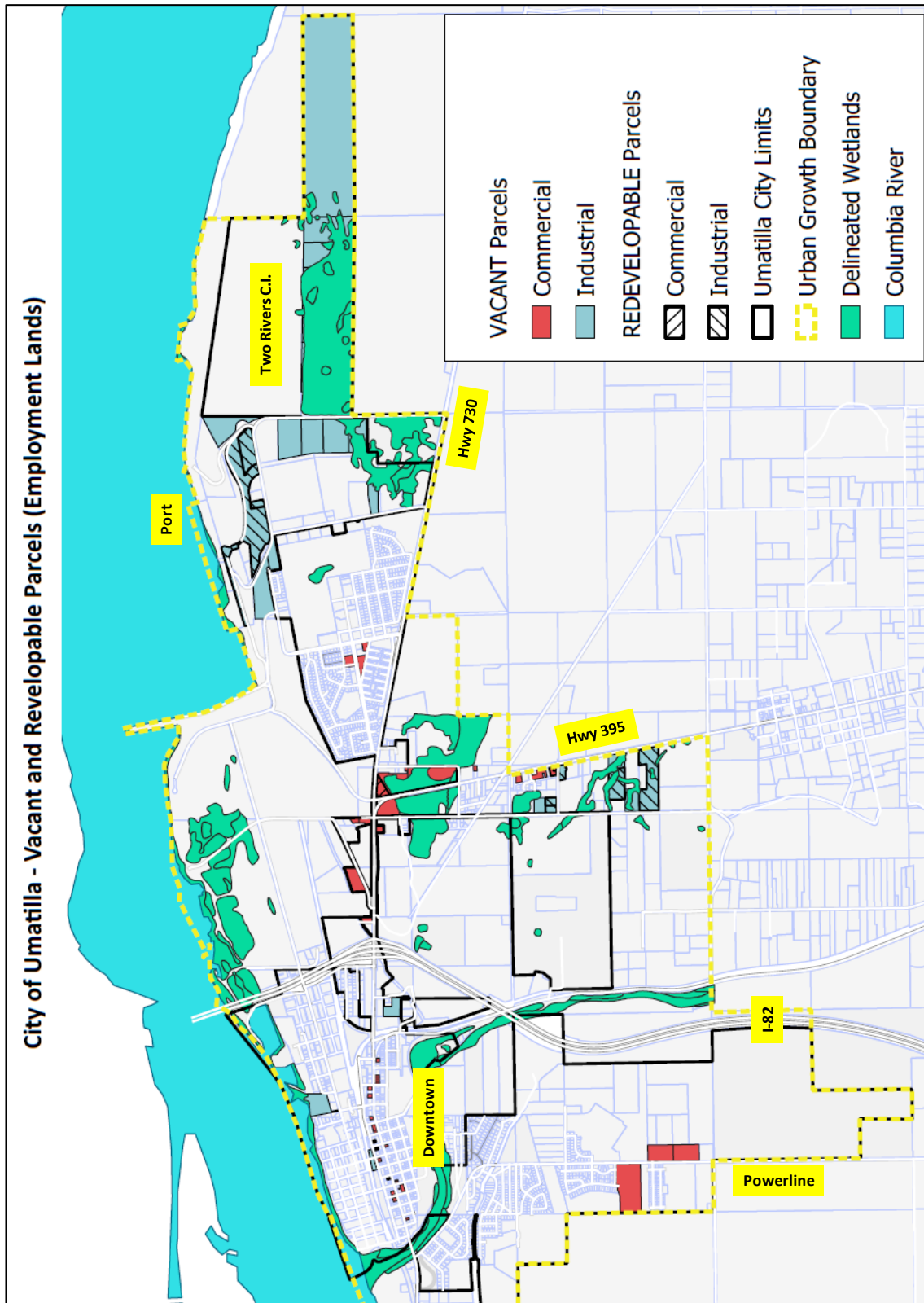
FIGURE 5.04: SUMMARY OF EMPLOYMENT BUILDABLE LAND INVENTORY, BY PARCEL SIZE (UMATILLA)



Source: Umatilla County, Umatilla, Johnson Economics LLC

The following figure shows a map of the Buildable Land Inventory for commercial and industrial parcels. Wetland constraints are highlighted to show how they hamper some of nominally vacant land supply. Where wetlands constrain a parcel, these parcels may be partially or wholly discounted from the inventory.

FIGURE 5.05: MAP OF EMPLOYMENT BUILDABLE LAND INVENTORY (UMATILLA)



Source: Umatilla County, State of Oregon, Johnson Economics LLC

BUILDABLE LAND INVENTORY VS. 20-YEAR LAND NEED

The inventory of employment land provides a snapshot of the currently local capacity to accommodate more business and jobs. This current available land is compared to the forecasted need for new land over the 20-year planning period, generated in a previous step of this project (Section IV).

The estimate of future land need is presented below. A total need for 309 net acres was identified across a range of building types.

FIGURE 5.06: SUMMARY OF FORECASTED 20-YEAR LAND NEED BY BUILDING TYPOLOGY (UMATILLA)

ADJUSTED SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2019-2039							Total
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Data Center	Retail	
Employment Growth	273	132	165	198	412	388	164	1,732
Avg. SF Per Employee	350	600	990	600	1,850	8,000	500	2,542
Demand for Space (SF)	95,600	79,400	163,100	118,900	761,900	3,101,100	81,900	4,401,900
Floor Area Ratio (FAR)	0.35	0.35	0.30	0.30	0.35	0.35	0.25	0.32
Market Vacancy	10.0%	10.0%	10.0%	5.0%	5.0%	5.0%	10.0%	5.6%
Implied Density (Jobs/Acre)	39.2	22.9	11.9	20.7	7.8	1.8	19.6	5.6
Net Acres Required	7.0	5.8	13.9	9.6	52.6	214.1	8.4	311.3

Source: Oregon Employment Department, Umatilla, Johnson Economics LLC

There is a total projected 20-year need for 309 acres of buildable employment land in industrial and commercial zones. Roughly 90% of this projected need is for uses most appropriate to industrial zones (Flex, General Industrial, Warehouse, and Data Center), while the remainder is for uses most appropriate for commercial zones (Office, Retail, Institutional).

Conclusion

This combined identified need (311 acres) is less than the 378 acres of combined buildable employment land noted in Figure 5.02. **It is important to remember that the different categories of employment land are not (necessarily) substitutable.** For instance, a shortage of 10 acres of commercial land, and a surplus of 10 acres of industrial land do not cancel each other.

Also, this does not address the more specific site needs from specific categories of employment land users. **Some of the forecasted growth includes employers who may have specific site needs and preferences that are not reflected in the available buildable inventory, even though *in total* the available parcels sum to a significant amount.**

In particular, there is forecasted demand for more suitable large-lot industrial sites while relatively few of these sites were found in the inventory. This is discussed in greater detail below.

VI. EMPLOYER SITE NEEDS VS. BUILDABLE LAND SUPPLY

This section compares the more specific site requirements of projected future commercial and industrial users with the specific inventory of prospective employment sites identified within the UGB. Oregon Administrative Rules requires a determination of 20-year employment land need, as well as a determination of need for suitable, readily serviceable land to meet short-term demand.

The following definitions from OAR 660-009-005 are relevant to this discussion:

(2) "Development Constraints" means factors that temporarily or permanently limit or prevent the use of land for economic development. Development constraints include, but are not limited to, wetlands, environmentally sensitive areas such as habitat, environmental contamination, slope, topography, cultural and archeological resources, infrastructure deficiencies, parcel fragmentation, or natural hazard areas....

(10) "Short-term Supply of Land" means suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is sufficient to qualify land for the short-term supply of land. Funding availability is not required. "Competitive Short-term Supply" means the short-term supply of land provides a range of site sizes and locations to accommodate the market needs of a variety of industrial and other employment uses.

(11) "Site Characteristics" means the attributes of a site necessary for a particular industrial or other employment use to operate. Site characteristics include, but are not limited to, a minimum acreage or site configuration including shape and topography, visibility, specific types or levels of public facilities, services or energy infrastructure, or proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes.

(12) "Suitable" means serviceable land designated for industrial or other employment use that provides, or can be expected to provide the appropriate site characteristics for the proposed

As noted in the previous section, the Buildable Land Inventory was screened for major constraints, including current development, floodways, wetlands, steep slopes, and federal ownership. The remaining parcels in the inventory may be buildable but may not meet the specific site requirements of certain users. Others may be part of the long-term supply, but not be well-suited for the short-term supply.

Estimated 20-Year Site Needs vs. Current Supply

The following figures re-present the findings of estimated need and current supply of sites by size, as presented in the preceding sections. Note that the estimate of future needs is approximate, as economic growth is dynamic and difficult to predict. Communities should maintain flexibility and ensure a supply of a variety of site types with short-term availability, as allowed through the Goal 9 EOA process.

As Figure 6.01 presents there is currently estimated to be a sufficient supply of commercial (retail/office/institutional) parcels to meet the projected demand. Most of the demand is estimated to be from employers seeking relatively small sites of five acres or less. Due to higher employment density for commercial uses, some of these may still have sizable workforces, despite smaller sites.

For industrial users, there is an estimated deficit of sites of some sizes. Most notably there is a deficit of suitable large industrial sites, and a deficit of small industrial sites.

**FIGURE 6.01: SUMMARY OF FORECASTED 20-YEAR SITE NEED VS. SITE SUPPLY
BY LAND USE AND SITE SIZE (ACRES), UMATILLA**

Estimated 20-year Site NEED

LAND USE	0 TO .9 acres	1 to 4.9 acres	5 to 9.9 acres	10 to 19.9 acres	20 to 29.9 acres	30 to 49.9 acres	50 to 99.9 acres	100+ acres	TOTAL
Office	10	1	0	0	0	0	0	0	11
Institutional	2	2	0	0	0	0	0	0	4
Retail	5	2	0	0	0	0	0	0	7
Commercial:	17	5	0	0	0	0	0	0	22
Flex/B.P	3	2	1	0	0	0	0	0	6
Gen. Ind.	5	3	1	0	0	0	0	0	9
Warehouse	2	3	2	0	0	0	1	0	8
Data Center	0	0	0	0	0	0	1	2	3
Industrial:	10	8	4	0	0	0	2	2	26
TOTAL:	27	13	4	0	0	0	2	2	48

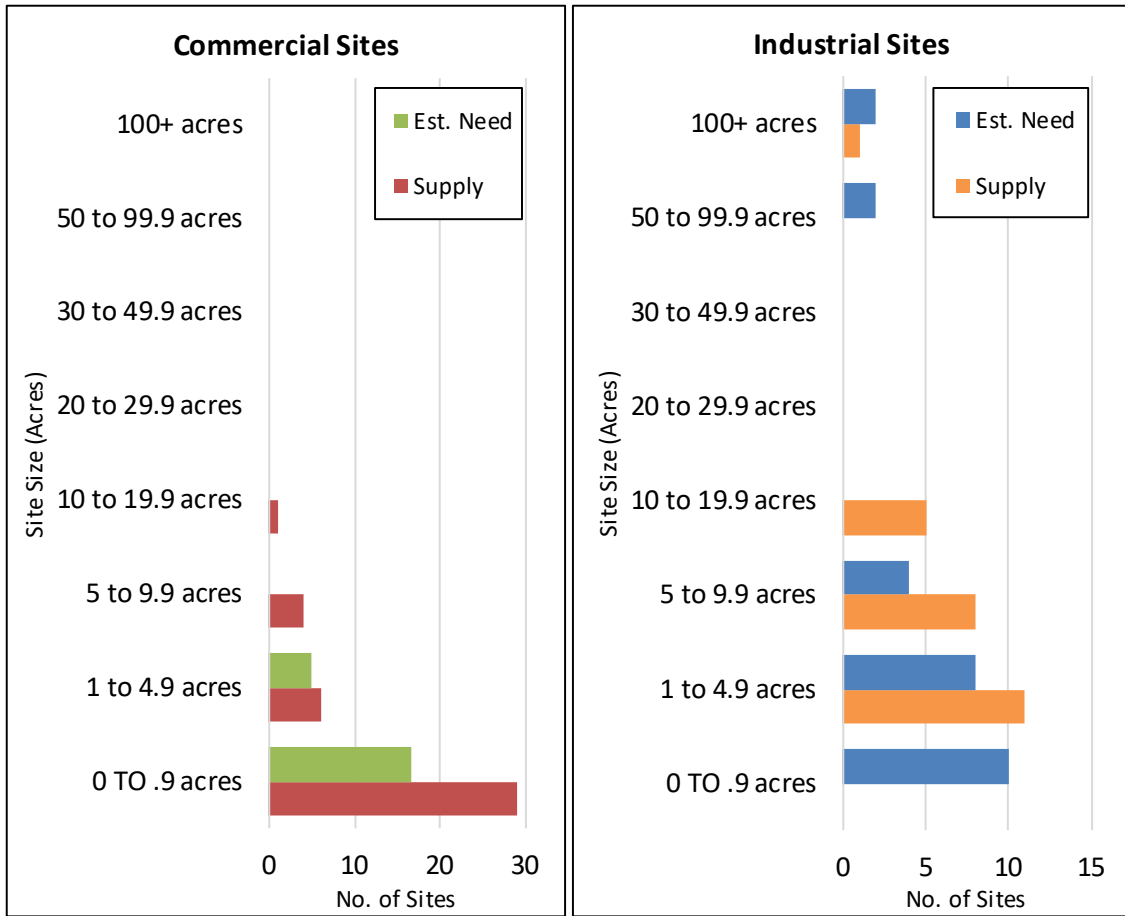
Estimated Employment Land SUPPLY (BLI)

LAND USE	0 TO .9 acres	1 to 4.9 acres	5 to 9.9 acres	10 to 19.9 acres	20 to 29.9 acres	30 to 49.9 acres	50 to 99.9 acres	100+ acres	TOTAL
C-1	4	1	1	0	0	0	0	0	6
DC	14	0	0	0	0	0	0	0	14
DT	8	0	0	0	0	0	0	0	8
GC	2	3	1	0	0	0	0	0	6
MC	1	2	0	0	0	0	0	0	3
NC	0	0	2	1	0	0	0	0	3
Commercial:	29	6	4	1	0	0	0	0	40
M1	0	8	2	1	0	0	0	0	11
M2	0	3	6	4	0	0	0	1	14
Industrial:	0	11	8	5	0	0	0	1	25
TOTAL:	29	17	12	6	0	0	0	1	65

Source: Oregon Employment Department, Umatilla, Johnson Economics LLC

Figure 6.02 presents the same data in chart form.

**FIGURE 6.02: SUMMARY OF FORECASTED 20-YEAR SITE NEED VS. SITE SUPPLY
BY LAND USE AND SITE SIZE (ACRES), UMATILLA**



Source: Oregon Employment Department, Umatilla, Johnson Economics LLC

Identified Industrial Site Deficits

Large Lot: The specific site deficits identified are for large industrial parcels. This finding is the result of strong projected growth in the information sector, and specifically data centers and cloud computing facilities. The Umatilla and Morrow County regions are now established centers for these facilities in Oregon due to a confluence of available infrastructure and workforce that have attracted these employers over the past decade. These facilities represent huge capital investments and offer high average wages for the region. There are known prospective opportunities to attract more of these facilities in the Umatilla area, which are excellent candidates for a ready short-term supply of suitable sites.

As outlined in the matrix of site requirements presented in Appendix A, these users seek large-lot industrial land with excellent power, water, and fiber access. These facilities have thus far used sites of 30 to over 100 acres. These users have stated a preference for very large sites in order to allow for future expansion. The most recent data center development in Umatilla sought a 120-acre site.

Given the projected short-term growth, and prospective long-term growth in this industry, Johnson Economics estimates a need for at least one site of 100+ acres meeting serviceability requirements for data center or large manufacturing users, and at least two sites of 50+ acres.

In addition, there is a need for an additional large site or sites for potential distribution facilities. This is an identified target industry based on local economic goals, and the Umatilla area provides strong advantages for this type of facility based on its location at the connection of two interstate freeways.

Distribution centers require large sites for warehousing and truck staging, with ready freeway or major highway access for the receiving and shipping of large volumes of goods. For example, the nearby Walmart Distribution Center uses a 190-acre site, while the Fed Ex Freight distribution facility uses a 62.5-acre site. The currently available industrial sites are generally too limited in size and most are too distant from the freeway to serve as suitable candidates for this use.

Small Lot: There is also a projected future need from small industrial firms for smaller sites. It is also common for these types of users to also be accommodated in multi-tenant industrial buildings on larger sites. Given the supply of industrial sites in the 5- to 20-acre range that can be subdivided or built with multi-tenant space, it may be less critical to designate new land for these small users at this time. However, policies which facilitate availability of space for small industrial firms within current zones may be warranted.

APPENDIX A: SITE REQUIREMENTS

The following series of tables summarize key site requirements for a range of prospective tenant types.⁵

CRITERIA		PROFILE	A	B	C	D	E	F	G	H	I	J
		Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator	
GENERAL REQUIREMENTS		Use is permitted outright, located in UGB or equivalent and outside flood plain; and site (NCDA) does not contain contaminants, wetlands, protected species, or cultural resources or has mitigation plan(s) that can be implemented in 180 days or less.										
PHYSICAL SITE												
1	TOTAL SITE SIZE* Competitive Acreage**	5 - 100+	5 - 15	5 - 20	5 - 25+	5 - 50+	20 - 100+	10 - 100+	5 - 20	10 - 100+	5 - 25+	
2	COMPETITIVE SLOPE: Maximum Slope	0 - 5%	0 - 7%	0 - 7%	0 - 5%	0 - 5%	0 - 7%	0 - 3%	0 - 7%	0 - 7%	0 - 5%	
TRANSPORTATION												
3	TRIP GENERATION: Average Daily Trips per Acre	40 - 60	80 - 200 ₁	120 - 240 ₂	50 - 60	40 - 50	60 - 150	50 - 60 ₃	400 - 500 ₄	20 - 30	40 - 50	
4	MILES TO INTERSTATE OR FREIGHT ROUTE: Miles	w/in 10	w/in 5	w/in 5	w/in 30	w/in 20	w/in 5	w/in 5	w/in 5	w/in 30	N/A	
5	MILES TO FREQUENT TRANSIT SERVICE (15 MIN OR LESS) Miles	0.6	0.5	0.8	< 0.1	0.2	0.1	0.3	< 0.1	0.1	< 0.1	
6	RAILROAD ACCESS: Dependency	Preferred	Not Required	Not Required	Preferred	Preferred	Preferred	Preferred	Preferred	Avoid	Avoid	N/A
7	PROXIMITY TO MARINE PORT: Dependency	Preferred	Not Required	Not Required	Preferred	Preferred	Preferred	Preferred	Preferred	Not Required	Not Required	N/A
8	PROXIMITY TO INTERNATIONAL/REGIONAL AIRPORT: Dependency	Competitive	Required	Preferred	Preferred	Preferred	Required	Not Required	Not Required	Competitive	N/A	
	Distance (Miles)	This criteria cannot be met in Eastern Oregon										

⁵ Business Oregon, Mackenzie.

PROFILE		A	B	C	D	E	F	G	H	I	J	
		Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator	
CRITERIA												
UTILITIES												
9	WATER:	Min. Line Size (Inches/Dmtr)	12" - 16"	6" - 8"	8" - 10"	12" - 16"	6" - 10"	8" - 12"	6" - 10"	8" - 12"	16"	4" - 8"
		Min. Fire Line Size (Inches/Dmtr)	12" - 18"	8" - 10"	8" - 12"	10" - 12"	8" - 10"	8" - 12"	8" - 10"	8" - 12"	10"-12"	6" (or alternate source)
		High Pressure Water Dependency	Required	Not Required	Not Required	Required	Not Required	Preferred	Not Required	Not Required	Required	Not Required
		Flow (Gallons per Day per Acre)	5,200	1,200	1,500	3,150	1,850	2,450	1,200	1,800 _s	50 - 200 ⁺	1,200
10	SEWER:	Min. Service Line Size (Inches/Dmtr)	12" - 18"	6" - 8"	8" - 10"	10" - 12"	6" - 8"	10" - 12"	6" - 8"	6" - 10"	8" - 10"	4" - 6" (or on-site source)
		Flow (Gallons per Day per Acre)	4,700	1,000	2,000	2,600	1,700	2,000	1,000	1,500 _s	1,000 [±]	1,000
11	NATURAL GAS:	Preferred Min. Service Line Size (Inches/Dmtr)	6"	4"	4"	4"	4"	6"	4"	4" - 6"	4"	N/A
		On Site	Competitive	Preferred	Competitive	Preferred	Competitive	Competitive	Preferred	Competitive	Preferred	Preferred
12	ELECTRICITY:	Minimum Service Demand	4 - 6 MW	1 - 2 MW	0.5 - 1 MW	2 - 6 MW	0.5 MW	2 - 6 MW	0.5 MW	0.5 - 1 MW	5 - 25 MW	1 MW
		Close Proximity to Substation	Competitive	Competitive	Preferred	Not Required	Preferred	Competitive	Not Required	Preferred	Required, could be on site	Not Required
		Redundancy Dependency	Preferred	Preferred	Preferred	Not Required	Not Required	Competitive	Not Required	Preferred	Required	Not Required
13	TELECOMMUNICATIONS:	Major Communications Dependency	Required	Required	Required	Preferred	Required	Required	Preferred	Required	Required	Preferred
		Route Diversity Dependency	Required	Required	Required	Not Required	Not Required	Required	Preferred	Preferred	Required	Not Required
		Fiber Optic Dependency	Required	Required	Required	Preferred	Preferred	Required	Competitive	Preferred	Required	Not Required

PROFILE	A	B	C	D	E	F	G	H	I	J
	Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator
14 SPECIAL CONSIDERATIONS:	<p>Acreage allotment includes expansion space (often an exercisable option). Very high utility demands in one or more areas common. Sensitive to vibration from nearby uses.</p>	<p>1: Research & Development @ 80 ADTs per acre on the low end, estimated 200 ADTs per acre for general office on the high end.</p> <p>Location specific.</p>	<p>2: Range represents FAR 0.25 - 0.5 of office uses</p> <p>Location to other cluster industries.</p>	<p>May require high volume/supply of water and sanitary sewer treatment. Often needs substantial storage/yard space for input storage. Onsite water pre-treatment needed in many instances.</p>	<p>Adequate distance from sensitive land uses (residential, parks) necessary. Moderate demand for water and sewer. Higher demand for electricity, gas, and telecom.</p>	<p>High diversity of facilities within business parks. R&D facilities benefit from close proximity to higher education facilities. Moderate demand on all infrastructure systems.</p>	<p>3: General warehousing rates</p>	<p>4: Based on discount warehouse @ 0.25 FAR</p> <p>5: Dependent on use, i.e., brewery vs. restaurant</p> <p>Location to cluster industries.</p>	<p>Site size differs due to land cost and availability. Urban-area centers may require 10-20 acres, while E. Oregon centers will typically use larger sites. Also the trend is towards increasing site size as cloud storage needs continue to increase. Power delivery, water supply, and security are critical. Surrounding environment (vibration, air quality, etc.) is crucial. May require high volume/supply of water and sanitary sewer treatment.</p>	<p>Often established by municipalities and have symbiotic relationships with colleges and/or universities.</p>

Terms:

More Critical ↑	'Required' factors are seen as mandatory in a vast majority of cases and have become industry standards.
	'Competitive' significantly increases marketability and is <i>highly recommended by Business Oregon</i> . May also be linked to financing in order to enhance the potential reuse of the asset in case of default.
Less Critical	'Preferred' increases the feasibility of the subject property and its future reuse. Other factors may, however, prove more critical.
	'Not Required' does not apply for this industry and/or criteria.
	'Avoid' factors act as deterrents to businesses in these industries because of negative impacts.
*Total Site: Building footprint, including buffers, setbacks, parking, mitigation, and expansion space.	
**Competitive Acreage: Acreage that would meet the site selection requirements of the majority of industries in this sector.	
† Data Center Water Requirements: Water requirement is reported as gallons per MWh to more closely align with the Data Center industry standard reporting of Water Usage Effectiveness (WUE).	
‡ Data Center Sewer Requirements: Sewer requirement is reported as 200% of the domestic usage at the Data Center facility. Water and sewer requirements for Data Centers are highly variable based on new technologies and should be reviewed on a case-by-case basis for specific development requirements.	

The 14 site requirements listed on the matrix provide a basis for establishing a profile of the physical and other site needs of the identified industry. The site requirements are intended to address the typical needs of each of the industry categories, and it is recognized that there will likely be unique or non-typical needs of a specific user that will need to be evaluated by on a case-by-case basis.

The following describes a few general requirements that apply to *all* industry type categories under consideration and then an overview of the 14 site requirements listed on the matrix.

General Requirements:

- The underlying zoning on the site must allow the use outright within the identified category. For example, no zone change, conditional use and/or similar land use review is necessary. Many jurisdictions typically require a design or development review which is acceptable, since the timeframe for obtaining such design-related approvals will be addressed in the State's rating system.
- The site under consideration must be located geographically within a UGB.
- The site is not located within a 100-year floodplain as mapped by FEMA, although sites with approved FEMA map amendments (e.g., LOMA & LOMR) are acceptable.
- The net contiguous developable area (NCDA) of the site does not include hazardous contaminants as verified by a Level 1 Environmental Report, or a Level 2 Report that has received a No Further Action approval from DEQ; or existing wetlands or other natural features which are regulated at the State, Federal or local level; or federally endangered species.
- The NCDA does not contain any cultural or historical resources that have been identified for protection at the State, Federal or local level.
- The NCDA does not have mitigation plans that can be implemented in 180 days or less.

Site Requirements:

1. **Total Site Size:** The site size is taken to mean the size of the building footprint and includes buffers, setbacks, parking, mitigation, and expansion space.
2. **Competitive Slope:** Most industrial uses require relatively large building footprints that do not accommodate steps in floor slabs, and sloping topography will require extensive excavation and retaining systems that increase development cost over flat sites. The figures given are the preferred maximum average slope across the developable portion of the site, recognizing that sites with additional area outside the building, or developments with multiple building pads, generally will have lower slope earthwork costs than sites with limited space outside the building footprint.
3. **Trip Generation:** Sites are frequently limited by a jurisdiction to a specified total number of vehicle trips entering and exiting the site. This site requirement is an estimate of the minimum number of average daily trips per acre (based on the range of building coverage) that should be available for each of the industrial categories based on the Institute of Traffic Engineers (ITE) Manual-Ninth Edition. The following table lists the ITE codes used to estimate average trips for the industry profiles represented in the matrix.

4. **Miles to Interstate or Freight Route:** With few exceptions, access to major freeways or freight routes is critical for the movement of goods. This site requirement indicates the typical maximum range of distance, in miles, from the site to the freeway or highway access. The roadways/intersections between the site and freeway/highway must generally operate at a level of service 'D' or better in accordance with the Highway Capacity Manual methodologies and general engineering standards.
5. **Miles to Frequent Transit Service:** Businesses located walking distance (within one-quarter of a mile) to a bus stop that is serviced by a frequent bus line enjoy a competitive advantage over others that are more limited in transportation access options.⁶
6. **Railroad Access:** The need for access to railroad for the movement of goods within each industrial category is dependent upon individual users, so the site requirements are identified as either "Preferred," "Not Required," or "Avoid" in some cases where the presence of rail may be considered a deterrent to business.
7. **Proximity to Marine Port:** The need for access to a marine port for the movement of goods within each industrial category is dependent upon individual users.
8. **Proximity to International/Regional Airport:** The need for access to a regional airport for the movement of goods or business travel within each industrial category is dependent upon individual users.
9. **Availability of Water:** This requirement indicates the minimum sizes of domestic water and fire lines immediately available to the site. In certain rural cases, a comparable supply from an on-site water system (i.e., well or reservoir with available water rights) may be acceptable. In addition to lines sizes, preference for high-pressure water capabilities and average flow demand in gallons per day is specified for each industry type.
10. **Availability of Sanitary Sewer:** This requirement indicates the minimum size of public sanitary sewer service line immediately available to the site. In certain rural cases, an on-site subsurface system providing a comparable level of service may be acceptable. Sewer flow requirements were determined by calculating a percentage of the water flow for each industry type.
11. **Natural Gas:** This requirement indicates the minimum size natural gas line that is immediately available to the site. It is assumed that the pressure demand for all industry categories is 40-60 psi.
12. **Electricity:** This requirement indicates the minimum electrical demand readily available to each industry and where proximity to a substation and redundancy dependency rank on the continuum of less critical to more critical. Estimated demand is based on review of existing usage from local utility providers, referencing industrial NAICS codes for the various profiles.
13. **Telecommunications:** This requirement indicates whether the availability of telecommunication systems are readily available, and where major commercial capacity, route diversity and fiber optic lines rank on the continuum of less critical to more critical. All sites are assumed to have a T-1 line readily available.

INDUSTRY PROFILES

The following provides supplemental information for the attached Industrial Development Profile Matrix. The preceding matrix identifies 10 industry type categories (labeled A-J on the matrix) and 14 "site needs" which will assist in evaluating selected sites using the criteria of a given industry type.

⁶ We have defined "frequent bus line" as one with service occurring in no longer than 15 minute intervals.

The industry categories have been established based primarily on Business Oregon information (including input from various state agencies). Due to the wide range and constantly evolving characteristics of uses, borderline and/or non-typical applications will likely arise and will be evaluated on a case-by-case basis. It should be noted that certain industry types might have unique requirements, such as proximity to an international airport, which may require an additional category. It should also be noted that the industry types represent the primary use of the industry, and exclude secondary/accessory uses (e.g., training facilities, etc.) at this

A: Food Processing

a) Description:

Generally, this category includes industries that manufacture or process foods and beverages for human or animal consumption. Although this category has similar siting characteristics as Other Manufacturing, the unique needs associated with food processing, such as high-volume water and/or pressure demand, warrant this separate category. Broadly, there are two types of food processing categories:

- (1) raw materials; and
- (2) assembling.

Additionally, there is a packaging and warehousing component to these facilities.

b) Representative Industry Types:

- Production foods/goods (e.g., bakeries)
- Fruits and vegetables
- Breweries and wineries
- Dairy
- Bottling/beverages

c) Representative Companies:

- Ajinomoto (Portland)
- Beaverton Foods Inc. (Hillsboro)
- Cabroso (Medford)
- Rogue Creamery
- Hermiston Foods (Hermiston)
- Nancy's Yogurt (Eugene)
- Reser's Foods (Beaverton)
- Norpac (Salem and Stayton)
- Tillamook Dairy (Tillamook)
- Coca Cola bottling (statewide)
- Pepsi bottling (statewide)
- Full Sail Brewing (Hood River)
- Hood River Juice Company (Hood River)

B: Other Manufacturing

a) Description:

This category is intended to include industries that utilize relatively less intensive manufacturing processes, more assembly activities, and direct transfer to wholesale and domestic consumers. Typically, these facilities are freestanding, devoted to a single use, and emphasize manufacturing space over office space. Generally, these non-high-tech industries may be located on individual sites or in business/industrial parks and have less effect on surrounding uses. This category also includes some industrial service uses that are engaged in serving other businesses, such as an industrial laundry facility.

b) Representative Industry Types:

- Electronic assembly support

- Wood products
 - Automobile products
 - Steel/metals
 - Building materials fabrication and processing
- c) *Representative Companies:*
- Warn Industries (Clackamas)
 - JV Northwest (Canby)
 - Hartung Glass (Wilsonville)
 - Oregon Iron Works (Clackamas)
 - Daimler Trucks North America (Portland)
 - Maxim Integrated (Beaverton and Hillsboro)
 - Oregon Steel Mills (Portland)

C: Wholesaling

- a) *Description:*
 The wholesale industry comprises companies involved in wholesaling merchandise and other goods such as mining, agriculture, manufacturing, and certain information industries. This industry typically represents an intermediate step in the production and distribution of goods and merchandise, as wholesalers generally sell goods intended for resale by a retailer. In some cases, users and customers may purchase these goods directly from a wholesaler with a retailer.
- b) *Representative Industry Types:*
- Automobile and Other Motor Vehicle Merchant Wholesalers
 - Furniture Merchant Wholesalers
 - Office Equipment Merchant Wholesalers
 - Hardware Merchant Wholesalers
 - Farm and Garden Machinery and Equipment Merchant Wholesalers
 - Sporting and Recreational Goods and Supplies Merchant Wholesalers
- c) *Representative Companies:*
- Cascade Wholesale Hardware
 - Costco Wholesale
 - Pearlier Auto Wholesale

D: Retail

- b) *Description:*
 This industry contains businesses that sell merchandise, largely without any transformation of the good, with services largely being ancillary to the sale of said merchandise. The businesses usually receive goods from wholesalers, and typically do not transform the good before its final sale to the user or customer. There are sixty-nine subsectors of retail trade, some of which are reflected in the bulleted list below.
- c) *Representative Industry Types:*
- Specialty food/grocery
 - Coffee shops/cafes
 - Theater/recreation/entertainment
 - Brew pub/wine or bottle shops
 - Full service local restaurants
 - Food car pods
 - Bookstores and boutiques
 - Wellness and spa services
 - Hotel & hospitality
 - Niche manufacturing (bike, bakery, outdoor, etc.)

d) *Representative Companies:*

- New Seasons
- Dutch Bros. Coffee
- McMenamins Cornelius Pass Roadhouse
- P.F. Chang's
- Barnes & Noble
- Align Wellness Center
- Embassy Suites
- Orenco Station Cyclery

E: Incubator

a) *Description:*

This industry type is often established by local municipalities and has a symbiotic relationship with colleges and universities within the vicinity. Business incubators are designed to help new and small businesses in the start-up and early growth phases of development, through providing a flexible combination of business development tools, facilities and resources, and personal contacts.

b) *Representative Industry Types:*

- Not applicable for this industry type, as the incubators serve as cultivating space for several uses to grow in their nascent business stages.

c) *Representative Examples:*

- Launch Pad Baker City
- Microenterprise Investors Program of Oregon (Portland)
- BESThq (Beaverton)
- Forge Portland
- WeWork (Portland)

F: Data Center

a) *Description:*

Data centers are classified under NAICS 5182: Data Processing, Hosting, and Related Services. We consider them separately from other "information and software" activities because the land and utility needs are far different. Over the just the last five years, unprecedented growth in demand for data hosting has developed an entirely new segment of the industrial landscape in Oregon attracted to a generally temperate climate, low overall disaster risk, low utility rates from renewable sources, and abundant water.

The growth outlook for data center siting is strong, as high growth rates for streaming, software as a service (SaaS), and cloud data and processing across the industry creates an accelerating need for hosting services. Global data center demand is expected to grow threefold over just the next five years.⁷ Key areas like the Columbia Basin, Central Oregon and Hillsboro compete for these industrial users.

b) *Representative Companies:*

- Vadata
- Google
- Apple
- Facebook
- ViaWest
- Adobe

⁷ Cisco Global Cloud Index (2015).

Exhibit C - Umatilla Industrial Area Utility Technical Memorandum



THE
LANGDON
GROUP



GATEWAY
MAPPING
INC.

OTHER J-U-B COMPANIES

DATE: 3/9/2020
TO: Dave Stockdale, City Manager
City of Umatilla
CC: Scott Coleman, Public Works Director
Melissa Ince, Finance Director
FROM: Shae Talley, PE
Tirzah Eyre, EIT
SUBJECT: Umatilla Industrial Area Utility Technical Memorandum



1 INTRODUCTION & BACKGROUND

1.1 Introduction

The City of Umatilla is currently evaluating the feasibility of providing utility service to an industrial area of interest near the Southwest Boundary of the City. This study area is bordered to the west by County Road 1225 and to the east by Interstate 82 as shown in Figure 1 in Appendix A. City staff have developed a list of infrastructure projects that would be necessary for industrial development of this area including potable water, water storage, sanitary sewer, and industrial wastewater.

In general, utility improvements required to meet existing and future demands are developed through Master Plans; however, the City requires an immediate, preliminary review to assist City staff with ongoing land negotiations and stakeholder discussions. This technical memorandum will summarize the review and provide preliminary cost opinions for each infrastructure project specified by the City.

The infrastructure projects analyzed are as follows:

- Potable Water Main Extension to Serve the Subject Property
- Sanitary Sewer Main Extension to Serve the Subject Property
- Potable Water Storage Improvements – Coyote Reservoir Expansion required to Serve the Subject Property
- Industrial Wastewater (IWW) Treatment and Disposal Alternatives
 - Industrial Wastewater Collected and Conveyed to the Wastewater Treatment Plant (WWTP)
 - Non-Contact Cooling Tower Industrial Wastewater
 - Alternative 1 - Land Apply to Farmland
 - Alternative 2 - Store and Land Apply to Residential Areas

This technical memorandum is for City use only and does not discuss recommended alternatives, other necessary upgrades to the existing system¹, an implementation plan, nor a schedule, as these items will be included as part of future planning efforts. Future efforts include development of a Water Master Plan and Wastewater Facility Plan in accordance with state guidelines to further develop the improvements outlined in this tech memo. The proposed planning documents will further vet and quantify existing and future water demands and wastewater flows; identify system deficiencies; plan for system expansions; develop improvement alternatives and select a recommended alternative; develop planning level cost estimates; and outline an implementation plan for sustainable management of the City's public utilities.

1.2 Study Area

The study area is comprised of approximately 450 acres. For the purposes of this study, the west boundary of the study area is delineated by County Road 1225; the north boundary of the study area is delineated by County Road 1226; the east boundary is delineated by Interstate 82; and the south boundary is delineated by County Road 1225 and Interstate 82. Figure 1 in Appendix A depicts the overall study area.

2 PLANNING CRITERIA

The evaluation of infrastructure projects was completed at a planning level of detail. The assumptions and design criteria used herein were developed by J-U-B and City staff and should be reviewed and refined during future planning and design efforts.

2.1 Planning Assumptions and Design Criteria

2.1.1 Land Use

Currently, land within the study area is used for agricultural purposes. The City of Umatilla has indicated this land, falling within the future UGB, will be rezoned to light industrial. Based on City input, it is assumed for planning purposes that the study area will be comprised of a single 100-acre data center facility, one 60-acre small food processing facility, and two 40-acre packaging/manufacturing facilities at full buildout. All four facilities are considered light industrial.

2.1.2 Demands and Flows

Buildout demands and flows represent the peak demands and flows anticipated in the system when the study area is fully developed. All undeveloped land around the study area was assumed to remain undeveloped; as such, demands and flows were not considered for this area. As the current study area land use is agricultural, there is no historical data for light industrial facilities within this area. Demands for each lot were determined based on the type of proposed facility and experience gained from analysis of similar sized industries. It was assumed that the data center will remain in operation 24 hours a day while other industries will only operate 8 hours a day.

¹ Well withdraw increased and delivery capacity to subject property area, for example (not inclusive).

The data center will have both potable water and industrial water demands supplied by the City of Umatilla. Potable demands were determined using Oregon Administrative Rule (OAR) 340-071-0220 Table 2 Quantities of Sewage Flows, as given by the State of Oregon Department of Environmental Quality in their publication Onsite Wastewater Treatment Systems, and assuming the data center has 350 employees on site, as estimated by City staff. Industrial demands were estimated to be 1.2 million gallons per day (MGD) based on PDX63 data center campus information provided by data center personnel.

The data center will have both sanitary sewer and industrial wastewater flows. Sanitary sewer flows were determined using the OAR 340-071-0220 Table 2 factory flow and assuming the data center has 350 employees on site as estimated by City staff. Industrial wastewater flows were estimated to be 440,000 gallons per day (gpd) based on PDX63 data center campus information provided by data center personnel.

All other industries were assumed to have 20 employees onsite per lot and have potable water demands corresponding to OAR 340-071-0220 Table 2. Industrial water demands were assumed to be 1,100 gallons per acre day (GPAD) as determined from the 2018 Umatilla Beneficial Reuse Feasibility Analysis (BRFA) report. Sanitary sewer flows were assumed to be equal to potable water flows and industrial wastewater flows were assumed to be equal to industrial water flows.

For long-term planning purposes, the water demands and wastewater flow assumptions above were also applied to 880 acres of proposed light industrial land at the Army Depot site to adequately size the study area infrastructure that will one day serve the Army Depot. Future water and wastewater infrastructure to serve the Army Depot area were not analyzed. No analysis of infrastructure outside of the study area was performed. It is recommended the City develop a Water Master Plan and Wastewater Facility Plan in accordance with state guidelines to develop the possible infrastructure, such as piping and lift stations, to serve the Army Depot.

The demands and flows above represent the estimated average day demand (ADD) and estimated average day flow (ADF), respectively. To identify the maximum day demand (MDD) and peak hourly demand (PHD), demand peaking factors were assumed based on data from the 2008 Water Master Plan (WMP) and industry values in similarly sized cities. Sanitary and industrial sewer flows only require a peak hourly flow (PHF). A flow peaking factor equivalent to the PDD peaking factor was assumed based on the principle that demand inflows are equal to outflows. The following relationships were used to obtain MDD, PHD, and PHF:

$$\text{MDD} = 1.6 * \text{ADD}$$

$$\text{PHD} = 3.0 * \text{ADD}$$

$$\text{PHF} = 3.0 * \text{ADF}$$

Fire flows were also considered for the MDD scenario. It was assumed that the data center would have fire flows of 2,500 gpm for 2 hours and all light industrial lots would have fire flows of 3,000 gpm for 3 hours. These assumptions were based on the 2018 Umatilla BRFA.

A summary of the assumed demands is given in the following table.

Table 1 - Demands

Facility Type	Number of Lots	Total Water Demand (gpm)			Sanitary Sewer Flows (gpm)		Industrial Wastewater Flows (gpm)	
		ADD	MDD	PHD	ADF	PHF	ADF	PHF
Data Center Noncontact RO Reject	1	546	874	1639	26	77	191 25	573 76
Food Processing	1	139	222	417	2	4	138	413
Packaging/Manufacturing	2	93	149	279	2	4	92	275
Army Depot Industrial	35	59	95	178	2	4	58	174

* Total Water Demand includes both industrial and potable demands.

2.1.3 Manning's "n"

The roughness factor is used in the Manning's formula below to relate flow in a gravity pipe (Q) with the cross-sectional area of the flow (A), hydraulic radius of the flow (R), and the pipe slope (S_o).

$$Q = \frac{1.49AR^{2/3}}{S_o^{1/2}}$$

Typical "n" values range from 0.009 for very smooth glass or new plastic to greater than 0.016 for unfinished concrete. Sanitary sewer pipes, however, develop a slime layer on any pipe material in contact with sewage which provides a relatively consistent roughness regardless of material. To account for this, it was assumed that a Manning's "n" of 0.013 would be used regardless of pipe material and size.

2.1.4 Hazen-Williams "C" Coefficient

The "C" coefficient is used in the Hazen-Williams formula below to relate flow in a pressurized pipe (Q) with the cross-sectional area of the flow (A), hydraulic radius of the flow (R), and the slope of the energy grade line (S).

$$Q = 1.318CAR^{0.63}S^{0.54}$$

Typical "C" values range from 60 for rough, aged pipes to 150 for smooth, new pipes. It was assumed that a Hazen-Williams "C" value of 150 would be used regardless of pipe material as all pipes will be constructed new.

2.1.5 Pipe Sizing Methodology

Pipes were sized using two different methodologies depending on whether the pipe would be gravity fed or pressurized.

2.1.5.1 Gravity Pipe

All gravity pipes were sized using the Manning's formula and the maximum depth of flow/diameter of pipe (d/D) indicator. This indicates how much of the pipe capacity is being used. When the calculated flow in a pipe reaches the point where the d/D ratio is greater than the maximum design d/D ratio, the pipe diameter is increased. Buildout flows were used to size the proposed pipes.

A graduated scale for maximum d/D, dependent on the size of the pipe, was used and is given in the table below. This allows for a larger safety factor for smaller pipes where variations in land use and extensions of the service area can have large impacts on the available capacity of

the system. Larger pipes have a smaller safety factor because variations in land use tend to balance out over the larger area served by the system. Pipes smaller than 8 inches in diameter were not considered for this analysis and are not recommended as they are more difficult to maintain.

Table 2 – Depth over Diameter Ratios for Design Pipes

Size	d/D	Resultant Safety Factor
8"	0.50	2.00
10"	0.55	1.71
12"	0.60	1.49
15"	0.65	1.32
≥ 18"	0.75	1.10

2.1.5.2 Pressurized Pipe

Pressurized potable water pipes were sized using the Hazen-Williams formula and the minimum allowable pressure criteria. Per Oregon Health Authority (OHA) OAR 333-061-0025, potable water mains must not have a pressure less than 20 psi at any given time. Two scenarios were evaluated for system pressures: MDD + Fire Flow and PDD. Pipe sizes were initially assumed to be 8-inch diameter pipe and were upsized as necessary to meet OHA pressure requirements.

Pressurized irrigation water pipes were sized using the Hazen-Williams formula, the minimum allowable pressure criteria, and the maximum allowable velocity criteria. Per a 2008 publication by IRZ Consulting titled Irrigation Practices in the Umatilla and Morrow County Area, pressurized irrigation pipes must not have a pressure less than 50 psi at any given time. It is also considered good engineering practice to have pipe velocities below five feet per second. All irrigation pipe was analyzed under ADD and PHD scenarios. Pipe sizes were initially assumed to be 4-inch diameter pipe and were upsized as necessary to meet pressure and velocity requirements.

Sanitary and industrial force mains were sized using the Hazen-Williams formula and the maximum allowable velocity criteria. Pipe velocities are not to exceed 8 feet per second (fps) per the State of Oregon Department of Environmental Quality in Oregon Standards for Design and Construction of Wastewater Pump Stations. Pipe sizes were initially assumed to be 8-inch diameter pipe and were upsized as necessary to meet velocity requirements.

3 WATER

The City is evaluating the feasibility of providing potable and industrial water to the study area. Analysis of the proposed infrastructure did not include evaluating existing water system capacity, existing well capacity, existing pumping capacity, system storage needs, and water rights availability. The existing system capacity should be analyzed with future master planning efforts to determine if any portion of the system needs to be upsized to accommodate the study area demands.

3.1 Proposed Water Supply Infrastructure

3.1.1 Water Main Extension

The existing potable water main will be extended south along County Road 1225 until the end of the Cleaver Land. A stub will be provided at the intersection of the Cleaver Land and County Road 1225 to facilitate the anticipated Army Depot industrial area connection. The extension is sized to meet both potable and industrial water demands from the study area and the future Army Depot industrial lots to the southwest.

Water demands for the study area were determined by applying a gallon per capita per day (GPCD) demand for potable needs and a gallon per acre per day (GPAD) demand for industrial needs. Specific values for GPCD and GPAD demands are given in section 2.1.2 above.

The potential buildout water demand was calculated by multiplying the land area by the assumed GPAD unit demand for industrial needs and by multiplying the assumed number of employees by the assumed GPCD unit demand for potable needs. This calculation resulted in a gallon per day (GPD) value. The data center demand did not need to be converted to a per day value since it was already given as such. Gallons per minute (gpm) was determined from GPD. These average day demands (ADD) were converted to maximum day demands (MDD) and peak hourly demands (PHD) using the peaking factors in section 2.1.2 above. The total demands for each scenario are given in Table 1 above.

Pipe size was determined for the preliminary layout using the Hazen-Williams equation. The value for the Hazen-Williams “C” coefficient is described in section 2.1.4. Resulting pipe size is shown in Figure 2 of Appendix A. It should be noted that the stub at the intersection of the Cleaver Land and County Road 1225 will need to be 16-inch pipe. Estimated costs for the water main extension are in Appendix B. It was assumed the City would utilize the existing right of way or acquire a utility easement while possessing the land therefore no easement acquisition cost was included in the estimate. The existing system capacity and condition was not analyzed therefore the cost estimate does not include costs for upsizing the existing system.

3.1.2 Coyote Reservoir Expansion

The 2008 WMP recommended a second Coyote Reservoir. As directed by the City, the second reservoir was upsized and assumed adequate to serve the study area. The second Coyote Reservoir was reviewed for probable cost for inclusion in this analysis. No analysis was completed to determine capacity needs, reservoir type, location, and sizing. It is assumed that improvements will be similar to those described in Chapter 4 of the 2008 WMP. Per the City’s request, this evaluation assumed a 1-million-gallon tank instead of the 750,000-gallon tank described in the 2008 WMP. The City also requested only a ground level reservoir be considered and to disregard the elevated reservoir alternative proposed in the 2008 WMP.

Costs for a steel, ground level reservoir and appurtenances were based on costs from comparable projects by using a dollar per gallon amount. Estimated costs for the water storage expansion are in Appendix B. It should be noted that this evaluation did not analyze existing well capacities, water rights, nor booster station capabilities.

4 SANITARY SEWER

The City is evaluating the feasibility of providing sanitary sewer service to the study area. Only new infrastructure was included in the analysis. The existing sanitary sewer system and wastewater treatment plant capacity and condition were not analyzed. The existing infrastructure should be analyzed with the future master planning efforts to determine if any portion of the system needs to be upsized to accommodate the study area flows.

4.1 Sanitary Sewer Main Extension

Due to the topography of the study area, it is not possible to serve the study area with only gravity sanitary sewer. The highest elevation is at the northwest corner of the study area and the land slopes steeply from that point east towards Interstate 82. Adverse slopes as high as 24% would cause a gravity conveyance pipe to be too deep for conventional construction techniques; therefore, a wastewater pumping system is needed to convey flow to the existing collection system. All industrial lots will gravity flow to a lift station which will pump sanitary sewer flows west to County Road 1225 then north to County Road 1226 then west connecting to the existing manhole at the intersection of County Road 1225 and Dark Canyon Road as shown in Figure 3. The lift station and sanitary sewer pipes are sized to meet sanitary and “dirty” (typical strength) industrial sewer demands from industrial lots within the study area. Army Depot industrial lots will be served by a separate lift station on the Army Depot property and this lift station was not included in this analysis.

Sanitary sewer demands for the study area were determined by applying a gallon per capita day per (GPCD) demand as described above for each worker. Industrial sanitary sewer demands were estimated using a gallon per acre per day (GPAD) demand for industrial sanitary sewer flows that will be connected to the sanitary sewer system. Specific values for GPCD and GPAD demands are given in section 2.1.2 above.

It should be noted that domestic sanitary sewer flows are the only flows from the data center that will be incorporated into the sanitary sewer system. Other data center waste streams, such as Reverse Osmosis (RO) reject water, are assumed to be managed onsite by the industrial user (e.g. by evaporation).

The majority of the industrial wastewater will be non-contact cooling tower industrial wastewater from the data center. Non-contact cooling tower industrial wastewater is considered “clean” or low-strength and does not require treatment; therefore, “clean” IWW will be collected and disposed of separately as described in section 5.

Potential buildout flows were calculated by multiplying the land area by the assumed GPAD unit demand for industrial needs and by multiplying the assumed number of employees by the assumed GPCD unit demand for sanitary sewer needs. This calculation resulted in a gallon per day (GPD) value. Gallons per minute (gpm) was determined from GPD. The total flows are given in Table 1 above.

The lift station was placed at the lowest elevation on the southeast corner of the proposed data center property. The lift station was sized to accommodate 110 % of the buildout flows from the study area which is approximately 1,157 gpm. This is desirable to reduce the chance of

overloading the lift station. All lots are served from the back and gravity flow to the lift station. The food processor is served by the 12-inch gravity pipe. The data center and two packaging/manufacturing facilities are served by the 15-inch gravity pipe as shown in Figure 3. A force main will then carry flows west to County Road 1225 and then north to the existing sanitary sewer system. It is important to note that everything east of the lift station will not be able to be served due to steep slopes. Further analysis should take place as part of future planning studies to identify the best location for the lift station.

Pipe sizes were determined for the preliminary layout using Manning's equation. Values for Manning's "n" coefficient and d/D ratios are described in sections 2.1.3 and 2.1.5, respectively. Resulting pipe sizes are shown in Figure 3 in Appendix A. Estimated costs for the water main extension are included with the estimated costs for the sanitary sewer main extension in Appendix B. It was assumed the City would acquire an easement while possessing the land therefore no easement acquisition cost is included in the estimate. While no analysis of the existing system was performed, it is expected that the connection between the larger diameter, proposed sanitary sewer piping and the smaller diameter, existing piping will create a bottleneck. This will require all downstream infrastructure, possibly including the wastewater treatment plant, to be upsized to accommodate the study area flows. The cost estimate does not include costs for upsizing the existing system.

5 INDUSTRIAL WASTEWATER

The City is evaluating the feasibility of providing industrial wastewater service to the study area. Each industrial user has different expected industrial wastewater needs. As such, different collection and treatment options were analyzed for the different types of industrial wastewater.

5.1 Standard Industrial Wastewater – Pretreat IWW Onsite and Convey to WWTP

Standard industrial wastewater, also referred to as "dirty" (typical strength) industrial wastewater, is all water that has come into contact with contaminants during use and requires treatment. Industrial wastewater is often high-strength as compared to typical sanitary sewer flows. These flows must be properly treated to meet federal and state pretreatment requirements before they can be discharged. For the study area and Army Depot property, it is assumed all industrial lots will be required to pretreat their industrial wastewater to typical sanitary sewer strengths before they can discharge to the sanitary sewer system. Once discharged, study area industrial flows will be carried to the existing wastewater treatment plant (WWTP) for treatment and disposal as described in section 4. Due to topography, a separate lift station at the Army Depot property is expected to be needed to collect flows from the Army Depot and pump the wastewater to the existing system. There is the possibility of constructing an industrial wastewater treatment plant (IWWTP) on the Army Depot property. After construction, all industrial wastewater flows will be carried to the IWWTP and not to the existing WWTP. Analysis and cost estimation of an IWWTP and its collection system was not performed. No analysis of the existing sanitary sewer system or WWTP capacities were performed. Infrastructure needs for the Army Depot, including the additional lift station, were not evaluated and should be analyzed in future master planning efforts.

5.2 “Clean” Industrial Wastewater (IWW) Alternatives

Industrial wastewater from the data center noncontact cooling tower is considered “clean” as it was kept within a closed system and did not come into contact with chemical or biological contaminants during use. Due to the low-strength nature of these flows, no treatment is necessary before discharging. Additionally, this “clean” IWW can be used for irrigation. Samples taken from a similar data center campus in Umatilla showed that total dissolved solids (TDS) levels were well below the 450 mg/L maximum for irrigation reuse therefore it was assumed that no dilution of the “clean” wastewater would be needed.

5.2.1 Alternative 1 – Land Application to Farmland

This alternative involves land applying the “clean” industrial wastewater to farmland just north of the industrial parcels during the irrigation season. The City will need to develop a contract with a nearby farmer and discharge the “clean” wastewater to the farmer’s irrigation system. At the time of this report, no conversations have been had with farmers regarding taking the water for irrigation. As the project is pursued and landowners are engaged, the alignment should be adjusted as necessary to convey IWW flow to the desired landowner and tie into existing piping. An irrigation water balance was calculated using the expected non-contact cooling IWW flow and typical values for alfalfa irrigation demand, rain, evaporation and temperature. The expected annual IWW flow of 48 million gallons would need approximately 50 acres of irrigated alfalfa (at 42.25 inches of irrigation per year) to dispose of the water. Since some IWW is produced when irrigation demand is low, about three million gallons of storage is needed. If storage is not constructed, about 60 acres of irrigated alfalfa would be needed to receive the IWW during periods of low irrigation demand; however, supplemental irrigation water would be needed to meet irrigation demands during peak irrigation season. It was assumed that all supplemental water would be provided by the farmer and that the farmer would take IWW flows at all times. Graphs of the irrigation water balance on 50 acres and 60 acres are shown in Figure 4 and Figure 5, respectively, in Appendix A. For cost estimation purposes, it was assumed storage would not be constructed and additional irrigation water would be provided by the farmer as needed. Calculations are shown in Appendix C.

Piping will be provided to convey the wastewater from the property line of the data center north to the farmland along County Road 1225. Pumps required for conveyance are assumed to be provided by the data center. All collection and distribution piping, equipment, and appurtenances on either the data center property or farmland is the responsibility of the respective landowners and was not evaluated or estimated.

Pipe size was determined for the preliminary layout using the Hazen-Williams formula. The values for the Hazen-Williams “C” coefficient is described in section 2.1.4. The resulting pipe size is shown in Figure 6 in Appendix A. Estimated costs for this alternative are included in Appendix B.

5.2.2 Alternative 2 – Storage and Land Application to Residential Irrigation

This alternative involves storing the data center non-contact cooling wastewater in a storage facility and providing residential irrigation to nearby neighborhoods north of the study area. This will require a new storage facility and booster station to provide system pressurization.

Residential area lawns, perfectly maintained, have an estimated irrigation demand of 47.2 inches. For this analysis, it was estimated that the public would only be about 50% reliable resulting in an assumed irrigation demand of 23.6 inches per irrigation season.

As before, an irrigation water balance was calculated using the expected non-contact cooling IWW flow and typical values for lawn irrigation demand, rain, evaporation, and temperature. The expected annual IWW flow of 48 million gallons would need about 94 acres of irrigated lawn (at 23.6 inches of irrigation per year) to dispose of the water and 6.5 million gallons of storage to hold IWW when flow is greater than expected irrigation use. If the public is more efficient, less acreage and storage would be needed; however, a buffer is recommended. It is important to note that there are currently not enough residential neighborhoods between the Study Area and Pine Tree Avenue to fully utilize the expected annual IWW flow. However, the City has several residential developments planned for the area adjacent to County Road 1225/Powerline Road between the Study Area and Pine Tree Avenue. It is assumed the new developments would provide the additional 81 acres needed to dispose of all the IWW flow and would require supplemental irrigation water when fully built out. If this alternative is selected, an additional method for disposing of the remaining IWW flows may be needed if sufficient residential lawn area is not available. A graph of the irrigation water balance on 94 acres is shown in Figure 7 in Appendix A. Calculations are shown in Appendix C.

Piping will be provided on County Road 1225 to convey the wastewater from the property line of the data center to the residential neighborhoods. This pipe was determined to be 8-inch diameter and was included in the cost estimate. All collection and distribution piping, equipment, and appurtenances on the data center property and in residential neighborhoods is the responsibility of the respective land owners and was not evaluated or estimated.

The 6.5 MG storage facility would be needed to store excess “clean” industrial wastewater during the middle of the irrigation season when wastewater flows are greater than residential irrigation demands. Stored water will be irrigated when irrigation demand exceeds IWW production toward the end of the season. It was assumed that storage would be located adjacent to County Road 1225 on the data center property. The data center would be responsible for providing their own piping and pumping to the storage facility therefore costs for such were not estimated. A booster station would be needed to pump water from the storage facility to the residential neighborhoods. Booster station costs were based on flow and no evaluation of booster station pumps, piping, and appurtenances was performed.

Supplemental irrigation water is needed for the residential lawns during the beginning of the irrigation season and, if residents are more efficient than 50%, during the rest of the season. It was assumed residents would use potable water for additional irrigation from the City system. The two systems cannot be directly connected. It was assumed that the proposed potable water main extension discussed in section 3 would provide supplement irrigation via a connection to the proposed storage facility with a backflow prevention device. The infrastructure needed for this alternative was included in the cost estimate. The existing water rights, supplemental irrigation storage, and pumping capacities were not analyzed as part of this improvement. Other supplemental irrigation water options available to the City include utilizing the water right from the acquired study area land and utilizing the existing surface

water right from the Columbia River. It is recommended that these alternatives be analyzed in depth during future master planning efforts.

Pipe size was determined for the preliminary layout using the Hazen-Williams equation. The values for the Hazen-Williams “C” coefficient is described in section 2.1.4. The resulting pipe size is shown in Figure 8 in Appendix A. Estimated costs for this alternative are included in Appendix B.

6 REFERENCES

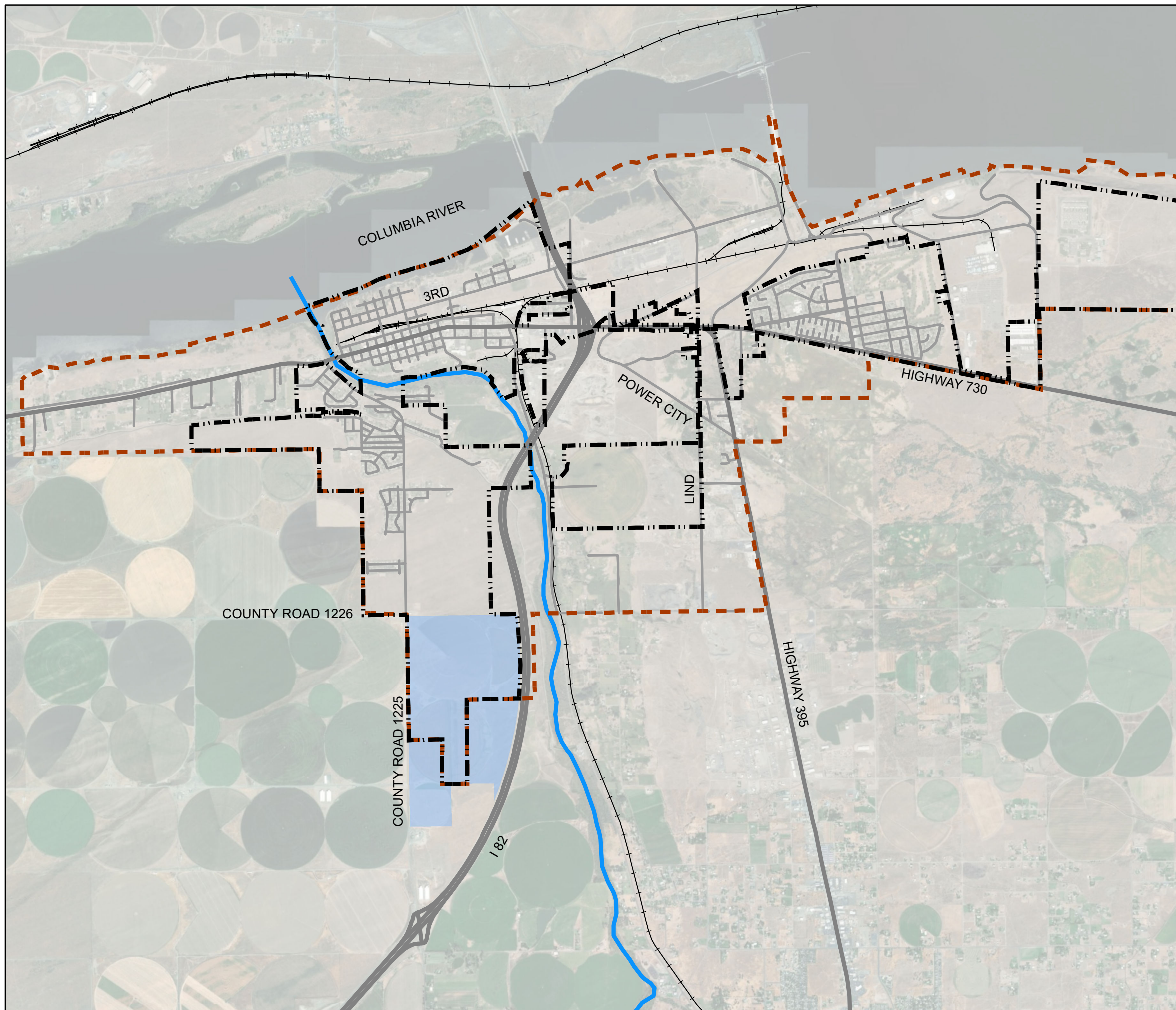
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Appendix A – Figures



Figure 1

Study Area



Legend

- City Limits
- Urban Growth Boundary
- Major Streets
- Highway/Interstate
- Railroad
- Umatilla River
- Study Area

Not to scale



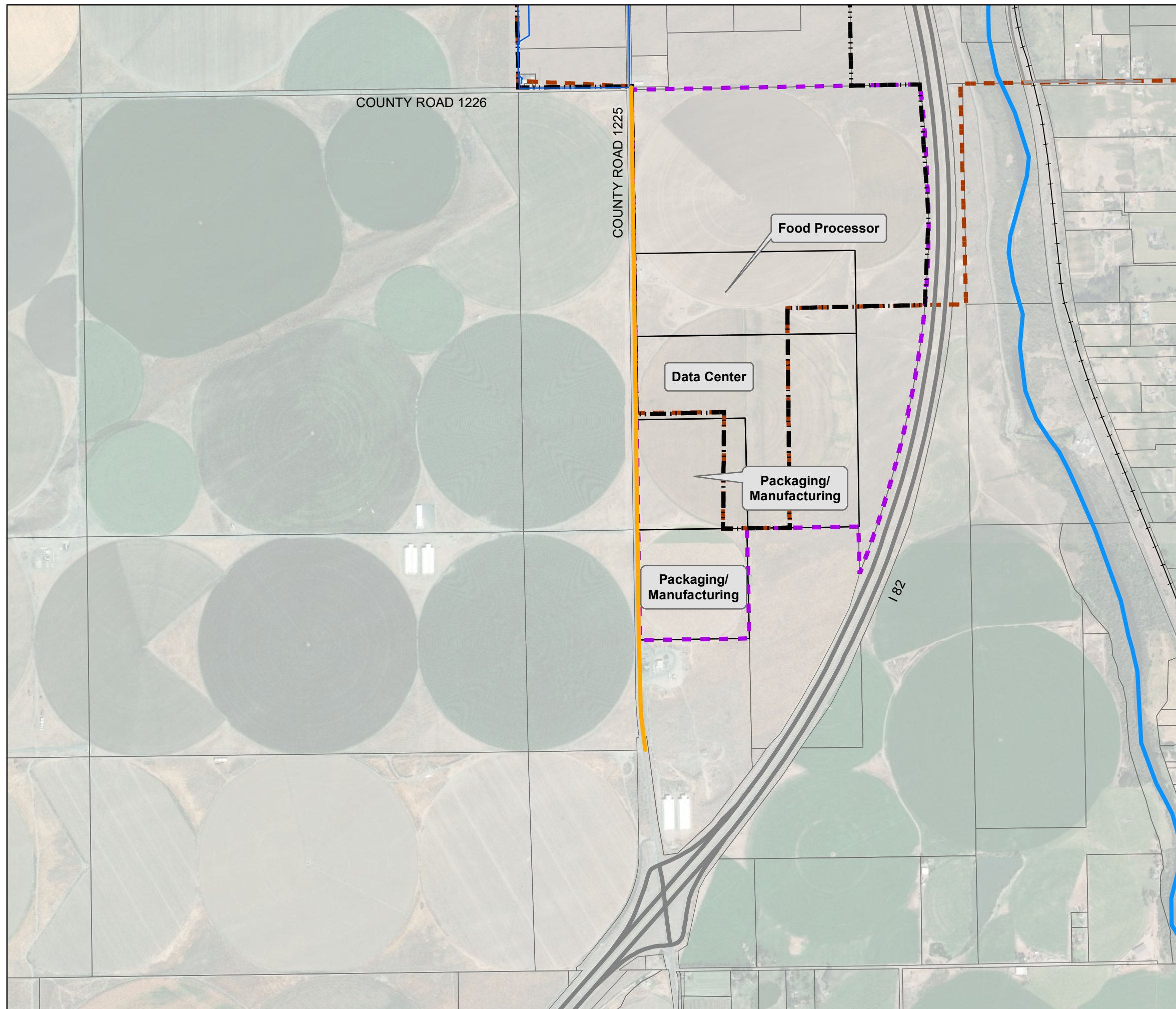
Date: Dec 24, 2019





Figure 2

Potable Water



Legend

- City Limits
- Urban Growth Boundary
- Study Area
- Assumed Lot Boundaries
- Parcel Boundaries
- Major Streets
- Highway/Interstate
- Railroad
- Umatilla River
- Existing Potable Water Main
- Proposed Water Main Pipe**
- 16-inch

Not to scale



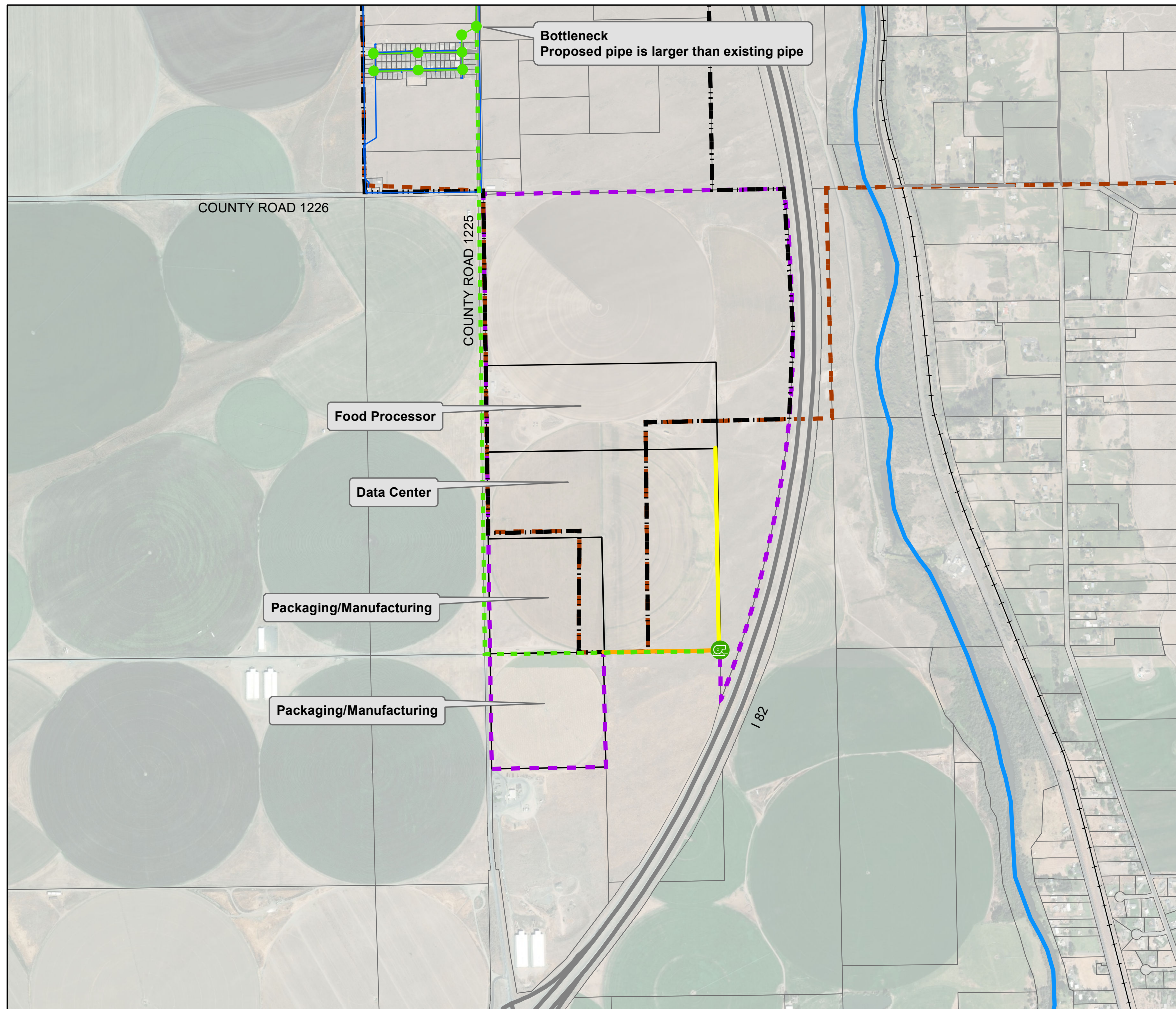
Date: Dec 24, 2019





Figure 3

Sanitary Sewer



Legend

- City Limits
- Urban Growth Boundary
- Study Area
- Assumed Lot Boundaries
- Parcel Boundaries
- Major Streets
- Highway/Interstate
- Railroad
- Umatilla River
- Existing Potable Water Main
- Existing Sanitary Sewer Main
- Existing Sanitary Sewer Manhole
- Lift Station

Proposed Sanitary Sewer Pipe

- 12-inch Forcemain
- 12-inch Gravity Pipe
- 15-inch Gravity Pipe

Not to scale



Date: Dec 24, 2019



Figure 4

Umatilla Water Balance
47.9 MG IWW/yr,
Annual Irrigation Demand: 42.2 in/yr
Land Acreage: 50 Acres
Storage: 2.9 Million Gallons

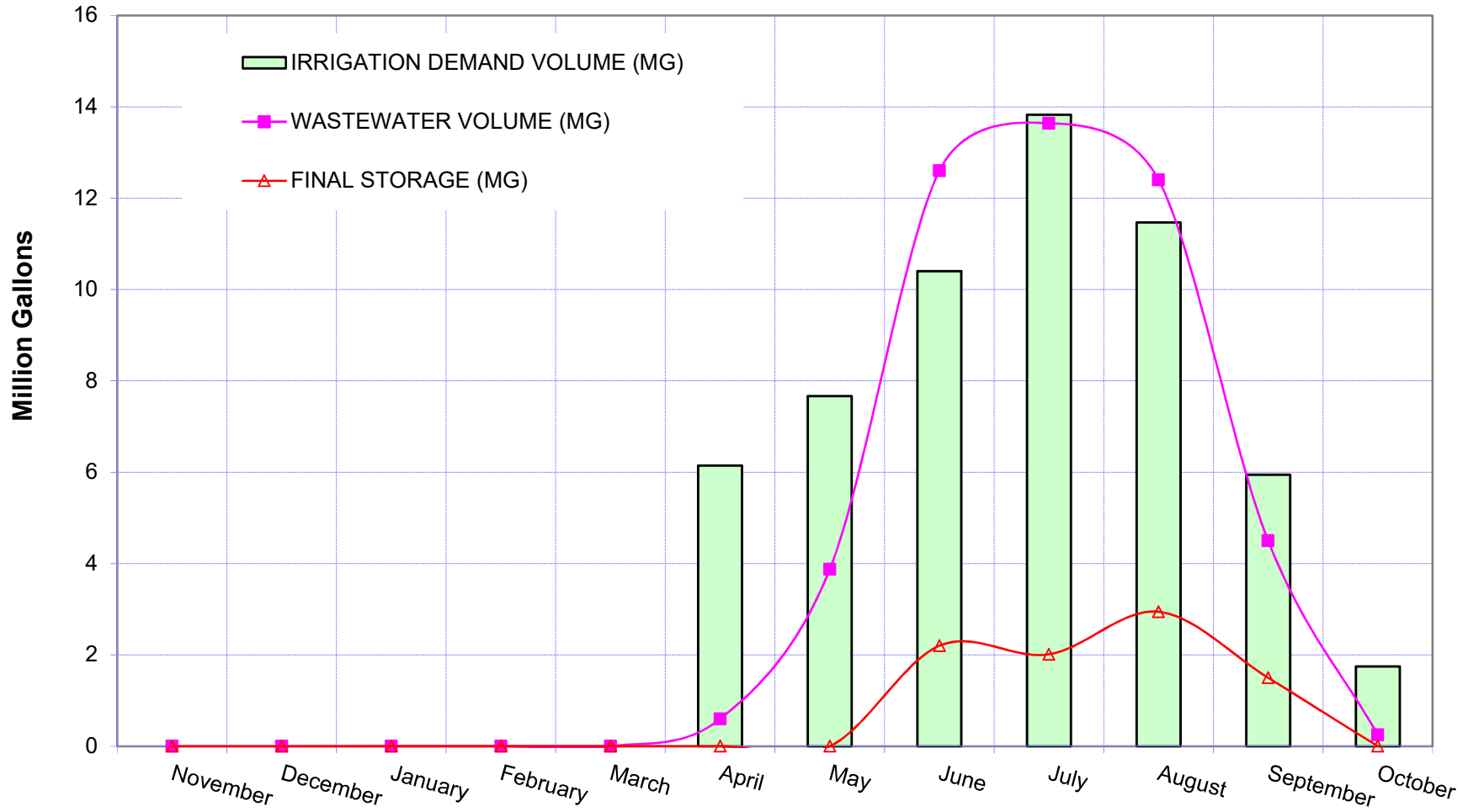


Figure 5

Umatilla Water Balance
47.9 MG IWW/yr,
Annual Irrigation Demand: 42.2 in/yr
Land Acreage: 60 Acres
Storage: ZERO Million Gallons

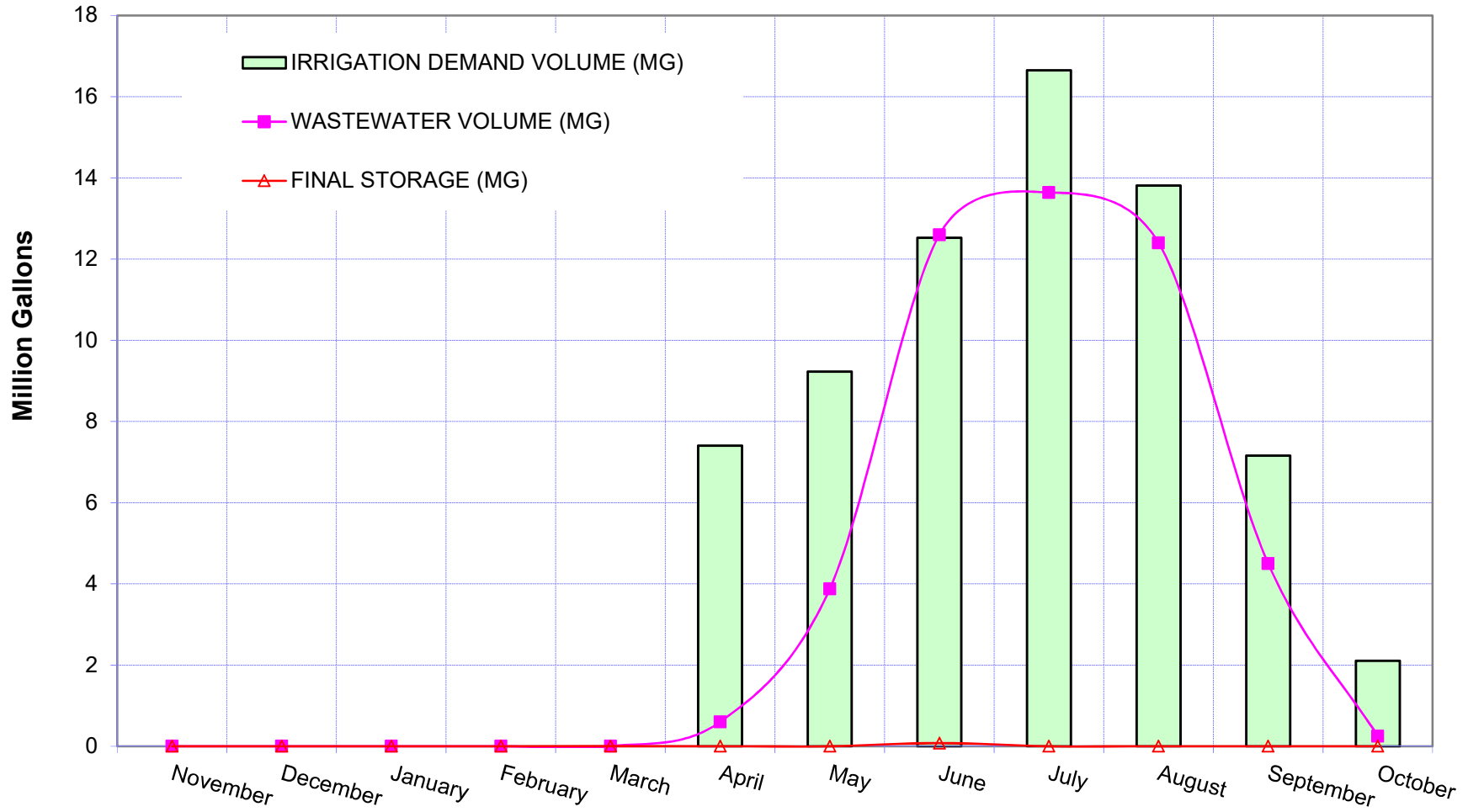






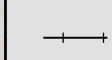






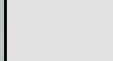


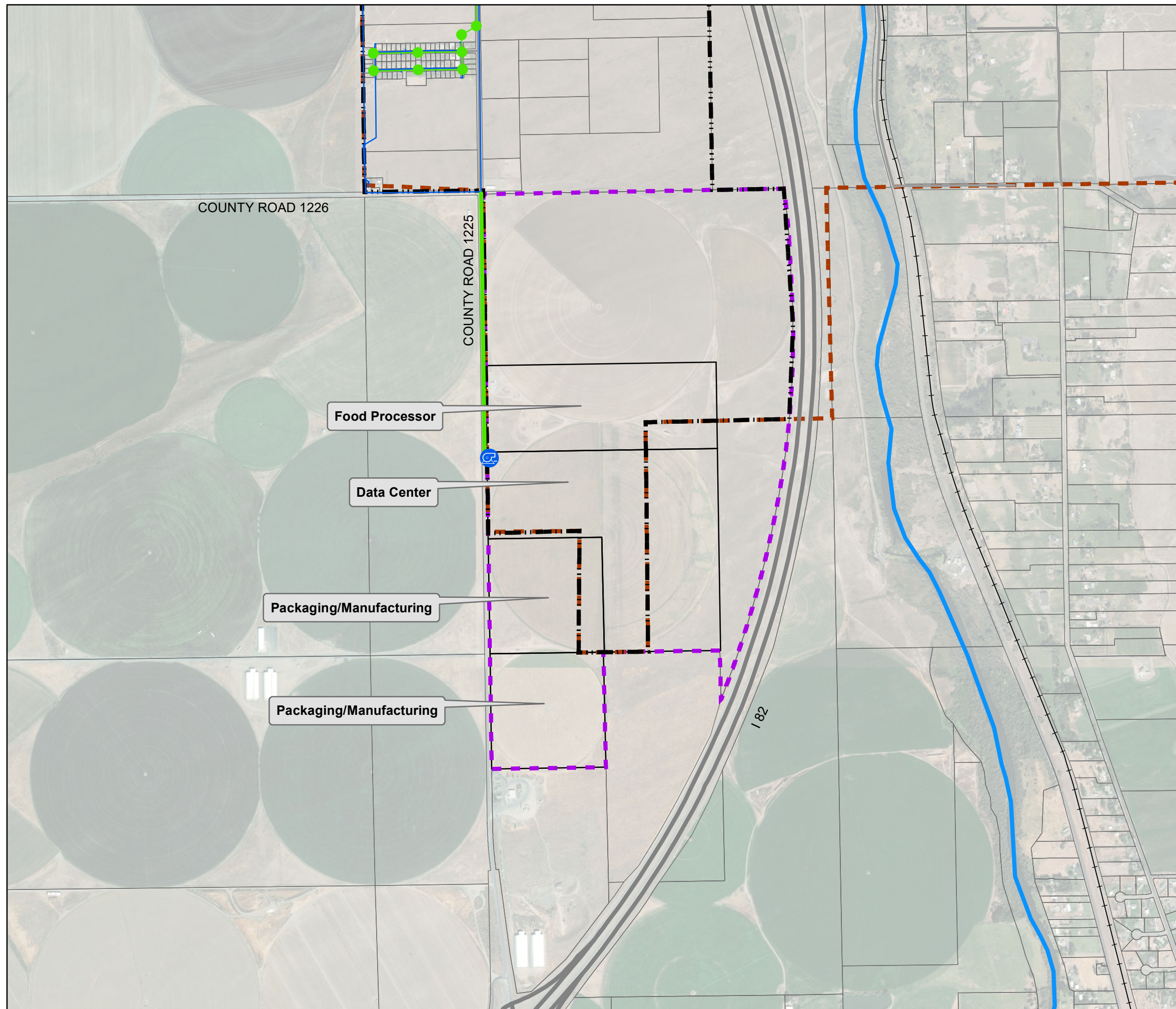


Figure 6

Industrial Wastewater Alternative 1

Legend

-  City Limits
-  Urban Growth Boundary
-  Study Area
-  Assumed Lot Boundaries
-  Parcel Boundaries
-  Major Streets
-  Highway/Interstate
-  Railroad
-  Umatilla River
-  Existing Potable Water Main
-  Existing Sanitary Sewer Main
-  Existing Sanitary Sewer Manhole
-  Booster Station
- Proposed Industrial Wastewater Pipe**
-  10-Inch



Not to scale



Date: Jan 8, 2020



Figure 7

Umatilla Water Balance = 48 MG per Year IWW
Annual Irrigation Demand: 23.6 inches (50%)
Land Acreage: 94 Acres
Storage: 6.5 MG

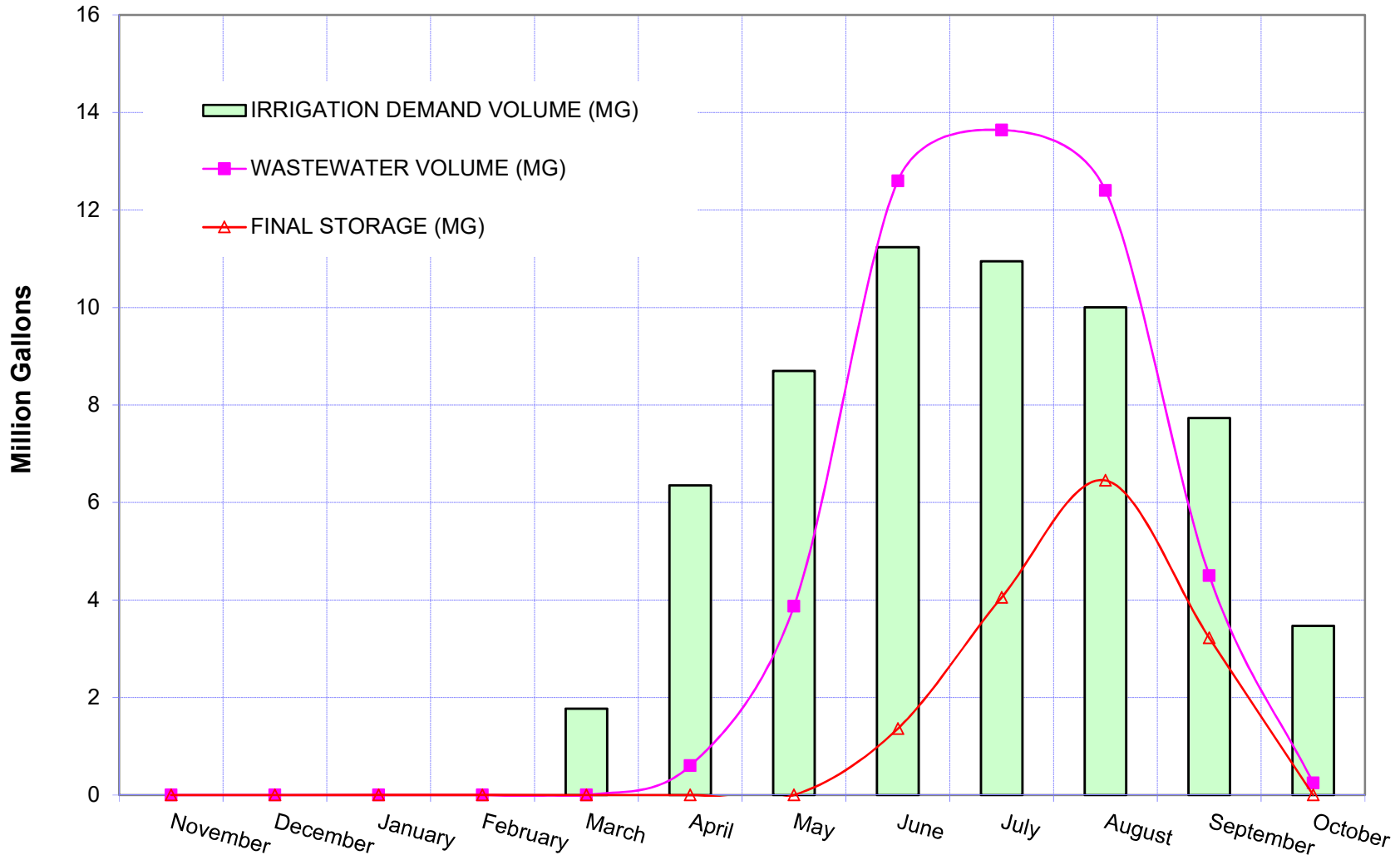




Figure 8

Industrial Wastewater Alternative 2

Legend

- City Limits
- Urban Growth Boundary
- Study Area
- Assumed Lot Boundaries
- Parcel Boundaries
- Major Streets
- Highway/Interstate
- Railroad
- Umatilla River
- Existing Potable Water Main
- Existing Sanitary Sewer Main
- Existing Sanitary Sewer Manhole
- Storage Lagoon
- Booster Station

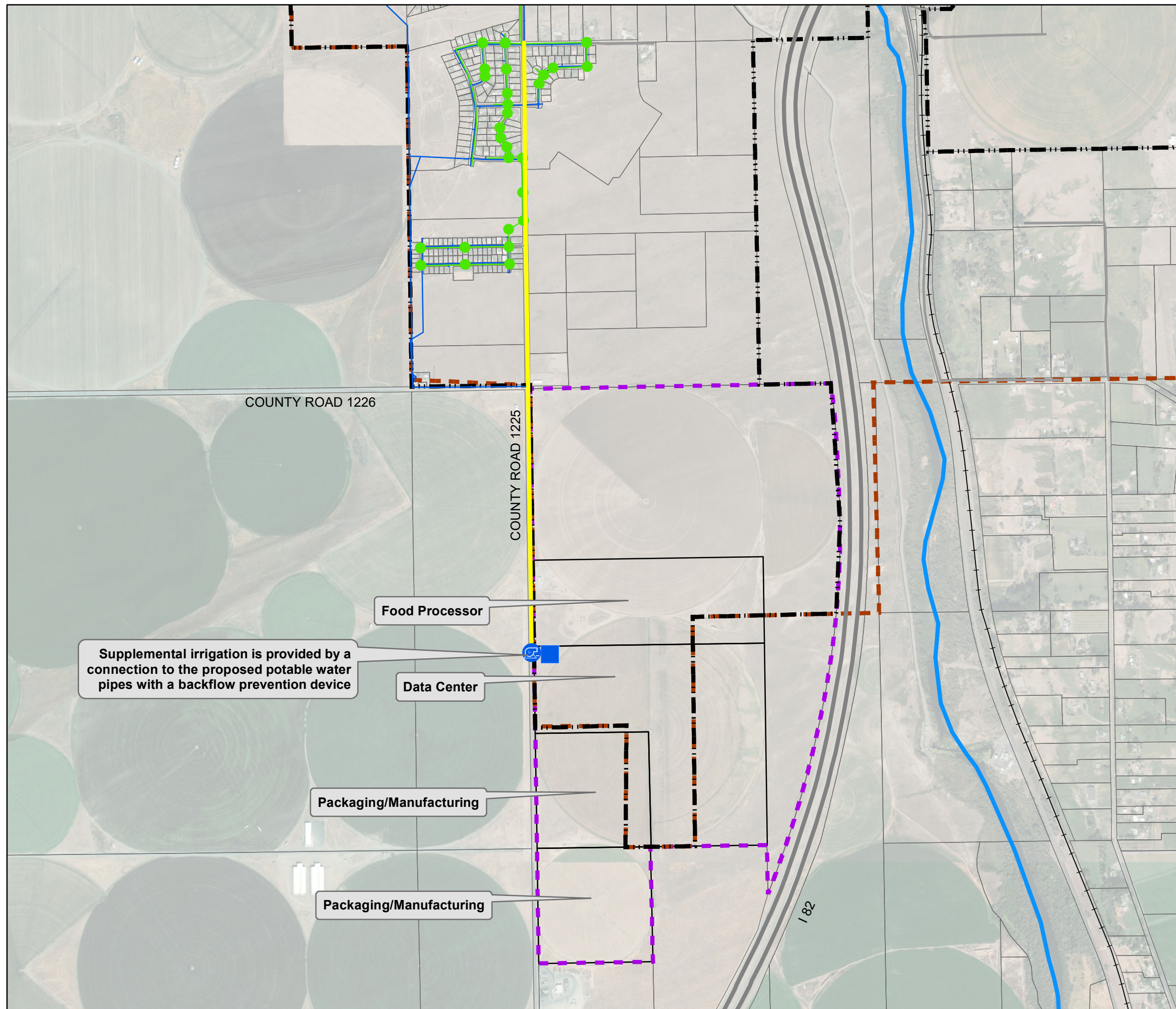
Proposed Industrial Wastewater Pipe

- 8-Inch

Not to scale



Date: Mar 4, 2020



Supplemental irrigation is provided by a connection to the proposed potable water pipes with a backflow prevention device

Food Processor

Data Center

Packaging/Manufacturing

Packaging/Manufacturing

COUNTY ROAD 1226

COUNTY ROAD 1225

I 82

Appendix B – Preliminary Cost Opinions

**Domestic Water and Sewer Conveyance Systems
PLANNING LEVEL ESTIMATE
Industrial Area Utility Tech Memo**



Item No.	Item Description	Unit	Quantity	Adjusted Bid Prices	
				Unit Price (\$)	Amount (\$) ¹
	Mobilization ²	LS	1	\$201,600	\$201,600
	Traffic Control ³	LS	1	\$34,000	\$34,000
	Potable Water				
	16 Inch C900 PVC Pipe ⁴	LF	7,930	\$107	\$848,510
	Sanitary Sewer				
	12 Inch ASTM D3034 PVC Pipe, 5'-10' Depth ⁵	LF	2,060	\$40	\$82,400
	12 Inch ASTM D3034 PVC Pipe, 10'-15' Depth ⁵	LF	590	\$48	\$28,320
	15 Inch ASTM D3034 PVC Pipe, 10'-15' Depth ⁵	LF	300	\$59	\$17,700
	15 Inch ASTM D3034 PVC Pipe, 15'-20' Depth ⁵	LF	180	\$68	\$12,240
	15 Inch ASTM D3034 PVC Pipe, 20'-25' Depth ⁵	LF	430	\$76	\$32,680
	15 Inch ASTM D3034 PVC Pipe, 25'-30' Depth ⁵	LF	260	\$83	\$21,580
	48 Inch Manholes, 5-10 Feet	EA	8	\$4,000	\$32,000
	48 Inch Manholes, 10-15 Feet	EA	3	\$4,500	\$13,500
	48 Inch Manholes, 15-20 Feet	EA	1	\$6,000	\$6,000
	60 Inch Manholes, 20-25 Feet	EA	2	\$8,500	\$17,000
	60 Inch Manholes, 25-30 Feet	EA	1	\$13,500	\$13,500
	12 Inch C-900 PVC Forcemain ⁶	LF	9,900	\$55	\$544,500
	Access Road ⁷	TON	250	\$35	\$8,750
	Lift Station ⁸	LS	1	\$800,000	\$800,000
SUBTOTAL 1				\$2,720,000	
CONSTRUCTION CONTINGENCY ⁹				35%	\$952,000
SUBTOTAL 2				\$3,670,000	
ENGINEERING AND CONSTRUCTION ADMINISTRATION ¹⁰				20%	\$734,000
ENVIRONMENTAL AND CULTURAL ¹¹				5%	\$183,500
TOPOGRAPHIC, BOUNDARY, AND UTILITY SURVEY ¹²				1%	\$36,700
LEGAL AND CITY ADMINISTRATIVE ¹³				2%	\$73,400
CONSTRUCTION SURVEY ¹⁴				1%	\$36,700
TOTAL IMPROVEMENT COST¹⁵				\$4,700,000	

¹ Cost estimates are provided in 2020 dollars. All dollar amounts are rounded for planning purposes.

² Mobilization includes the contractor's administrative and direct expenses to mobilize equipment, materials, and labor to the project site.

³ Traffic control includes all labor, material, and equipment expenses associated with safely moving traffic through the work zone including signage, flagging, temporary barriers, temporary pavement markings, and lane delineators.

⁴ Pipe cost includes the cost of all equipment, material, and labor for pipe installation, excavation, bedding, backfill, earthwork, compaction, valves, fittings, fire hydrants, and restoration to existing conditions.

⁵ Pipe cost includes the cost of equipment, materials, and labor of trench excavation, pipe bedding, piping, backfill, compaction, and restoration to existing conditions.

⁶ Pipe cost includes the cost of equipment, materials, and labor of trench excavation, pipe bedding, piping, restrained joints, air valves, pressure cleanouts, backfill, compaction, and restoration to existing conditions.

⁷ Access road costs include the costs of all work associated with construction of the access road including earthwork, gravel, and restoration.

⁸ Lift station cost includes the cost of equipment, materials, and labor of sitework, yard piping, submersible lift station, precast structures, and electrical and controls.

⁹ A contingency of 35 percent was used due to the high degree of unknown factors. Assumes AACEI Class 4.

¹⁰ Engineering and Construction Administration includes all administrative and direct expenses to develop plans, specifications, and an engineer's estimate for

¹¹ Environmental and Cultural includes all expenses associated with environmental or cultural studies and procedures.

¹² Topographic, Boundary, and Utility Survey includes all labor, equipment, and travel expenses to obtain existing survey information for planning and design purposes.

¹³ Legal and City Administration includes all expenses associated with financial and legal oversight by the City.

¹⁴ Construction survey includes all expenses, including labor and equipment, to conduct construction staking and construction verification/quality control checks.

¹⁵ The Total Improvement Cost reflects an estimate of potential overall project costs based on preliminary estimates, and should not be considered an actual cost or encompassing all scenarios and circumstances.

**Water Project - Coyote Reservoir and Booster Station Upgrades
PLANNING LEVEL ESTIMATE
Industrial Area Utility Tech Memo**



Item No.	Item Description	Unit	Quantity	Adjusted Bid Prices	
				Unit Price (\$)	Amount (\$) ¹
1	Mobilization ²	LS	1	\$67,000	\$67,000
2	Land Acquisition ³	LS	1	\$75,000	\$75,000
3	Site Work ⁴	LS	1	\$33,000	\$33,000
4	1 MG Steel Reservoir ⁵	LS	1	\$673,000	\$673,000
5	PAX Mixing System ⁶	LS	1	\$57,000	\$57,000
SUBTOTAL 1				\$910,000	
CONSTRUCTION CONTINGENCY ⁷				35%	\$318,500
SUBTOTAL 2				\$1,230,000	
ENGINEERING AND CONSTRUCTION ADMINISTRATION ⁸				20%	\$246,000
ENVIRONMENTAL AND CULTURAL ⁹				5%	\$61,500
TOPOGRAPHIC, BOUNDARY, AND UTILITY SURVEY ¹⁰				1%	\$12,300
LEGAL AND CITY ADMINISTRATIVE ¹¹				2%	\$24,600
CONSTRUCTION SURVEY ¹²				1%	\$12,300
TOTAL IMPROVEMENT COST¹³				\$1,600,000	

¹ Cost estimates are provided in 2020 dollars. All dollar amounts are rounded for planning purposes.

² Mobilization includes the contractor's administrative and direct expenses to mobilize equipment, materials, and labor to the project site.

³ Land acquisition includes the cost of obtaining additional land to construct the proposed improvements. Assume each site requiring land acquisition is half an acre in size.

⁴ Site work includes the cost of excavation, grading, backfill, compaction, base rock, fencing, and site piping.

⁵ Reservoir costs include the costs of all work associated with reservoir construction including all materials, labor, equipment to construct the reservoir, foundation, and yard piping.

⁶ PAX mixing system includes the costs of the mixer, shipping and handling, start-up, and training.

⁷ A contingency of 35 percent was used due to the high degree of unknown factors. Assumes AACEI Class 4.

⁸ Engineering and Construction Administration includes all administrative and direct expenses to develop plans, specifications, and an engineer's estimate for construction.

⁹ Environmental and Cultural includes all expenses associated with environmental or cultural studies and procedures.

¹⁰ Topographic, Boundary, and Utility Survey includes all labor, equipment, and travel expenses to obtain existing survey information for planning and design purposes.

¹¹ Legal and City Administration includes all expenses associated with financial and legal oversight by the City.

¹² Construction survey includes all expenses, including labor and equipment, to conduct construction staking and construction verification/quality control checks.

¹³ The Total Improvement Cost reflects an estimate of potential overall project costs based on preliminary estimates, and should not be considered an actual cost or encompassing all scenarios and circumstances. This does not reflect the cost of all pipes and services which will increase the overall cost.

**Industrial Wastewater Conveyance Systems - Alternative 1
PLANNING LEVEL ESTIMATE
Industrial Area Utility Tech Memo**



Item No.	Item Description	Unit	Quantity	Adjusted Bid Prices	
				Unit Price (\$)	Amount (\$) ¹
	Mobilization ²	LS	1	\$8,000	\$8,000
	Traffic Control ³	LS	1	\$9,000	\$9,000
	10 Inch C900 PVC Pipe ⁴	LF	3,100	\$29	\$89,900
SUBTOTAL 1				\$110,000	
CONSTRUCTION CONTINGENCY ⁵				35%	\$38,500
SUBTOTAL 2				\$150,000	
ENGINEERING AND CONSTRUCTION ADMINISTRATION ⁶				20%	\$30,000
ENVIRONMENTAL AND CULTURAL ⁷				10%	\$15,000
TOPOGRAPHIC, BOUNDARY, AND UTILITY SURVEY ⁸				1%	\$1,500
LEGAL AND CITY ADMINISTRATIVE ⁹				2%	\$3,000
CONSTRUCTION SURVEY ¹⁰				1%	\$1,500
TOTAL IMPROVEMENT COST¹¹				\$200,000	

¹ Cost estimates are provided in 2020 dollars. All dollar amounts are rounded for planning purposes.

² Mobilization includes the contractor's administrative and direct expenses to mobilize equipment, materials, and labor to the project site.

³ Traffic control includes all labor, material, and equipment expenses associated with safely moving traffic through the work zone including signage, flagging, temporary barriers, temporary pavement markings, and lane delineators.

⁴ Pipe cost includes the cost of all pipe, pipe installation, earthwork, compaction, valves, fittings, fire hydrants, pavement repair, and restoration associated with the project. Farmer to provide distribution piping.

⁵ A contingency of 35 percent was used due to the high degree of unknown factors. Assumes AACEI Class 4.

⁶ Engineering and Construction Administration includes all administrative and direct expenses to develop plans, specifications, and an engineer's estimate for

⁷ Environmental and Cultural includes all expenses associated with environmental or cultural studies and procedures.

⁸ Topographic, Boundary, and Utility Survey includes all labor, equipment, and travel expenses to obtain existing survey information for planning and design purposes.

⁹ Legal and City Administration includes all expenses associated with financial and legal oversight by the City.

¹⁰ Construction survey includes all expenses, including labor and equipment, to conduct construction staking and construction verification/quality control checks.

¹¹ The Total Improvement Cost reflects an estimate of potential overall project costs based on preliminary estimates, and should not be considered an actual cost or encompassing all scenarios and circumstances.

**Industrial Wastewater Conveyance Systems - Alternative 2
PLANNING LEVEL ESTIMATE
Industrial Area Utility Tech Memo**



Item No.	Item Description	Unit	Quantity	Adjusted Bid Prices	
				Unit Price (\$)	Amount (\$) ¹
	Mobilization ²	LS	1	\$156,000	\$156,000
	Traffic Control ³	LS	1	\$10,000	\$10,000
	8 Inch C900 PVC Pipe ⁴	LF	7,050	\$21	\$148,050
	6.5 MG Lagoon ⁵	LS	1	\$1,700,000	\$1,700,000.00
	Booster Station ⁶	LS	1	\$90,000	\$90,000
SUBTOTAL 1				\$2,100,000	
CONSTRUCTION CONTINGENCY ⁷				35%	\$735,000
SUBTOTAL 2				\$2,840,000	
ENGINEERING AND CONSTRUCTION ADMINISTRATION ⁸				20%	\$568,000
ENVIRONMENTAL AND CULTURAL ⁹				3%	\$85,200
TOPOGRAPHIC, BOUNDARY, AND UTILITY SURVEY ¹⁰				1%	\$28,400
LEGAL AND CITY ADMINISTRATIVE ¹¹				2%	\$56,800
CONSTRUCTION SURVEY ¹²				1%	\$28,400
TOTAL IMPROVEMENT COST¹³				\$3,600,000	

¹ Cost estimates are provided in 2020 dollars. All dollar amounts are rounded for planning purposes.

² Mobilization includes the contractor's administrative and direct expenses to mobilize equipment, materials, and labor to the project site.

³ Traffic control includes all labor, material, and equipment expenses associated with safely moving traffic through the work zone including signage, flagging, temporary barriers, temporary pavement markings, and lane delineators.

⁴ Pipe cost includes the cost of all pipe, pipe installation, earthwork, compaction, valves, fittings, fire hydrants, pavement repair, and restoration associated with the project. City to provide neighborhood distribution piping.

⁵ Lagoon costs include the costs of all work associated with lagoon construction including the cost of earthwork, compaction, HDPE lining, perimeter road, perimeter fencing, water level gauges, and piping. No land acquisition costs are needed as the City will own this property prior to construction.

⁶ Booster pump station costs include the costs of all work associated with construction of the booster pump station including, booster pumps, site work, building construction, yard piping, electrical and controls, and HVAC system.

⁷ A contingency of 35 percent was used due to the high degree of unknown factors. Assumes AACEI Class 4.

⁸ Engineering and Construction Administration includes all administrative and direct expenses to develop plans, specifications, and an engineer's estimate for

⁹ Environmental and Cultural includes all expenses associated with environmental or cultural studies and procedures.

¹⁰ Topographic, Boundary, and Utility Survey includes all labor, equipment, and travel expenses to obtain existing survey information for planning and design purposes.

¹¹ Legal and City Administration includes all expenses associated with financial and legal oversight by the City.

¹² Construction survey includes all expenses, including labor and equipment, to conduct construction staking and construction verification/quality control checks.

¹³ The Total Improvement Cost reflects an estimate of potential overall project costs based on preliminary estimates, and should not be considered an actual cost or encompassing all scenarios and circumstances.

Appendix C – Calculations

POWERLINE ROAD, UMATILLA OR

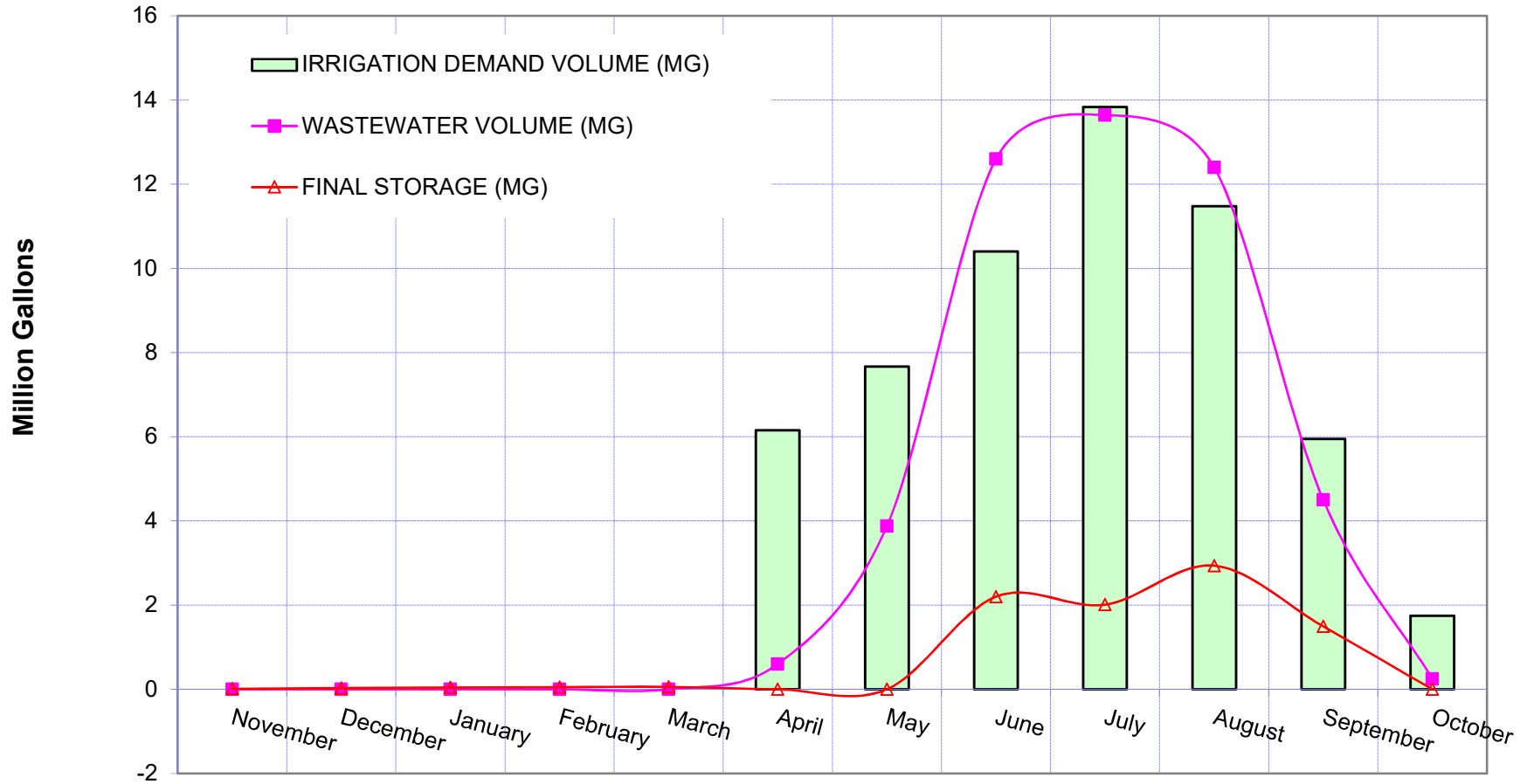
WATER BALANCE

Annual Irrigation Demand 57.23 inches

IWW INFLOW 47.86 MG

Area Irrigated 49.86 Acres

Storage 2.9 MG



POWERLINE ROAD, UMATILLA OR
Flow 0.223 MGD Summer Average

Annual Irrigation Demand 57.23 inches
Storage 2.9 MG

Area Filled 49.26 Acres
Flow 0.13 MGD Annual Average

0.0

STORAGE LAGOON W/ LAND APPLICATION ON ALFALFA DURING GROWING SEASON

DRAFT WORKING DOCUMENT: 12/19/2019

AVG ANN WASTEWATER DESIGN FLOW, MGD.....	0.13	REQ'D IRRIGATION AREA (AC).....	50
RAIN CATCHMENT AREA (AC).....	0.40 Acres of Storage Ponds	AVERAGE IRRIGATION REDUCTION	1.00 To reduce the average demand to
POND PERIMETER RUNOFF FRACTION.....	1.00	IRRIGATION EFFICIENCY (DECIMAL FRACT).....	1.00 This increased the irrigation demand
POND EVAP AREA AT ZERO STOR (AC).....	0.40	PRECIP/AVG PRECIP RATIO.....	1.00 This increases the average precipitation
POND EVAP AREA ADD PER UNIT STOR (AC/MG).....	0.033	EVAPORATION / AVE EVAPORATION RATION.....	1.00 This reduces the average evaporation
		KNOW AVERAGE FLOW / DESIGN FLOW.....	1.00 This increased the flow to the future

Flow Ratio

PARAMETER

	11	12	1	2	3	4	5	6	7	8	9	10	TOTAL
INPUT DATA	November	December	January	February	March	April	May	June	July	August	September	October	
MONTHLY FLOW RATIOS	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	
MONTHLY FLOWS (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	0.1303 Annual Avg. Daily Flow (MGD)
GIVEN INFLOW-OUTFLOW (MG)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
AVG PAN EVAP (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- Average Annual Pan Evaporation
AVG PRECIP (IN)	1.14	1.32	1.23	0.85	0.67	0.79	0.69	0.50	0.22	0.29	0.39	0.60	8.69 Average Annual Precipitation
MONTHLY AVE. TEMP.	42.00	34.70	34.20	38.70	46.00	52.70	60.50	67.70	74.60	73.10	73.10	52.40	Degrees F

CALCULATIONS

DAYS IN MONTH	30.0	31.0	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	
BEGINNING STORAGE (MG)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.2	2.0	2.9	1.5	
WASTEWATER FLOW (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	4.0 Million Gallons per Month
WASTEWATER VOLUME (MG)	0.0	0.0	0.0	0.0	0.0	0.6	3.9	12.6	13.6	12.4	4.5	0.2	47.9 Million Gallon Per Year
PAN COEFFICIENT	0.89	0.96	0.96	0.93	0.85	0.80	0.72	0.66	0.59	0.60	0.60	0.80	
POND EVAP (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Design Annual Evaporation
EVAPORATION AREA (AC)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	
EVAPORATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Evaporation Volume
PRECIPITATION (IN)	1.1	1.3	1.2	0.9	0.7	0.8	0.7	0.5	0.2	0.3	0.4	0.6	8.7 Designed Annual Precipitation
PRECIPITATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1 Precip Volume
RAIN YET TO FALL (IN)	8.7	7.6	6.2	5.0	4.2	3.5	2.7	2.0	1.5	1.3	1.0	0.6	
AVG. MONTHLY Pdef (IN)	0.0	0.0	0.0	0.0	0.0	4.5	5.7	7.7	10.2	8.5	4.4	1.3	42.24 Average Annual Pdef
Vadose Zone Storage (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Inches Stored in The Vadose Zone
MODELED IRRIG DEMAND (IN)	0.0	0.0	0.0	0.0	0.0	4.5	5.7	7.7	10.2	8.5	4.4	1.3	42.24 Designed Annual Irrigation Demand
IRRIGATION DEMAND VOLUME (MG)	0.0	0.0	0.0	0.0	0.0	6.2	7.7	10.4	13.8	11.5	5.9	1.7	57.2 Irrigation Demand (MG)
REUSE WATER IRRIGATED	0.0	0.0	0.0	0.0	0.0	0.7	3.9	10.4	13.8	11.5	5.9	1.7	48.0 Volume Reuse water Irrigated (MG)
STORAGE GAIN (MG)	0.0	0.0	0.0	0.0	0.0	-5.5	-3.8	2.2	-0.2	0.9	-1.4	-1.5	
FINAL STORAGE (MG)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.2	2.0	2.9	1.5	0.0	

ANNUAL INFLOW SUMMARY (MG)

WASTEWATER.....	47.9
PRECIPITATION.....	0.1
GIVEN INFLOWS-OUTFLOWS.....	0.0
TOTAL	48.0

ANNUAL OUTFLOW SUMMARY (MG)

POND EVAPORATION.....	0.0
POND PERCOLATION.....	0.0
IRRIGATION.....	48.0
TOTAL	48.0

OVERALL BALANCE

TOTAL INFLOW-OUTFLOW (MG).....	0.0
MAX. REQ'D STORAGE (MG).....	2.94
MAX. REQ'D STORAGE (ACFT)	9.0
MAX. DEPTH (FT)	25.0
SURFACE AREA (AC)	1.2
SURFACE AREA (SF)	54,330
SQUARE DIM (FT)	233

Acres Needed, vertical walls 0.4

Storage Catchment Area Large Enough

POWERLINE ROAD, UMATILLA OR

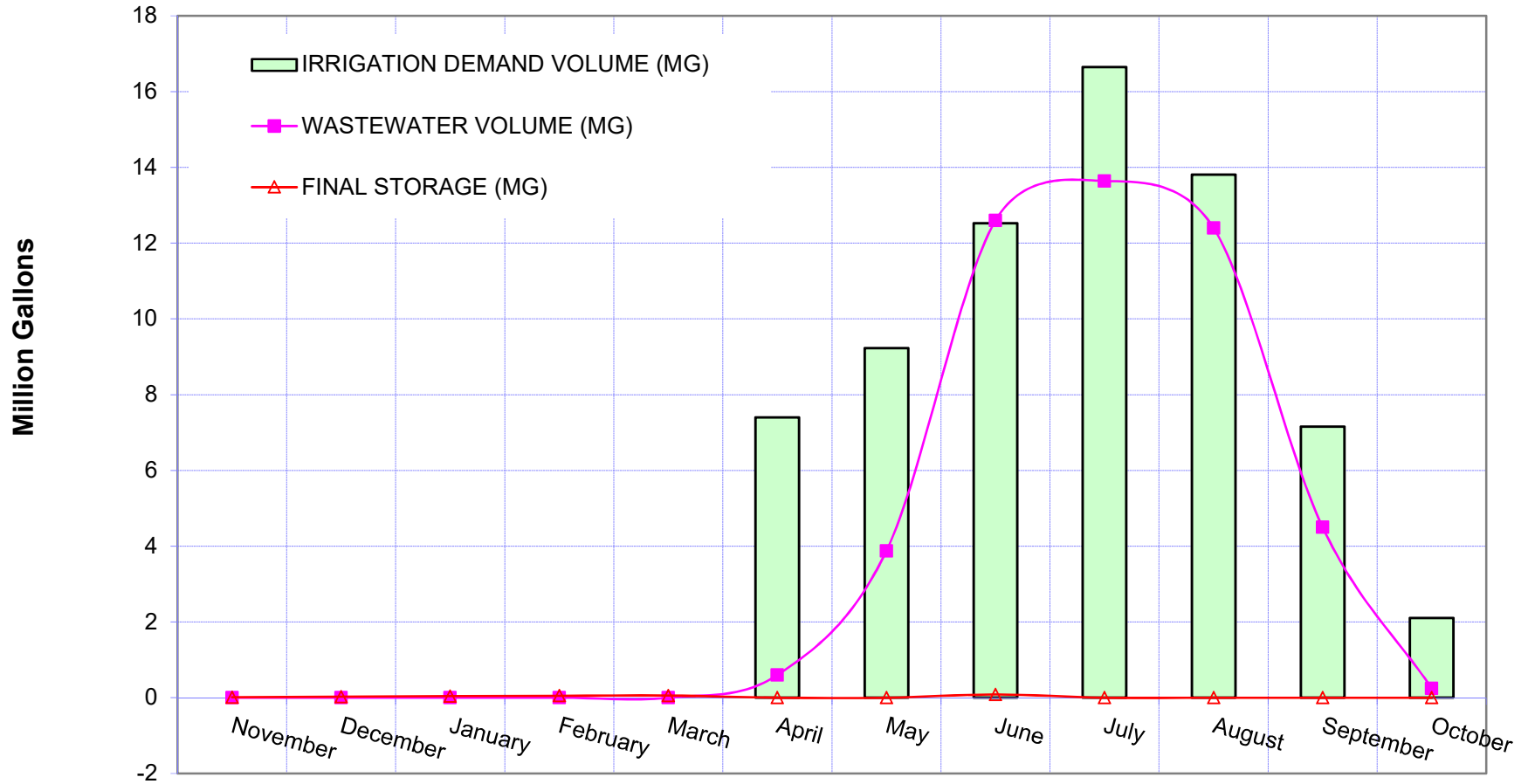
WATER BALANCE

Annual Irrigation Demand 68.87 inches

IWW INFLOW 47.86 MG

Area Irrigated 60 Acres

Storage 0.1 MG



POWERLINE ROAD, UMATILLA OR
Flow 0.223 MGD Summer Average

Annual Irrigation Demand 68.87 inches
Storage 0.1 MG

Area Filled 60 Acres
powerline road W/ALFALFA 67.86 MG

0.0

STORAGE LAGOON W/ LAND APPLICATION ON ALFALFA DURING GROWING SEASON

DRAFT WORKING DOCUMENT: 12/19/2019

AVG ANN WASTEWATER DESIGN FLOW, MGD	0.13	REQ'D IRRIGATION AREA (AC)	60
RAIN CATCHMENT AREA (AC).....	0.40 Acres of Storage Ponds	AVERAGE IRRIGATION REDUCTION	1.00 To reduce the average demand to
POND PERIMETER RUNOFF FRACTION.....	1.00	IRRIGATION EFFICIENCY (DECIMAL FRACT).....	1.00 This increased the irrigation demand
POND EVAP AREA AT ZERO STOR (AC).....	0.40	PRECIP/AVG PRECIP RATIO.....	1.00 This increases the average precipitation
POND EVAP AREA ADD PER UNIT STOR (AC/MG).....	0.033	EVAPORATION / AVE EVAPORATION RATION.....	1.00 This reduces the average evaporation
		Flow Ratio KNOW AVERAGE FLOW / DESIGN FLOW.....	1.00 This increased the flow to the future

PARAMETER

	11	12	1	2	3	4	5	6	7	8	9	10	TOTAL	
INPUT DATA	November	December	January	February	March	April	May	June	July	August	September	October		
MONTHLY FLOW RATIOS	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01		
MONTHLY FLOWS (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	0.1303	Annual Avg. Daily Flow (MGD)
GIVEN INFLOW-OUTFLOW (MG)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
AVG PAN EVAP (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	Average Annual Pan Evaporation
AVG PRECIP (IN)	1.14	1.32	1.23	0.85	0.67	0.79	0.69	0.50	0.22	0.29	0.39	0.60	8.69	Average Annual Precipitation
MONTHLY AVE. TEMP.	42.00	34.70	34.20	38.70	46.00	52.70	60.50	67.70	74.60	73.10	73.10	52.40		Degrees F
CALCULATIONS														
DAYS IN MONTH	30.0	31.0	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0		
BEGINNING STORAGE (MG)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0		
WASTEWATER FLOW (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	4.0	Million Gallons per Month
WASTEWATER VOLUME (MG)	0.0	0.0	0.0	0.0	0.0	0.6	3.9	12.6	13.6	12.4	4.5	0.2	47.9	Million Gallon Per Year
PAN COEFFICIENT	0.89	0.96	0.96	0.93	0.85	0.80	0.72	0.66	0.59	0.60	0.60	0.80		
POND EVAP (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	Design Annual Evaporation
EVAPORATION AREA (AC)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4		
EVAPORATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	Evaporation Volume
PRECIPITATION (IN)	1.1	1.3	1.2	0.9	0.7	0.8	0.7	0.5	0.2	0.3	0.4	0.6	8.7	Designed Annual Precipitation
PRECIPITATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	Precip Volume
RAIN YET TO FALL (IN)	8.7	7.6	6.2	5.0	4.2	3.5	2.7	2.0	1.5	1.3	1.0	0.6		
AVG. MONTHLY Pdef (IN)	0.0	0.0	0.0	0.0	0.0	4.5	5.7	7.7	10.2	8.5	4.4	1.3	42.24	Average Annual Pdef
Vadose Zone Storage (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	Inches Stored in The Vadose Zone
MODELED IRRIG DEMAND (IN)	0.0	0.0	0.0	0.0	0.0	4.5	5.7	7.7	10.2	8.5	4.4	1.3	42.24	Designed Annual Irrigation Demand
IRRIGATION DEMAND VOLUME (MG)	0.0	0.0	0.0	0.0	0.0	7.4	9.2	12.5	16.6	13.8	7.2	2.1	68.9	Irrigation Demand (MG)
REUSE WATER IRRIGATED	0.0	0.0	0.0	0.0	0.0	0.7	3.9	12.5	13.7	12.4	4.5	0.3	48.0	Volume Reuse water Irrigated (MG)
STORAGE GAIN (MG)	0.0	0.0	0.0	0.0	0.0	-6.8	-5.3	0.1	-3.0	-1.4	-2.7	-1.8		
FINAL STORAGE (MG)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0		

ANNUAL INFLOW SUMMARY (MG)

WASTEWATER.....	47.9
PRECIPITATION.....	0.1
GIVEN INFLOWS-OUTFLOWS.....	0.0
TOTAL	48.0

ANNUAL OUTFLOW SUMMARY (MG)

POND EVAPORATION.....	0.0
POND PERCOLATION.....	0.0
IRRIGATION.....	48.0
TOTAL	48.0

OVERALL BALANCE

TOTAL INFLOW-OUTFLOW (MG).....	0.0
MAX. REQ'D STORAGE (MG).....	0.08
MAX. REQ'D STORAGE (ACFT)	0.3
MAX. DEPTH (FT)	25.0
SURFACE AREA (AC)	1.2
SURFACE AREA (SF)	54,330
SQUARE DIM (FT)	233

Acres Needed, vertical walls 0.0
Storage Catchment Area Large Enough

POWERLINE ROAD, UMATILLA OR

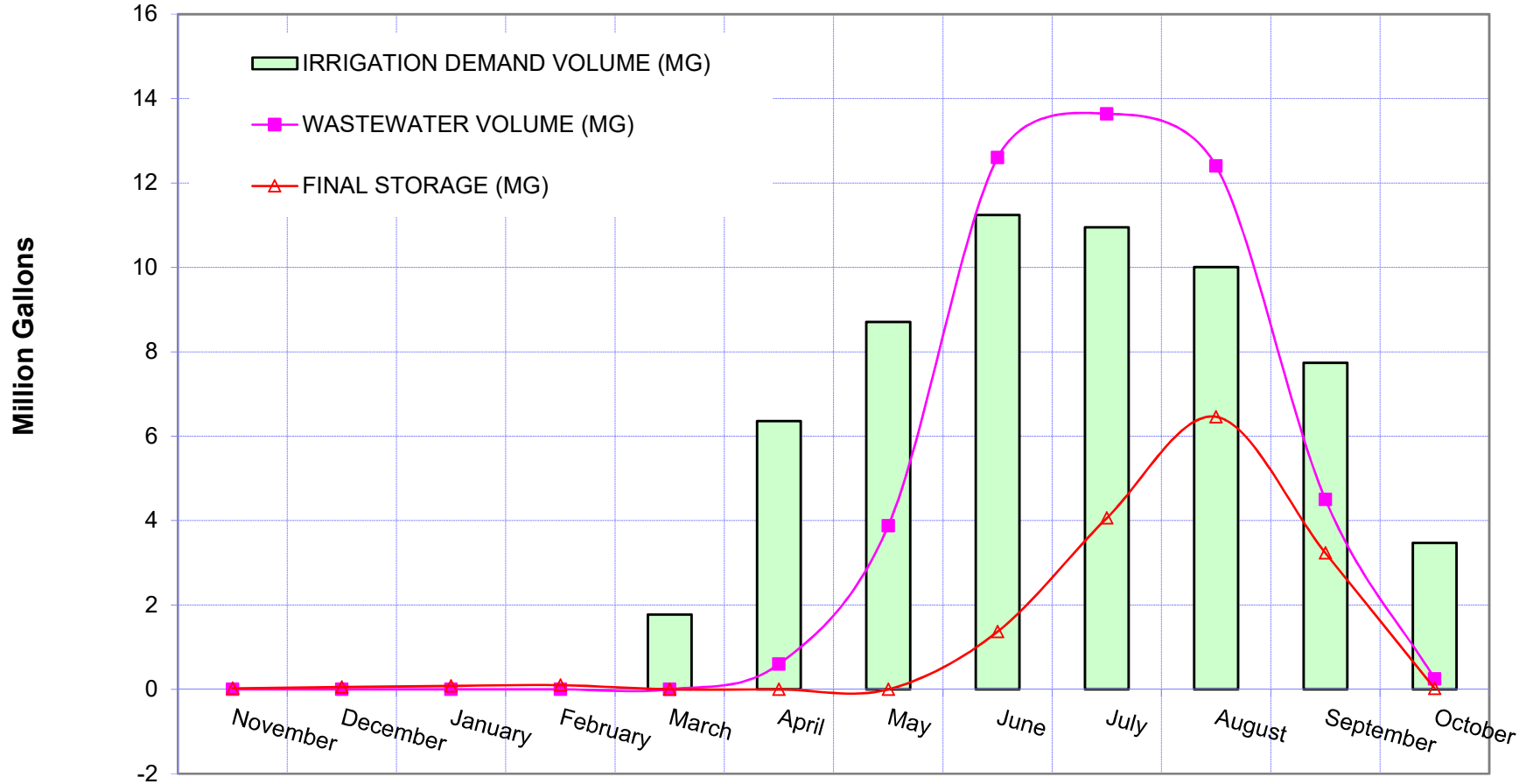
WATER BALANCE

Annual Irrigation Demand 60.25 inches

IWW INFLOW 47.86 MG

Area Irrigated 93.94 Acres

Storage 6.5 MG



POWERLINE ROAD, UMATILLA OR
Flow 0.223 MGD Summer Average

Annual Irrigation Demand 60.25 inches
Storage 6.5 MG
Flow 0.13 MGD Annual Average

Area Irrigated 99.4 Acres
Area of Road Water Balance 4.66 MG

0.0

STORAGE LAGOON W/ LAND APPLICATION ON LAWN DURING GROWING SEASON

DRAFT WORKING DOCUMENT: 12/19/2019

AVG ANN WASTEWATER DESIGN FLOW, MGD.....	0.13	REQ'D IRRIGATION AREA (AC).....	94	
RAIN CATCHMENT AREA (AC).....	0.80 Acres of Storage Ponds	AVERAGE IRRIGATION REDUCTION	1.00 To reduce the average demand to	
POND PERIMETER RUNOFF FRACTION.....	1.00	IRRIGATION EFFICIENCY (DECIMAL FRACT).....	1.00 This increased the irrigation demand	
POND EVAP AREA AT ZERO STOR (AC).....	0.40	PRECIP/AVG PRECIP RATIO.....	1.00 This increases the average precipitation	
POND EVAP AREA ADD PER UNIT STOR (AC/MG).....	0.033	EVAPORATION / AVE EVAPORATION RATION.....	1.00 This reduces the average evaporation	
		Flow Ratio	KNOW AVERAGE FLOW / DESIGN FLOW.....	1.00 This increased the flow to the future

PARAMETER

	11	12	1	2	3	4	5	6	7	8	9	10	TOTAL
INPUT DATA	November	December	January	February	March	April	May	June	July	August	September	October	
MONTHLY FLOW RATIOS	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	
MONTHLY FLOWS (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	0.1303 Annual Avg. Daily Flow (MGD)
GIVEN INFLOW-OUTFLOW (MG)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
AVG PAN EVAP (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- Average Annual Pan Evaporation
AVG PRECIP (IN)	1.14	1.32	1.23	0.85	0.67	0.79	0.69	0.50	0.22	0.29	0.39	0.60	8.69 Average Annual Precipitation
MONTHLY AVE. TEMP.	42.00	34.70	34.20	38.70	46.00	52.70	60.50	67.70	74.60	73.10	73.10	52.40	Degrees F

CALCULATIONS

DAYS IN MONTH	30.0	31.0	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	
BEGINNING STORAGE (MG)	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	1.4	4.1	6.5	3.2	
WASTEWATER FLOW (MGD)	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.42	0.44	0.40	0.15	0.01	4.0 Million Gallons per Month
WASTEWATER VOLUME (MG)	0.0	0.0	0.0	0.0	0.0	0.6	3.9	12.6	13.6	12.4	4.5	0.2	47.9 Million Gallon Per Year
PAN COEFFICIENT	0.89	0.96	0.96	0.93	0.85	0.80	0.72	0.66	0.59	0.60	0.60	0.80	
POND EVAP (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Design Annual Evaporation
EVAPORATION AREA (AC)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	
EVAPORATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Evaporation Volume
PRECIPITATION (IN)	1.1	1.3	1.2	0.9	0.7	0.8	0.7	0.5	0.2	0.3	0.4	0.6	8.7 Designed Annual Precipitation
PRECIPITATION VOL (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2 Precip Volume
RAIN YET TO FALL (IN)	8.7	7.6	6.2	5.0	4.2	3.5	2.7	2.0	1.5	1.3	1.0	0.6	
AVG. MONTHLY Pdef (IN)	0.0	0.0	0.0	0.0	0.7	2.5	3.4	4.4	4.3	3.9	3.0	1.4	23.60 Average Annual Pdef
Vadose Zone Storage (IN)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- Inches Stored in The Vadose Zone
MODELED IRRIG DEMAND (IN)	0.0	0.0	0.0	0.0	0.7	2.5	3.4	4.4	4.3	3.9	3.0	1.4	23.60 Designed Annual Irrigation Demand
IRRIGATION DEMAND VOLUME (MG)	0.0	0.0	0.0	0.0	1.8	6.4	8.7	11.2	11.0	10.0	7.7	3.5	60.2 Irrigation Demand (MG)
REUSE WATER IRRIGATED	0.0	0.0	0.0	0.0	0.1	0.6	3.9	11.2	11.0	10.0	7.7	3.5	48.0 Volume Reuse water Irrigated (MG)
STORAGE GAIN (MG)	0.0	0.0	0.0	0.0	-1.8	-5.7	-4.8	1.4	2.7	2.4	-3.2	-3.2	
FINAL STORAGE (MG)	0.0	0.1	0.1	0.1	0.0	0.0	0.0	1.4	4.1	6.5	3.2	0.0	

ANNUAL INFLOW SUMMARY (MG)

WASTEWATER.....	47.9
PRECIPITATION.....	0.2
GIVEN INFLOWS-OUTFLOWS.....	0.0
TOTAL	48.1

ANNUAL OUTFLOW SUMMARY (MG)

POND EVAPORATION.....	0.0
POND PERCOLATION.....	0.0
IRRIGATION.....	48.0
TOTAL	48.0

OVERALL BALANCE

TOTAL INFLOW-OUTFLOW (MG).....	0.0
MAX. REQ'D STORAGE (MG).....	6.46
MAX. REQ'D STORAGE (ACFT)	19.8
MAX. DEPTH (FT)	25.0
SURFACE AREA (AC)	1.2
SURFACE AREA (SF)	54,330
SQUARE DIM (FT)	233
Acres Needed, vertical walls	0.8
Storage Catchment Area Large Enough	

Exhibit D - Traffic Impact Study

Urban Growth Boundary Expansion City of Umatilla, Oregon Traffic Impact Analysis

June 2020

Prepared by:



J-U-B ENGINEERS, Inc.
1201 Adams Avenue
La Grande, Oregon 97850

Urban Growth Boundary Expansion City of Umatilla, Oregon Traffic Impact Analysis

June 2020



EXPIRES: 06/30/2020

Prepared by:

Spencer Montgomery
Shae Talley, PE



J-U-B ENGINEERS, Inc.
1201 Adams Avenue
La Grande, Oregon 97850

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Appendices

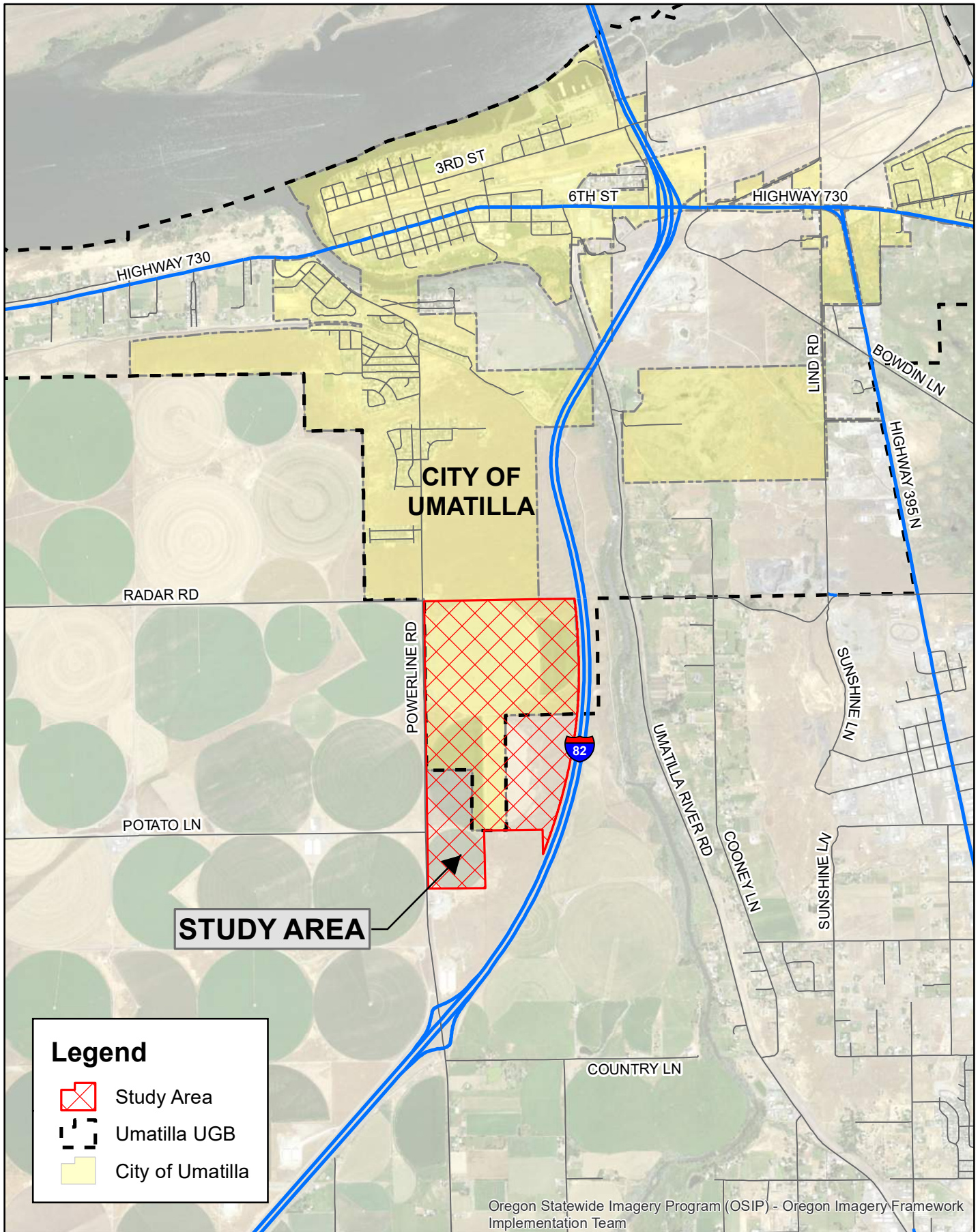
- Appendix A – Traffic Counts
- Appendix B– Level of Service Worksheets
- Appendix C – City of Umatilla Plan Map
- Appendix D – Traffic Growth Calculations

Introduction and Background

Cleaver Land, LLC is preparing an application proposing a Comprehensive Plan Amendment to expand the City of Umatilla Urban Growth Area and associated Zoning Map for economic development purposes. There is interest in development on property with good highway access adjacent to the existing Umatilla City limits.

The proposed Urban Growth Boundary (UGB) expansion includes two parcels, Tax Lots 1400 and 6601 on Assessors Map 5N28C totaling approximately 147 acres situated between Powerline Road and I-82 south of the current city limits. The proposed UGB expansion would add the remainder of Tax lot 1400, 107.66 acres, and all of Tax Lot 6601, 39.09 acres, into the UGB. This property would be brought into the UGB as Light Industrial land. A rezone of approximately 294 acres, situated immediately north of the expansion area, from residential to Light Industrial is also part of the land use action. The area for the UGB Expansion and rezone totaling 441 acres to be rezoned as Light Industrial is shown in Figure 1. This report provides the Traffic Impact Analysis of the UGB expansion and rezoning.

This Traffic Impact Analysis has been requested by the City of Umatilla to document potential traffic impacts as a result of the proposed 147 acre UGB expansion and rezone of the 294 acre parcel. This study will summarize existing traffic conditions (2020) as well as future traffic operational conditions in 2040 with and without the anticipated action of the UGB rezone and expansion. This study also identifies mitigation that may be necessary to provide safety and acceptable Levels of Service (LOS) in order to meet City of Umatilla and Oregon Department of Transportation (ODOT) standards. ODOT relies on the Volume-To-Capacity (VC) Ratio as the measure of quality of service. VC represents the measurement of the operating capacity of a roadway or intersection where the number of vehicles passing through is divided by the number of vehicles that could theoretically pass through when at capacity. If vehicles (v) divided by capacity (c) is less than one the facility has additional capacity.



Existing Conditions

This section will document existing conditions with respect to land use, roadway characteristics, traffic volumes and traffic operations at the study intersections.

Land Use

Land use of the 294 acres parcel within the current city limits is zoned residential but currently functions as agricultural production. Crops regularly in rotation are potatoes, onions, corn, legumes and recently hemp. The 147 acres to be expanded into the UGB is zoned agricultural which is consistent with the immediate vicinity and zoning in the area. There is, however, substantial residential subdivision growth north of the subject UGB expansion.

Roadway Characteristics

Roadways are described below, while the lane geometry for study intersections and existing PM peak hour traffic volumes are shown in Figure 2.

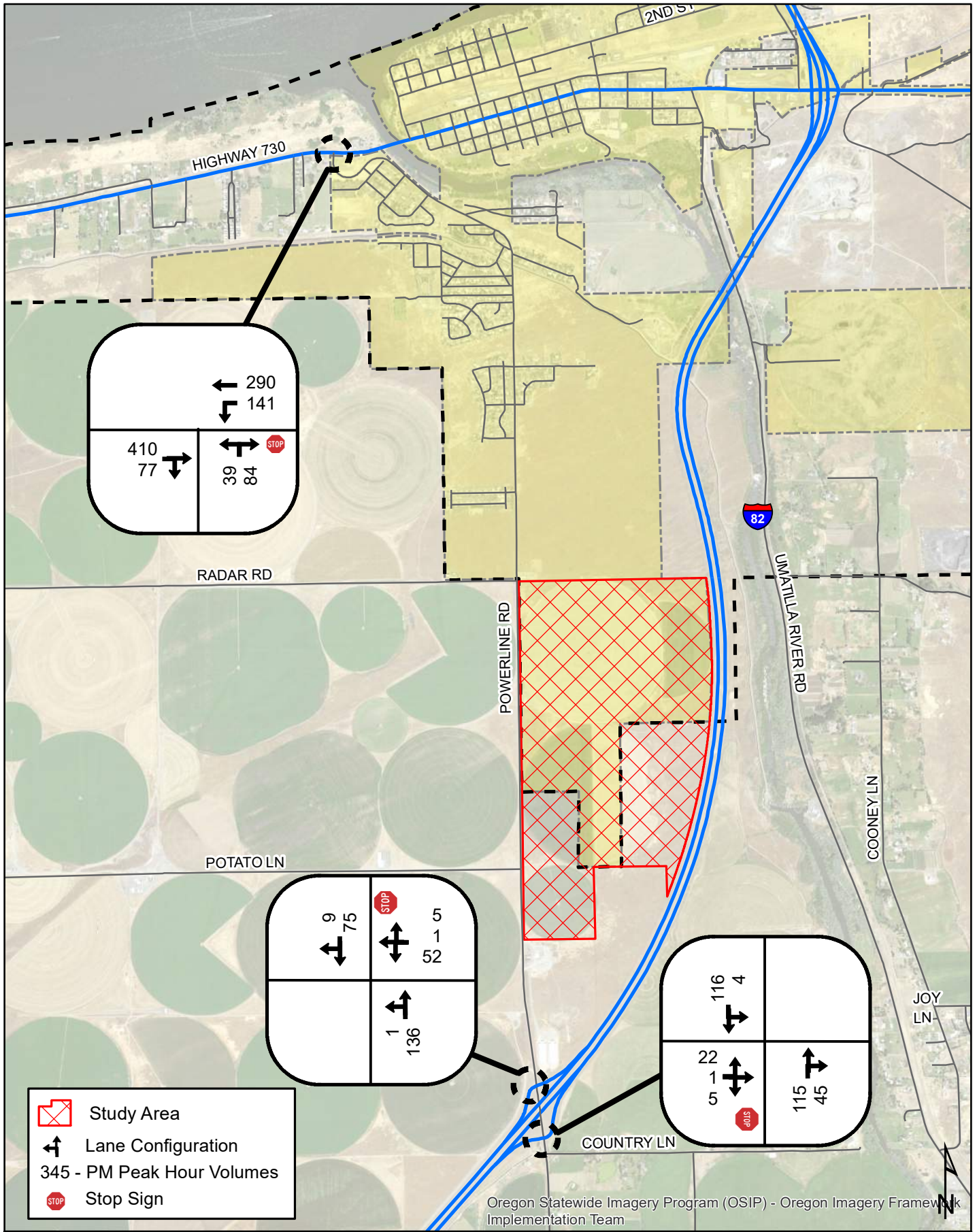
Powerline Road is a north-south Major Collector that provides a connection from an I-82 interchange (Exit 5) to the south to an intersection with US 730 to the north in the City of Umatilla. South, Powerline Road crosses over I-82 and intersects Westland Road 2.7 miles south of I-82. Powerline Road has a single through lane in each direction. The 12 foot lanes are paved with minimal gravel shoulders. The north 0.5 mile prior to US 730 has paved shoulders. The speed limit of Powerline Road from the intersection of US 730 south 1.4 miles is posted 35 MPH then the speed limit is increased to 45 MPH to MP 2. South of MP 2 the assumed speed limit is 55 MPH per rural highway standards in Oregon.

I-82 is an east-west divided Interstate Highway which connects I-90 at Ellensburg, WA to I-84 approximately 10.5 miles south of the Oregon-Washington border. There are two lanes in each direction separated by a center median. It has a posted speed limit of 70 MPH (65 MPH Trucks). At the I-82 Interchange with Powerline road single lane approaches exist for all movements at both ramps. In the study area I-82 is oriented in a north-south direction, thus for clarity and for the purposes of this report I-82 westbound will be referred to as northbound, with the ramps being the east and west legs of the intersection at Powerline Road which also runs north/south, and I-82 eastbound will be referred to as southbound with the ramps being the east and west legs of the intersection at Powerline Road.

US 730 in the vicinity of the intersection with Powerline Road is a 3 lane principal arterial Highway with one through lane in each direction and a center turn lane (although the west leg of the intersection at Powerline Road is not striped such that it promotes a northbound left turn into the center lane). US 730 has wide paved shoulders on both sides. US 730 terminates at I-84 west of Umatilla and terminates at the Wallula Junction to the east. At the Intersection with Powerline Road the posted speed is 40 MPH.

Traffic Volumes

Turning movement counts were collected by All Traffic Data (provided to PBS for a separate TIA) collected on March 4, 2020 prior to the COVID-19 stay at home orders. PM peak period traffic at the intersection of US 730 /Powerline Road as well as the I-82 SB Ramps/Powerline Road and I-82 NB Ramps/Powerline Road are included in Appendix A. The PM peak hour occurred from 4:05 – 5:05 at US 730 and from 4:45 – 5:45 PM for both ramp intersections.



Oregon Statewide Imagery Program (OSIP) - Oregon Imagery Framework Implementation Team



FIGURE 2:
EXISTING PM PEAK HOUR
TRAFFIC VOLUMES AND
LANE CONFIGURATIONS

CITY OF UMATILLA
Urban Growth Bounday Expansion
Traffic Impact Analysis

Operational Analysis

The analysis of Level-of-Service (LOS) is a means of quantitatively describing the quality of operational conditions of a roadway segment or intersection and the perception by motorists and passengers. Service levels are identified by letter designation, A – F, with LOS “A” representing the best operating conditions and LOS “F” the worst. Each LOS represents a range of operating conditions. For intersections the measure used is average control delay in seconds per vehicle. While there are several methodologies for estimating the LOS of intersections, the most commonly used is presented in the Highway Capacity Manual and is the methodology used in this study (HCM 2010). The Highway Capacity Manual LOS criteria for intersections are summarized in Table 1.

Table 1. Level of Service Criteria for Intersections

Level of Service (LOS)	Average Control Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	< =10	< =10
B	>10 - < 20	>10 - < 15
C	>20 - < 35	>15 - < 25
D	>35 - < 55	>25 - < 35
E	>55 - < 80	>35 - < 50
F	>80	>50

Source: Highway Capacity Manual 6th Edition, Transportation Research Board, National Research Council, Washington, D.C., 2017.

For unsignalized intersections “delay” is based on the availability of gaps in the major street to allow minor street movements to occur. The methodology prioritizes each movement at an unsignalized intersection consistent with rules that govern right-of-way for drivers. In other words, major street through and right turn traffic has absolute priority over all other movements. Major street left turns must yield to opposing through traffic and right turns. Minor street through traffic and right turns yield to major street higher priority movements, and the minor street left turns have the lowest priority and must yield to all other movements. As traffic volumes increase, the availability of gaps will decrease and greater delay tends to result in driver frustration and anxiety, loss of time, unnecessary fuel consumption, and contributes to unnecessary air pollution. The City of Umatilla Transportation System Plan references ODOT’s minimum requirements which has LOS D for signalized intersections (meaning the LOS must be D or better), and LOS E for two-way stop controlled (TWSC) conditions. ODOT has a mobility standard of a v/c ratio of 0.85 or less for Highway 730 at Powerline road based on its classification and location. ODOT also has a mobility standard of a v/c ratio of 0.70 or less for interstate highways for locations outside a UGB and on rural lands. This standard would apply to the two interchange ramps of I-82 at Powerline Road.

Peak hour traffic volumes and existing intersection geometry were evaluated using the Highway Capacity Software to determine the delay and LOS at the existing study intersections. The LOS worksheet calculations are included in Appendix B. The results of the capacity analysis are shown in Table 2, which shows that all study intersections currently function at acceptable Levels of Service with the two I-82 ramps providing LOS B, and the Powerline Road/US 730 intersection providing LOS C with 23 seconds of average vehicle delay.

Table 2. 2020 Existing Conditions Delay, Level of Service and volume to capacity ratios

Intersection	2020 Existing
I-82 SB ramps/Powerline Road	WB – 10.4/B, 0.09
I-82 NB ramps/Powerline Road	EB—10.2/B, 0.04
US 730/Powerline Road	NB—23.0/C, 0.41 WBL—9.2/A, 0.16

LEGEND

10.4/B, 0.09 Delay (in seconds) and Level of Service, volume to capacity ratio
 NB = northbound, SB = southbound, WB = westbound, EB = eastbound

2040 Conditions

This section evaluates traffic volumes at the study intersections for future conditions with the proposed UGB Expansion and Rezone as well as under the No Action Scenario.

Proposed Land Use Change

The proposed land use action includes 294 acres currently within the City limits and zoned R-1 Single Family Residential to be rezoned to Light Industrial. It also includes expansion of the Urban Growth Boundary by 147 acres of currently zoned agricultural land to be zoned Light Industrial for a total of 441 acres of Light Industrial land. This is shown in Figure 3. The current City of Umatilla Plan Map showing existing zoning is included in Appendix C.

Forecast 2040 Traffic Volumes

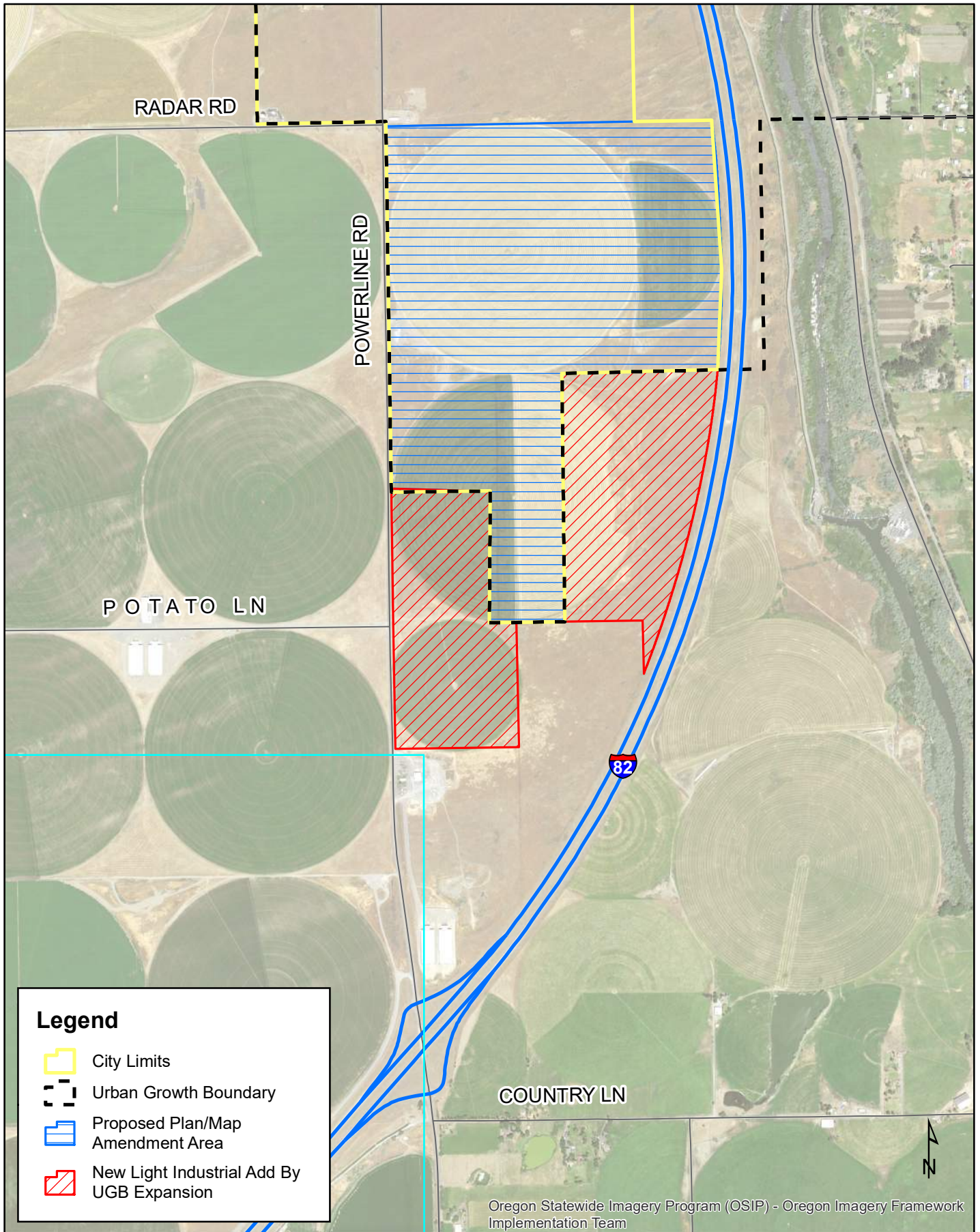
As is typical with most traffic studies, a growth rate for background traffic is used to apply to existing traffic volumes to account for growth in traffic that is the result of development outside the study area. The Coordinated Population Forecast for Umatilla County produced by Population Research Center at Portland State University indicates a forecast population growth rate of 1.1% per year for the City of Umatilla. For the purposes of this analysis a background growth rate of 1.5% was used to represent a conservatively high growth rate for traffic forecasting purposes. Added to this growth were trips for a recently approved residential development that is anticipated to add trips to the Powerline Road/US 730 intersection. The resulting 2040 No Action Traffic Volumes are shown in Figure 4, with detailed trips by movement included in Appendix D.

To estimate the new trips that could be generated by the proposed rezone and UGB Expansion the 10th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation* Manual was used. This is a nationally recognized compilation of trip generation rates for common land uses. There is no specific development layout to use for development projections.

General Light Industrial (Land Use 110) fitted curve was used. To estimate the potential square footage of development for the site a floor area of 20% was applied to the 441 acres, resulting in 3.841 million square feet. Using the fitted curve equations in the ITE manual the resulting trips shown in Table 3 are anticipated upon build-out of the proposed industrial land.

By comparison, the trips for Single Family Residential is also shown in Table 3. The number of potential homes that could be constructed on the 294 acres of currently zoned residential land was estimated by reducing the total land by 25% to account for buildable lands, right-of-way, stormwater, etc. and dividing by a lot size of 7,000 sq ft, resulting in 1,372 potential residential lots. The fitted curve equations are shown in Table 3.

Examination of Table 3 shows that the proposed 441 acres of light industrial land would generate approximately 458 PM peak hour trips. The existing zoning of 294 acres of residential would generate approximately 1,256 PM peak hour trips. Thus, even with the UGB Expansion under this proposal, the rezone from residential to light industrial is likely to reduce the total trips generated by the 441 acres by nearly 800 trips during the PM peak hour. This would indicate that the combined UGB Expansion/rezone proposed land use action would have significantly less impact than the current zoning of the land in question.



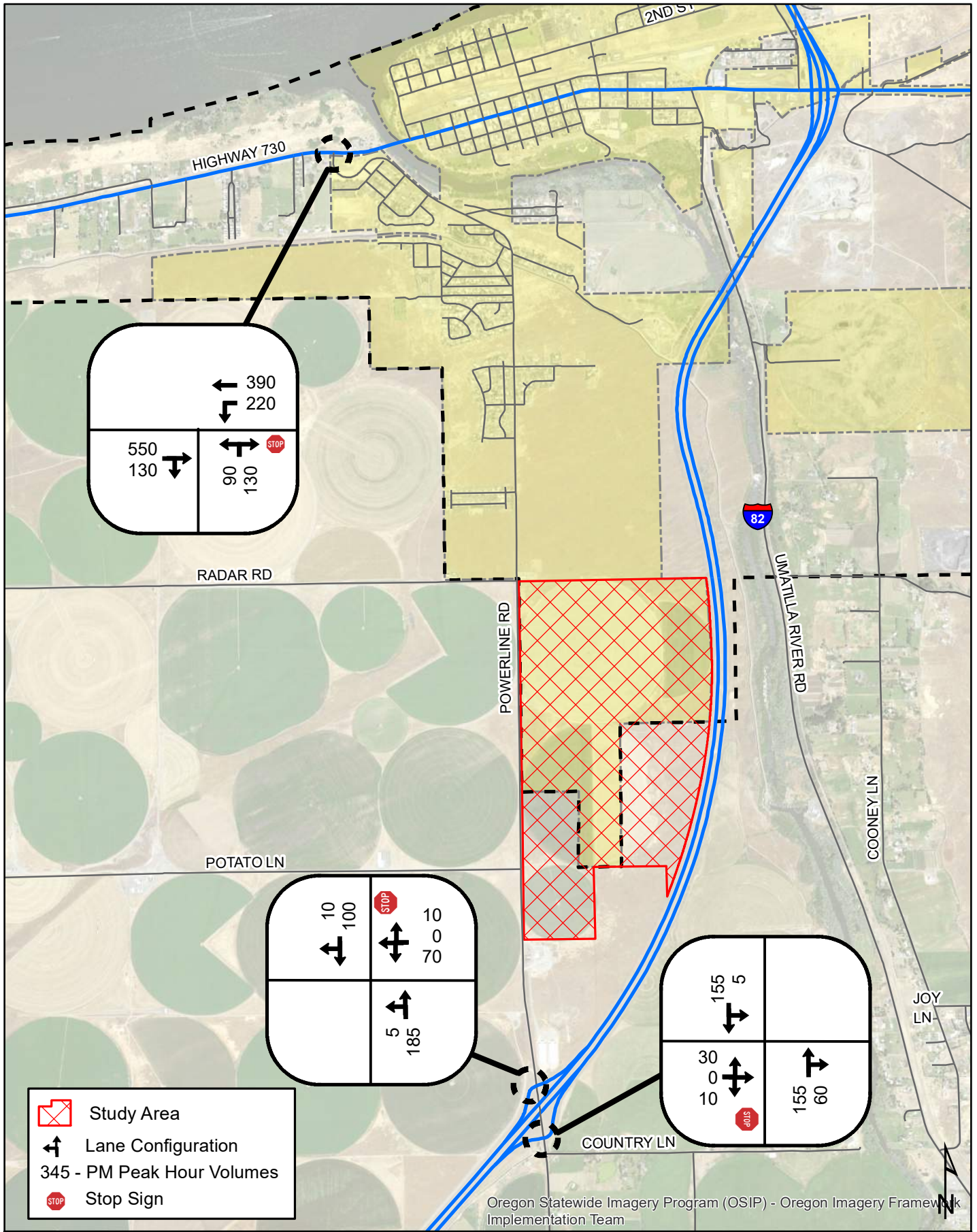


Table 3. Trip Generation

Description / ITE Code	Units	ITE Vehicle Trip Generation Rates				Expected Units	Total Trips		Distribution of Trips	
		Weekday	PM	PM In	PM Out		Daily	PM Hour	PM In	PM Out
General Light Industrial 110	1,000 sq ft	$T = 3.79(X) + 57.96$	$\ln(T) = i.69 \ln(X) + 0.43$	13%	87%	3,842	14,620	458	60	398
Single Family Residential 210	Dwelling Unit	$\ln(T) = 0.92 \ln(X) + 2.71$	$\ln(T) = 0.96 \ln(X) + 0.20$	63%	37%	1,372	11,570	1,256	791	465

To distribute the new 458 PM peak hour trips to the study intersections, an examination of traffic volumes in the study area considered in conjunction with the roadway network and the type of development proposed, resulted in the following trip distribution percentages:

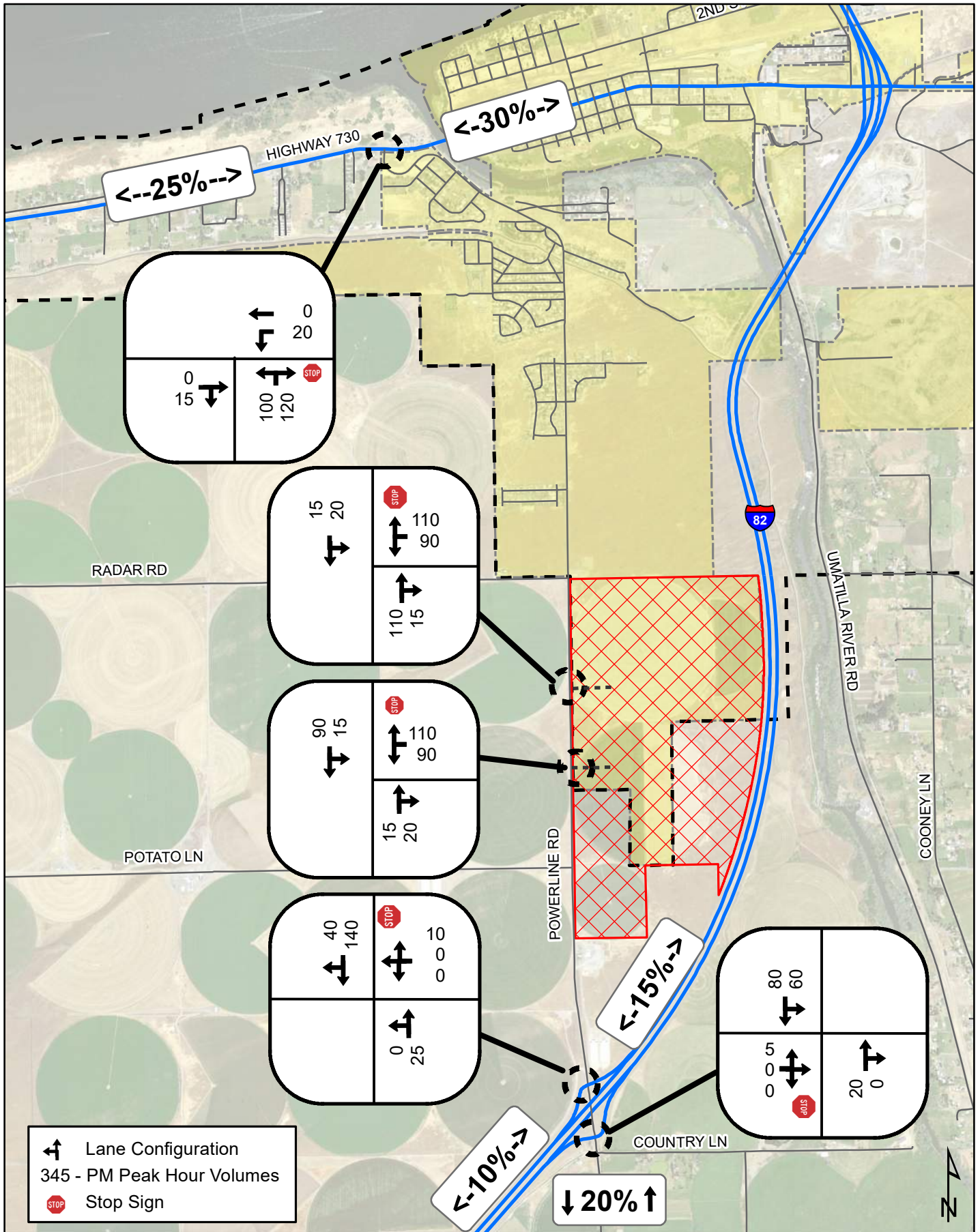
- 10% to/from the south on I-82
- 15% to/from the north on I-82
- 20% to/from the south on Powerline towards Hermiston
- 25% to/from the west on US 730
- 30% to/from the east on US 730

These percentages account for deliveries that will use I-82 more than the current traffic patterns, and the proximity to I-82 may lend itself to some northbound traffic to access the freeway at Powerline Road rather than using US 730. These percentages are also conservatively high in that they do not discount for employees that could live off Powerline to the north but south of US 730. Trip distribution percentages along with the resulting site generated trips are shown in Figure 5. Traffic volumes shown in Figure 5 were added to the No Action volumes shown in Figure 4 to estimate total 2040 PM peak hour traffic volumes with the UGB expansion and associated rezone that are shown in Figure 6.

Traffic Operations Analysis

The traffic volumes shown in Figures 4 and 6 were evaluated for traffic operations to determine the anticipated delay and Level of Service for 2040 Conditions under the No Action Scenario as well as with the UGB Expansion and associated Rezone. The results of the analysis are summarized in Table 4, with the LOS worksheets included in Appendix B.

As shown in Figure 4, under the No Action scenario, the two I-82 interchange ramps are anticipated to function at LOS B with relative low delay. The intersection of Powerline Road, however, is anticipated to have significant delay with over 300 seconds for the northbound approach. As noted earlier, US 730 has very wide shoulders as well as a two-way left turn lane that is not specifically striped to receive a northbound left turn from Powerline Road. An analysis was performed to determine appropriate mitigation. It was found that if the west leg were restriped to include an eastbound right turn lane and to accommodate left turns into the two way left turn lane, along with an exclusive northbound left turn lane, that acceptable LOS could be provided with the delay for the northbound left turn reduced to 39 seconds for LOS E.



Lane Configuration
 345 - PM Peak Hour Volumes
 Stop Sign



FIGURE 5:
 SITE GENERATED
 PM PEAK HOUR
 TRAFFIC VOLUMES

CITY OF UMATILLA
 Urban Growth Bounday Expansion
 Traffic Impact Analysis

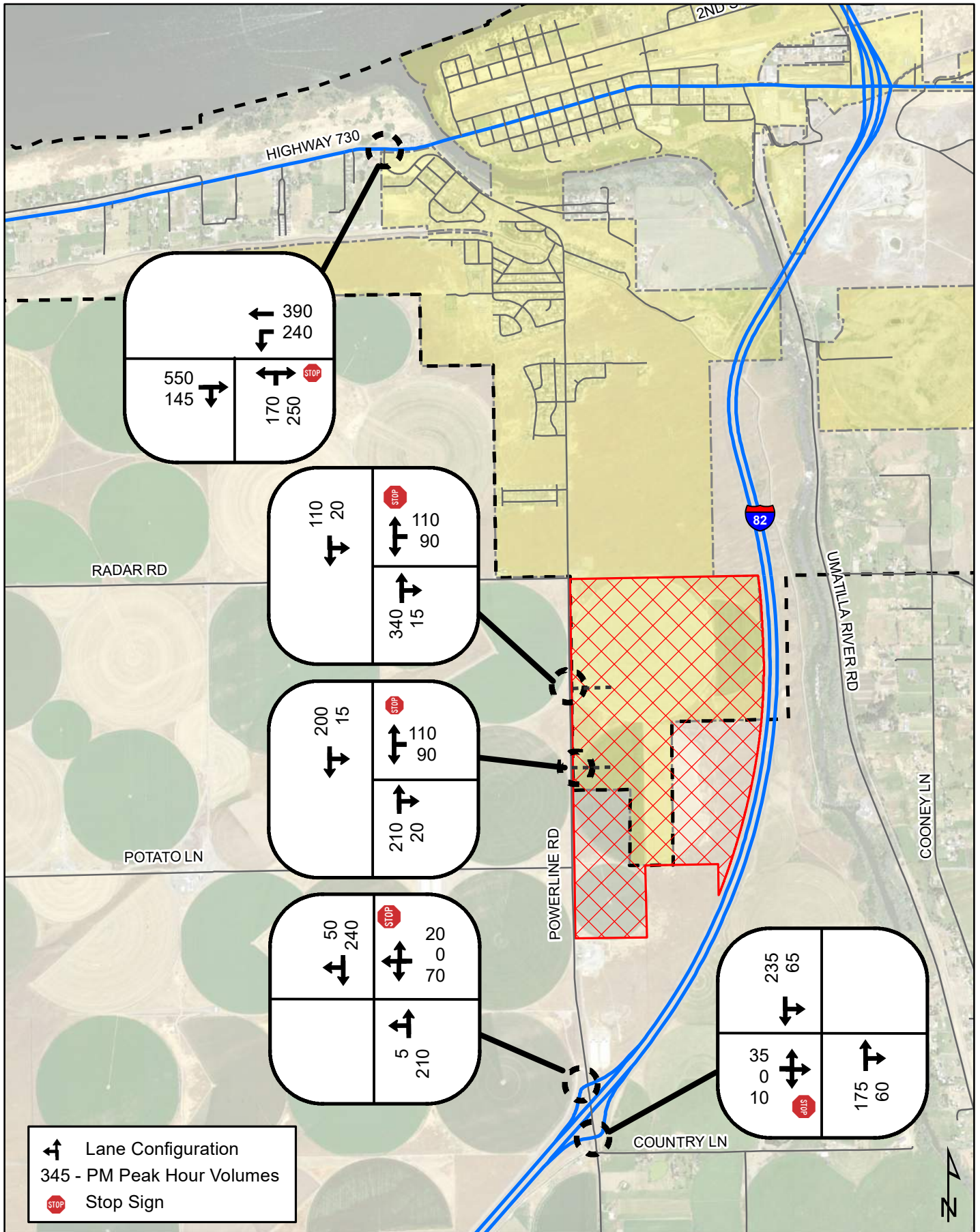


FIGURE 6:
2040 PM PEAK HOUR
TRAFFIC VOLUMES WITH
UGB EXPANSION AND REZONE

Table 4. 2040 Delay, Level of Service and Volume to Capacity Ratios

Intersection	2020 Existing	2040 No Action	2040 With UGB Expansion and Rezone
I-82 SB ramps/Powerline Road	WB – 10.4/B, 0.09	WB—11.1/B, 0.13	WB—13.1/B,0.18
I-82 NB ramps/Powerline Road	EB—10.2/B, 0.04	EB—10.8/B, 0.07	EB—13.2/B, 0.10
US 730/Powerline Road	NB—23.0/C, 0.41 WBL—9.2/A, 0.16	NB—322.8/F, 1.54 WBL—10.9/B, 0.29	NB—1066/F, 3.23 WBL—11.3/B, 0.32
		(1) NBL—39.0/E, 0.49 WBL—10.9/B, 0.29	(1) NB—120.4/F, 1.01 WBL—11.3/B, 0.32

LEGEND

10.4/B, 0.09 Delay (in seconds) and Level of Service, volume to capacity ratio
 NB = northbound, SB = southbound, WB = westbound, EB = eastbound

(1) Includes exclusive NB left turn lane, exclusive EB right turn lane and restriping for a receiving lane WB for NB left turn traffic to use the two-way left-turn lane.

With the UGB Expansion and associated rezone, acceptable LOS/delay is again provided at the two I-82 ramps. Even greater delay is expected at the Powerline Road/US 730 intersection. The improvements described above for the No Action scenario (restriping for an eastbound right turn lane and westbound receiving lane for the two-way left turn lane, and northbound left turn lane) will help significantly, but will still not achieve acceptable LOS. The intersection of Powerline Road/US 730 will need a higher level of traffic control such as a traffic signal or roundabout. A sensitivity analysis was conducted to determine what level of growth could occur prior to the need for a traffic signal. It was found that 10 years of background growth and 50% of the site generated trips could be added to the intersection while still providing acceptable LOS if the low cost improvements described above were implemented.

Turn Lane Analysis

An evaluation of left and right turn lanes, for the 2040 PM Peak traffic with the UGB expansion and rezoning, on US 730 and Powerline Road and at the two I-82 interchange ramp locations was performed. The ODOT Analysis Procedures Manual (APM) states:

“A left turn lane improves safety and increases the capacity of the roadway by reducing the speed differential between the through and the left turn vehicles. Furthermore, the left turn lane provides the turning vehicle with a potential waiting area until acceptable gaps in the opposing traffic allow them to complete the turn.”

“The purpose of a right turn lane at an unsignalized intersection is to improve safety and to maximize the capacity of a roadway by reducing the speed differential between the right turning vehicles and the other vehicles on the roadway.”

Exhibits 12-1 and 12-2 from the April 2020 ODOT Analysis Procedures Manual Version 2, were used to determine the need for turn lanes at the three study intersections.

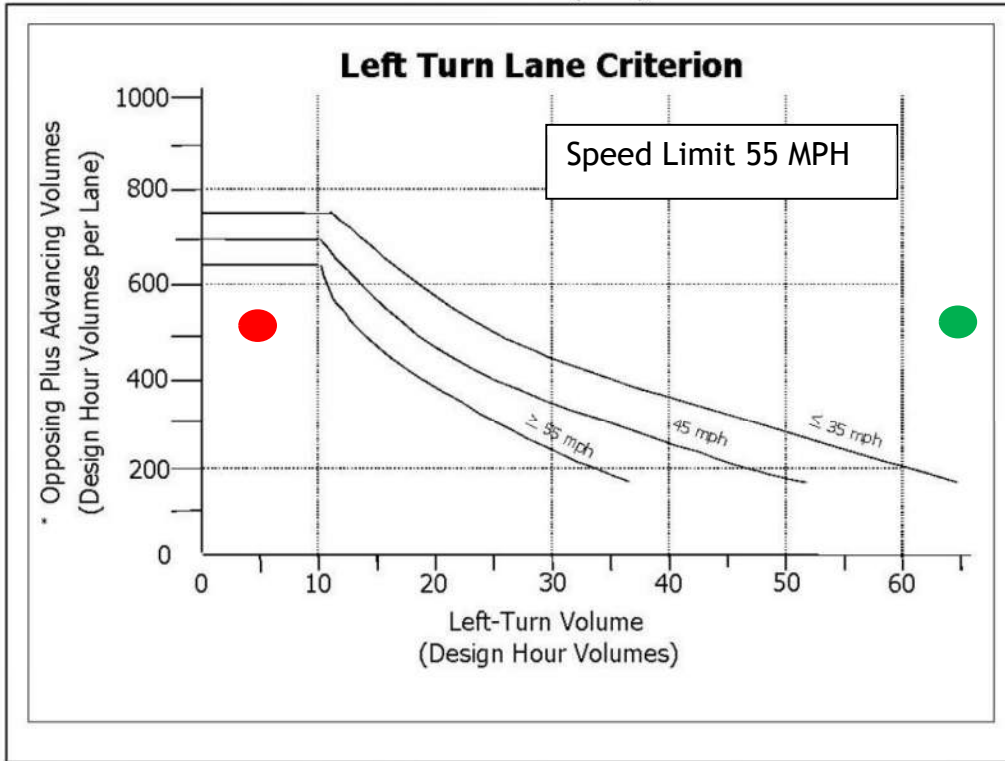
Examination of Exhibit 12-1 shows that the intersection of Powerline Road and the southbound I-82 on ramp will not require an exclusive left turn lane. The northbound Powerline Road advancing traffic equals 215 vehicles of which only 5 vehicles turn left to the I-82 eastbound on ramp. The single shared through and left lane is sufficient given the 290 opposing southbound vehicles. Note there are no opposing left turns due to the one-way ramp intersection.

Examination of Exhibit 12-1 shows that the intersection of Powerline Road and the northbound I-82 on ramp will require an exclusive left turn lane. The southbound Powerline Road advancing traffic equals 300 vehicles of which 65 vehicles turn left to the I-82 northbound on ramp towards Umatilla. A single shared through and left lane exceeds the ODOT requirement given the 235 opposing northbound vehicles. Note there are no opposing left turns due to the one-way ramp intersection. The speed limit of Powerline Road is 55 MPH although the 95% percentile could logically be less but examination of Exhibit 12-1, even a much lesser speed would still require the left turn lane. Design of this additional lane will need to consider the proximity to the I-82 overpass structure. A sensitivity analysis indicated that approximately 33% of the industrial land and background growth could occur without the need for the left turn lane based on the assumptions of this study.

Examination of Exhibit 12-2 shows that the intersection of Powerline Road and eastbound I-82 on ramp will require an exclusive right turn lane. The southbound Powerline Road approaching volume is 290 peak hourly vehicles of which 50 are turning right on to the eastbound I-82 on ramp. The speed limit for Powerline Road is 55 MPH. Sensitivity analysis revealed that this right turn lane would not be needed until approximately 80% of the background growth and industrial land were developed.

Examination of Exhibit 12-2 shows that the intersection of US 730 and Powerline Road will require an exclusive right turn lane for the eastbound US 730 to southbound Powerline Road movement. The eastbound US 730 approaching volume equals 695 peak hour vehicles of which 145 will turn right on Powerline Road southbound. The speed limit for US 730 is 40 MPH at this location. Given the results of this analysis the traffic volumes for existing conditions were also evaluated and are shown in the exhibit as well. This indicates that an eastbound right turn lane is currently warranted at the Powerline Road/US 730 intersection.

Exhibit 12-1 Left Turn Lane Criterion (TTI)

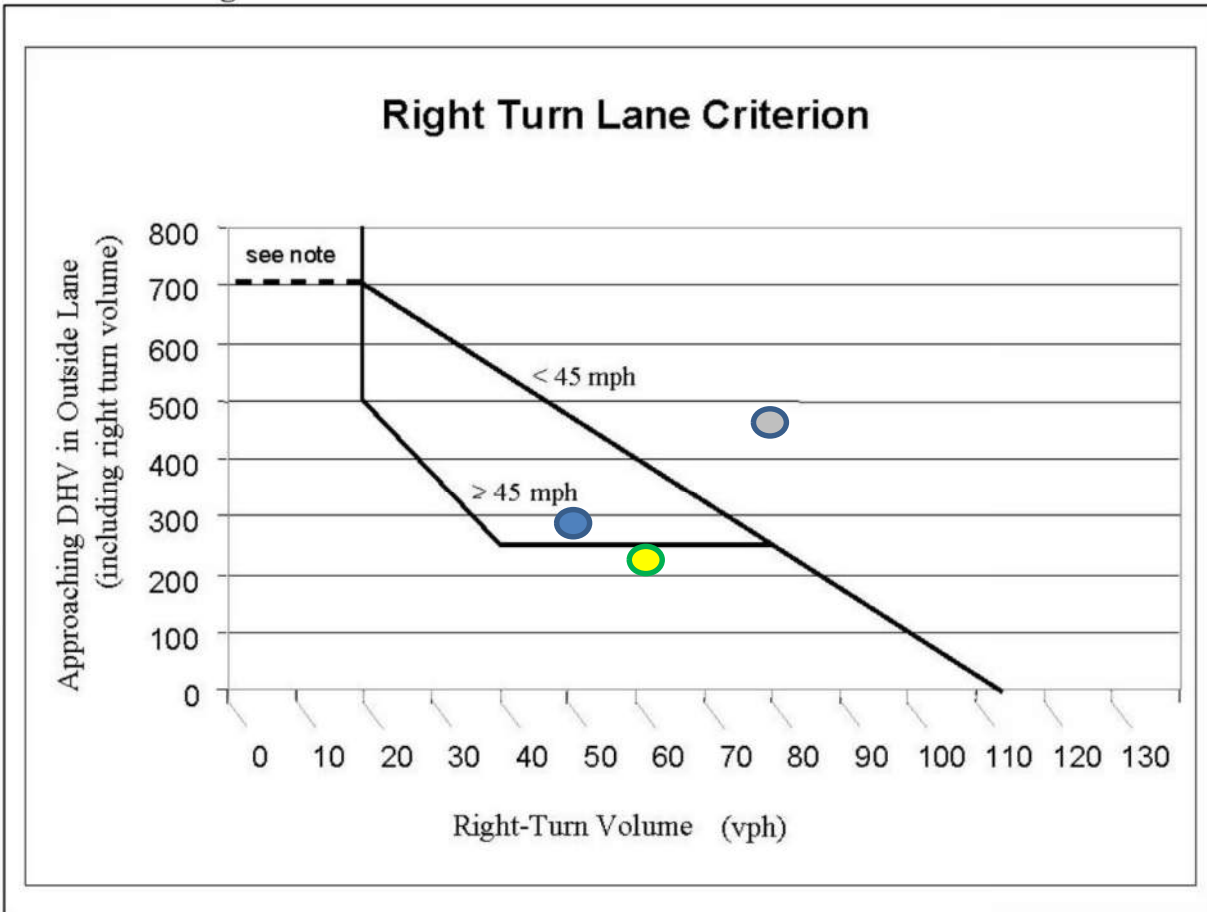


*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

- 2040 with UGB – NB Powerline Road/ -I-82 SB On Ramp
- 2040 with UGB - SB Powerline Road/I-82 NB On Ramp

Exhibit 12-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

- 2040 with UGB – SB Powerline Road/I-82 SB On Ramp
- 2040 with UGB – NB Powerline Road/I-82 NB On Ramp
- 2040 with UGB – US 730/Powerline Road
- Existing – US 730/Powerline Road

Summary and Recommendations

Cleaver Land, LLC is preparing an application proposing a Comprehensive Plan Amendment to expand the City of Umatilla Urban Growth Area and associated Zoning Map. There is interest in development on property with good highway access adjacent to the existing Umatilla city limits for economic development purposes.

The proposed Urban Growth Boundary (UGB) expansion includes two parcels, Tax Lots 1400 and 6601 on Assessors Map 5N28C totaling approximately 147 acres situated between Powerline Road and I-82 south of the current city limits. The proposed UGB expansion would add the remained of Tax lot 1400, 107.66 acres, and all of Tax Lot 6601, 39.09 acres, into the UGB. This property would be brought into the UGB as Light Industrial land. A rezone of approximately 294 acres, situated immediately north of the expansion area, from residential to Light Industrial is also part of the land use action.

Three study intersections of Powerline Road at the I-82 northbound and southbound ramps as well as at US 730 have been evaluated for existing conditions, 2040 No Action and 2040 with the Urban Growth Boundary Expansion and associated Rezone.

New trips that could be generated by the proposed rezone and UGB Expansion were estimated with over 3.8 million square feet of Light Industrial development potential. It is anticipated that this level of development could generate 458 PM peak hour trips. By comparison, however, the trips for Single Family Residential which is the current zoning that could accommodate approximately 1,372 residential lots, could generate 1,256 PM peak hour trips. Thus, even with the UGB Expansion under this proposal, the rezone from residential to light industrial is likely to reduce the total trips generated by the 441 acres by nearly 800 trips during the PM peak hour. This would indicate that the combined UGB Expansion/rezone proposed land use action would have significantly less impact than the current zoning of the land in question.

Capacity analysis of the three study intersections indicates that they all function with acceptable Levels of Service. For the 2040 No Action Scenario the I-82 interchange ramps will function with good LOS, however the intersection of Powerline Road/US 730 will need an exclusive northbound left turn and restriping of the west leg to accommodate an exclusive right turn lane and westbound receiving lane for northbound left turns to utilize the two-way left-turn nature of US 730.

With the UGB Expansion and associated rezone, acceptable LOS/delay is again provided at the two I-82 ramps. Even greater delay is expected at the Powerline Road/US 730 intersection. The improvements described above for the No Action scenario will help significantly, but will still not achieve acceptable LOS. The intersection of Powerline Road/US 730 will need a higher level of traffic control such as a traffic signal or roundabout. The traffic signal would likely be required at about 10 years of background growth and 50% of the site generated trips if the low cost improvements described above were implemented.

An evaluation of the need for left and right turns for safety purposes was also performed. A southbound right turn at the southbound I-82 ramps will be needed at approximately 80% of the background growth and 80% of the industrial development. A southbound left turn will be needed at the I-82 northbound ramps at approximately 33% of the background growth and 33% of the industrial development.

APPENDIX A

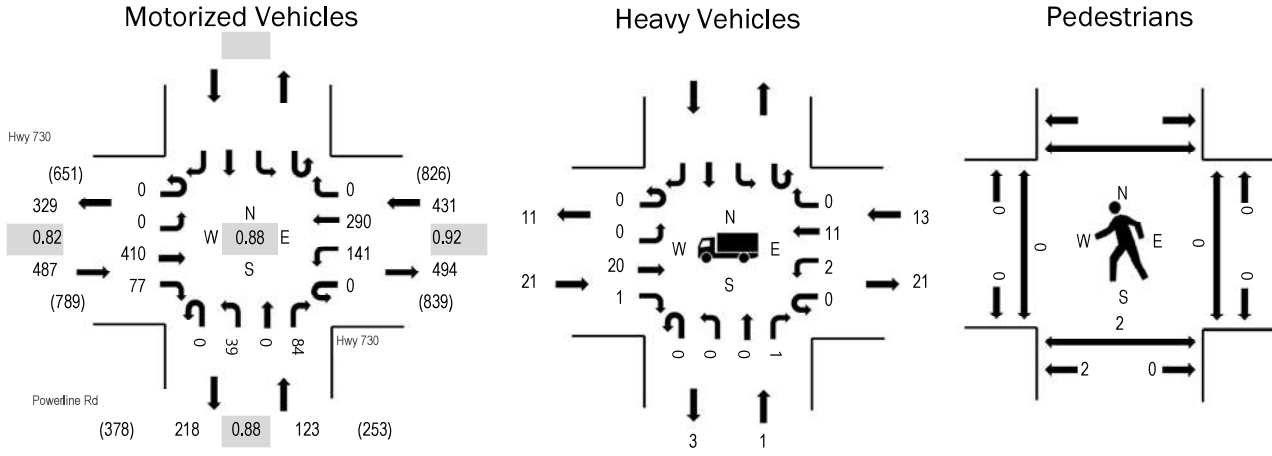
Traffic Counts



(303) 216-2439
www.alltrafficdata.net

Location: Powerline Rd & Hwy 730 PM
Date: Wednesday, March 4, 2020
Peak Hour: 04:05 PM - 05:05 PM
Peak 15-Minutes: 04:40 PM - 04:55 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.3%	0.82
WB	3.0%	0.92
NB	0.8%	0.88
SB		
All	3.4%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	Hwy 730 Eastbound				Hwy 730 Westbound				Powerline Rd Northbound				Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	39	9	0	8	17	0	0	1	0	3					77	1,021
4:05 PM	0	0	38	6	0	10	21	0	0	3	0	7					85	1,041
4:10 PM	0	0	40	13	0	9	12	0	0	0	0	12					86	1,031
4:15 PM	0	0	38	9	0	8	22	0	0	6	0	6					89	1,023
4:20 PM	0	0	48	4	0	14	24	0	0	3	0	4					97	1,004
4:25 PM	0	0	34	13	0	9	17	0	0	8	0	7					88	975
4:30 PM	0	0	29	2	0	13	26	0	0	2	0	6					78	969
4:35 PM	0	0	23	6	0	7	24	0	0	2	0	3					65	963
4:40 PM	0	0	43	5	0	11	25	0	0	1	0	9					94	986
4:45 PM	0	0	43	5	0	18	35	0	0	2	0	11					114	980
4:50 PM	0	0	17	4	0	14	40	0	0	7	0	7					89	938
4:55 PM	0	0	27	4	0	11	13	0	0	0	0	4					59	906
5:00 PM	0	0	30	6	0	17	31	0	0	5	0	8					97	
5:05 PM	0	0	24	4	0	7	27	0	0	6	0	7					75	
5:10 PM	0	0	21	8	0	10	27	0	0	5	0	7					78	
5:15 PM	0	0	25	4	0	9	23	0	0	1	0	8					70	
5:20 PM	0	0	20	5	0	8	23	0	0	6	0	6					68	
5:25 PM	0	0	19	2	0	11	33	0	0	5	0	12					82	
5:30 PM	0	0	21	4	0	12	23	0	0	6	0	6					72	
5:35 PM	0	0	25	2	0	14	35	0	0	4	0	8					88	
5:40 PM	0	0	30	1	0	13	29	0	0	7	0	8					88	
5:45 PM	0	0	21	2	0	14	20	0	0	2	0	13					72	
5:50 PM	0	0	16	0	0	13	19	0	0	3	0	6					57	
Count Total	0	0	671	118	0	260	566	0	0	85	0	168					1,868	
Peak Hour	0	0	410	77	0	141	290	0	0	39	0	84					1,041	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

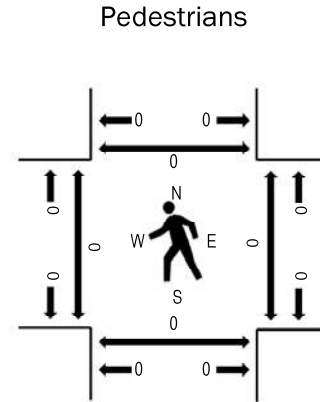
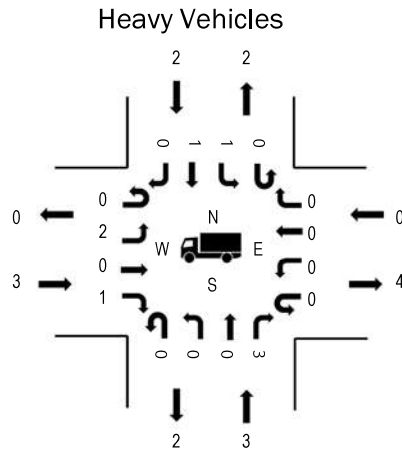
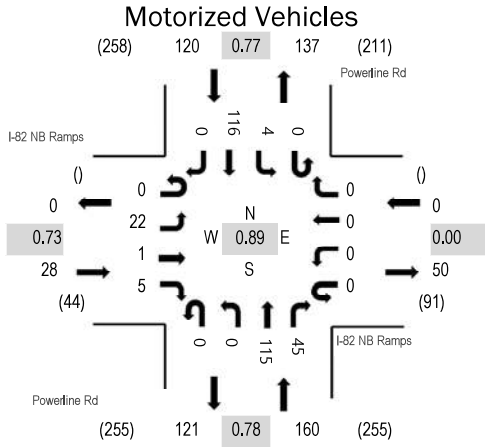
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	1	0		5	4:00 PM	0	0	0	0	4:00 PM	0	0	0	0		
4:05 PM	3	0	1		4	4:05 PM	0	0	0	0	4:05 PM	0	0	0	0		
4:10 PM	2	0	0		2	4:10 PM	0	0	0	0	4:10 PM	0	0	0	0		
4:15 PM	2	0	1		3	4:15 PM	0	0	0	0	4:15 PM	0	0	0	0		
4:20 PM	4	0	1		5	4:20 PM	0	0	0	0	4:20 PM	0	0	0	0		
4:25 PM	3	0	0		3	4:25 PM	0	0	0	0	4:25 PM	0	0	0	0		
4:30 PM	3	1	2		6	4:30 PM	0	0	0	0	4:30 PM	0	0	0	0		
4:35 PM	0	0	0		0	4:35 PM	0	0	0	0	4:35 PM	0	0	0	0		
4:40 PM	0	0	0		0	4:40 PM	0	0	0	0	4:40 PM	0	2	0	2		
4:45 PM	1	0	2		3	4:45 PM	0	0	0	0	4:45 PM	0	0	0	0		
4:50 PM	1	0	3		4	4:50 PM	0	0	0	0	4:50 PM	0	0	0	0		
4:55 PM	1	0	2		3	4:55 PM	0	0	0	0	4:55 PM	0	0	0	0		
5:00 PM	1	0	1		2	5:00 PM	0	0	0	0	5:00 PM	0	0	0	0		
5:05 PM	2	0	1		3	5:05 PM	0	0	0	0	5:05 PM	0	0	0	0		
5:10 PM	2	1	1		4	5:10 PM	0	0	0	0	5:10 PM	0	0	0	0		
5:15 PM	1	0	0		1	5:15 PM	0	0	0	0	5:15 PM	0	0	0	0		
5:20 PM	1	0	2		3	5:20 PM	0	0	1	1	5:20 PM	0	0	0	0		
5:25 PM	2	0	1		3	5:25 PM	0	0	0	0	5:25 PM	0	0	0	0		
5:30 PM	0	0	1		1	5:30 PM	0	0	0	0	5:30 PM	0	0	0	0		
5:35 PM	1	0	3		4	5:35 PM	0	0	0	0	5:35 PM	0	0	0	0		
5:40 PM	3	0	2		5	5:40 PM	0	0	0	0	5:40 PM	0	0	0	0		
5:45 PM	1	0	1		2	5:45 PM	0	0	0	0	5:45 PM	0	2	0	2		
5:50 PM	1	0	3		4	5:50 PM	0	0	0	0	5:50 PM	0	0	0	0		
Count Total	39	3	28		70	Count Total	0	0	1	1	Count Total	0	4	0	4		
Peak Hour	21	1	13		35	Peak Hour	0	0	0	0	Peak Hour	0	2	0	2		



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Location: Powerline Rd & I-82 NB Ramps PM
Date: Wednesday, March 4, 2020
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	10.7%	0.73
WB	0.0%	0.00
NB	1.9%	0.78
SB	1.7%	0.77
All	2.6%	0.89

Traffic Counts - Motorized Vehicles

Interval Start Time	I-82 NB Ramps Eastbound				I-82 NB Ramps Westbound				Powerline Rd Northbound				Powerline Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	1	11	0	20	285
4:05 PM	0	0	0	0	0	0	0	0	0	0	5	4	0	1	17	0	27	286
4:10 PM	0	1	0	0	0	0	0	0	0	0	6	2	0	0	15	0	24	284
4:15 PM	0	2	0	1	0	0	0	0	0	0	7	7	0	2	14	0	33	288
4:20 PM	0	3	0	0	0	0	0	0	0	0	7	1	0	2	14	0	27	289
4:25 PM	0	0	0	0	0	0	0	0	0	0	5	6	0	0	10	0	21	283
4:30 PM	0	1	0	0	0	0	0	0	0	0	3	4	0	0	11	0	19	284
4:35 PM	0	1	0	1	0	0	0	0	0	0	4	3	0	0	11	0	20	294
4:40 PM	0	3	0	0	0	0	0	0	0	0	4	3	0	0	14	0	24	306
4:45 PM	0	5	0	0	0	0	0	0	0	0	14	1	0	0	10	0	30	308
4:50 PM	0	1	0	1	0	0	0	0	0	0	6	4	0	0	6	0	18	295
4:55 PM	0	1	0	1	0	0	0	0	0	0	7	2	0	0	11	0	22	294
5:00 PM	0	2	0	0	0	0	0	0	0	0	9	2	0	0	8	0	21	
5:05 PM	0	1	0	1	0	0	0	0	0	0	4	4	0	0	15	0	25	
5:10 PM	0	1	0	0	0	0	0	0	0	0	12	5	0	2	8	0	28	
5:15 PM	0	2	0	0	0	0	0	0	0	0	18	4	0	0	10	0	34	
5:20 PM	0	4	0	0	0	0	0	0	0	0	7	1	0	0	9	0	21	
5:25 PM	0	1	0	0	0	0	0	0	0	0	8	1	0	1	11	0	22	
5:30 PM	0	1	1	0	0	0	0	0	0	0	12	9	0	0	6	0	29	
5:35 PM	0	2	0	1	0	0	0	0	0	0	9	5	0	1	14	0	32	
5:40 PM	0	1	0	1	0	0	0	0	0	0	9	7	0	0	8	0	26	
5:45 PM	0	1	0	0	0	0	0	0	0	0	6	4	0	0	6	0	17	
5:50 PM	0	1	1	0	0	0	0	0	0	0	6	0	0	0	9	0	17	
Count Total	0	35	2	7	0	0	0	0	0	0	176	79	0	10	248	0	557	
Peak Hour	0	22	1	5	0	0	0	0	0	0	115	45	0	4	116	0	308	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	1	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	1	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	1	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	1	0	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	1	0	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	1	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	0	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	1	0	1	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
Count Total	4	5	0	4	13	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	3	3	0	2	8	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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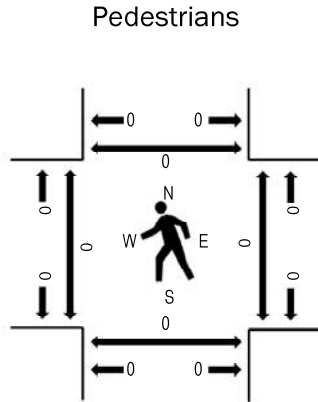
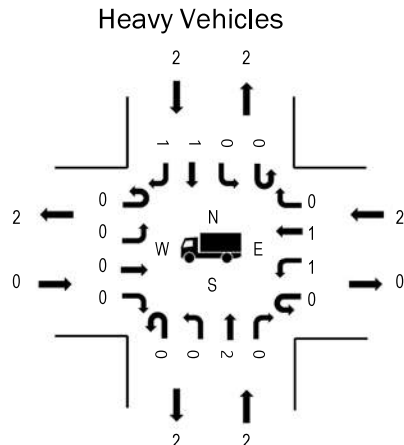
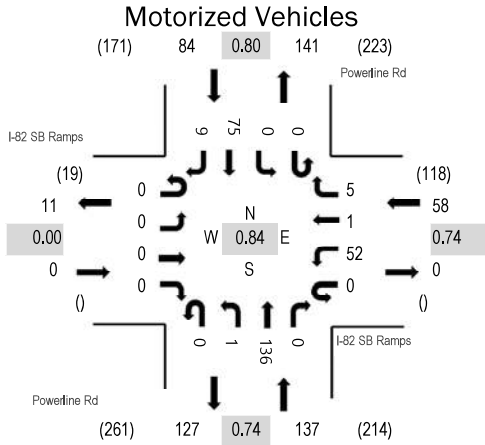
Location: Powerline Rd & I-82 SB Ramps PM

Date: Wednesday, March 4, 2020

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	3.4%	0.74
NB	1.5%	0.74
SB	2.4%	0.80
All	2.2%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	I-82 SB Ramps Eastbound				I-82 SB Ramps Westbound				Powerline Rd Northbound				Powerline Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	7	0	0	0	0	6	0	0	0	5	0	18	262
4:05 PM	0	0	0	0	0	5	0	0	0	0	9	0	0	0	12	1	27	262
4:10 PM	0	0	0	0	0	10	0	0	0	0	6	0	0	0	7	1	24	256
4:15 PM	0	0	0	0	0	5	0	1	0	0	9	0	0	0	9	0	24	253
4:20 PM	0	0	0	0	0	3	0	0	0	0	8	0	0	0	9	3	23	258
4:25 PM	0	0	0	0	0	4	0	1	0	0	7	0	0	0	11	0	23	268
4:30 PM	0	0	0	0	0	6	0	1	0	0	5	0	0	0	7	2	21	265
4:35 PM	0	0	0	0	0	3	0	0	0	0	2	0	0	0	7	0	12	263
4:40 PM	0	0	0	0	0	5	0	2	0	0	7	0	0	0	4	1	19	275
4:45 PM	0	0	0	0	0	6	0	1	0	0	14	0	0	0	10	0	31	279
4:50 PM	0	0	0	0	0	4	0	0	0	0	13	0	0	0	4	2	23	259
4:55 PM	0	0	0	0	0	1	0	0	0	0	10	0	0	0	6	0	17	258
5:00 PM	0	0	0	0	0	3	0	2	0	0	6	0	0	0	7	0	18	
5:05 PM	0	0	0	0	0	7	0	0	0	1	8	0	0	0	5	0	21	
5:10 PM	0	0	0	0	0	4	0	1	0	0	9	0	0	0	7	0	21	
5:15 PM	0	0	0	0	0	6	0	0	0	0	16	0	0	0	6	1	29	
5:20 PM	0	0	0	0	0	3	0	0	0	0	21	0	0	0	6	3	33	
5:25 PM	0	0	0	0	0	5	0	1	0	0	6	0	0	0	7	1	20	
5:30 PM	0	0	0	0	0	3	0	0	0	0	11	0	0	0	4	1	19	
5:35 PM	0	0	0	0	0	5	1	0	0	0	12	0	0	0	5	1	24	
5:40 PM	0	0	0	0	0	5	0	0	0	0	10	0	0	0	8	0	23	
5:45 PM	0	0	0	0	0	3	0	0	0	0	6	0	0	0	2	0	11	
5:50 PM	0	0	0	0	0	4	0	0	0	0	12	0	0	0	6	0	22	
Count Total	0	0	0	0	0	107	1	10	0	1	213	0	0	0	154	17	503	
Peak Hour	0	0	0	0	0	52	1	5	0	1	136	0	0	0	75	9	279	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	1	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	1	1	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	1	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
Count Total	0	3	4	5	12	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	2	2	2	6	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

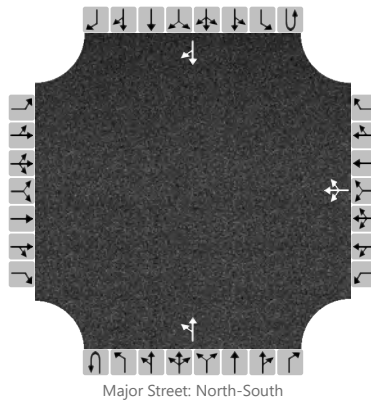
APPENDIX B

Level of Service Worksheets

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 SB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 SB ramps
Analysis Year	2020	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LTR			LT						TR
Volume, V (veh/h)						52	1	5		1	136				75	9
Percent Heavy Vehicles (%)						3	3	3		3						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1	6.5	6.2		4.1						
Critical Headway (sec)						6.43	6.53	6.23		4.13						
Base Follow-Up Headway (sec)						3.5	4.0	3.3		2.2						
Follow-Up Headway (sec)						3.53	4.03	3.33		2.23						

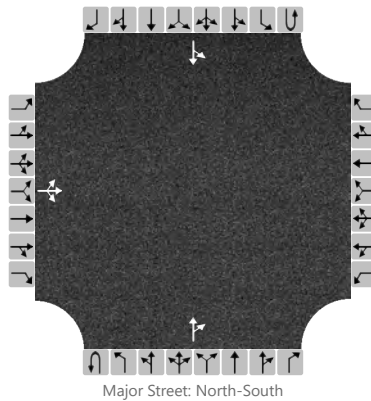
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						69				1						
Capacity, c (veh/h)						738				1485						
v/c Ratio						0.09				0.00						
95% Queue Length, Q ₉₅ (veh)						0.3				0.0						
Control Delay (s/veh)						10.4				7.4						
Level of Service, LOS						B				A						
Approach Delay (s/veh)					10.4				0.1							
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 NB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 NB ramps
Analysis Year	2020	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.89
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0	
Configuration			LTR									TR		LT			
Volume, V (veh/h)		22	1	5							115	45		4	116		
Percent Heavy Vehicles (%)		3	3	3										3			
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized		No					No					No					
Median Type/Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		6.43	6.53	6.23										4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33										2.23		

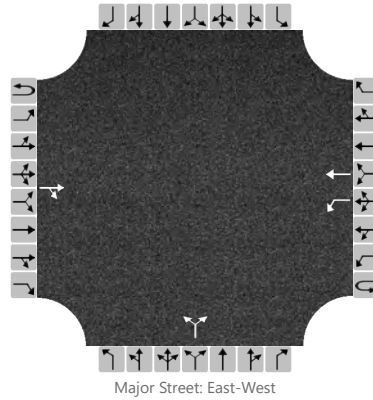
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			32											4		
Capacity, c (veh/h)			725											1388		
v/c Ratio			0.04											0.00		
95% Queue Length, Q ₉₅ (veh)			0.1											0.0		
Control Delay (s/veh)			10.2											7.6		
Level of Service, LOS			B											A		
Approach Delay (s/veh)		10.2										0.2				
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2020	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0	
Configuration				TR		L	T				LR						
Volume, V (veh/h)			410	77		141	290			39		84					
Percent Heavy Vehicles (%)						3				3		3					
Proportion Time Blocked																	
Percent Grade (%)										0							
Right Turn Channelized		No				No				No				No			
Median Type/Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

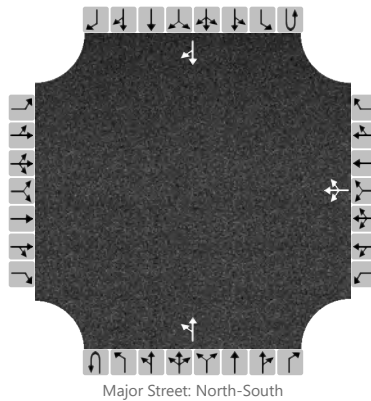
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						160					139					
Capacity, c (veh/h)						1010					337					
v/c Ratio						0.16					0.41					
95% Queue Length, Q ₉₅ (veh)						0.6					2.0					
Control Delay (s/veh)						9.2					23.0					
Level of Service, LOS						A					C					
Approach Delay (s/veh)						3.0				23.0						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 SB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 SB ramps
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion - No Action		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LTR			LT						TR
Volume, V (veh/h)						70	0	10		5	185				100	10
Percent Heavy Vehicles (%)						3	3	3		3						
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized		No				No				No				No		
Median Type/Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1	6.5	6.2		4.1						
Critical Headway (sec)						6.43	6.53	6.23		4.13						
Base Follow-Up Headway (sec)						3.5	4.0	3.3		2.2						
Follow-Up Headway (sec)						3.53	4.03	3.33		2.23						

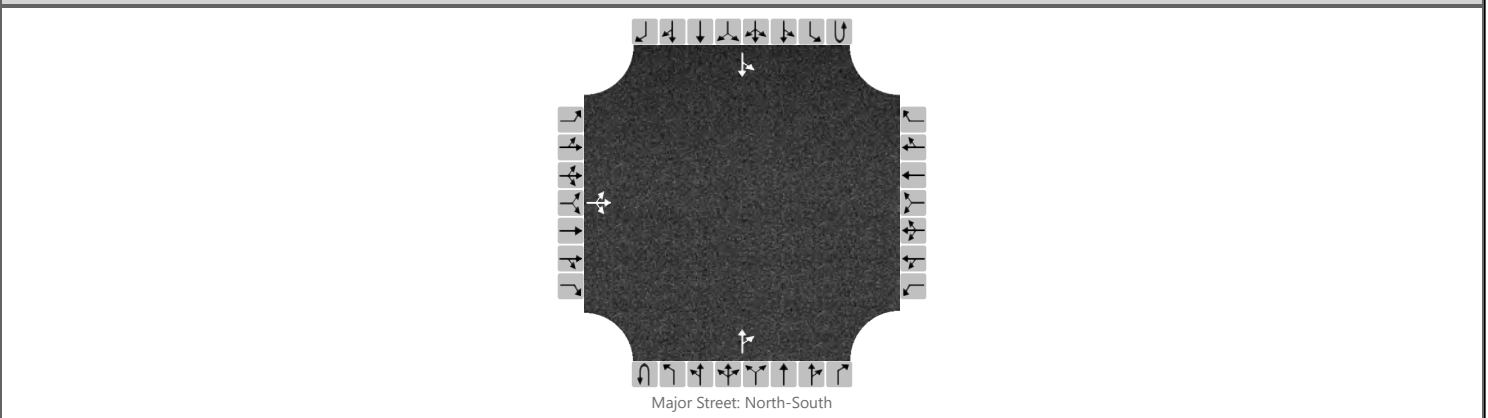
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						89				6						
Capacity, c (veh/h)						676				1457						
v/c Ratio						0.13				0.00						
95% Queue Length, Q ₉₅ (veh)						0.5				0.0						
Control Delay (s/veh)						11.1				7.5						
Level of Service, LOS						B				A						
Approach Delay (s/veh)						11.1				0.2						
Approach LOS						B										

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 NB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 NB ramps
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion - No Action		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LTR									TR		LT			
Volume, V (veh/h)		30	0	10							155	60		5	155		
Percent Heavy Vehicles (%)		3	3	3										3			
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized		No					No					No					
Median Type/Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		6.43	6.53	6.23										4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33										2.23		

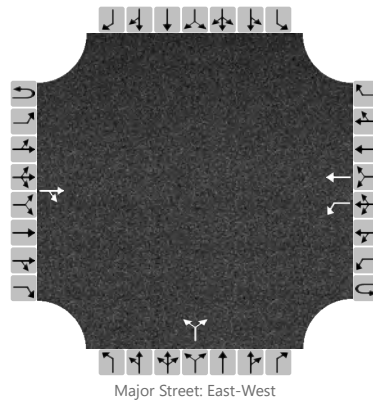
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			44											6		
Capacity, c (veh/h)			660											1320		
v/c Ratio			0.07											0.00		
95% Queue Length, Q ₉₅ (veh)			0.2											0.0		
Control Delay (s/veh)			10.8											7.7		
Level of Service, LOS			B											A		
Approach Delay (s/veh)		10.8										0.3				
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion - No Action		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0	
Configuration				TR		L	T				LR						
Volume, V (veh/h)			550	130		220	390			90		130					
Percent Heavy Vehicles (%)						3				3		3					
Proportion Time Blocked																	
Percent Grade (%)										0							
Right Turn Channelized		No				No				No				No			
Median Type/Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

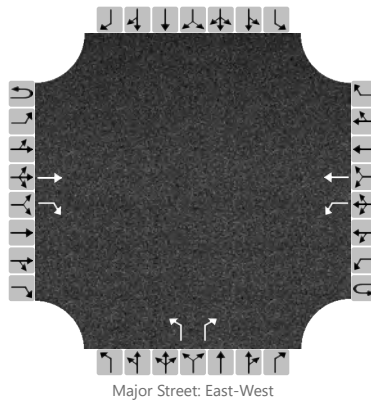
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						244					244					
Capacity, c (veh/h)						850					159					
v/c Ratio						0.29					1.54					
95% Queue Length, Q ₉₅ (veh)						1.2					16.3					
Control Delay (s/veh)						10.9					322.8					
Level of Service, LOS						B					F					
Approach Delay (s/veh)						3.9				322.8						
Approach LOS										F						

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion-No Action-Mit w/turns		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume, V (veh/h)			550	130		220	390			90		130				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized			No			No				No				No		
Median Type/Storage				Left Only								1				

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

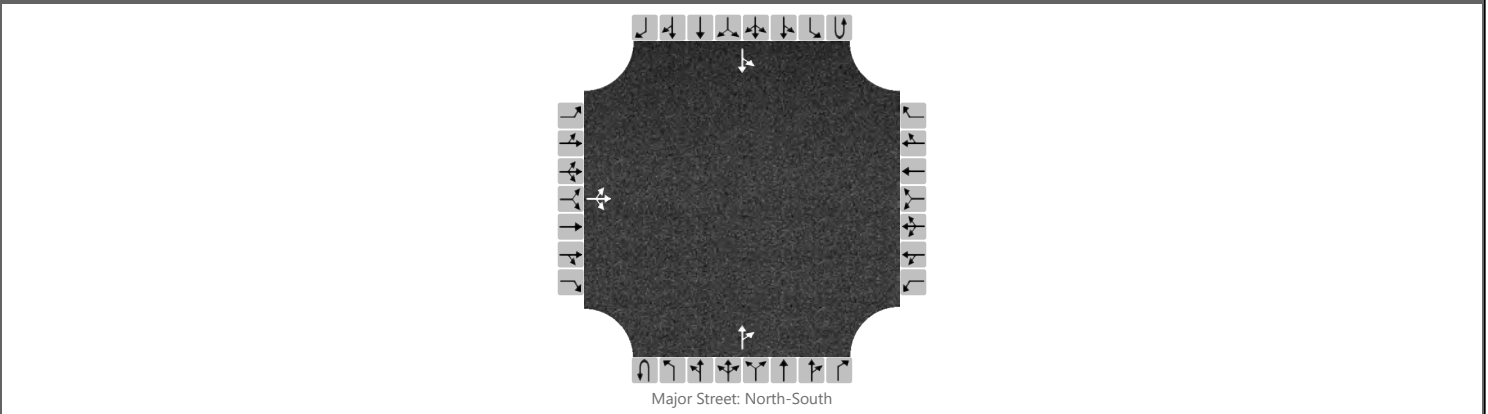
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						244				100		144				
Capacity, c (veh/h)						850				202		492				
v/c Ratio						0.29				0.49		0.29				
95% Queue Length, Q ₉₅ (veh)						1.2				2.5		1.2				
Control Delay (s/veh)						10.9				39.0		15.3				
Level of Service, LOS						B				E		C				
Approach Delay (s/veh)						3.9				25.0						
Approach LOS										D						

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 NB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 NB ramps
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion with Rezone		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LTR									TR		LT			
Volume, V (veh/h)		35	0	10							175	60		65	235		
Percent Heavy Vehicles (%)		3	3	3										3			
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized		No					No					No					
Median Type/Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		6.43	6.53	6.23										4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33										2.23		

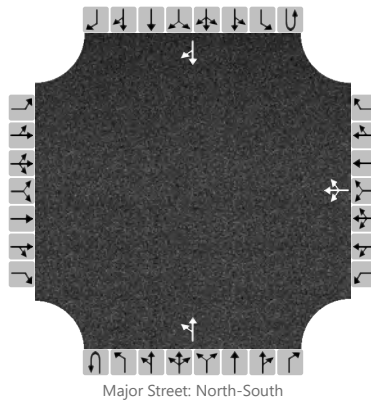
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			50											72		
Capacity, c (veh/h)			489											1296		
v/c Ratio			0.10											0.06		
95% Queue Length, Q ₉₅ (veh)			0.3											0.2		
Control Delay (s/veh)			13.2											7.9		
Level of Service, LOS			B											A		
Approach Delay (s/veh)		13.2										2.1				
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	I-84 SB ramps/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	I-84 SB ramps
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion with Rezone		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LTR			LT						TR
Volume, V (veh/h)						70	0	20		5	210				240	50
Percent Heavy Vehicles (%)						3	3	3		3						
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

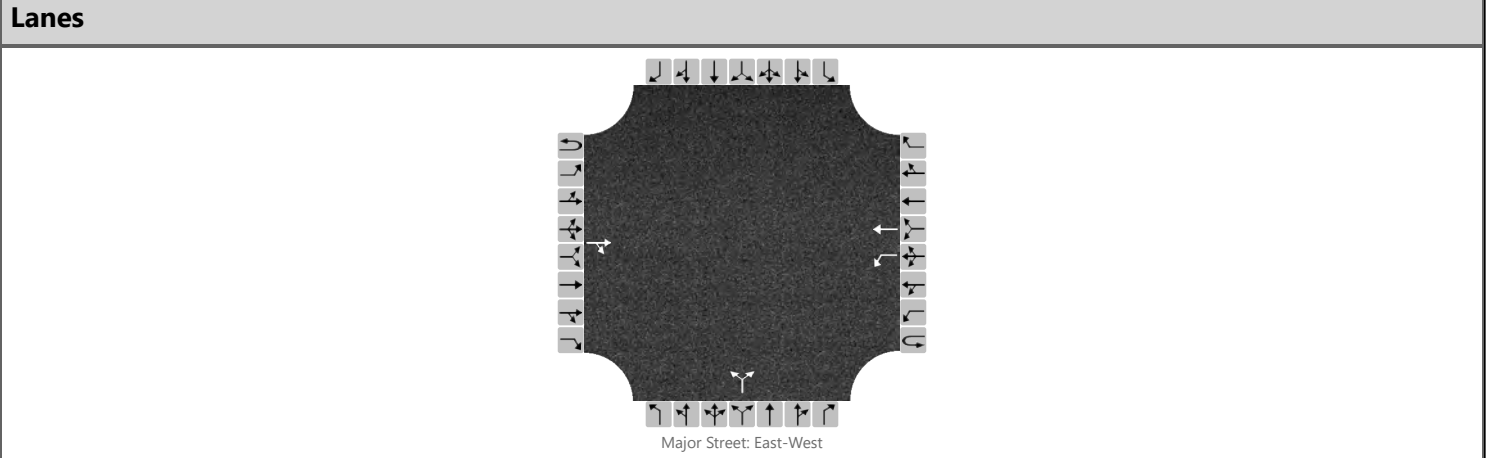
Base Critical Headway (sec)						7.1	6.5	6.2		4.1						
Critical Headway (sec)						6.43	6.53	6.23		4.13						
Base Follow-Up Headway (sec)						3.5	4.0	3.3		2.2						
Follow-Up Headway (sec)						3.53	4.03	3.33		2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						100				6						
Capacity, c (veh/h)						546				1230						
v/c Ratio						0.18				0.00						
95% Queue Length, Q ₉₅ (veh)						0.7				0.0						
Control Delay (s/veh)						13.1				7.9						
Level of Service, LOS						B				A						
Approach Delay (s/veh)						13.1				0.2						
Approach LOS						B										

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion-with Rezone		



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume, V (veh/h)			550	145		240	390			170		250				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

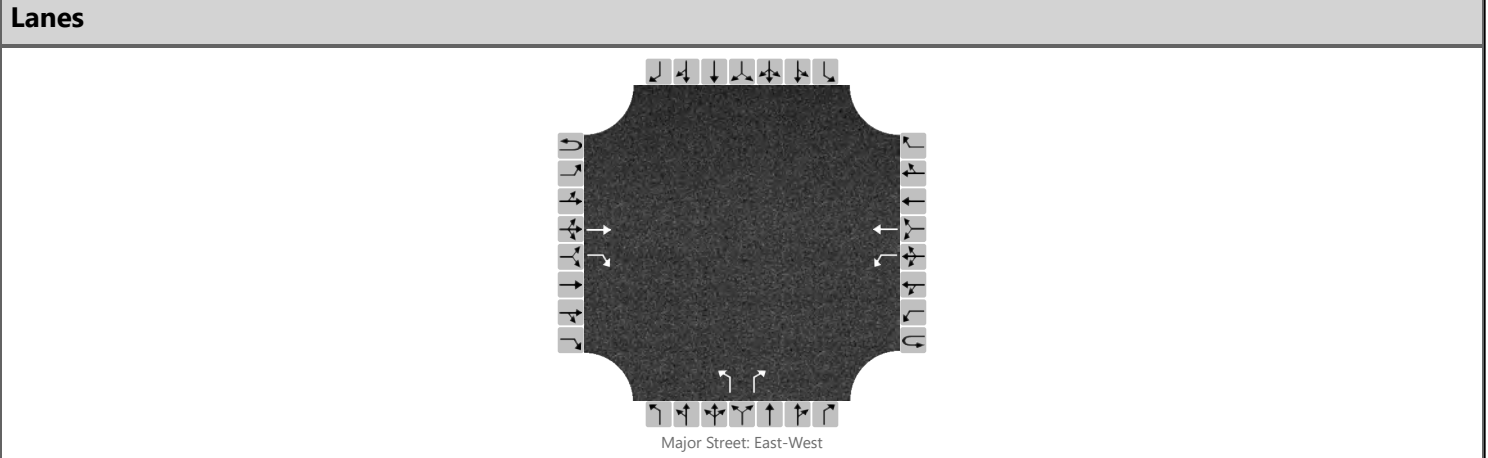
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						267					467					
Capacity, c (veh/h)						838					145					
v/c Ratio						0.32					3.23					
95% Queue Length, Q ₉₅ (veh)						1.4					44.2					
Control Delay (s/veh)						11.3					1066.0					
Level of Service, LOS						B					F					
Approach Delay (s/veh)					4.3				1066.0							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2040	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion-with Rezone		



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume, V (veh/h)			550	145		240	390			170		250				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage					Left Only								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

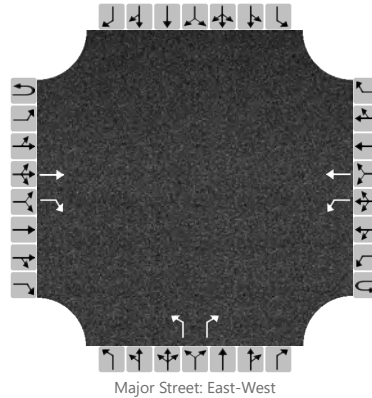
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						267				189		278				
Capacity, c (veh/h)						838				187		492				
v/c Ratio						0.32				1.01		0.57				
95% Queue Length, Q ₉₅ (veh)						1.4				8.5		3.5				
Control Delay (s/veh)						11.3				120.4		21.4				
Level of Service, LOS						B				F		C				
Approach Delay (s/veh)					4.3				61.5							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Montgomery	Intersection	US 730/Powerline
Agency/Co.	JUB Engineers	Jurisdiction	City of Umatilla
Date Performed	5/14/2020	East/West Street	US 730
Analysis Year	2030	North/South Street	Powerline Road
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Umatilla UGB Expansion-with Rezone, with turns		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	1	0	1	1	0		1	0	1		0	0	0
Configuration			T	R		L	T			L		R				
Volume, V (veh/h)			480	115		195	340			60		115				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage					Left Only								1			

Critical and Follow-up Headways

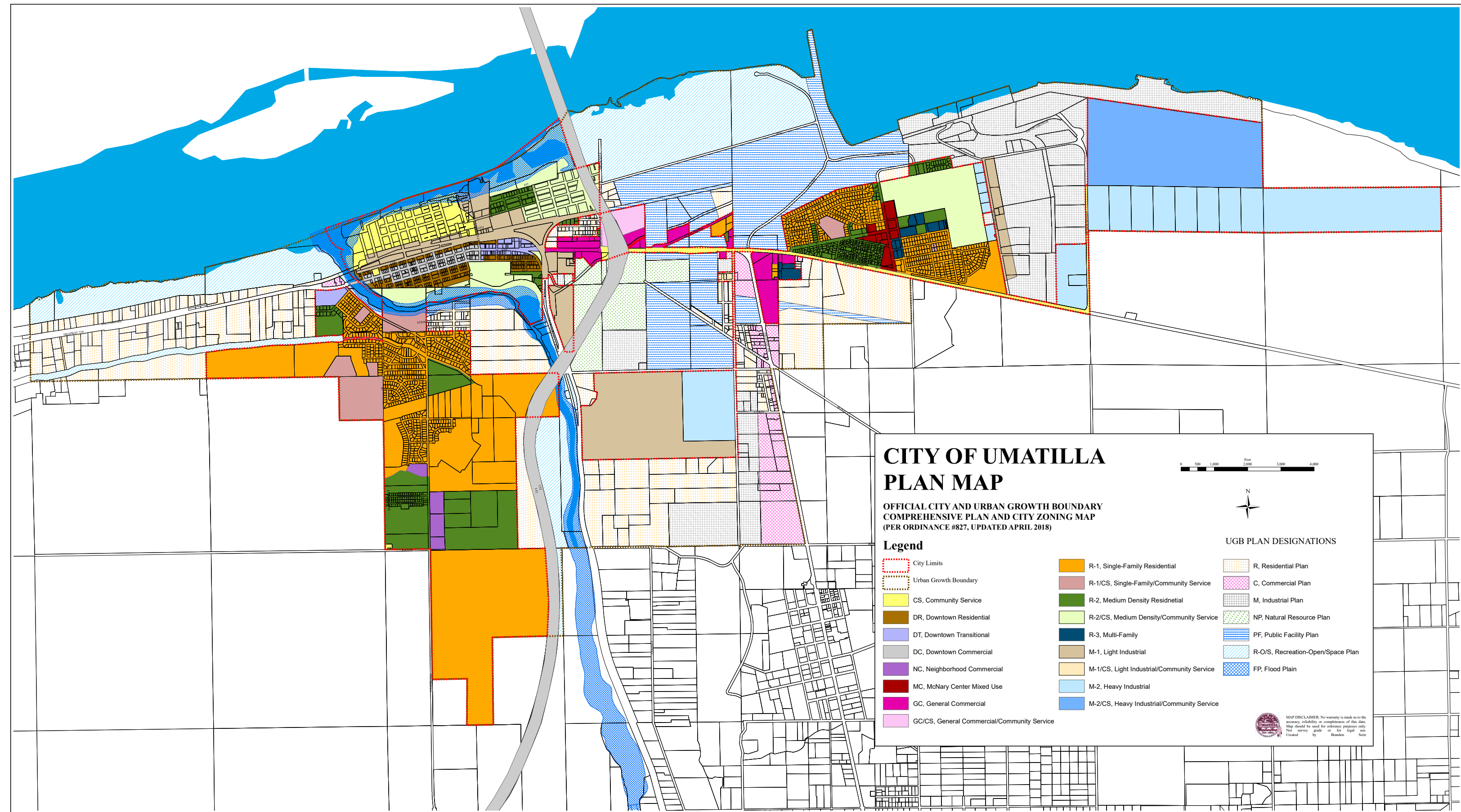
Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						217				67		128				
Capacity, c (veh/h)						922				245		545				
v/c Ratio						0.24				0.27		0.24				
95% Queue Length, Q ₉₅ (veh)						0.9				1.1		0.9				
Control Delay (s/veh)						10.1				25.1		13.6				
Level of Service, LOS						B				D		B				
Approach Delay (s/veh)					3.7				17.6							
Approach LOS									C							

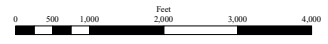
APPENDIX C

City of Umatilla Plan Map



CITY OF UMATILLA PLAN MAP

OFFICIAL CITY AND URBAN GROWTH BOUNDARY
COMPREHENSIVE PLAN AND CITY ZONING MAP
(PER ORDINANCE #827, UPDATED APRIL 2018)



Legend

- | | | |
|---|--|-----------------------------------|
| City Limits | R-1, Single-Family Residential | R, Residential Plan |
| Urban Growth Boundary | R-1/CS, Single-Family/Community Service | C, Commercial Plan |
| CS, Community Service | R-2, Medium Density Residential | M, Industrial Plan |
| DR, Downtown Residential | R-2/CS, Medium Density/Community Service | NP, Natural Resource Plan |
| DT, Downtown Transitional | R-3, Multi-Family | PF, Public Facility Plan |
| DC, Downtown Commercial | M-1, Light Industrial | R-O/S, Recreation-Open/Space Plan |
| NC, Neighborhood Commercial | M-1/CS, Light Industrial/Community Service | FP, Flood Plain |
| MC, McNary Center Mixed Use | M-2, Heavy Industrial | |
| GC, General Commercial | M-2/CS, Heavy Industrial/Community Service | |
| GC/CS, General Commercial/Community Service | | |

UGB PLAN DESIGNATIONS

MAP DISCLAIMER: No warranty is made as to the accuracy, reliability or completeness of this data. Map should be used for reference purposes only. Not survey grade or for legal use. Created by Brandon Seitz

APPENDIX D

Traffic Growth Calculations

Umatilla Urban Growth Boundary Traffic Growth Calculations

Intersection	NB			SB			EB			WB			TOTAL
	LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
	Powerline/US 730												
Existing 2020 PM Peak Hr	39	--	84	--	--	--	--	410	77	141	290	0	1041
2040 Background @ 1.5%/year	53	--	113	--	--	--	--	562	104	190	391	0	1402
Ambience Vested Trips	15	--	17	--	--	--	--	0	26	30	0	0	88
Total 2040 No Action (rounded)	70	--	130	--	--	--	--	550	130	220	390	0	1490
UGB Expansion/Rezone Trips	100	--	120	--	--	--	--	0	15	20	0	0	255
Total 2040 Trips with UGB & Rezone	170	--	250	--	--	--	--	550	145	240	390	0	1744

Intersection	NB			SB			EB			WB			TOTAL
	LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
	Powerline/I-82 EB ramps (SB)												
Existing 2020 PM Peak Hr	1	136	--	--	75	9	--	--	--	52	1	5	279
2040 Background @ 1.5%/year	1	183	--	--	101	12	--	--	--	70	1	7	376
Ambience Vested Trips													0
Total 2040 No Action (rounded)	5	185	--	--	100	10	--	--	--	70	0	10	380
UGB Expansion/Rezone Trips	0	25	--	--	140	40	--	--	--	0	0	10	215
Total 2040 Trips with UGB & Rezone	5	210	--	--	240	50	--	--	--	70	0	20	596

Intersection	NB			SB			EB			WB			TOTAL
	LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
	Powerline/I-82 WB ramps (NB)												
Existing 2020 PM Peak Hr	--	115	45	4	116	--	22	1	5	--	--	--	308
2040 Background @ 1.5%/year	--	155	61	5	156	--	30	1	7	--	--	--	415
Ambience Vested Trips	--												0
Total 2040 No Action (rounded)	--	155	60	5	155	--	30	0	10	--	--	--	415
UGB Expansion/Rezone Trips	--	20	0	60	80	--	5	0	0	--	--	--	165
Total 2040 Trips with UGB & Rezone	--	175	60	65	235	--	35	0	10	--	--	--	580

Exhibit E – Supplement Findings



CITY OF UMATILLA CITY COUNCIL
Supplemental Findings
FOR
PLAN AMENDMENT PA-2-20

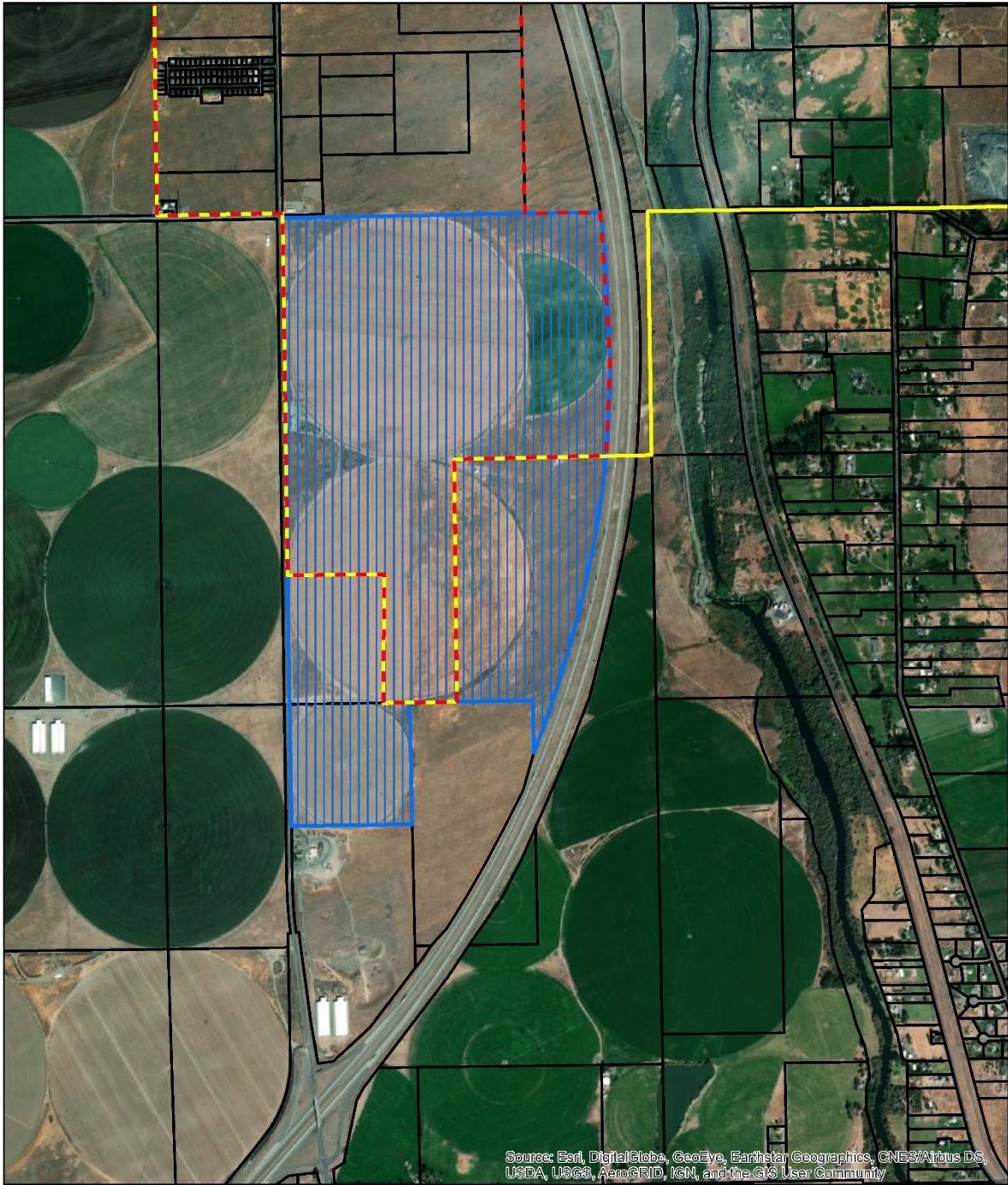
REPORT PREPARED BY: Brandon Seitz, Community
Development Director

RE: Response to comment letter from DLCD for Plan Amendment PA-2-20 (DLCD File No. 002-20); Notice for and Annexation, Urban Growth Boundary Expansion and Rezone

The intent of these supplemental findings is to directly address DLCD’s comments submitted on October 19, 2020 by providing additional narrative and the requested maps and tables. To provide a brief overview the city is working with Cleaver Land to approve four applications as follows:

- City of Umatilla Plan Amendment (PA-1-20) – would amend Chapter 9 of the City of Umatilla’s Comprehensive Plan to incorporate relevant sections of the recently completed EOA.
- Cleaver Land Plan Amendment (PA-2-20) – would add 146.63 acres of land to the City’s Urban Growth Boundary
- Cleaver Land Plan Amendment (PA-3-20) – would rezone 294 acres of land currently designated Single-Family Residential to Light Industrial
- Cleaver Land Annexation (ANX-1-20) – would annex the 146.63 acres of land added to the City’s UGB and designated the land as Light Industrial

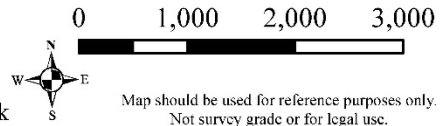
The intent of these applications is to create a new industrial park located in the South Hill neighborhood for large lot industrial development. The map below shows the existing UGB and City Limits boundary and the proposed area to be included in the “South Hill Industrial Park” assuming all 4 applications are approved.



CITY OF UMATILLA TAX LOT MAP Feet

Legend

- City Limits
- Tax Lots (3/23/20)
- Urban Growth Boundary
- Proposed South Hill Industrial Park



DLCD's comments raise two primary issues: 1) Land need and City's position to consider a 160-acre parcel of industrial land developed prior to physical development taking place, and 2) land efficiency and evaluation both within and outside the UGB.

Land Need

The City hired Johnson Economics to prepare an Economic Opportunities Analysis (EOA) and the proposed EOA would be adopted as part of Plan Amendment PA-1-20. To summarize the EOA identified the City has a projected need of two 100+ acre sites and two 50-99.9 acres sites. The EOA also identified that the City had one 100+ acres site in our inventory. The 160-acre site is located at the Port of Umatilla's McNary Industrial Park and is identified as Tax Lot 5N28B00000600. To date the City has approved several land use applications for future development of the port property, including a site plan review application approving data center building 1 of 4 and accessory structures. In addition, the City has issued the following building permits for the PDX 130 campus:

- 877-21-000145-ELEC - PDX 130 Phase 1 electrical
- 877-21-000135-STR - Security building for PDX 130
- 877-21-000120-STR – PDX 130 core and shell
- 877-21-000092-PLM – Site utilities

Physical development and construction have now commenced on Tax Lot 5N28B00000600 and the property can be removed from the City's inventory of industrial lands. City will note the above development and will refresh the current EOA to reflect this change. This results in a need of two 100+ acres sites and two 50-99.9 acres sites to meet the City's site-specific characteristics for large lot industrial sites as outlined in the EOA. No amendments to the EOA are being proposed, City will note the change in inventory.

Development of the PDX 130 further demonstrates the City's ability to attract and develop large lot industrial sites, specifically data centers. Staff acknowledges enterprise zone agreements are not binding but it should be noted that the City has approved two enterprise agreements, PDX 130 and PDX 120, for development of two new campuses located with City limits with an estimated value of 2.37 billion per campus, resulting in a total of 4.74-billion-dollar development to occur over the next several years.

Therefore, DLCD's comment regarding the City's position to consider Tax Lot 5N28B00000600 developed have been addressed. With the removal of the only 100+ acres site from the EOA the City now has a need for 300 – 399.98 acres of land suitable for large lot industrial development. It should also be noted that the EOA found the City had a combined need of 311 acres of employment lands and an inventory of 378.3 acres. With the removal of the 160 parcels from the City's inventory of industrial land the City would have a need for 93 acres of employment land. The additional need would be for additional large lot industrial sites so the City's evaluation process has not changed.

Land Efficiency & Evaluation

To address DLCD's comments about site specific maps and study area analysis staff have provided a series of maps to identify potentially suitable sites both within the UGB and sites within the study area as established in OAR 660-024-0065. To reduce the need for multiple maps

staff will address properties within the study area and UGB by region of the City. However, in addition to the evaluation criteria in OAR 660-024-0067 the City added one criterion that the final industrial area(s) must be clustered to allow for extension of City services. While properties need not be contiguous, they must be within the same general region of the City. It is simply not financially feasible for the City to extend the needed utilities to serve large lot industrial sites to multiple locations scattered throughout the City.

Staff has provided several maps and tables that identify all properties located within City Limits that are 50 acres or larger in size. Similarly parcels that could be combined to achieve similar results have been identified. All parcels 50 acres and larger in size are highlighted and labeled with County's TLID # (first 8 number are Assessor's map number last 5 numbers are tax lot number) for identification purposes.

However, it should be noted that the United States Army Corp of Engineers (USACE), Portland and Walla Walla districts, and Bureau of Land Management (BLM) hold a significant portion of vacant land both within the UGB and study area. Those properties will be identified and labeled with the appropriate agency. However, site specific analysis is not provided as by operation of federal law those properties are not subject to the state wide planning goals or local regulation. In addition, OAR 660-024-065 (4)(d) allows lands owned by the federal government and managed primarily for rural uses to be excluded from the study area.

Southshore Drive & Western US 730

The western extent of the City UGB and study area is currently designated residential by the comprehensive plan and includes a variety of residential zoning. Generally, property located north of US 730 are located along Southshore Drive and with few exceptions have been divided into 1-acre parcels, the minimum allowed by the current zoning. Property south of US 730 have 2-acre minimum lot size and have similarly been divided and developed with a typical rural development pattern. While some of the larger parcels are between 10 -15 acres, they are not contiguous and would not be suitable for redevelopment to meet the City's need for large lot industrial sites. Given the development pattern all of the properties located north of the West Extension Irrigation District (WEID) canal are not considered suitable for redevelopment of large lot industrial sites.

As shown on the map below the 4 parcels located along the river are currently undeveloped and under USACE management. In addition, parcels 5N28180000601 & 5N27130001001 are believed to be at least partially located with the 35UM1 historic site that is designated as a significant site in the National Register of Historic Places. City staff does not have access to the official site designation maps but has had extensive discussions with Oregon State Historic Preservation Office (SHPO) and Confederated Tribes of the Umatilla Indian Reservation (CTUIR) cultural resources staff.

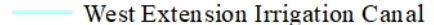


In addition, there are several large parcels owned by Topaz Land Inc, including additional properties located on the South Hill map, that meet multiple provision of the definition of high value farm land in ORS 195.300. These lands are collectively referred to Topaz Land properties and additional analysis on site suitability/alternative locations is provided below.

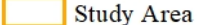
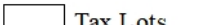


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

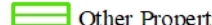
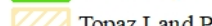

Southshore Drive & West US 730

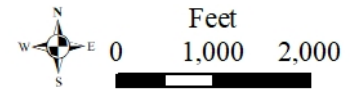
Legend

-  West Extension Irrigation Canal
-  City Limits
-  Urban Growth Boundary

-  Study Area
-  Tax Lots

Alternative Sites

-  Other Properties
-  USACE
-  Topaz Land Properties



Southshore Drive & West US 730 Properties

TLID	OWNER	ACRES
5N27000000400	TOPAZ LAND INC	48
5N27000000401	TOPAZ LAND INC	432.44
5N27000000501	TOPAZ LAND INC	594.29
5N27130001001	USA	90.82
5N27130001301	USA	12.89
5N27130003300	TOPAZ LAND INC	39.82
5N2714D000100	USA	40.95
5N2724B000100	TOPAZ LAND INC	9.18
5N28180000601	USA	95.1
5N28180000901	SCHOOL DIST #6	10
5N28180000903	MCCLANNAHAN VELMA JEAN ET AL	27
5N28180000904	MCCLANNAHAN VELMA JEAN ET AL	54.17
5N2818DD05500	SILVER RIDGE HOMES INC	9.54
5N28C00001100	UMATILLA CITY OF	38.48
5N28C00001200	TOPAZ LAND INC	595.5

The remainder of the properties identified as “other properties” on the map above total approximately 140 acres. However, TLID 5N28180000901 is owned by the Umatilla School District and was donated by the McClannahan family for future use of as a school. The School Districts is beginning to looking into the feasibility of developing the site as they are nearing capacity at existing facilities. TLID 5N28C00001100 is owned by the City of Umatilla and is currently developed with water infrastructure and the Sunset Hills Cemetery. The remainder of the property has been reserved for expansion of the existing cemetery.

The remainder of the is property is zoned for residential use and totals approximately 90 acres. While staff recognized that DLCD has stated that until physical development has occurred a property cannot be removed from the City’s inventory. However, at their July 6th meeting City Council approved Monte Vista Plan Amendment and Subdivision applications for development of “McClannahan Summit” a 326-lot subdivision for development of detached single-family dwellings. Given the City’s need for additional housing as establish in the City’s 2019 Housing and Residential Land Needs Assessment, pending residential development and the fact that the remainder of the site only partial meet the City’s for large lot industrial sites this location is not considered a viable alternative site. This land could be combined in part with a portion of the Topaz Land properties to achieve a similar result to the City proposed location. However, as addressed below in the alternative site analysis, expanding the UGB to include Topaz Land properties would result in additional high value farm land being added to the UGB an removed from crop production than the City’s preferred location.

South Hill

South Hill is generally described as the residential area located along Powerline Road laying west of I-82. However, for mapping purposes several large parcels located west of the Umatilla River were included. The Topaz Land/Onyx Land properties are collectively referred to Topaz Land properties and additional analysis on site suitability/alternative locations is provided below.

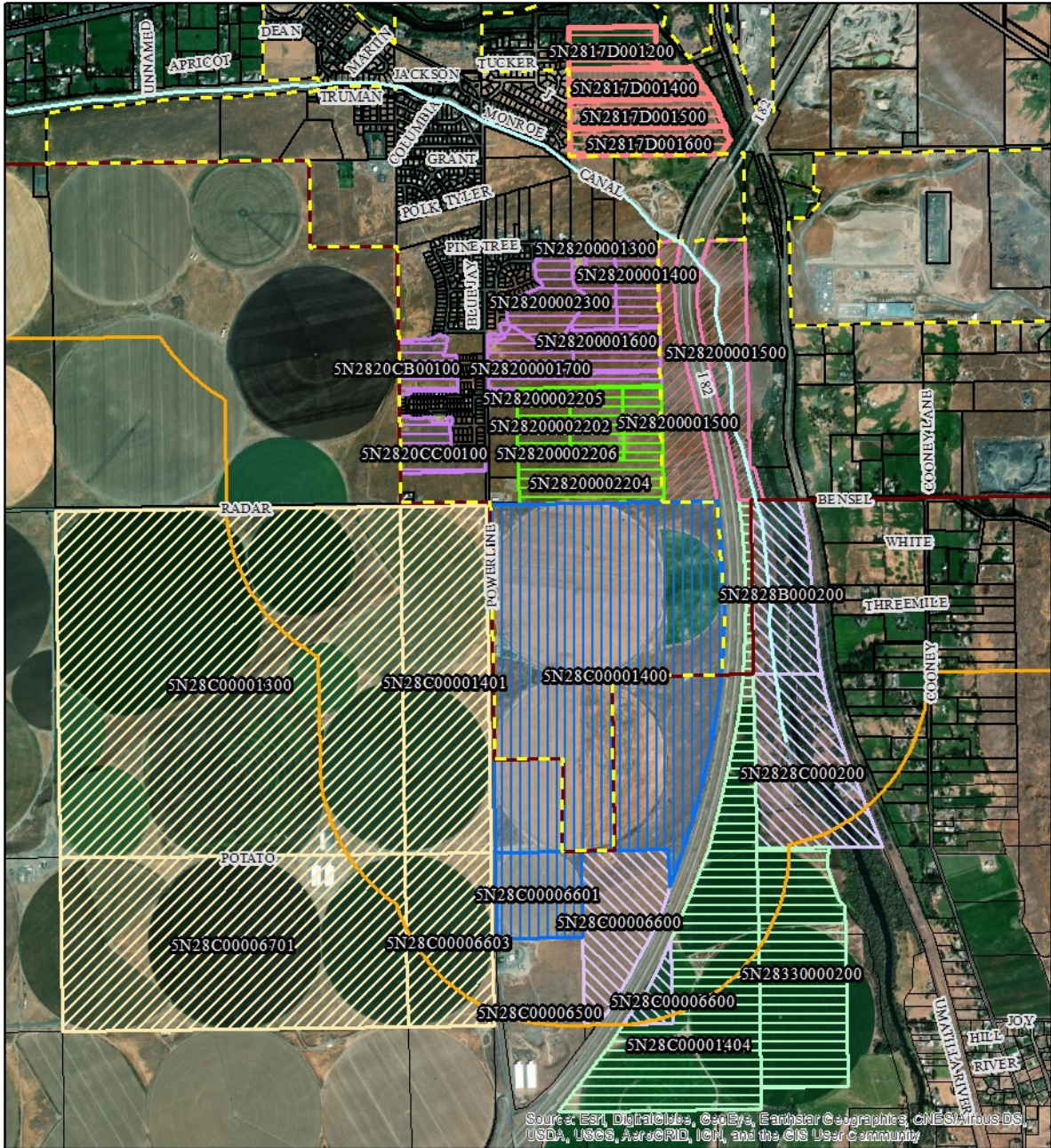
The Cleaver Land properties are the proposed site for the City's UGB expansion and a additional analysis is provided below. The other "farm" parcels identified are the Broken Spur Ranch property. The portion of the property located within the study area is approximately 90 acres in size and could meet a portion of the City need for large lot industrial sites. However, the parcels are isolated between I-82 and the Umatilla River. In addition, the property is zoned EFU and has water right for irrigation and would be considered high value farm land. As seen on the aerial imagery almost the entire portion of the property within the study area is developed with center pivot irrigation. Therefore, give the property is isolated by physical barriers from the remainder of the City and is considered high value farm land this site is not considered a suitable alternative location.

The remainder of the large undeveloped lots are in federal ownership. It is staff's belief that TLID 5N2828B000200 and 5N2828C000200 are managed by the Bureau of Reclamation given the location of the WEID canal, regardless of which federal agency manages the properties are in federal ownership and are not considered a suitable alternative location.

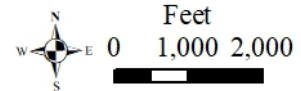
The Fastrack/Columbia Basin Development properties have each been approved for residential developments and are separated by an existing residential development and Powerline Road. The property is divided into 3 separate subdivisions; Ballard Subdivision, Vandalay Meadows and Cheryl's Place. The combined properties would result in a 542 new single family lots for development of detached single-family dwellings. Construction on all 49 lots on Vandalay Meadows has commenced with the first 26 homes having been completed in Phase 1. Phase 1 of Ballard, totaling 64 lots, is nearing completion with all of the road construction completed and the City anticipates the final plat application to be submitted within the coming weeks. Phase 1 of Cheryl's Place has been completed with the first 26 homes being completed. The master site plan outlined in the applicants TIA is provided below for reference. Given the City's need for housing and the approved applications for development these properties are not considered a suitable alternative location.

The Nobles properties are designated residential by the comprehensive plan and total 90.82 acres. The properties could meet a portion of the City's need for large lot industrial sites but are isolated by existing physical development. The property is bordered on the east and north by the Umatilla River and USACE owned lands. South of the property is the WEID irrigation canal and a major BPA easement and multiple transmission lines. The total BPA easement width is 395 feet. Lands to the west are developed with single family dwelling, the tax lots to the west are shown on the map but the aerial image does not show the 54 new homes built in 2019. Therefore, the Nobles property is not considered a suitable alternative location as existing development and physical barriers isolate the property and make it impractical to extend the needed utilities to serve large lot industrial development.

The CCPD Inc properties are zoned Medium Density Residential and are included in the site suitability/alternative locations analysis provided below. TLID 5N28C00006500 (not highlighted) is not contiguous to the City's UGB and could not be incorporated into the UGB as a stand-alone property.



South Hill



Legend

- Study Area
- West Extension Irrigation Canal
- City Limits
- Urban Growth Boundary
- Tax Lots

Alternative Sites

- Broken Spur Ranch
- CCPD Inc Property
- Cleaver Land
- Fastrack/Columbia Basin Development

- Nobles Property
- Topaz Land/Onyx Land
- BLM
- Bureau of Rec

South Hill Properties

TLID	OWNER	ACRES
5N2828C000200	USA	95.76
5N28330000200	BROKEN SPUR RANCH LLC	106.56
5N28C00001404	BROKEN SPUR RANCH LLC	169.4
5N28C00006500	FOX HARVESTING OF OREGON INC	61.87
5N28C00006600	USA	80
5N28C00006603	TOPAZ LAND INC	78.1
5N28C00006701	TOPAZ LAND INC	319.89
5N2817D001200	NOBLES CLYDE C JR & BETTY L	19.18
5N2817D001400	NOBLES CLYDE C JR ET AL	22.5
5N2817D001500	NOBLES CLYDE C JR & BETTY L	22.1
5N2817D001600	NOBLES CLYDE C JR & BETTY L	23.1
5N28200001300	FASTRACK INC	16.05
5N28200001400	FASTRACK INC	20
5N28200001500	USA BUREAU OF REC	88.7
5N28200001600	FASTRACK INC	20
5N28200001700	FASTRACK INC	29.21
5N28200002201	C C P D INC	4.4
5N28200002202	SOSA ANNABEL	20
5N28200002204	C C P D INC	48.58
5N28200002205	C C P D INC	7.8
5N28200002206	C C P D INC	7.8
5N28200002300	FASTRACK INC	26.65
5N2820CB00100	COLUMBIA BASIN DEVELOPMENT LLC	15.23
5N2828B000200	USA	63.28
5N28C00001300	ONYX LAND COMPANY LLC	635.74
5N28C00001400	CLEAVER LAND, LLC	1.26
5N28C00001401	ONYX LAND COMPANY LLC	155.45
5N28C00006601	CLEAVER LAND, LLC	39.09

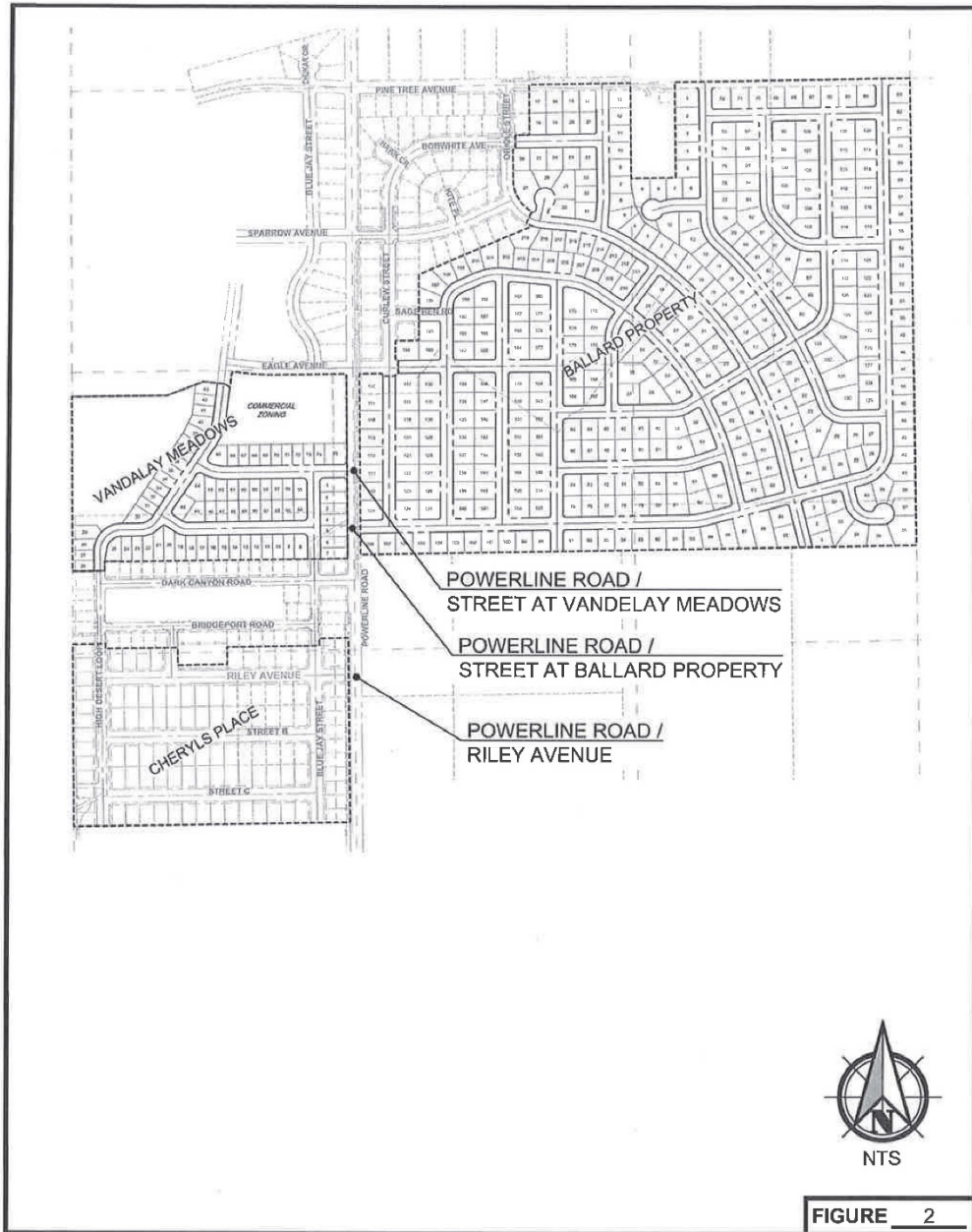


FIGURE 2

Site Plan

Umatilla Residential Development



Downtown & McNary Dam

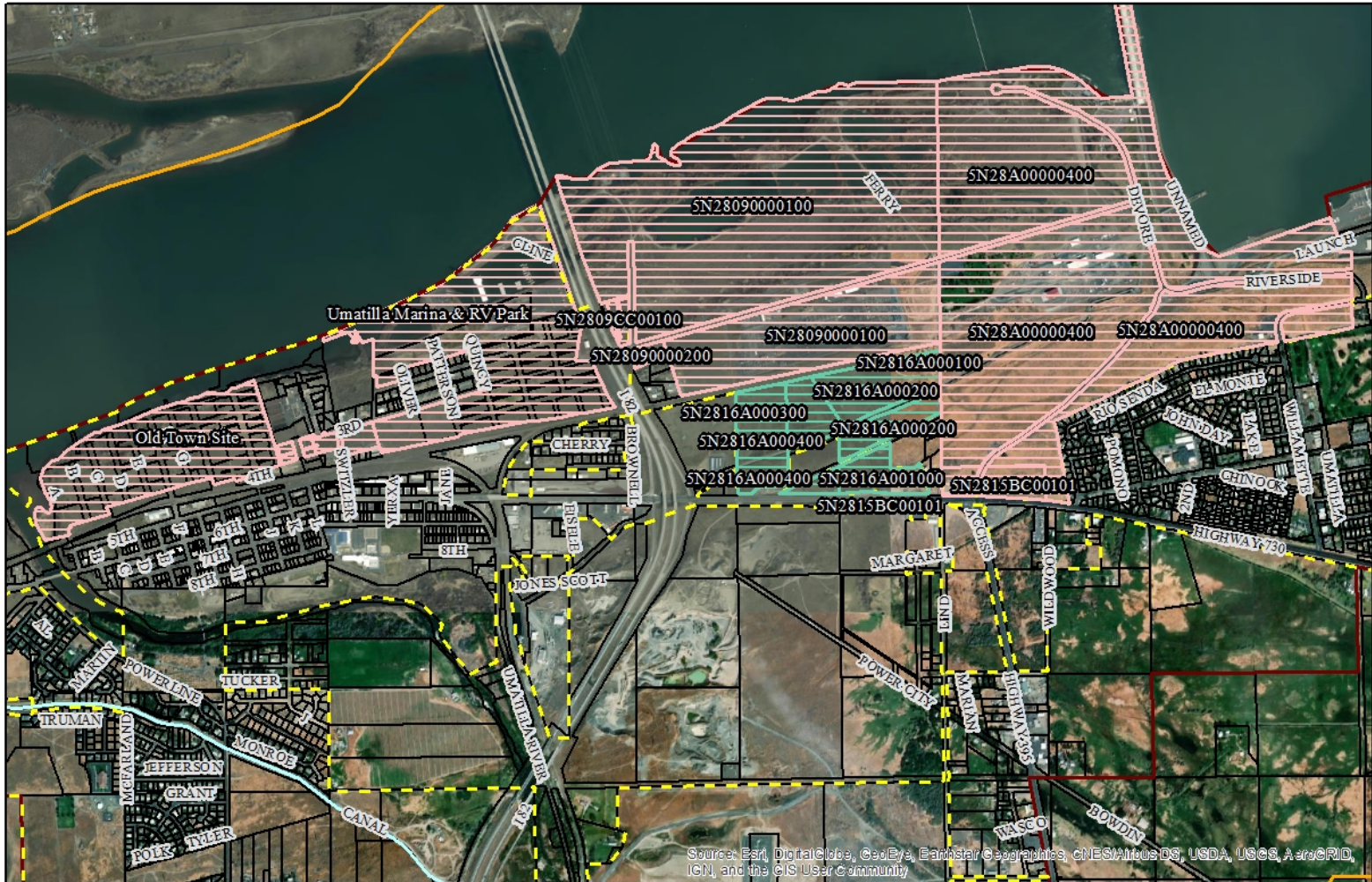
The downtown area is generally described as the land laying north/east of the Umatilla River and west of I-82. The McNary Dam area is generally described as the land laying east of I-82 and north of US 730. The McNary dam area contains multiple large acreage parcels that are largely undeveloped. However, there are very few parcels that are not in federal ownership. Staff has attempted to identify which federal agency manages the property but County assessor's data primarily shows BLM as the property owner when they are actually managed by USACE or Bonneville Power Administration (BPA). Management areas do not directly match property lines so there are some inaccuracies in which federal agency manages the property but all properties identified are in federal ownership and are not considered suitable alternative locations.

The downtown area has been mostly developed to an urban density, with few properties available for larger development. The two exceptions are lands managed USACE that is currently developed with the City's 3rd street soccer field and the Umatilla Marina & RV Park. The other large cluster of undeveloped land is commonly referred to as the "old town site". While the property is also managed by USACE it is known to be located within the 35UM1 historic site. No other properties that could meet the City's need for large lot industrial site have been identified. Therefore, no sites within the downtown and McNary Dam areas are considered suitable alternative locations.

MAP & TABLE NOTE: Within the downtown area County tax lot data still show multiple smaller parcels and rights of way. Those property lines are not accurate and USACE owns all properties highlighted regardless of property line boundaries. For simplification of mapping staff has grouped those areas together to show a more accurate ownership area. The tax lot boundaries shown are remnants of the original township plats and do not align with actual ownership. Individual parcel information for the properties in the downtown area is provided in the table.

McNary Dam Area Properties

TLID	OWNER	ACRES
5N28090000100	USA	256.17
5N28090000200	USA	2.53
5N2809CC00100	USA	1.65
5N2809CC02800	USA	0.42
5N2815BC00101	USA	12.75
5N2816A000100	USA BPA	1.31
5N2816A000200	USA BPA	23.99
5N2816A000300	USA	10.75
5N2816A000400	USA	25.08
5N2816A001000	USA	11.38
5N2817AB00701	USA	3.69
5N2817AB00801	USA	1.63
5N2817BA03800	USA	0.87
5N2817BA04200	USA	1.05
5N28A00000400	USA	659.59

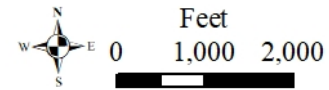


Source: Esri, DigitalGlobe, GeoEye, Earthstar/Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Downtown & McNary Dam

Legend

- West Extension Irrigation Canal
- City Limits
- Urban Growth Boundary
- Study Area
- Tax Lots
- Alternative Sites**
- USACE
- BPA



Downtown Area Properties

TLID	OWNER	ACRES
5N2808DC00100	USA (CORP OF ENGR)	5.32
5N2808DD00300	USA (CORP OF ENGR)	10.07
5N2808DD00500	USA (CORP OF ENGR)	1.1
5N2808DD00600	USA (CORP OF ENGR)	2.2
5N2809CC01490	USA (CORP OF ENGR)	1.43
5N2809CC01700	USA (CORP OF ENGR)	1.61
5N2809CC01800	USA (CORP OF ENGR)	1.88
5N2809CC02500	USA (CORP OF ENGR)	1.69
5N2809CC03400	USA	2.2
5N2816BB01300	USA	2.22
5N2816BB02000	USA	1.31
5N2816BB02200	USA	1.46
5N2816BB02400	USA	1.61
5N2816BB02700	USA	1.23
5N28170001900	USA	2.23
5N28170002100	USA	9.76
5N2817AA00100	USA	2.2
5N2817AA00200	USA	2.2
5N2817AA00300	USA	4.36
5N2817AA00500	USA	1.22
5N2817AA00600	USA	1.58
5N2817AB00300	USA (CORP OF ENGR)	6
5N2817AB00701	USA	3.69
5N2817AB00801	USA	1.63
5N2817BA01300	USA	0.91
5N2817BA02000	USA	1.2
5N2817BA03000	USA	0.91
5N2817BA03100	USA	1.05
5N2817BA03200	USA	1.27
5N2817BA03500	USA	1.09

5N2817BA03800	USA	0.87
5N2817BA04200	USA	1.05
5N2817BA04500	USA	1.05
5N2817BA05600	USA	2.73
5N2817BB00100	USA	7
5N2817BB00300	USA	1.1
5N2817BB01000	USA	0.92
5N2817BB01900	USA	0.92
5N2817BB02500	USA	0.92
5N2817BB03000	USA	1.8
5N2817BB03800	USA	0.92
5N2817BB04100	USA	0.92
5N2817BB04700	USA	0.92
5N2817BB05300	USA	1.1
5N2817BB05900	USA	1.32
5N2817BB06200	USA	1.1
5N2817BB06900	USA	1.1
5N2817BB07500	USA	1.1
5N2817BB08400	USA	1.1
5N2817BC00101	USA	2.56
5N2818AA00100	USA	7.75
5N2818AA00300	USA	3.46
5N2818AA01200	USA	2.39
5N2818AA02000	USA	4.6
5N2818AD00100	USA	3.63
5N28B00000490	USA	44
5N28B00000490	USA	5.39

US 730 & 395

The US 730 and 395 area is generally described as the property laying east of the Umatilla River and south of US 730 along US 395. The properties located along US 395 have been divided into smaller lots and are primarily developed with a mix of residential, commercial and industrial uses. There are several properties that are located west of US 395 that are completely encumbered with large BPA easements and are not identified on the map below. Those properties while not physically developed are not considered developable as they would conflict with the BPA easements and are not considered in the alternative site analysis.

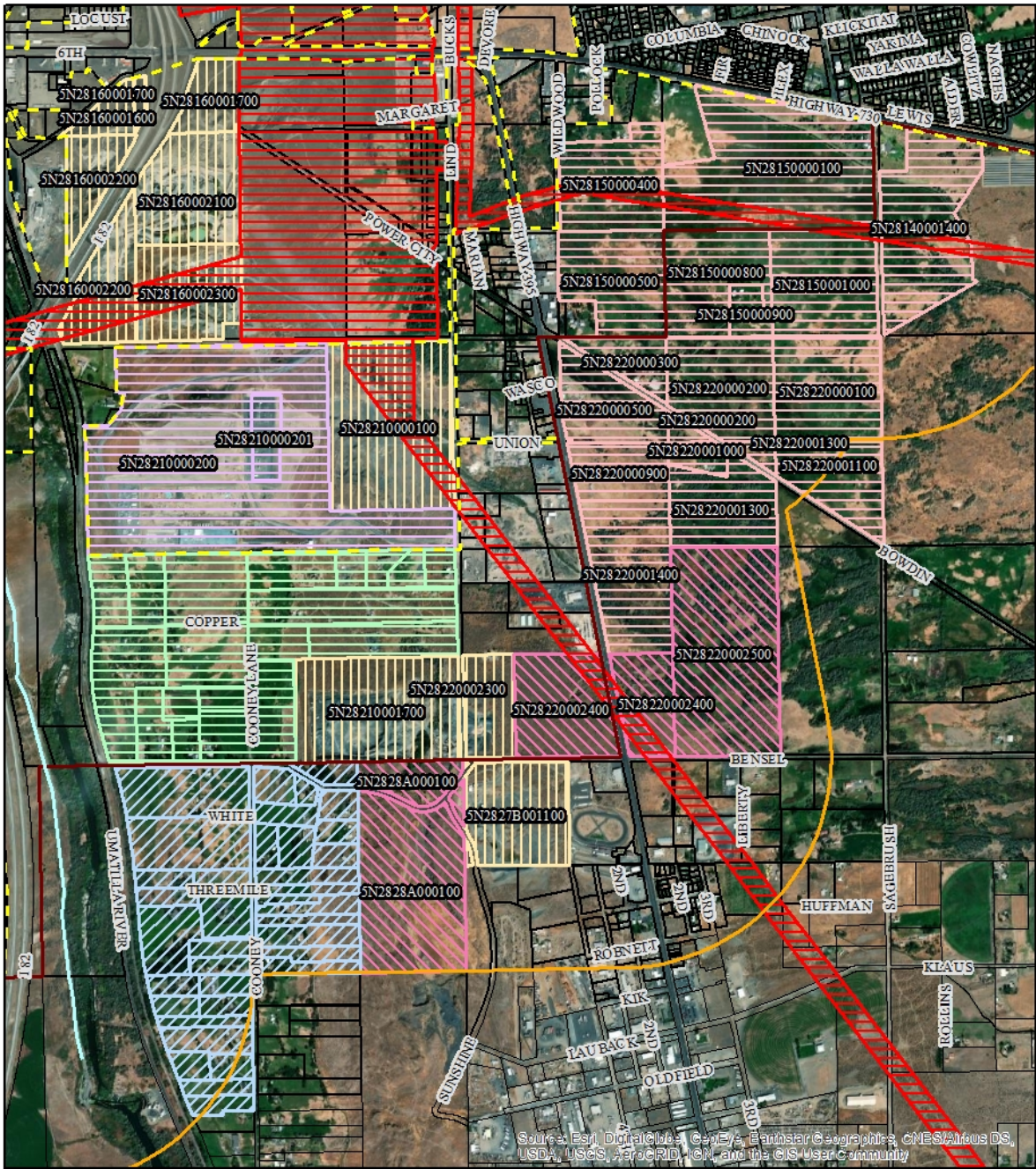
The PDX 63 site is not visibly developed on the aerial image but has been developed with four data center building and associated substation. To date the City has issued building permits for four data center building (PDX 63, PDX 65, PDX 67 and PDX 69). The properties are identified on the map below but are considered developed in the EOA as permits had been issued for PDX 63.

There are several sites with active Department of Geology and Mineral Industries (DOGAMI) permits in the US 730 and 395 area. All of the site are visibly developed for rock extraction and while not developed with structures are considered developed in the EOA and are not considered suitable alternative locations.

The properties identified as East 395 are properties located east of US 395 and south of US 730. The properties are split between the UGB and study area and could meet the City's need for large lot industrial sites. The East 395 properties are included in the alternative site analysis below.

The Cooney Lane Ext Residential properties are located within the UGB and are developed with a typical rural residential patter with housing on lots ranging from 4 to 26 acres. While the properties do not qualify for the safe harbor provision allowed by OAR 660-024-0050 (2). The properties were considered partially vacant or vacant respectively in the City's residential BIA and corresponding Comprehensive Plan Amendment acknowledged by DLCD (City # PA-1-19, DLCD file # Umatilla 002-19). Ultimately the properties have been divided into smaller lots with multiple owners and could not practically be recombined to accommodate redevelopment. Therefore, due the small lot size and multiple ownership these properties are not considered a reasonable alternative location for redevelopment of large lot industrial sites.

The properties identified as County Rural Residential area currently located outside the UGB and are zoned Rural Residential - 4 by the County. These properties share a similar development pattern to the Cooney Lane Ext Residential properties but are included alternative site analysis as the land evaluation criterion in OAR 660-024-0067 (2) "priority of land for inclusion" requires nonresource land to be considered as a first priority. **NOTE** see sub map showing residential properties TLID numbers.

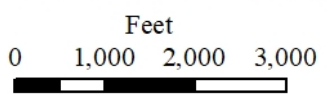


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- BPA Easement
- Study Area
- WEID Canal
- City Limits
- Urban Growth Boundary
- Tax Lots

US 730 & 395



Alternative Sites

- BLM
- Cooney Lane Ext Residential
- County Rural Residential
- DOGAMI Sites
- East 395
- PDX 63 Site



US 730 & 395 Table

TLID	OWNER	ACRES
5N28140001400	B. KIK PROPERTIES LLC	53.87
5N28150000100	B. KIK PROPERTIES LLC	86.75
5N28150000400	JARED GREG SCOTT	34.24
5N28150000500	MADRIGAL CERVANTES EDUARDO ROSARIO	34.9
5N28150000800	B. KIK PROPERTIES LLC	33
5N28150000900	TURNEY WILLARD F & PATRICIA E	7
5N28150001000	B. KIK PROPERTIES LLC	39
5N28160001600	MORRISON JOHN K ET AL	7.9
5N28160001700	UMATILLA COUNTY OF	16
5N28160002100	MORRISON JOHN K ET AL	40.29
5N28160002200	MORRISON JOHN K ET AL	46.13
5N28160002300	BONNEY KEN ET AL	0
5N28210000100	VADATA INC	79.68
5N28210000200	AMAZON DATA SERVICES INC	178.2
5N28210000201	UMATILLA ELECTRIC COOPERATIVE ASSOC	9.1
5N28210001200	BARTH LAUREN	4.79
5N28210001201	FOLEY CHRISTOPHER J & SCHULTZ SALLY A	4.76
5N28210001202	WALTON JOSHUA C & JAMIE L	4.76
5N28210001203	PARKINS VAUGHN EDWARD & TAMARA ROSE	4.75
5N28210001300	RIVERA PEDRO & MARIA	20.98
5N28210001400	NOBLES SAM K & NANCY C	4

5N28210001401	NOBLES SAM K & NANCY C	12
5N28210001402	RANNE DONALD L	4.19
5N28210001403	MCCLURE LINDA F	4
5N28210001404	NOBLES SAM K & NANCY C	4
5N28210001500	NOBLES CLYDE C & BETTY L	26.41
5N28210001600	GILCHER NEVA A	18.77
5N28210001601	KNOEPFLER JASON S & NOBLES-FISHER NICOLE	8
5N28210001700	NOBLES CLYDE JR 1/4 ETAL 3/4	61.43
5N28210001800	NOBLES JAMES B & SANDRA K	25.89
5N28210001900	WOOD TRAVIS J & BRITNEY M	19.02
5N28210002000	RICHMAN BECKY A & PETERSON RONALD	4.18
5N28210002001	BETTS ROBERT D & MONICA L	8.64
5N28210002002	NOBLES JAMES B & SANDRA K	4.49
5N28210002003	NOBLES JAMES BRUCE & SANDRA KAY	4.04
5N28210002100	LYMAN KATHERINE H	26.11
5N28220000100	B. KIK PROPERTIES LLC	40
5N28220000200	TURNEY WILLARD F & PATRICIA E	38.92
5N28220000300	CERVANTES JAIME M & RIVERA VENANCIA R	12.88
5N28220000500	UMATILLA SAGE RIDERS	24.49
5N28220000900	BONNEY KEN ET AL	20
5N28220001000	WARR STEVEN & ANNETTE	5

5N28220001100	B. KIK PROPERTIES LLC	25.68
5N28220001300	PARKS ETHAN	32.37
5N28220001400	BONNEY KEN ET AL	40.84
5N28220002300	UMATILLA COUNTY OF	8
5N28220002400	USA	55.56
5N28220002500	USA	79
5N2827B001100	LOGSDON NORRIS	0
5N2828A000100	USA (BLM)	77.43
5N2828A000200	POMEROY MICHAEL S & ASHLEY M	5.3
5N2828A000201	GUTIERREZ JULIAN & MARGARET	3.76
5N2828A000202	POTTER LYLE GENE	5.47
5N2828A000203	NOBLES KIMBERLY JEAN ET AL	5.02
5N2828A000204	EVANS DANNY EARLE & PAULINE KAY	4.17
5N2828A000300	HALLUM JOHN M & VALERIE L	1.5
5N2828A000400	MCDONOUGH PAUL M & JENNIFER L	4.1
5N2828A000500	JOHNSON MILTON J & JEANNE FAYE (LE)	3.68
5N2828A000600	PARKINS VAUGHN EDWARD & TAMARA ROSE	3.93
5N2828A000700	CLARK NATHANIAL ALVA & KIMBERLY	4
5N2828A000701	KONTUR FRANK J & WANDA J	5.76
5N2828A000800	JONS WILLIAM	2.08
5N2828A000900	ZWALD NICHOLAS C & MARY G	5.5
5N2828A001000	THOMAS CLINTON R & NORMA J	3.94

5N2828A001100	MURPHY CHANCE & ANDREA	7.77
5N2828A001200	SANCHEZ GABRIELA & CARILLO FERNANDA	5.01
5N2828A001201	PADILLA JOSE J & RAQUEL	5.02
5N2828B000100	NOBLES CLYDE C & BETTY L	22.18
5N2828B000300	ELYUTH TATAR & INGRID TATAR	24.54
5N2828B000400	POWELL GARY L & SANDRA L	4
5N2828B000500	RHEA ROBERT W & PATRICIA R	4
5N2828B000600	SARGENT MARK P & GAIL A	8.82
5N2828B000700	SWAGGART BENJAMIN C & TERRI L	4
5N2828B000800	WOOD THOMAS J & DANA A	14.06
5N2828B001000	CARLSON JEREMY C & ANGELA C	4
5N2828B001001	ENNIS GERALD L & CHERYL A	4
5N2828C000100	PADILLA DAVID M	3.82
5N2828C000101	KONTUR FRANK & WANDA	3.98
5N2828C000102	KONTUR FRANCIS J & WANDA J	3.71
5N2828C000300	LANGERMAN JEREME R ET AL	3.82
5N2828C000400	CLAASSEN MICHAEL E & LEAH D	3.83
5N2828C000500	MCNEIL DAN P & KIM K	8.53
5N2828C000501	SMITH TAMARA L & RANDALL C (TRS)	4
5N2828C000502	R & T SMITH TRUST ET AL	4
5N2828C000700	ASCENCIO GREGORIO L & TORRES MONICA R	4.14
5N2828C000800	JONS WILLIAM	4.15

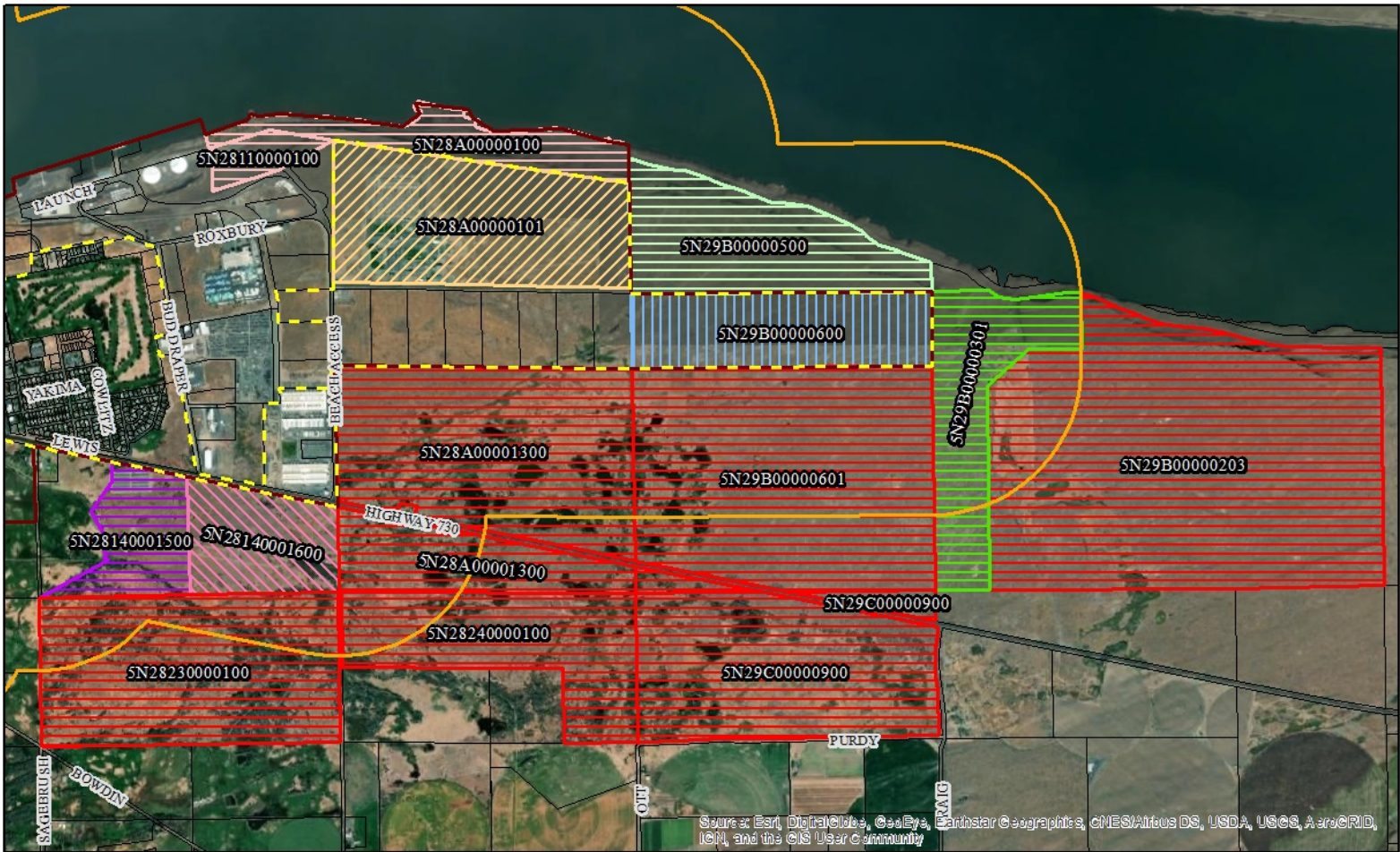
Port of Umatilla Industrial Park

Expansion of industrial lands at the existing industrial park is the most logical location to look for expansion of the UGB. However, with the exception of a parcel (TLID 5N29B00000301) owned by Oregon Department of Fish & Wildlife, all of the surrounding properties are in federal or tribal ownership. To the south and east is the Wanaket Wildlife Area that is owned by Bureau of Indian Affairs (BIA) and held in trust for CTUIR. In addition, the area is generally identified as the “McNary Potholes” in the Umatilla County Comprehensive Plan Technical Report and designated a significant wetland site. The goal 5 analysis identifies the McNary Potholes as a 3C resource to limit conflicting uses. Therefore, given the Wanaket Wildlife area is in federal ownership is actively being managed by CTUIR as a wildlife and wetlands area the properties are not considered a suitable alternative location.

In addition to the Wanaket Wildlife area, CTUIR also owns and manages the Wanapa Industrial Site. The City has an acknowledged Goal 11 exception to provide sanitary sewer to the site. The City acknowledges the property is zoned industrial and would be considered a First Priority land under OAR 660-024-0050. While City has taken steps to facilitate development, existing goal exceptions to provide sanitary and agreements to provide potable water, of the Wanapa Industrial Site the City does not have regulatory jurisdiction of the property. In addition, properties held in fee by CTUIR are generally not eligible to be subdivided and sold to private developers. This would further reduce potential development opportunities. Therefore, the Wanapa Industrial Site is not considered a suitable alternative location.

The Umatilla Electric Cooperative property (UEC), TLID 5N28140001500, appears to be a suitable location based on aerial imagery but has existing physical barriers that would prohibit development of the site to meet the need for large lot industrial sites. As shown on the map below the property is divided by a significant BPA transmission lines and the “O line” irrigation canal/ditch, managed by the Hermiston Irrigation District. Due to the existing utilities the property is broken into three small sections not suitable for development of large lot industrial site. This property is not considered a suitable alternative location.

The remaining highlighted sites are the PDX 130 site, TLID 5N28B00000600, as addressed in the land need section above, the property is now considered developed as permits have been issued for construction of the first data center building and associated accessory structures. TLIDs 5N28110000100, 5N28A00000100 and 5N28140001600 are owned by USACE or BLM and given their federal ownership are not considered suitable alternative locations. The TRCI property, TLID 5N28A00000101, is the current site of the Two Rivers Correctional Institution and is only highlighted for discussion purposes as a large portion of the eastern side of the property is undeveloped. As allowed by OAR 660-024-0050 (3)(b) the property is larger than five acres in size and the existing permanent building exceeds the minimum required one-half acre to be considered developed. Therefore, the TRCI property is considered developed and not a suitable alternative location.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

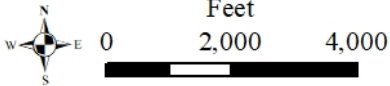
Port of Umatilla Industrial Park

Legend

- Study Area
- City Limits
- Urban Growth Boundary
- Tax Lots

Alternative Sites

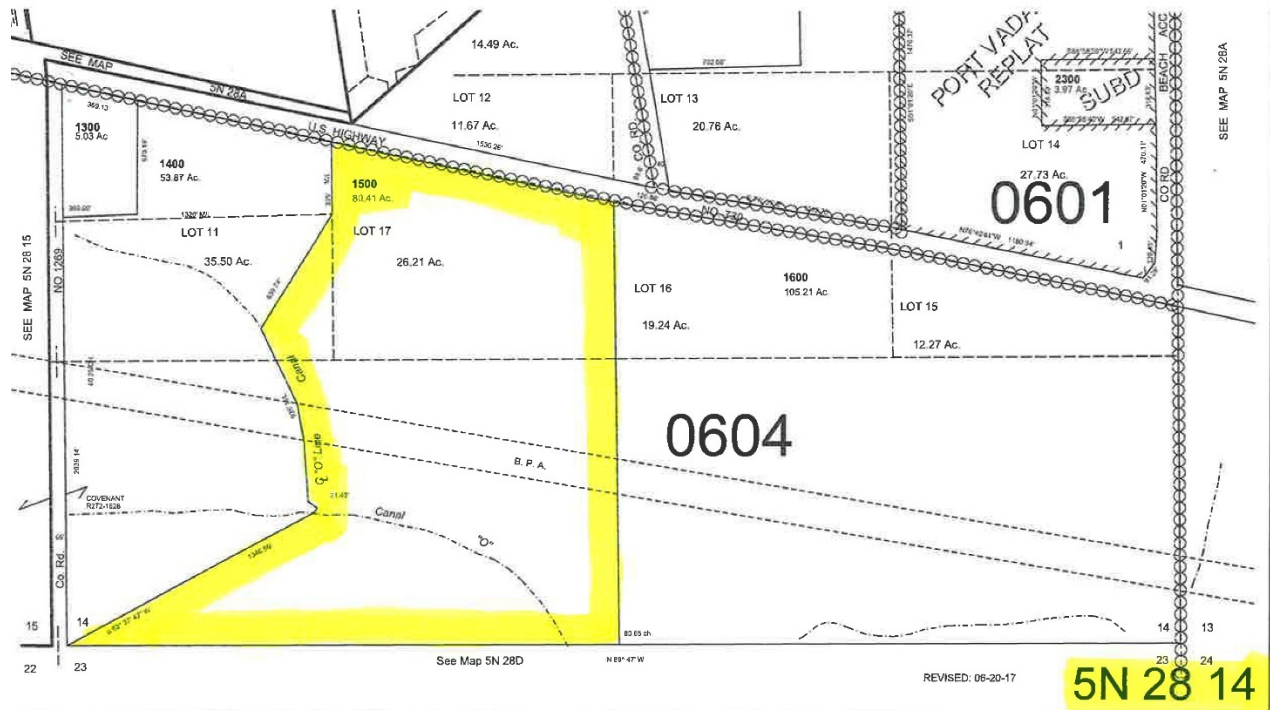
- BLM
- Oregon Fish & Wildlife
- PDX 130 Site
- TRCI
- UEC
- USACE
- Wanaket Wildlife Area
- Wanapa Industrial Site



Port of Umatilla Industrial Park

TLID	OWNER	ACRES
5N29B00000600	AMAZON DATA SERVICES	161.36
5N29B00000203	DEPT OF INTERIOR BIA	713.88
5N29B00000301	STATE OF OREGON DEPT FISH & WILDLIFE	160
5N28110000100	USA	27.66
5N28140001500	UMATILLA ELECTRIC COOP ASSN	80.41
5N28140001600	USA	105.21
5N28230000100	DEPT OF INTERIOR BIA	318
5N28A00000100	USA	134.98
5N28A00000101	STATE OF OREGON DEPT OF	268.15
5N28A00001300	DEPT OF INTERIOR BIA	465.36
5N29B00000500	USA (TRS)	195.23
5N28240000100	DEPT OF INTERIOR BIA	200.59
5N29B00000601	USA	479.15
5N29C00000900	DEPT OF INTERIOR BIA	315.16

UEC Property (County Assessors Map)



Alternative Site Analysis – Within the UGB

OAR 660-024-0050 establishes the procedures for evaluation of existing inventory of land located within the UGB. The City has recently completed the BIA process for both residential and employment lands, with the residential update being completed and adoption acknowledged by DLCD. The City completed the pending EOA in fall of 2019 and is seeking to adopt an update to the City's Goal 9 inventory and overall land needs. OAR 660-024-0050 (4) specifically requires that if the City demonstrates that prior to expanding the UGB the need cannot be reasonable accommodated on land already within the UGB.

OAR 660-0024-0050 (4) - If the inventory demonstrates that the development capacity of land inside the UGB is inadequate to accommodate the estimated 20-year needs determined under OAR 660-024-0040, the local government must amend the plan to satisfy the need deficiency, either by increasing the development capacity of land already inside the city or by expanding the UGB, or both, and in accordance with ORS 197.296 where applicable. Prior to expanding the UGB, a local government must demonstrate that the estimated needs cannot reasonably be accommodated on land already inside the UGB. If the local government determines there is a need to expand the UGB, changes to the UGB must be determined by evaluating alternative boundary locations consistent with Goal 14 and applicable rules at OAR 660-024-0060 or 660-024-0065 and 660-024-0067.

The following map shows the same information provided above but highlighting properties located within the UGB. Ultimately within the UGB seven locations were identified that could meet a portion of the City's need for large lot industrial sites. Five of the locations are in the south hill area and are planned or zoned residential, including the City's proposed location for the pending UGB expansion. No federal properties located within the UGB were considered viable alternative locations.

The East 395 properties appear capable of meeting the City's need for large lot industrial site but similar to the proposed UGB expansion area would require expansion of the UGB as the City's entire need could not be meet on lands located solely within the UGB. Given this location would also require expansion of the UGB the site will be considered below using the evaluation priorities provided by OAR 660-0024-0067.

The Cooney Lane Ext Residential area as outlined above has been parceled and developed with a typical rural residential development pattern. Of the twenty individual properties half of them have been divided to near the minimum lot size of 4 acres. While all of the parcels have not been developed one of the large parcels was developed with multiple pre-existing dwellings. Based on City and County zoning permit records there are 18 existing single-family dwellings located in the Cooney Lane Ext Residential area. Therefore, given parcelization and existing development pattern the City finds that the area could not be reasonably combined or redeveloped to meet the City determined need for large lot industrial sites and is not considered a suitable alternative location.

The remaining areas identified as capable of partially meeting the City need are all located within the south hill area. The Fastrack/Columbia Basin Development properties, as outlined above, have already seen new residential development with the first phase of each project having

been completed or nearing completion with physical development having commenced at all three locations. Given the properties have been physically develop and new construction ongoing the City does not consider these properties to be a suitable alternative location.

The McClannahan Summit properties appears to be a viable alternative location. However, once the City owned property that is committed to use as a cemetery is removed the remaining 90 acres, including the School District property, would only partially meet the City's need. To meet the City's entire need for large lot industrial sites the UGB would need to be expanded to include properties located outside the UGB. Any expansion in this area would affect the Topaz Land properties and as addressed below would result in additional high value farm land being taken out of production. In addition, it should be noted that the City has approved a plan amendment and subdivision application for development of 326 new single-family dwellings on the subject property. The City finds that the McClannahan Summit properties would only partially meet the City's need for large lot industrial site without expanding the UGB. Inclusion of additional lands would remove more high value farm land from production than the City's proposed site. Therefore, the City finds that the McClannahan Summit property is not a suitable alternative location.

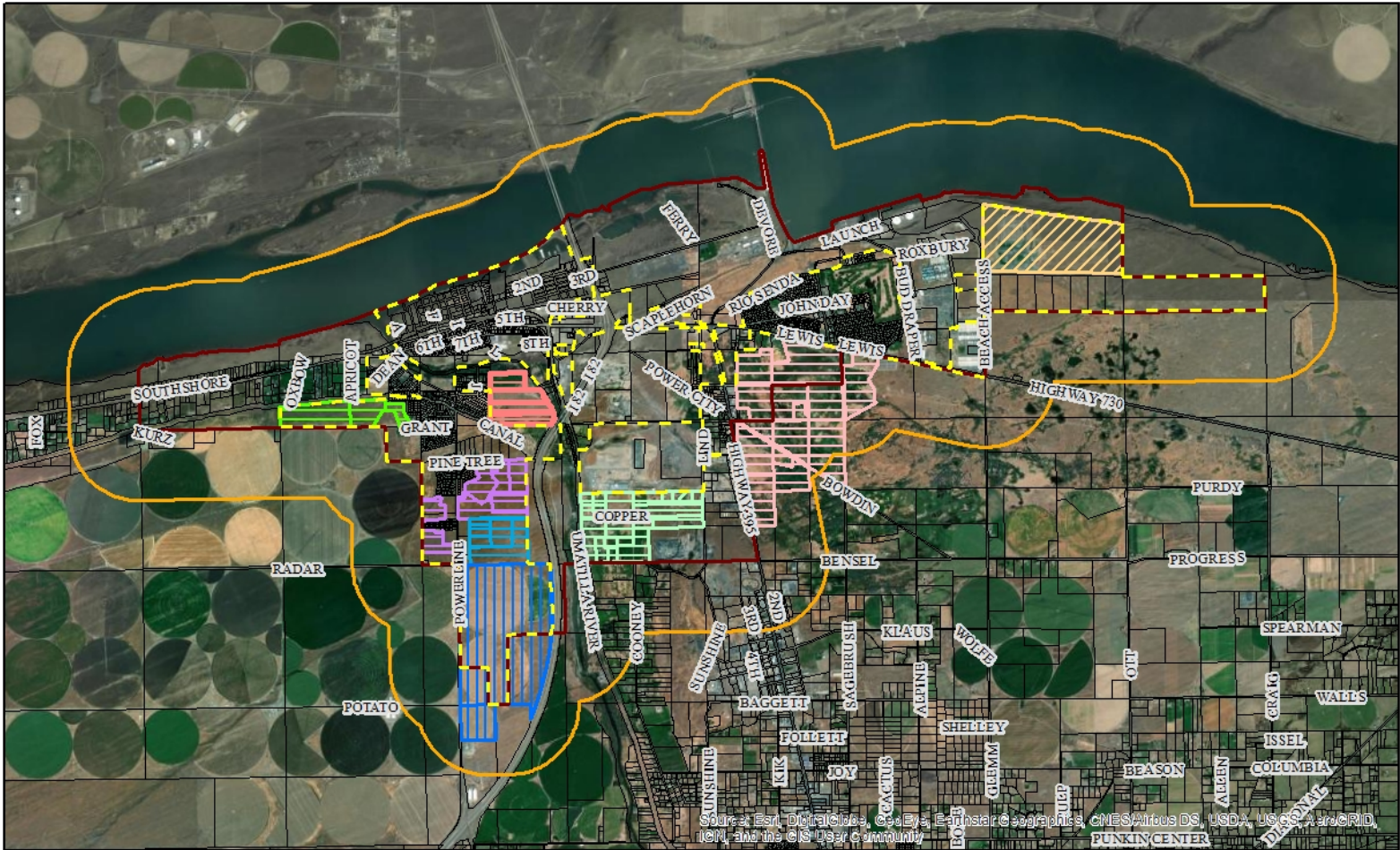
The Nobles properties are also located in the south hill area and are currently designated residential by the comprehensive plan and are zoned Exclusive Farm Use and Agricultural Residential by the Umatilla County 1972 zoning ordinance that is in affect for the UGA. However, as addressed in this report the property could only partially meet the City's need for large lot industrial sites and are physically isolated from other developable areas of the City by the Umatilla River, existing residential development and significant BPA easement and the WEID irrigation canal. Given the properties are isolated from other developable areas of the City and could not meet the City's need for large lot industrial sites these properties are not considered a viable alternative location.

The CCPD Inc properties, owned primarily by CCPD Inc but includes a parcel owned by Annabel Sosa, are located adjacent to the City's proposed parcel for rezone and expansion of the UGB. The City's adopted Housing Needs Assessment (Figure 5.3 in the City's Housing and Residential Land Needs Assessment and Section 101.7.700 of the City's Comprehensive Plan) concludes that the City has projected need for 21 acres of land zoned Medium Density Residential and an inventory of 203 acres. This results in an assumed surplus of 182 acres of Medium Density Residential zoned lands. However, since adoption in September of 2019 the City has seen significant development occur in the Medium Density Residential Zone. Since adoption the City has approved 4 residential subdivision all located in the Medium Density Residential Zone. The four approved subdivision total approximately 60.99 acres as follows:

- Riverwood Estates – 5.15 acres converted to a 20 lot subdivision
- Cheryl's Place – 24.37 acres converted to a 104 lot subdivision
- Vandelay Meadows – 19.57 acres converted to a 49 lot subdivision, an approximately 7 acre remnant parcel remains that has significant topographic issues and is identified in the Comprehensive Plan as having slopes form 18-25%. The remnant 7 acres parcel is not considered developable.
- Sunrise Estates – 11.9 acres converted to a 81- lot subdivision

Given the City has already permitted development on 60 acres of land zoned Medium Density Residential, nearly three times the City projected need through the 20 year planning period, in less than two years the City feels that the project need specifically within the Medium Density Residential zone is low. The City has experienced unprecedented growth in both the industrial and residential sectors for the last 4 years and is surpassing our projected growth rate. With the emphasis towards development of new housing at both the state and federal level the City feels it is appropriate to maintain an inventory of Medium Density Residential zoned lands within the City's primary residential area. Therefore, the CCPD Inc properties are not considered a suitable alternative location.

The lone remaining property inside the UGB identified to be suitable is the Cleaver Land properties, the City's proposed site for the UGB expansion and rezone. City acknowledges that the Housing Needs Assessment identified a large residential land surplus, specifically an 873 acres surplus in the Single-Family Residential Zone. However, the subject property alone is not large enough to accommodate the City's projected need of 300 -399.98 acres of industrial land for large lot industrial development, when considering existing development constrains. Additional analysis for the portion of the property outside the UGB and development constrains is provided below with the alternative location analysis for properties outside the UGB.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USCG, AeroGRID, IGN, and the GIS User Community

Alternative Site Analysis - Inside The UGB

Legend

- Study Area
- City Limits
- Urban Growth Boundary
- Tax Lots

Alternative Sites

- TRCI
- CCPD Inc Property
- Cleaver Land
- Fastrack/Columbia Basin Development
- Nobles Property
- McClannahan Summit Properties
- Cooney Lane Ext Residential
- East 395



Alternative Site Analysis – Outside the UGB

Except for the proposed site, four alternative locations were identified for additional analysis. The Wanapa Industrial Site is included in the analysis as it is one of two sites identified as First Priority land. First Priority lands are defined as urban reserve, exception land and non-resource lands.

(2) Priority of Land for inclusion in a UGB:

(a) First Priority is urban reserve, exception land, and non-resource land. Lands in the study area that meet the description in paragraphs (A) through (C) of this subsection are of equal (first) priority:

(A) Land designated as an urban reserve under OAR chapter 660, division 21, in an acknowledged comprehensive plan;

(B) Land that is subject to an acknowledged exception under ORS 197.732; and

(C) Land that is non-resource land.

The City of Umatilla does not have an acknowledged urban reserve. Properties located to the west of the UGB on land zoned residential are highly parcellated and not suitable for redevelopment of large lot industrial site. Non-resource lands zoned commercial or industrial located along US 395, south of the US 730 & 395 map are also highly parcellated and are not suitable for redevelopment. The remaining properties that are considered first priority have been identified as the Wanapa Industrial Site and the County Rural Residential areas. As discussed previously the Wanapa Industrial Site is not considered a viable alternative location as it is in federal ownership and is not subject to state wide planning goals or local review. While the City has taken steps to help facilitate development of the site the City finds that it is not reasonable to incorporate a site to meet the City's development needs when the City has no regulatory control over use or development on the property. Therefore, the Wanapa Industrial Site is not considered a viable alternative location.

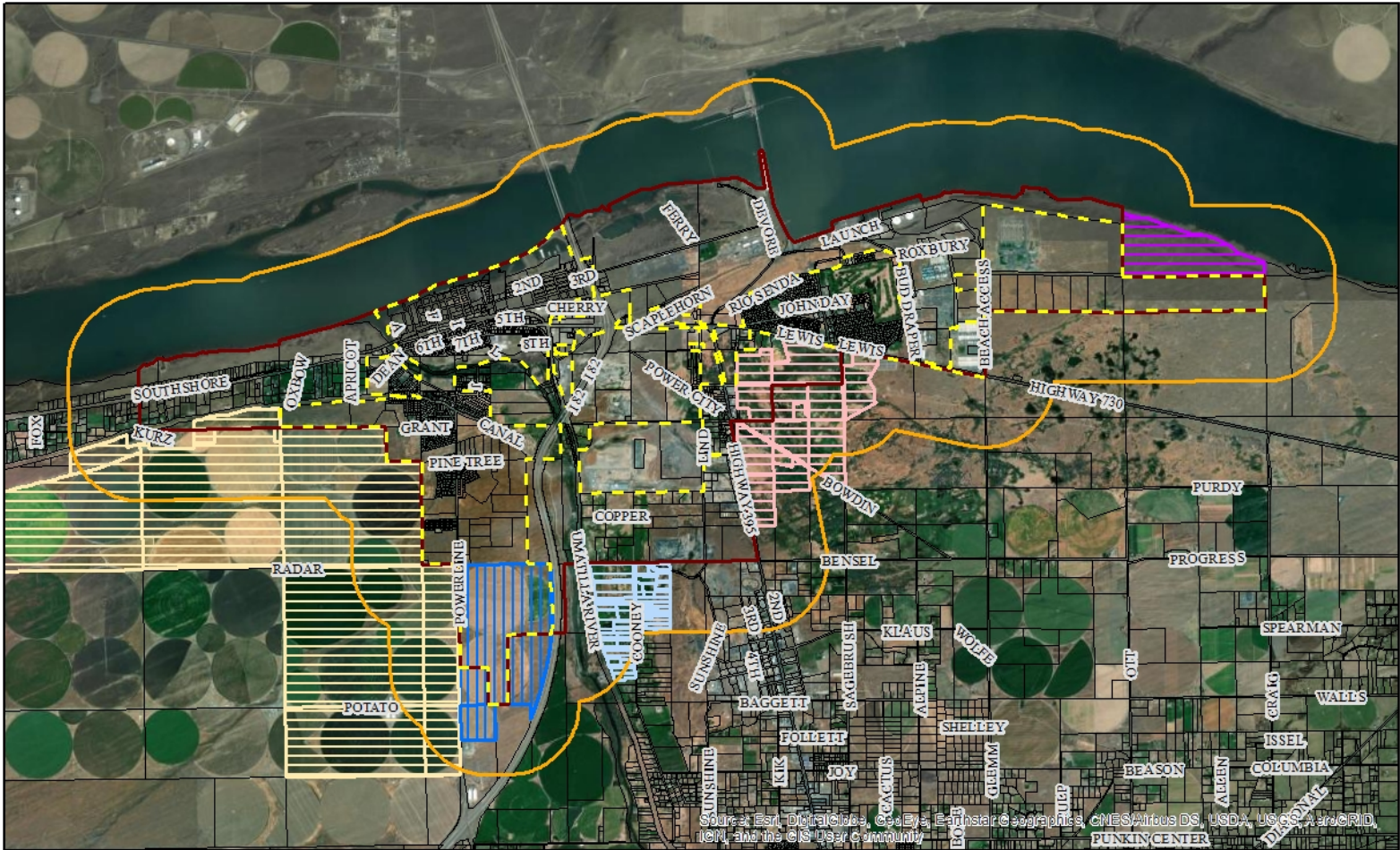
The County Rural Residential area share similar developmental issues as the Cooney Lane Extension area. The area has been subdivided into individual properties with existing single-family dwellings. Of the 36 parcels located within the County Rural Residential area only 3 are larger than 10 acres in size and the average parcel size is 5.8 acres. Given the development pattern and as allowed OAR 660-0240-0067 (5) a city may find land is unsuitable if the development pattern of rural residential land make it unreasonable to redevelop during the planning period. Therefore, due to the existing development pattern the City finds that the County Rural Residential area cannot be reasonably redeveloped to meet the City's need for large acre industrial sites. It is also worth noting that the entire County Rural Residential area identified is 209 acres and would not meet the City's need for large lot industrial sites.

The remaining properties adjacent to the UGB and considered as part of this evaluation are in federal ownership and excluded from consideration or would be considered forth priority as they zoned EFU and would be considered high-value farm land as defined by ORS 195.300. The three properties are identified as the Cleaver Land Property, the location of the proposed UGB expansion, the Topaz/Onyx Land properties and the East 395 properties.

The East 395 property as discussed above could reasonably meet the City identified need if a similar rezone and UGB expansion application were pursued by the City but land both within the UGB and outside the UGB would be required. The East 395 properties are considered high value farmland as the tract is predominantly composed of “Adkins fine sandy loam, wet, 0 to 3 percent slopes” and are a Class 2 soil by the Natural Resources Conservation Service (NRCS) soil capability classification (see soils maps below). This is the only alternative location identified that has a class 2 soil capability classification without irrigation. In addition, to the soil classification the East 395 properties have a significant portion of the property covered by mapped wetlands as shown on the National Wetland Inventory and Statewide Wetland Inventory. Therefore, given the East 395 properties have the highest soil classification and are encumbered by mapped wetlands these properties are considered the lowest priority for inclusion into the UGB.

The Topaz and Cleaver Land Properties are both considered high values as they are zoned EFU and have water irrigation rights issued by the Oregon Water Resources Department. As shown on the soils map below the two properties largely have similar soil capability classifications, largely dependent on slope. The sites would therefore be considered high value where water rights are available and non-high value farmland between circles. All of the lands not considered a place of use, the land between the circles, are class seven soils. Given the soil classification for the two sites are largely identical the Cleaver Land properties should be considered the highest priority for inclusion into the UGB. Of the 150 acres proposed for inclusion in the UGB approximately 91 acres would be considered high value farm land. The remaining area is composed of class seven non high value soils. Therefore, any inclusion of either the Cleaver Land properties or the Topaz Land properties would result in high value farm land being taken out of production. The Cleaver land property is considered the most suitable as it would require the least amount of farm land to be taken out of production to meet the City’s need. Approximately 226 acres of land on the Cleaver Land properties in irrigation crop production is located inside the UGB and therefore, not considered high value farm land. The Topaz Land properties are considered a suitable alternative location but would have significantly more impacts to high value farmland than the Cleaver Land properties as any expansion of the UGB to include Topaz Land properties would impact irrigation crop circles.

In addition to soil classifications the City has identified that a portion of the Cleaver Land properties are identified in the comprehensive plan (figure 7.1-2) as having 10 -25% slopes. OAR 660-024-0067 (5) (d) allows land for industrial uses to be excluded from consideration if the land has over a 10% slope. Appendix A of the City’s EOA also identifies slope as a physical site requirement and with a maximum 0 – 7% slope being considered suitable. The map below shows the lidar data available from DOGAMI for the area. This results in a pretty significant slope from the existing crop circles down to I-82. This creates a physical barrier that would limit future development on the site. Based on available slope data staff estimates that 130 acres along the eastern side of the property is impacted by slopes greater than 7%. The result is approximately 310 acres of land with no slope impacts and an additional 130 acres of land with varying limitations due to slope. The City find that the Cleaver land property is the most suitable location to meet the City’s need for large lot industrial sites when considering the applicable OARs and other considerations.



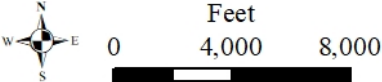
Alternative Site Analysis - Outside the UGB

Legend

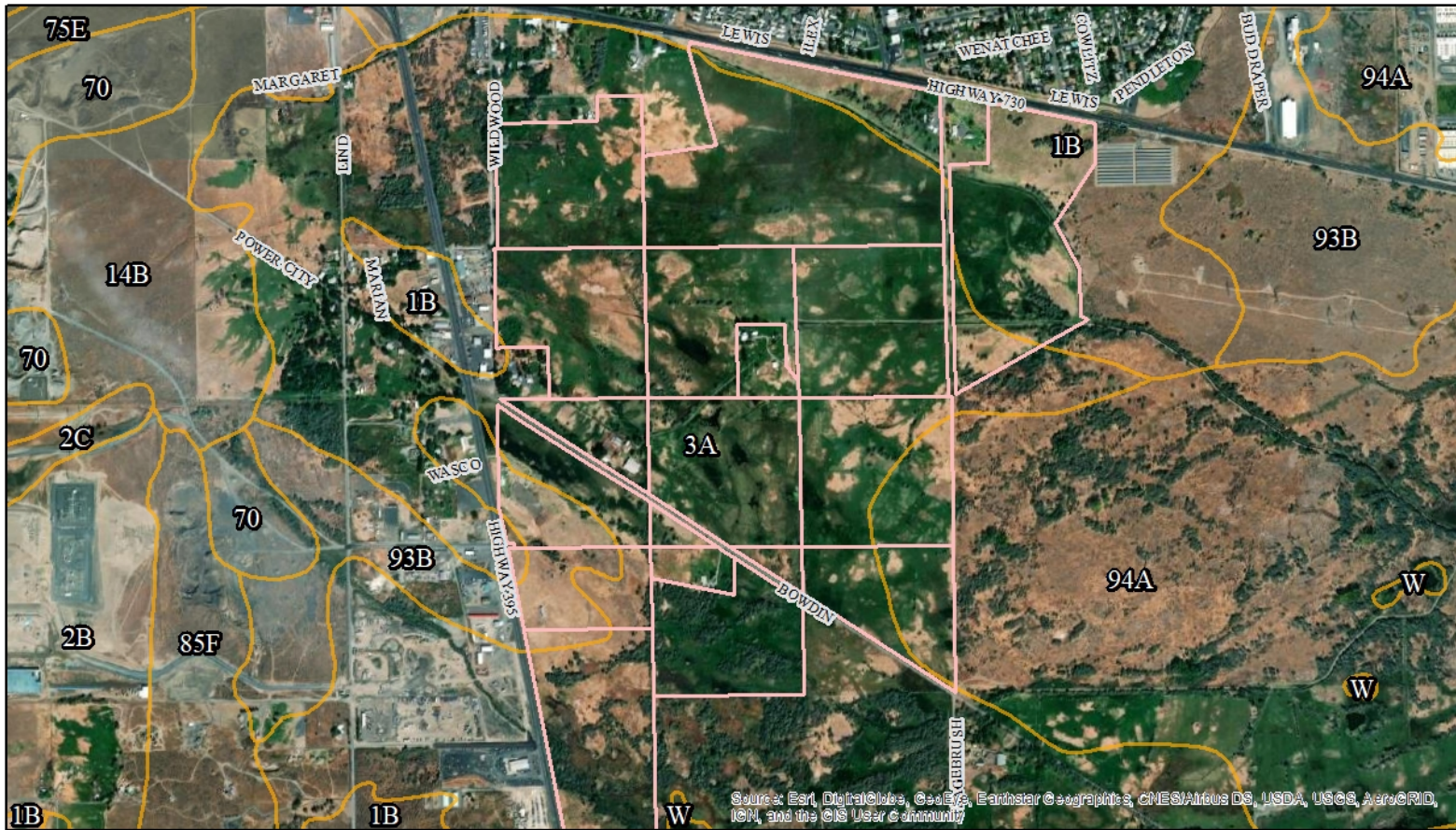
- Study Area
- City Limits
- Urban Growth Boundary
- Tax Lots

Alternative Sites

- Wanapa Industrial Site
- County Rural Residential
- Cleaver Land
- Topaz/Onyx Land Properties
- East 395



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

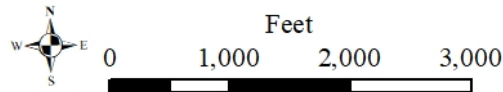


East 395 Properties - Soil Map

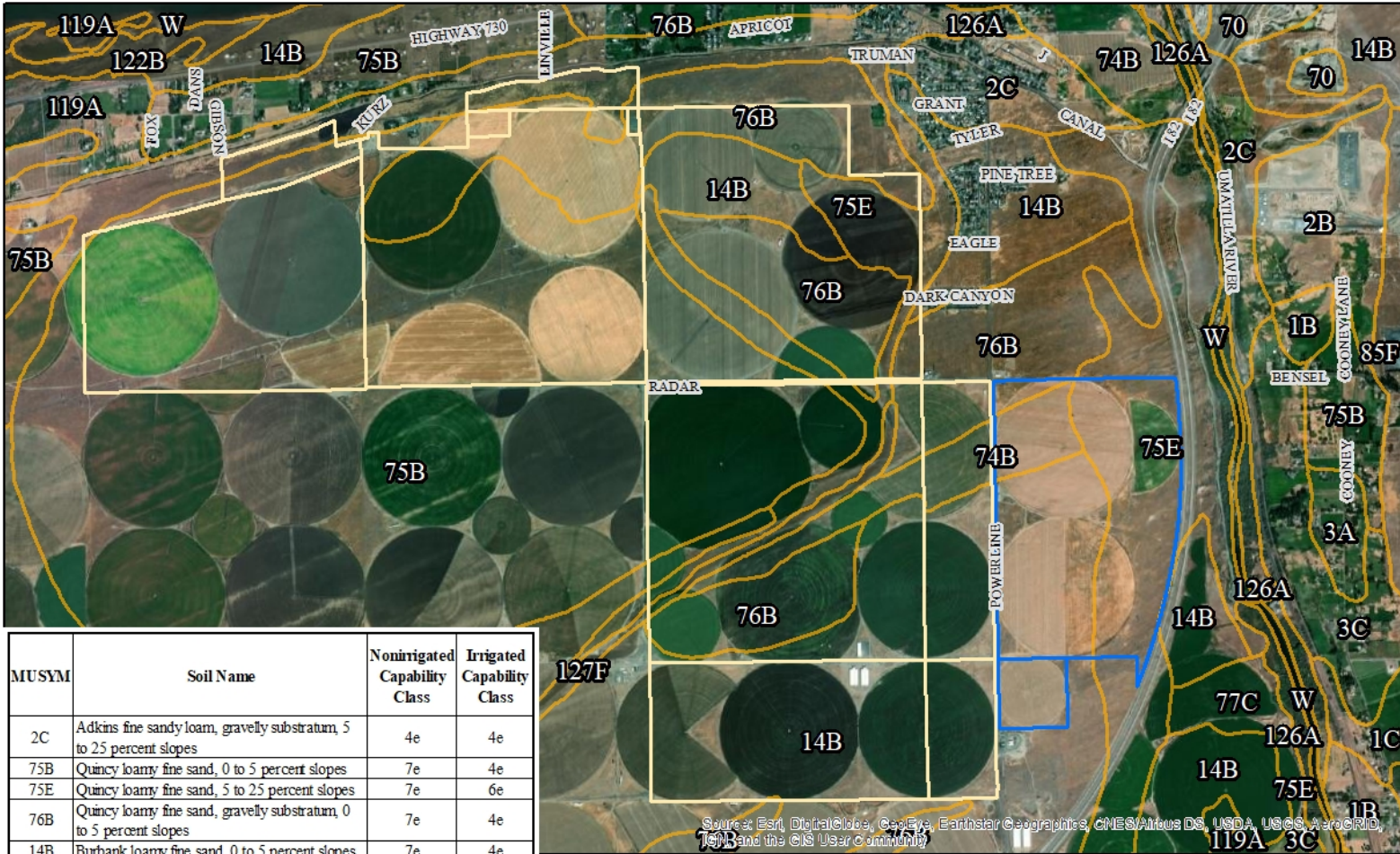
Legend

Name

- East 395 Properties
- Soils



MUSYM	Soil Name	Nonirrigated Capability Class	Irrigated Capability Class
70	Pits, gravel	8	
14B	Burbank loamy fine sand, 0 to 5 percent slopes	7e	4e
1B	ADKINS FINE SANDY LOAM, 0 TO 5 PERCENT SLOPES	4E	2E
2B	ADKINS FINE SANDY LOAM, GRAVELLY SUBSTRATUM, 0 TO 5 PERCENT	4E	2E
2C	Adkins fine sandy loam, gravelly substratum, 5 to 25 percent slopes	4e	4e
3A	ADKINS FINE SANDY LOAM, WET, 0 TO 3 PERCENT SLOPES	2W	2W
85F	Rock outcrop-Xeric Torriorthents complex, 10 to 70 percent slopes	8	
93B	Starbuck very fine sandy loam, 2 to 20 percent slopes	6e	4e
94A	Starbuck-Rock outcrop complex, 0 to 5 percent slopes	6e	4e
W	Water		

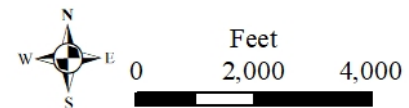


MUSYM	Soil Name	Nonirrigated Capability Class	Irrigated Capability Class
2C	Adkins fine sandy loam, gravelly substratum, 5 to 25 percent slopes	4e	4e
75B	Quincy loamy fine sand, 0 to 5 percent slopes	7e	4e
75E	Quincy loamy fine sand, 5 to 25 percent slopes	7e	6e
76B	Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes	7e	4e
14B	Burbank loamy fine sand, 0 to 5 percent slopes	7e	4e
127F	Xerollic Durorthids, 30 to 60 percent slopes	7e	
14B	Burbank loamy fine sand, 0 to 5 percent slopes	7e	4e
76B	Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes	7e	4e
74B	Quincy fine sand, 0 to 5 percent slopes	7e	4e
75B	Quincy loamy fine sand, 0 to 5 percent slopes	7e	4e
76B	Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes	7e	4e
75E	Quincy loamy fine sand, 5 to 25 percent slopes	7e	6e
14B	Burbank loamy fine sand, 0 to 5 percent slopes	7e	4e

Legend

- Soils
- Cleaver Land
- Topaz/Onyx Land Properties

South Hill - Soil Map



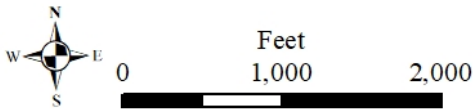
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Cleaver Land
- Oregon DOGAMI LiDAR Slope**
- 0 - 7
 - 7.000000001 - 10
 - 10.000000001 - 15
 - 15.000000001 - 89.30650354

Cleaver Slope Map





Oregon

Kate Brown, Governor

Department of Land Conservation and Development

Community Services Division

635 Capitol Street NE, Suite 150

Salem, Oregon 97301-2540

Phone: 503-373-0050

Fax: 503-378-5518

www.oregon.gov/LCD

Exhibit F – DLCD Comment Letter

October 19, 2020

Brandon Seitz
Community Development Director
PO Box 130
Umatilla, OR 97882

SENT VIA Email



Re: City of Umatilla File PA-2-20 (DLCD File No. 002-20); Notice for an Annexation, Urban Growth Boundary Expansion and Rezone ---**Correction to cc's**

Mr. Brandon Seitz,

Thank you for your post acknowledgement plan amendment notice for the adoption of an Economic Opportunities Analysis (EOA), a 150 acre urban growth boundary (UGB) expansion and an annexation and rezone of 450 acres total for the purpose of accommodating land planned and zoned for industrial use. We appreciate all the work that has gone into these proposals and your willingness to address a number of the department's previous concerns. Our remaining primary concerns are addressed further below. Please include these comments in the record for this plan amendment and the proceedings of the October 20, 2020 City Council hearing.

Land Need

The city proposes to adopt the 2019 EOA with this plan amendment. The EOA is the essential background document that evaluates several required elements: the target industry analysis, the forecast of employment land need, the current employment land supply, and the buildable land inventory vs. the 20 year employment land need. The EOA is also the essential document that must support the city's proposed urban growth boundary expansion for large lot industrial lands.

Taking into consideration the site specific needs for specific categories of employment land users, the EOA report concludes that there are site deficits for large industrial parcels as follows: two sites of 100+ acres and two sites of 50-99 acres. As the estimated employment land supply includes one site of 100+ acres, this results in a land need for one site of 100+ acres and two sites of 50-99 acres.

The city's proposal for an urban growth boundary expansion of approximately 150 acres inappropriately assumes that one approximately 160 acre property identified in the EOA as part of the large lot 20 year land supply, is no longer part of the land supply due to development interest in the property. DLCD does not consider property to be encumbered until construction

has begun on the site. We take this position to prepare for the possibility that development interest may not result in actual development of the site. The department has seen this issue arise in other cities around the state, most notably the City of Springfield, and in that case our Commission determined that a city cannot assume a particular vacant property is “developed” until actual physical development activities have begun on the site.

Let us step back here and point out that we anticipate the city will develop some or all of its employment land during the 20 year planning horizon (2019-2039), and we also anticipate that the city may reevaluate the 20 year land supply frequently in order to maintain a healthy supply of employment land. In this case, however, the current EOA and inventory of developable land does not support a need for more site specific land than can be accommodated within the city’s existing urban growth boundary. Therefore, we are not in support of the urban growth boundary amendment moving forward at this time.

There are a couple of options the city may want to consider going forward: a) You may conduct another EOA, or refresh the current EOA, after construction has commenced on the Port site to reevaluate the city’s employment growth projections, or b) You can take a site characteristics approach to a UGB expansion whenever there is interest from a data center (or other large industrial use) if there is no suitable site inside the UGB.

Although we do not support an UGB amendment based on the current EOA, we would like to provide suggestions related to the evaluation of land efficiencies inside an UGB, the study area outside the UGB, and general suggestions that may help the city with a future UGB analysis and proposed amendment. These are detailed below:

Land Efficiency within the Urban Growth Boundary

We recommend that the city provide a site specific map and associated table that clearly identify all the properties inside the UGB that could meet the specific employment land use needs identified in the EOA.

Evaluation of Land Outside the UGB

We recommend that the city provide a site specific map and associated table that clearly identify all the properties within the 1/2 mile study area. For the priority analysis, all the land within the identified study area must be evaluated according to the priorities established in Oregon Administrative Rule (OAR) 660-024-0067. This requires the city to identify study area lands that are designated Urban Reserve, exception lands and nonresource lands, non-high value farmlands and high-value farmlands. In determining what are high-value farmlands, all of the subcategory criteria in Oregon Revised Statute (ORS) 195.300 must be assessed for each property in order to identify whether or not the property is considered high value farmland.

One example that concerns us is the city notes in the prioritization analysis that the property proposed to be brought into the UGB is partially irrigated, which leads us to believe that the property may have a water right which would make it high value farmland under ORS 190.300(10)(c). Another example is that the city provided a map exhibit of the American Viticulture Association (AVA) slope and aspect analysis required by ORS 195.300(10)(f) which indicates the same property is high value farmland. However, the application, staff report and sub-area maps indicate that the property is not high value farmland. There appears to be contradictory evidence in the record.

In addition, if more than one property in the study area meets the site-specific land use need and all are high value farmland, then the city must prioritize based on the Natural Resources Conservation Service (NRCS) soil capability classifications and select lower capability lands first.

Overall Suggestion

Inconsistent conclusions contained in the narrative of the EOA about unmet employment land demand for large industrial sites are cited throughout the staff report and post acknowledgement plan amendment materials submitted to DLCD. Correcting these errors in the EOA and related materials with a consistent narrative will clarify current and future discussions about demand identified in the EOA, as well as the sufficiency of the city's supply of industrial land as large properties are developed.

A fundamental issue is that additional analysis is needed to demonstrate compliance with OAR 660-024-0050(4), specifically the requirement that, "Prior to expanding the UGB, a local government must demonstrate that the estimated needs cannot reasonably be accommodated on land already inside the UGB."

We understand that this is a detailed process and commend the city for all the work completed to date. As noted above, we recommend that the city withdraw the proposed urban growth boundary expansion until these issues have been resolved.

Please feel free to contact your Regional Representative, Anne Debbaut, at: anne.debbaut@state.or.us or 503.804.0902, if you have further questions or concerns.

Best Regards,



Gordon Howard
Community Services Division Manager

cc: Anne Debbaut, Hilary Foote, Leigh McIlvaine, Kevin Young, DLCD (*email*)
Bob Waldher, Planning Director, Umatilla County (*email*)



Oregon

Kate Brown, Governor

Department of Land Conservation and Development

Community Services Division

635 Capitol Street NE, Suite 150

Salem, Oregon 97301-2540

Phone: 503-373-0050

Fax: 503-378-5518

www.oregon.gov/LCD

Exhibit F - Letter #2

July 20, 2021

Brandon Seitz
Community Development Director
PO Box 130
Umatilla, OR 97882

SENT VIA Email



Re: City of Umatilla File PA-2-20 (DLCD File No. 002-20); Notice for an Annexation, Urban Growth Boundary Expansion and Rezone; Supplemental Findings

Mr. Brandon Seitz,

Thank you for the Supplemental Findings for the city's post acknowledgement plan amendment for the adoption of an Economic Opportunities Analysis (EOA), an approximately 150-acre urban growth boundary (UGB) expansion and an annexation and rezone of approximately 450 acres total for the purpose of accommodating land planned and zoned for industrial use. We appreciate all the work that has gone into these proposals and your willingness to address several of the department's previous concerns. Our remaining concerns, as discussed with you on 7.19.21, are addressed below. Please include these comments in the record for this plan amendment and the proceedings of the July 20, 2021, City Council hearing.

Land Need

The city proposes to adopt the 2019 EOA with this plan amendment. The EOA is the essential background document that evaluates several required elements: the target industry analysis, the forecast of employment land need, the current employment land supply, and the buildable land inventory vs. the 20-year employment land need. The EOA is also the essential document that must support the city's proposed urban growth boundary expansion for large lot industrial lands.

Based on our conversation yesterday, the approximately 160-acre Port property that was part of the "large lot 20-year land supply" appears to be under construction. You indicated grading and leveling of the property has begun in addition to the extension of road, water and wastewater infrastructure. This actual physical development of the property is sufficient to remove it from the land supply as identified in the EOA. Therefore, the EOA must reflect this change in status consistently throughout the document and conclude that the unmet need is now one single site of 100+ acres, rather than two, and two sites of 50-99 acres (Note the summary on p.45 of the findings).

Based on the 160-acre reduction in land supply and the more extensive evaluation of alternative sites both inside and outside the city's urban growth boundary in the Supplemental Findings, we now support the proposed urban growth boundary amendment moving forward at this time.

Given the pace of employment land absorption resulting from data center development in the city, we encourage Umatilla to update its EOA and employment buildable lands inventory within the next several years to assess its ability to meet land demand by this industry going forward. DLCDC recognizes the significant investment that Umatilla has made in planning for growth in this industry and we encourage the city adopt policies that support its unique needs.

Please keep in mind that the process for adopting an urban growth boundary amendment for a city with a population of 2,500 or more within its urban growth boundary and greater than 50 acres in size, must proceed "in the manner of periodic review", following local and county adoption. The process is outlined in Oregon Administrative Rule 660-025 and linked here: [Division 25](#), beginning in Section 175.

Please feel free to contact Anne Debbaut, Regional Representative at: anne.debbaut@state.or.us or 503.804.0902 if you have further questions or concerns.

Regards,



Gordon Howard
Community Services Division Manager

cc: Jacob Foutz, City of Umatilla
Bob Waldher, Planning Director, Umatilla County
Megan Green, Umatilla County
Hilary Foote, Leigh McIlvaine, Kevin Young, Anne Debbaut, DLCDC (email)



Oregon

Kate Brown, Governor

Department of Transportation

Region 5, District 12

1327 SE 3rd Street

Pendleton, OR 97801

Exhibit G - ODOT Comment Letter

August 21, 2020

VIA EMAIL: Brandon@umatilla-city.org
Brandon Seitz, Community Development Director
City of Umatilla
PO Box 130
Umatilla, OR 97882

Subject: Three applications: Urban Growth Boundary expansion, Annexation, and Zone Change (Plan and Zone Map Amendment) –450 acres for industrial use. Plan and Zoning Map Amendment convert 294 acres of Single Family Residential to Light Industrial.

The Oregon Department of Transportation (ODOT) has reviewed the Urban Growth Boundary (UGB) expansion, Annexation, and Zone Change (Plan and Zone Map Amendment) proposed land use actions. We understand that three applications are submitted as a package/consolidated process. These are for a proposed change of zoning from Single Residential to Industrial along with companion application for an UGB expansion and an annexation of the same property.

ODOT is invested with protecting the safety, operation and function of the state transportation system. For land use proposals subject to the Transportation Planning Rule (OAR 660-012), a Traffic Impact Analysis (TIA) typically is needed to determine whether a development proposal that includes a plan amendment will have a significant effect on transportation facilities along with other information required by local government code and access management rules.

ODOT reviewed the applicant's May 2020 TIA by J-U-B Engineers. Page 17 of the TIA identifies the intersection of Powerline Road/US 730 will need a higher level of traffic control such as a traffic signal or roundabout. Also, both a southbound right-turn lane at the southbound Interstate-82 ramps and a southbound left-turn will be needed at the Interstate-82 northbound ramp.

Accordingly to reflect long-term changes with appropriate improvements, balancing access and circulation management require context sensitive designs to respond to growth. As this area urbanizes, frontage improvements, such as transit facilities, curb, sidewalk, crosswalk ramp(s), bikeways and street standards should be constructed as necessary to provide travel choices and to be consistent with the City's Transportation System Plan (TSP) and ADA standards.

ODOT recommends these elements should be addressed with emphasis on development contributing to implement the improvements that may be necessary to provide safe and acceptable Levels of Service in order to meet City and ODOT standards.

Brandon Seitz, City of Umatilla

Page 2

August 21, 2020

Thank you for the opportunity to comment.

Respectfully,

A handwritten signature in cursive script that reads "Marilyn Holt".

Marilyn Holt

District 12 Manager

CJS

cc: Ken Patterson, ODOT Region 5 Area Manager
Jeff Wise, PE, ODOT Region 5 Traffic Engineer
Teresa Penninger, ODOT Region 5 Planning Manager
Tamra Mabbott, DLCD