

# EMPIRE COMPREHENSIVE PLAN

## Coquille Indian Tribe



FINAL  
JULY 2018



*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development (DLCD). This TGM grant is financed, in part, by deferral Fixing America's Surface Transportation Act (FAST Act), local government and the State of Oregon Funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

# ACKNOWLEDGEMENTS

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# EXECUTIVE SUMMARY

Completing a Comprehensive Plan for the Coquille Indian Tribe's (CIT) Empire property is listed as one of the Tribe's priorities in the 2006-2010 CIT Strategic Plan. The Empire Comprehensive Plan designates land use zones that meet the needs of the Tribe and develops a transportation network that connects land uses to access roads outside of the properties and is supportive of people traveling on foot, by bicycle and on transit.

The CIT Empire property encompasses approximately 1,100 acres in Coos County, OR. In this Empire Plan, the North and South parcels are divided into six areas for planning purposes. As shown on page ii, the North Parcel is comprised of areas A and B where there is significant opportunity for development. The South Parcel includes areas C, D, E and F.

Area C is the Kilkich Community, which is mostly built out, though there are some opportunities to add dwelling units. Area D encompasses the Tarheel Lake Natural Area (TLNA). No development is planned for lands within the TLNA designation. Area D separates Area E into two sections, E-West and E-East. Both areas include land suitable for development. Steep slopes and the Tribe Cemetery limited the development potential of Area F. However, the northwest corner is adjacent to an existing residential community and is considered developable land.

A total of 282 acres of the Empire Parcels are identified as developable lands after removing environmental constraints. Proposed zone designations for the Empire Parcels are described in the table below and illustrated on page iii. A total of 179

**Table i. CIT Empire Parcels: Developable Acres**

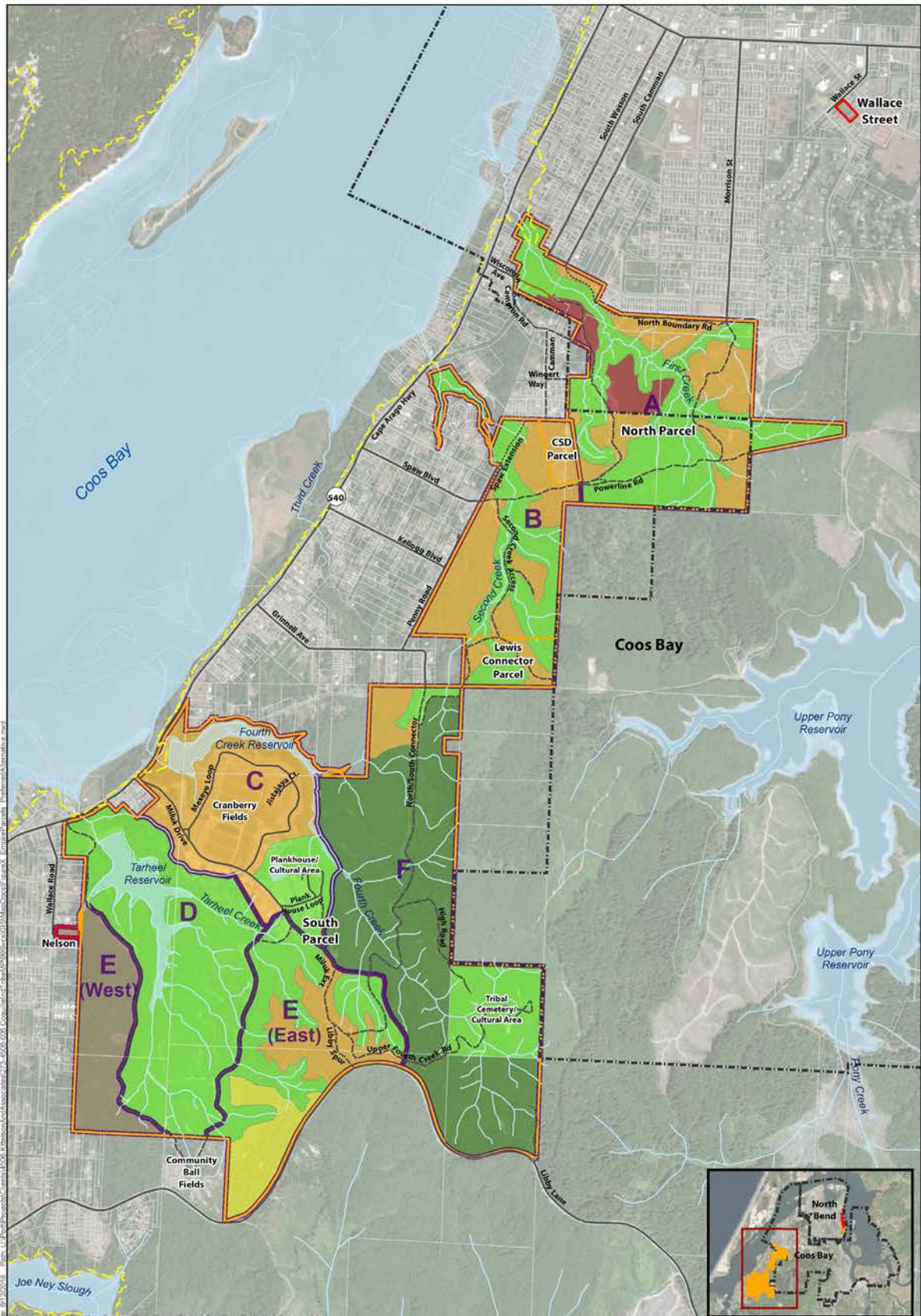
Developable Acres	A	B	C	D	E (East)	E (West)	F	Total
Employment	18							18
Residential Multifamily	59	72			35		13	178
Rural Residential					30			30
Agriculture						56		56
Total	77	72			65	56	13	282

buildable acres in portions of Area A, Area B, portions of Area E-East and Area F are zoned Residential Multifamily, which permits residential uses ranging from single family detached to apartments and condominiums. Area E-East also includes 30 developable acres with a new Residential Rural zone. Approximately 18 acres of land are dedicated to employment uses along on the eastern portion of Area A, south of First Creek, and another 56 acres in Area E-West are designated for Agriculture.

Access to development in the Empire North Parcel will be provided via Morrison Street and North Boundary Road. Additional areas for housing are located in the North Parcel east of Penny Road with anticipated access provided via extensions of Spaw Lane and Kellogg Lane. Residential development in the Empire South Parcel will be accessed primarily by Libby Spur via Libby Lane. Improving the Libby Spur to provide a connection from Libby Lane to Miluk Extension will create an opportunity for residential access and evacuation routing from the existing Killich residential area.



Figure i. CIT Empire Zone Designations



**Parametrix**  
 Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)

**City Limit**  
 Parcel

**Tribal Land**  
 Fee  
 Trust

**Preferred Alternative**  
 Agriculture  
 Forest  
 Open Space  
 Residential Rural  
 Residential Multifamily  
 Employment Zone

**Planning Subareas:**  
 A. Wisconsin - First Creek  
 B. Kellogg - Second Creek  
 C. Killich - Lower Fourth Creek  
 D. Tarheel - Libby Lane  
 E. Upper Fourth Creek

**Roadway**  
 Paved  
 Dirt  
 Rock  
 Trail

**Stream**  
 Water Body  
 Distant Tsunami Evacuation Zone

**Empire Comprehensive Plan Land Use Designations**  
 Empire Parcels  
 Coquille Indian Tribe of Oregon

# INTRODUCTION

In the 2006-2010 Coquille Indian Tribe (CIT) Strategic Plan, the Tribal Council made it a priority to complete a Comprehensive Plan for the Tribe's Empire properties, an area of approximately 1,100 acres located in Coos County, OR. Currently, CIT does not have a detailed inventory of land resources or land use designations on the Empire properties. The Empire Comprehensive Plan (Empire Plan) includes a land use inventory used to identify opportunities and constraints related to housing, public access, public safety, multimodal transportation and circulation, and environmental resource protection. The Empire Plan designates land use zones that meet the needs of the Tribe and develops a transportation network that connects land uses to access roads outside of the properties and is supportive of people traveling on foot, by bicycle and on transit.

The Empire site consists of two parcels of CIT lands in the Coos Bay Area. Both parcels lie south of the City of Coos Bay between and east of Cape Arago Highway. The North Parcel encompasses much of First and Second Creeks running approximately from Marshall Avenue to the north to Grinnell Lane to the south. The South Parcel includes the Fourth Creek and Tarheel Reservoirs and the CIT Kilkich community and spans approximately from Grinnell Lane to the north to Libby Lane to

the south. This study also includes some mention of CIT-owned properties in North Bend along US 101 for the purpose of transportation interconnections.

## PROCESS

A variety of strategies were used to engage CIT members as well as service providers and adjacent communities. A Comprehensive Plan Work Team (CPWT) met four times over the course of the project to provide technical guidance and input throughout the planning process. The CPWT was comprised of state and local government and CIT representatives.

In the spring and summer of 2017, the Tribe and consultant team conducted a series of interviews with nine CIT stakeholder groups about community goals, values and options for Tribal properties. Stakeholder groups included:

- Strategic Planning Team
- Natural Resources Committee
- CEDCO
- CIT Health Advisory Board
- Kilkich Residents Association
- Elders Committee
- Coquille Indian Housing Authority Board
- Cultural Committee
- Tribal Council



In addition, a community questionnaire was distributed to all Tribal members to gather additional input on community goals, values and options for growth on the Empire Reservation. The survey was made available online and in hard copy. In addition, surveys were distributed at the Restoration Celebration in June 2017.

Interviews also were conducted with representatives from six local agencies to identify opportunities and challenges to future development. The agencies included the City of Coos Bay, City of North Bend, Charleston Sanitary District, Coos Bay-North Bend Water Board, Coos County and Coos County Area Transit.

Two public meetings for CIT members were held at key points in the process. The first public meeting was held on January 13, 2018 at the Mill Casino Hotel and RV Park in conjunction with the CIT Mid-Winter Gathering. Exhibits were available for viewing at the Information Fair and Open

House prior to the meeting. Meeting participants listened to a presentation and then discussed the proposed land use alternatives, priority roadways for future improvements and preferred designs for existing and future roads.

The second public meeting was held on Tuesday, April 10th at the Plankouse. Meeting participants listened to a presentation and discussed the preferred land use and transportation alternative as well as funding and phasing strategies to implement the preferred alternative.

Throughout the process, recommendations from the CPWT and public meetings were presented to the Tribal Council to consider. The Tribal Council met five times throughout the course of the project to provide guidance, review and comment on draft products and ultimately to approve the Comprehensive Plan.



# CIT VISION AND MISSION

The Coquille Indian Tribe 2014-2017 Strategic Plan served as a guiding document for the Empire Plan, including the Tribal Vision and Mission:

## VISION

The Coquille Tribe is a sovereign Nation whose binding thread is the Coquille people; where Tribal sovereignty, culture, social and economic welfare and common resources are protected and advanced.

## MISSION

Provide dynamic programs and services through sustainable economic development that promote and support Tribal members' equal access and opportunity for achieving their full potential.

In addition, the following criteria were used to develop and evaluate land use alternatives:

- **COST:** Costs are minimized without compromising quality, and reflect fiscal responsibility by accounting for the extension and upgrade of infrastructure.
- **LIKELIHOOD OF BEING FUNDED:** Viable funding sources are available and development is well supported by policy and planning to increase the likelihood of funding.
- **SAFETY:** Land use encourages community-oriented public safety services for CIT members by providing access for emergency vehicles, responding to elements of the Federal Emergency Management Agency or FEMA-approved Hazard Mitigation Plan and protecting property and cultural sites through design that encourages intergenerational learning. CIT cultural and natural resources are safe for members to access and use.
- **LAND USE:** Uses focus on meeting the needs of Tribal members, and upholding CIT values and promoting economic development that is sensitive to the natural and cultural significance of the site.
- **ENVIRONMENTAL EFFECTS:** Proposed land uses and zoning protect watersheds, nearby estuaries, wildlife habitats and the cultural significance of the CIT properties.
- **TRANSPORTATION IMPACTS:** Development avoids congestion and traffic impacts by addressing deficiencies and meeting state performance targets such as volume-to-capacity (V/C) and level of service (LOS) transportation impacts.
- **BICYCLE AND PEDESTRIAN CONNECTIVITY:** Land use promotes transportation options by enhancing bicycle and pedestrian connectivity for improved mobility and accessibility.

# EXISTING AND PLANNED CONDITIONS

## LAND USE

The Empire parcels are held by the Tribe in trust. All CIT lands on the Coos Bay Peninsula are illustrated in Figure 1. The CIT acquired the Empire Parcels in 1993. At the time, the acquisition consisted of two large non-contiguous but closely adjacent parcels: Empire North Parcel and South Parcel. The land was purchased in fee from a private timber company. The Tribe later took all of the property in trust, including two parcels in Empire that were most recently brought into trust – “CSD” on the north end and “Lewis Connector” on the south end. CIT lands held in trust are not zoned under Coos Bay, North Bend or Coos County land use regulations

The Empire properties are on the west side of the Coos Bay Peninsula. Most of the Empire property is within unincorporated Coos County, except for the area around First Creek and Wisconsin Avenue at the north end of the North Parcel that is within the City of Coos Bay. This Empire parcel currently totals approximately 1,076 acres.

The Kilkich Community on the South Parcel has 93 dwelling units, housing 227 people. Approximately 82 percent are members of the Coquille Indian Tribe. Of the 93 dwelling units, 71 are single family and 22 are multifamily. More than half the units

(53 percent) are rental housing. The Kilkich Community also is home to several Tribal service and office buildings situated along Miluk Drive, Mexeye Loop and around a commercial cranberry growing operation at the loop’s center (Figure 2).

To the southeast along Miluk Drive are public works buildings and outdoor materials/equipment storage. A community/cultural area is located nearby along Plankhouse Loop Road, featuring a large ceremonial plankhouse and canoe carving facility. The Tribal cemetery and columbarium lie further east on the property. The balance of the Empire parcels is forested.



Figure 1. Empire Comprehensive Plan

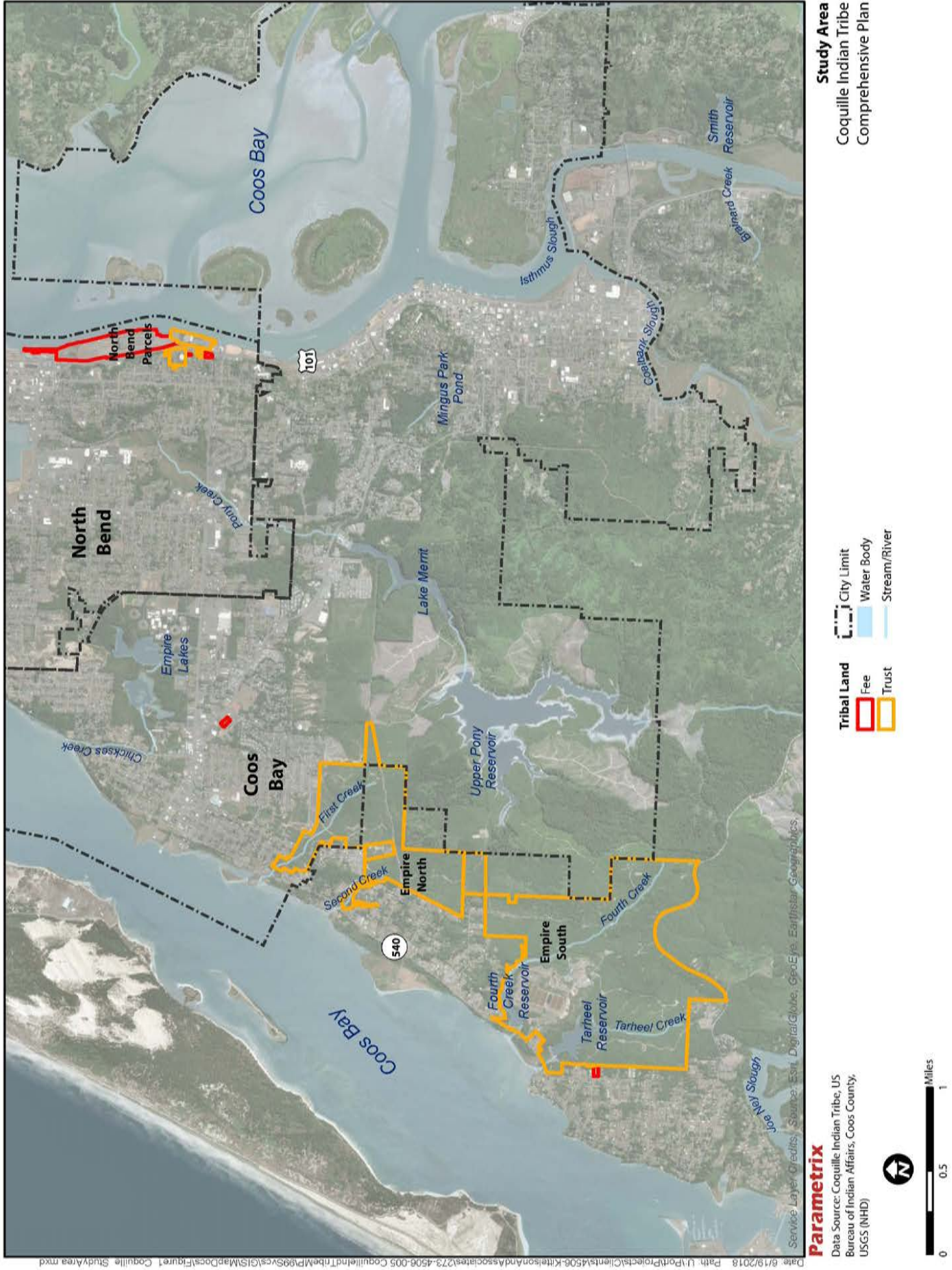


Figure 2. Kilkich Community



Date: 8/13/2017 Path: C:\M\Documents\Coquille\MapDocs\Figures\KilkichArea\_11x17.mxd

**Parametrix**  
 Data Source: Coquille Indian Tribe, US  
 Bureau of Indian Affairs, Coos County,  
 USGS (NHD)

- |             |                       |                 |                           |
|-------------|-----------------------|-----------------|---------------------------|
| Parcel      | BIA or Connector Road | Water Main Line | Riparian Corridor         |
| Tribal Land | Paved                 | Stream          | Tarheel Lake Natural Area |
| Trust       | Rock                  | Water Body      |                           |



Kilkich Area

Coquille Tribe of Oregon

## NATURAL AND CULTURAL RESOURCES

The CIT has produced a Hazard Mitigation Plan (2006) and an Empire Property Plan Environmental Assessment (1999) which include information on some natural or cultural resources. As most of the Empire Parcels were logged in advance of the transfer of this land to the Tribe in 1993, various land features, habitats, and species ranges have been significantly altered or lost. Prior development and resource extraction activities on both the Empire and North Bend Parcels have likely altered or eliminated what cultural or archeological resources may have once been present. Therefore, historic, cultural, and archeological resources were not formally inventoried as part of the Comprehensive Plan process. See Appendix A for a complete assessment of natural and cultural resources.

The Empire parcel topography and geology are illustrated in Figure 3. There are four primary streams draining Empire west into Coos Bay: First Creek, Second Creek, Fourth Creek and Tarheel Creek.

Third Creek has a very short reach that ends at the west boundary of the Empire Reservation near Grinnell Lane.

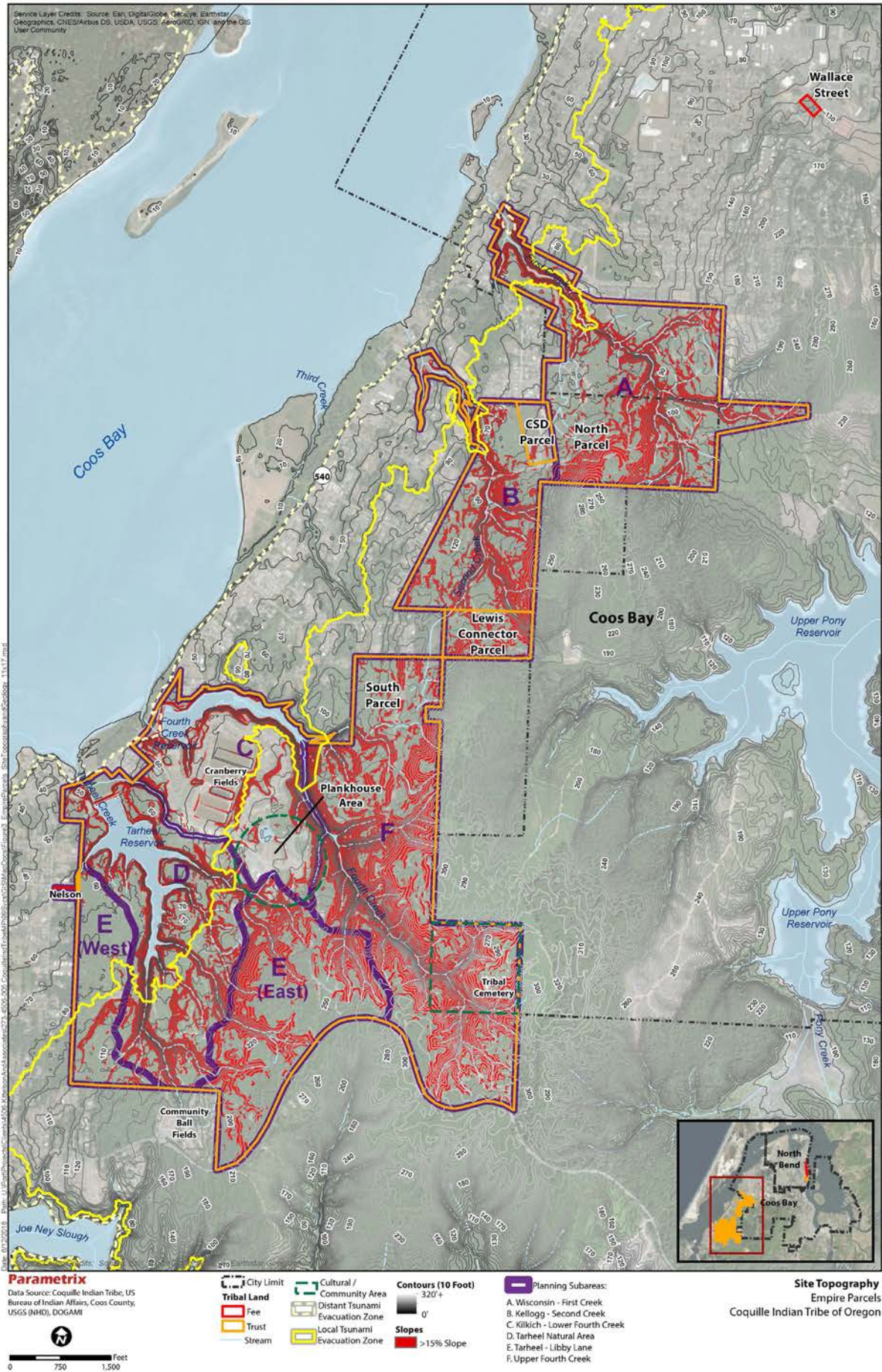
Slopes of 25% or greater are highlighted. No documentation was found that indicated recent or historic landslides in the Empire Area. DOGAMI records did however indicate a geologic fault line near Fourth Creek. Tribal members indicate that other creeks that drain into the Empire Parcels also run along fault lines.

Two tsunami zones are demarcated in the Empire area:

- Distant Tsunami: This line closely follows the immediate Coos Bay shoreline and generally applies to tsunamis generated by earthquakes far distant from the Oregon coastal marine waters.
- Local Tsunami: This evacuation line for a local event falls further upland than for the distant event, and would include something like a Cascadian Subduction earthquake, as well as lower magnitude earthquakes in Oregon marine waters. The lower (western) half of Kilkich Community falls within this local zone.



Figure 3. Site Topography and Geology



## PUBLIC FACILITIES AND SERVICES

Existing development within the Empire North and South Parcels that requires community-scale drinking water and sanitary sewer infrastructure is limited to the Kilkich Community and neighboring Tribal offices and facilities. Expanded development within Empire may require water supply, sanitary sewer, and other infrastructure upgrades and/or extensions. See Appendix A for a complete assessment of public facilities and services.

There is a tribal police station located in Kilkich Community and a judicial court at the administrative offices in North Bend. Fire protection/emergency medical service are provided by a non-tribal entity. There is a Tribal Health Center in Kilkich. More activity and more neighborhoods and streets within Empire may dictate an increase in policing, and an increasing resident population of tribal members may place more demands on health services.

School- residents of the Kilkich Community attend Coos Bay area schools. There

is a library, community center and general education and cultural facilities within the Kilkich Community. Tribal members have expressed a desire for new, consolidated, and/or expanded facilities accommodating these services. The southeast end of Area C includes a community Plankhouse and a canoe shed, which includes some tribal cultural offices, surrounded by a 26-acre community park. The Tribal cemetery and columbarium lie further east on the property.

## TRANSPORTATION

### Vehicular Facilities

The Empire Comprehensive Plan area is served by a roadway network with various roadway classifications per the Oregon Department of Transportation (ODOT) 2016 classifications maps and the cities of Coos Bay and North Bend's Transportation System Plan (TSP). The CIT's land holdings are primarily accessed from two major roadways – US 101 for the North Bend Parcels and Cape Arago Highway for the Empire Parcels.





Several west-to-east residential roadways provide access from the Cape Arago Highway to the edge of the CIT's Empire Parcels. These are Wisconsin Avenue, Dolezal Lane, Spaw Lane, Kellogg Lane, Grinnell Lane, and Tarheel Boulevard/Lane. Wallace Road runs along the eastern edge of Empire South.

Miluk Drive is the direct point of access from Cape Arago Highway to the CIT's Kilkich Community. Mexeye Loop provides internal circulation through residential areas, and Plank House Loop provides vehicular circulation through the nearby community park area.

### **Pedestrian Facilities**

The pedestrian system along Cape Arago Highway does not provide sidewalk facilities on either side of the corridor. Sidewalks are identified as a planned part of the City of Coos Bay Master Plan. Cape Arago Highway has a multi-use path along the east side of the corridor. However, the quality and consistency of the multi-use path is extremely poor.

Miluk Drive has sidewalks on both sides of the road east of Mexeye Loop and on the north side only west of Mexeye Loop; though it stops approximately 500 feet short of Cape Arago Highway. Mexeye Loop has sidewalks on one side of the road. Libby Lane has no sidewalks. All other roads within the Empire parcels are unimproved and do not currently have sidewalk facilities. There is a pedestrian crossing conflict point on Mexeye Loop at the CIT Community Center, also referred to as the "triangle area."

Future needs include upgrade of the multi-use path along Cape Arago Highway,

extension of the sidewalk on Miluk Drive to Cape Arago Highway, pedestrian facilities along all on-site roadways as they are improved, and a mixed-use path or protected shoulder along Libby Lane to connect the baseball field area to Wallace Road or Wilshire Lane.

### **Bicycle Facilities**

On-street bicycle lanes are not provided along Cape Arago Highway along the Empire Parcels. Sidewalks and bicycle lanes are present along Cape Arago Highway extending to the Coos Bay city limit boundary. A multi-use path is provided along the east side of Cape Arago Highway but the quality and consistency of the path is poor.

Neither Miluk Drive nor Mexeye Loop have bicycle facilities. The existing roadway traffic volumes and speeds are conducive to bicycles sharing the roadway with vehicles. Libby Lane has no shoulders for bicycles. All other roads within the Empire parcels are unimproved and do not currently have bicycle facilities.

Future needs include upgrade of the multi-use path along Cape Arago Highway, possible "sharrows" or protected area for bicycles on Miluk Drive to Cape Arago Highway, bicycle facilities as deemed appropriate along all on-site roadways as they are improved, and a mixed-use path or shoulders along Libby Lane to connect the baseball field area to Wallace Road or Wilshire Lane.

### **Public Transit Services**

Public transportation service in the vicinity of the Coquille Indian Tribe Empire Parcel is provided by Coos County Area Transit

(CCAT). CCAT is a governmental entity providing a combination service of fixed loop, intercity, dial-a-ride and paratransit. Demand response service is made possible through partnerships with city, county, state agencies, area employers, and transit users.

CCAT was recently awarded a grant applied for in partnership with the CIT. The grant will allow the CCAT to minimize travel times of the loops described below by reducing headways from approximately 90 minutes to 55 minutes in addition to expanding the operating hours of service.

CCAT's fixed loop service is designed for general public use but is also accessible by seniors and people with disabilities. CCAT operates two loop services throughout Coos Bay and North Bend – the East and West Loops. Both loops operate from approximately 7:30 AM to 5:30 PM, Monday through Friday. The East Loop runs along the eastern side of Coos Bay, providing service to the neighboring unincorporated communities of Bunker Hill and Eastside. The West Loop runs from Newmark Avenue to the north, to the

unincorporated community of Charleston to the south, providing service along Cape Arago Highway. Several of the stops along the West Loop are located adjacent to the Empire parcels and one is located at the Killkich Community Center.

The CCAT Intercity Connector offers buses that connect communities across the county. The intercity buses connect with regional transit partners such as the Pacific Crest Bus Lines and the Coastal Express for travel along the coast, as well as Greyhound and Amtrak.

CCAT also provides Dial-a-ride transportation services (curb to curb) for residents aged 62 and older and for those with a disability that prevents them from using the CCAT's fixed route service. The Dial-a-ride serves Coos Bay-North Bend, Myrtle Point, Coquille, and Bandon. Paratransit services are offered to residents with disabilities who reside within  $\frac{3}{4}$  of a mile from the existing fixed route in the Coos Bay/North Bend area.



# LAND USE PLAN

## LAND USE DESIGNATIONS

For the Empire Plan, the North and South parcels are divided into six areas based on topography, watersheds and associated wetlands or floodplains, and physical access points and routes. All areas are illustrated in Figure 4 and for the purposes of narrative identification and readability are numbered and named as follows:

- A. Wisconsin-First Creek
- B. Kellogg-Second Creek
- C. Kilkich-Lower Fourth Creek
- D. Tarheel Lake Natural Area
- E. Tarheel-Libby Lane
- F. Upper Fourth Creek

The North Parcel is comprised of areas A and B where there is significant opportunity for development. The South Parcel includes areas C, D, E and F. Area C is the Kilkich Community, which is mostly built out, though there is some opportunity to add dwelling units. Area D encompasses the Tarheel Lake Natural Area (TLNA). No development is planned for lands within the TLNA designation. Area D separates Area E into two sections, E-West and E-East. Both areas include land suitable for development. Steep slopes and the Tribe Cemetery limited the development potential of Area F. However, the northwest corner is adjacent to an existing residential community and is considered developable land.



## Developable Land

A total of 282 acres of the Empire Parcels are identified as developable lands after removing environmental constraints as shown in Table 1. Environmental constraints are characterized by stream riparian corridors, wetlands and areas with slopes greater than 15% and are designated as Open Space or Forest. Proposed zone designations for the Empire Parcels are illustrated in Figure 4. The majority of developable acres in the Empire Parcels are assigned residential land uses. Approximately 18 acres of land dedicated to employment uses along on the eastern portion of Area A, south of First Creek. That area is designated as Employment (formerly Light Industrial). The Employment zone currently allows almost any non-residential use except heavy industrial. Another 56 acres in Area E-West is designated for Agriculture. The Tribe could make additional land available for development if the cranberry bogs are repurposed.

The remaining 59 acres of developable land in Area A and 72 acres in Area B are designated Residential Multifamily (RM), which permits residential uses ranging from single family detached to apartments and condominiums. The 35 acres in E-East and 13 acres in Area F also are designated RM. Area E-East also includes 30 developable acres with a new Residential Rural zone to allow single family detached homes on large lots.

Net acreage is defined as the developable land minus a percentage dedicated to infrastructure improvements. For more intense use in the R-M zone, 25 percent of the developable area is deducted, with another two percent identified as lands for public parks. For the R-R zone, 20% is deducted as less infrastructure, including parks, is required. Net acreage for the Employment land incorporates a 20 percent deduction of the total area for infrastructure. The land in E-West designated for agricultural use is removed from these totals. The result is a total net area of 176 acres as shown in Table 2.

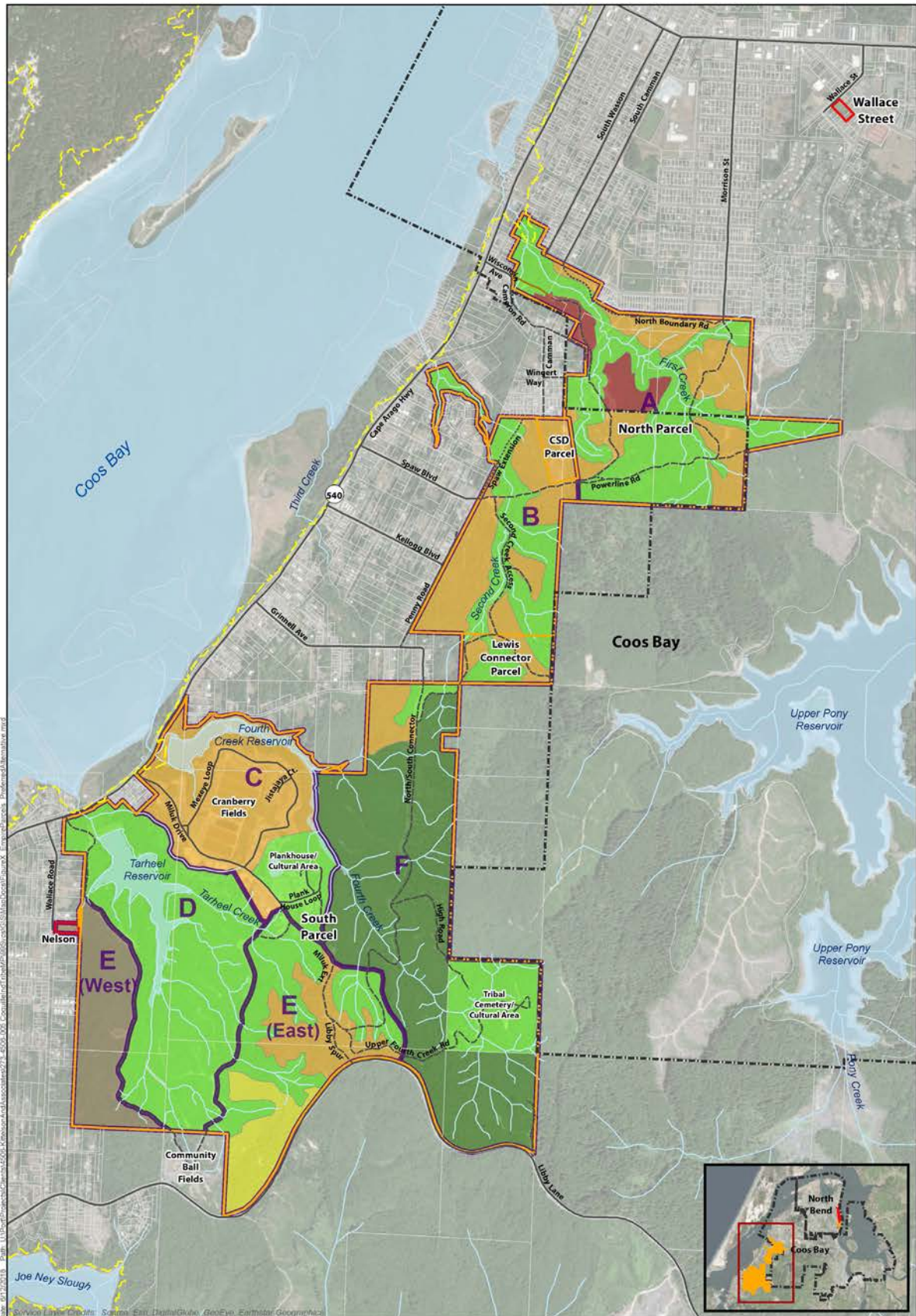
**Table 1. CIT Empire Parcels: Developable Acres**

Developable Acres	A	B	C	D	E (East)	E (West)	F	Total
Employment	18							18
Residential Multifamily	59	72			35		13	178
Rural Residential					30			30
Agriculture						56		56
Total	77	72			65	56	13	282

**Table 2. CIT Empire Parcels: Net Acres**

Developable Acres	A	B	C	D	E (East)	E (West)	F	Total
Employment	14							14
Residential Multifamily	46	56			27		10	139
Rural Residential					23			24
Total	60	56			50		10	176

Figure 4. CIT Empire Zone Designations



**Parametrix**  
 Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)

**City Limit**  
 Parcel

**Tribal Land**  
 Fee  
 Trust

**Preferred Alternative**  
 Agriculture  
 Forest  
 Open Space  
 Residential Rural  
 Residential Multifamily  
 Employment Zone

**Planning Subareas:**  
 A. Wisconsin - First Creek  
 B. Kellogg - Second Creek  
 C. Killich - Lower Fourth Creek  
 D. Tarheel Natural Area  
 E. Tarheel - Libby Lane  
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**Roadway**  
 Paved  
 Dirt  
 Rock  
 Trail

**Stream**  
 Water Body  
 Distant Tsunami  
 Evacuation Zone

**Empire Comprehensive Plan Land Use Designations**  
 Empire Parcels  
 Coquille Indian Tribe of Oregon

0 750 1,500 Feet

Table 3 shows approximately 14.4 of the 176 net acres are designated as Employment. A Floor Area Ratio (FAR) of .35, yields an estimated maximum buildable area of 219,542 square feet. Based on a projection of one employee per 750 square feet, the estimated employment opportunity is approximately 293 employees.

Of the 206 net acres zoned for residential use, 183 acres are zoned R-M. Since the R-M zone allows a range of housing types, from a regulatory standpoint, the area could yield anywhere from 978 single family units to 4,024 multifamily units. A total of 24 net acres are designated as R-R land, with the intent to develop large lots, yielding a range of 5 to 11 rural single family detached units. The

total development potential ranges from 1,286 to 5,318 residential units as shown in Table 4. The average household size in Coos Bay from 2012-2016 is 2.45 people. Based on the average population, the Empire Parcels have the potential to house between 2,445 and 10,060 people.

From a market perspective, even the low end of the potential unit count (978) is unlikely to occur on CIT lands in the foreseeable future. A more realistic assumption is that approximately 300 units may develop over a 10-year period. At this absorption rate, 978 units would take more than 30 years to develop with 100% of new construction happening on CIT land (1).

**Table 3. CIT Empire Parcels: Employment Projections**

Gross Area (Acres)	Net Area (Acres)	Net Area (SF)	FAR	Max Buildable Area (SF)	Employees (1/750 SF)
18	14.4	627,264	.35	219,542	293

**Table 4. CIT Empire Parcels: Residential Density Projections**

Net Acres		A	B	C	D	E (East)	E (West)	F	Total
R-M	Min	322	392			189		70	973
	Max	1,334	1,624			783		290	4,031
R-R	Min					5			5
	Max					11			11
Total		322	392			194		70	978
		1,334	1,624			794		290	4,042

(1) The traffic study conducted for this Plan assumed a maximum of 1,588 units on Tribe land. Development of more than 1,588 units will require additional traffic forecasting.

## UTILITY IMPROVEMENTS

The following describes utility development requirements that can be discerned from application of the specific proposed land uses (2).

### Water

All four future development areas (A, B, E, F) can be served by the regional water board's supply and distribution system.

**Area A.** Water supply service into Area A could come through the City of Coos Bay neighborhoods to the north and east; and/or from unincorporated residential neighborhoods to the west and northwest between the Empire North Parcel west boundary, Cape Arago Highway, and First Creek.

Impacts on the utilities serving the Area A Employment zone will be dependent upon the actual uses proposed and developed in this area. Under the Tribe's Employment zone, a wide range of commercial and industrial uses are allowed. Commercial uses may be accommodated with utilities relatively near in sizing to residential areas, as could some light industrial uses. High water demand or power intensive uses may require larger capacity utilities, but such activities would be more likely in a general industrial type zone.

**Area B.** Water service into Area B may come through the unincorporated residential neighborhoods west of the Empire North Parcel between Second Creek and Grinnell Lane.

**Area E-West.** No development is proposed for this this area so no utilities are planned.

**Area E-East.** Tarheel-Libby Lane. Water service may come from the Kilkich Community (Area C) but given distances and intervening non-developable lands, service from Libby Lane is the preferred option. A prior study determined that a water supply pump station would be required to extend viable water service down Libby Lane. The cost of this pump station has been estimated by the CIT at anywhere from \$1 million to \$5 million.

**Area F.** Water service into Area F may come through the unincorporated residential neighborhood north of the Empire South Parcel and west of the Lewis Connector Parcel next to Grinnell Lane.



(2) Some local or lateral service utility lines, particularly those in the older neighborhoods, may require upgrades or replacement to be extended into the Empire Parcels. This can only be determined at the time of actual site-specific development proposals.

## Sewer

Future development areas can be served by the City of Coos Bay and Charleston Sanitary District's wastewater collection and treatment system. The new (2017) Coos Bay sewage treatment plant is located along Cape Arago Highway just outside of Area A and the Empire North Parcel near Wisconsin Avenue and First Creek.

**Area A.** Sewer service into Area A may come through the City of Coos Bay neighborhoods to the north and east; and/or from unincorporated residential neighborhoods to the west and northwest between the Empire North Parcel west boundary, Cape Arago Highway, and First Creek.

Impacts on the utilities serving Area A employment zone will be dependent upon the actual uses proposed and developed in this area. Under the Tribe's Employment zone, a wide range of commercial and industrial uses are allowed. Commercial uses may be accommodated with utilities relatively near in sizing to residential areas, as could some light industrial uses. High wastewater demand or power intensive uses may require larger capacity utilities, but such activities would be more likely in a general industrial type zone.

**Area B.** Sewer service into Area B may come through the unincorporated residential neighborhoods west of the Empire North Parcel between Second Creek and Grinnell Lane.

**Area E-West.** No development is proposed for this area so no utilities are planned.

**Area E-East.** Sewer service may come from Kilkich Community (Area C) but given distances and intervening non-developable lands, the slopes of which may dictate sewer pumping stations, service from Libby Lane is preferred.

**Area F.** Sewer service into Area F may come through the unincorporated residential neighborhood north of the Empire South Parcel and west of the Lewis Connector Parcel adjacent to Grinnell Lane.

## Stormwater

Most of the undeveloped land in the Empire North and South Parcels is forested, and surface water runs to and through the five drainages. First Creek captures Area A. Second Creek captures Area B. Third Creek drains a very small section of Area F. Fourth Creek captures most of runoff from the Kilkich Community and large sections of Areas E and F. Tarheel Creek drains two sections of Area E.

Conventional storm water management systems (e.g., curb and gutter, culverts) would be part of any residential, commercial or industrial development. However, given that the land use patterns suggested for the Empire Parcels already preserve all major stream and riparian corridors, the Tribe may wish to consider low impact surface water management techniques and systems, such as bio-swales.

## Natural Gas

The private natural gas utility serving the Coos Peninsula does not provide service anywhere within or near to the Empire Parcels.



## Electric Power

Pacific Power operates a transmission-scale electrical power line that enters the Empire parcels from the east along Powerline Road and terminates at a power substation on Spaw Lane near Penny Road, just outside of the west boundary of Empire. Electric power capacity is more than adequate for any residential development currently being considered for Empire North and South.

New local service connections would be driven by the actual location and size of any development. Service could be extended from the power substation or existing lines north and west of the Empire Parcels.

## PUBLIC FACILITY NEEDS

In general, the lower-density residential and employment zones designated in Areas A, B, E and F are too broad to specify the location, size, or number of needed new or expanded public facilities within the Empire Parcels. Kilkich Community is the location of all the tribal facilities on the west side of the Coos Peninsula, and the Community will be quickly and readily accessible from these areas via the improved road systems associated with new development.

Nonetheless, as Empire becomes home to more tribal members, or even members of the non-tribal public, and as employment opportunities expand, tribal services may have to expand correspondingly.

## ROUGH ORDER OF MAGNITUDE CONCEPT COST ESTIMATES

### Utility Cost Assumptions and Estimates

The system parameters necessary to make non-engineered plan-level estimates require site information that will only be defined at later stages of development in the Empire Parcels. Some of the utility system parameters and site information needed to produce accurate, plan-level cost estimates include:

- Configuration and location of the developable lands. For instance, in Area B the 72 acres of developable land are broken into five distinct parcels separated by Forest and Open Space designated areas.
- Capacity and location of existing “main line” transmission or production, such as water supply storage, sewer treatment plants and pump stations, power substations and transmission lines.
- Capacity and location (or absence) of interconnecting lines and facilities.
- Specific localized natural conditions such as topography, streams and other water bodies, and road alignments and widths.
- Site development plans and patterns defined at least at the conceptual level.

Not all this information is available at a comprehensive plan stage, and the estimates highlighted in Tables 5 below should be considered “rough order of magnitude.” Actual costs for comparable developments in Pacific Northwest coastal areas were reviewed to provide some rough order of magnitude utility costs associated with the build-out of the R-M,

R-R and E zones. Order of magnitude unit cost estimates were derived for water, sewer, stormwater, and electrical power. The dwelling unit projections for each area as described in Section II of this memo were used as the multiplier. Slightly higher demand is assumed from commercial and light industrial uses than for residential.

The development costs in Table 5 assume any existing lines or other utility infrastructure is adequate to serve the proposed development in Areas A, B, E and F. These estimates do not include:

- Design/engineering, including construction management and survey.
- Permitting and mitigation, although many permitting requirements may be limited or not applied based on the Tribe’s sovereign status.
- Costs associated with roadway development, including sidewalks.
- Grading - “developable areas” with slope between 10% and 15% may require extensive grading.
- Fees such as utility connection fees and system development charges as both the water and sewer districts charge such fees, and the Tribe would not be exempt.

Conceptual cost estimates do not include transportation and roadway development, including sidewalks. These are included in the subsequent Transportation Plan section.

## DEVELOPMENT FEASIBILITY

### Residential Development Opportunities

- Capture Rate. Potentially high capture rate of overall County market demand in Coos Bay/North Bend as the only “urban places” in the region.
- Development Activity. Recent upswing in local development activity, with new residential development primarily occurring near CIT land north of the Empire parcels.
- Population Growth. Increasing population growth projected through 2030.
- Housing Types. Residential, and single-family residential in particular, is the strongest of all land uses.
- Market Demand and Absorption Rate (4). Potentially promising rate of new housing unit absorption due to a shortage of buildable land in the region.

**Table 5. Conceptual Cost Estimates**

Area	Water	Sewer	Storm	Electrical	Pump Station	Total
A	\$5,800,000	\$7,200,000	\$5,000,000	\$6,700,000	\$0	\$24,700,000
B	\$5,200,000	\$6,400,000	\$4,500,000	\$6,000,000	\$0	\$22,100,000
E-East (3)	\$4,200,000	\$5,200,000	\$3,700,000	\$4,900,000	\$5,000,000	\$23,000,000
E-West	\$4,000,000	\$5,100,000	\$3,500,000	\$4,700,000	\$0	\$17,300,000
F	\$900,000	\$1,100,000	\$800,000	\$1,000,000		\$3,800,000

(3) The estimate for Area E (East) includes the \$5 million projected by the Tribe for a new water pump station along Libby Lane.

- Pent-up Demand. Potentially high rate of housing obsolescence (outdated housing stock) driving a pent-up demand for new housing, despite modest development activity.

- Limited Land/Building Availability. A shortage of industrial and employment land in the region, especially for large lots, may help mitigate other challenges associated with the site.
- Industry Growth. High growth of medical and services potentially indicative of demand for new office space; potential opportunities to partner with hospital.

### **Residential Development Barriers**

- Construction Costs. High construction costs for new development and low residential home values.
- Infrastructure Costs. High infrastructure costs for new development and low residential home values.
- Development Activity. A modest 10-year market demand based on population growth.
- Incomes and Wages. Low average area median incomes and wages in the region.
- Ownership Structure. Since the Tribe owns and will continue to own the land, the ownership structure for “for-sale” housing (ground-leased) would be complex and unusual.

### **Employment Development Barriers**

- Infrastructure Costs. Potentially high cost of infrastructure and lack of market demand for many industry sectors.
- Employment Growth. Stagnant historical employment growth.
- Site Conditions. Challenging site conditions include steep slopes, the presence of creeks and natural corridors, limited visibility, poor access and adjacent residential neighborhoods. CIT efforts to prepare the site for development, such as building infrastructure and excavation, can help mitigate some physical barriers.

### **Employment Development Opportunities**

- Capture Rate. High capture rate of market demand in the Coos Bay and North Bend area as the only “urban places” in the region.
- Pent-up Demand. Possible pent-up demand for storage units.
- Greenfield. Greenfield development allows for maximum flexibility for large user.

- Competition. Other areas and existing clusters have competitive advantage over CIT lands, such as existing infrastructure and industry, and higher visibility.
- Ownership Structure. Since the Tribe owns and will continue to own the land, the ownership structure could be complex and unusual.

(4) The rate at which homes are built in a specific real estate market.

# TRANSPORTATION PLAN

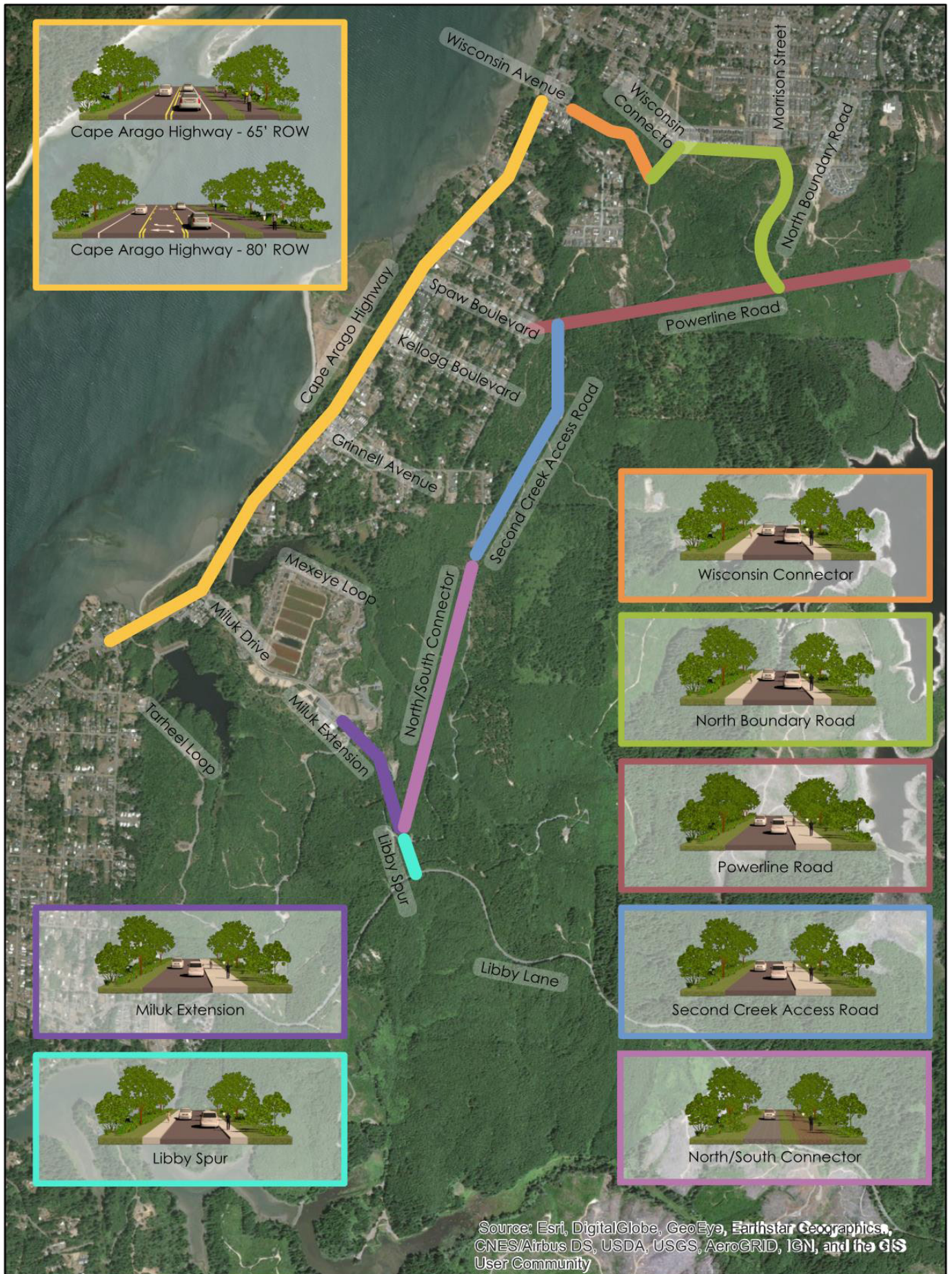
Most of the projected housing development is anticipated to occur in the Empire North Parcel with residential access provided via Morrison Street and North Boundary Road. Additional space for housing development in the North Parcel is designated east of Penny Road with anticipated access provided via extensions of Spaw Lane and Kellogg Lane.

The Empire South Parcel housing development is primarily anticipated to be accessed by Libby Spur via Libby Lane. Improving the Libby Spur to provide

a connection from Libby Lane to Miluk Extension will create an opportunity for residential access as well as evacuation routing from the existing Kilkich residential area. Figure 5 illustrates the key roadways discussed throughout the Empire Plan as well as key access points to connect future residential areas to existing external roadways.



Figure 5. CIT Empire Access and Circulation



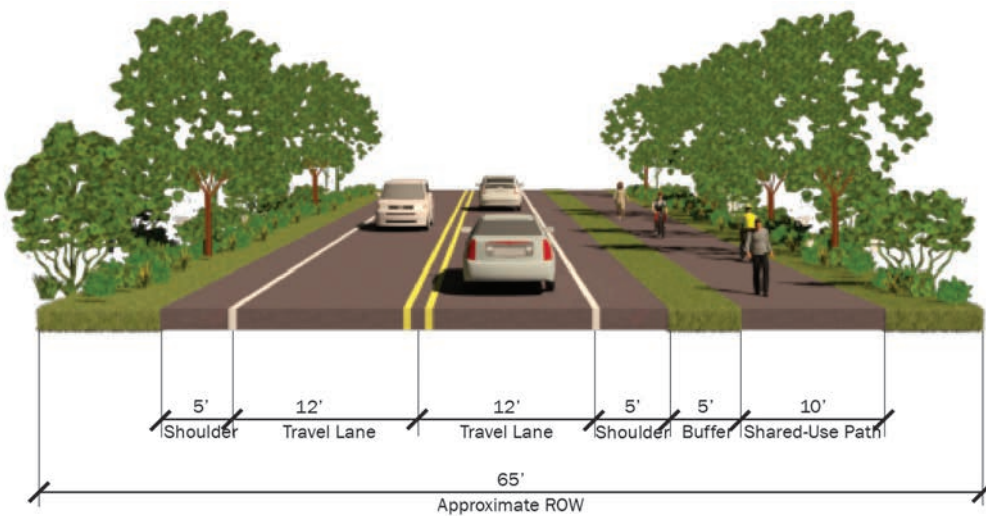
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# CAPE ARAGO HIGHWAY

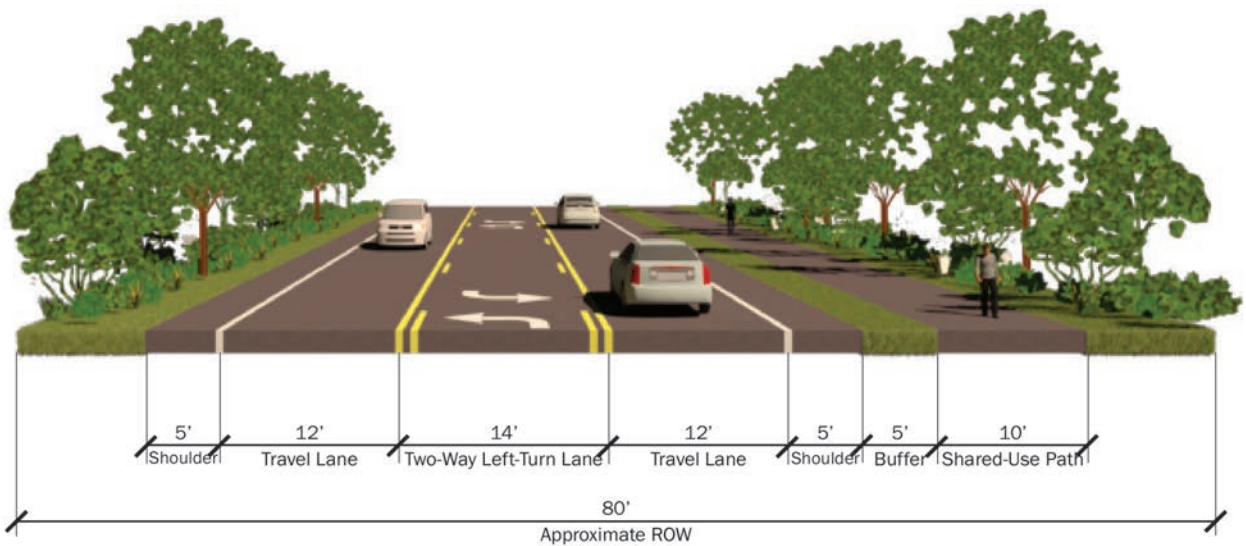
Right-of-way information for Cape Arago Highway was obtained from the National Tribal Transportation Program Facility Inventory (NTTFI) 2014 and through a review of county tax parcel datasets. An assessment of these resources indicates two distinct right-of-way widths along Cape Arago Highway within the project area.

Throughout most of the Cape Arago Highway corridor, an 80-foot right-of-way is provided; however, in several segments of the corridor, a 65-foot right-of-way is provided. Roadway segments with a 65-foot right-of-way are primarily located at the intersection of Pigeon Point Loop and south of Pigeon Point Loop along Cape Arago Highway.

**Figure 6. Cape Arago Highway 65' Cross Sections**



**Figure 7. Cape Arago Highway 80' Cross Sections**



(5) Environmental expansions, such as roadway widening and additions to impervious surface area within Oregon Department of Transportation (ODOT) right-of-way will likely require a stormwater runoff analysis to determine the appropriate type of mitigation needed. Environmental expansions and stormwater runoff analysis must be coordinated with ODOT.

Left-turn volume criteria is met at multiple intersections along Cape Arago Highway where access is provided to the CIT site. Two separate cross sections are identified for Cape Arago Highway depending upon whether a left-turn lane is provided or not. These are illustrated in Figure 6 and 7.

As shown in both Figure 6 and Figure 7, a 10-foot shared-use path is provided on the east side of the roadway with a five-foot landscape buffer. As described in the existing condition section, Cape Arago Highway currently has an intermittent shared-use path along the east side of the Cape Arago Highway for most of its length; however, it is in poor condition with frequent conflicts due to adjacent land use and access spacing. As a short-term improvement, the existing shared-use path could be improved with access control measures, construction of curbs, striping, and wayfinding signage. Medium-term improvements could include extended curb and gutter construction as well as sidewalks from Wisconsin Avenue to Spaw Lane to connect the existing Coos Bay infrastructure project to the proposed southbound transit stop at Spaw Lane. The ultimate plan is to provide a consistent and continuous 10-foot separated shared-use path with a five-foot landscape buffer as should in Figures 6 and Figure 7. Improvements listed in adopted plans may be eligible for future funding

Refinement of conceptual construction costs were produced based on the cross-section elements shown in Figures 6 and 7 for a segment length of 1000-feet. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking,

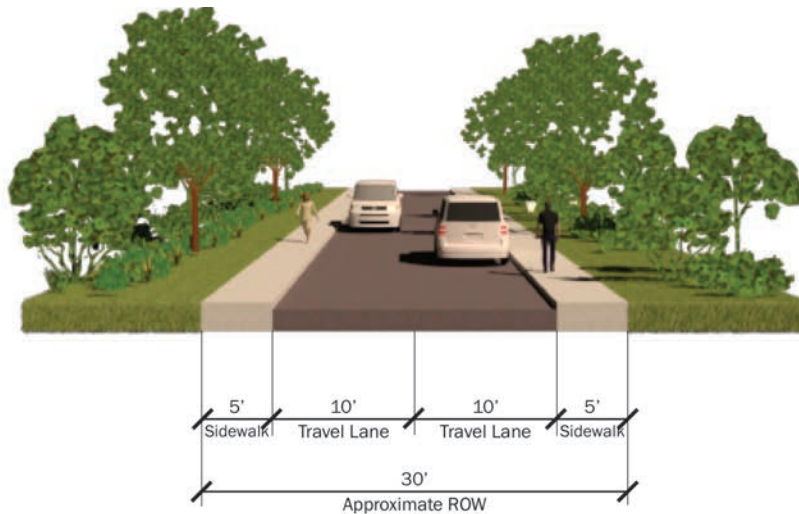
storm drainage systems, sidewalks, roadway widths. The cross section will cost approximately \$750 to construct per linear foot for the 65-foot right-of-way alternative, whereas the 80-foot right-of-way alternative including the center two way left-turn lane will cost approximately \$800 per linear foot.

## WISCONSIN CONNECTOR

The Wisconsin Connector stretches 0.2 miles from Wisconsin Avenue approximately 400-feet east of Cape Arago Highway (where Wisconsin Avenue turns into Cameron Road) to North Boundary Road just south of Marshall Avenue. The western half (0.1 miles) of this proposed connection is currently forested and would require full clearing, grubbing, excavation, and construction to provide a continuous connection to North Boundary Road. The Wisconsin Connector is an essential link in providing connectivity from Cape Arago Highway to serve future residential development in north portion of the CIT Empire Parcel.

The eastern half of the Wisconsin Connector that passes over First Creek has been cleared and is classified by the Bureau of Indian Affairs (BIA) as a rural local roadway with rolling terrain and a 30-foot right-of-way. Based on the anticipated functionality of the roadway providing connectivity to future residential areas as well as its existing alignment with North Boundary Road, it is recommended that the BIA designation be amended to reflect a rural minor collector roadway. The preferred cross section alternative for the Wisconsin Connector includes two five-foot concrete sidewalks and two 10-foot improved travel lanes (Figure 8).

**Figure 8. Wisconsin Connector 30'-row**



A refinement of conceptual construction costs is based on the cross-section elements and roadway length for the Wisconsin Connector. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. The preferred cross section alternative will cost approximately \$800 thousand to construct for the full length of the Wisconsin Connector.

## **NORTH BOUNDARY ROAD**

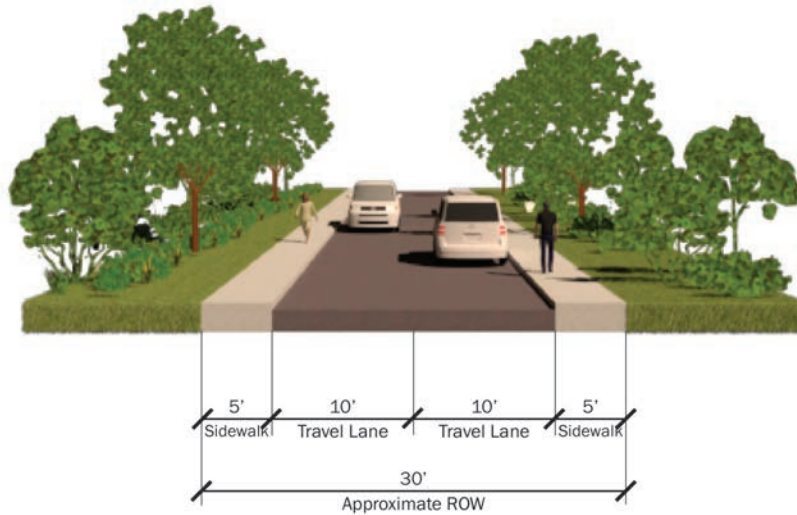
North Boundary Road stretches 0.9 miles from the Wisconsin Connector eastbound towards the southern terminus of Morrison Street and southbound to Powerline Road within the North Parcel of the Empire parcels. The roadway is classified by the Bureau of Indian Affairs (BIA) as a rural local roadway with steep terrain and a gravel surface type. North Boundary Road is an essential link in providing connectivity and access to the proposed residential and industrial uses in the North Parcel with key connections to Marshall Avenue, Morrison Street, and Nautical Lane.

Based on information provided in the NTFI, a 30-foot right-of-way is available along the North Boundary Road. Based on the anticipated functionality of the roadway providing connectivity to future residential areas as well as its existing alignment with Morrison Street, it is recommended that the BIA designation be amended to reflect a rural minor collector roadway. The cross section for North Boundary includes two five-foot concrete sidewalks and two 10-foot improved travel lanes, illustrated in Figure 9.

A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length for the North Boundary Road. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. The cross section will cost approximately \$1.6 million to construct for the full length of the North Boundary Road (or \$350 per linear foot).



Figure 9. North Boundary Road 30'-row



## POWERLINE ROAD

Powerline Road is the primary east-west roadway in the North Parcel stretching approximately 0.8 miles between Spaw Lane and the eastern terminus of the CIT site. The roadway provides external connections to Spaw Lane and Wisconsin Extension as well as internal connections to North Boundary Road and Second Creek Access Road. The roadway is classified by the BIA as a rural local roadway with mountainous terrain and a gravel surface type.

Based on information provided in the NTTFI, a 30-foot right-of-way is available along Powerline Road. Due to its existing function

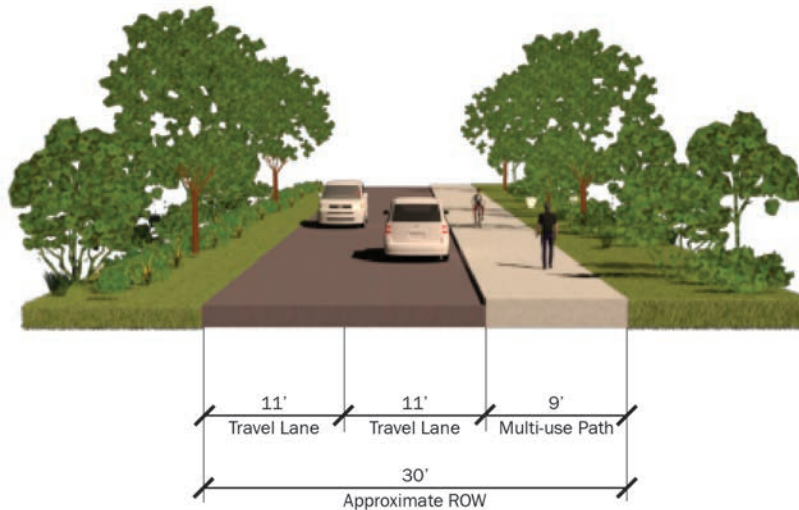


Powerline Road looking east

in providing east-west connectivity across the North Parcel as well as the proposed adjacent land-uses primarily consisting of open space, it is recommended that the BIA designation be amended to a rural major collector. The proposed design for Powerline Road includes two 11-foot travel lanes and a single nine-foot multi-use path, as shown in Figure 10. This Transportation Plan attempts to address longer distance connections through open space and rural land-uses within the North Parcel.

A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length for the Powerline Road. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. Generally speaking, the multi-use path alternative in comparison to sidewalks on both sides of the roadway is less expensive due to cost of curbing. The cross section will cost approximately \$1.4 million to construct for the full length of the Powerline Road (or \$350 per linear foot).

**Figure 10. Powerline Road 30'-row**



## SECOND CREEK ACCESS ROAD

Second Creek Access Road is an important north-south roadway connecting Powerline Road to the North/South Connector. Together, Second Creek Access Road and North/South Connector provide the primarily north-south connections between the North and South Parcels. The roadway is classified by the BIA as a rural local roadway with mountainous terrain and a gravel surface type.

Based on information provided in the NTFI, a 25-foot right-of-way is available along the 0.6 miles stretch of Second Creek Access Road. The proposed land-uses adjacent to Second Creek Access Road primarily consists of open space; however, a significant area of residential land-use is proposed to the west between Penny Road and Second Creek Access Road. To access residential land land-use, local connections may be provided as extensions of Spaw Lane, Kellogg Lane, and Second Creek Access.

Due to its anticipated function in providing north-south connectivity between the North and South Parcels as well

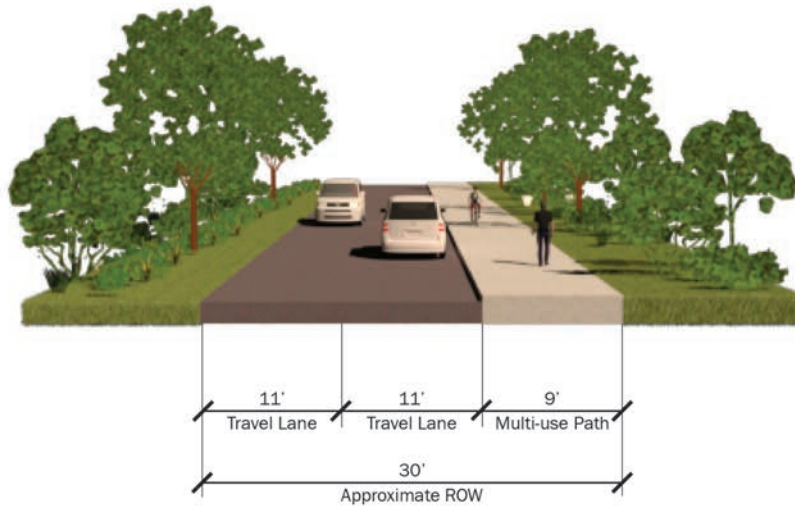


*Second Creek Access Road looking north*

as the proposed adjacent land-uses primarily consisting of open space, it is recommended that the BIA designation be amended to a rural major collector. It is recommended that the right-of-way of Second Creek Access Road be increased to 30-feet to accommodate a cross section treatment which can more safely accommodate all modes of transportation while providing increased connectivity, as shown in Figure 11.

A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length

**Figure 11: Second Creek Access Road 30'-row**



for the Second Creek Access Road. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. Generally speaking, the multi-use path alternative in comparison to sidewalks on both sides of the roadway is less expensive due to cost of curbing. The cross section will cost approximately \$1.1 million to construct for the full length of the Second Creek Access Road (or \$350 per linear foot).

## **NORTH/SOUTH CONNECTOR**

North/South Connector is the primary roadway connecting the north and south parcels of the CIT site. The roadway connects the extension of Grinnel Avenue and Second Creek Access Road from the north to Miluk Extension to the south. North/South Connector is approximately 1.2 miles in length with a 30-foot right-of-way and a gravel surface type. The adjacent proposed land-uses along the North/South Connector corridor primarily consists of forest with minor open space

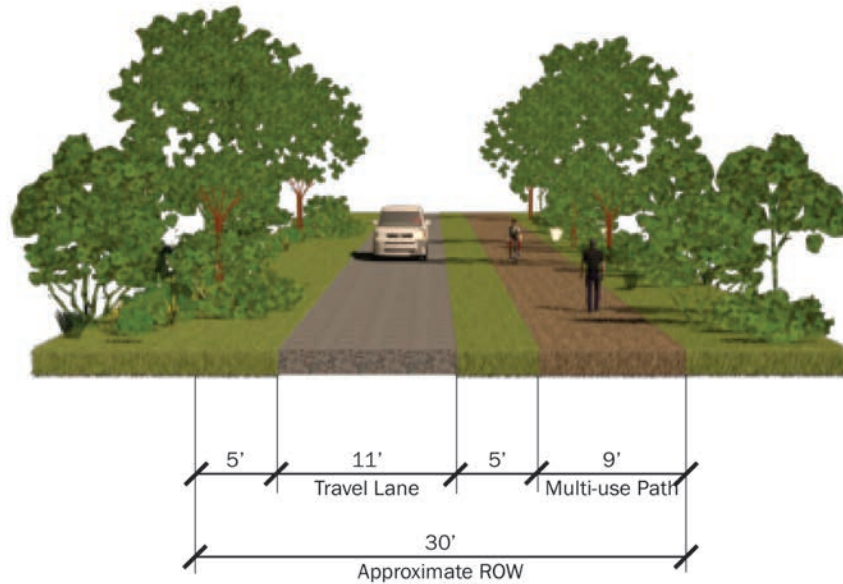
and residential land-use proposed towards the north of the roadway segment near Grinnell Lane.

Due to the rural nature of North/South Connector, the cross section recommends maintaining a gravel surface roadway with a single bi-directional travel lane and designated pull-off areas to allow vehicles to safely pass each other, as shown in Figure 12. To accommodate pedestrians, bicyclists, hikers, and other non-motorized users, the cross section for the North/South Connector also includes a nine-foot unimproved multi-use path parallel to the roadway.



*North/South Connector looking north*

Figure 12. North/South Connector 30'-row



A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length for the North/South Connector. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. The cross section will cost approximately \$440,000 to construct for the full length of the North/South Connector (or \$100 per linear foot).

## MILUK EXTENSION

Miluk Extension, as indicated by its name, serves as an extension of Miluk Drive and is the primary roadway in the South Parcel. The roadway stretches approximately 0.8 miles and provides an opportunity to connect to Libby Lane via Libby Spur. The roadway is classified by the BIA as a rural major collector with rolling terrain and a gravel surface type. Through the public involvement process, concern was

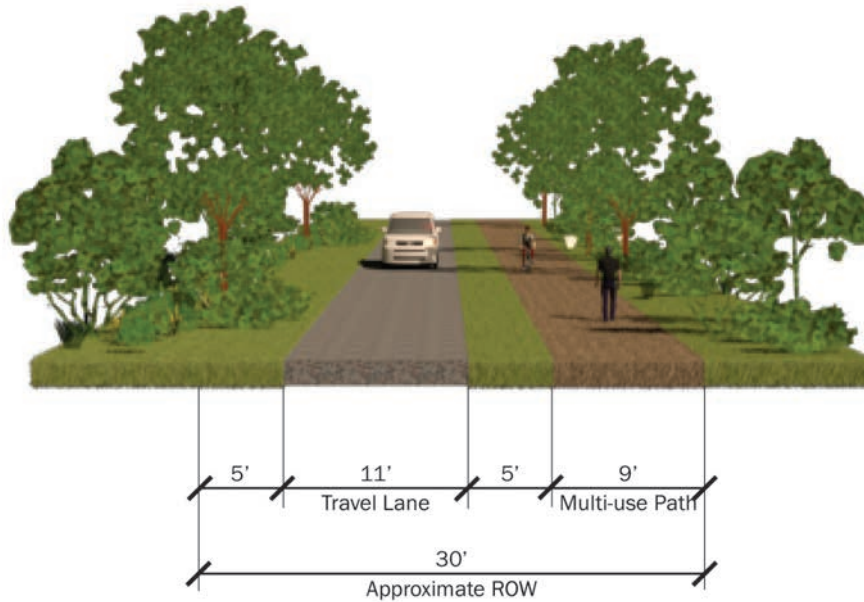
voiced regarding evacuation routing and emergency access to the Killich residential area. Miluk Extension via Libby Spur is recommended as the evacuation route out of the Killich residential area to points east.

Based on information provided in the NTTFI, a 30-foot right-of-way is available along Miluk Extension. The proposed land-



*Miluk Extension looking southeast*

Figure 13. Miluk Extension 30'-row



uses adjacent to Miluk Extension primarily consists of residential multifamily with an open space buffer area between the Kilkich residential area, as shown in Figure 13. The cross section includes two five-foot concrete sidewalks and two 10-foot improved travel lanes.

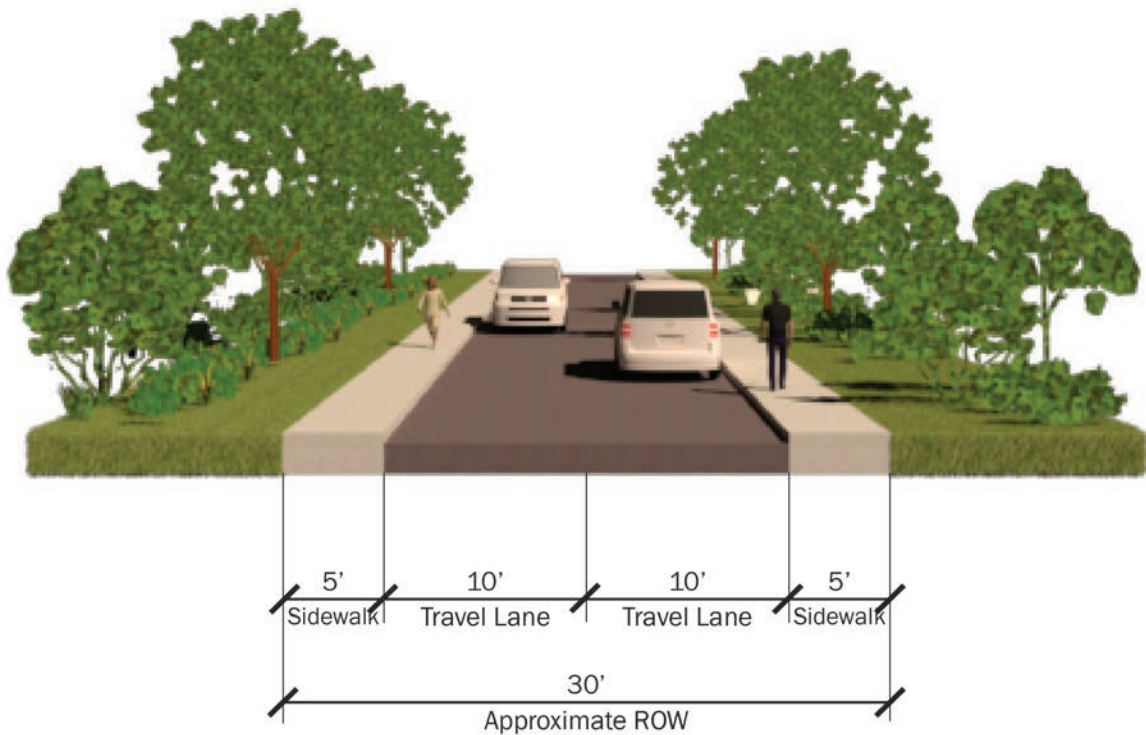
A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length for the Miluk Extension. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. Generally speaking, the multi-use path alternative in comparison to sidewalks on both sides of the roadway is less expensive due to cost of curbing. The cross section will cost approximately \$1.4 million to construct for the full length of the Miluk Extension (or \$350 per linear foot).

## LIBBY SPUR

Libby Spur is an essential link in providing external access from Miluk Extension to Libby Lane. The existing Libby Spur is forested prohibiting access and connectivity to Miluk Extension from Libby Lane for most of its length. As noted under the Miluk Extension description, Libby Spur is intended to serve as the primary connection to Libby Lane for residential and evacuation routing.

Based on information provided by the NTTFI, a 15-foot right-of-way is provided along its 0.1-mile length with rolling terrain and earth surface type. In order to provide connectivity, the segment of Libby Spur must be cleared, and improved to accommodate a continuous roadway segment. The proposed land-uses adjacent to Libby Spur primarily consist of residential multifamily. The cross section recommends that the right-of-way be increased to 30-feet to accommodate a cross section treatment

Figure 14. Libby Spur 30'-row



which can more safely accommodate all modes of transportation while providing increased connectivity, as shown in Figure 14.

A refinement of conceptual construction costs was produced based on the cross-section elements and roadway length for the Libby Spur. Cost estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. The cross section will cost approximately \$230,000 to construct for the full length of the Libby Spur (or \$450 per linear foot).

## RESIDENTIAL ROADWAYS

Details on residential roadways within the North and South Parcels are not identified within the Empire Plan. However, it is

assumed that residential roadways will be intermittently dispersed throughout designated residential multifamily areas to provide local access to residential homes. Through the public involvement process, Mexeye Loop was expressed as a preferred model to replicate in most residential areas with the ability to provide denser development where needed. On-street parking on both sides of the roadway was also expressed as a desired outcome for future residential roadways. The cross section is based on the Mexeye Loop cross section with the addition of on-street parking included on both sides, as shown in Figure 15.

Due to the uncertainty of the location and length of the internal residential streets, a refinement of conceptual construction costs was produced based on the cross-section elements shown in Figure 16 and a roadway length of 1000-feet. Cost

Figure 15. Residential 44'-row



estimates include an itemized breakdown of major earthwork, pavement structure, and other identifiable major components, signing, pavement marking, storm drainage systems, sidewalks, roadway widths. The cross section will cost approximately \$800,000 to construct per 1000-feet of residential roadway (or \$800 per linear foot).

Given the rural nature of the CIT site, it is worth noting that a smaller residential cross section width may be provided to efficiently accommodate residential needs by providing alternating on-street parking on both sides of the roadway and a shared single travel lane. This residential street type, commonly referred to as a “yield street” is appropriate for residential environments where drivers are expected to travel at low speeds. A yield street with parking on both sides functions most effectively at 24-28 feet, while a yield street with parking on only one side can be as narrow as 16-feet.

## PUBLIC TRANSIT

### Public Transit Needs

Through conversations with CCAT staff, it was noted that the Killich Community Center is only served by transit service traveling northbound along Cape Arago Highway due to the ease of the right-in, right-out maneuver on Cape Arago Highway. Stops are not permitted in the southbound direction due to the lack of a safe location for a bus stop on the west side of the highway near Miluk Drive. As a result, residents of the Killich area must ride the West Loop north to Newmark Avenue in order to turn around and travel southbound to Charleston or ride south to Charleston from Newmark Avenue to get to the Killich area.

## Public Transit Recommendations

There are several recommendations to better serve the transit needs for the residents of the Kilkich Community as well as future transit service in the Empire parcels:

- Option 1 - Provide southbound service into the Kilkich Community (instead of northbound service) requiring left-in, left-out turning movements into Miluk Drive and provide a northbound stop along Cape Arago Highway at Miluk Drive. This would provide northbound and southbound access to transit for the Kilkich Community and maintain only one trip into the Kilkich Community for CCAT, but result in a minor increase to headways resulting from left-turn movements and an additional highway stop. As part of this recommendation, the existing sidewalk gaps on the east side of Miluk Drive should be filled to provide a continuous pedestrian connection from the Kilkich Community to Cape Arago Highway.
- Option 2 - Construct a bus pull-out on the southbound side of Cape Arago Highway opposite Miluk Drive to allow for a designated space for buses to pull off and allow for transit users to safely board and alight transit vehicles. In order to safely cross Cape Arago Highway to the proposed bus stop location, an enhanced pedestrian crossing of Cape Arago Highway near Miluk Drive should be considered.

As internal collector roadways and land uses are developed within the Empire parcels, the feasibility of rerouting transit service from Cape Arago Highway through the Empire parcels between Miluk Drive and Spaw Lane should be evaluated.



# IMPLEMENTATION AND FUNDING STRATEGIES

## LOCAL, STATE, LAND USE AND ENVIRONMENTAL REGULATIONS

### Land Use

The entirety of the Empire North and South Parcels is held in trust. As a sovereign nation, the Coquille Indian Tribe has the right to plan and manage development on trust lands based on internal ordinance, rules, and plans.

For lands held in trust, local and state land use regulations do not apply. However, as about half of Area A is within the city limits of Coos Bay, and some existing Coos Bay utilities may be the best options for extending services into this area, early coordination with the City is advisable. The land uses suggested for Area A are however similar and compatible with those within the City to the immediate north and east this area, so no conflicts are anticipated in this regard.

Areas B, E and F may also be best served, including utilities and roadways, through existing unincorporated neighborhoods. Early coordination with Coos County and these neighborhoods is advised.

### Environmental

The Tribe's sovereign status also limits the range of environmental permitting and mitigation that can be required as an outcome of the application of the laws and regulations of other government entities. To the extent such regulations are applicable, two aspects of the Empire Parcels should limit impacts and simplify permitting:

- Nearly all of the 1,000+ acres in Empire were logged off in the 1970's as part of the land transfer between the prior owner and the Tribe. Thus, there is no old growth timber or associated species within the area.
- The Open Space and Forest zoning designation boundaries effectively exclude streams and associated riparian corridors, flood zones and

(6) Inclusion of an improvement in this plan does not represent a commitment by ODOT to fund, allow, or construct the project. Projects on the State Highway System that are contained in this document are not considered "planned" projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed that are located on a State Highway cannot be considered mitigated for future development or land use actions until they are programmed into an adopted STIP or ODOT provides a letter indicating that the project is "reasonably likely." Highway projects that are programmed to be constructed may have to be altered or cancelled at a later time to meet changing budgets or unanticipated conditions such as environmental constraints.

wetlands, open bodies of water, and slopes about 15% grade from any form of residential, commercial, or industrial development. This includes any such natural areas within Empire Plan areas otherwise designated for development. Therefore, environmental permitting requirements should be limited and very site specific.

## DESCRIPTION OF APPLIED ZONING

Implementation of the Empire Plan will include applying zoning regulations to designated land within the Empire parcels. Current zoning regulations are codified in Chapter 315, the Land Use and Zoning Ordinance of the Coquille Indian Tribal Code (CITC). Zoning changes are recommended to reflect the Tribe's vision for future development of the community.

A unique feature of the zoning approach is that the Tribe is both the regulator and the regulated, as the sole land owner of the property within the Empire parcels. Typically, zoning is developed by the regulating jurisdiction to guide development by individual property owners that complies with the broader community plan and limits impacts on other properties. Because the Tribe is regulating its own future actions, many of which will come to the Tribal Council for land use review, the zoning code serves the unique role of guiding development while maintaining future flexibility, and is less prescriptive than a standard zoning code. The following changes are recommended to frame general future land development direction within a flexible system rather than an overly deterministic, detailed set of regulations.

Recommended changes include:

### Permitting large-lot residential uses in a new "Rural Residential" zone

The developable portion of Area E-East is proposed for Rural Residential zoning. The new Rural Residential (R-R) zone would permit homes at an average density of 2-5 homes per acre on lots as large as 1 acre, permit more than one dwelling per lot, and allow for raising of livestock, with other conditional uses and dimensional standards similar to the existing Residential Zone R-1 standards.

Benefits to the R-R zone approach include creating a tailored set of regulations that accommodates rural residential-scale living and protects the area from more intense residential development. Concerns include limiting the future development potential of the land by imposing density limits, and complicating the zoning ordinance with an additional zone. From a resource management perspective, there may also be concern about promoting residential development at a relatively low density given the finite nature of land resources and costs for land development related to road and utility extensions.

An alternative approach would be to modify the existing Residential Zone R-1 provisions to accommodate these same uses. The R-1 zone permits single-family dwellings on 6,000-square-foot minimum lots with no maximum lot size or density standards, with limited agricultural uses. Because there is no maximum lot size or minimum density, larger lots such as envisioned for the R-R zone would not be precluded under R-1 zoning. Permitted uses in CITC 315.250 could explicitly permit more than one dwelling per lot,

and existing lot size standards are already written to require 6,000 square feet per dwelling rather than per lot which would effectively regulate the maximum number of dwellings permitted on a larger lot. “Raising of flowers, fruits and vegetables” as a permitted use in CIRC 315.250(1.) could also be expanded to include raising of livestock.

Benefits of modifying the R-1 zone include maintaining the simplicity of the existing zoning ordinance rather than creating a new, single-purpose zone, and providing greater flexibility for development within the R-1 zone at various lot sizes. Concerns around modifying the R-1 zone rather than applying a specific R-R zone include limited ability to maintain the rural character, and unintended effects in other R-1 areas. If there is a desire to limit the scale of development to no more than 2-5 dwellings per acre in these rural areas, then a modified R-1 proposal would not offer that security since it would allow development of up to 7.2 dwellings per acre on 6,000-square foot lots. Changes to the R-1 zone could also result in larger lot sizes and livestock uses in areas intended for more traditional urban residential scale and zoned R-1; at present the R-1 zone is not proposed anywhere else in the Empire parcels which would limit the potential spillover effect, but R-1 may be desired in the future and may be in use on other Tribal properties outside of Empire.

### **Expanding residential opportunities in the R-M zone**

Most of the developable land in the Empire parcels are proposed as Residential Multifamily (R-M), including portions of Areas A, B, E-West, E-East and F. R-M is the

most flexible residential zone in the zoning code, permitting single family, duplexes, multifamily, manufactured home parks, and row houses. To implement the Empire Plan concepts, the R-M zone should be expanded to include more “missing middle” housing types—housing types that are in the “middle” between single-family detached homes and apartment units—such as cottages, senior housing like assisted living, and accessory dwelling units (ADUs). Recommended changes:

- Expand list of permitted residential uses in CIRC 315.310 to include ADUs, cottages, and assisted living options, and add definitions of dwelling types to CIRC 315.020.
- Develop dimensional standards specific to each type of dwelling in CIRC 315.320-335, as appropriate. For example, review the row house dimensions to ensure they line up with building models, and introduce alternative dimensions for cottage housing projects.
- Develop ADU standards that support development. Common regulatory obstacles are requirements for owner occupancy of either the ADU or primary dwelling, off-street parking requirements for the ADU, requiring design compatibility between the ADU and primary dwelling, and restrictive minimum or limited site configurations for the ADU. Recommended regulations in CIRC 315.310 would permit attached or detached ADUs, up to 800 SF, no design standards specific to the ADU, compliance with the height and setback standards for the zone, no occupancy standards, and no or one off-street parking spaces required. ADUs would be allowed in addition to

a primary dwelling on a lot meeting the minimum size, exempt from density limits.

- Develop cottage housing standards that reflect the elements of cottage housing desired. The cluster of detached, traditional cottages with front porches around a common green with parking at the rear and sides of the projects is appealing, but rarely gets built because of relatively high construction costs, prescriptive design standards, and a lack of experienced developers and financing options. Given the generally flexible nature of the CIRC provisions, relatively small changes in CIRC 315.310 and related sections could open possibilities for cottage housing without regulating it as strictly as many traditional code. For example, a definition that states multiple attached or detached structures are permitted on a single lot, a minimum front porch requirement, dimensional standards along the lines of one dwelling unit per 2,000 square feet of lot area, an exemption from minimum lot frontage per dwelling, adjusted yard standards, minimum common open space requirements, and minimum parking requirements would address the key features of a cottage housing standard. One consideration with the cottage housing standards is that there is usually a trade-off between higher densities for smaller units with more common open space. However, there is not much of a density “bonus” available to give in the RM zone given the existing minimum lot sizes, so the restrictions on size and requirements for open space should be minimal to keep cottages a feasible development option.

### **Including supporting neighborhood commercial and social service uses in the R-M zone**

A limited range of nonresidential uses to support residential uses is desired under the R-M zone, to allow for limited neighborhood commercial in residential neighborhoods. Churches, governmental uses such as playgrounds, libraries, or museums, and schools are currently conditional uses in the RM zone. (CIRC 315.315.) Recommended changes would:

- Add retail sales and business and professional offices, which could include health services, as conditional uses in the RM zone. These new uses could either be allowed as permitted or conditional uses. Given the importance of compatibility in a residential neighborhood, a conditional use review is recommended for retail and office uses and retaining conditional use review for the public and cultural uses, but a potential concern is the additional review burden it would create.
- A size limit on nonresidential uses is also recommended as a conditional use review criterion in CIRC 315.690, limiting such uses to around 2,500 to 3,000 square feet.

### **Expanding the “Employment” zone**

A portion of Area A is proposed as Employment zone to facilitate a range of office, industrial and storage development. The current zoning code includes the “Light Industrial” zone which permits a range of light manufacturing, warehousing, and related industrial processing uses. (CIRC 315.365.) To implement the Empire Plan

concept for this area, recommended updates to the Light Industrial zone include:

- Rename the zone “Employment” rather than “Light Industrial.”
- Expand the permitted uses to include “business and professional offices,” and review whether any other conditional uses including government services and retail uses should be made permitted uses.

### **Accommodating recreational uses in Open Space and Forest zones**

The Open Space and Forest zones are proposed across the Empire parcels to preserve natural resources, including the economic viability of forest resources, and limit competing development. There is interest in permitting a limited range of recreational uses in these areas, particularly on Open Space-zoned lands in Area C and Forest-zoned lands in Area F in the vicinity of the Plankhouse. Recreational uses could include a range of picnicking, parks, and camping and other temporary lodging uses.

The current zoning ordinance permits “recreational opportunities appropriate in a forest environment” in the Forest zone, and “camping and picnicking” as well as hunting, hiking and recreational trails in the Open Space zone as permitted uses. (CITC 315.395, 315.400 respectively.) None of these terms are defined in the definitions section, or otherwise regulated.

Potential zoning code changes to accommodate the desire for recreational and temporary lodging within the Forest and Open Space zones could look to expanding allowed uses in the respective

zones and adding definitions that limit recreational development to a scale consistent with the resource uses. A primary consideration for the Tribe is the scale of desired development and tolerance of related site improvements within resource areas to minimize impacts, particularly related to temporary lodging which could range from basic campsites with no utility hook-ups to fully serviced cabins. Recommended code changes include:

- Develop definition of “camping” that matches the Tribe’s desired level of development. Camping could allow for temporary use of tent, travel trailer, yurt, and/or recreational vehicles, with or without utility hook-ups, with or without communal facilities such as a lodge, restrooms, play fields, picnic shelters, and similar.
- If additional lodging options are desired beyond those included under “camping,” develop terms and definition to cover proposed uses. Consider whether full utility services could or should be extended to serve such lodging, and the impact of development on the resource areas.
- Replace “recreational opportunities” as a permitted use in the Forest zone with more specific permitted uses, using the same terms as used in the Open Space zone. For example, permit hiking and trails as specific uses. Develop any additional terms needed to describe potential recreational uses.
- Review full list of recreational and camping/lodging uses, and determine which are compatible in each of the Forest and Open Space zones, and which should be permitted

or conditional uses. Generally, we recommend the more intensive uses be permitted in the Open Space zone with more limitations on uses in the Forest zone to preserve the resource viability. Camping, for example, could be a permitted use in the Open Space zone and a conditional use in the Forest zone.

Although the Tribe is not bound by Oregon land use laws, the statewide regulations for forest land could provide a model of how to balance recreational uses and forest practices. Private and public parks and campgrounds are conditional uses in forest zones to protect the resource base, and may be developed with sites for tent, travel trailer, yurt, camper cabins, or recreational vehicles, without individual hook-ups for utilities, where occupancy is limited to 30 days within a 6-month period. Sites may include supporting features such as shelters, recreational amenities, boating and swimming areas, a camp store, interpretative centers, and similar. (See OAR 660-034-0035 and ORS 215.459, e.g.) There are also limited lodging opportunities permitted in the forest zones for seasonal accommodations associated with hunting and fishing operations, which may serve as a template for seasonal accommodations sought by the Tribe.

Benefits of a more inclusive definition of “camping” and other recreational uses include greater flexibility for future development, but with potential concerns around higher costs for road and utility extensions and impacts to the forest and natural resource lands that may compromise their long-term viability for future generations.

## FUNDING STRATEGY

Funding strategies should explicitly identify the best opportunities for development in any given area and identify the tools and programs available to further such development. These tools and programs should help address any established feasibility gaps associated with such future development. However, in this case, many of the specifics about future development are unknown, including, most notably, the cost of constructing the infrastructure necessary to support any given number of housing units or employment uses. It is therefore important to instead address the realities of the market, establish general financial thresholds for land development, and generally discuss potential funding tools and sources that may help bridge future funding gaps.

### Overview

#### *Employment Zone*

Employment-based development is particularly challenging on CIT land and unlikely to happen in the short- to medium-term. To summarize the earlier section, there has been minimal new industrial development in Coos Bay in the last decade (7), and while there has been more office and commercial development, the area is unlikely to be an attractive location for office and/or retail or other commercial development. Challenges include slope, natural/stream corridors and creeks (and the higher associated cost of utilities and ROW), access, and low visibility. Nonetheless, it is reasonable to designate this as an

(7) While the lack of new industrial development may be due in part to the lack of buildable lands in the region, many other conditions exist which remain unattractive to industrial users.

“employment” area in order to keep the options and opportunity open for the future.

Given the many challenges associated with employment development, the best short-term strategy for the employment lands is to do nothing; designating the land for future employment is sufficient at this time. Given the lack of market demand and challenging site conditions, the Tribe should also maintain maximum flexibility in the zoning code to ensure future market conditions and demands can be accommodated. If further specificity is added to the code, there is a danger of being too specific, detailed, and prescriptive and constraining future options.

If or when demand for employment development is sufficient to warrant new construction, the New Markets Tax Credits (NMTC) Program, which provides tax credits to private investors looking to make investments in job creation or material improvements in low-income communities, and other programs can help bridge feasibility gaps. A description of some funding programs is provided in Appendix B.

Nonetheless, residential development should be considered the primary focus, rather than employment-based development.

### ***Residential Zone***

While residential development should be prioritized, implementation remains challenging as the cost of land development and housing development are relatively high (given high construction

costs and lack of existing infrastructure), and home values are lower in the area than other markets (e.g., Medford). As such, phasing will be critical to implementation (a detailed phasing plan will follow this section). The Tribe should also focus predominately on rental housing rather than “for-sale” housing since the land cannot be sold to potential homebuyers, resulting in a lower value housing product. Prospective tenants will most likely be more familiar with a rental product, which should increase the development’s marketability, even though rental single-family is often unusual (outside of private rentals).

The first step to getting new residential development on CIT lands is preparing the land. The market value of the land will greatly determine how much the Tribe and/or CEDCO can spend on infrastructure to prepare the land for new development. The following development scenario presents the likely conditions facing new development on CIT lands, especially in Area A.

### ***Model Housing Development Scenario***

While every parcel can be very different and present conditions which will drastically alter the cost of development, the following characteristics are likely true of the residential zones in Area A:

- Land lots valued at \$8 to \$10 per square foot (in keeping with comparable nearby lots).
- Average lot size would be approximately 4,000 square feet in size (\$40,000 at \$10 per square foot).

- Home values are likely to be valued at \$150 per square foot of living area but may rise to as much as \$200 per square foot, depending on market demand and the quality of the product.
- Density of dwelling units per developable acre ranges from six to 16, likely averaging around 12.
- New development would require no more than 80 percent of estimated land value, about \$32,200 for a 4,000-square-foot lot valued at \$10 per square foot, attributable to utilities and other lot preparation activities.

Under this scenario, feasibility of new development would depend on the total cost of soft costs, site preparation, and utilities totaling no more than \$32,000 per lot. Greater costs than this would significantly diminish feasibility unless additional sources of funding were found to make up the funding gap.

However, there are ways for the CIT to bridge funding gaps caused by higher construction costs and other factors. These include funding grant and loan programs from the state and federal government, including New Market Tax Credits, BIA funds, and Opportunity Zones (now being defined), as well as others that target certain market sectors, such as student or senior housing, and partnering with particular agencies, such as a low-income housing agency.

## **Funding Sources**

The scale and type of development varies drastically for each of the areas on CIT land. The southern section will remain exclusively for CIT members, in contrast that

of the northern section, which will consist predominantly of market-rate housing. Due to market demand, residential development in the northern parcel will also be significantly larger in scale and will no doubt require significant funding. For this, there are grants, government agency loans, loan guarantees, and other programs that could fund or support elements of the larger project(s). All grants or loans have similar issues limiting or challenging the effectiveness of this form of funding – availability, size of the grant or loan, matching requirements, and especially timing.

An extensive list of funding tools – including federal and state programs – exist not only for federally-recognized Tribes, but also for rural areas and small towns/cities for which the area mostly qualifies. These are often very competitive and require significant time and effort to obtain funding in the form of loans, grants, etc. While any combination of programs and grants are not likely to cover the total cost of building an entire subdivision, they may help bridge funding gaps.

A sampling of these programs and brief descriptions and links for each is provided as an appendix to this report.

## **Eligibility**

Federal grant and loan sources available to other units of governments almost always include tribal governments or tribal enterprises as grant eligible. There are also many grant and loan programs available exclusively to tribes. Some programs – the Indian Reservation Road Program under BIA for instance – offer tribes an annual entitlement.



## ***Housing Funding Opportunities***

As the land cannot be sold—resulting in added ownership complexities—most new housing units will be renter-occupied. Fortunately, many programs exist exclusively for rental housing as well as affordable housing.

- 1. Multifamily Housing Loan Guarantees and Direct Loans (USDA):** works with qualified private-sector lenders to provide financing to qualified borrowers to increase the supply of affordable rental housing for low- and moderate-income individuals and families in eligible rural areas and towns.
- 2. Title VI Tribal Housing Activities Loan Guarantee Program (HUD):** provides an additional source of financing to create new housing; rehabilitate housing; build infrastructure; construct community facilities; acquire land to be used for housing; prepare architectural and engineering plans; and fund financing costs.
- 3. Rural Rental Housing Guaranteed Loans (USDA):** provides loans for safe, well-built, affordable rental housing for low to moderate income individuals and families.

If not already doing so, the tribe should have a designated point-person to explore all available funding sources for new housing.

### ***Capital Funding Opportunities***

As CEDCO is not likely to have the capacity to pay for major infrastructure improvements, utilizing capital funding programs for specific infrastructure—roads, water and sewer, power, etc.—is arguably the best chance

the Tribe has to bridge any funding gaps. A significant amount of infrastructure will need to be built by the Tribe or CEDCO, and programs for infrastructure stand the best chance of securing grant or loan support.

It cannot be overstressed that infrastructure should be implemented on an opportunistic basis when funding becomes available. Combining available capital funding opportunities and a conservative phased approach to encourage efficient spending should help bridge funding gaps, to an extent.

Some examples of programs that apply to the CIT development are as follow. All possibilities should be carefully monitored to understand their current status and grant cycle as a given CIT project is defined and ready for implementation (8).

- 1. Indian Community Development Block Grants (US HUD):** can be applied to affordable housing (but primarily rehab, not new), basic utility infrastructure – sewer, water, road, and some community building, and some other facilities associated with economic development. Also has a loan guarantee program.
- 2. Rural Development Grants and Loans (USDA):** applied to housing, also some other capital development including community facilities and utilities.
- 3. Clean Water Indian Set-Aside Grants (US EPA):** funds wastewater infrastructure.
- 4. Indian Loan Guarantee Program (BIA):** provides a variety of support programs improving access to capital funding.

(8) GRANTS.GOV is the US Government clearinghouse for all federally sponsored grant and loan programs and should be periodically referenced.

**5. Clean Energy on Indian Lands (US DOE):** the US DOE Office of Indian Energy has a capital grant program that periodically awards funding for development of renewable energy systems.

## PHASING CRITERIA AND CONCEPTS

### Phasing Zones

For phasing concept purposes, suggested Empire developable “zones” are described below. Figure 16 illustrates the boundaries of these potential phasing zones within each area, as well as the lands within each phasing zone that are excluded from development due to steep topography, major stream and riparian corridors, and other significantly constraining physical features. These constrained areas are typically designated Open Space (OS) or Forest (F), although some minor streams and headwaters with no documented riparian vegetation are left in a developable designation.

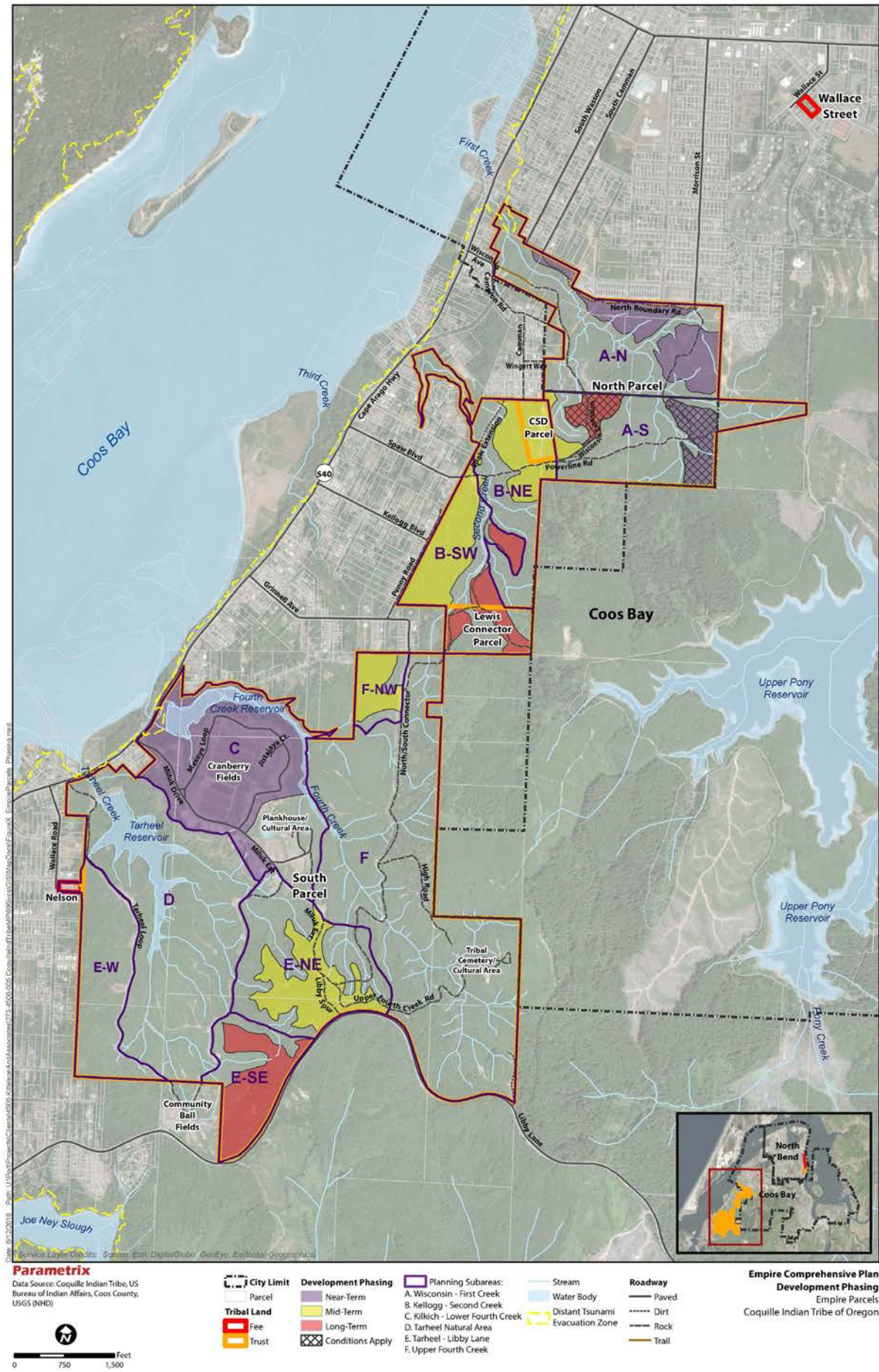
The CIT has indicated that, in general, those parcels considered for development in Empire North (Areas A and B) could be made available to non-Tribal individuals or entities, while parcels in Empire South (Areas C, E and F) should primarily be considered for use or occupation by CIT members (9).

Area A also includes two areas of land designated for future employment-generating land uses - commercial, office,

tribal services, possibly light industrial - along extensions of Wisconsin Avenue and/or Cameron Road. Kilkich Community (Area C) also holds potential for additional or redeveloped commercial, office, and tribal service facilities, particularly on the southeast side of Miluk Drive and the northwest side of Mexeye Loop. To provide maximum flexibility to the CIT, the Empire plan land use designation for Area C is uniformly Residential Multifamily (R-M) as existing commercial and public service facilities are mixed in with residential areas.

(9) Nothing in this phasing concepts analysis should be taken as a limitation to developing tribal-only housing or other tribal-only uses in any Empire development phase or time frame, or in any given area or zone, should development funding and other opportunities become available.

Figure 16. CIT Empire Parcels: Phasing Diagram



**Area A. Wisconsin-First Creek:** Area A divides for phasing purposes along the City of Coos Bay city limits which splits the area into North and South Zones, with the North Zone being within the City.

- In the North Zone, north of First Creek, a creek tributary splits this area into two developable units, both designated Residential Multifamily (R-M). The stream corridors could be bridged allowing a concurrent, unified development.
- The South Zone is outside of the city limits and otherwise greatly constrained by considerable topographic and stream/riparian corridor limitations.

*Steeper topography and the First Creek riparian corridor isolates otherwise developable lands on the east side of the South Zone. If “extraterritorial” service extensions from the City could be negotiated, First Creek could be bridged and this area developed as part of the North Zone. Topographic and stream corridor constraints reduce the developable area even more so on the west side of this zone. This being so, this second area is probably most feasible if phased concurrent with the Area B - Northeast Zone (see below).*

**Area B. Kellogg-Second Creek:** Area B is divided by the line of the Second Creek Access Road and two unnamed spur roads, as well as by Second Creek and abutting steep slopes. These factors suggest dividing Area B into Northeast, Southwest, and Lewis Connector Zones for phasing purposes. This Area B includes the two parcels in Empire that were most recently brought into trust – “CSD” on the north end and “Lewis Connector” on the south end.

- Northeast Zone includes the CSD Parcel. As noted above, development of the west side of Area A - South Zone is probably most feasible if undertaken concurrently this Area B zone.
- Southwest Zone runs along Penny Road on its west side. Two narrow, more isolated areas of developable land in this zone are however east of Second Creek and the Second Creek Access Roadway.
- Lewis Connector Zone could be developed concurrently with the Southwest Zone, but in general, the Lewis Connector Parcel and other lands east of Second Creek are more significantly constrained by topography and riparian corridors.

**Area C. Kilkich-Lower Fourth Creek:** Area C is the location of existing Kilkich Community residential/tribal facility development, as well as the Plankhouse Cultural Area and the CIT's commercial cranberry fields. Areas used for residential development and tribal facilities, excluding agricultural and recreational facilities and cultural facilities in the Plankhouse area, are considered as a single zone for phasing purposes.

Residential land still available for building in Area C is limited, but has the advantage of already being serviced by paved roadways and newer water and wastewater utilities. There also appears to be vacant lands in and around some of the existing Kilkich Community tribal facility sites that could be used for expansion or redevelopment.

**Area E. Tarheel-Libby Lane:** Area E was split into West and East areas at the Opportunities and Constraints stage of this planning effort to reflect the intervening Area D: Tarheel Natural Area. Area E-West is designated Agriculture and therefore excluded from development.

**Area F. Upper Fourth Creek.** Area F is primarily excluded from development and reserved for forestry or cultural purposes (Tribal Cemetery). The northwest corner of Area F – Northwest Zone is designated for residential development. This zone could be developed by connecting directly to existing private residential neighborhoods to the north and west around Grinnell Lane.

### Phasing Criteria

In referring to the findings and outcomes embedded in TM #3 and TM #4, several standards were used in arriving at phasing concepts and development priorities between or within the several Empire areas or zones that were determined to have future development potential. Phasing priorities exclude those portions of the “developable” areas or zones that are designated for Open Space, which includes riparian corridors, steep slope areas, parks, wetlands and other water features, and cultural areas, or Forest lands, limited to Area F.

As these phasing concepts are intended as guidance only, and the sovereign Coquille Indian Tribe can exercise unique authority and flexibility in managing the timing, pace, and sequence of development, the following criteria are applied in a simple

narrative manner (i.e. no rating numbers or levels). For roadways, water, and wastewater, the following service levels were considered for phasing purposes:

- Adequate services for the intended land use are in place.
- Upgraded services may be required, such as road paving or widening or replaced or larger diameter utility lines.
- New services may be required, such as totally rebuilt roads or completely new water/sewer line where none now exist.

Factors suggested in applying topographic and natural feature constraints to the phasing of these remaining developable parcels are:

- Location both relative to prior development and existing services, and with respect to being isolated from or contiguous to other developable parcels.
- Size larger is typically better.
- Configuration more uniform shapes are typically better.
- Connectivity can the intervening OS areas be “bridged” without significant harm to the resource? (10)

(10) All service level characterizations are based on input from the local utilities and brief field observations. No survey, testing, or engineering was conducted). The term “bridge” as used herein can be an actual bridge but also encompasses other solutions – elevated road beds, roads over culverts, etc.

## Relevant Empire Conditions

The relevant conditions that may have a material impact on development and development phasing are:

### *Topographic and Natural Features*

Within the entirety of Empire, most streams and associated riparian corridors, and all slopes over 15% grade, are uniformly excluded from development by the Empire Plan. These excluded lands are designated Open Space (OS). Therefore, in support of environmentally responsible development, many development impacts on these natural resources and features are simply avoided.

The impact of these exclusions on otherwise developable lands will however in some cases limit future development, and potentially increase development costs, by complicating roadway and service extensions, and/or diminishing the net yield of buildable lots where subdivision patterns are adjusted to “fit” around and between OS boundaries.

Different and potentially more costly solutions for “bridging” OS areas to connect development zones may also be required.

### **Roadways**

#### **Direct Connection to Cape Arago Highway**

Most vehicular access into Empire will originate directly from Cape Arago Highway via relatively short sections of local roadways that intersect with Cape Arago. The highway is deemed adequate for future Empire development access

purposes, although selected improvements upgrades, particularly to bicycle/ pedestrian facilities, would be desirable. Access to the south end of Empire from Cape Arago is via:

- Libby Lane which connects to Cape Arago Highway near the community of Charleston. This roadway is deemed adequate for future Empire access purposes.
- Wallace Road and Tarheel Loop also intersect with Cape Arago, but would require upgrades to be points of access to a developed Area E-West.
- Local roadways within Kilkich Community, which except for some unpaved sections leading into Area E-East, are also considered adequate.

#### **Collector-Type and Other Roadways External**

Existing local roadways that serve a collecting function, even if not formally designated as Collectors, and that could be extended into Empire, include the following. The characterizations as “adequate”, “needs upgrade”, or “new” are applicable to only existing roadway sections that are outside of Empire if used as an entry point to new Empire developments.

- North end of Empire through Coos Bay neighborhoods (South Camman and Morrison). These roadways are assumed as being adequate as currently built.
- Through older private residential neighborhoods at the southwest end of Empire (Wallace). These are assumed as needing upgrades.

- Through older private neighborhoods between Cape Arago Highway and the west side of Empire (Cameron, Spaw, Kellogg, Grinnell, and Penny). These are deemed as needing upgrades.

**Internal**

Except for Kilkich Community, nearly all existing roadways within the boundary of Empire are gravel surface. To the extent these roadways are used in the future to access new Empire developments, conventional residential subdivision standards would indicate that collector-type roadways should be paved and otherwise upgraded.

Upgrades could therefore apply to all or portions of Wisconsin, Cameron, Morrison, North Boundary, Powerline, Spaw Extension, Second Creek Access, North-South Connector, Miluk Extension, Libby Spur, Upper Fourth Creek, and Tarheel Loop, plus two unnamed spur roads in Area B that access areas with some development potential. In addition, these roadways may require widening or even a complete rebuild and/or realignment based on final development patterns.

There are no built roadways traversing the Southeast Zone of Area E. The gravel Tarheel Loop Road does bound the east edge, and paved Libby Road the southeast edge.

**Water Supply**

Regional water service main lines follow Cape Arago Highway, and connecting lines extend into the Kilkich Community development. Input from the regional

water provider indicates that main lines are all adequate for current demand and could serve any foreseeable future level of development within Empire.

The regional water provider also provides service to newer private residential neighborhoods in Coos Bay north and east of Area A – North Zone. These water supply services are deemed adequate for extension into Area A. Service is also provided to older unincorporated private residential neighborhoods on the west and south sides of Empire North. Based on the observed age and condition of these older neighborhoods, neighborhood water line upgrades are assumed to be probably necessary if extended into Empire in the future for development purposes (11).

**Wastewater**

The new regional wastewater treatment plant is located on Wisconsin Avenue on the west edge of Area A - North Zone, providing adequate treatment capacity for any developments contemplated for Empire. Regional wastewater collection mains follow Cape Arago Highway, with connecting lines extending into the Kilkich Community development. Input from wastewater service providers indicates all collections mains are adequate for current demand, and could serve any foreseeable level of future development within Empire.

- The City of Coos Bay provides wastewater collection service to newer private residential neighborhoods north and east of Area A - North Zone. These services are deemed adequate for extension into Empire to serve future uses.

(11) A water pump station would be required to deliver adequate water pressure to Empire developments along Libby Lane (Area E-East)

- Wastewater collection service is provided by Charleston Sanitary to older unincorporated private residential neighborhoods on the west and south sides of Empire. Based on the observed age and condition of these older neighborhoods, neighborhood wastewater collection upgrades are assumed to be probably necessary if extended into Empire in the future for development purposes.

### **Other Utilities**

Power, natural gas, and storm water facility requirements are all essentially uniform between all areas and phasing zones, varied only in some cases by linear distance of any line extensions. Therefore, these utilities are not an appreciable factor in making phasing decisions.

- Power utility local line extensions will be required to any new development, but capacity is not an issue for Empire. There is a regional transmission-scale power substation on Spaw Lane just east of Empire Area B.
- Natural gas service is not available anywhere within Empire. See prior project reports for more information.
- Conventional or low impact storm water improvements will be dictated on a development by development basis.

### **Phasing Concepts**

The following suggestions for Empire development phasing are illustrated on Figure 16. This phasing hierarchy is conceptual only. Actual phasing will be most strongly influenced by the availability and timing of funding. Other factors such as changing CIT policies and priorities, and changing circumstances along the west side of the Coos Peninsula or in the greater Coos Bay region may influence phasing.

Internal to the Empire Parcels, the timing or extent of development in one area or zone may change the feasibility and/or preferences for other areas or zones. The CIT should revisit these phasing concepts every few years and make appropriate adjustments. Employment Zones and future employment uses in Areas A and C are not phased, and can be undertaken as opportunity, funding, and/or development partnerships dictate.

### **Nearest-term**

#### **Area A - North Zone**

- Areas north of First Creek abut existing newer development in City of Coos Bay. Roadways and utilities are therefore deemed adequate to carry added demand from any Empire residential development
- As this North Zone is within the Coos Bay city limits, City services can be extended without an extraterritorial agreement.
- A creek tributary splits this area into two developable units. This stream corridor could be bridged allowing a concurrent, unified development.



- Collector-type roadways with this Zone would have to be upgraded and new water and wastewater utilities extended

- Only existing collector-type roadway within this zone is the gravel Powerline Road. Upgrade paving and rebuilding probably required

### **Area C - Kilkich Community**

- Opportunity for in-fill residential development with all utilities in place and adequate to meet added demand.
- May require paving of the southeast end of Miluk Drive, particularly if access and utilities are extended from Kilkich Community to serve Area E-West – Northeast Zone.

### ***Nearest-Term with conditions***

### **Area A - South Zone (Eastside of Zone only)**

- Requires utility extensions from City of Coos Bay. Area is presently outside of City limits. If utility extensions are not possible, this area drops to mid or even long-term phasing priority.

### ***Mid-Term***

### **Area B - Northeast Zone (includes CSD Parcel)**

- Access would be via an isolated section of South Cammon Road through unincorporated neighborhoods. Roadway and utility upgrades could be required.
- Upgraded access and utilities could also come from Spaw Lane. Would cross Second Creek riparian corridor and connect to Powerline Road.
- Zone is otherwise somewhat isolated between First Creek and Second Creek riparian corridors.

### **Area B - Southwest Zone (west of Second Creek)**

- Access possible from Spaw Lane, Kellogg Blvd, and/or Grinnell Lane, all connecting to Penny Road.
- Roadway and utility upgrades probable, but the choice of three east-west access options may allow selection of the one with the best road and utility conditions.
- Whatever collector-type road option is selected, a new extension into this area would be required.
- No existing internal roadways except a very short section of Powerline Road and gravel surface north-south Second Creek Access.

### **Area F - Northwest Zone**

- This is the only section of Area F designated for development, thus access from areas internal to Empire would be along gravel roadways within designated Forest lands.
- Access is however possible through unincorporated neighborhoods to the north and south via Grinnell Lane. This roadway would probably have to be upgraded.
- Utilities along Grinnell would also probably have to be upgraded.
- Slope and riparian corridors create the east and south edges of this zone.

## Area E-East – Northeast Zone

- The CIT views this zone as a prime location for expanding tribal-only housing opportunities outside of Kilkich Community.
- There may be some potential to access and serve this zone down Miluk Drive out of Kilkich Community. This would provide the most direct connections between these two tribal neighborhoods (and perhaps avoid need for a water pump station). Feasibility would have to be determined through engineering study.
- Otherwise, this zone’s frontage on Libby Lane is paved, but water service would require a pump station to create adequate pressure. If this zone is served from Libby Lane, phasing priority would probably drop to Long-term, absent any compelling policy or social purpose dictating that the CIT more immediately increase tribal housing stocks.
- Miluk Extension and Libby Spur would minimally have to be upgraded with paving, as would lower sections of Upper Fourth Creek Road. The east section of Tarheel Loop borders this zone but is totally within OS designated lands, so no upgrades are necessary.
- The shape and dimensions of developable land in this zone will have the practical impact of reducing the number of possible buildable lots.

## Long-term

### Combination of Area B - Southwest Zone (east of Second Creek) and Area B - Connector

- The three parcels are somewhat isolated from each other by Second Creek, topography, and the North parcel boundary configuration.
- Each has gravel roadway access that would have to be upgraded.
- Adequate roadway and utility services are essentially dependent on prior development of Area B - Southwest Zone (west of Second Creek).

### Area E-East - Southeast Zone

- This zone is designated for future rural residential use, which may help mitigate the need for a water supply pump station to achieve adequate water pressure.
- Nearby water and wastewater utilities would probably have to be upgraded.
- Access is from Libby road which is deemed adequate.
- There are no existing roadways within this zone, gravel or otherwise.
- The shape of this zone may reduce the number of buildable lots that are possible.
- Significant natural and recreation features are protected by the abutting Tarheel Natural Area. The area is also near the community ballfields complex. Proximity to the natural area and ballfields may be attractive for residential development.

## ***Long-term with Conditions***

### **Area A - South Zone (Westside of Zone only)**

- The topographic and riparian corridor constraints in this area simply make any development complex, even if combined.
- Sections could be elevated to Mid-term if combined with Area B - Northeast Zone, but in general topographic and riparian corridor constraints will always limit developability.
- Access and utilities are probably best coming from the north but would be greatly dependent on Employment Zone development and associated upgrades.

Given that the Empire Parcels are under CIT control, with all of the land being held in sovereign trust, the Tribe can exercise land use planning and decision-making in an independent manner that is not available to private developers or other governments. Subject to the availability of development funding, any practical limitations to access and utility service extensions (topography, regional capacity, etc.), and demand for certain land use types in the Coos Bay region, the CIT will have few external limitations as to when to proceed with development consistent with any of the areas or land uses suggested by this Empire Plan. The CIT is the land owner, ultimate land developer, and the land use authority (12).

Figures 17 and 18 in the following section illustrate how Area A – North Zone and Area E-East – Northeast and Southeast Zones might develop in the future. Per the direction of the Tribe, the site plans were created in a manner that promotes multimodal transportation options and provides access to and circulation among the sites without leaving Tribal lands.

(12) Empire parcels held in trust cannot have ownership transferred to private individuals or entities, thus constraining development feasibility and options in a manner not applicable to the private land development market.

# NEXT STEPS FOR DEVELOPMENT

The Empire Comprehensive Plan prepared for the CIT included two conceptual residential subdivision layouts for illustration purposes: one in Subarea A north of First Creek (North parcel) along the current limits of development within the City of Coos Bay, and a second in Subarea E-East (South parcel) flanked by the Miluk Extension and Libby Lane (Figure 17 and 18, respectively). The Comprehensive Plan suggests development north of First Creek as a near-term priority, and in terms of advancing these or similar concepts towards actual development, the CIT should undertake several initiatives:

## Land Use Designations

North of First Creek is within the City of Coos Bay, and although the CIT's sovereign authority supplants City zoning, discussions with the City about issues such as land use capacity, access, etc. would be in both parties' best interest, especially since the City will be asked to provide some services to this area. Area E is within unincorporated Coos County, but similar discussions to those with the City should be initiated with the County.

## Market and Financial Analysis

The CIT should undertake site-specific market analysis for the North and South parcel subdivisions. Because of differences between the two areas (in site attributes, grade, and likely demographic attributes of future residents), the market analysis should evaluate each area on its own. Key outcomes of the market analysis should be demographics of likely residents; recommended housing unit number, types, sizes, and attributes; absorption and capture rates; target rental rates (or sale prices if sales are an option); target lot values or ground lease rates in the event that CIT makes lots available to homebuilders. Once this market analysis is complete, CIT should build a development pro forma summarizing its estimated costs and revenues over 10 or more years. The market analysis will provide revenue information. Cost information (for design/engineering/soft costs, entitlement, grading, site prep, infrastructure and utilities, vertical home construction) can be generated based on the tasks below and/or inputs from various consultants. The financial analysis should indicate that revenues cover costs, with an adequate profit margin for CIT. The analysis should be

viewed as an iterative “living document,” and adjusted as new information is produced regarding development types, revenues, costs, timing, or other relevant information.

### **Utility Services**

Utility services were addressed in the Empire Comprehensive Plan with respect to the availability of services in the vicinity. Capacity was identified in the Comprehensive Plan on the basis of system capacity (e.g.: the new City of Coos Bay wastewater plant has sufficient capacity to accommodate planned Empire development; water supply extension into the South parcel area may require a pump station; there is no natural gas services anywhere near to Empire). An important early step is for the CIT to meet with key services providers (Charleston Sanitary, Pacific Power, City of Coos Bay, and Coos Bay-North Bend Water Board) to determine, based on the conceptual plans, the exact capacity of existing adjacent lines, standards for any probable utility upgrades or extensions, IGAs or similar agreements that might be needed for extensions, required permits, and applicable fees. The Tribe should consider enlisting the services of an independent engineer to help advise how to provides service to this area.

### **Roadway Improvements**

Analogous to the utility service discussions and outcomes, the CIT should meet with the City and County on probable street upgrades and access improvements including the possibility of enhancing

Morrison Street and Wisconsin Avenue in anticipation for future roadway connections to new site developments in Subarea A north of First Creek (North parcel).

### **Permitting**

In addition to municipal and utility service permitting, Federal and State environmental permits could be involved. Given CIT’s sovereign authority, there may be many permits that would not apply, but an initial determination based on discussions with possible permitting agencies would be valuable.

### **Subdivision Design**

Once basic capacity issues are determined, the CIT should assess if the information obtained changes the anticipated development scenario(s). Assuming the decision is made to proceed, the CIT should commission development of a detailed subdivision design consistent with the variety of physical, technical and regulatory constraints that may apply, as well as factors addressed in the Empire Comprehensive Plan such as density and housing type, preservation of stream and riparian corridors.

### **Survey**

Initial topographic and boundary survey work should be completed to facilitate preliminary site and subdivision design. Prepare final plat to create separate parcels that may be sold or maintained separately.

## Engineering

Preparation of an alternatives analysis, preliminary cost estimates, value engineering and then final engineering, and bid-ready construction documents.

## Project Funding

An overarching consideration is the availability of funding – both design/permitting and construction. It is suggested that design/engineering and perhaps permitting be funded separately from construction. The relative cost of design/engineering/permitting is low compared to construction, and having such work completed will put the CIT in a more competitive position in securing construction grants and loans, such as those described in the Empire Comprehensive Plan.

The CIT could partner with other tribal agencies, such as the Coquille Economic Development Commission (CEDCO) or private entities to develop Empire lands. These partnerships could be directly with the Tribe, although there are a variety of tribal-controlled or influenced legal entities that can be formed to protect tribal assets while leveraging devices like tax credits and bonding.

Figure 17. Preliminary Site Plan: Area A – Northeast Zone

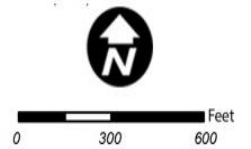
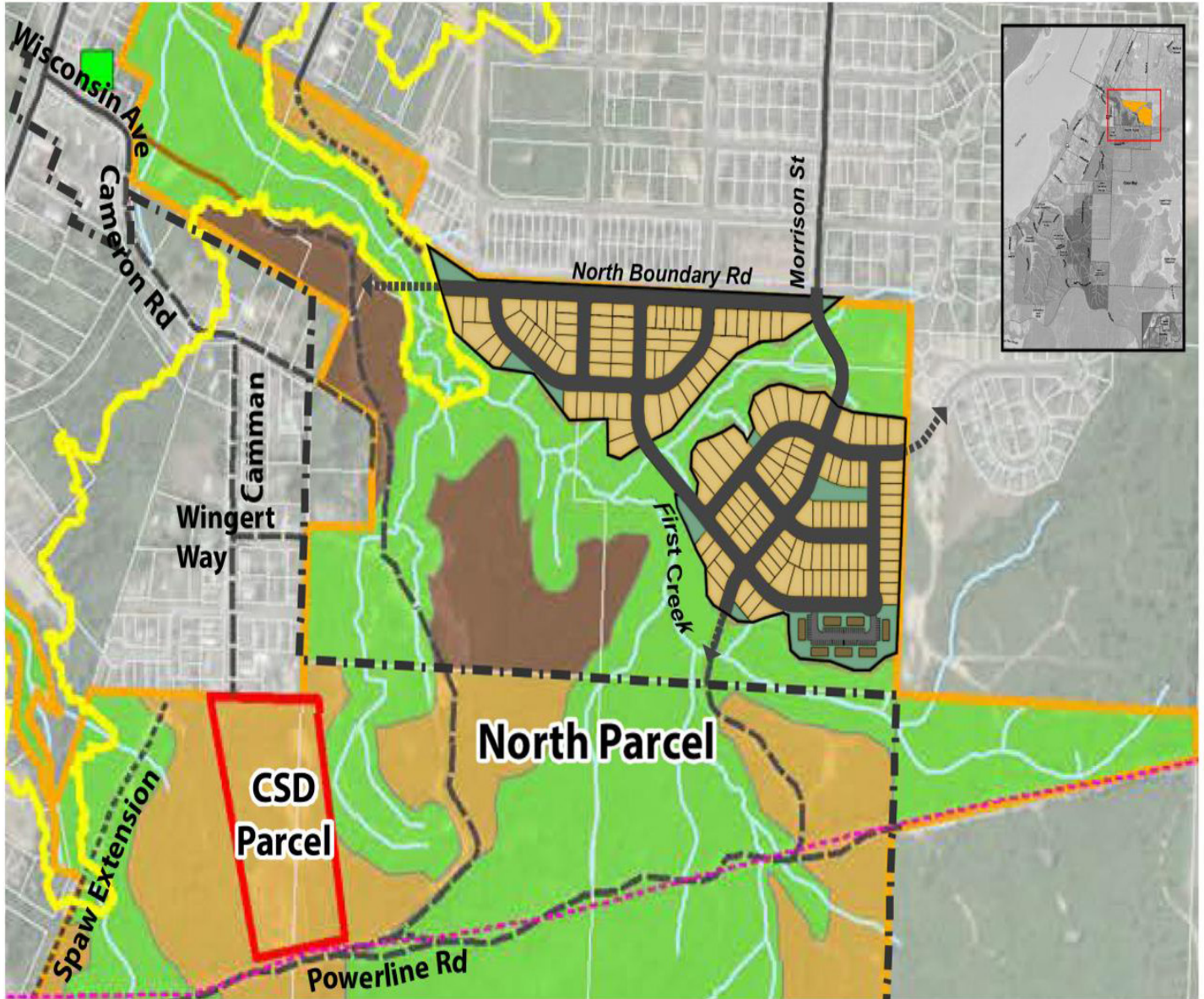
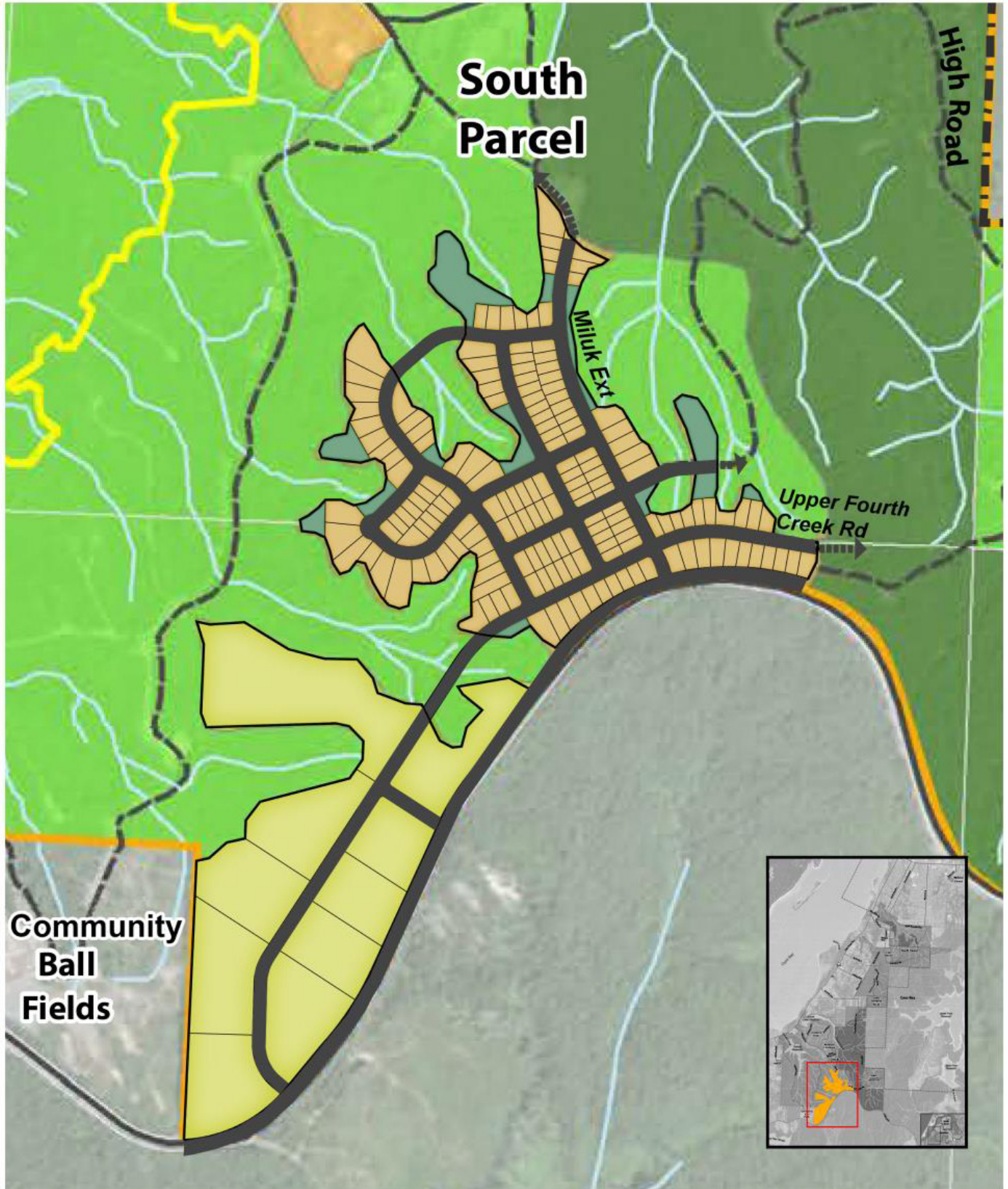


Figure 18. Preliminary Site Plan: Area E-East – Northeast and Southeast Zones





# APPENDICES

EXISTING AND PLANNED CONDITIONS.....	A1
FUNDING TOOLS.....	A2
MAPS.....	A3



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## DRAFT TECHNICAL MEMORANDUM #2

**DATE:** September 13, 2017  
**TO:** Todd Tripp, Coquille Indian Tribe (CIT)  
**FROM:** Steve Faust, AICP  
**COPY:** Matt Jensen, CIT; Virginia Elandt, ODOT  
**RE:** Coquille Indian Tribe Comprehensive Plan: DRAFT Technical Memorandum #2: Demographics and Existing and Planned Conditions

---

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development (DLCD). This TGM grant is financed, in part, by deferral Fixing America's Surface Transportation Act (FAST Act), local government and the State of Oregon Funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

This Technical Memorandum #2 describes key socio-economic and demographic information for the Coquille Indian Tribe (CIT) within the Study Area, and defines existing conditions and factors for the Empire and North Bend properties that may impact or influence the project. The information in this memorandum is organized into the following sections:

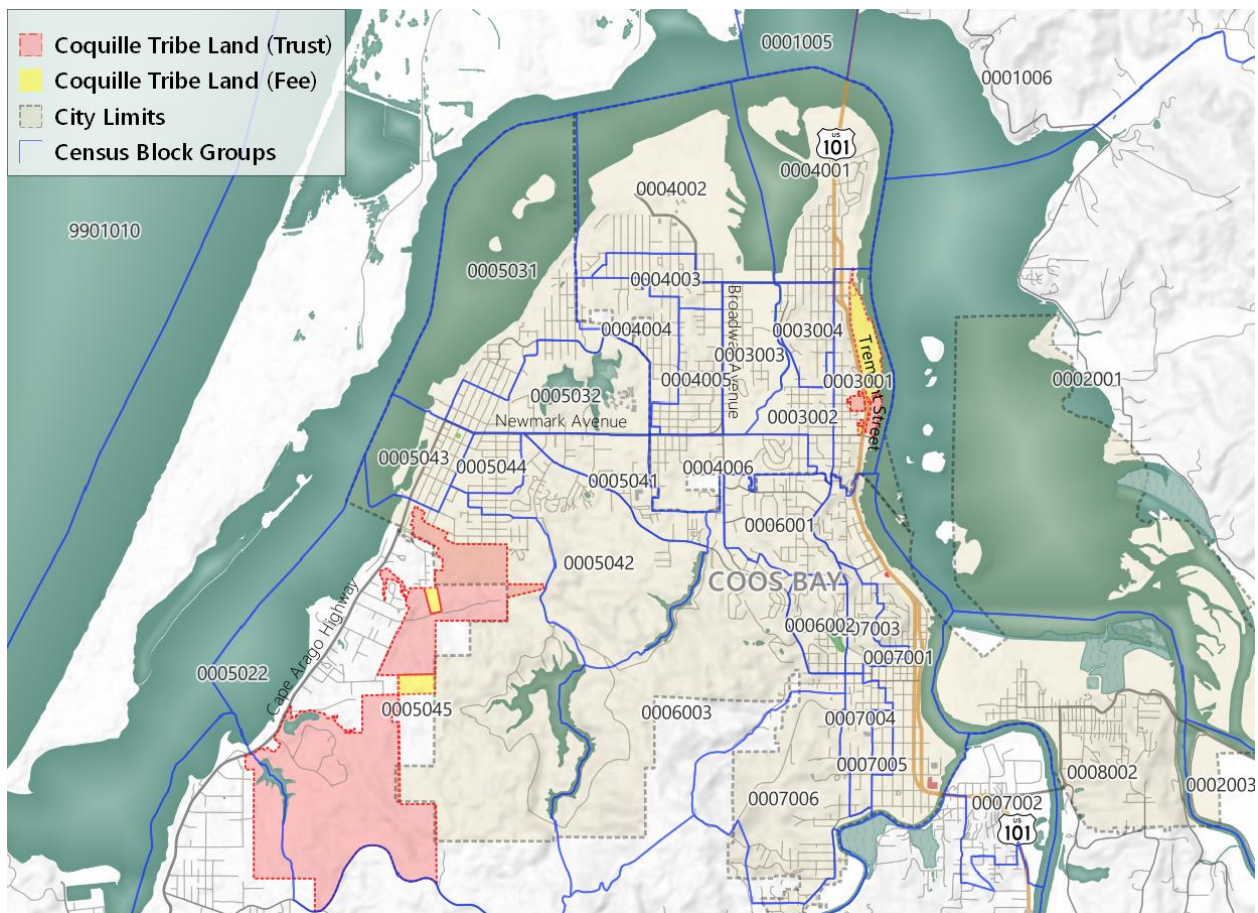
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Built Infrastructure	Page 15
Natural and Cultural Resources	Page 31
Traffic Conditions and Impacts	Page 37
Crash Analysis	Page 48
Future Traffic Conditions	Page 51
Next Steps	Page 56
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## Socio-economic and Demographic Information

This section summarizes existing and future demographic and socio-economic conditions for CIT-owned land, U.S. Census block groups, the Cities of Coos Bay, and North Bend, Coos County, and the State of Oregon. The information will provide a broad contextual understanding of the residents and employees in CIT lands and the surrounding areas, with comparisons to the County and the State.

Figure 1 provides a contextual overview of the location of CIT lands, in relation to the boundaries of census block group<sup>1</sup> boundaries and the surrounding cities. Two census block groups approximately contain CIT lands (IDs: 410110003001 for the east, and 410110005045 for the west). The data provided for “CIT Block Groups” in this report refers to the combination of these two block groups. A third block group to the west includes some CIT land, but there are currently no reported residents or workers in this area.

**Figure 1. CIT Lands Reference Map**



Source: Coos County, US Census Bureau and Leland Consulting Group

<sup>1</sup> Block groups are statistical divisions of census tracts used to present data and are generally defined to contain between 600 and 3,000 people.

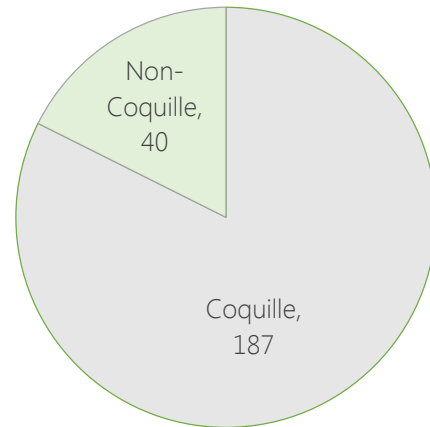
## Coquille Indian Tribe

Table 1 shows occupied housing unit and building counts on CIT lands by type. Although about three-quarters (71 units) of CIT housing is single-family, more than half (53 percent) is rental housing, per the Resident Services Report from the CIHA Board.

As shown in the pie graph on the right (Figure 2), a total of about 227 people live on CIT lands; 187 or 82 percent of which are members of the Coquille Tribe.

**Table 1. Coquille Indian Tribe Housing Characteristics (left) and Figure 2. Population (right)**

Unit Type	Units	Buildings
Single Family		
Rental	27	27
Homebuyer	14	14
Non-Residential	4	4
Private Purchase	26	26
Multifamily		
Rental - Duplex	10	5
Rental - Fourplex	12	3
<b>Total</b>	<b>93</b>	<b>79</b>



Source: CIHA Board Report, Resident Services, May 2017

## Resident Characteristics

The current population located with the CIT block groups is significantly higher than the population living on actual CIT lands. In fact, only about seven percent of the total block-group population of 3,477 lives on CIT lands. More than 90 percent of individuals in these block groups live near, but not on, CIT lands.<sup>2</sup> As such, the CIT block group data is not necessarily an accurate representation of the tribal population itself. However, these block groups are the smallest demographic dataset available and therefore the most representative of the tribal population and the residents of immediately surrounding areas. These surrounding residents could potentially influence demand for land uses on fee or trust land.

As shown in Table 2, Coos County's growth rate between 2000 and 2016 has been less than half that of the State of Oregon overall (see compound annual growth rates or CAGR). This is notable since population and employment growth are the most fundamental drivers of demand for new land uses.

<sup>2</sup> Figure A-1 in the Appendix shows the 2010 population by census block, which provides a useful graphical reference of this information.

**Table 2. Population, 2000 to 2021**

	CIT Block Groups	Coos Bay City	North Bend City	Coos County	Oregon State
2000 Total Population	2,926	15,425	9,495	62,779	3,421,399
2010 Total Population	3,218	15,967	9,695	63,043	3,831,074
2016 Total Population	3,382	16,265	9,918	64,544	4,029,968
2021 Total Population	3,477	16,448	10,042	65,364	4,218,101
2000-2010 Growth Rate (CAGR)	1.0%	0.3%	0.2%	0.0%	0.5%
2010-2016 Growth Rate (CAGR)	0.8%	0.3%	0.4%	0.4%	0.8%
2016-2021 Growth Rate (CAGR)	0.6%	0.2%	0.3%	0.3%	0.9%

Source: ESRI and Leland Consulting Group. CAGR is compound annual growth rate.

The growth rates of the Cities of Coos Bay and North Bend have been in keeping with the County, while the block groups on which the CIT lands are situated saw higher population growth than the state from 2000 to 2010, and similar growth from 2010 through 2016. Through 2021, per ESRI estimates, growth rates are projected to slow significantly.<sup>3</sup>

Table 3 shows regional household sizes to be significantly smaller than the state overall. Household sizes on CIT Block Groups are the lowest of all comparison areas, with over one-third of the population living in single-person households.

Further, there is a slightly larger share of nonfamily households in CIT Block Groups than Coos County and the State of Oregon overall. To a certain extent, this is typical of an urbanized area. With that said, of the family households in CIT Block Groups and the Cities of Coos Bay and North Bend, family sizes are slightly larger than those in Coos County overall, but still less than the State of Oregon overall.

---

<sup>3</sup> ESRI Business Analyst is a third-party data source that provides demographic data from the US Census, other federal and state agencies, and private sources.

**Table 3. Household Sizes, 2016**

	CIT Block Groups	Coos Bay City	North Bend City	Coos County	Oregon State
Avg. Household Size	2.25	2.29	2.36	2.31	2.48
Avg. Family Size	2.83	2.86	2.91	2.81	3.02
<b>Households by Size</b>					
1 Person Household	34.0%	33.6%	30.8%	29.8%	27.4%
2 Person Household	37.3%	35.3%	35.7%	40.0%	36.1%
3+ Person Household	62.7%	64.7%	64.3%	60.0%	63.9%
<b>2+ Person Households:</b>					
Family Households	87.0%	86.4%	87.7%	88.5%	87.3%
Nonfamily Households	13.0%	13.4%	12.3%	11.5%	12.5%

Source: ESRI and Leland Consulting Group

Table 4 shows selected household characteristics across several comparison areas. Incomes in CIT Block Groups are significantly lower—both for household and per capita income—than any other area.

In part, this may be a reflection of the significantly lower percentage of residents that have a bachelor's degree, as shown in Table 5, but also the high percentage of residents working in service occupations, which typically have lower salaries than both "white collar" and "blue collar" positions. Further, CIT Block Groups have the highest unemployment rate of any comparison area.

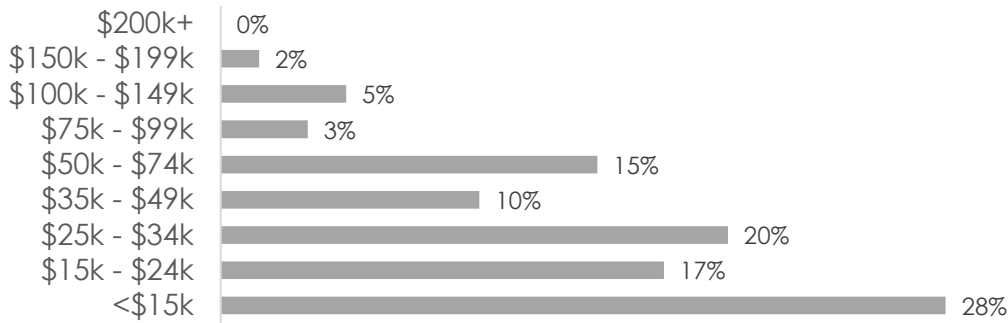
**Table 4. Income Characteristics, 2016**

	CIT Block Groups	Coos Bay City	North Bend City	Coos County	Oregon State
Median Household Income	\$26,631	\$36,583	\$42,142	\$38,746	\$52,196
Per Capita Income	\$16,396	\$22,131	\$23,687	\$22,928	\$28,424

Source: ESRI and Leland Consulting Group

As shown in Figure 3, about 28 percent of households in CIT Block Groups have an income of less than \$15,000. This is the highest across any comparison area, with the next highest the City of Coos Bay at 20 percent. The 28 percent is more than twice as much as the State of Oregon overall, which has 13 percent of households earning less than \$15,000.

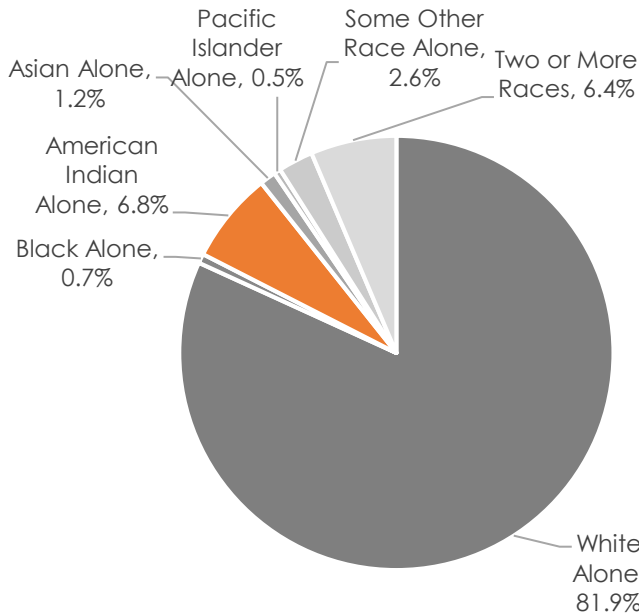
**Figure 3. CIT Block Groups Households by Income, 2016**



Source: ESRI and Leland Consulting Group

Figure 4 shows CIT Block Group population by race. As already stated, the census blocks groups that were analyzed for this data encompass CIT population, but approximately 93 percent of the block group population do not live on CIT lands. As such, major takeaways from the graph specific to CIT members are limited. However, the graph does indicate that the vast majority of the CIT population live on CIT-owned lands and not in the surrounding areas.

**Figure 4. Population by Race, CIT Block Groups, 2016**



Source: ESRI and Leland Consulting Group

**Tapestry Segments**

The ESRI "Tapestry Segmentation" system provides an accurate, detailed description of America's neighborhoods. U.S. residential areas are divided into 67 distinctive tapestry segments based on their socio-economic and demographic composition. The tapestry segments that are most prevalent within the CIT block group area and Coos County are summarized below.

### CIT Block Group Top Tapestry Segment

*Small Town Simplicity* includes young families and senior householders that are bound by community ties. The prevailing lifestyle is down-to-earth and semirural, with television for entertainment and news, and emphasis on convenience for both young parents and senior citizens. Residents enjoy pursuits including online computer games, scrapbooking and rural activities like hunting and fishing. Since almost 1 in 4 households is below poverty level, residents also keep their finances simple—paying bills in person and avoiding debt.

Generally residing in small towns and mostly outside metropolitan areas, it is an older market, with about half of the householders aged 55 years or older, and predominately single-person households. Unemployment is higher and labor force participation is lower—which could result from lack of jobs or retirements. They are price-conscious consumers that shop accordingly, with coupons at discount centers. *Small Town Simplicity* features a semirural lifestyle, complete with trucks, ATVs, and vegetable gardens. Hunting, fishing, and target shooting are favorite pastimes.

### Coos County Block Group Top Tapestry Segment

The top Tapestry Segment for Coos County is significantly different from the Tapestry for the CIT Block Groups. *Midlife Constants* residents are seniors, at or approaching retirement, with below average labor force participation and above average net worth. Although located in predominantly metropolitan areas, they live outside central cities in small communities. Their lifestyle is more country than urban. They are generous, but not spendthrifts.

Generally, the neighborhood consists of older homes, primarily married couples (with a growing share of singles), settled neighborhoods with slow rates of change, and predominantly single-family homes.

*Midlife Constants* generally prefer practical vehicles like SUVs and trucks. They are sociable, church-going residents and contribute to arts/cultural, educational, political, and social services organizations.

### **Age and Employment**

Table 5 shows a number of key takeaways regarding residents of the CIT block groups. Residents:

- Are much less likely to have a bachelor's degree or other college degree than the other areas;
- Have a higher median age than the Cities of Coos Bay and North Bend, and the State, but lower than Coos County;
- Are significantly more likely to work in service industries than residents of other areas, and less likely to work in white collar or blue-collar jobs;
- Are more likely to be unemployed.



**Table 5. Education & Employment Characteristics, 2016**

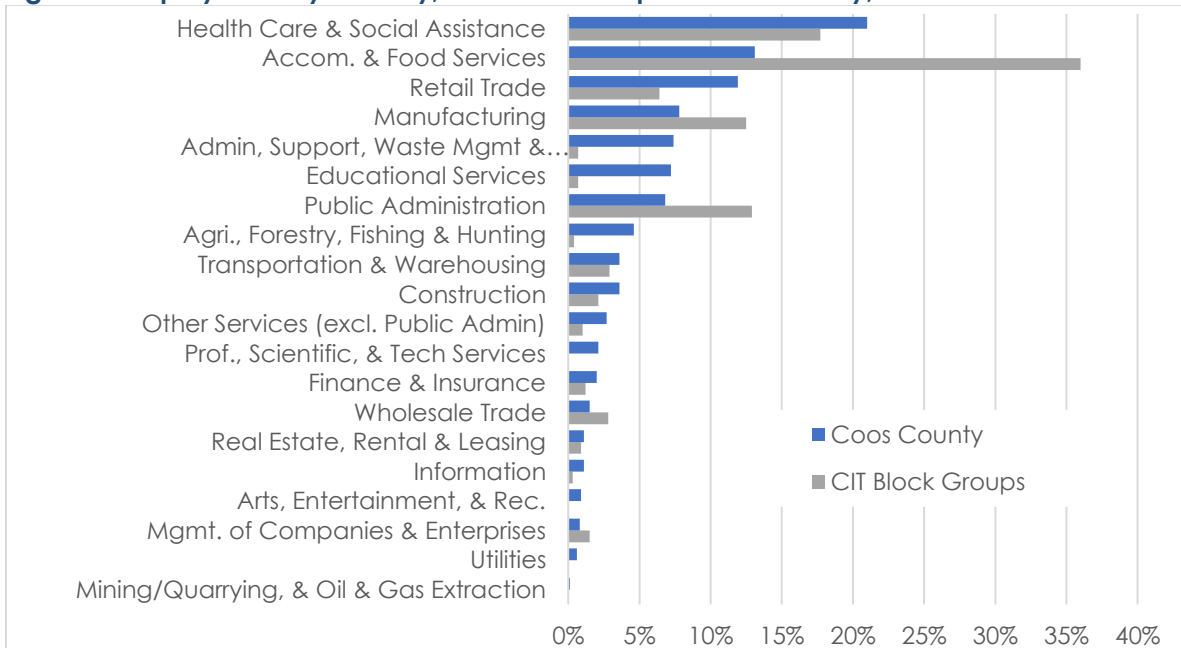
	CIT Block Groups	Coos Bay City	North Bend City	Coos County	Oregon State
Bachelor's Degree or Higher	7.5%	22.3%	24.0%	19.9%	31.3%
Median Age	47.3	43.6	42.2	49.0	39.4
Population by Occupation					
White Collar	48.7%	53.4%	65.1%	53.3%	59.7%
Services	34.2%	25.0%	21.7%	22.5%	19.3%
Blue Collar	17.1%	21.6%	13.1%	24.2%	21.0%
Unemployment Rate	9.0%	7.3%	7.2%	7.0%	5.8%

Source: ESRI and Leland Consulting Group

Figure 5 shows employment by industry for Coos County and CIT Block Groups. Workers in Coos County generally work in the health care and social assistance industry, accommodation and food services, and the retail trade.<sup>4</sup>

There are notable differences between the two areas. Workers in CIT Block Groups are significantly more likely to work in the accommodation and food services industry, public administration, and manufacturing than workers in Coos County overall.

**Figure 5. Employment by Industry, CIT Block Groups & Coos County, 2014**



Source: LEHD and Leland Consulting Group

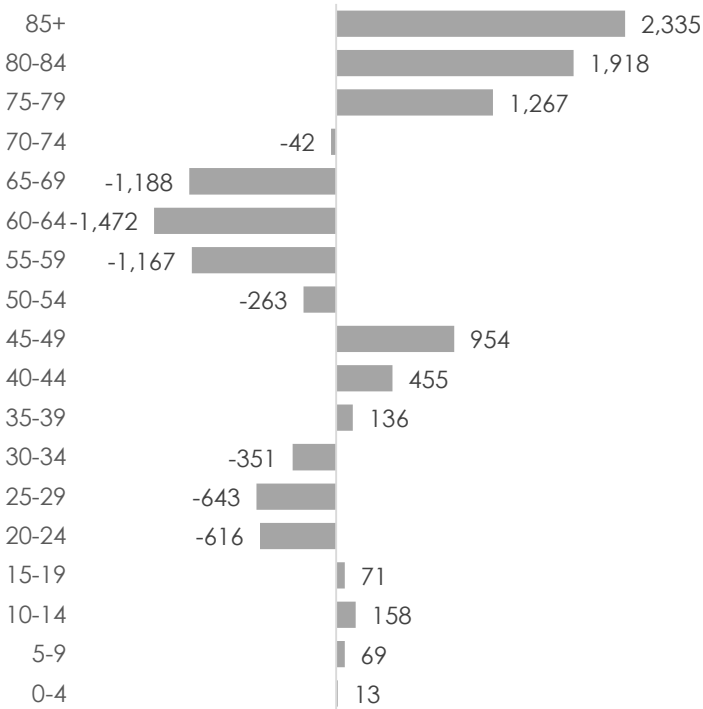
<sup>4</sup> Figure A-2 in the Appendix, provides the location and size of employment clusters in the area, with more information about existing employment conditions.

## Future Resident Characteristics

### Population

Figure 6 shows the projected change in population per age bracket through 2040 for Coos County, per the State of Oregon's Office of Economic Analysis data. Most population growth will occur in the very elderly age groups (those aged 75+ years old). This is largely due to the substantial baby boomer population (53 to 71 years old) currently in Coos County—see Figures A-3 and A-4 in the Appendix for the 2015 and 2040 Coos County Population Pyramids. This increase will likely result in increased demand for senior housing, health care and social assistance, and walkable and accessible amenities. There will be a significant decrease in those aged 50 to 69 years old, which may reduce the total number of working aged people in the county. Below 50-years-old, Coos County is expected to see moderate reductions in 20-somethings and moderate increases in 35- to 49-year-olds.

**Figure 6. Population Change by Age, Coos County, 2015 to 2040**



Source: Office of Economic Analysis and Leland Consulting Group

### Households

As shown in Table 6, CIT Block Groups can be expected to see relatively little change in income in the next 10 years, but significant increases in median home value as household growth continues faster than the surrounding cities and county and vacancy rates remain low. Also, median age will increase faster than the Cities of Coos Bay and North Bend, but slower than Coos County and the State of Oregon overall.

**Table 6. Change in Households by Income, 2016-2021**

Households by Income	CIT Block Groups
<\$15k	1.7%
\$15k - \$24k	-0.3%
\$25k - \$34k	-6.3%
\$35k - \$49k	1.5%
\$50k - \$74k	0.8%
\$75k - \$99k	0.8%
\$100k - \$149k	1.1%
\$150k - \$199k	0.7%
\$200k+	0.0%

Source: ESRI and Leland Consulting Group

### **Socio-economic and Demographic Conclusions**

The following takeaways can be made about the Coquille Indian Tribe demographics:

- There is relatively slow growth in both households and population in Coos County compared to the State of Oregon. However, the population of the CIT Block Groups has grown quicker than the surrounding areas.
- The CIT population itself is small—about 227 people. However, the surrounding population in the CIT Block Groups, cities, and county is much larger. The CIT may be able to develop some of its land for the existing CIT population, and other parts of its land to capture the residential, commercial, and recreational demand generated by these surrounding populations.
- There is a lower proportion of young people (particularly those in their 20s) than the state.
- Residents in CIT Block Groups have lower median incomes and educational attainment levels than the other comparison areas; and higher ages and unemployment.
- About one-third of workers in the CIT Block Groups work in the accommodation and food services industry, most likely due to the presence of the casino on tribal lands. Most of the other jobs are a mix of health care and social assistance, manufacturing, and public administration.
- The population is ageing more quickly in CIT block groups compared to most other areas, which will potentially affect other socio-economic traits such as labor force participation and income levels, as well as impacting housing needs.

## Land Use

The Study Area consists of two contiguous assemblies of Coquille Indian Tribe (CIT) lands in the Coos Bay Area. The primary Empire assembly and secondary North Bend assembly are mostly held by the Tribe in trust, with a few parcels owned in fee. In addition, the CIT owns one small individual parcel on the Coos Bay Peninsula outside of these two "assemblies".

None of the lands in the Study Area were recovered by the Tribe through Federal land restoration processes after tribal sovereignty was restored in 1989. The Tribe purchased the lands in fee and later took most, but not all, of the property in trust. Those CIT lands held in trust are not zoned under city (Coos Bay and North Bend) or Coos County land use regulations. All CIT lands on the Coos Bay Peninsula are illustrated on Figure 7.

### Empire

The largest CIT land acquisition in the Study Area was in 1993. At the time, the acquisition consisted of two large non-contiguous but closely adjacent parcels: Empire North and South. These lands are sometimes referred to as the "Empire Reservation", but for the purposes of this Technical Memorandum are termed "Empire", "North Parcel" or "South Parcel". The land was purchased in fee from a private timber company.

Empire is on the west side of the Coos Bay Peninsula. Most of Empire is within unincorporated Coos County, except for around First Creek and Wisconsin Avenue at the north end of the North Parcel. This most northerly sub-area is within the City of Coos Bay. The Empire Parcels have no direct shoreline or estuary frontage.

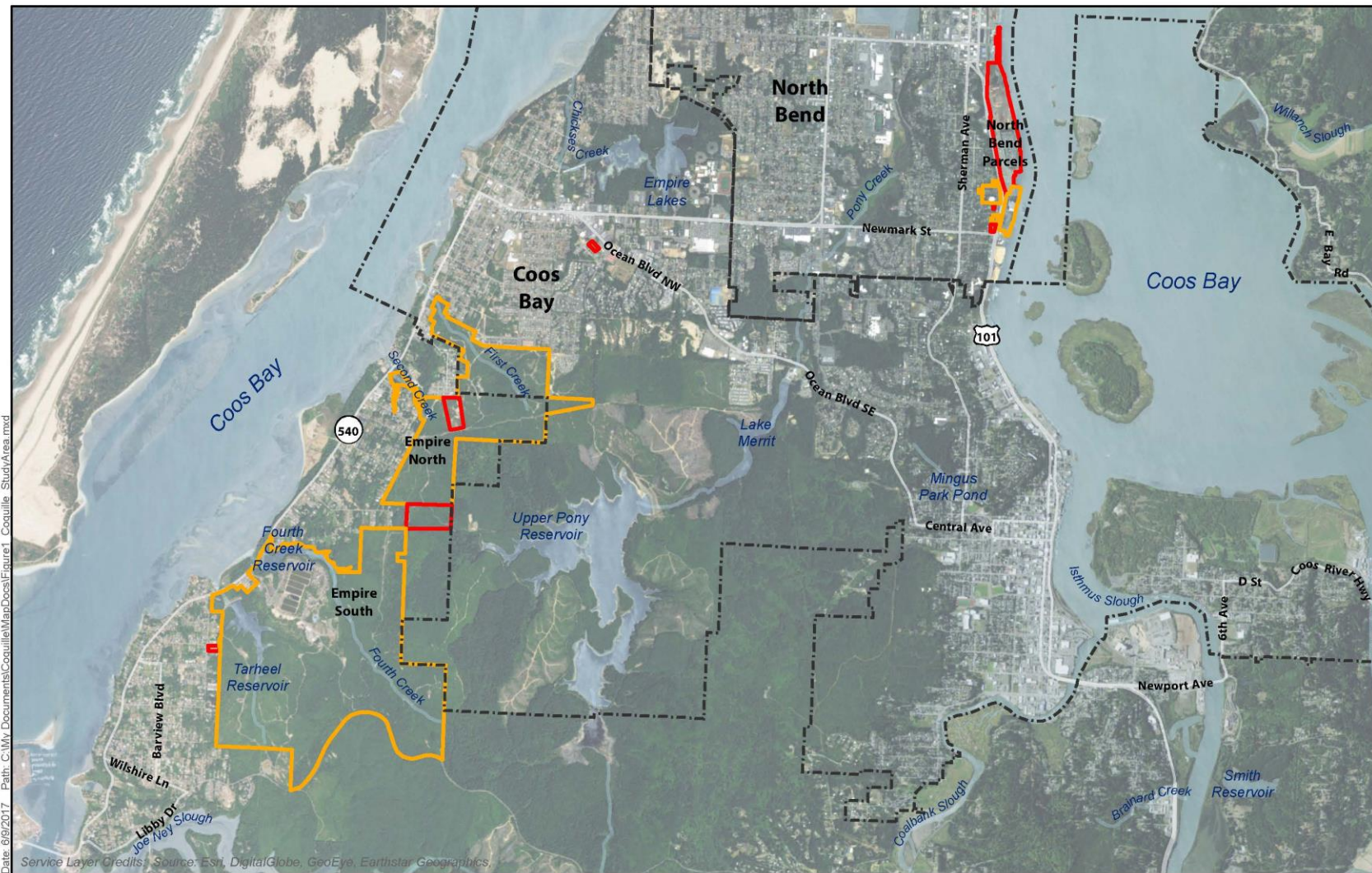
This Empire assembly now totals approximately 1,076 acres. Since 1993, the CIT has made three additional but relatively small acquisitions in fee:

- "Lewis Connector Parcel" which joins the North and South Parcels.
- "CSD Parcel" was added to the North Parcel.
- "Nelson" located at the west edge of the South Parcel.

These three parcels are all within unincorporated Coos County, and currently subject to County land use regulations. The CIT is in the process of bringing the two larger parcels into trust; the CSD parcel is currently zoned for Industrial use and the Lewis Connector Parcel as Forest. The Nelson parcel is designated Urban Residential.

There is an isolated CIT-owned fee parcel (1.0 acre) at Ocean Blvd and Wallace Street in the City of Coos Bay. The site is zoned as Trust Land and is the site of the Three Rivers Hotel & Casino.

Figure 7. CIT Comprehensive Plan Study Area








Date: 6/9/2017 Path: C:\My Documents\Coquille\MapDocs\Figure1\_Coquille\_StudyArea.mxd

Service Layer Credits: Source: ESRI, DigitalGlobe, GeoEye, Earthstar Geographics

**Parametrix**

Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)

- |   |  |
|---|--|
|  Fee   |  City Limit   |
|  Trust |  Water Body   |
|   |  Stream/River |

**Study Area**  
Coquille Indian Tribe  
Comprehensive Plan



Most access to Empire is off of Cape Arago Highway via a series of west-east local roadways through these rural residential neighborhoods. Most of these roadways lie outside of Empire. The CIT's Empire land holdings are mostly set well back from Cape Arago Highway. The one exception to the lack of highway frontage is a portion of the South Parcel between Fourth Creek and Tarheel Creek. This also is the site of the Miluk Drive main entry to the CIT's Kilkich Village community. The entry is marked by a landscaped gateway feature and large wooden sign.

Numerous ideas and plans for the development of Empire have been put forward over the years, but at present only the Kilkich Village is developed. As shown in Figure 8, the area includes 93 dwelling units and several Tribal service and office buildings that are situated along Mexeye Loop and around a commercial cranberry growing operation at the loop's center. Tribal services located in the Loop include the Education Department, Library, Community Center, Health Center, Housing Authority and Police Department. Fire service is provided by Charleston Fire District Station #1, located just north of the Kilkich community along Cape Arago Highway.

To the southeast along Miluk Drive are public works buildings (formerly a residential building panel manufacturing facility), and outdoor materials/equipment storage. A community/cultural area is located nearby along Plankhouse Loop Road, featuring a large ceremonial plank house and canoe carving facility. The Tribal cemetery and columbarium lie further east on the property. The balance of the Empire parcels are forested.

### **North Bend**

The smaller of the CIT's two land assemblies, the North Bend properties are situated along US 101 within the City of North Bend and total 70.8 acres. For the purposes of this Technical Memorandum, these properties are referred to as the "North Bend Parcels". The North Bend Parcels are highly urbanized with residential, commercial, and waterfront industrial uses surrounding and including Tribal lands.

The most significant uses within the North Bend Parcels are the CIT's Mill Casino Hotel and RV Park, and a large log storage yard. These uses are on contiguous lots totaling 62.7 acres, and located on the Coos Bay waterfront along the east side of US 101. North of the log yard is a very narrow parcel that is the site of a waterfront boardwalk that is open to the public.

The CIT's tribal administrative offices are located on a 5.9 acre site directly across from the Casino on the west side of US 101. The Tribe owns another five non-contiguous parcels located on or near to the west side of US 101 between Lombard Street and Newmark Avenue. These five lots are clustered around the administrative headquarters and total to 2.2 acres.

The RV Park and log storage yard are on lands held in fee by the CIT, but are not subject to City of North Bend zoning designations. However, the Tribe should coordinate future development with the city to ensure that city and Tribe zoning maps are aligned. The RV Park is zoned 44-UW, which permits commercial uses. The log storage yard is zoned 44-UNW. This zone permits log storage as an allowed use.

Figure 8. Kilkich Area



**Parametrix**  
 Data Source: Coquille Indian Tribe; US Bureau of Indian Affairs, Coos County, USGS (NHDI)

**Kilkich Area**  
 Coquille Tribe of Oregon

Parcel	BIA or Connector Road	Water Main Line	Riparian Corridor
Tribal Land	Paved	Stream	Tarheel Lake Natural Area
	Rock	Water Body	

0 200 400 Feet

## I. Built Infrastructure

Existing development within the Empire North and South Parcels, that requires community-scale drinking water and sanitary sewer infrastructure, is limited to the Killkich Village and neighboring Tribal offices and facilities. The entire North Parcel and most of the South Parcel are forested lands going through early and mid-stages of timber succession. Empire was almost totally logged as pre-requisite to the Tribe's 1993 acquisition.

Expanded development within Empire may require water supply, sanitary sewer, and other infrastructure upgrades and/or extensions. The North Bend Parcels are already highly urbanized and existing "main line" infrastructure may be adequate, although transportation entry and egress from US 101 might need improvement. The exception is the log storage yard north of the Mill Casino/Hotel. If this area and/or the abutting RV Park were considered for redevelopment, water, sewer, and/or transportation upgrades would, to some degree, almost certainly be necessary.

### Transportation

The following describes the existing transportation facilities and conditions for the vehicular, pedestrian, bicycle, and transit modes within the project study area.

#### *Vehicular Facilities*

The Coquille Indian Tribe (CIT) Comprehensive Plan encompasses two study areas: The Empire parcels are located in unincorporated Coos County south of City of Coos Bay city limits and the North Bend parcels located within the City of North Bend. The study area is served by a roadway network with various roadway classifications per the Oregon Department of Transportation (ODOT) 2016 classifications maps and the cities of Coos Bay and North Bend's Transportation System Plan (TSP) shown in Figures 9-12. An inventory of roadway characteristics, including posted speeds, directionality, roadway widths, number of travel lanes, on-street parking, and presence of sidewalks and bicycle accommodations is documented in Table 7.

#### *Rights-of-Way*

The CIT's land holding are primarily accessed from two major roadways – US 101 for the North Bend Parcels, and the Cape Arago Highway for the North and South Empire Parcels.

- The right-of-way width for US 101 along the frontage of the CIT's North Bend Parcels ranges from 110 to 190 feet. Wider sections are along the frontage of trust lands (Mill/Casino Hotel) and at the north end where US 101 begins to enter downtown North Bend.
- The Cape Arago Highway right-of-way width for the sections of the highway from which access to the Empire Parcels is achieved is primarily 80 feet. There is one short section of 100 foot width.

In addition, several west to east residential roadways provide access from the Cape Arago Highway to the edge of the CIT's Empire Parcels. These are Wisconsin Avenue, Dolezal Lane, Spaw Lane, Kellogg Lane, Grinnell Lane, and Tarheel Boulevard/Lane.



Wallace Road runs along the south edge of Empire South. The width of these local road rights-of-way range between 60 and 70 feet. The Tarheel Boulevard/Lane right-of-way is 30 feet wide

Finally, Miluk Drive is the direct point of access from the Cape Arago Highway to the CIT's Killich Village. Mexeye Loop provides internal circulation through residential areas, and Plank House Loop provides vehicular circulation through the nearby cultural area. Strictly speaking, as these are CIT roads are within CIT lands held in trust, there is no right-of-way as such.

**Table 7 – Existing Study Area Roadway Characteristics by Functional Class**

Roadway	Posted Speed (mph)	Directional /Surface Type	Width (feet)	Lanes	On-Street Parking ?	Bicycle Lanes/ Shoulder	Side walk	Function Classification	
								ODOT	City/County
Empire Site									
Cape Arago Highway	40	Two-way	25 - 35'	2	No	No <sup>5</sup>	No	Minor Arterial	Arterial
Wisconsin Avenue	15	Two-way	28 - 32'	2	No	No	No	Local Road	Local Road
Spaw Lane	15	Two-way	22 – 26'	2	No	No	No	Local Road	Local Road
Grinnell Lane	15	Two-way	22 – 30'	2	No	No	No	Local Road	Local Road
Tarheel Lane	15	Two-way	18 – 28'	2	No	No	No	Local Road	Local Road
Miluk Drive	15	Two-way	25 – 35'	2	No	No	Yes <sup>6</sup>	Local Road	Local Road
Pigeon Point Loop	15	Two-way	24'	2	No	No	No	Local Road	Local Road
Libby Lane	30	Two-way	24 – 30'	2	No	No	No	Major Collector	Major Collector
North Bend Site									
US Route 101	45	Two-way	65 – 85'	4-6	No	No <sup>7</sup>	Yes <sup>8</sup>	Principal Arterial	Principal Arterial
Old Weyerhauser Access	15	Two-way	24'	2	No	No	No	N/A	N/A
RV Park Entrance	15	Two-way	24'	2	No	No	No	N/A	N/A
Mill Casino Driveway	15	Two-way	24 – 36'	3	No	No	Yes	N/A	N/A
Newmark Street	25	Two-way	28 – 56'	2-4	No	No	No	Minor Arterial	Arterial

<sup>5</sup> Cape Arago Highway has no sidewalks and narrow shoulders within the study area. However, a shared-use path exists along the east side of Cape Arago Highway. The path is in poor condition and not compliant with ADA standards.

<sup>6</sup> Sidewalks exist along part of Miluk Drive. However, they do not connect to Cape Arago Highway.

<sup>7</sup> Bicycle lanes are present at intersection approaches along US Route 101.

<sup>8</sup> Continuous sidewalks are provided along the west side of the roadway within the project area.

**Figure 9: ODOT Functional Classification Coos Bay**

**Figure 10: Coos County Functional Classification**

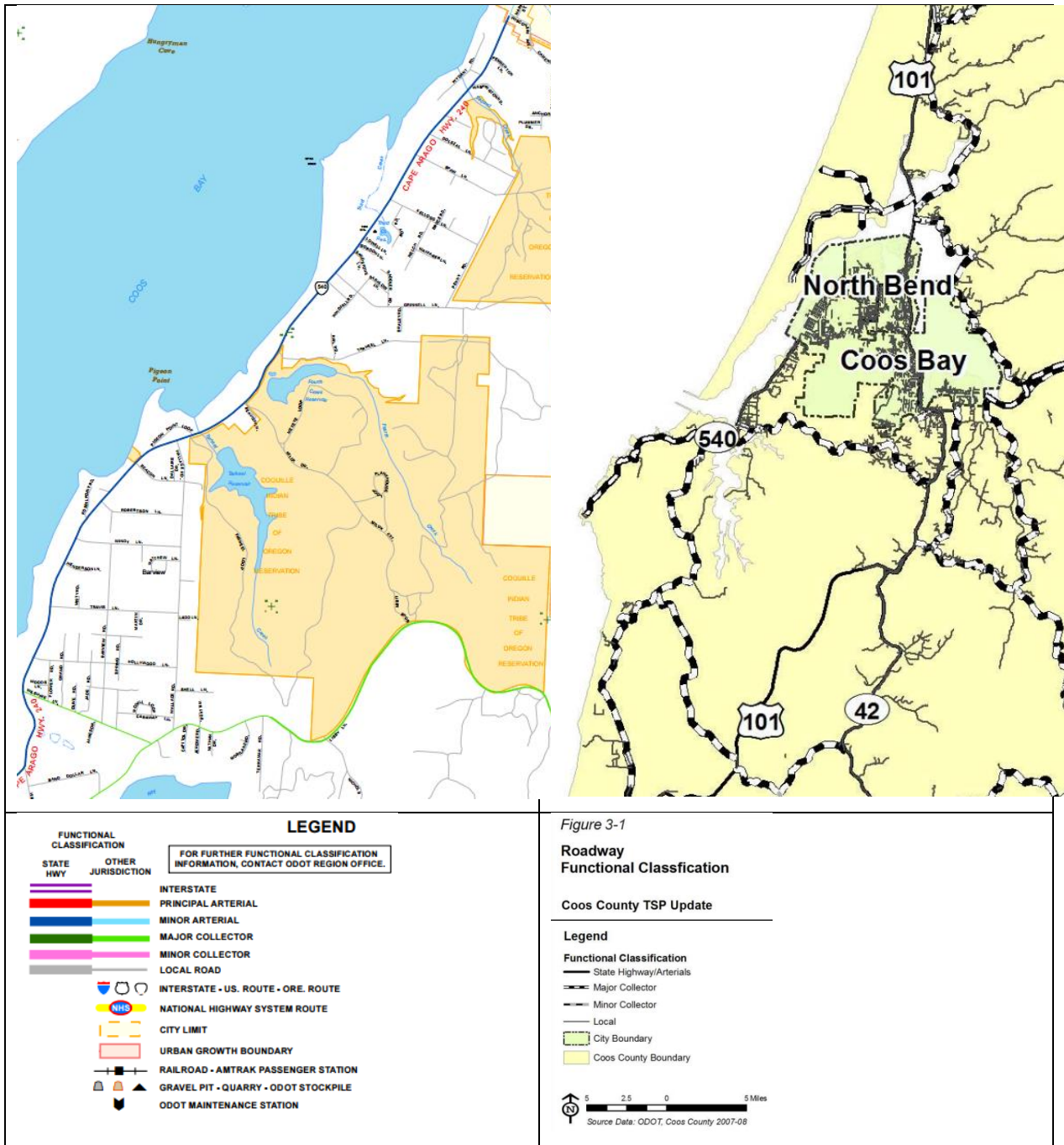
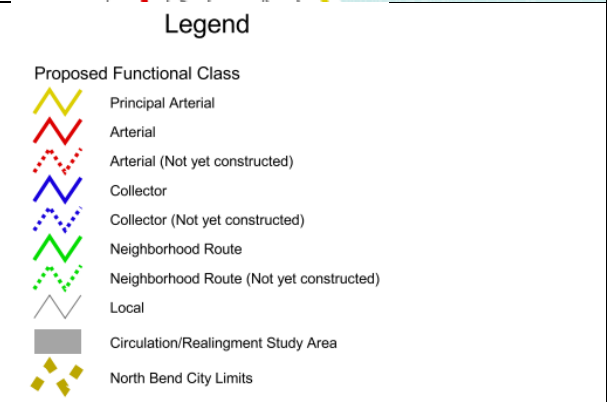
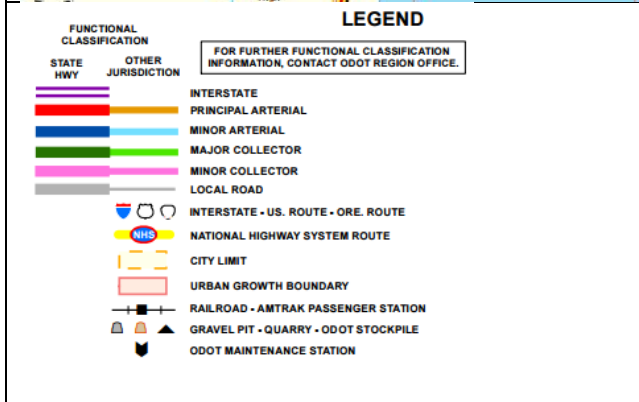


Figure 11: ODOT Functional Classification North Bend

Figure 12: City of North Bend Functional Classification



## *Pedestrian Facilities*

### **North Bend**

As shown in Figure 13, the pedestrian system along US Route 101 only provides sidewalk facilities on the west side of the corridor. Sidewalks are planned as part of the City of North Bend Master Plan along the east side of US Route 101. The overall conditions of the pedestrian facilities along US Route 101 are generally good with regards to spalling/cracking, frequency of pedestrian obstructions, and horizontal/vertical faults. The majority of curb-ramps within the study area meet the needs of the American's with Disability Act (ADA) accessible standards providing tactile warning strips and compliant grades.

### **Empire**

As shown in Figure 14, the pedestrian system along Cape Arago Highway does not provide sidewalk facilities on either side of the corridor. Sidewalks are identified as a planned part of the City of Coos Bay Master Plan. During a site visit to the Coos Bay study area, it was noted that Cape Arago Highway has a multi-use path along the east side of the corridor. However, the quality and consistency of the multi-use path is extremely poor.

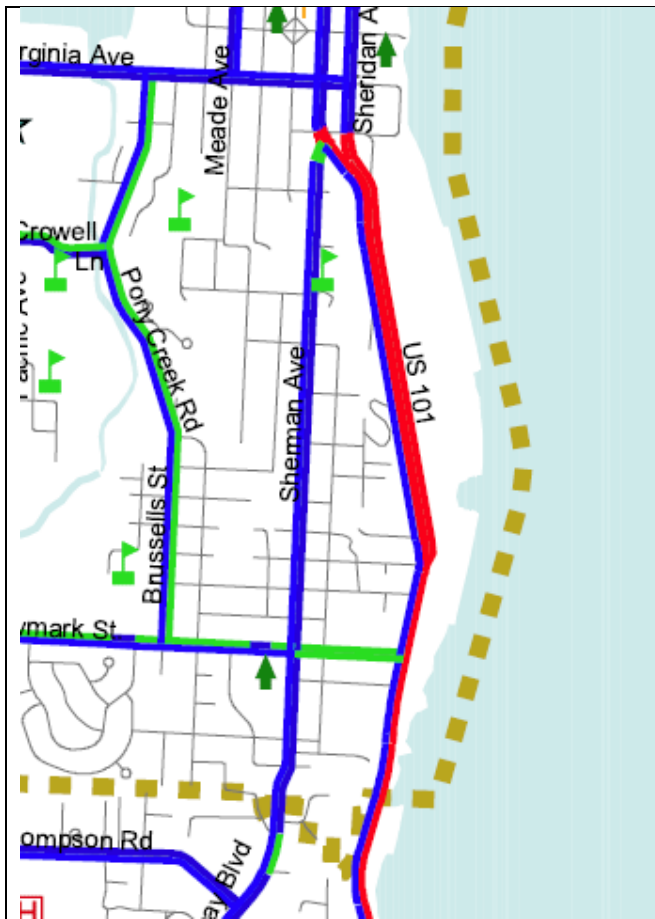
Miluk Drive has sidewalks on both sides of the road east of Mexeye Loop and on the north side only west of Mexeye Loop; though it stops approximately 500 feet short of Cape Arago Highway. Mexeye Loop has sidewalks on one side of the road. Libby Lane has no sidewalks. All other roads within the Empire Site study area are unimproved and do not currently have sidewalk facilities.

A pedestrian crossing conflict point has been identified on Mexeye Loop at the CIT Community Center also referred to as the "triangle area." To reduce the potential of pedestrian and motor vehicle conflicts, it is recommended that the pedestrian crossing be enhanced to provide a more defined and visible space for pedestrian to cross Miluk Drive.

A qualitative multimodal assessment of these facilities is provided in Table 8. Cape Arago Highway is considered to be Fair for pedestrians based on the presence of the multi-use path; but the path itself is in poor condition. Miluk Drive and Mexeye Loop are considered to be Good for pedestrians; however, the Miluk Drive sidewalk gap to Cape Arago Highway needs to be completed. Libby Lane is considered Poor for pedestrians based on the lack of shoulder or sidewalks.

Future needs include upgrade of the multi-use path along Cape Arago Highway, extension of the sidewalk on Miluk Drive to Cape Arago Highway, pedestrian facilities along all on-site roadways as they are improved, and a mixed-use path or protected shoulder along Libby Lane to connect the baseball field area to Wallace Avenue or Wilshire Lane.

Figure 13: North Bend Pedestrian Facilities



Legend

- Sidewalks
- Existing
  - Master Plan
  - Action Plan

Figure 14: Coos Bay Pedestrian Facilities



Legend

- Sidewalks
- Existing
  - Master Plan
  - Action Plan

## *Bicycle Facilities*

### **North Bend**

The majority of US Route 101 does not provide bicycle accommodations. On-street bicycle lanes are provided at the following intersection approaches where designated right-turning lanes are present.

- US Route 101/Newmark Street southbound (approximately 235')
- US Route 101/Mill Casino Driveway northbound (approximately 170')
- US Route 101/RV Park Access northbound (approximately 330')

The remaining segments of the corridor do not provide dedicated bicycle facilities. Bicyclists are expected to share the roadway with motorists.

### **Empire**

On-street bicycle lanes are not currently provided along Cape Arago Highway within the study area. The Empire Boulevard Construction Project has constructed sidewalks and bicycle lanes along Cape Arago Highway extending to the Coos Bay city limit boundary. The Empire Boulevard Construction Project's extents terminate prior to the northern most study intersection and do not include improvements to Cape Arago Highway within the study area.. As noted under the *Pedestrian Facilities* section, a multi-use path is provided along the east side of Cape Arago Highway but the quality and consistency of the multi-use path is poor.

Neither Miluk Drive nor Mexeye Loop have bicycle facilities. The existing roadway traffic volumes and speeds are conducive to bicycles sharing the roadway with vehicles. Libby Lane has no shoulders for bicycles. All other roads within the Empire Site study area are unimproved and do not currently have bicycle facilities.

A qualitative multimodal assessment of these facilities is provided in Table 8. Cape Arago Highway is considered to be Poor for bicycles based on the lack of shoulders and the poor condition of the multi-use path. Miluk Drive and Mexeye Loop are Fair for bicycles as there is no bicycle facility but shared facilities are appropriate under current conditions. Libby Lane is classified as Poor for bicycles based on the lack of shoulders.

Future needs include upgrade of the multi-use path along Cape Arago Highway, possible sharrows or protected area for bicycles on Miluk Drive to Cape Arago Highway, bicycle facilities as deemed appropriate along all on-site roadways as they are improved, and a mixed-use path or shoulders along Libby Lane to connect the baseball field area to Wallace Avenue or Wilshire Lane.

## *Public Transportation Facilities*

The following describes the range of public transportation facilities operating in the two study areas. A qualitative multimodal assessment of transit to the Empire Site is included in Table 8. Transit service is considered to be Fair based on the availability of transit with transit shelters located on-site; although the bus frequency is poor.

Future needs include adequate pedestrian access to the on-site transit stops and increased frequency of service.

### **Coquille Tribal Service Area (ISA)**

Public transportation service is provided through the multiple Tribal Departments including the Community Health and Community Center. The Coquille Tribal Service Area (ISA) public transportation system which includes a fleet of two buses and two vans paid for by State Special Transportation Funds (STF).

### **Regional Transportation Service**

Public transportation service is provided by Coos County Area Transit (CCAT) which operates two loop services throughout Coos Bay and North Bend – the east and the west loops. Both service loops operate from approximately 8:00am to 4:30pm, Monday through Friday. It should be noted that the CCAT is expecting to receive notification regarding a grant applied for in partnership with the CIT in September 2017. The anticipated grant would allow the CCAT to minimize travel times of the various loops recognized below by reducing headways from approximately 90 minutes to 55 minutes in addition to expanding the operating hours of service. A summary of existing CCAT service is provided below.

#### CCAT Loop Service:

- The East Loop runs along the eastern side of Coos Bay extending to the neighboring unincorporated communities of Bunker Hill and East Side. A single loop makes 36 stops over a duration of two hours. Service is provided four times per day to most areas.
  - Day and Hours of Operation: Monday – Friday, four runs between 8:20am to 4:30pm.
- The West Loop runs along the western coast of Coos Bay extending to the neighboring unincorporated communities of Charleston and serving the Empire Site. A single loop makes 35 stops over a duration of two hours. Service is provided four times per day to most areas.
  - Days and Hours of Operation: Monday – Friday, four runs between 8:10am to 4:20pm.

CCAT Intercity Connector: Myrtle Point – Coos Bay: CCAT operates an intercity connector route between Myrtle Point, Coquille, and Coos Bay. Two runs are made per day for service Monday through Friday. The CCAT Intercity Connector fleet includes two 12-passenger buses, which are ADA accessible

- Morning – Departs Myrtle Point at 7:30a.m., makes three stops in Coquille, and makes several stops in Coos Bay before returning to Myrtle Point at 10:00a.m.
- Afternoon – Departs Coquille at 2:15p.m., makes several stops in Coos Bay, returns to Coquille, and makes final stop in Myrtle Point at 4:40p.m.

#### CCAT Intercity Connector: Lakeside – Hauser & Loop Express Connector

CCAT operates a single fixed-route loop between Lakeside, Hauser, North Bend, and Coos Bay along with an express loop between Coos Bay and North Bend. Service is



provided Monday, Wednesday, and Friday. A total of seven runs are made per day, three trips from Lakeside, Hauser, North Bend, and Coos Bay and four trips of the Coos Bay and North Bend express loop.

- Departs Lakeside at 8:30 a.m. with multiple stops in Hauser, proceeds to North Bend, makes several stops throughout Coos Bay, and makes final stop in Coos Bay at 9:46 a.m.
- Service changes to express loop within Coos Bay and North Bend from 9:56 a.m. to 11:08 a.m. before returning to Lakeside to begin the one-way trip from Lakeside, Hauser, North Bend, Coos Bay.

**CCAT Dial-A-Ride**

Public transportation service is provided by CCAT as an origin-to-destination option for wheelchair accessible transportation within Coos Bay, North Bend, Bandon, Coquille, and Myrtle Point. The CCAT Dial-a-ride service vehicle fleet consists of one vehicle for the Coquille area. Riders must request service between the hours of 8:00 a.m. and 5:00 p.m. Monday – Friday at least one day in advance.

- Coos Bay, North Bend, and Bandon: Monday – Friday 8:15 a.m. to 4:30 p.m.
  - Coquille: Monday – Friday 8:15 a.m. to 12:00 p.m. and 1:00 p.m. to 2:00 p.m.
- Myrtle Point: Monday – Friday 10:00 a.m. to 3:00 p.m.
  - Passengers who live three-quarters of a mile or more of a Loop Bus Stop, are over the age of 60, or are a person with a disability are eligible to use this service.

**Curry Public Transit Coastal Express**

Public transit is provided by the Curry Public Transit Coastal Express which operates a fixed-route between Smith River, CA and Oregon communities including Coos Bay and North Bend. Riders are able to flag buses at a location other than a designated stop but must call the dispatcher at least an hour in advance.

- Days and hours of operation include Monday – Friday, hours vary in specific communities.

**Table 8 – Empire Site Qualitative Multimodal Assessment**

	Pedestrian	Bicycle	Transit
Cape Arago Highway	Fair	Poor	Fair
Miluk Drive	Good	Fair	Fair
Mexeye Loop	Good	Fair	Fair
Libby Lane	Poor	Poor	NA

Trucking Routes

The City of North Bend has designated US Route 101 as a primary truck route in the study area, as shown in Figure 15. The City of Coos Bay has designated Cape Arago Highway as a primary truck route and Libby Lane as a secondary truck route in the

study area, as shown in Figure 16. Primary trucking routes are aimed at addressing through movements of trucks rather than local deliveries. The objective of designating a primary trucking route is to allow these routes to focus on design criterion that accommodates trucks by providing 12 foot travel lanes, longer access spacing, and curb returns and pavement design. Secondary trucking routes are planned to provide access for trucks and are primarily attached to county and city owned roadways.

#### *Rail Facilities*

The existing rail system within Coos County plays an integral role in the movements of goods. Imported goods are received by shops and unloaded onto trucks and train cars to be distributed domestically. There are no current locations within Coos County served by passenger rail service.

#### **North Bend**

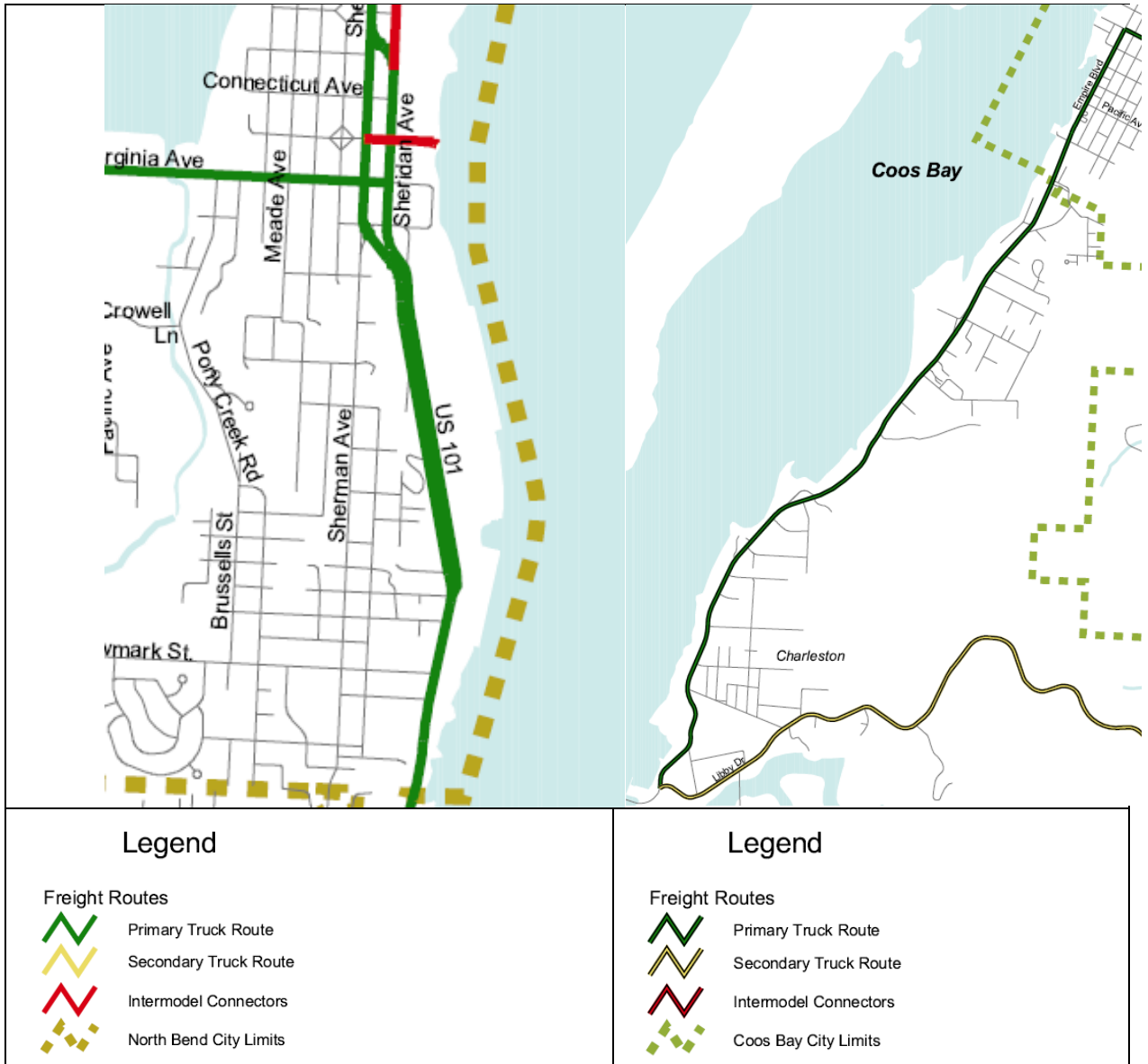
The Coos Bay Branch Line is a 136 mile long rail line running between Eugene and Coquille. Within the North Bend Area, an existing rail line runs parallel on the east side of US 101 within the North Bend study area. All four of the westbound approaches to the project area study intersections cross the rail line including the two signalized intersections located at US 101/Mill Casino Driveway and US 101/Newmark Street and the two unsignalized intersections located at US 101/Old Weyerhauser Access and US 101/RV Park Entrance. Railroad crossing arms are provided at the intersection of US 101/Mill Casino Driveway, all additional study intersections along US 101 are not equipped with crossing arms.

#### **Empire**

There are no existing rail facilities within the Empire Site area or along Cape Arago Highway within the project study area.

Figure 15: North Bend Designated Truck Routes

Figure 16: Coos Bay Designated Truck Routes



## Sanitary Sewer

### *Empire Parcels*

Wastewater collection from the Empire Parcels is provided by the Charleston Sanitary District. The District has a 21-inch diameter line in Cape Arago Highway that feeds wastewater to the Coos Bay Treatment Plant (see next section). There is also an 8-inch diameter sewer line in Miluk Drive that collects wastewater from Kilkich Village and surrounding institutional and cultural uses.

Wastewater treatment is currently provided by the City of Coos Bay at a treatment plant located on the Coos Bay waterfront and accessed from Cape Arago Highway. The City has a new wastewater treatment plant under construction south of this old plant on the inland (east) side of Cape Arago Highway. The new plant is off of Wisconsin Avenue, and very close to the north boundary of the Empire North Parcel. The new plant will have capacity of 8.0 million gallons per day (MGD). This new plant is designed to meet area growth over the next 20 years, including development in the Empire Parcels. As of writing, this new treatment plant will come online in 2017.

### *North Bend Parcels*

Wastewater collection and treatment for the North Bend Parcels is provided by the City of North Bend. The City's wastewater treatment plant is located near the municipal airport, and has a dry capacity of 2.0 MGD (up to 10.0 MGD wet). The City currently has no announced plans to expand this facility.

Main collection infrastructure for the North Bend Parcels consist of a 12-inch diameter sewer main following US 101. One primary lateral main service (8-inch diameter) enters the CIT log storage site, with a second (6-inch diameter) for the casino/hotel site. Service to other CIT properties (administrative offices, etc.) located on the west side of US 101 is through smaller local sewer laterals.

## Drinking Water Supply

Drinking water is currently supplied to the CIT's Empire South and North Bend Parcels by the Coos Bay-North Bend Water Board. The Water Board operates a 12.0 MGD water filtration plant at Pony Creek. The Upper Pony Creek Dam and Reservoir is the primary water storage facility with a 6,230 acre-feet capacity. These facilities are immediately east of the CIT Empire Parcels.

### *Empire Parcels*

The primary water service to the Empire Parcels is through a 12-inch diameter water main (8-inch in some sections) along Cape Arago Highway. This main also provides drinking water to the numerous private homes and businesses along and near to the highway.

Within Empire, the primary drinking water (and sewer) customers are the residential dwelling units located in the South Parcel's Kilkich Village development, and surrounding Tribal offices, operations, and community and agricultural facilities. The primary lateral water service is a 12-inch diameter main from Cape Arago Highway

along Miluk Drive, then through the Village development, and ending at the Plank House area. An 8-inch diameter main runs along Mexeye Loop serving buildings and houses in the Kilkich Village.

#### *North Bend Parcels*

The North Bend Parcel's primary water service is delivered through a 12-inch diameter main along US 101 (termed Tremont Street/Oregon Coast Highway on some Water Board maps).

#### Surface Water

Storm water management within the Empire Parcels and along roadways accessing these parcels is provided through sheet flows, open ditch drainage, and cross culverts as is the conventional practice in rural areas. The exception is the Kilkich Village development which uses piped storm water systems. See Figure 18 for local topography to better understand probable water flows under current conditions.

The CIT's North Bend Parcels are highly urbanized, and primarily use conventional piped storm water management systems. The hotel/casino site is paved, as is the log yard and RV Park. Overflow parking to the west of the RV Park is gravel. Overflow storm water flows into the City of North Bend system and some privately-owned storm sewer lines. Storm water is discharged into Coos Bay.

See the Natural and Cultural Resources section and mapping in this Technical Memorandum, for more information on streams, reservoirs, and other water bodies in the Study Area.

#### Electrical Power

Electrical power is provided in the Coos Bay-area by Pacific Power, an investor-owned utility.

There is a transmission-scale power line owned by Pacific Power that crosses east-west through Empire North, and ends at a major power substation located at Penny Road and Spaw Boulevard just outside the west boundary of the North Parcel, as shown in Figure 17.

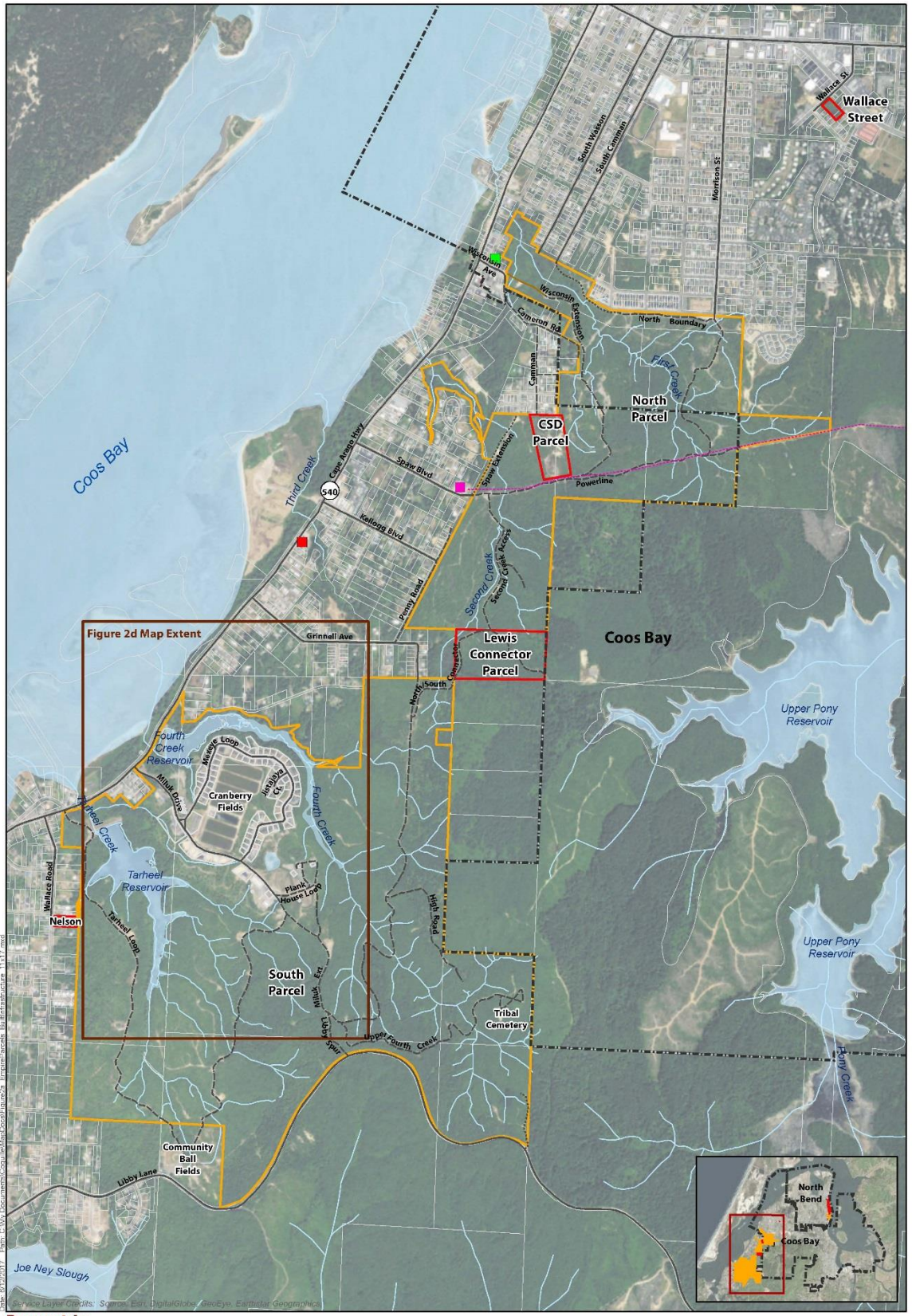
The location and the capacity of this transmission-scale power infrastructure would indicate that electric power transmission upgrades would only be necessary if power intensive industrial uses were developed within Empire, or perhaps with development of similar power intensive uses elsewhere in the Coos Bay area.

#### Natural Gas

Natural gas is provided in the Coos Bay-area by Northwest Natural, an investor-owned utility.

The NW Natural website has a function for determining whether natural gas service is provided in specific areas. Using this system, it was determined the natural gas is NOT available to the Empire Parcels (Note: two locations were tested – Wisconsin Avenue and Kilkich Village). Natural gas is however available to the CIT's North Bend Parcels.

Figure 17. CIT Built Infrastructure

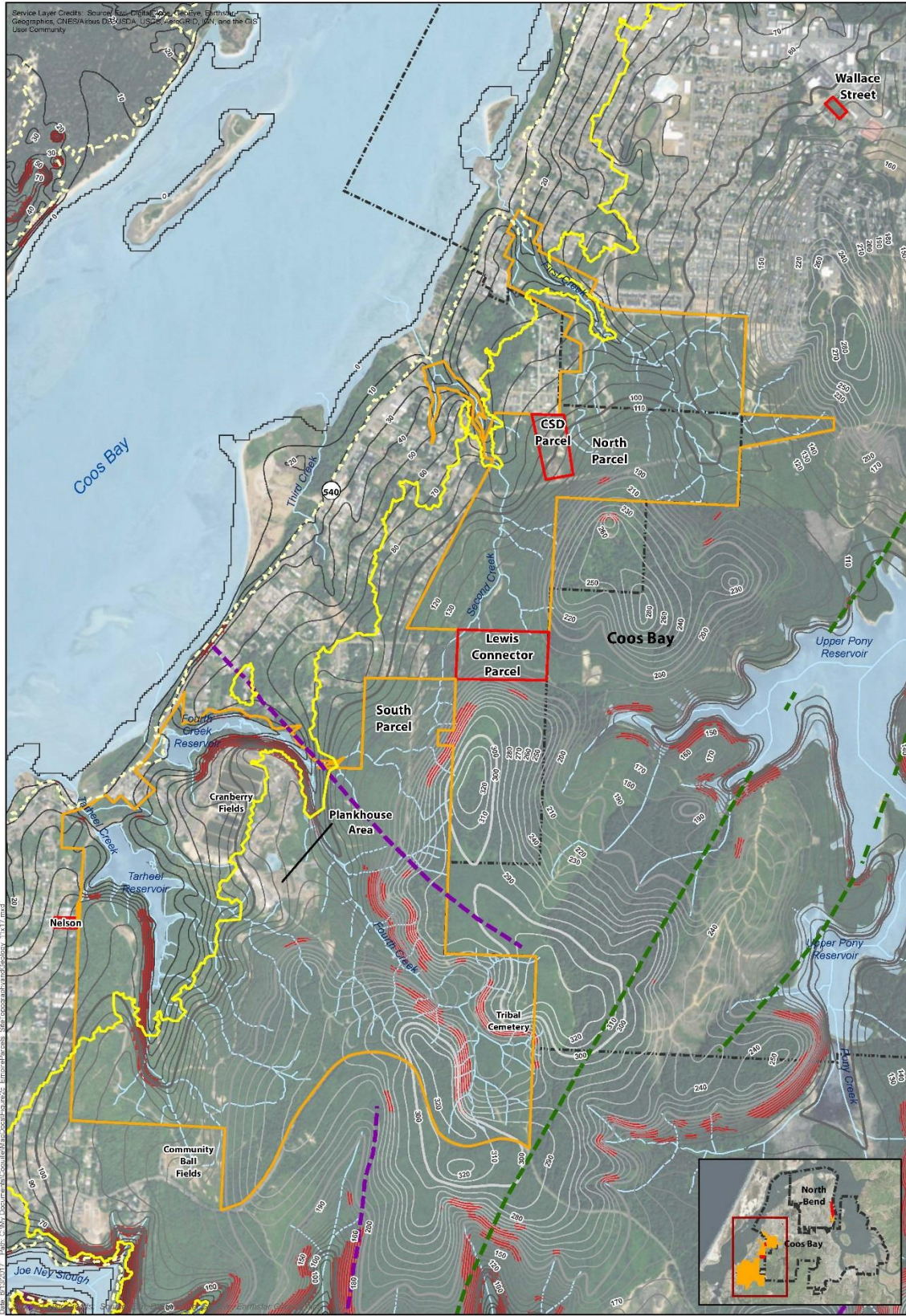


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 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics

- |             |                                 |       |            |
|-------------|---------------------------------|-------|------------|
| City Limit  | Fire Station                    | Paved | Powerline  |
| Parcel      | Power Station                   | Dirt  | Stream     |
| Tribal Land | Regional Sewage Treatment Plant | Rock  | Water Body |
| Fee         |                                 | Trail |            |
| Trust       |                                 |       |            |

**Built Infrastructure**  
 Empire Parcels  
 Coquille Tribe of Oregon

Figure 18. Empire Site Topography and Geology

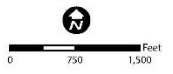


Service Layer Credits: Source: Esri, DeLorme, GeoEye, Earthstar, Geographics, CNES/Airbus D3B, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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- City Limit
- Stream
- Distant Tsunami Evacuation Zone
- Tribal Land Fee
- Tribal Land Trust
- Local Tsunami Evacuation Zone
- Fold
- Fault
- Steep Slope (<math>< 25\%</math>)
- Contours (10 Foot Interval)
- 320+
- 0'

**Site Topography and Geology**  
 Empire Parcels  
 Coquille Tribe of Oregon



## Natural and Cultural Resources

### Statewide Planning Goal 5

Statewide Planning Goal 5: Natural Resources, Scenic and Historic Area, and Open Spaces requires local governments to adopt programs that will protect such resources. The CIT has not formally documented or designated such resources on Coos Bay-area Tribal lands as part of any comprehensive Goal 5 Inventory. No formal Goal 5 inventories conducted by Coos County, or the cities of Coos Bay or North Bend, were found from which Goal 5 Resource information could be extrapolated. County and Tribal plans were reviewed to provide information on potential Goal 5 resources.

The current Coos County Comprehensive Plan includes some "Goal 5"-type policies for Mineral and Aggregate Resources; Fish and Wildlife Habitats; Historic, Cultural and Archeological Resources; Natural Areas; Wilderness Areas; Water Resources; Unique Scenic Resources; Natural Hazards; Dunes; and Ocean and Coastal Lake Shorelines. In addition, the CIT has produced a Hazard Mitigation Plan (2006) and an Empire Property Plan Environmental Assessment (1999) which include information on some natural or cultural resources.

As the CIT's North Bend Parcels are highly altered by well over a century of commercial and industrial use, most of the following information applies only to the Empire Parcels. In addition, as most of the Empire Parcels were logged in advance of the transfer of this land to the Tribe in 1993, various land features, habitats, and species ranges have been significantly altered or lost.

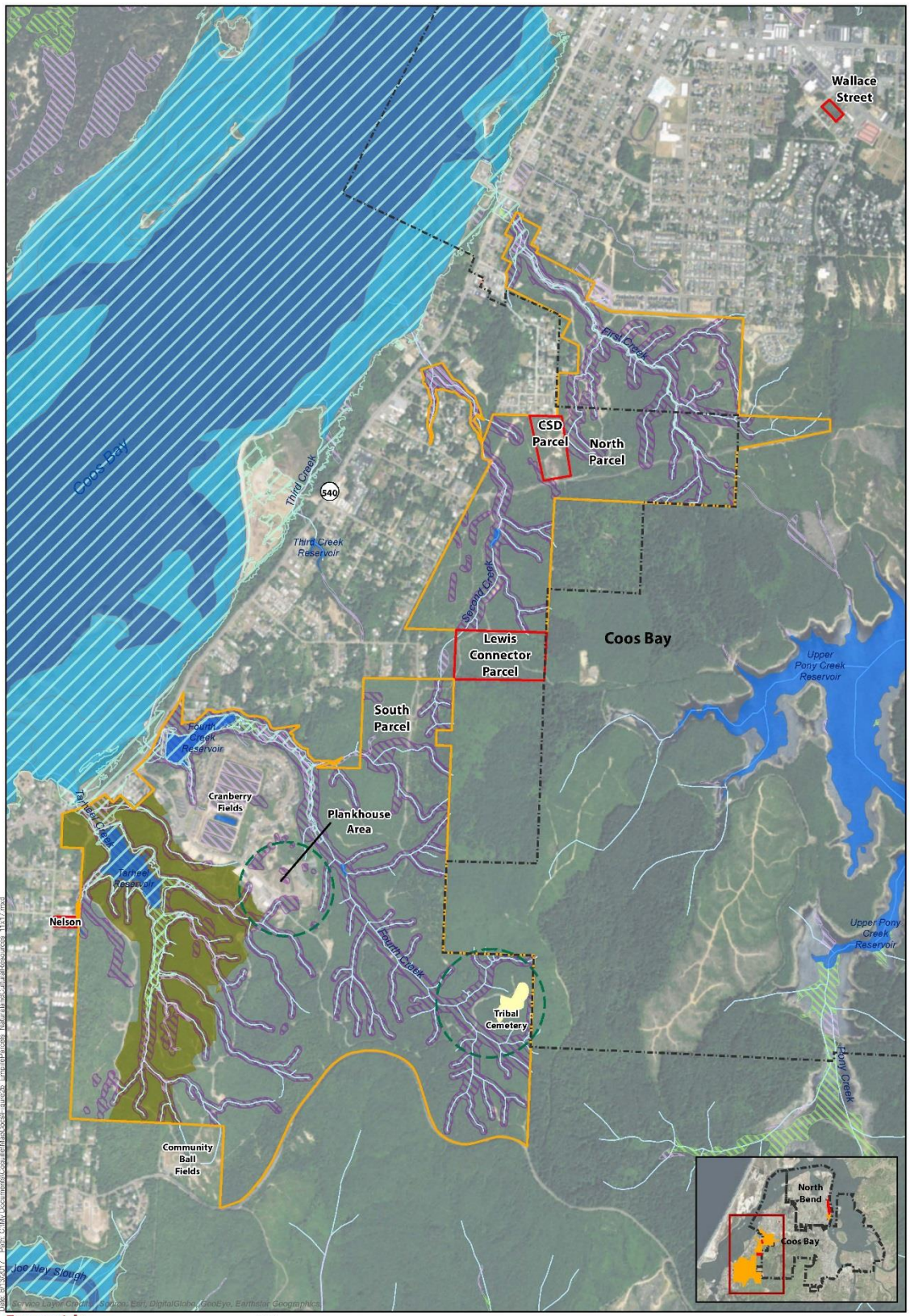
Applicable Goal 5 Resources and the resources named in the CIT Comprehensive Plan statement of work are combined into a single list below. Goal 5 Resources that overlap with those specifically listed in the Comprehensive Plan statement of work are in *italic*. Where there is overlap, the most inclusive name/category is usually used for the purposes of this memorandum.

The CIT Comprehensive Plan statement of work specifically states historic, cultural, and archeological resources were not be inventoried as part of this planning project. In addition, as noted elsewhere in this memorandum, prior development and resource extraction activities on both the Empire and North Bend Parcels have probably altered or eliminated what cultural or archeological resources may have once been present.

Figure 19 shows two areas within Empire South that have some aspects of cultural significance. These are the Plank House site on the southeast edge of Kilkich Village, and the Tribal Cemetery further to the southeast. CIT staff has indicated that the area surrounding the Tribal Cemetery area is also an important site for Tribal members to gather plants with cultural and traditional food significance.



Figure 19. Empire Natural and Cultural Resources



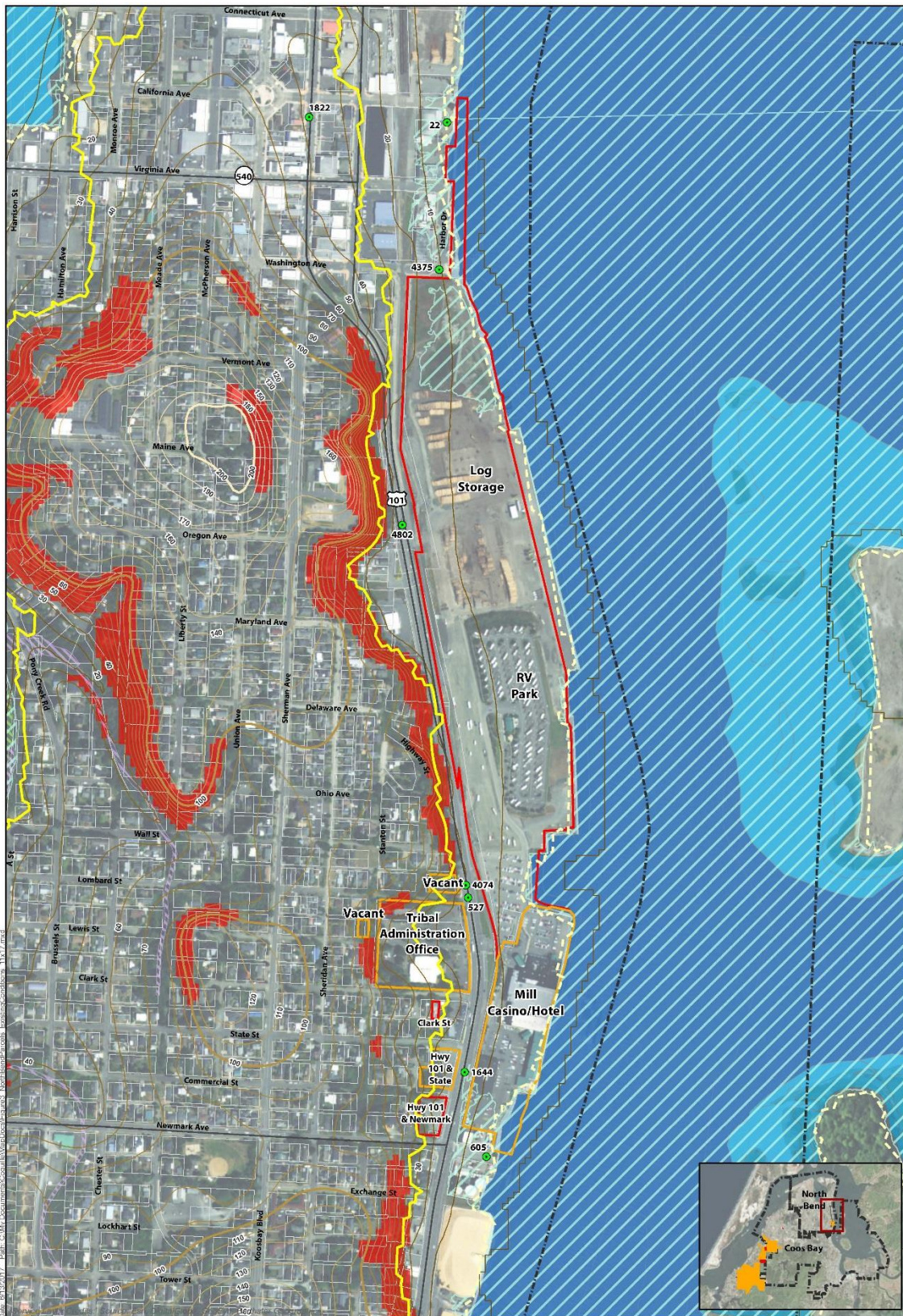
**Parametrix**  
 Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHID), DOGAMI



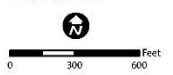
- |             |                                   |                           |
|-------------|-----------------------------------|---------------------------|
| City Limit  | Estuarine and Marine Deepwater    | Stream                    |
| Tribal Land | Estuarine and Marine Wetland      | Cultural/Community Area   |
| Fee         | Freshwater Emergent Wetland       | Riparian Corridor         |
| Trust       | Freshwater Forested/Shrub Wetland | Tarheel Lake Natural Area |
|             | Freshwater Pond; Lake             |                           |
|             | 100-Year Floodplain               |                           |

**Natural and Cultural Resources**  
 Empire Parcels  
 Coquille Tribe of Oregon

Figure 20. North Bend Parcels Natural and Cultural Resources



**Parametrix**  
 Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHDI, DOGAMI)



- City Limit
- Tribal Land
- Fee
- Trust
- Highway/Connector Road
- Parcel

- 100 Year Floodplain
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland & Freshwater Forested/Shrub Wetland

- Environmental Cleanup (Site ID)
- Steep Slope (<25%)
- Distant Tsunami Evacuation Zone
- Local Tsunami Evacuation Zone
- Contours (10 Foot Interval)**
- 200'+
- 0'

**Existing Conditions**  
 North Bend Parcels  
 Coquille Tribe of Oregon

## **Riparian Corridors**

The largest properties within the North Bend Parcels front onto the Coos Bay estuary. The quality of bayside riparian area resources have long been significantly diminished or outright eliminated by prior commercial and industrial development and activities. Developed “hardscape” viewing areas and accesses are present on the bayside of the CIT's casino/hotel complex, and at Harbor Avenue on the far north end of the log storage site.

## **Wetlands and non-Wetland Waters**

Wetlands and non-wetland waters within Empire are illustrated in Figure 19. There are four primary streams draining Empire west into Coos Bay:

- First Creek and Second Creek drain Empire North. The uppermost reach of Second Creek also drains a small section of Empire South and the Lewis Connector Parcel.
- Fourth Creek drains the areas of Empire South roughly northeast of Miluk Drive. This area includes Kilkich Village, the commercial CIT cranberry fields, the Plankhouse Loop area, and the Tribal Cemetery. Fourth Creek is dammed just before the Cape Arago Highway and flows under the highway through a culvert north of the Miluk Drive entry to Kilkich Village. The long and relatively narrow Fourth Creek Reservoir arcs around Kilkich Village (Mexeye Loop). There is also a constructed mitigation wetland associated with the Plank House site.
- Tarheel Creek drains Empire South between Tarheel Loop and Miluk Drive, as well as the Community Ball Fields just outside the Reservation boundary. Tarheel Creek is dammed, creating the Tarheel Reservoir. The Reservoir is somewhat wider than the Fourth Creek Reservoir, at least in the lowest reach. The creek also flows under Cape Arago Highway through a culvert. This area is protected by the Tarheel Lake Natural Area (TLNA) Management Plan adopted by the CIT in 1998. The TLNA boundary is shown in Figure 19. For more information on the TLNA, see Technical Memorandum No. 1.

An additional stream – Third Creek – has a very short reach that ends at the west boundary of the Empire Reservation near Grinnell Avenue.

## **Wildlife Habitat/Endangered Species Act and State-listed Species**

Wildlife habitat values within the Empire and North Bend Parcels have been significantly diminished by prior development; and the case of the Empire Parcels, the removal of nearly all timber in advance of land transfer to the CIT in 1993.

According to a US Fish and Wildlife Service database, there are potentially five non-marine federally listed or proposed endangered or threatened species that may occur in the Coos Bay area. Bird species include Marbled Murrelet, Western Snowy Plover, and Northern Spotted Owl, plus one plant species - Western Lily - and one mammal - Fisher. This is based on general criteria and historic habitat, not actual documentation. For instance, Marbled Murrelets nest in old growth and mature forests, thus the logging of Empire would have extirpated this species.

State of Oregon listed species are not documented in a form that can be tied specifically to the CIT properties. The Coos County Comprehensive Plan identifies six bird species of concern and specifically lists probable habitat areas by tax lot information for Bald Eagle, Great Blue Heron, and Band-tailed Pigeon. None of the identified areas are within the CIT lands.

As noted earlier, the Empire Parcels have no frontage on the Coos Bay estuary. There are however five creeks that drain into the bay from the Empire uplands and adjacent non-tribal residential neighborhoods. There are two anadromous species that spend a portion of their life cycle in marine waters that would have historically been present in these streams:

- Oregon Coast Coho Salmon: This species is listed as Threatened. The culverts through which First, Second, and Third Creek drain, and the dams on Fourth Creek and Tarheel Creek, probably block most if not all fish passage. Stocks of the coastal coho are so depressed that even if fish passage was restored there would be limited fish to repopulate these streams absent a successful coast-wide restoration effort.
- Pacific Lamprey: This lamprey is listed as a Species of Concern. Tribal staff have indicated the recent culvert improvements to Cape Arago Highway in the vicinity of First and Second Creeks have made visible changes to fish passage. For the first time in many decades, lamprey have reappeared in these two streams. Lamprey has important cultural and traditional food significance to the Tribe.

CIT parcels on the eastside of US 101 in North Bend do have bay frontage but this shoreline been significantly altered by long-standing industrial and commercial uses. The current estuary near-shore habitat is therefore no longer entirely suitable for Coho salmon rearing.

### **Federal Wild and Scenic Rivers**

Coos River is not listed as a Federal Wild and Scenic River

### **State Scenic Waterways**

Coos Bay/Coos River is not listed as a State Scenic Waterway

### **Groundwater Resources**

There are no Critical Groundwater Areas or Limited Groundwater Areas designated or mapped by the Oregon Water Resources Department (OWRD) in the Coos Bay area. A search of Oregon Water Resources Department and other allied State of Oregon department websites found no documentation of any designated Large Wellhead Protection Areas.

### **Oregon Recreation Trails**

US 101 and adjacent lands are the accepted route options for the Oregon Coast Bike Route (primarily intended for bicyclists). The Cape Arago Highway and adjacent lands are accepted route alternatives for the Oregon Coast Trail (intended primarily for pedestrian use, and preferred to be on beaches or adjacent uplands).

### **Natural Areas**

There are no designated State of Oregon Natural Areas within either the Empire or North Bend Parcels.

### **Wilderness Areas**

There are no designated Federal Wilderness Areas within either the Empire or North Bend Parcels.

### **Mineral and Aggregate Resources**

Oregon Department of Geology and Mineral Industries (DOGAMI) records were reviewed. There are no State of Oregon recognized mineral or aggregate sites within either the Empire or North Bend Parcels.

### **Energy Sources**

There are no documented or developed facility-based energy sources within either the Empire or North Bend Parcels. There is a transmission-scale power line that crosses the Empire North Parcel and ends at a major power substation on the west side of Penny Lane at Spew Boulevard.

### **Open Spaces**

There are no Open Spaces that have been designated through a Goal 5 process within either the Empire or North Bend Parcels.

### **Scenic Views and Sites**

There are no Scenic Views or Sites that have designated through a Goal 5 process within either the Empire or North Bend Parcels. Tribal staff did indicate that the view from the Tribal Cemetery (located on the southeast quadrant of the Empire South Parcel) towards the Coos Bay estuary should be protected.

### **Floodplains**

Floodplains typically are documented by the Federal Emergency Management Agency (FEMA). See Figure 19 for documented 100-year floodplain within Empire as defined in the 2017 FEMA National Floodplain Database. All documented floodplains are associated with First, Fourth, or Tarheel Creeks. As shown in Figure 20, some 100-year floodplain is located along the Coos Bay shoreline in the North Bend Parcels at the north end of the CIT's log storage yard.

### **Known Hazardous Material Sites**

The Oregon Department of Environmental Quality (ODEQ) documents known hazardous materials sites, and any reports of possible illegal dumping, storage, and other suspect activities. ODEQ records were reviewed and did not include any documentation of such sites within the Empire or North Bend Parcels (note: there are a few sites documented by ODEQ near to the perimeter of the North Bend Parcels).

The CIT's 1999 Empire Property Plan identifies the presence of many approved and informal solid waste dump sites with the Empire Parcels. This 1999 Plan identified two separate but abutting two-acre sites for solid waste consolidation near the south

boundary of the South Parcel close to McLain-Libby Road. No information was found documenting the outcomes, if any, of these recommendations.

### **National Environmental Policy Act 4(f) and 6(f) Resources**

There are no identified 4(f) or 6(f) sites within the Study Area.

### **Topographic Information, including Steep and Unstable Slopes**

Topographic information for the Empire Parcel is shown on Figure 19, and on Figure 20 for the North Bend Parcels. Slopes of 25% or greater are highlighted. For unstable slopes, the DOGAMI records were consulted. No documentation was found that indicated recent or historic landslides in the Study Area. DOGAMI records did however indicate a geologic fault line near Fourth Creek. This fault line is illustrated on Figure 18. Tribal Council members have indicated that other creeks that drain into the Empire Parcels also are along fault lines.

### **Tsunami Inundation Zones**

Tsunami zones are illustrated on Figure 18 for Empire and Figure 20 for the North Bend Parcels. Two "evacuation" zones are demarcated:

- **Distant Tsunami:** This line closely follows the immediate Coos Bay shoreline and generally applies to tsunamis generated by earthquakes far distant from the Oregon coastal marine waters. This would be something like the 2011 earthquake in Japan or the 1964 Alaska earthquake.
- **Local Tsunami:** This evacuation line for a local event falls further upland than for the distant event, and would include something like a Cascadian Subduction earthquake, as well as lower magnitude earthquakes in Oregon marine waters. The lower (western) half of Kilkich Village, and the entirety of the CIT's Mill Casino/Hotel, RV Park, and log storage site, fall within this local zone.

### **Traffic Conditions and Impacts**

Existing traffic conditions were evaluated for each of the study intersections shown in Figures 21A and 21B. The following provides a summary of the state highway classifications, freight route designations, and other roadway characteristics along Cape Arago Highway and US 101 that help determine the v/c ratio.

- **Cape Arago Highway** – Cape Arago Highway is classified as a District Highway. All of the study intersections along Cape Arago Highway are located outside the Coos Bay UGB and City limits with posted speeds of 40 miles per hour (mph) with the exception of the Cape Arago Highway/Wisconsin Avenue intersection, which is located within the Coos Bay UGB and city limits and has a posted speed limit of 35 mph.
- **US 101** – US 101 is part of the state freight route system and classified as a Statewide Highway. All of the study intersections along US 101 are located within the North Bend UGB and city limits with posted speeds of 45 mph.

Table 9 summarizes the performance targets for the study intersections along Cape Arago Highway US 101.

**Table 9 – ODOT Mobility Targets<sup>9</sup>**

Map ID	Intersection	Traffic Control	OHP Standard	HDM Standard
Empire Site				
1	Cape Arago Highway/Wisconsin Avenue	TWSC	0.95	0.80
2	Cape Arago Highway/Spaw Lane	TWSC	0.80	0.75
3	Cape Arago Highway/Grinnell Lane	TWSC	0.80	0.75
4	Cape Arago Highway/Tarheel Lane	TWSC	0.80	0.75
5	Cape Arago Highway/Miluk Drive	TWSC	0.80	0.75
6	Cape Arago Highway/Tarheel Loop	TWSC	0.80	0.75
7	Libby Lane/Ballfield Access Road	TWSC		
North Bend Site				
8	US 101/Old Weyerhauser Access	TWSC	0.85	0.75
9	US 101/RV Park Entrance	TWSC	0.85	0.75
10	US 101/Mill Casino Main Driveway	Signal	0.85	0.75
11	US 101/Newmark	Signal	0.85	0.75

1. TWSC: Two-way stop controlled (un-signalized).

### Existing Traffic Volumes

Traffic counts were conducted at the study intersections in April and June of 2016. Two of the counts were conducted over a 16-hour (6:00 a.m. to 10:00 p.m.) time period while eight of the counts were conducted over a 4-hour (2:00 to 6:00 p.m.) time period.

<sup>9</sup> All of the study intersections are maintained by ODOT. ODOT uses volume-to-capacity (v/c) ratio standards to assess intersections operations. Table 6 of the *Oregon Highway Plan (OHP)* and table 10-2 of the *Oregon Highway Design Manual* provide maximum volume-to-capacity ratios for all signalized and un-signalized intersections outside the Portland Metro area. The OHP ratios are used to evaluate existing and future no-build conditions, while the HDM ratios are used in the creation of future TSP alternatives which involve projects along state highways.

Traffic counts were not conducted at the Libby Lane/Ballfield Access Road intersection due to a gate closure. Table 10 summarizes the traffic count information obtained for the analysis.

**Table 10 – Traffic Count Summary**

Map ID	Intersection	Count Date	Count Type
Empire Site			
1	Cape Arago Highway/Wisconsin Avenue	04/21/16	4-Hour
2	Cape Arago Highway/Spaw Lane	04/21/16	4-Hour
3	Cape Arago Highway/Grinnell Lane	04/21/16	4-Hour
4	Cape Arago Highway/Tarheel Lane	04/26/16	4-Hour
5	Cape Arago Highway/Miluk Drive	06/27/16	16-Hour
6	Cape Arago Highway/Tarheel Loop	04/26/16	4-Hour
7	Libby Lane/Ballfield Access Road	N/A <sup>10</sup>	N/A
North Bend Site			
8	US 101/Old Weyerhauser Access	04/22/16	4-Hour
9	US 101/RV Park Entrance	04/22/16	4-Hour
10	US 101/Mill Casino Driveway	04/22/16	16-Hour
11	US 101/Newmark	04/22/16	4-Hour

PM Peak Hour Development

The traffic counts conducted along US 101 and Cape Arago Highway were reviewed to determine the potential for individual and/or system peak hours for the study areas. Based on the review, a system peak hour was found to occur along US 101 from 2:45 to 3:45 p.m. and another system peak hour was found to occur along Cape Arago Highway from 4:00 to 5:00 p.m. Table 11 summarizes the peak hours at the study intersections. The separate Attachment A document includes the traffic counts.

<sup>10</sup> Traffic counts for the intersection of Libby Lane/Ballfield Access Road were unable to be obtained due to a closed gate at the Ballfield Access Road leg of the intersection.



**Table 11 – Peak Hour Summary**

Map ID	Intersection	System Peak Hour
Empire Site		
1	Cape Arago Highway/Wisconsin Avenue	4:00 p.m.
2	Cape Arago Highway/Spaw Lane	4:00 p.m.
3	Cape Arago Highway/Grinnell Lane	4:00 p.m.
4	Cape Arago Highway/Tarheel Lane	4:00 p.m.
5	Cape Arago Highway/Miluk Drive	4:00 p.m.
6	Cape Arago Highway/Tarheel Loop	4:00 p.m.
7	Libby Lane/Ballfield Access Road	N/A
North Bend Site		
7	US 101/Old Weyerhauser Access	2:45 p.m.
8	US 101/RV Park Entrance	2:45 p.m.
9	US 101/Mill Casino Driveway	2:45 p.m.
10	US 101/Newmark	2:45 p.m.

Seasonal Adjustment Factor

The 30<sup>th</sup> Highest Hour Volumes (30 HV) for the Coquille Indian Tribe Comprehensive Plan were developed based on the traffic counts collected at the study intersection and the application of seasonal adjustment factors consistent with the methodology identified in the ODOT Analysis Procedures Manual (APM). The APM identifies three methods for identifying seasonal adjustment factors for highway traffic volumes. All three methods utilize information provided by Automatic Traffic Recorders (ATR) located in select locations throughout the State Highway System that collect traffic data 24-hours a day/365 days a year. Each method was evaluated to determine the most appropriate method for the study intersections. Based on the evaluations, the ATR characteristics table method was used to develop 30 HV volumes at the study intersections.

Empire Site (ATR #06-004)

The ATR selected for the Empire Site (ATR #06-004) is located along US 101 approximately 26-miles south of the Tarheel Loop/Cape Arago Highway intersection in Bandon, Oregon. The ATR was installed in September 1954 and has traffic count data for the last 29 years. Based on historical traffic data provided by the ATR, the Peak Month generally occurs in August. Table 12 summarizes the average weekday traffic percent of average daily traffic (ADT) for the past five years.

**Table 12 – Seasonal Adjustment Factor (ATR #06-004)**

Year	2011	2012	2013	2014	2015	Average	Seasonal Adjustment
Peak Month (August)	136	134	132	134	132	133.33	N/A
Count Month (April)	97	101	101	97	98	98.33	1.35
Count Month (June)	116	117	114	117	118	116.67	1.14

Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table 12, the traffic counts conducted within the Empire Site along Cape Arago Highway have been seasonally adjusted by a factor of 1.35 (if counted in (if counted in April) and 1.14 (if counted in June). While the APM indicates the seasonal adjustment factors of greater than 1.30 should not be used, the adjustment was discussed with TPAU and ultimately approved for this analysis.

North Bend (ATR #06-009)

The ATR selected the North Bend site (ATR #06-009) is located approximately seven miles south of the US 101/Newmark Street intersection in Coos Bay, Oregon. The ATR was installed in September 1999 and has traffic count data for the last sixteen years. Based on historical traffic data provided by the ATR, the Peak Month generally occurs in August. Table 13 summarizes the average weekday traffic percentage of average daily traffic (ADT) for the past five years.

**Table 13 – Seasonal Adjustment Factor (ATR #06-009)**

Year	2011	2012	2013	2014	2015	Average	Seasonal Adjustment
Peak Month (August)	129	124	121	124	122	123.33	N/A
Count Month (April)	109	105	105	104	104	104.67	1.18

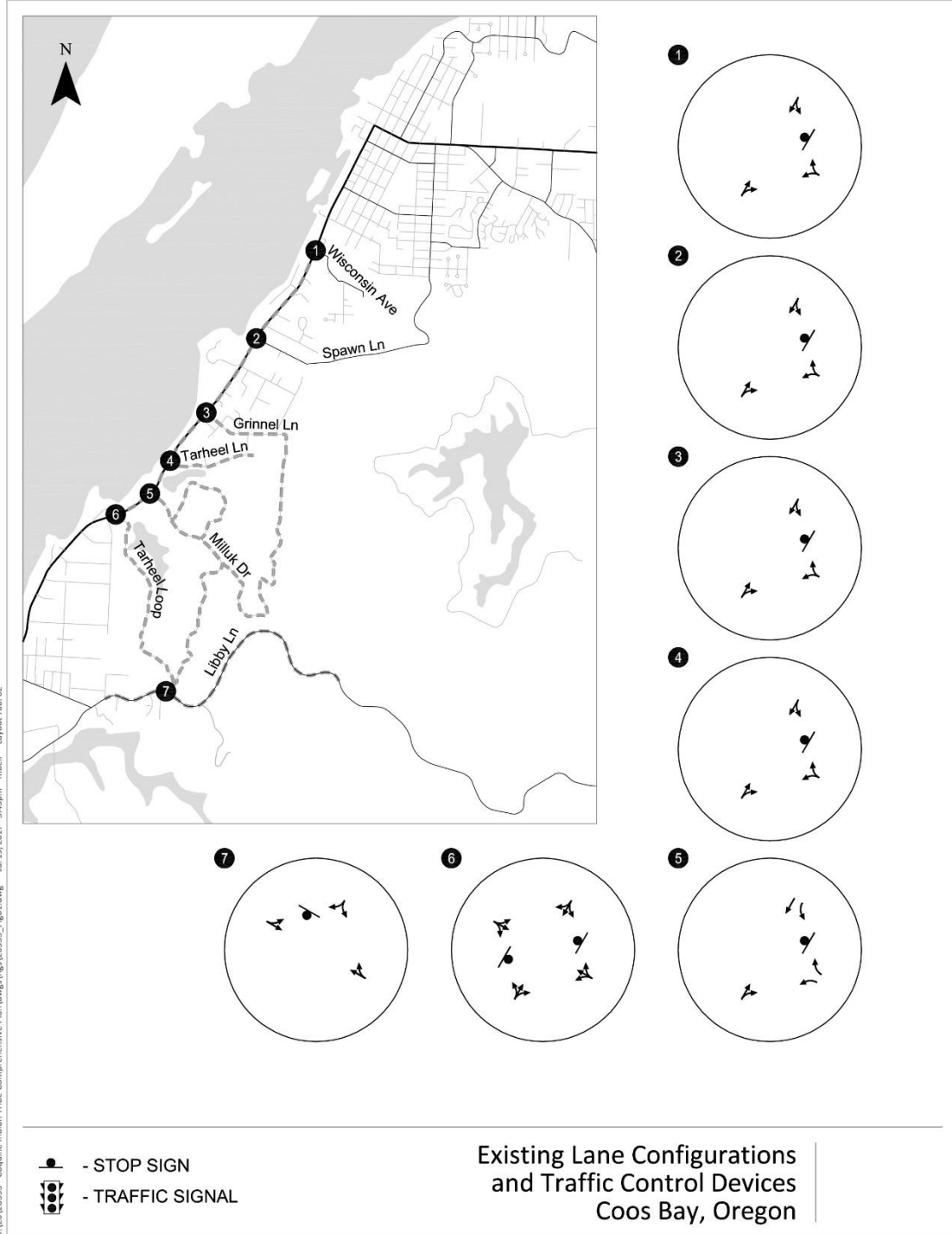
Note: Shaded values dropped from average calculation per ODOT methodology.

Based on the data shown in Table 13, the traffic counts conducted within the North Bend site along US 101 will be seasonally adjusted by a factor of 1.18.

### Existing Conditions

Existing lane configurations and traffic control devices at each of the study intersections are shown in Figure 21a and 21b. Existing traffic volumes (2017 30 HV) and corresponding operations for each site are shown in Figure 22a and 22b.

Figure 21a – Existing Lane Configurations and Traffic Control Devices, Coos Bay



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Figure 21b – Existing Lane Configurations and Traffic Control Devices, North Bend

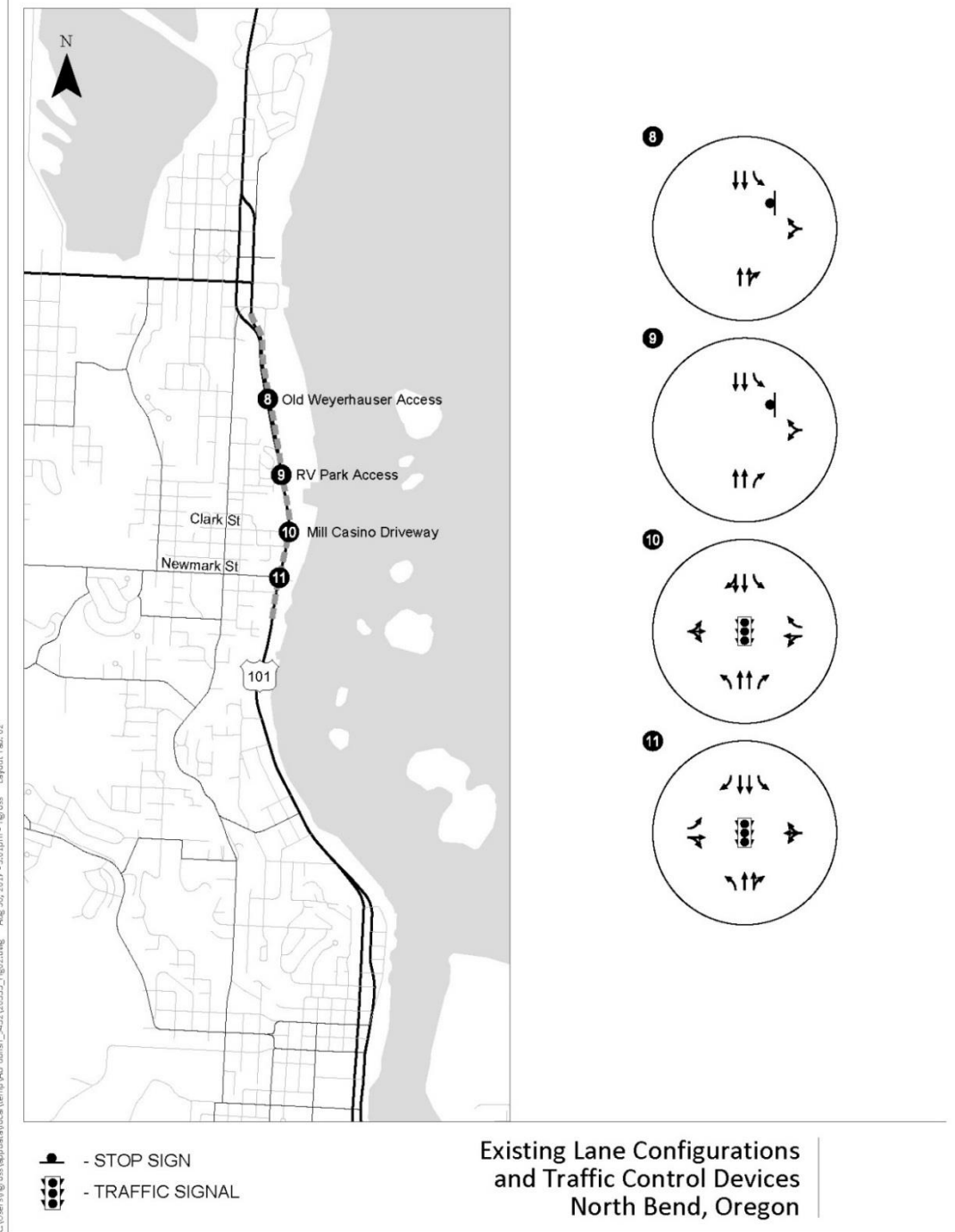
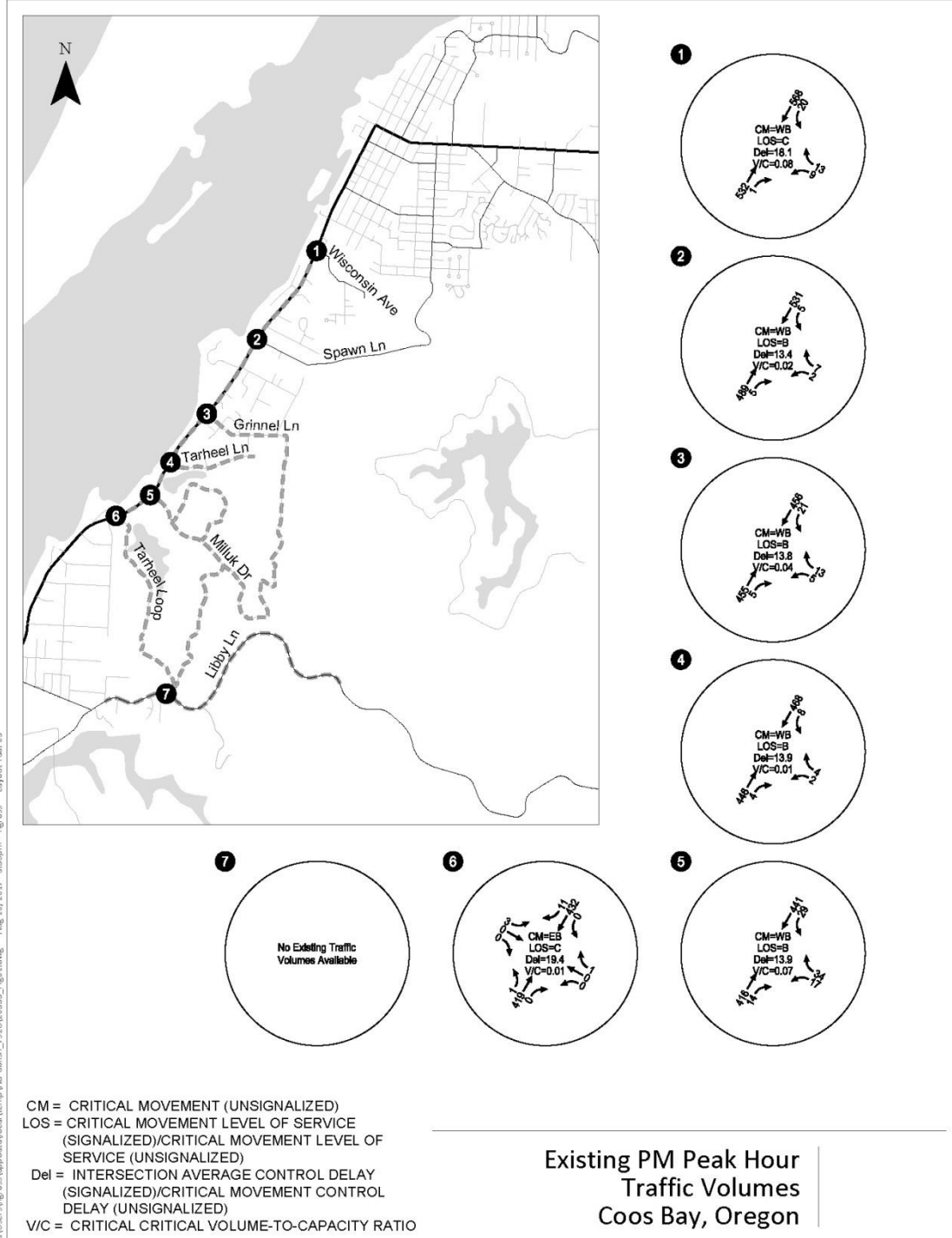
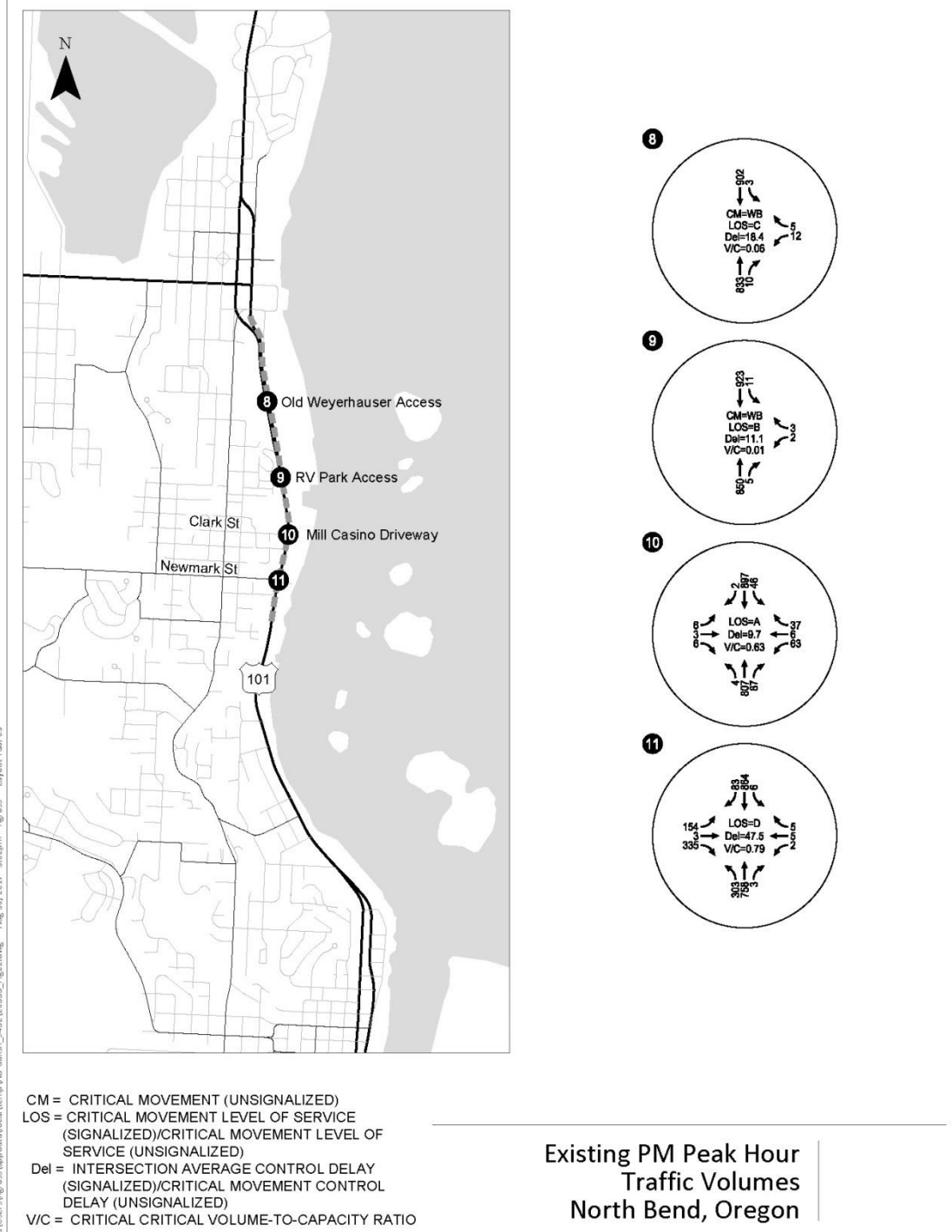


Figure 22a – Existing PM Peak Hour Traffic Volumes, Coos Bay



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Figure 22b – Existing PM Peak Hour Traffic Volumes, North Bend



The 2000 Highway Capacity Manual (HCM 2000) methodology was used to analyze traffic operations at the signalized intersections while the HCM 2010 methodology was used to analyze traffic operations at the un-signalized intersections. As shown, all study intersections currently operate acceptably. The separate Attachment B document includes the existing conditions analysis worksheets.

Queueing

A queueing analysis was conducted at the signalized study intersections. Table 14 summarizes the 95th percentile queues during the weekday p.m. peak hour under existing traffic conditions. The vehicle queue and storage lengths were rounded to the nearest 25-feet. The storage lengths reflect the striped storage for each movement at the intersections. The separate Attachment C document includes the queueing worksheet.

**Table 14 – Weekday PM Peak Hour Queueing**

Intersection	Movement	95 <sup>th</sup> Percentile Queue <sup>11</sup>		Storage Length (feet)	Adequate?
		Existing 2017	Future 2035		
North Bend Site					
US 101/Mill Casino Drive	EBT	25	25	250	Yes
	WBT	75	75	250	Yes
	WBR	0	0	250	Yes
	NBL	25	25	150	Yes
	NBT	275	325	1075	Yes
	NBR	25	50	175	Yes
	SBL	25	50	225	Yes
	SBT	350	400	N/A	Yes
US 101/Newmark Street	EBL	#250	#250	225	No
	EBT	75	75	625	Yes
	WBT	25	25	150	Yes
	NBL	#325	#650	125	No
	NBT	275	325	N/A	Yes
	SBL	25	25	150	Yes
	SBT	550	650	1075	Yes
SBR	0	25	225	Yes	

Where WB = Westbound, SB = Southbound, EB = Eastbound, NB = Northbound, L = Left, R = Right  
 #: 95<sup>th</sup> percentile volume exceeds capacity, queue may be longer.  
 N/A: Queue length is unlimited as through movement capacity.

<sup>11</sup> Queues calculated with Synchro not microsimulation.



As shown in Table 14, the US 101/Newmark Street study intersection currently has two 95th percentile queues that exceed the striped storage for the movements:

- The eastbound left-turn movement exceeds the striped storage for the associated movement by approximately 25-feet.
- The northbound left-turn movement exceeds the striped storage for the associated movement by approximately 200-feet. However, there is sufficient storage space located within the two-way left-turn lane to accommodate the queues.

## **Crash Analysis**

The five most recent years of crash data were reviewed at study intersections along Cape Arago Highway and US 101 in an effort to identify any potential safety issues that could be addressed as part of the CIT Comprehensive Plan. ODOT provided the five most recent years of crash data available for study intersections which included data from January 1, 2010 through December 31, 2014. Table 15 summarizes the crash history of the study intersections over the five-year period.

**Table 15 – Intersection Crash Summary (January 1, 2010 to December 31, 2014)**

Location	Crash Type						Severity			
	Angle	Turn	Rear-End	Side Swipe	Fixed Object	Ped/Bike	PDO <sup>1</sup>	Injury	Fatal	Total
Empire Site										
Cape Arago Highway/Wisconsin Ave	0	0	3	0	0	0	1	2	0	3
Cape Arago Highway/Spaw Lane	0	0	1	0	0	0	1	0	0	1
Cape Arago Highway/Grinnell Lane	0	1	3	0	0	0	1	3	0	4
Cape Arago Highway/Tarheel Lane	0	0	4	0	0	0	3	1	0	4
Cape Arago Highway/Miluk Drive	0	0	0	0	1	0	1	0	0	1
Cape Arago Highway/Tarheel Loop	0	1	1	0	1	0	2	1	0	3
Libby Lane/Ballfield Access Road										
North Bend Site										
US 101/Old Weyerhauser Access	0	0	0	0	0	0	0	0	0	0
US101/RV Park Entrance	0	0	0	0	0	0	0	0	0	0
US 101/Mill Casino Driveway	0	2	1	0	2	0	4	1	0	5
US 101/Newmark Street	0	19	11	0	2	0	15	17	0	32

Critical crash rates were calculated for each of the study intersections following the analysis methodology presented in ODOT's *SPR 667 Assessment of Statewide Intersection Safety Performance*. SPR 667 provided average crash rates at a variety of intersection configurations in Oregon based on a number of approaches and traffic control types. The average crash rate represents the approximate number of crashes that are "expected" at a study intersection. The intersection critical crash rate assessment for the study intersections is summarized in Table 16. The separate Attachment D document contains the crash data provided by ODOT and the critical crash rate work sheet.

**Table 16 – Intersection Critical Rate Assessment**

Intersection	Critical Crash Rate by Intersection	Critical Crash Rate by Volume	Observed Crash Rate at Intersection	90 <sup>th</sup> Percentile rate	Observed Crash Rate > Critical Crash Rate?	Observed Crash Rate > 90 <sup>th</sup> Percentile Rate
Empire Site						
Cape Arago Highway/Wisconsin Avenue	0.79	0.50	0.19	0.475	No	No
Cape Arago Highway/ Spaw Lane	0.81	0.51	0.07	0.475	No	No
Cape Arago Highway/Grinnell Lane	0.83	0.57	0.30	0.475	No	No
Cape Arago Highway/ Tarheel Lane	N/A	N/A	0.32	0.475	No	No
Cape Arago Highway/Miluk Drive	0.83	0.57	0.08	0.475	No	No
Cape Arago Highway/Tarheel Loop	1.62	0.59	0.25	1.08	No	No
Libby Lane/Ballfield Access Road						
North Bend Site						
US 101/Old Weyerhauser Access	0.49	0.37	0.00	0.293	No	No
US 101/RV Park Entrance	0.49	0.37	0.00	0.293	No	No
US 101/Mill Casino Main Driveway	N/A	N/A	0.16	0.86	No	No
US 101/Newmark Street	N/A	N/A	0.77	0.86	No	No

Safety Priority Index System

The ODOT Statewide Priority Index System (SPIS) identifies sites along state highways where safety issues warrant further investigation. The SPIS is a method developed by ODOT for identifying hazard locations on state highways through consideration of crash frequency, crash rate, and crash severity. Sites identified within the top five percent are investigated by ODOT staff and reported to the Federal Highway Administration (FHWA). Per the most recent SPIS list, the US 101/Newmark Street intersection is identified by ODOT as within the top ten percent of crash sites over the most recent five-year period of available data. ODOT investigated the SPIS site and continues to monitor improvements made to the flashing yellow left turn arrow (FYLTA) operation.

US 101/Newmark Street

As shown in Table 15, a total of 32 crashes occurred at the US 101/Newmark Street intersection over the five year periods. Of the 32, crashes, 20 involved turning movements and 11 involved rear-end crashes.

Of the 19 turning movement crashes, 15 occurred in the southbound direction when a vehicle traveling northbound attempted to make a left-turn onto Newmark Street. The majority of these crashes occurred on a clear, dry day when a motorist did not have the right-of-way and attempted a left-turn in front of an oncoming vehicle. Two crashes occurred when a westbound vehicle attempted to turn right onto US 101 and was struck by an oncoming vehicle northbound on US 101, one occurred when a westbound vehicle attempted to turn left onto US 101 and was struck by an oncoming

vehicle southbound on US 101, and one occurred when a northbound vehicle turned right and a southbound vehicle turned left.

Of the 11 rear-end crashes, four occurred in the northbound direction, four in the southbound direction, and three in the eastbound direction. The majority of these crashes occurred on a clear, dry, day when a motorist was following too closely and failed to avoid a slowed or stopped vehicle in the roadway.

## **Future 2035 Baseline Traffic Conditions**

Future forecast 2035 baseline traffic volumes were developed for the study intersections based on the methodology described in the Methodology Memo. The methodology combines the year 2017 30 HV traffic volumes developed at the study intersections with base year 2017 and future year 2035 traffic volume forecasts from the currently accepted Coos Bay – North Bend travel demand model. This model includes planned growth in the cities of Coos Bay and North Bend along with regional growth but does not include any growth for the CIT properties in either of the study areas.

The 2035 future baseline traffic volumes and corresponding operations are shown in Figures 23a and 23b. The separate Attachment “E” document includes the future baseline conditions analysis worksheets.

## **Access Spacing Standards**

### ODOT Standards

Oregon Administrative Rule 734, Division 51 establishes procedures, standards, and approval criteria used by ODOT to govern highway approach permitting and access management consistent with Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), statewide planning goals, acknowledged comprehensive plans, and the OHP. The OHP serves as the policy basis for implementing Division 51 and guides the administration of access management rules, including mitigation and public investment, when required, to ensure highway safety and operations pursuant to this division.

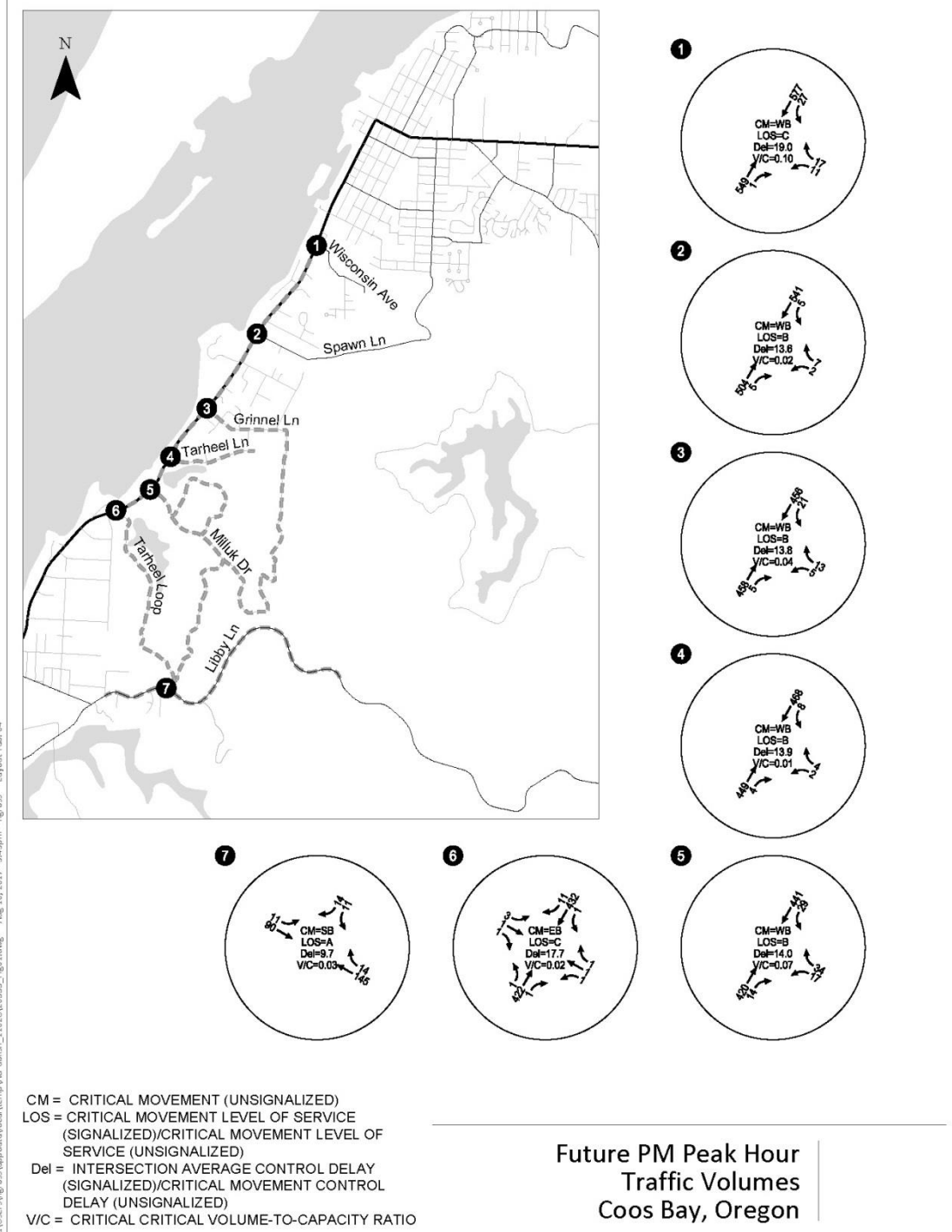
Access management standards for approaches to state highways are based on the classification of the highway and highway designation, type of area, and posted speed. Within the Coos County limits, the OHP classifies Cape Arago as a District Highway. Within the North Bend city limits, the OHP classifies US 101 as a Statewide Highway. Future developments along Cape Arago Highway and US 101 (new development, redevelopment, zone changes, and/or comprehensive plan amendments) will be required to meet the OHP access management policies and standards. Table 2 summarizes ODOT's current access management standards for Cape Arago Highway and US 101 per the OHP.

**Table 17: OR 99E Access Spacing Standards**

	Average Annual Daily Traffic	Highway Classification	Posted Speed (MPH)	Area Type	Spacing Standards (Feet) <sup>1</sup>
Cape Arago Highway	>5,000	District Highway	40	Urban	500
US 101	>5,000	Statewide Highway	45	Urban	800

<sup>1</sup> These access management spacing standards do not apply to approaches in existence prior to April 1, 2000 except as provided in OAR 734-051-5120(9).

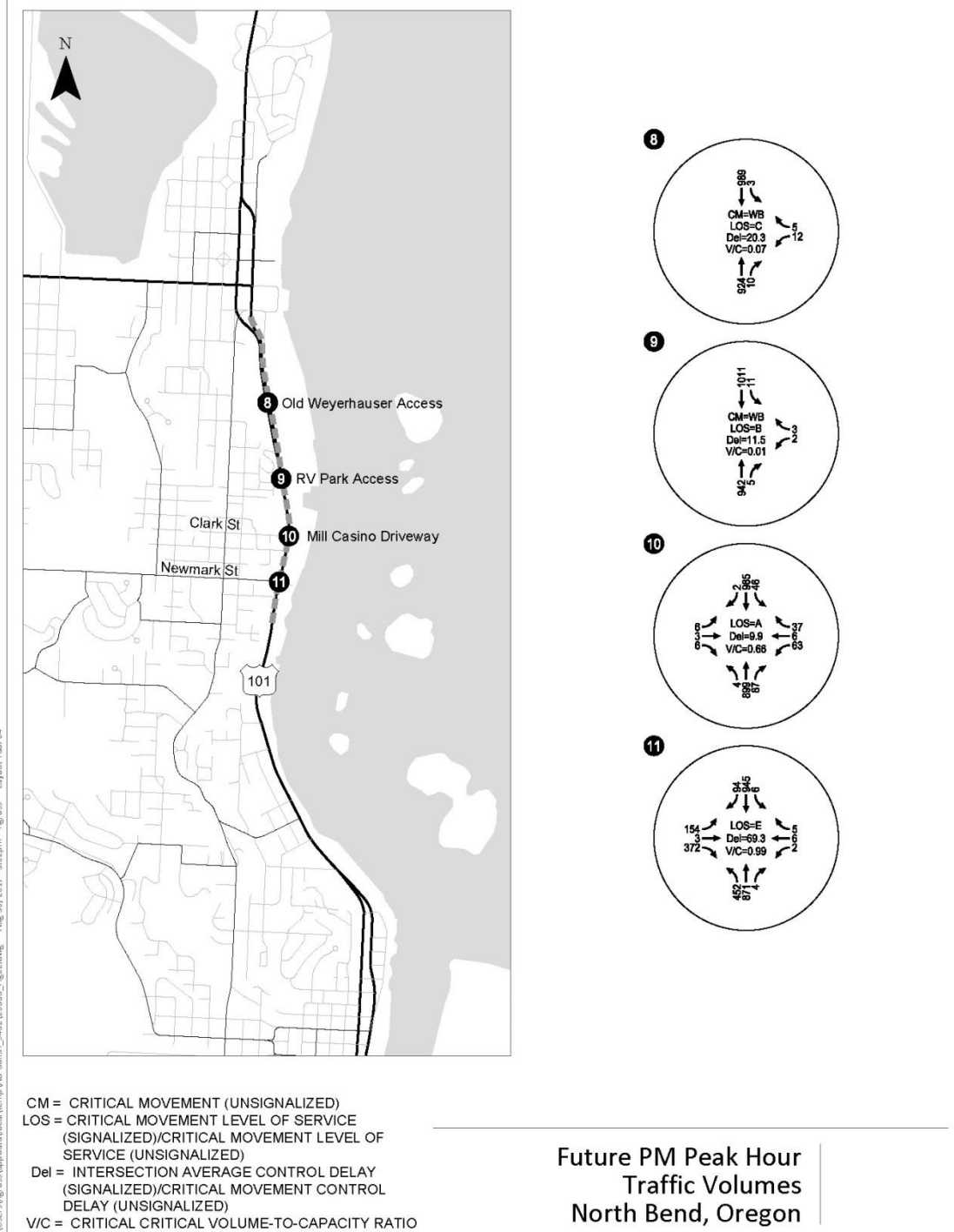
Figure 23a – Future PM Peak Hour Traffic Volumes, Coos Bay



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Figure 23b – Future PM Peak Hour Traffic Volumes, North bend



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As shown, all study intersections are forecast to operate acceptably with the exception of US101/Newmark Street. This intersection is forecast to operate with a v/c of 0.99 which exceeds the ODOT's standard of 0.85. Assuming a linear growth factor, this intersection is forecasted to exceed ODOT's v/c target in the future by approximately year 2023.

### **Transportation Summary**

- Exiting Conditions
  - All study intersections currently operate acceptably; however, the US101/Newmark Street intersection has 95th percentile queues that exceed the existing striped storage.
- Growth
  - The analysis conducted as part of the Future 2035 Baseline Traffic Conditions assumes no growth within the CIT properties but does assume local and regional background growth.
- Future Conditions
  - Under Future 2035 Baseline Conditions all intersections are forecast to operate acceptably with the exception of the US101/Newmark Street intersection which is forecast to operate with a v/c ratio of 0.99.
  - US 101/Newmark Street intersection has 95th percentile queues that exceed the existing striped storage. The increased queue length for the northbound left-turn approach can be accommodated by sufficient space located within the two-way left-turn lane.
- Crash History
  - The US 101/Newmark Street intersection has been identified by ODOT as a SPIS site and is the only study intersection identified by ODOT as within the top ten percent of crash sites over the last five-year period.
- Pedestrian System – Empire Site
  - Cape Arago Highway is considered to be Fair for pedestrians based on the presence of the multi-use path; however, the path itself is in poor condition.
  - Miluk Drive and Mexeye Loop are considered to be Good for pedestrians; however, the Miluk Drive sidewalk gap to Cape Arago Highway needs to be completed.
  - Libby Lane is considered Poor for pedestrians based on the lack of shoulder or sidewalks.
  - Future needs include upgrade of the multi-use path along Cape Arago Highway, extension of the sidewalk on Miluk Drive to Cape Arago Highway, pedestrian facilities along all on-site roadways as they are improved, and a mixed-use path or protected shoulder along Libby Lane to connect the baseball field area to Wallace Avenue or Wilshire Lane.
- Bicycle System – Empire Site
  - Cape Arago Highway is considered to be Poor for bicycles based on the lack of shoulders and the poor condition of the multi-use path.



- Miluk Drive and Mexeye Loop are considered to be Fair for bicycles as there is no bicycle facility but shared facilities are appropriate under current conditions.
- Libby Lane is considered Poor for bicycles based on the lack of shoulders.
- Future needs include upgrade of the multi-use path along Cape Arago Highway, possible sharrows or protected area for bicycles on Miluk Drive to Cape Arago Highway, bicycle facilities as deemed appropriate along all on-site roadways as they are improved, and a mixed-use path or shoulders along Libby Lane to connect the baseball field area to Wallace Avenue or Wilshire Lane.
- Transit System – Empire Site
  - Transit service to the CIT is considered to be Fair based on the availability of transit with transit shelters located on-site; however the bus frequency is poor.
  - Future needs include adequate pedestrian access to the on-site transit stops and increased frequency of service.

## **Next Steps**

Results from TM #1 and TM #2 will be used to develop Technical Memorandum #3: Opportunities and Constraints.

## Appendix: Socio-economic and Demographic Information

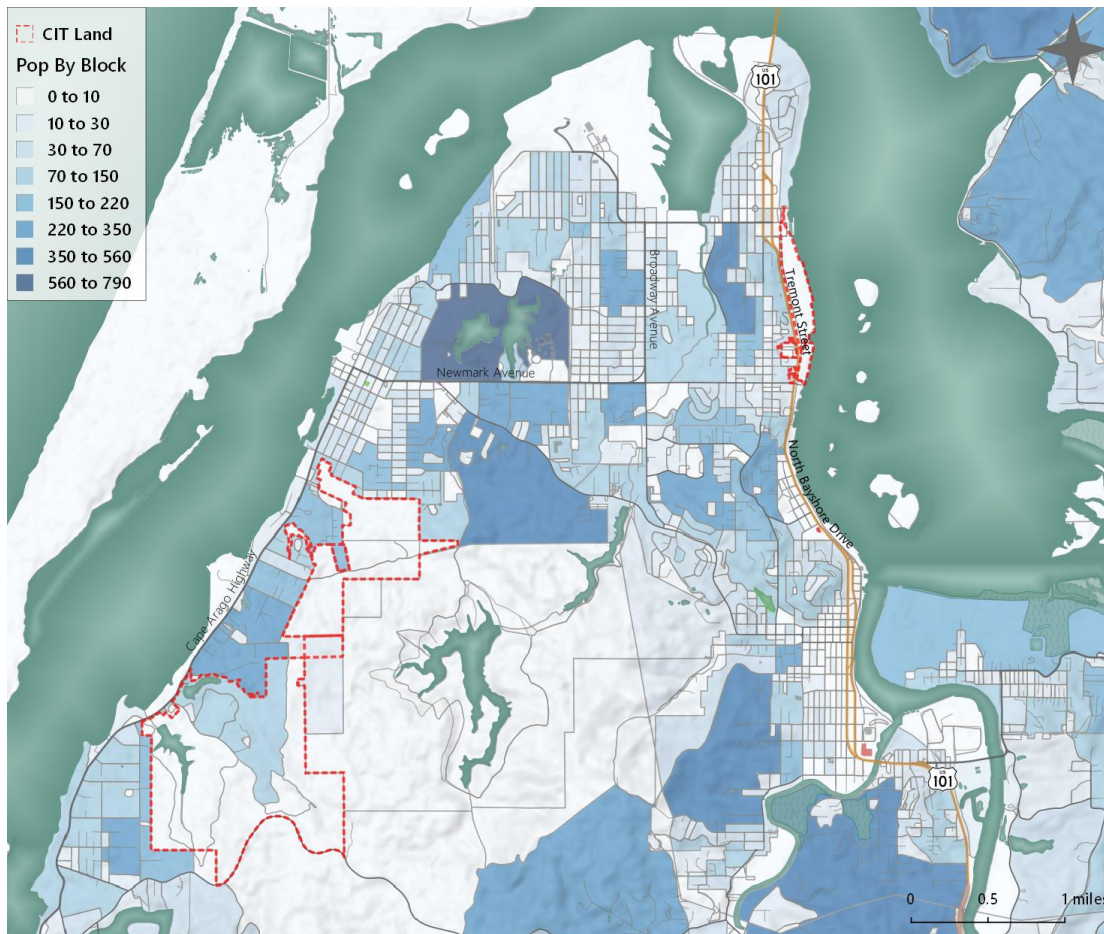
### Methodology

The source of most of the demographic data shown above is ESRI Business Analyst Online, which extracts data from the US Census Bureau and other public and private sources. Most data pertains to the year of 2016, unless where otherwise specified. The smallest geographic area available for demographic data is a census block group. Only population counts and household counts (as of 2010) are available at the census block level. As such, data for these block groups serve as the most specific comparison for the Coquille Indian Tribe lands to larger areas (cities, county, and state).

### Additional Figures

The following figure shows the population by block (for 2010) in the coastal region comprising of the City of Coos Bay and the City of North Bend. The Coquille Indian Tribe lands (both fee and trust) are shown in the red dotted outline. Per 2010 United State Census data, there was relatively little population living in the blocks within CIT land. Conversely, most of the area's population was located in the blocks adjacent to CIT land (west and north).

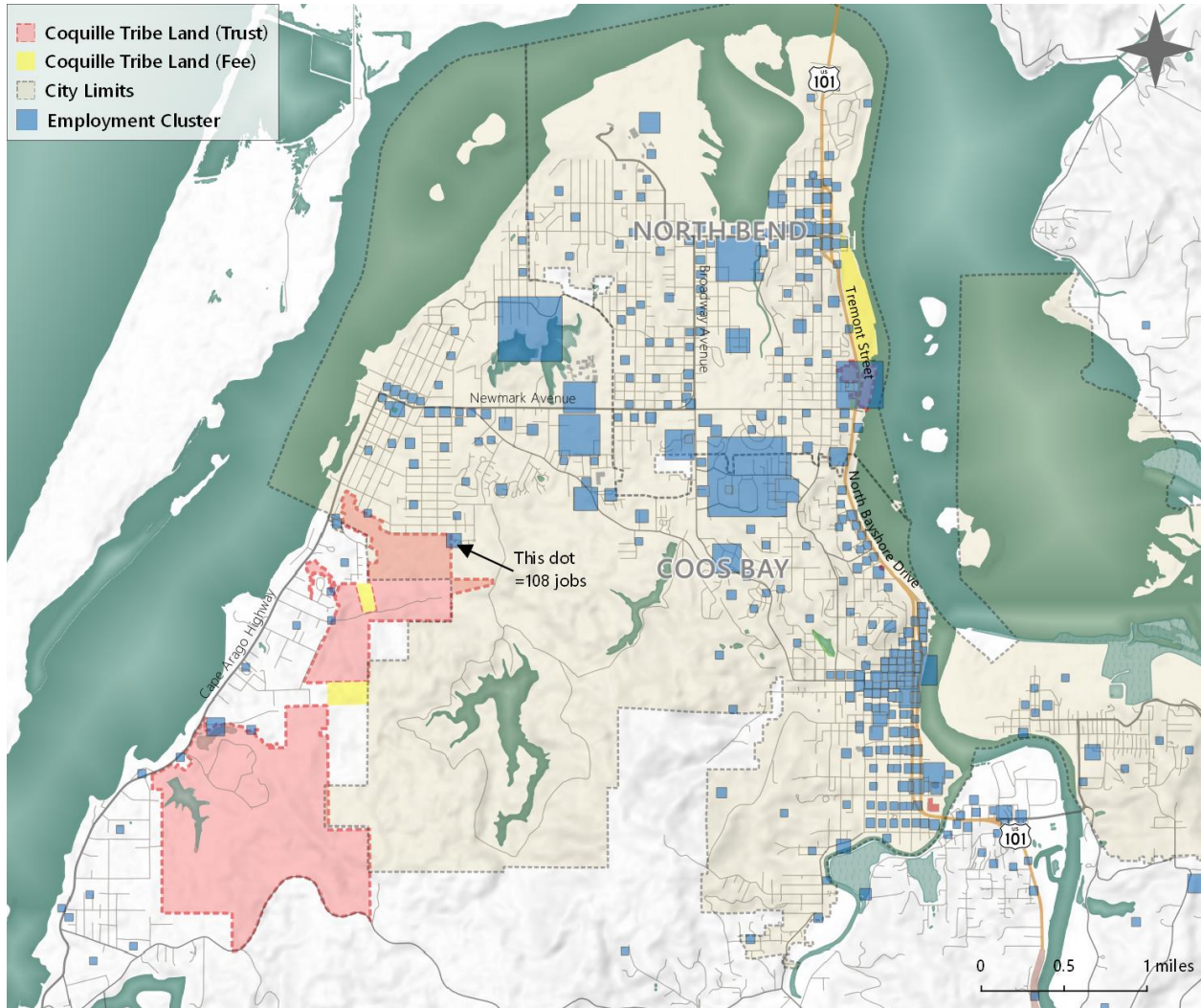
Figure A-1. Population by Block, 2010



Source: US Census Bureau, Coos County and Leland Consulting Group

The following figure shows employment clusters in the coastal region comprising of the City of Coos Bay and the City of North Bend. As shown, most of the jobs on CIT land are located on the eastern land tracts, but there are a few hundred jobs on or near the western land tracts. About 78 percent of the jobs near the eastern land tracts are in the accommodation and food services industry and about 14 percent are in the public administration industry. The employment clusters in the west are a relative mix of jobs in the public administration, manufacturing, and accommodation and food services industries.

**Figure A-2. Employment Clusters by Location and Number of Employees (FTE)<sup>12</sup>**

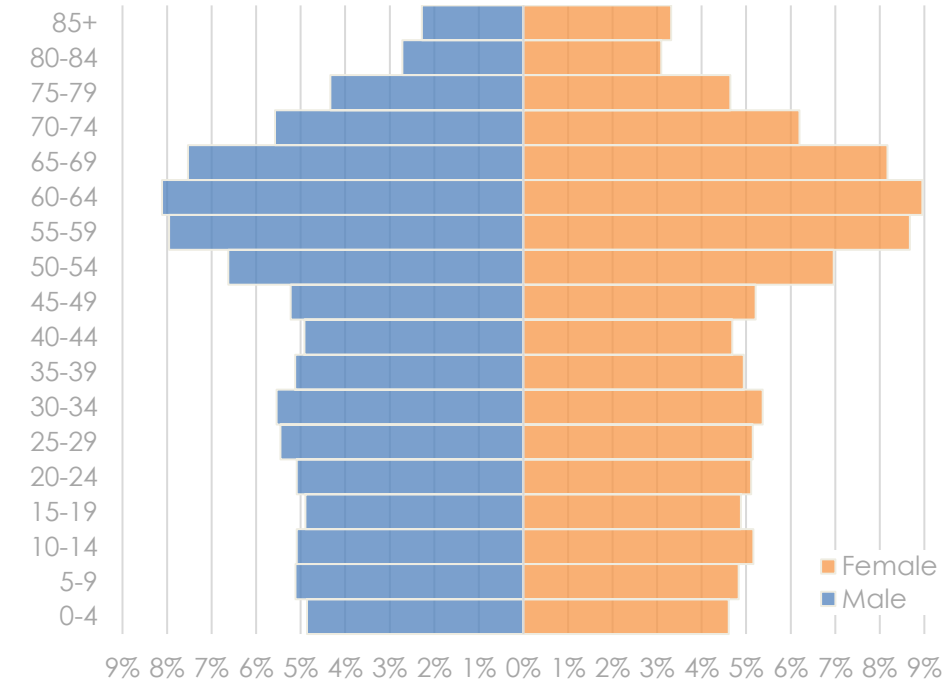


Source: LEHD, Coos County and Leland Consulting Group

<sup>12</sup> Locations are approximated by LEHD due to confidentiality of employment establishments/companies, and as such should be used as an indicator of clustering, rather than an exact locator of jobs.

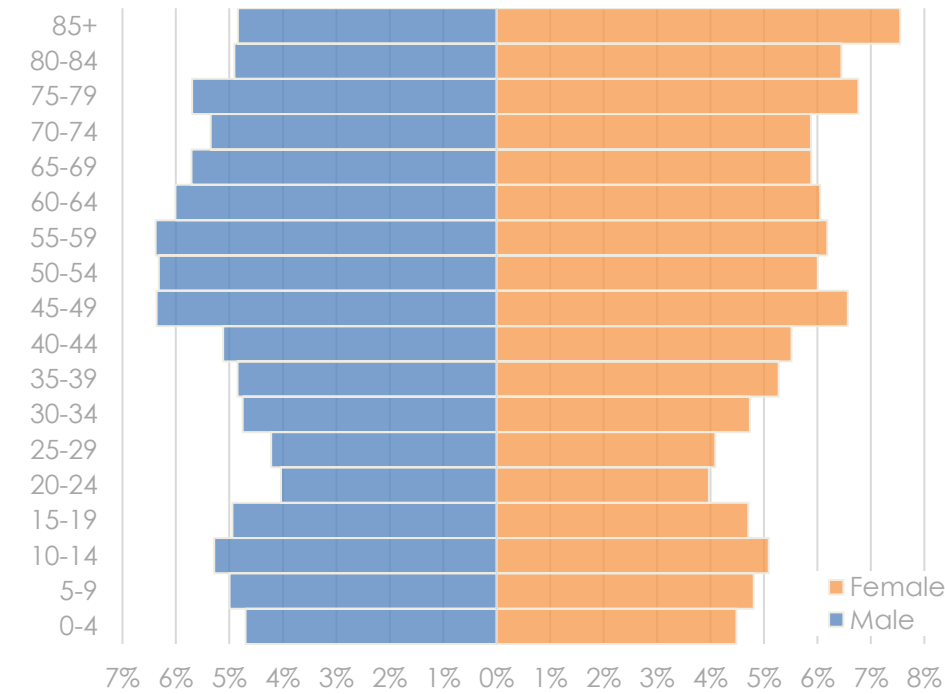
The following two figures shows population pyramids for Coos County for the years of 2015 and 2040.

**Figure A-3. Population Pyramid, Coos County, 2015**



Source: Office of Economic Analysis and Leland Consulting Group

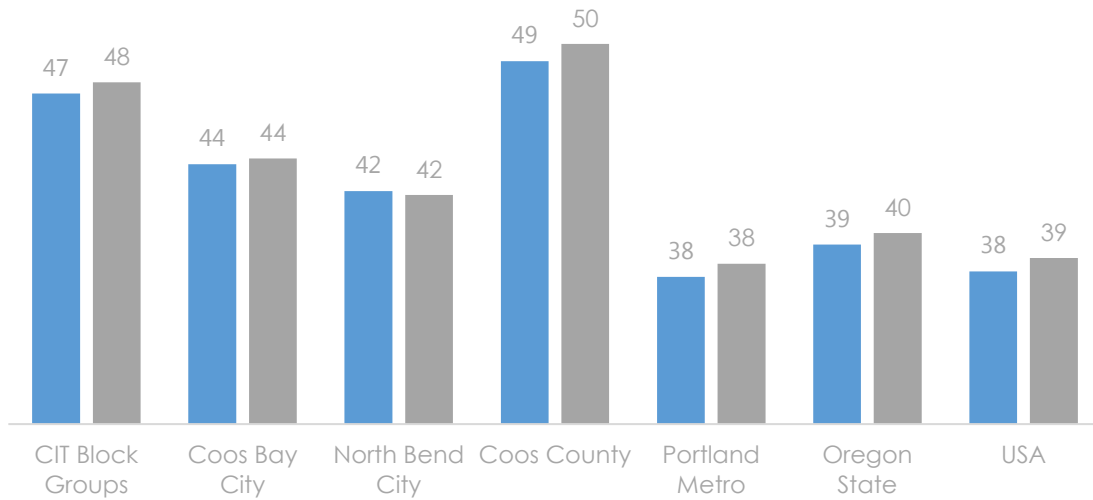
**Figure A-4. Population Pyramid, Coos County, 2040**



Source: Office of Economic Analysis and Leland Consulting Group

The following figure shows median age for all comparison areas for 2016 and 2021. All areas within Coos County, and the County itself, are significantly older, on average, than the state, the nation, and the Portland Metro region.

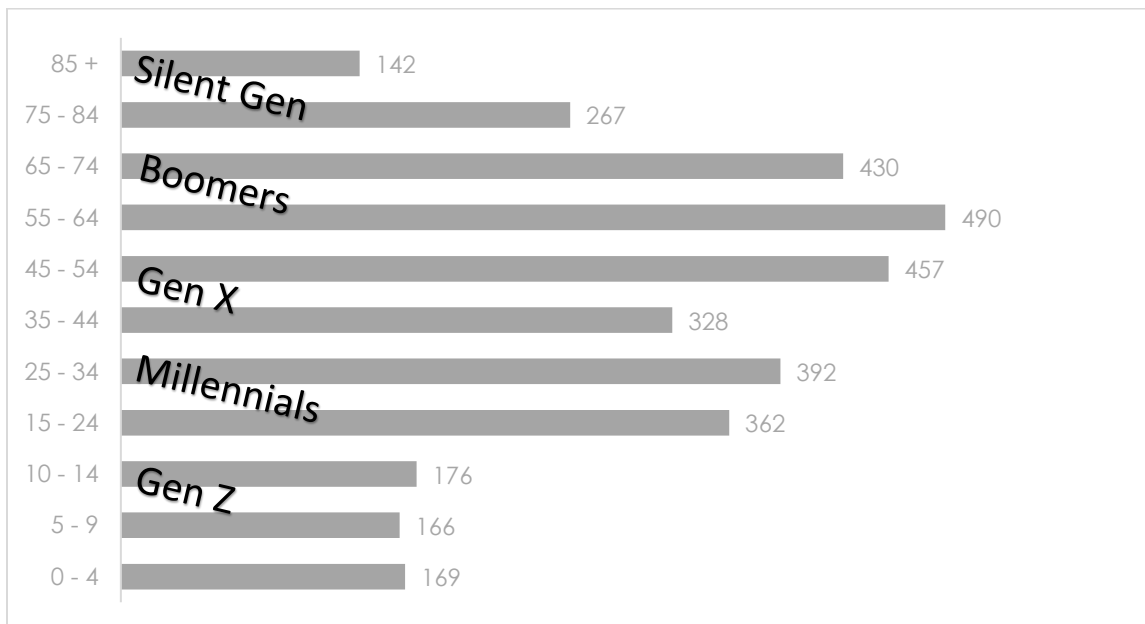
**Figure A-5. Median Age, 2016 & 2021**



Source: ESRI and Leland Consulting Group

The following figure shows the population living within CIT Block Groups by age for 2016. The breakdown is similar to that of Coos County (see population pyramid above), and can be expected to follow a similar pattern through 2040.

**Figure A-6. CIT Block Groups Population by Age, 2016**



Source: ESRI and Leland Consulting Group

## APPENDIX B. Funding Tools and Sources

### New Market Tax Credits

The federal New Markets Tax Credit (NMTC) Program was established in 2000 to stimulate investment and economic growth in low income urban neighborhoods and rural communities that lack access to the patient capital needed to support and grow businesses, create jobs, and improve local economies. The program attracts capital to eligible low-income communities by providing private investors with a federal tax credit for investments made in businesses or economic development projects located in distressed<sup>1</sup> communities.

NMTC Program applicants must be certified as Community Development Entities (CDEs) by the Community Development Financial Institutions (CDFI) Fund. A CDE is a domestic corporation or partnership that is an intermediary vehicle for the provision of loans, investments, or financial counseling in low-income communities.

The NMTC Program has supported a wide range of businesses including manufacturing, food, retail, housing, health, technology, energy, education, and childcare. Communities benefit from the jobs associated with these investments, as well as greater access to community facilities and commercial goods and services. The tribe would be eligible to receive NMTCs to help finance several key initiatives in both its residential and employment areas.

### Opportunity Zones

Opportunity Zones are a new community development program established by Congress in the Tax Cuts and Jobs Act of 2017 to encourage long-term investments in low-income census tracts designated as Opportunity Zones. Private investment vehicles that place 90 percent or more of their funds into an Opportunity Zone can earn tax relief on the capital gains generated through those investments. Tax benefits increase the longer investments are in place.

The governor of each state is permitted to designate 25 percent of its "low income census tracts" as Opportunity Zones subject to approval from the U.S. Department of the Treasury.

The State of Oregon must submit its nominated census tract by March 21. Business Oregon is currently hearing input for recommended census tracts (input is due by March 14).

---

<sup>1</sup> Census tracts where the individual poverty rate is at least 20 percent or where median family income does not exceed 80 percent of the area's median income.

## **Housing and Community Facilities Programs**

### USDA: Rural Rental Housing Guaranteed Loans (Section 538)

- For safe, well-built, affordable rental housing for low to moderate income individuals and families
- For rural areas with populations of 20,000 or less
- Allows up to 90 percent loan to value for loans made to for-profit entities, and up to 97 percent loan to value for loans made to non-profit entities. Repayment terms are 25 to 40-year amortization.
- <http://www.ruralhome.org/storage/documents/rd538guaranteed.pdf>

### USDA: Multi-Family Housing Loan Guarantees

- Program works with qualified private-sector lenders to provide financing to qualified borrowers to increase the supply of affordable rental housing for low- and moderate-income individuals and families in eligible rural areas and towns.
- <https://www.rd.usda.gov/programs-services/multi-family-housing-loan-guarantees>

### USDA: Multi-Family Housing Direct Loans

- Program provides competitive financing for affordable multi-family rental housing for low-income, elderly, or disabled individuals and families in eligible rural areas.
- Assists qualified applicants that cannot obtain commercial credit on terms that will allow them to charge rents that are affordable to low-income tenants.
- <https://www.rd.usda.gov/programs-services/multi-family-housing-direct-loans>

### HUD: Indian Housing Block Grant (IHBG)

- Formula grant that provides a range of affordable housing activities
- Eligible recipients are Federally recognized Indian tribes or their tribally designated housing entity
- Recipients must submit to HUD an Indian Housing Plan (IHP) each year to receive funding.
- Eligible activities include housing development, assistance to housing developed under the Indian Housing Program, housing services to eligible families and individuals, crime prevention and safety, and model activities that provide creative approaches to solving affordable housing problems.
- [https://www.hud.gov/program\\_offices/public\\_indian\\_housing/ih/grants/ihbg](https://www.hud.gov/program_offices/public_indian_housing/ih/grants/ihbg)

### HUD: Title VI Tribal Housing Activities Loan Guarantee Program

- Public investment tool which provides an additional source of financing for affordable tribal housing activities.
- Purpose: Assist IHBG recipients who want to finance additional grant-eligible construction or development at today's costs.
- Title VI may be used to: create new housing; rehabilitate housing; build infrastructure; construct community facilities; acquire land to be used for housing; prepare architectural and engineering plans; and fund financing costs.
- [https://www.hud.gov/program\\_offices/public\\_indian\\_housing/ih/homeownership/titlevi](https://www.hud.gov/program_offices/public_indian_housing/ih/homeownership/titlevi)

### HUD: Indian Community Development Block Grant

- Direct grants for use in developing communities, including “decent housing, a suitable living environment, and economic opportunities, primarily for low and moderate-income persons.”
- The ICDBG program can provide funding for recipients in the following categories:
  - Housing, incl.: housing rehabilitation, land acquisition to support new housing construction, and under limited circumstances, new housing construction.
  - Community Facilities, incl.: Infrastructure construction, e.g., roads, water and sewer facilities; and, single or multipurpose community buildings.
  - Economic Development, incl.: Wide variety of commercial, industrial, agricultural projects which may be recipient owned and operated or which may be owned and/or operated by a third party.
- [https://www.hud.gov/program\\_offices/public\\_indian\\_housing/ih/grants/icdbg](https://www.hud.gov/program_offices/public_indian_housing/ih/grants/icdbg)

### USDA: Community Facilities Programs

- For the provision of essential community facilities for rural communities
- Direct loan or loan guarantee, grant
- For building facilities and purchasing equipment for fire and rescue, early warning systems, police stations, health clinics, schools, libraries, hospitals, etc.
- Terms: up to 100 percent of market value. Up to 40 years or life of security. Maximum grant 75 percent of project cost.
- <https://www.rd.usda.gov/programs-services/all-programs/community-facilities-programs>

### HUD: Indian Home Loan Guarantee Program

- Home mortgage product, established to facilitate homeownership and increase access to capital in Native American Communities.
- With Section 184 financing “borrowers can get into a home with a low down-payment and flexible underwriting. Section 184 loans can be used, both on and off native lands, for new construction, rehabilitation, purchase of an existing home, or refinance.”
- [https://www.hud.gov/program\\_offices/public\\_indian\\_housing/ih/homeownership/184](https://www.hud.gov/program_offices/public_indian_housing/ih/homeownership/184)

## **Business and Cooperative Programs**

### USDA: Intermediary Relending Program Loans

- Objective: finance business facilities and community development projects in rural areas.
- Can be used for community development projects, establishment or expansion of businesses, creation or saving of rural jobs.
- For rural areas and incorporated places with populations of less than 25,000
- Direct loan.
- Terms: the intermediary makes loans to businesses from its revolving loan fund on terms consistent with security offered. Intermediary pays 1 percent for 30 years.
- <https://www.rd.usda.gov/programs-services/intermediary-relending-program>



#### USDA: Rural Business Opportunity Grants

- Objective: Finance technical assistance for business development and conduct economic development planning in rural areas.
- For technical assistance, leadership training, establishment of business support centers, and economic development plans.
- Grant. Must be completed within two years after project has begun.
- <https://www.rd.usda.gov/programs-services/rural-business-development-grants>

#### USDA: Business and Industrial Loan Guarantees

- Bolsters the availability of private credit by guaranteeing loans for rural businesses.
- <https://www.rd.usda.gov/programs-services/business-industry-loan-guarantees>

#### BIA: Native American Business Development Institute (NABDI) Grant

- Enables any Indian tribe to conduct a feasibility study on the viability of an economic development project, opportunity, enterprise, business or technology.
- <https://www.bia.gov/as-ia/ieed/division-economic-development/nabdi>

### **Funding/Tools for Infrastructure Development**

#### EPA: Indian Environmental General Assistance Program (GAP)

- GAP grants are given for planning, developing, and establishing environmental protection programs, and for developing and implementing solid and hazardous waste programs on tribal lands.
- The goal of GAP ([CFDA 66.926](#)) is to assist tribes and intertribal consortia in developing the capacity to manage their own environmental protection programs, and to develop and implement solid and hazardous waste programs in accordance with individual tribal needs and applicable federal laws and regulations.
- <https://www.epa.gov/tribal/indian-environmental-general-assistance-program-gap>

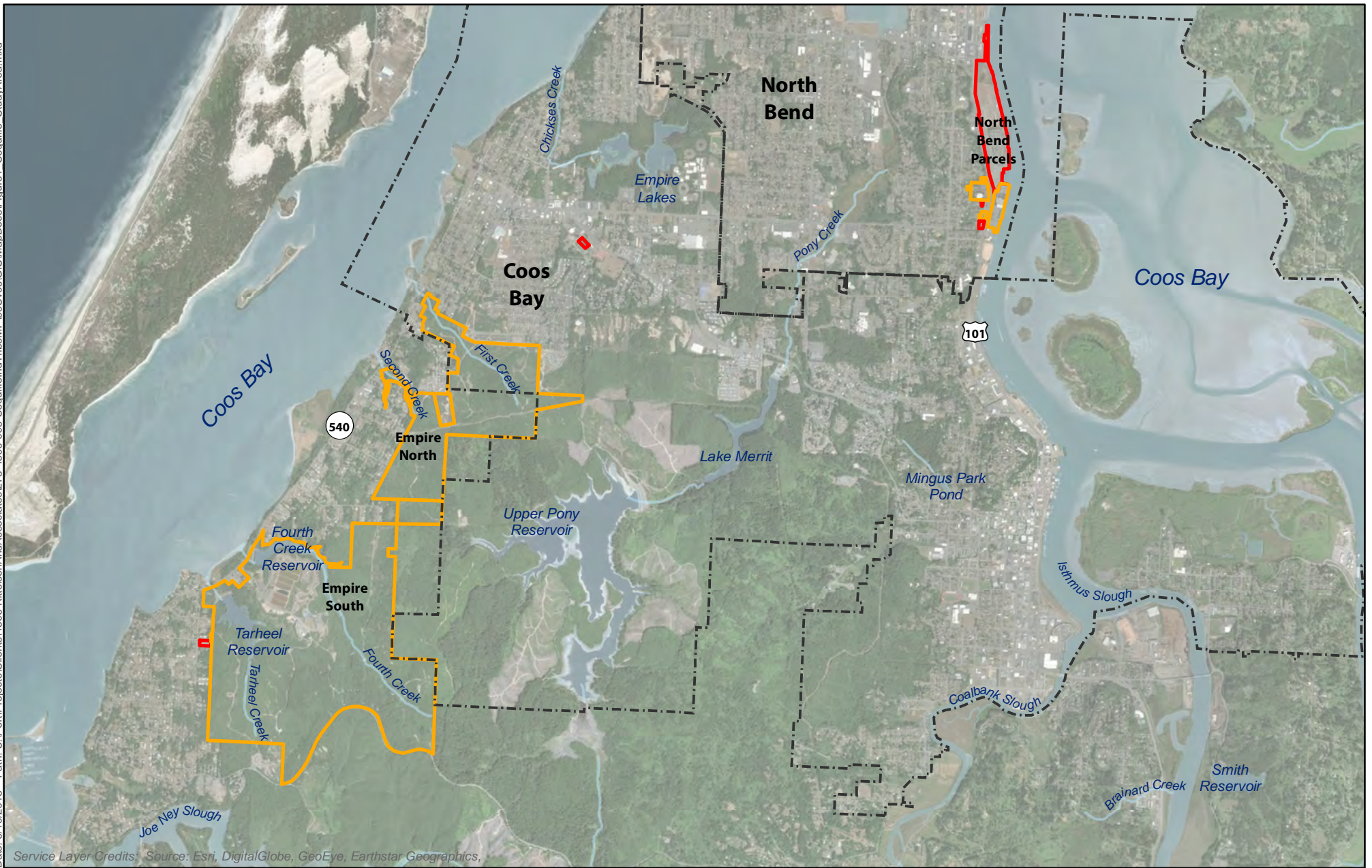
#### USDA: Water and Waste Disposal Loans and Grants

- To build, repair, and improve public water systems, and waste collective
- Objective: Provide water and waste financing in rural areas to the most financial needy applicants re
- <https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program>

#### USDA: Community Facilities Direct Loan and Grant Program

- Provides funding to develop essential community facilities in rural areas, such as:
  - Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities
  - Public facilities such as town halls, courthouses, airport hangars or street improvements
  - Community support services such as child care centers, community centers, fairgrounds or transitional housing
  - Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment
  - Educational services such as museums, libraries or private schools

- Utility services such as telemedicine or distance learning equipment
  - Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses
- <https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>



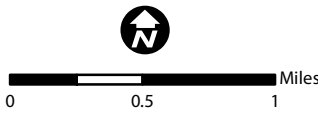
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,

### Parametrix

Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)

- Tribal Land Fee
- Tribal Land Trust
- City Limit
- Water Body
- Stream/River

**Study Area**  
Coquille Indian Tribe  
Comprehensive Plan





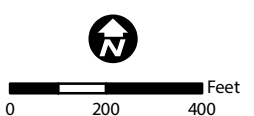


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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar, GeoGraphics

**Parametrix**

Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)

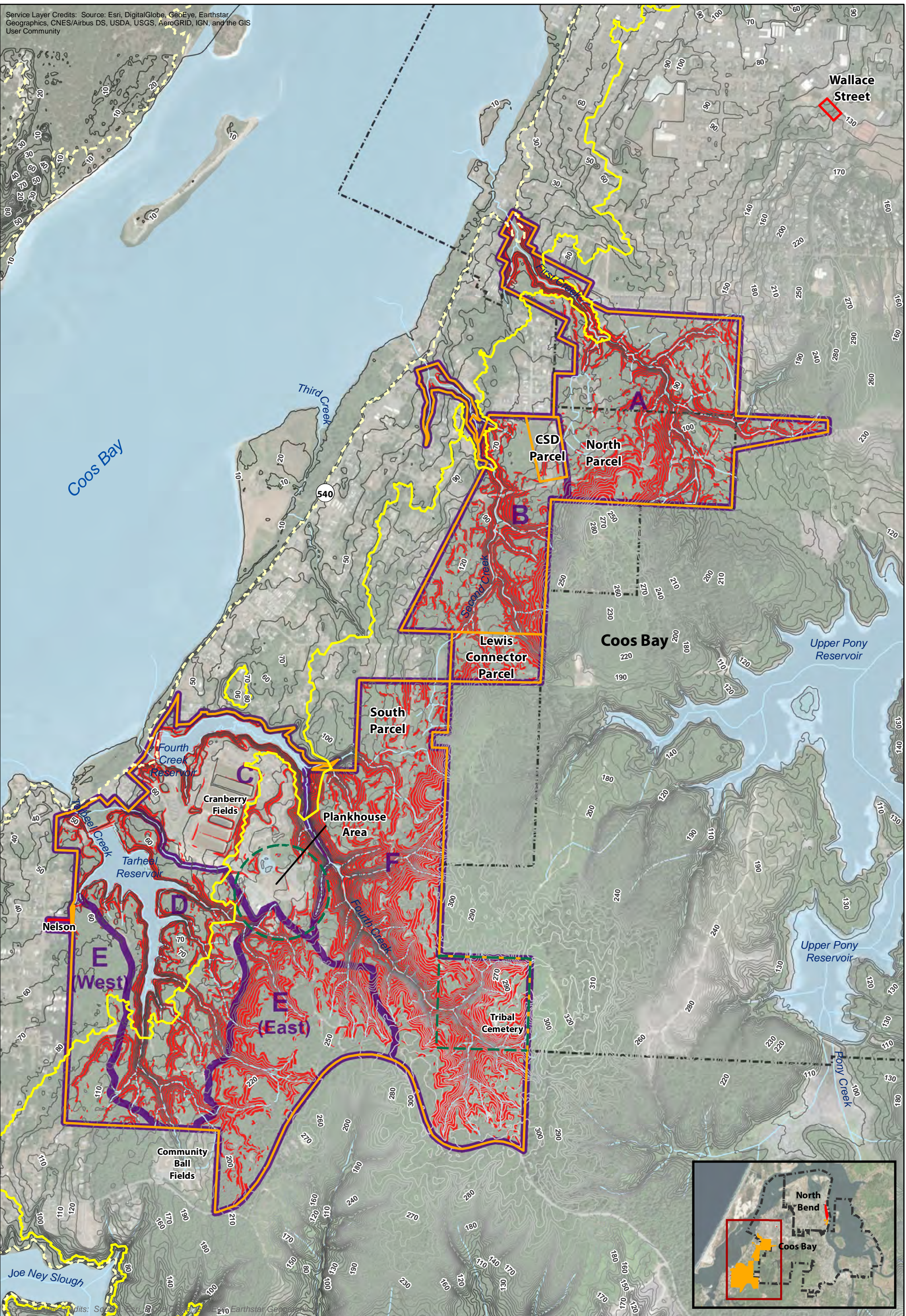


- Parcel
- Tribal Land Trust
- Paved
- Rock
- Water Main Line
- Stream
- Water Body
- Riparian Corridor
- Tarheel Lake Natural Area

**Killich Area**

Coquille Tribe of Oregon

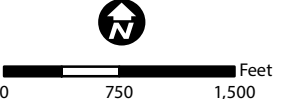
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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**Parametrix**

Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD), DOGAMI

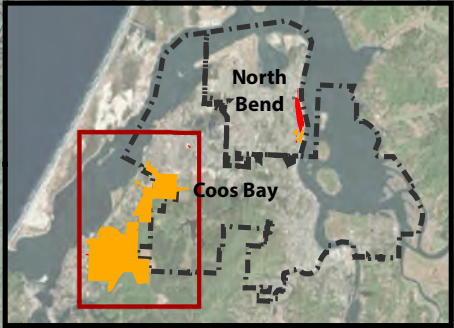


- City Limit
- Tribal Land
- Fee
- Trust
- Stream
- Cultural / Community Area
- Distant Tsunami Evacuation Zone
- Local Tsunami Evacuation Zone

- Contours (10 Foot)**
- 320+
- 0'
- Slopes**
- >15% Slope

- Planning Subareas:**
- A. Wisconsin - First Creek
- B. Kellogg - Second Creek
- C. Killich - Lower Fourth Creek
- D. Tarheel Natural Area
- E. Tarheel - Libby Lane
- F. Upper Fourth Creek

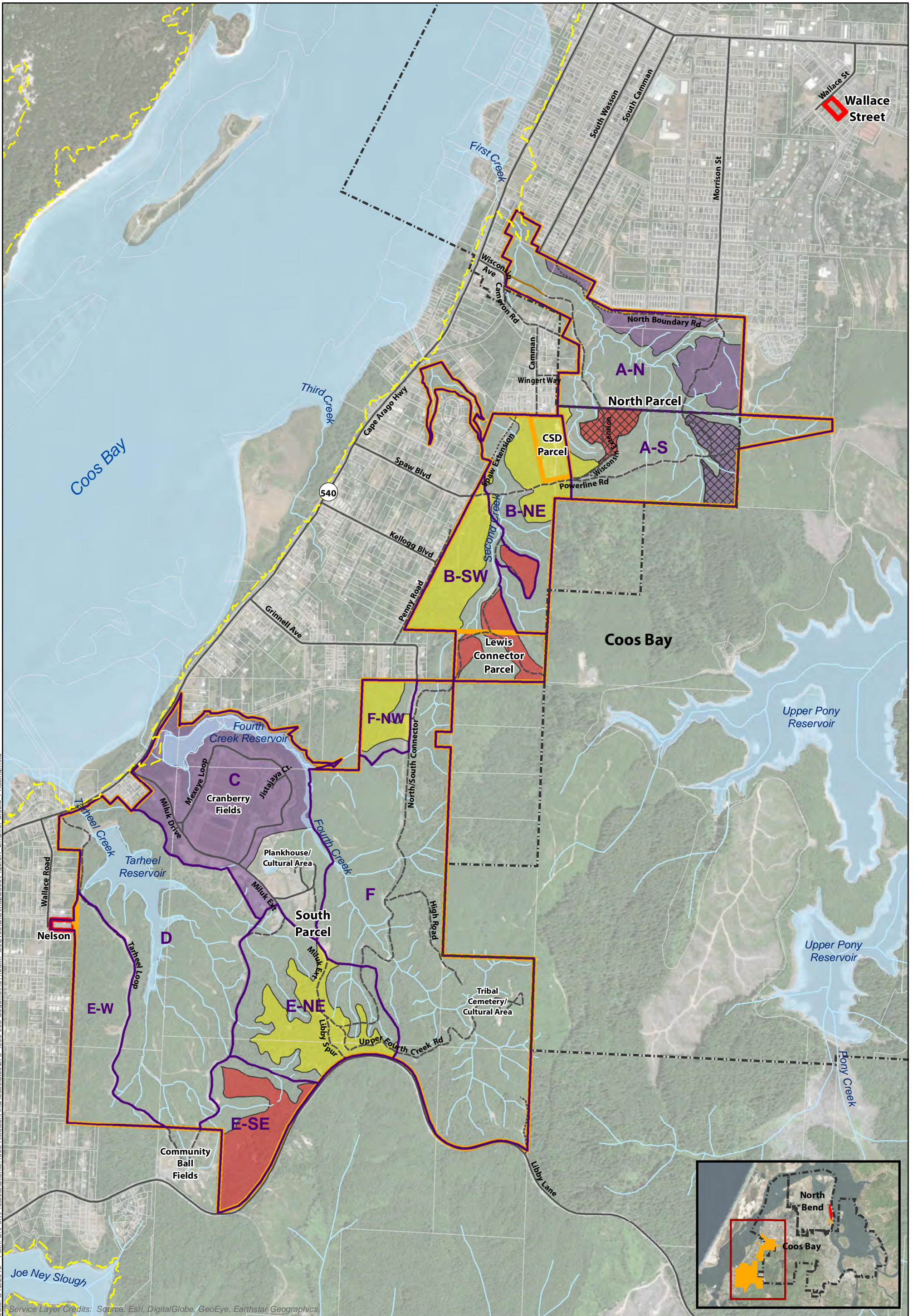
**Site Topography**  
Empire Parcels  
Coquille Indian Tribe of Oregon





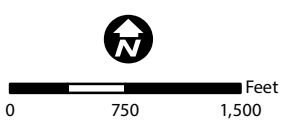






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**Parametrix**  
 Data Source: Coquille Indian Tribe, US Bureau of Indian Affairs, Coos County, USGS (NHD)



**City Limit**  
 Parcel  
**Tribal Land**  
 Fee  
 Trust

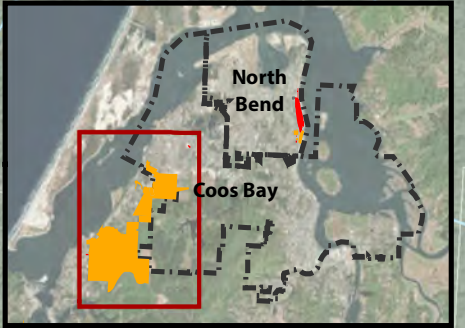
**Development Phasing**  
 Near-Term  
 Mid-Term  
 Long-Term  
 Conditions Apply

**Planning Subareas:**  
 A. Wisconsin - First Creek  
 B. Kellogg - Second Creek  
 C. Killich - Lower Fourth Creek  
 D. Tarheel Natural Area  
 E. Tarheel - Libby Lane  
 F. Upper Fourth Creek

Stream  
 Water Body  
 Distant Tsunami Evacuation Zone

**Roadway**  
 Paved  
 Dirt  
 Rock  
 Trail

**Empire Comprehensive Plan Development Phasing**  
 Empire Parcels  
 Coquille Indian Tribe of Oregon



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar, Geographics