Natural Resource Assessment
Meadowlark Industrial Center

(Intersection of N. Holladay Street and N. 4th Avenue in Cornelius, Oregon)

Township	Range	Section	Tax Lots
1 North	3 West	33 CA	100
			400

Prepared for

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PHS Project Number: 7472

August 9, 2022

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1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a natural resource assessment for the proposed Meadowlark Industrial Center in Cornelius, Oregon (Township 1 North, Range 3 West, Section 33, Tax Lots 100 and 400); see Figures 1A and 1B for limits of the study area; all figures are in Appendix A. This project involves the construction of a light industrial building.

This report presents the definitions and the methodology used to assess the natural resources within the project site as required by Clean Water Services (CWS) design and construction standards *(R&O 19-05 as Amended by R&O 19-22*). The wetland delineation field component and initial assessment of vegetated corridors were completed on January 20, 2021.

2.0 EXISTING CONDITIONS

The study area is located northeast of the intersection of N. Holladay Street and N. 4th Avenue in Cornelius, Oregon, and consists of two tax lots (100 & 400). The site is bounded by light industrial and/or agriculture fields on all sides. Land use around the study area includes light industrial, commercial, agriculture, single-family residential, and open space.

The topography of study area is generally flat (elevations on site range from 172 to 180 feet), with the lowest elevations located in the northwestern portion of the study area. The site has been managed for agricultural production for decades, and is currently managed for grass seed/hay. Dominant vegetation includes tall false rye grass (*Schedonorus arundinaceus*) and bluegrass (*Poa* sp.).

3.0 DISCUSSION OF WATER QUALITY SENSITIVE AREAS

PHS delineated two wetlands within the study area. Wetlands A and B are located within an agricultural field. Both wetlands are located entirely within the project tax lots and do not extend off-site. Vegetation is dominated by pasture grasses including tall fescue and annual bluegrass. As vegetation is managed within the agricultural fields, there is very little difference between vegetation in the wetland and in the upland areas. The only notable difference is that in some instances vegetation in the upland areas was in a slightly more advanced phenological stage than the same species in the wetland areas at the time of survey. Primary hydrologic indicators within these wetlands are limited to oxidized rhizospheres (ORs) as no surface water or saturation associated with a high water table were present at the time of survey.

Wetland A

Wetland A is located in the southwestern portion of the project and is approximately 564 square feet (0.01 acre) within the study area. The Cowardin class is palustrine, emergent, seasonally flooded/saturated, farmed (PEMEf) and the Hydrogeomorphic (HGM) class is Flats.

Vegetation in and around Wetland A consists of annual bluegrass. Soils within Wetland A meet the hydric definition for depleted matrix (F3). Although there were no primary indicators of wetland hydrology during the field investigation, the area is assumed to be wetland based on the presence of hydric soils.

Wetland B

Wetland B is located north of Wetland A in the western portion of the project area. It is approximately 27,922 square feet (0.64 acre) within the study area. The Cowardin class is PEMEf and the HGM class is Flat.

Vegetation in and around Wetland B is bluegrass and tall fescue. Soils within Wetland B meet the hydric definition for depleted matrix (F3) and/or redox dark surface (F6). Approximately 2 percent of the living roots within the wetland contain oxidized rhizospheres.

Additional information on the wetlands can be found in the wetland delineation report, included as a separate report.

4.0 VEGETATED CORRIDOR ASSESSMENT

4.1 Vegetated Corridor Width Determination

The slopes adjacent to each sensitive area were assessed in order to determine the regulated width of the vegetated corridor (VC). The location of the VC, adjacent slopes, and buffer widths are shown on Figure 2; plant communities, vegetation sample point locations, and photograph locations are shown on Figure 3.

The project VC widths are determined to be as follows:

Table 1. Summary of VC Widths

Sensitive Area	VC Width	Justification
Wetland A	25 feet	• Wetland size is < 0.5 acre • Isolated • Adjacent slopes are <25%
Wetland B	50 feet	• Wetland size is > 0.5 acre • Isolated • Adjacent slopes are <25%

4.2 Vegetated Corridor Plant Communities

There is one plant community located within the study area as described below.

Plant Community A (52,219 square feet/1.20 acre) encompasses the corridor around both Wetland A and Wetland B. Plant Community A is dominated by non-native grasses.

See Appendix B for plant species and percent cover documented in the plant community. Appendix B also includes photographs of the sensitive areas and the VC. See Figure 3 for location of photographs.

4.3 Vegetated Corridor Plant Community Condition

Table 2 shows the percent composition of native versus non-native species, and tree canopy cover in accordance with Clean Water Services' standards.

Table 2. Summary of Plant Communities

		Plant Community
Corridor Condition		**A**
Good	>80% cover of native plants, and >50% tree canopy	
Marginal	50% - 80% cover of native plants, and 26-50% tree canopy	
Degraded	<50% cover of native plants, and < 25% tree canopy	**0% tree canopy; 0% natives**

The condition of the VC is defined by the percentages of native species and canopy cover. Plant Community A has no native species and no tree canopy; therefore it is in degraded corridor condition.

5.0 PROPOSED PROJECT

The proposed project is to develop a light industrial building in Cornelius (Figure 4).

The demand for industrial buildings within the City of Cornelius is high because there are no other developed, industrial zoned properties that are vacant within a close proximity to this location. Currently, there is virtually no vacancy of industrial buildings within the City of Cornelius. The site's location west of Hillsboro and on the periphery of the Metropolitan Statistical Area (MSA) has a high concentration of workers that commute outside of the area, and this development would provide jobs in close proximity to existing neighborhoods, a competitive advantage that will attract end users of the development.

The proposed development will support economic growth in the City of Cornelius and the Metro Regional area through job creation and an increase in tax revenue. During construction of the building, the project will provide an estimated 300 temporary jobs. The finished light industrial building center will provide specialized jobs at a site that is convenient for the local population.

The stormwater plan will adhere to CWS' design and construction standards.

5.1 Vegetated Corridor Encroachments and Mitigation

Approximately 52,219 square feet (1.20 acre) of permanent VC encroachment will result from the construction of the industrial center and associated parking area (Figure 4). Mitigation for proposed wetland impacts will consist of the purchase of credits at a wetland mitigation bank; as such, mitigation for the adjacent VC encroachment will be accomplished through CWS' Payment to Provide for mitigation program.

There are no temporary impacts to the VC.

5.2 Vegetated Corridor Enhancement

The proposed project will eliminate all the vegetated corridors on site; as such, vegetated corridor enhancement is not proposed.

5.3 Alternatives Analysis

As discussed above, the proposed project is to construct a light industrial building within the City of Cornelius. As the proposed development plan will fill Wetlands A and B as well as their associated VCs on site, a Tier 2 Alternatives Analysis is required. The proposed project will meet all Tier 2 Alternative Analysis criteria, as detailed below.

The elimination of the VC meets the following criteria, as required under a Tier 2 analysis:

1. The proposed encroachment area is mitigated in accordance with Section 3.08.

Mitigation for permanent impacts to 52,219 square feet (1.20 acre) of the VC will be achieved through the CWS' Payment to Provide (PTP) for mitigation program as outlined in Section 3.08 of CWS Design and Construction Standards.

The mitigation criteria are intended to protect water quality for public benefit.

2. The replacement mitigation protects the functions and values of the Vegetated Corridor and Sensitive Area.

The VCs to be impacted are in degraded corridor condition. The applicant will utilize CWS' PTP program to offset impacts to the functions and values of the impacts to the VC. CWS' PTP program ensures that the mitigation area will protect the functions and values of the VC and the sensitive area. It is understood that the mitigation will occur off site of the development area.

3. Enhancement of the replacement area, if not already in Good Corridor Condition, and either the remaining Vegetated Corridor on the site or the first 50 feet of width closest to the resource, whichever is less, to a Good Corridor Condition.

Due to the elements required to construct a light industrial building and other site constraints (described below in section 5.3 #6), the onsite VC will be impacted, and there is no opportunity for replacement mitigation. CWS' PTP program ensures that the replacement area will be enhanced to Good corridor condition, in accordance with CWS's requirements.

4. A District Stormwater Connection Permit is likely to be issued based on proposed plans.

The applicant reasonably expects to obtain a District Stormwater Connection Permit based on proposed plans for the project.

5. **Location of development and site planning minimizes incursion into the Vegetated Corridor.**

The applicant strived to minimize encroachment into the onsite VC for construction of the proposed building and other required infrastructure; unfortunately, impacts to wetlands and their associated VCs cannot be avoided. The encroachment is required to adequately site the proposed building, access, parking areas, stormwater treatment, and other required infrastructure within the developable portion of the site.

The development as proposed has been sized for specific light industrial customer needs. Any changes to the site plan as proposed will impact the ability to maximize the site's usage for a light industrial center. As such, the proposed encroachment is limited to the greatest practical extent to make this project feasible. Section 5.3 #6, below, details the reasons why this property was chosen for development, and why encroachment into the wetlands and VC is necessary.

6. **No practicable alternative to the location of the development exists that will not disturb the Sensitive Area or Vegetated Corridor.**

Oregon Statewide Planning Goals and Guidelines provide a framework for Oregon's municipalities to balance various public policies through a series of goals and guidelines that cover a variety of broad subjects, including economic development. Statewide Planning Goal 9 requires municipalities to "provide adequate opportunities throughout the state for a variety of economic activities, vital to the health, welfare, and prosperity of Oregon's Citizens." Among the guidelines for Goal 9 is that Comprehensive Plans for urban areas "provide for at least an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses with plan policies."

The applicant is proposing to develop approximately 7.35 acres of land for an industrial warehouse that will be approximately 154,000 square feet in size within the City of Cornelius. The proposed warehouse will have 34 loading bays, 112 vehicle parking spaces and other associated on-site improvements.

Specific criteria for the proposed site evaluation are as follows;

- Geographic area: within the City of Cornelius
- Zoning
- Availability
- Safety and ease of transportation access
- Proximity to existing infrastructure: electricity, sewer, water
- Proximity to Highway 8
- Parcel size (six to ten acres)
- Cost/Feasibility

The table below represents four alternative properties reviewed for the Meadowlark Industrial Center Development, and the reasons they were not selected. Figure 5 shows the location of these properties in relation to the proposed site.

Table 3. Alternative Properties Reviewed for the Meadowlark Industrial Center Development

Property	Tax Lot	For Sale (Y/N)	Zoning	Acreage	Environmental Considerations	Reason not Selected
1	1N3W32D000104	Yes	General Industrial	11.55	• Wetland likely in center of tax lot	• Potential wetland in center of site; limited developable area if wetlands are avoided • Requires extension of Yew Street • Larger parcel does not meet project criteria
2	1N3W33CA00900	No	General Industrial	12.52	• None	• Design concerns with N. Holiday St. and access driveway alignment • Requires extension of Yew Street • Larger parcel does not meet project criteria
3	1N3W32D000106	No	General Industrial	9.93	• None	• Tax lot is too narrow to accommodate this type of development • Requires extension of Yew Street
4	1N3W32C001200	No	General Industrial	7.17	• None	• Bisected by power lines

The on-site project specific criteria include the following:

- Provide a modern industrial building that will offset the deficit within the City of Cornelius
- Provide internal site circulation with two access points for tenant use and truck circulation, as well as emergency access that meets City standards
- Satisfies the City's need for industrial buildings, while remaining economically viable
- Treat stormwater to CWS standards

The goal of the development is generally twofold: 1) to supply the existing strong demand for 154,000 SF (minimum) industrial building that can accommodate light manufacturing regional tenants (single or multi) and related or stand-alone office uses; and 2) to create quality employment opportunities within the City in a location that has access to essential services, alternative modes of transportation, and existing housing. The sites location, within the urban growth boundary (UGB) and between Hillsboro and Forest Grove, ensures viable employment opportunities for people who already live in the area thereby reducing commute distances.

Pressing factors in the industrial site selection incorporate workforce dynamics, including (i) the availability of the workforce, which looks at unemployment rates and transferable skills and experience; and (ii) workforce proximity, which considers where workers live and commuting patterns. As a result, the applicant prioritized in its search for development opportunities those locations that have the following favorable workforce dynamics:

- Is a peripheral community outside of the metropolitan core, which likely has a deficient jobs to housing ratio balance (i.e. bedroom community) under 1.3 jobs per household.
- Has a concentration of residents who work outside the community in which they reside.
- Has a concentration of residents who are employed in goods producing (manufacturing, etc.) or transportation/trade (warehousing, logistics, wholesale) industries.
- Has a high concentration of workers aged 29 or younger, as that labor market segment is considered by tenants to be more likely to take jobs or have transferable skills and experience in warehousing, distribution, logistics, and manufacturing/assembly.

As applied to this specific location, the applicant believes the workforce dynamics will be a competitive advantage to ensure successful leasing of its proposed 154,000+ square foot industrial building. The development will consist of one large building, along with associated parking and truck docking areas, and stormwater treatment facilities.

Once the preferred site was selected, preliminary concept site layouts were explored. Conceptual layouts accounted for efficient maneuverability and safety of large trucks, employee safety, as well as protection of natural resources. The developable area was defined as lands not encumbered by wetland resources or by VC. These layouts considered what works best for light industrial sites, as well as existing topography, and natural resource locations. Figure 6 shows an alternate site layout that avoids the wetland and the adjacent CWS regulated VC on the site. Unfortunately, the position of the wetlands and the vegetated corridor in the west-central portion of the site makes avoidance very difficult, while still meeting the needs of a modern light industrial facility.

The locations of the buildings and parking areas can be placed outside of the wetlands and vegetated corridors, but this configuration will not provide a building of sufficient square footage to meet current market demand. In addition, avoiding the wetland and buffers results in inefficient connection and vehicular maneuverability for large trucks and emergency vehicles within the developable area.

The size of the building and the orientation of the development plan have been chosen to create an efficient use of the property. Smaller buildings or multi-story buildings that might occupy smaller parcels would not address the market in the area, which is for single story industrial buildings in the 150,000 SF and larger range. It is typical that many of the lessees or purchasers of buildings of this type are locally owned or regional offices of national companies. Employees may live throughout the region, but the presence of nearby housing in Cornelius encourages living nearby. Companies that would occupy these buildings typically would choose this location for its proximity to Highway 8 (1/2 mile to the south), which allows for rapid transportation of goods and services to customers in the Willamette Valley without the delays of Portland freeway congestion.

The development as proposed will greatly improve the efficiency of the site and allow the construction of buildings that meet current marketplace demands and accomplish planning goals within the City of Cornelius. Three options were considered for the development of this property, as described below.

Option 1: No Build: The development would not be constructed, and the property would remain vacant. This would not achieve the City of Cornelius' industrial development goals.

Option 2: Alternative site plan 1 (Figure 5). This plan does not impact any wetland or adjacent vegetated corridors; however, it would not provide light industrial development of a sufficient size to meet current demand.

Option 3: The preferred site plan (Figure 4), includes the construction of a large, single story light industrial building. This layout accommodates the City's industrial building needs outlined in Section 5, which would reduce the deficit of industrial buildings that currently exist within the City of Cornelius and better serve the site specific criteria above.

7. The proposed encroachment provides public benefits.

The public benefit of VC encroachment includes supporting City, County, and Regional Goals for "smart growth" via construction within the UGB.

Allowing encroachment into the VCs allows for maximum build out of the site, which requires adequate space for the building, parking, stormwater, and additional infrastructure necessary to construct needed industrial buildings.

Not only are financial and social benefits realized by the public, but an overall air and water quality benefit because the project requires less disturbance of land in the near future, the development of less impervious surface (for additional light industrial buildings), and the generation of fewer pollutants associated with auto travel to locations outside of the UGB.

The project will treat the stormwater from all new impervious surfaces associated with the project. Stormwater will be treated to CWS standards. Treating all stormwater runoff from development is a direct benefit to water quality.

5.4 Discussion of Wetland and Vegetated Corridors Functions and Values

As a requirement of the Tier 2 analysis, a function and values assessment is required for the sensitive areas and VCs on site. The functions and values of Wetlands A and B, as well as the adjoining VCs were assessed within the study area using the Hydrogeomorphic (HGM) Classification Judgmental Assessment Method.

Water quality and quantity

A shallow groundwater table, as well as precipitation, contributes to hydrology within Wetlands A and B. Wetlands A and B are isolated and do not continue off site.

The VCs to be impacted by this project rate low for water quality and quantity because they are rarely inundated with water.

Fish and Wildlife

Wetlands A and B and their adjacent VCs do not provide fish habitat, and as such rate low for this function. The wetlands and the adjacent VCs are in degraded condition, though they may provide some wildlife habitat due to their proximity to Council Creek (~900 feet).

Wetlands A and B and their adjacent VCs could provide connectivity to the surrounding natural areas and open space along Council Creek to the north. The seasonal water source within the wetlands provides limited habitat support for invertebrate species. The overall rating for fish and wildlife for these wetlands and the adjacent VCs is low.

Native Plant Communities and Species Diversity

Both of the wetlands and their VCs are dominated by non-native species. According to CWS' regulations, the VCs to be impacted in the site are considered to be in degraded condition because of their high percent cover of non-native plants and lack of tree canopy. As such, the rating for native plant communities and species diversity is low.

Recreation and Education

The site is located on private property. As such, recreation and educational opportunities are limited.

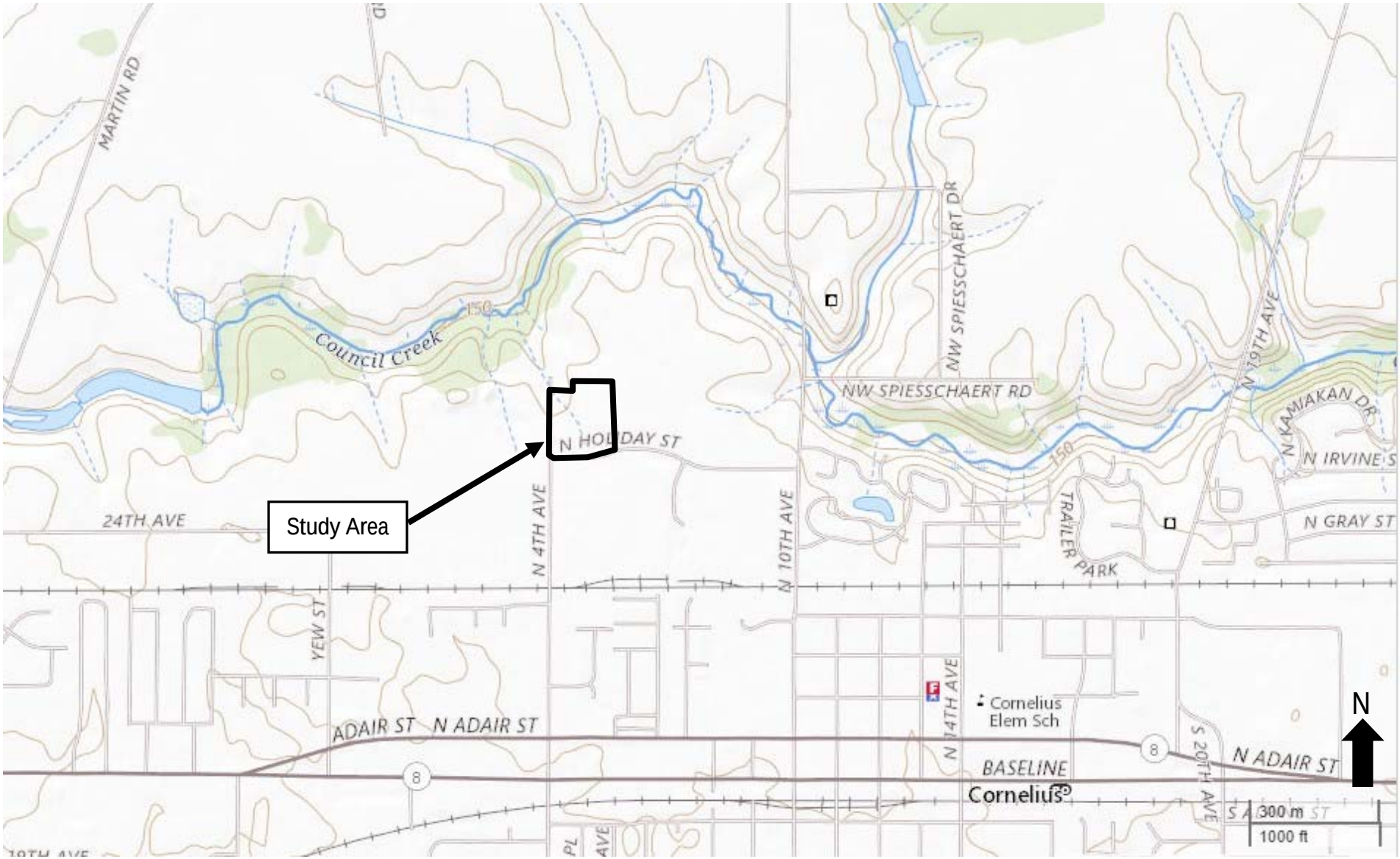
6.0 REFERENCES

Clean Water Services, 2022. *Design and Construction Standards R&O 19-5 as Amended by R&O 19-22, adopted November 12, 2019).*

US Geologic Survey, online, 2017. *7.5-minute topographic map, Forest Grove, Oregon quadrangle*.

Appendix A

Figures



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6/21/22

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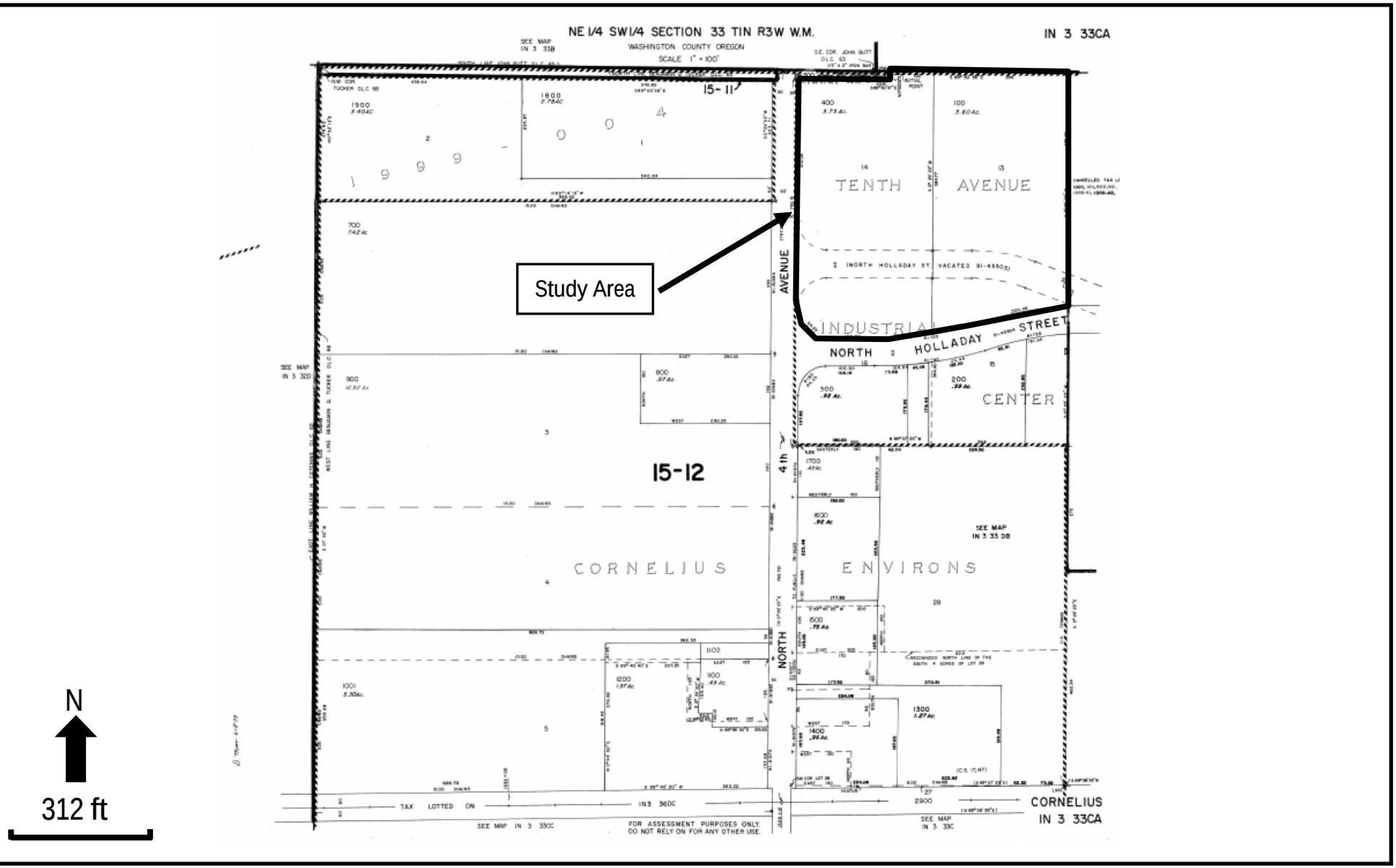
General Location and Topography
Meadowlark Industrial Center - Cornelius
United States Geological Survey (USGS) Forest Grove, Oregon, 7.5 quadrangle, 2017
(viewer.nationalmap.gov/basic)

FIGURE
1A



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6/21/22

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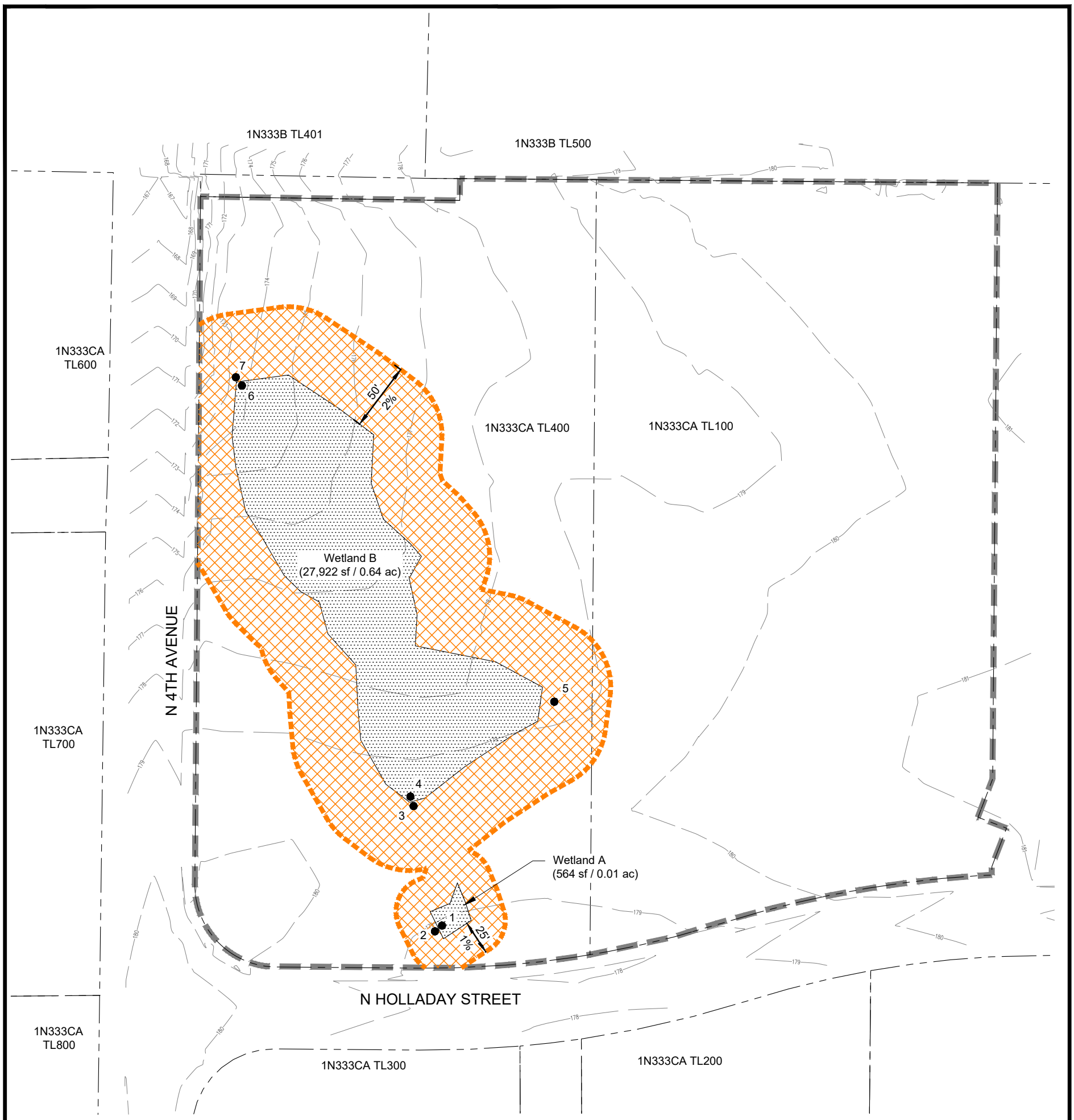
General Location and Topography
Meadowlark Industrial Center - Cornelius, Oregon
The Oregon Map (ormap.net)

FIGURE
1B



LEGEND

- Study Area Boundary (320, 104 sf / 7.35 ac)
- Wetland (Site Total 28,846 sf / 0.65 ac)
- Tax Lot Line
- Vegetated Corridor (52,219 sf / 1.20 ac)
- Delineation Sample Points
- 0' / % Slope Measurement

Wetland boundaries and sample points were surveyed using a Trimble Geo7X GPS unit and are submeter accurate. Tax lot boundaries were downloaded from RLIS as shapefiles. Contours were downloaded from Metro as shapefiles.

N

0 40 80 160

SCALE IN FEET

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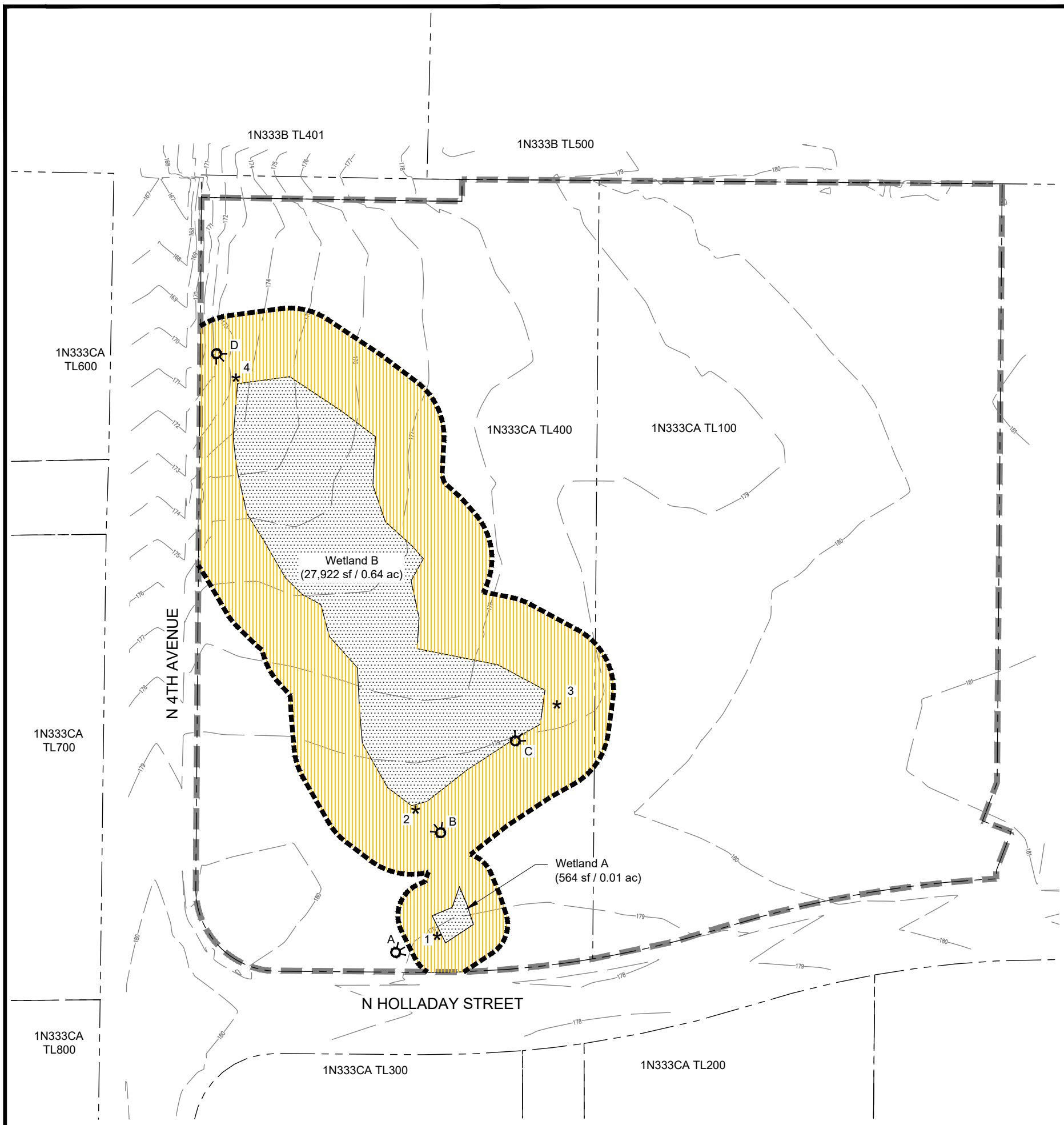
Existing Conditions
Meadowlark Industrial Center - Cornelius, Oregon

FIGURE 2

8-9-2022



LEGEND

- Study Area Boundary (320, 104 sf / 7.35 ac)
- Wetland (Site Total 28,846 sf / 0.65 ac)
- Tax Lot Line
- Vegetated Corridor (52,219 sf / 1.20 ac)
- * Vegetation Sample points
- Vegetated Corridor Photo Points
- Plant Community A (Degraded Condition) (52,219 sf / 1.20 ac)

Wetland boundaries and sample points were surveyed using a Trimble Geo7X GPS unit and are submeter accurate. Tax lot boundaries were downloaded from RLIS as shapefiles. Contours were downloaded from Metro as shapefiles.

N

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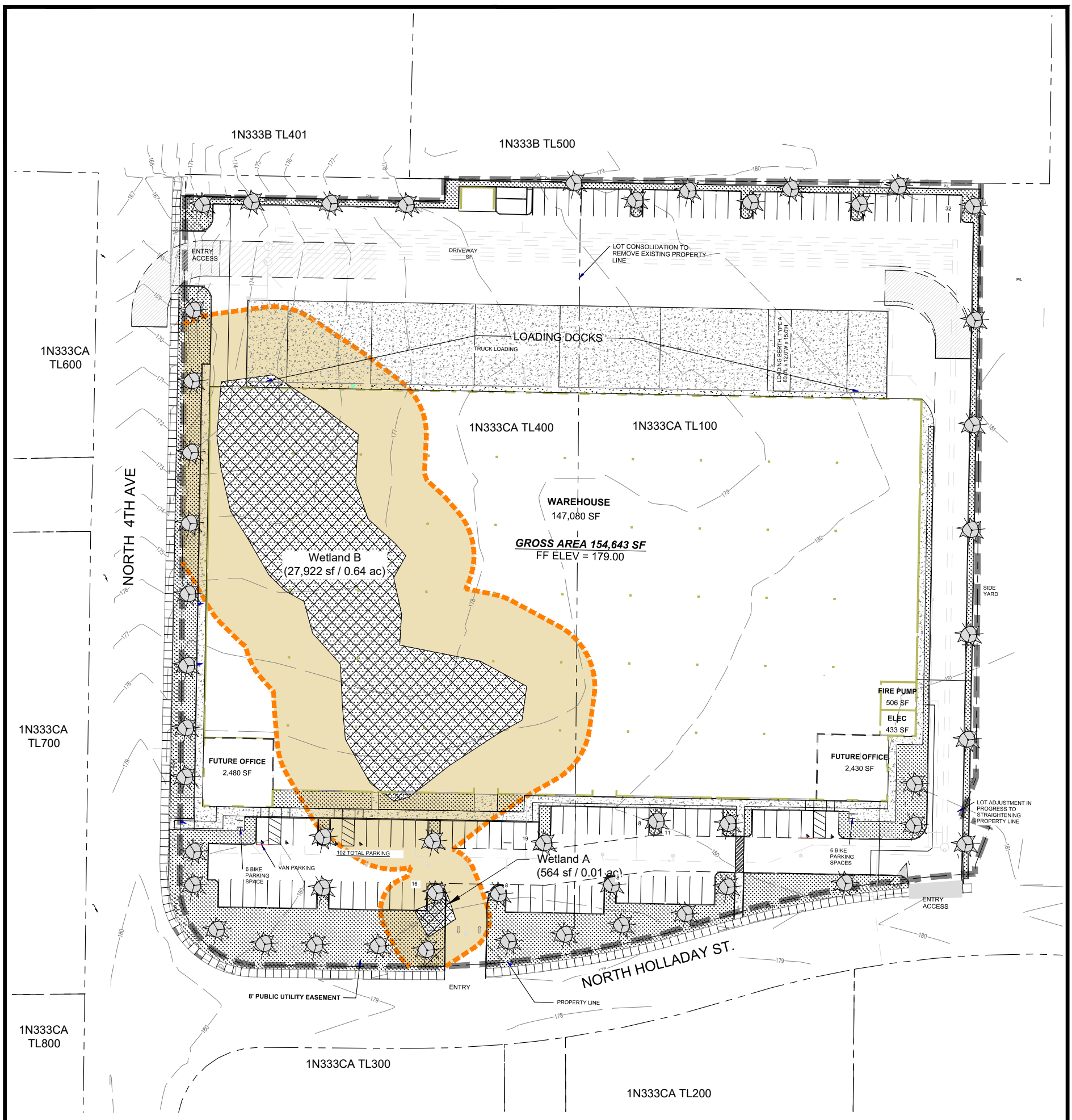
Vegetated Corridor Plant Community
Meadowlark Industrial Center - Cornelius, Oregon

FIGURE 3

8-9-2022



LEGEND

- Study Area Boundary (320, 104 sf / 7.35 ac)
- Wetland (Site Total 28,846 sf / 0.65 ac)
- Tax Lot Line
- Vegetated Corridor (52,219 sf / 1.20 ac)
- Vegetated Corridor Encroachment (52,219 sf / 1.20 ac)
- Wetland Impact (28,846 sf / 0.65 ac)
- Tree (Proposed)

N

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SCALE IN FEET

Base Provided by Mildren Design Group, P.C.

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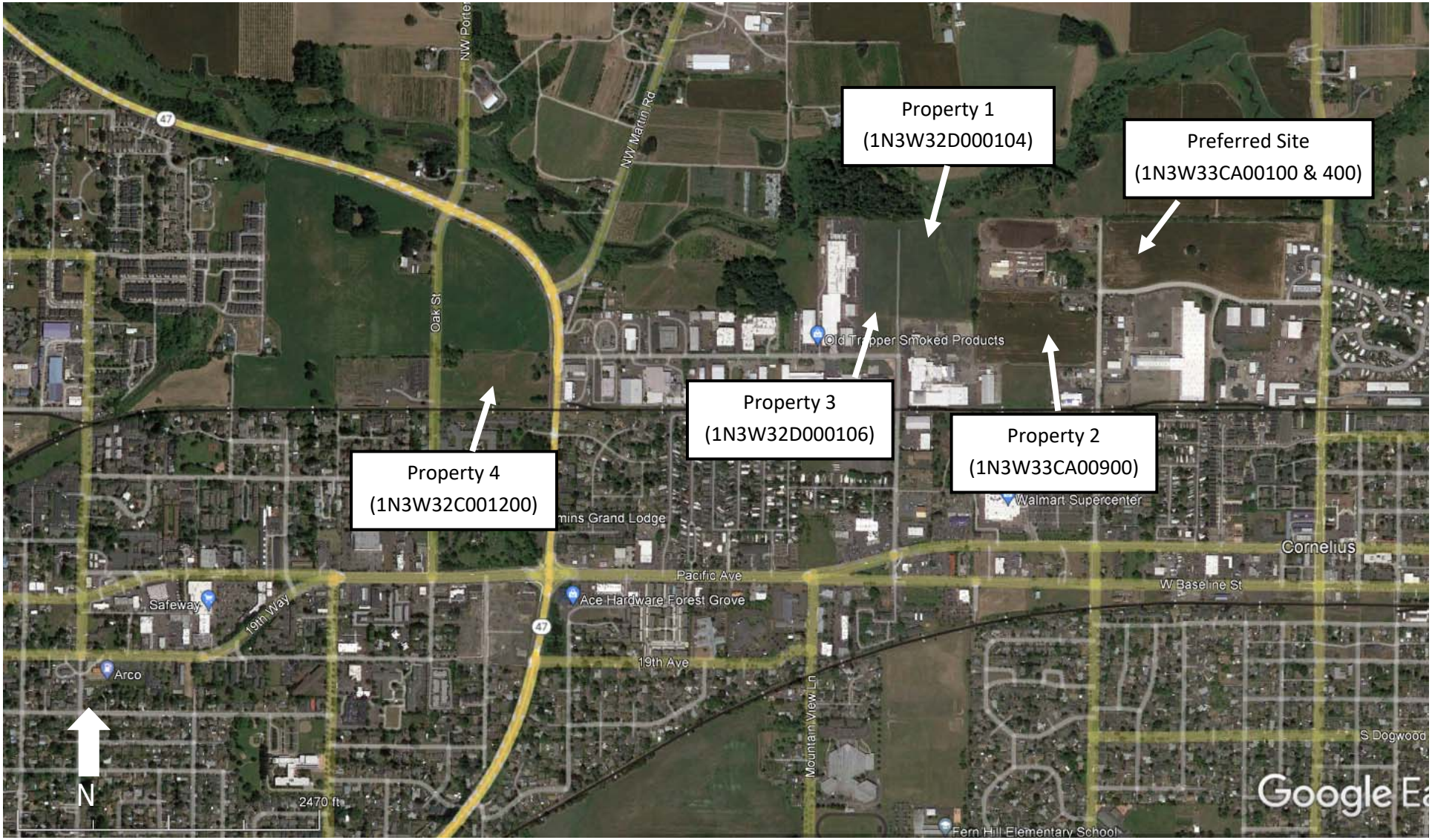
Site Development Plan
Meadowlark Industrial Center - Cornelius, Oregon

FIGURE 4

8-9-2022



Project# 7472
Date 7/6/22

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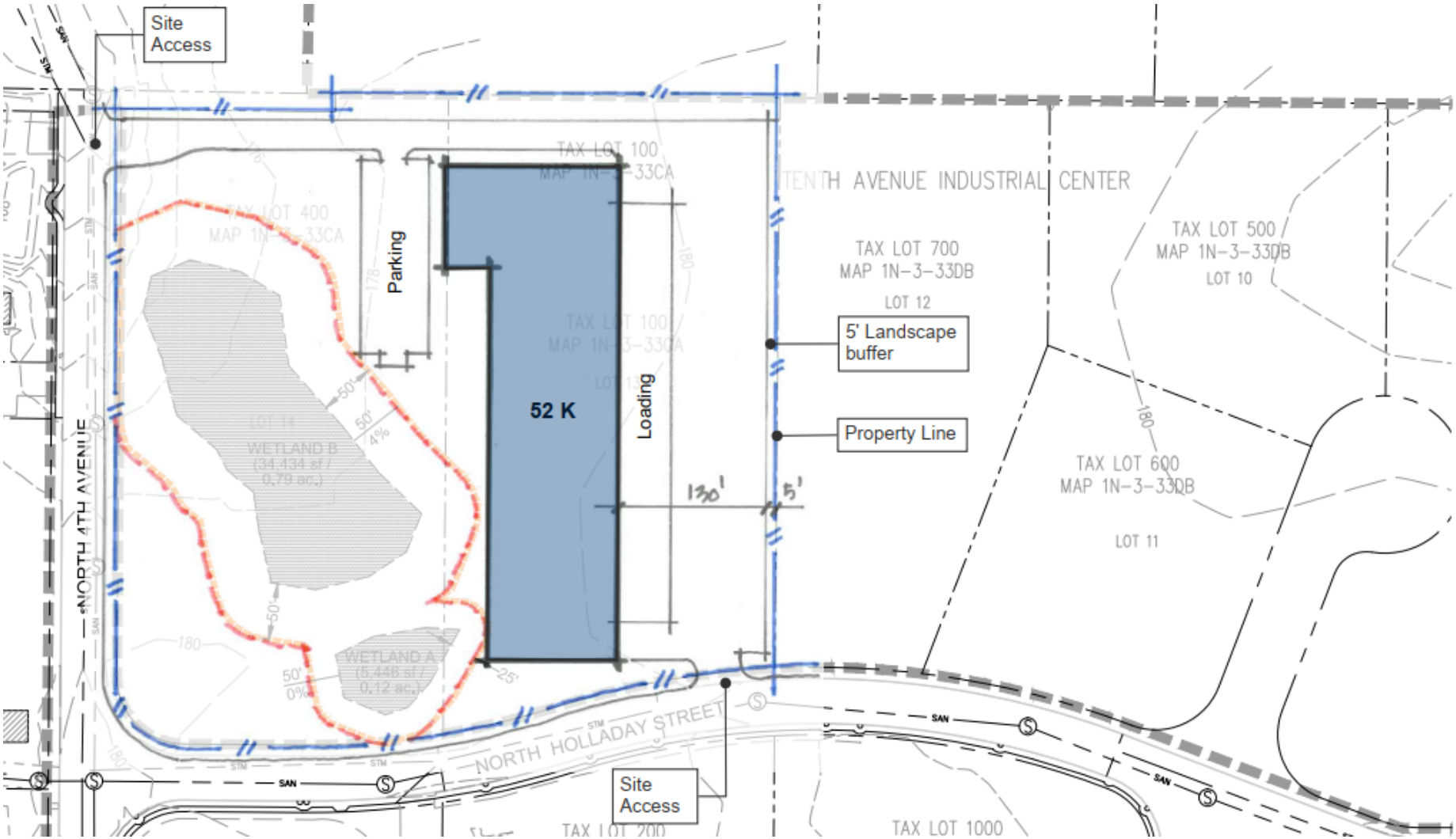
Preferred Site and Alternatives Site Locations
Meadowlark Industrial Center - Cornelius, OR
(Google Earth, 2022)

FIGURE
5



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Alternative Site Plan
Meadowlark Industrial Center - Cornelius, Oregon
Plan Provided by Mildren Design Group

FIGURE
6

Appendix B

Vegetated Corridor Data Sheet and Site Photographs

Vegetated Corridor Sample Sites

Meadowlark Industrial Center

Plant Community	A				
Sample Point	1	2	3	4	
TREES					
Native					
Alnus rubra					
Acer Macrophyllum					
Salix scouleriana					
SHRUBS & SAPLINGS					
Native					
Alnus rubra					
Corylus cornuta					
Symphoricarpos albus					
Invasive					
Rubus armeniacus					
Rubus lacinatus					
Non native					
Cratagus monogyna					
Ilex sp.					
HERBS					
Native					
Blechnum spicant					
Carex obnupta					
Carex leptpoda					
Non Native					
Hypericum perforatum					
Poa sp.	20	45			
Rumex crispus					
Schedonorus arundinaceus			60	60	
	A				Average
Canopy cover	0	0	0	0	0
% Native Species	0	0	0	0	0
% Invasive Species	0	0	0	0	0
Total cover	20	45	60	60	

Photo A:

View to the northeast of Wetland A, vegetated corridor.

Photo B:

View to the northwest of the southern end of Wetland B, and vegetated corridor.

#7472
7/22/2022

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Photo documentation
Meadowlark Industrial Center - Cornelius, Oregon
Photos taken January 20, 2021

Photo C:

View to the northeast of the eastern boundary of Wetland B and vegetated corridor.

Photo D:

View to the southeast of the northern end of Wetland B, and vegetated corridor.

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Photo documentation
Meadowlark Industrial Center - Cornelius, Oregon
Photos taken January 20, 2021