



Freeland and Associates, Inc.

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Bellingham, Washington  
(360) 650-1408

October 21, 2022

City of Lynden  
Public Works  
300 4<sup>th</sup> Street  
Lynden, WA 98264

Attention: Mr. Mark Sandal

Subject: Preliminary Stormwater Design  
Project Zebra - 603 Curt Maberry Road  
Lynden, Washington  
F&A Project No. 21212

Dear Mr. Sandal:

Deem, LLC plans to develop the property located at 603 Curt Maberry Road, Lynden, Washington 98264. Refer to *Figure 1 – Vicinity Map* for the project location. This letter serves as a preliminary stormwater design proposal for the project.

The subject property includes a single tax parcel (APN 400224-161310) occupying approximately 11.77-acres of land to the west of Curt Maberry Road and north of Alderwood Drive. The site is located in the West Lynden Subarea and zoned Industrial Business Zone (IBZ). Adjacent properties within the vicinity of the site are developed with industrial uses or are undeveloped at this time. The property directly to the east is under the same property ownership and developed as a large-scale cold-storage facility.

The existing site is an undeveloped grass field forming a rectangular shape. Topography of the site is generally flat with grades averaging between 0-2%. Access to the site is provide from Curt Maberry Road to the east. Municipal water and sewer connections and private utility services (power, natural gas, cable) are available to the site from the adjacent right-of-ways. Refer to *Figure 2 – Aerial Photograph* for the existing site conditions.

Soils on the site are mapped by the Natural Resources Conservation Service (NRCS) as Edmonds-Woodlyn loams #45, 0 to 2 percent slopes. The Edmonds-Woodlyn loams series are dually classified as hydrologic group B/D. The first letter applies to the drained and the second to the undrained condition. Hydrologic group B soils have moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately fine to moderately coarse textures. Hydrologic group D High runoff potential and very slow infiltration rates when thoroughly wetted. Refer to *Figure 3 – Soils Map* for the regional soils map. Soil reports within areas surrounding this project have shown consistent high

groundwater elevations throughout the winter months and it is anticipated that this site will as well. A site-specific soils evaluation by a geotechnical professional is in progress.

The project includes construction of a 194,250-square foot seafood processing facility with associated access, parking, and utilities. Access to the site will be provided from Curt Maberry Road to the east with secondary access from Alderwood Drive to the south. Truck access, loading areas, and employee/visitor parking will be located to the north and west of the building. Municipal water and sewer service connections in addition to private utilities (power, natural gas, cable) are planned to support the facility. The developed site will be enhanced with exterior building lighting and landscaping. Future plans may include a building expansion to the south of the proposed facility. Preliminary Site Plans have been prepared and are attached with this letter.

Stormwater management has been considered with development of the existing plan. Two parallel plans are being evaluated and the final plan will be determined during the building permit process.

Plan A:

The preferred option for stormwater management will be to convey all stormwater runoff from the site to the existing West Lynden Regional stormwater facility. However, the subject property is not currently contained within the pond's design contributing basin. To move forward with this plan, the ownership group will need to secure credits from other landowners within the pond's design basin. Currently, preliminary discussions with both the City of Lynden and property owners with available credits are ongoing.

Plan B:

An alternative option to using the West Lynden Regional stormwater pond will be to provide onsite stormwater management with an underground stormwater detention and treatment system. As there are no outfalls on the site within the basin, a basin diversion is being explored to provide a safe outfall for the development. Additional discussion on the outfall is in Minimum Requirement #4.

With more than 5,000 square feet of combined hard surfacing, the project will be subject to Minimum Requirements #1 through #9 as provided in the 2019 DOE Manual. Minimum Requirements #1 through #9 are addressed below. Where applicable, each of the plans identified above will be addressed in greater detail.

***Minimum Requirement #1 Preparation of Stormwater Site Plans***

This letter serves as a Preliminary Stormwater Site Plan (SSP). All stormwater management systems have been designed according to Department of Ecology (DOE) and City of Lynden standards.

***Minimum Requirement #2 Construction Stormwater Pollution Prevention (SWPPP)***

A construction SWPPP will be prepared and included with construction documents.

***Minimum Requirement #3 Source Control of Pollutants***

The proposed processing facility project is not expected to create any unusual sources of stormwater pollutants. Seafood processing operations will occur indoors and are not a stormwater pollution concern. Pollutant sources include vehicular traffic, fertilizers, and other detergents or chemicals typical to building maintenance activities. These sources will be controlled at the source to the maximum extent possible. All known, available, and reasonable source control BMPs will be applied to the design and layout of the site plans and stormwater plans.

Per the DOE Manual, land use controls that emphasize prevention of water quality impacts are preferred over treatment strategies. Therefore, clearing areas will be limited to the minimum areas necessary for construction.

***Minimum Requirement #4 Preservation of Natural Drainage Systems and Outfalls***

Currently, the entire project site is contained within a single regional basin. cursory review of aerial topography shows that stormwater runoff from the site generally is conveyed south/southeast.

*Plan A:*

Stormwater from the developed site will be conveyed to the West Lynden Regional Pond detention facility. No significant stormwater diversions are proposed as part of this project.

*Plan B:*

There are no adequate stormwater outfalls for this project located within the project's basin. The project is located near the highpoint of the basin and currently stormwater runoff flows overland to the south. Per the 2019 DOE SWMM, when no conveyance systems exist at the abutting downstream property line and the natural discharge is unconcentrated, there are three potential solutions that are as follows:

- a. If the 100-year peak discharge, as estimated using an approved continuous runoff model using 15-minute time steps, is less than or equal to 0.3 cfs under existing conditions and will remain less than or equal to 0.3 cfs under developed conditions, then the concentrated runoff may be discharged onto outlet protection with riprap, such as those described in [V-1.4.3 Outfall Systems](#), or to any other system that serves to disperse flows.
- b. If the 100-year peak discharge, as estimated using an approved continuous runoff model using 15-minute time steps, is less than or equal to 0.75 cfs under existing conditions and will remain less than or equal to 0.75 cfs under developed conditions, then the concentrated runoff may be discharged through a dispersal trench, such as those described in [V-1.4.3 Outfall Systems](#), or other dispersal system, provided the applicant can demonstrate that there will be no significant adverse impact to downhill properties or drainage systems.
- c. If the 100-year peak discharge, as estimated using an approved continuous runoff model using 15-minute time steps, is greater than 0.75 cfs for either existing or developed conditions, or if a significant adverse impact to downgradient properties or drainage systems is likely, then a conveyance system must be provided to convey the concentrated runoff across the downstream properties to an acceptable discharge point (i.e., an enclosed drainage system or open drainage feature where concentrated runoff can be discharged without significant adverse impact).

Both (a) and (b) were evaluated with preliminary WWHM modeling of the site and were determined to be unfeasible. Although the 100-year storm event for the developed conditions could be reduced to less than 0.75 cfs through over-detaining of flows, the predevelopment exceeds 0.75 cfs. Item (c) is also not practical as the nearest potential outfall is almost 0.5 miles away.

Since there are no practical outfalls within the basin, the project is proposing a basin diversion to the west. Although both the drainage basin that the project is in and the one to the west are subbasins of the Nooksack River, the immediate subbasins are separate. Two potential routes will be evaluated: (1) Stormwater will be

pumped to the ditch in Main Street with an overflow dispersion trench at the south property line to account for power outages or (2) upgrade of a shared conveyance system with the neighboring property to the west.

**Minimum Requirement #5 On-Site Stormwater Management**

As a project that is expected to trigger Minimum Requirements #1 through #9, this project will be required to demonstrate compliance with the LID Performance Standard or shall use BMPs from List #2 in the 2019 DOE Manual. This project is expected to comply with List #2.

Projects choosing to utilize List #2 of the 2019 DOE Manual to meet the requirements of Minimum Requirement #5 – On-site Stormwater Management must consider the BMPs in the order listed for each type of surface. The first BMP that is considered feasible must be used on the site. No other On-site Stormwater Management BMPs are necessary for that surface. The following table identifies all of the required BMPs in List #2 and if they are feasible or infeasible.

TABLE 3 - MINIMUM REQUIREMENT #5 LIST #2				
Minimum Requirement		Feasible	Infeasible	Criteria Comments
#	<b>Lawn &amp; Landscaped Area</b>			
1	Post-Construction Soil Quality and Depth - BMP T5.13	✓		This BMP will be applied to all areas outside of roofs or hard surfaces disturbed during construction.
#	<b>Roofs</b>			
1	Full Dispersion - BMP T5.30 Full Infiltration - BMP T5.10A		✓	Infeasible due to impervious surface coverage and lack of suitable vegetated areas to accommodate dispersion. High groundwater renders infiltration systems infeasible.
2	Bioretention – BMP T5.70		✓	Infeasible due to proposed impervious surface coverage and high groundwater.
3	Downspout Dispersion BMP T5.10B		✓	Infeasible due to insufficient vegetated flow path length and high groundwater.
4	Perforated Stub-out Connection BMP T5.10C		✓	Infeasible due to impervious surface coverage and high groundwater.
#	<b>Other Hard Surfaces</b>			
1	Full Dispersion BMP T5.30		✓	Infeasible due to impervious surface limits.

2	Permeable Pavement - BMP T5.15		✓	Infeasible due to the type of project (i.e. processing plant with potential for heavy equipment/vehicle loading) and high groundwater.
3	Bioretention – BMP T5.70		✓	Infeasible due to impervious surface coverage and high groundwater.
4	Sheet Flow Dispersion BMP T5.12 Concentrated Flow Dispersion BMP T5.11		✓	Infeasible due to insufficient vegetated flow path length on site.

**Preliminary Stormwater Management Summary**

Proposed impervious surface coverage and high groundwater render the use of dispersion and infiltration systems on the project site. Therefore, the preliminary stormwater management solution includes utilizing the West Lynden Regional Stormwater Pond through purchase of stormwater credits from another property. Stormwater generated by building roofs and paved surfaces will be collected in engineered conveyance systems and conveyed to the regional facility for flow control and treatment. Alternatively, onsite stormwater management will occur in an underground detention system with onsite stormwater treatment. BMP T5.13 will be applied to all areas outside of roof or hard surfaces disturbed during construction.

***Minimum Requirement #6 Runoff Treatment***

New pollution-generating hard surface (PGHS) areas are expected to exceed 5,000 square feet. Therefore, this project will exceed thresholds set forth in Section 2.5.6 in Volume I of the DOE Manual and stormwater treatment BMPs will be required.

***Minimum Requirement #7 Flow Control***

The proposed project will create more than 10,000 square feet of hard surfacing and will exceed flow control thresholds in Section 2.5.7 in Volume I of the DOE Manual. Stormwater flow control will be provided with conveyance to the West Lynden Regional Stormwater Pond or provided onsite with an underground stormwater facility.

***Minimum Requirement #8 Wetlands Protection***

No existing wetlands have been identified on site or in the immediate vicinity. Therefore, no further wetland protection measures are required.

***Minimum Requirement #9 Operation and Maintenance***

A separate operations and maintenance manual will be prepared for the proposed stormwater management facilities. The manual will contain a description of the facilities, what the facilities do, and how they work. The manual will also identify and describe maintenance tasks for each component of the facilities and the required frequency of each task.

As shown above, this project can comply with current stormwater management requirements in place for the City of Lynden. Please contact us with any questions or concerns regarding these observations.

Sincerely,  
Freeland and Associates, Inc.

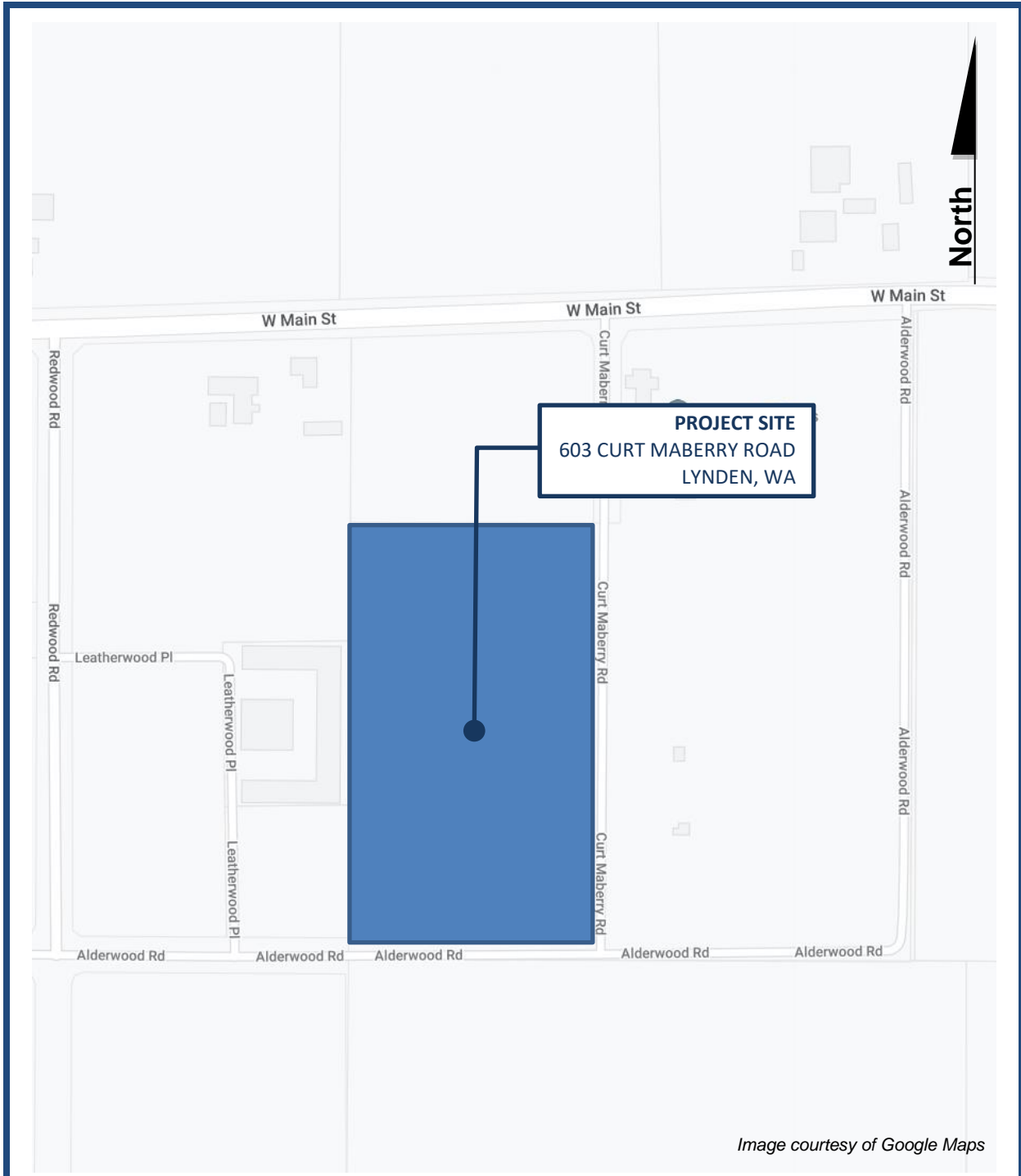


Jean-Paul (J.P.) Slagle, PE



### Attachments

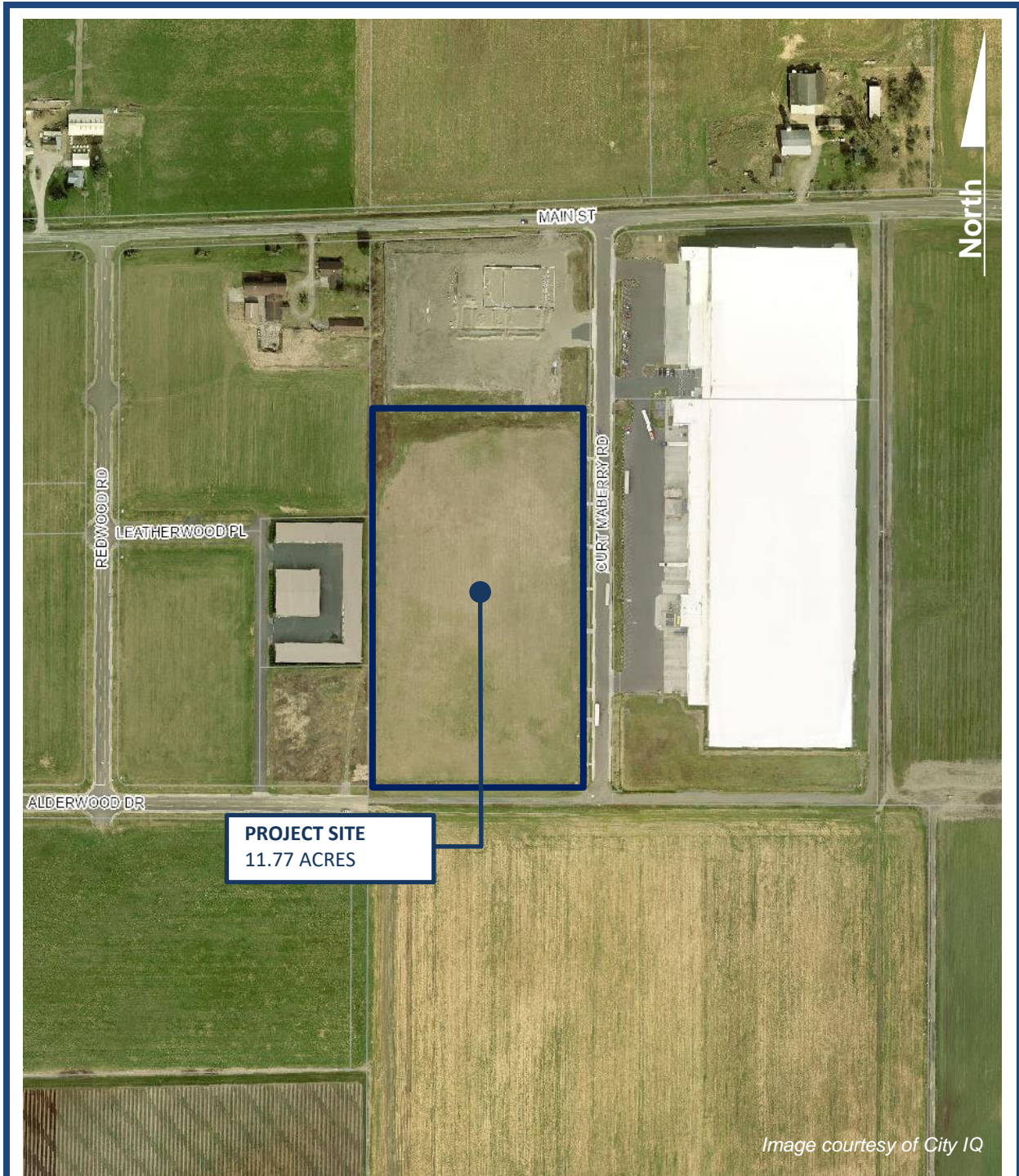
- Fig. 1 Vicinity Map*
- Fig. 2 Aerial Photograph of Site*
- Fig. 3 Soils Map*
- Preliminary Site Plans*



Vicinity Map

Figure 1





Aerial Photograph of Site

Figure 2



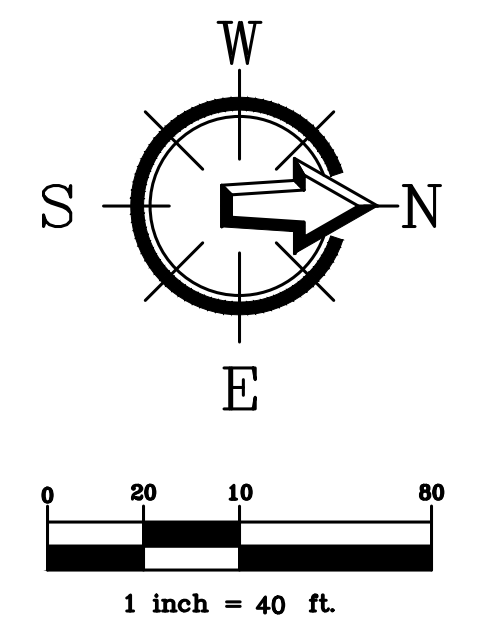


Soils Map

Figure 3

**Preliminary Site Plans**





**LAND DESCRIPTION:**

LOT 1, WEST MAIN STREET SHORT PLAT No. 2, ACCORDING TO THE PLAT THEREOF, RECORDED MAY 6, 2015 UNDER AUDITOR'S FILE No. 2150500587, RECORDS OF WHATCOM COUNTY, WASHINGTON.

SUBJECT TO AND/OR TOGETHER WITH ALL EASEMENTS, COVENANTS, RESTRICTIONS AND/OR AGREEMENTS OF RECORD, OR OTHERWISE.

**SURVEYOR'S NOTES:**

1. "●" DENOTES REBAR AND CAP MARKED "NWS & GPS 49276 & 50982" FOUND BY THIS SURVEY.
2. "●" DENOTES REBAR AND CAP MARKED "CPGSL 32430" FOUND BY THIS SURVEY.
3. "\*" DENOTES CALCULATED POINT ONLY.
4. THIS SURVEY WAS PERFORMED BY USING A BRX7+ GNSS RECEIVER WITH A CARLSON SURVEYOR 2 COLLECTOR/FIELD COMPUTER IN JULY OF 2022. ACCURACY EXCEEDS 1:10000.
5. THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND DOES NOT PURPORT TO SHOW ANY OR ALL EASEMENTS THAT A CURRENT TITLE REPORT MIGHT REVEAL.
6. VERTICAL DATUM = NGVD29.
7. CONTOUR INTERVALS ARE 1 FOOT. CONTOURS ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY.
8. NORTHWEST SURVEYING & GPS INC. ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR UTILITIES NOT SHOWN HEREON. UNDERGROUND UTILITIES ARE KNOWN TO EXIST WITHIN THE AREA OF CONSTRUCTION. THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED UPON FIELD SURVEY AND VISUAL IDENTIFICATION. ALL EXISTING UTILITIES MAY NOT BE INDICATED WITHIN THE CONSTRUCTION DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ANY AND ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND TO ALERT THE ENGINEER AND OWNER PROMPTLY IN CASE OF CONFLICT.



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Bellevue, WA 98005  
f: 360.650.1408  
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BY:	
REV:	
DATE:	
DESCRIPTION:	

**CLIENT:**  
DEEM, LLC.  
6831 E 32ND STREET, SUITE 200  
INDIANAPOLIS, IN 46226  
CALL BEFORE YOU DIG  
FOR BURIED UTILITY LOCATIONS  
1-800-424-5655

**PROJECT LOCATION:**  
PROJECT ZEBRA  
603 CURT MABERRY RD  
LYNDEN, WA 98264  
DRAWN BY: CLK  
CHECKED BY: JPS

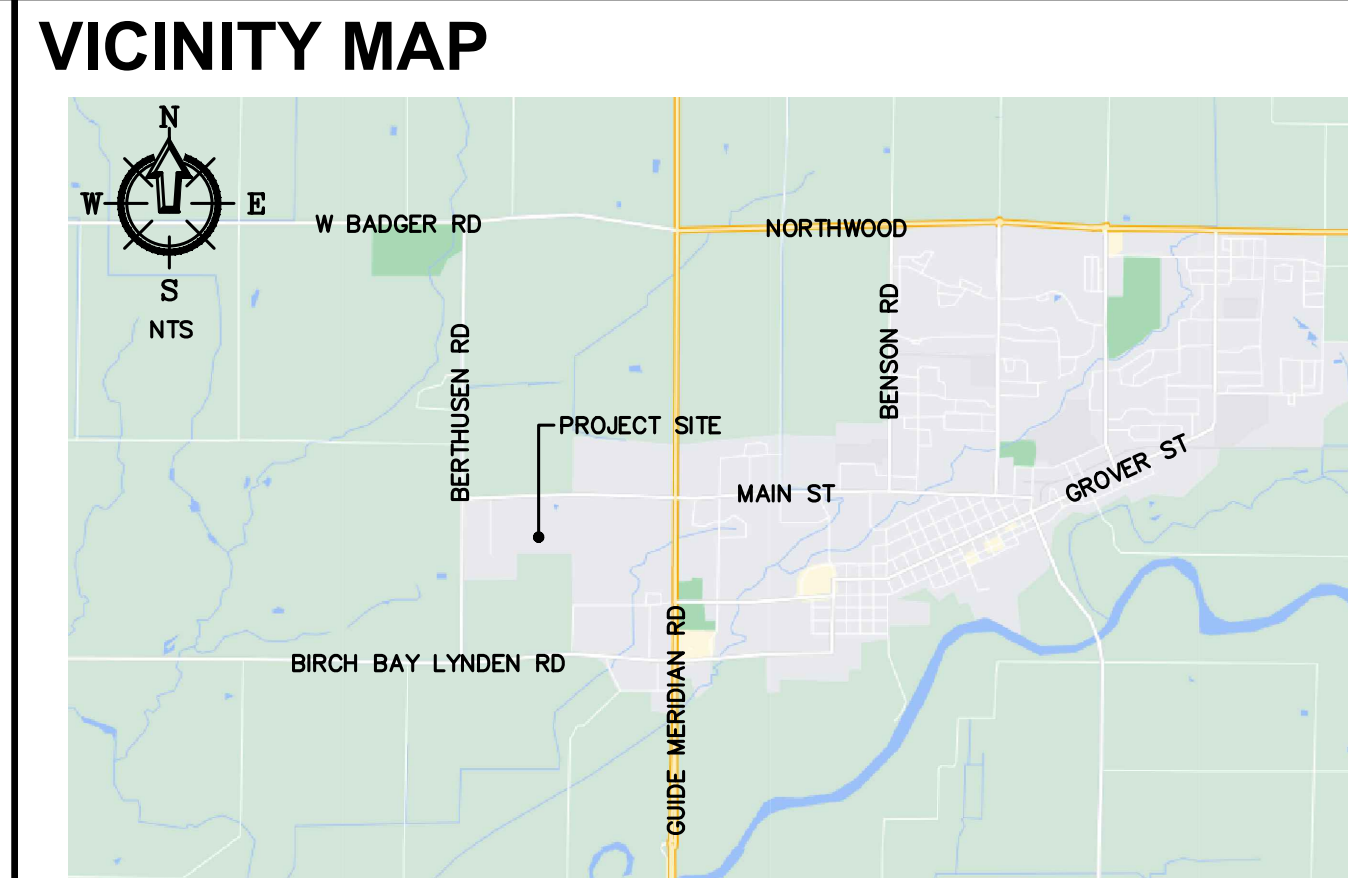
**SHEET CONTENTS:**  
COVER SHEET & EXISTING CONDITIONS

**SHEET INDEX**

C1	COVER SHEET & EXISTING CONDITIONS
C2	SITE & UTILITY SCHEMATIC PLAN
C3	PRELIMINARY LANDSCAPE PLAN

**LEGEND**

	= EXISTING STORM DRAIN CATCH BASIN (TYPE 1)		= EXISTING WATER LINE
	= PROPOSED STORM DRAIN CATCH BASIN		= PROPOSED WATER LINE
	= EXISTING SANITARY SEWER CLEANOUT		= EXISTING SANITARY SEWER LINE
	= EXISTING SANITARY SEWER MANHOLE		= PROPOSED SANITARY SEWER LINE
	= PROPOSED SEWER CLEANOUT		= EXISTING STORM DRAIN LINE
	= EXISTING FIRE HYDRANT		= PROPOSED STORM DRAIN LINE (SOLID WALL)
	= PROPOSED FIRE HYDRANT		= EXISTING TOP OF BANK
	= PROPOSED FIRE DEPARTMENT CONNECTION		= EXISTING TOE OF BANK
			= PROPOSED ASPHALT PAVEMENT



**CONTACT INFORMATION**

**CIVIL ENGINEER**  
FREELAND & ASSOCIATES, INC.  
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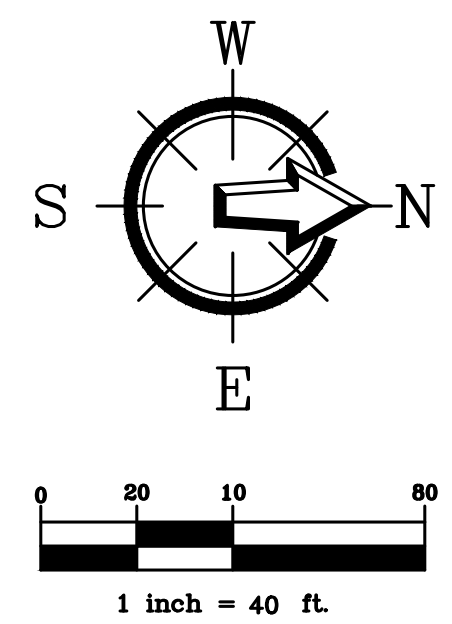
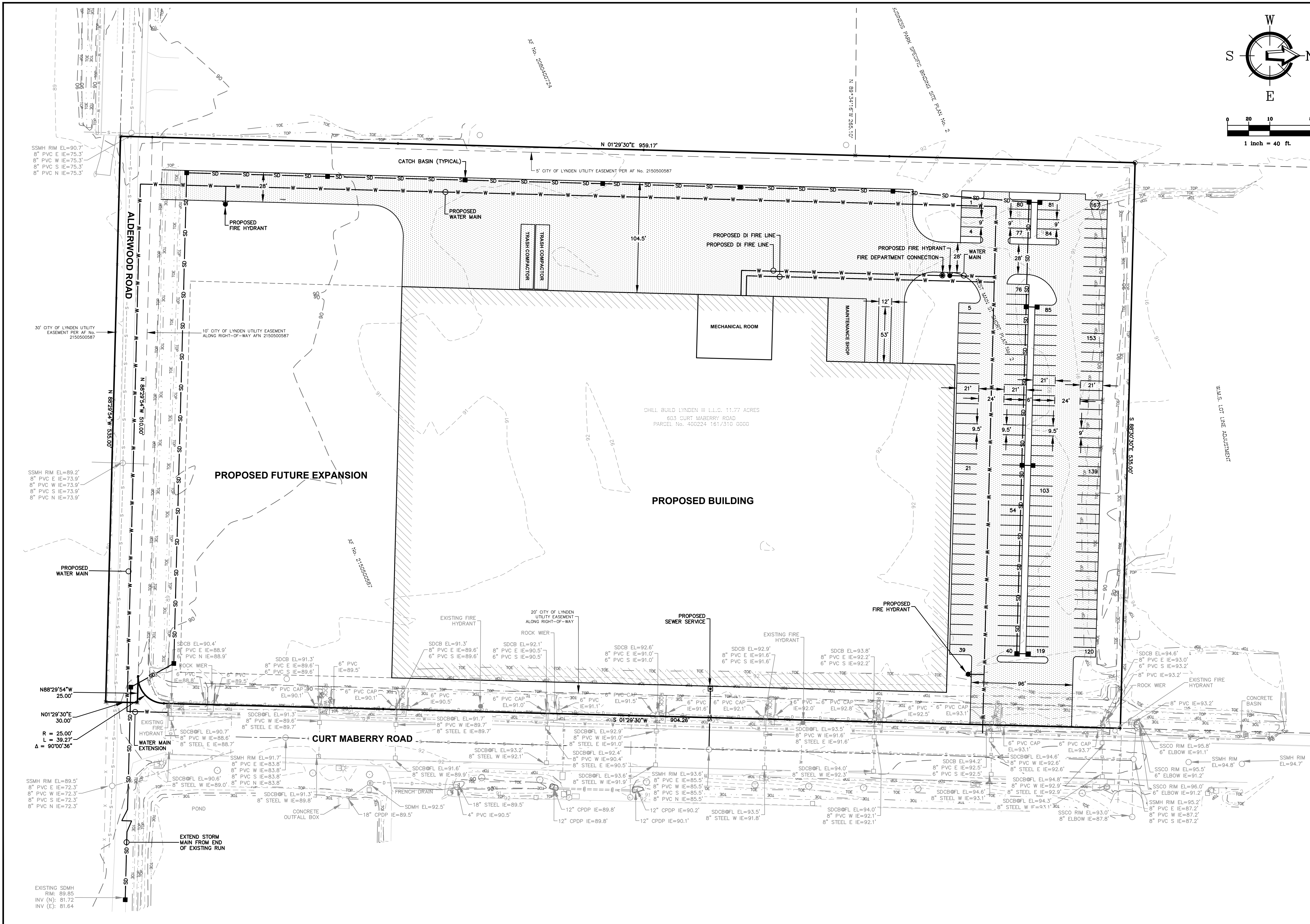
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(317) 860-2959  
cgooding@DEEMFIRST.com

**SURVEYOR**  
NORTHWEST SURVEYING & GPS, INC.  
JEREMY DEMEYER  
407 5TH STREET  
LYNDEN, WA 98264  
(360) 354-1950



JOB #:	21212	DATE:	8-30-2022
SHEET:			





REV.	DATE	DESCRIPTION

**CLIENT:**  
**DEEM, LLC.**  
 6831 E 32ND STREET, SUITE 200  
 INDIANAPOLIS, IN 46226  
**CALL BEFORE YOU DIG**  
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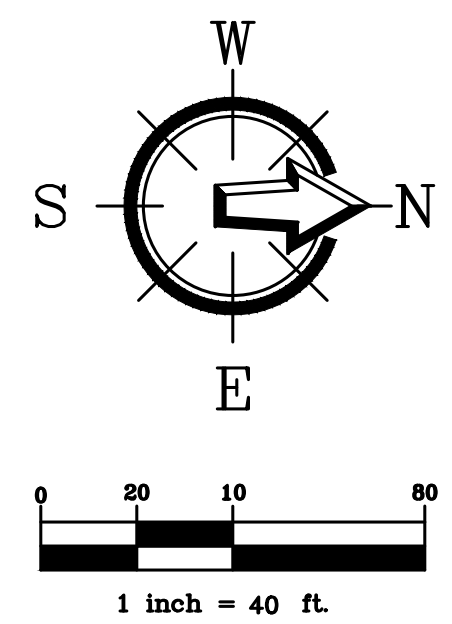
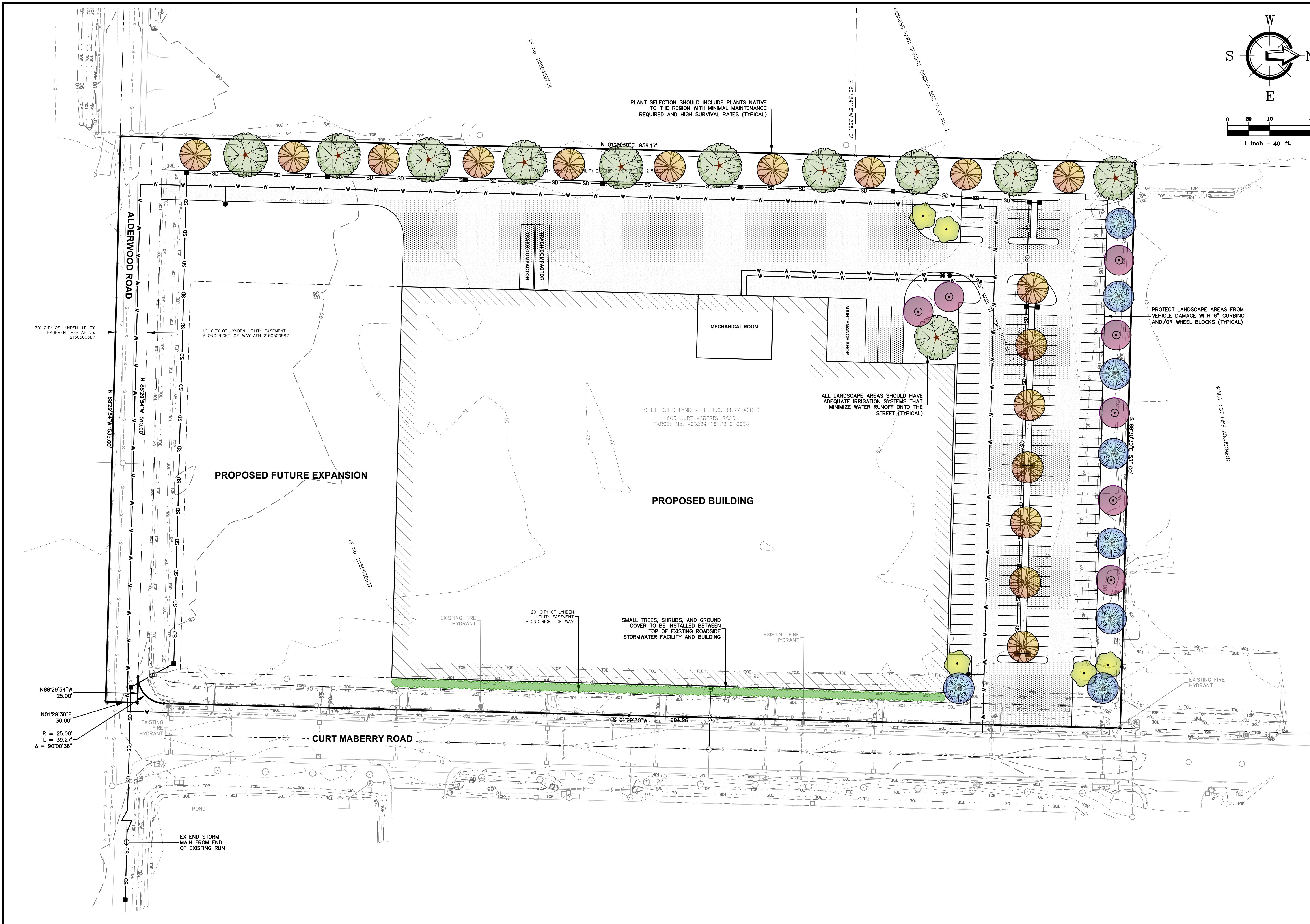
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**PROJECT ZEBRA**  
 603 CURT MABERRY RD  
 LYNDEN, WA 98264  
**DRAWN BY:** GJK  
**CHECKED BY:** JPS

**SHEET CONTENTS:**  
**SITE & SCHEMATIC UTILITY PLAN**



**JOB #:** 21212  
**DATE:** 8-30-2022  
**SHEET:**





REV.	DATE	DESCRIPTION

CLIENT: **DEEM, LLC.**  
6831 E 32ND STREET, SUITE 200  
INDIANAPOLIS, IN 46226

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1-800-424-5655

PROJECT LOCATION: **PROJECT ZEBRA**  
603 CURT MABERRY RD  
LYNDEN, WA 98264

DRAWING #: 21212SP1.DWG  
DESIGNED BY: JPS  
DRAWN BY: CLK  
CHECKED BY: JPS

SHEET CONTENTS: **PRELIMINARY LANDSCAPE PLAN**



JOB #: 21212 DATE: 8-30-2022

SHEET: **C3**