



# ENVIRONMENTAL ASSESSMENT WORKSHEET

319-333 E Superior St, Duluth MN

Duluth, MN 55060

February 12, 2021

Proposer:  
Northstar Development Interests, LLC  
*Gregg Johnson*

RGU:  
Adam Fulton  
City of Duluth  
411 W 1<sup>st</sup> St  
Duluth, MN 55802

WSB PROJECT NO. 017127-000



# ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

<http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

**Cumulative potential effects** can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

**Note to reviewers:** Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title:** 319 - 333 E Superior St, Duluth MN

2. **Proposer:** Northstar Development Interests, LLC

**Contact person:** Gregg Johnson

**Title:** Project Developer

**Address:**

**City, State, ZIP:**

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3. **RGU:** City of Duluth

**Contact person:** Adam Fulton

**Title:** Deputy Director

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**City, State, ZIP:** Duluth, MN 55802

**Phone:** 218-730-5580

**Fax:**

**Email:** planning@duluthmn.gov

4. **Reason for EAW Preparation:** (check one)

Required:

EIS Scoping

**Mandatory EAW**

Discretionary:

Citizen petition

RGU discretion

Proposer initiated

**If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):**

4410.4300 Mandatory EAW Category, Subpart 31: Historical Places

5. **Project Location**

**County:** St. Louis

**City/Township:** Duluth

**PLS Location (1/4, 1/4, Section, Township, Range):** S27 T50 R14

**Watershed (81 major watershed scale):** Lake Superior - South

**GPS Coordinates:** 46.79085, -92.09384

**Tax Parcel Numbers:** 010-3830-00170, 010-3830-00180, 010-3830-00190, 010-3830-00200

**At a minimum attach each of the following to the EAW:**

- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

**Figures – Appendix A:**

Figure 1: Project location

Figure 2: Site topography

Figure 3: Existing conditions

Figure 4: Proposed conditions

Figure 5: Cover types

Figure 6: Land Use

Figure 7: Current zoning

Figure 8: Surface geology

Figure 9: Bedrock geology

Figure 10: Soils

Figure 11: Surface waters

Figure 12: Wells

Figure 13: Environmental hazards

**6. Project Description:**

- a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).**

The project involves the demolition of three buildings in downtown Duluth at the southwest corner of Superior St E and N 4<sup>th</sup> Ave E that will be replaced by a 15-story mixed-use complex. The complex will house retail space on the first and second floors and 200 apartments including three townhome units. The new facility will provide parking for the three townhome units and a loading zone. Additional parking spaces have been secured in a parking ramp on an adjoining property.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.**

Northstar Development Interests, LLC proposes to construct a 15-story mixed use building in a highly urbanized area of downtown Duluth (**Figure 1**). The proposed building will be a mix of retail and residential housing that includes 200 apartment units and 20,000 square feet of commercial space (**Appendix B**). The first and second floor of the building will house retail space while the second floor will also contain an open-air common area for the building residents. Three of the units will be townhomes and have associated parking spaces attached on the northwest side of the building facing the alleyway and additional spaces have been secured in a parking ramp on an adjoining property. A loading facility is also included in the plans on the northwest side of the building. The project will connect to the existing city sewer and water system that serves the current site.

The project involves the demolition of three buildings at the southwest corner of Superior St E and N 4<sup>th</sup> Ave E that will be replaced by the mixed-use complex (**Figure 4**). Currently, the site consists of a hotel and two buildings historically used for retail space. Of the three structures on site, two buildings are currently vacant and have some fire damage due to unauthorized use while the third building is a 42 unit and three-story hotel, currently in operation. The fourth parcel is an empty lot that historically housed a small commercial building. These buildings will be demolished, and waste will be produced that is taken off site and disposed of following all laws and regulations.

The site is within the Duluth Commercial Historic District and two of the buildings are contributing structures in the district. These buildings are currently vacant and have been impacted by vandalism in recent years. Incorporation or reuse of the existing structures is not practical. The demolition of these buildings may be accompanied by mitigation measures such as recordation following the Minnesota Historic Property Record (MHPR) guidelines for Level II documentation, interpretive signage acknowledging the non-extant properties, and/or salvage of historic components prior to or during demolition.



The Voyager Inn property is listed on the Minnesota Pollution Control Agency’s “What’s in My Neighborhood” Petroleum remediation, leak site; Underground tanks. The excavated material has the potential to contain hazardous material due to this historic leak site on the property. A Response Action Plan (RAP) and/or Construction Contingency Plan (CCP) will be developed for the proper management of contamination and/or regulated materials encountered during reconstruction. If contaminated materials are encountered during excavation, construction activities will cease and the CCP must be implemented.

An asbestos survey has been completed on all three buildings and has found that asbestos containing material is present on-site. This finding requires a Response Action Plan (RAP) that will be followed for the proper management of this material upon demolition and disposal. After demolition, the existing footprint will require minor excavation to prepare the site for the construction of the 15-story building.

The demolition, site preparation, and construction are anticipated to start in the fall of 2021, after all approvals are in place.

**c. Project magnitude:**

**Table 1: Project Magnitude.**

<b>Total Project Acreage</b>	0.5 acres
<b>Linear project length</b>	NA
<b>Number and type of residential units</b>	200 unit - apartments
<b>Commercial building area (in square feet)</b>	20,000
<b>Industrial building area (in square feet)</b>	NA
<b>Institutional building area (in square feet)</b>	NA
<b>Other uses – specify (in square feet)</b>	NA
<b>Structure height(s)</b>	15 story

**d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.**

The purpose of this proposed development by Northstar Development Interests, LLC is to provide additional housing and retail options in downtown Duluth, MN.

**e. Are future stages of this development including development on any other property planned or likely to happen?  Yes  No**  
**If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.**

**f. Is this project a subsequent stage of an earlier project?  Yes  No**  
**If yes, briefly describe the past development, timeline and any past environmental review.**

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

**Table 2: Cover Types.**

Cover Type	Before	After	Cover Type	Before	After
Wetlands	0	0	Lawn/landscaping	0.08	0
Deep water/streams	0	0	Impervious surface	0.42	0.40
Wooded/forest	0	0	Stormwater Pond	0	0
Brush/Grassland	0	0	Other (describe)	0	0.10
Cropland	0	0			
			<b>TOTAL</b>	<b>0.50</b>	<b>0.50</b>

Current conditions cover type on site is mostly impervious with one lot of lawn/landscaping (**Figure 5**). The entire site will be developed into a single building footprint with an open-air common space in the center of the building on second floor. This open space will contain an atrium including few trees and is listed as “Other” cover type. The location of the open-air landscaped area makes it inaccessible to the public and drainage will be directed to city sewer similarly to a rooftop.

8. **Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

**Table 3: Permits and Approvals Required.**

Unit of Government	Type of Application	Status
<b>State</b>		
Pollution Control Agency	NPDES/SDS Construction Stormwater Permit	To be obtained
	Section 401 Certification	To be obtained, if needed
	Pre-demolition checklist and notification	To be completed
	Response Action Plan	To be obtained
	Sanitary Sewer Extension	To be obtained, if needed
Department of Health	Watermain Extension Plan Review	To be obtained, if needed
<b>Local</b>		
City of Duluth	Right of way permit	To be obtained
	Zoning approvals	To be obtained
	NPDES Excavation/sewer/backfill/utility connection permit	To be obtained
	Building Permit	To be obtained

Unit of Government	Type of Application	Status
	Demolition Permit	To be obtained
	Erosion and sediment control permit (ESCP)	To be obtained
	Shoreland Permit	To be obtained

**Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19**

**9. Land use:**

**a. Describe:**

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.**

Existing land use on and near the site is highly developed with commercial and residential properties in downtown Duluth (**Figure 6**). The project site is mostly impervious as it is developed with buildings and parking lot. The unoccupied lot was previously developed, and compacted fill material does not provide infiltration on-site. Few scrub trees and manicured lawn are present on-site but do not provide natural habitat. The proposed project will not change the land use of the site in regard to impervious surface or natural habitat.

The properties adjacent to the northeast and northwest of the project site are developed into a hospital and a parking lot. The properties to the southeast and southwest are developed into hotel and commercial and retail space. The hotel directly adjacent to the site to the southwest is the same building type as the proposed mixed-use complex. Interstate 35W is southeast of the project site followed by the Lakewalk Trail and Lake Superior. Lake Superior is less than 1,000 feet from the project site.

The property to be redeveloped is in the Duluth Commercial Historic District according to the national registrar. Two of the buildings currently on-site, the Hacienda del Sol, and Duluth Oriental Grocery are contributing features to the historic district. The third building onsite, The Voyager Inn, was built in 1959 and is not included as a contributing structure as its date of construction falls outside the period of significance. Surrounding properties are a mix of new and old construction including the site adjoining the property to the southwest being an 11-story hotel and condominium complex that was built in 2006 (**Figure 3**).

Cascade Park, and Lilliput Park are City parks less than 0.5 miles from the project site and access to the Lakewalk Trail is one block to the northeast. There are no prime or unique farmlands adjacent to or near the project site. The project is not expected to impact these nearby features.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.**

The City of Duluth made updates to its Comprehensive Plan in 2018. This document, *Imagine Duluth 2035*, details a vision for growth and development over the next 20 years.

The project site is located in the Central Business District in Duluth. The area is defined in the City's Comprehensive Plan current and future land use as encompassing a broad range of uses and intensities including governmental campus, significant retail, entertainment and lodging, opportunities for high-density housing, central plaza, public/open space, and public parking facilities. The proposed building provides for both retail and high-density housing in an already urbanized area of downtown Duluth.

The site itself is in the Duluth Commercial Historic District and two of the buildings on-site are contributing structures. The plan addresses reuse of previously developed lands under its governing principal #1 stating: "reuse of previously developed lands, including adaptive reuse of existing building stock and historic resources, directs new investment to sites which have the potential to perform at a higher level than their current state." The two buildings on-site have historical significance; however, they are vacant and in a current state of dis-repair. The buildings currently pose a safety risk for the community and surrounding occupied buildings.

The Housing section of this document describes the City's policy to improve the quality of the City's housing stock and neighborhoods by encouraging healthy and safe housing options. The proposed building replaces two vacant structures in downtown Duluth to provide for high-density housing in its place. The project site is in an area that provides access to health, social services, other goods and services, public transportation, and employment opportunities. The proximity to these opportunities helps to meet housing strategies outlined in the plan.

**iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.**

The project site is located in the Form District 8 (F-8) -- downtown mix and is adjacent to Mixed Use Institutional (MU-I) district (**Figure 7**). The F-8 district permits both Main Street Building III and Corridor Building III for commercial and residential uses. These building types have maximum height requirements of 15 stories. The Main street building III type should include retail or service uses on the ground floor whenever possible. The proposed building is consistent with the current and proposed uses for the district. Re-zoning will not be necessary to accommodate the proposed project.

The project site is also located within the Natural Resources Overlay (NR-O) District since it is located within 1,000 feet of Lake Superior. The proximity to a MN DNR Public Waters subjects the site to regulations of the Minnesota Wetland Conservation Act (WCA), Federal Emergency Management Agency (FEMA), and the Minnesota Department of Natural Resources (MNDNR) shoreland and floodplain rules. Development of the site will require a shoreland permit that includes stormwater management and erosion control plans.

**b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.**

The project is compatible with nearby land uses, zoning, and plans outlined in Duluth's Comprehensive Land Use Plan. The proposed building would be considered a Corridor Building III and will help to create a vibrant commercial core for Downtown. The mixed-use building will provide opportunities for high-density housing and retail space which fits with the goals and policies expressed in the land use plan for districts zoned F-8. The plans express that redevelopment of existing properties is allowed in this form district. Additionally, the project location provides convenient access to public transit in a pedestrian friendly area of downtown Duluth.

There are two buildings on-site that are contributing structures to the Duluth Commercial Historic District. Redevelopment of this property directs new investment to this site that has potential to perform at a higher level than its current state.

The site is located within the NR-O district. Project activities will require erosion control and stormwater management plans to comply with an approved shoreland permit.

**c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.**

The project site is currently zoned as F-8 Downtown Mix and will remain this zoning classification according to the Imagine Duluth 2035 comprehensive plan. There is no need to amend current or planned land use or zoning for the project area. Project activities will comply with an approved shoreland permit to mitigate any potential effects to Lake Superior. Additionally, removal of existing vacant structures will help to revitalize the downtown area.

**10. Geology, soils and topography/land forms:**

**a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.**

The geology of the North Shore of Lake Superior consists of Precambrian basalt and gabbro bedrock that is overlain by glacial till soils and non-native fill soils in some areas (**Figure 8-9**). Bedrock is exposed in downtown Duluth and northeastward along the North Shore of Lake Superior. Depth to bedrock at the project site is estimated to be zero feet. Bedrock on the project site is currently overlain with pavement, buildings, and non-native fill soils.

Minor excavation of soils and bedrock material will occur. Weathered and/or fractured rock will be removed, and more extensive means may be used to excavate more competent bedrock. If clay seams are encountered, mitigation may be required to solidify the foundation of the building. Additionally, groundwater seepage occurs in cracks and fractures in the bedrock. If groundwater is encountered, it will need to be managed during construction and considered in the design of the foundation to prevent water infiltration.

- b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.**

The NCRS web soils survey maps Urban land, Mesaba, and rock outcrop with 1 to 18 percent slopes as soil units on-site (**Figure 10**). Urban land soils are fill material from surrounding uplands, gravel pits, and blasted bedrock. The Mesaba is a gravely sandy loam material that overlays the bedrock in some areas. And the rock-outcrop is the basalts and gabbro bedrock that underlays the area. The elevation on-site is from 646 to 666 feet above sea level (**Figure 2**).

The site is currently developed with buildings and impervious surface with one parcel of landscaped lawn. The area on-site that is not currently impervious is 3,500 square feet parcel located at 321 E Superior St. Demolition of existing development will disturb soils and bedrock. Erosion and sediment control BMPs would be implemented during demolition and construction as outline in the stormwater pollution prevention plan (SWPPP). BMPs may include but are not limited to erosion control blankets, silt fencing, and stormwater inlet control structures.

**NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.**

#### **11. Water resources:**

- a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.**

Lake Superior is approximately 550 feet to the south east of the project site (**Figure 11**). This Minnesota DNR Public Water (16-1P) is listed on the MPCA's 303d Draft 2020 Impaired Waters List due to mercury and PCBs in fish tissue affecting aquatic consumption. Lake Superior is also listed as a restricted outstanding resource value water under Minnesota Rules parts 7050.0250 to 7050.0335. The project proximity to Lake Superior subjects the site to additional construction requirements. An erosion control permit and NPDES Construction Stormwater permit will be acquired prior to demolition and construction of the proposed site to fulfill these requirements.

Clark House Creek (PWI: na), Chester Creek (PWI: S-003), and Brewers Creek (PWI: na) are located within one mile of the project site. Chester Creek is on the Impaired Waters List for E. coli affecting aquatic recreation. The project area does not drain to these nearby creeks and water quality impairments will not affect the project activities.

- ii. **Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.**

The Minnesota Well Index (MDI) was used to determine the location of wells on or nearby the project site (**Figure 12**). Zero wells are located on-site, and five wells are located within 500 feet of the project area **Table 4 (Appendix C)**. Nearby wells are 24 to 60 feet deep and depth to groundwater is at varying depths. Ground water in this area is found locally in faults and fractures in the granite bedrock. The project site is not within a Minnesota Department of Health (MDH) wellhead protection area. The nearest wellhead protection area is 14 miles to the south west in Esko, MN.

**Table 4: Wells within 500 feet of the Project Area.**

Well ID	Address	Approximate distance from site (ft)	Well use	Well depth (ft)
739032	302 1 <sup>st</sup> St E	200	elevator	54
739033	302 1 <sup>st</sup> St E	200	elevator	60
704151	402 1 <sup>st</sup> St E	500	elevator	24
704152	402 1 <sup>st</sup> St E	500	elevator	42
764826	222 Superior St E	300	elevator	34

Using the NEPAssist Tool, it has been determined that the project site is not located on a sole source aquifer. The nearest sole source aquifer is the Mille Lacs Sole Source Aquifer, over 60 miles away to the south west.

- b. **Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.**
  - i. **Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.**
    - 1) **If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.**
    - 2) **If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.**

- 3) **If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.**

Wastewater generated within the proposed development will discharge to the Duluth sanitary sewer system via the existing 36-inch trunk sanitary sewer in E Superior St. The City sanitary sewer system has sufficient capacity for projected flows from the development.

Wastewater will be conveyed through the City sanitary sewer system to the Western Lake Superior Sanitary District (WLSSD) wastewater treatment plant (WWTP). The WLSSD WWTP has a treatment capacity of 49 million gallons per day (MGD). The WWTP currently treats approximately 40 MGD, so the plant has a residual capacity of 9 MGD. Below is an estimate of the wastewater flow from the proposed development (**Table 5**).

**Table 5: Wastewater Flow Calculations.**

Land Use	Units	Flow Assumption (gpd/unit)	Average Flow (gpd)	Peak Factor*	Peak Hourly Flow (gpd)
Apartments	200	180	36,000	4.0	144,000

*gpd = gallons per day*

*\*Peak factor based on average flow per standard Metropolitan Council values.*

The WLSSD WWTP has sufficient residual capacity to treat the projected 0.036 MGD of average wastewater flow that will be generated by the proposed development. The wastewater will be domestic in character and will not require specific pretreatment measures.

- ii. **Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.**

The existing site consists of primarily impervious surface. Stormwater runoff from the site leads to the municipal road storm sewer systems adjacent to the site, ultimately discharging to Lake Superior via City of Duluth storm sewer system.



A HydroCAD model was developed to show the existing and proposed stormwater runoff rates from the site. The site is proposed to replace all the existing impervious surface with reconstructed impervious surface; therefore, the runoff rates will not change for proposed conditions (**Table 6**). Additionally, there will be no changes to stormwater volume or water quality as a result of the proposed site because the impervious surface area and land use is not changing. There are no adverse impacts to total stormwater volume or pollutants, therefore there are no environmental effects from stormwater discharges anticipated with the proposed site.

**Table 6: Existing and Proposed Stormwater Discharge Runoff.**

Site Condition	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	100-Year Storm Event (cfs)
Existing	1.77	2.66	4.28
Proposed	1.77	2.66	4.28

The proposed site will disturb less than one acre of total area; therefore, there will be no stormwater quality requirements for the reconstructed impervious surface areas to meet the City’s MS4 Permit or National Pollution Discharge Elimination System (NPDES) requirements.

The proposed site will be a mix of redeveloping existing impervious area and new impervious area, so stormwater parameters for the site shall be weighted from the existing predevelopment/project site conditions to determine the allowable levels of discharge parameters leaving the proposed project site based on the City of Duluth’s Unified Development Code (UDC) requirements. These requirements shall be discussed at the preliminary design submittal meeting for the proposed site.

The final proposed site design shall show that they meet all standards in the City of Duluth’s (UDC) and MPCA NPDES Construction General Permit, including temporary and permanent erosion control and sedimentation control measures at the site. The NPDES Permit has more stringent erosion control requirements prior to discharge to Outstanding Resource Value Water (ORVW) that the site will be required to follow. These erosion control features may include but are not limited to storm drain inlet protection at adjacent municipal streets, dust control, frequent street sweeping, and stabilizing disturbed soils with mulch or other products to limit soil erosion when construction activity has permanently or temporarily ceased on any portion of the site. All temporary and permanent erosion control and sediment control measures must be included in the project’s stormwater management plan.

- iii. **Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.**

The site will connect to the City of Duluth water distribution system via the existing 16-inch trunk watermain in E Superior St and 8-inch watermain in N 4th Ave E. The City’s water supply system includes the Lakewood Water Treatment Plant (WTP), fifteen storage facilities, eleven pumping stations, and over four hundred miles of watermain. The City’s current DNR water appropriation permit allows for withdrawal of up to nine billion gallons per year, and the City has withdrawn approximately five billion gallons per year in recent years.

Below is an estimate of the water demands for the proposed development (**Table 7**). Based on the estimated annual demand of 16.4 million gallons per year, additional water appropriation will not be required.

**Table 7: Water Demand Calculations.**

Land Use	Units	Demand Assumption (gpd/unit)	Average Day Demand (gpd)	Max. Day Demand Factor*	Max. Day Demand (gpd)
Apartments	200	225	45,000	1.8	81,000

*gpd = gallons per day*

*\*Historical maximum day demand factor from 2017-2019.*

iv. **Surface Waters**

- a) **Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.**

No wetlands are located within the project area or adjacent to the project site. Impacts to wetlands from this project are not anticipated.

- b) **Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.**

No surface water features are located within the project area or adjacent to the project site. Impacts to surface waters from this project are not anticipated.

**12. Contamination/Hazardous Materials/Wastes:**

- a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.**

Publicly available data from the Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Agriculture (MDA) databases were reviewed to identify verified or potentially contaminated sites that may be encountered during the proposed development (**Figure 13**). The following database listings were reviewed:

- MPCA “What’s in My neighborhood?” website
- MPCA Petroleum Remediation Program Map Online website
- Minnesota Department of Agriculture (MDA) “What’s in My neighborhood?” website

MPCA “What’s in My Neighborhood?” website

Two listings were identified within the project area, and 43 listings were identified within 1,000 feet of the site (**Table 8, 9**).

The two listings that are identified within the project area include:

**Table 8: WIMN Listings within the Project Area.**

Map ID	Site Name	Site ID	Activity	Status
16	Voyager Motel/Lakewalk Inn	109460	Petroleum remediation, leak site; Underground tanks	Inactive
42	Hacienda Del Sol	215131	Brownfields, petroleum brownfield and voluntary investigation and cleanup	Inactive

The 43 listings that are correctly plotted within 1,000 feet of the project area include:

**Table 9: WIMN Listings within 1,000 feet of the Project Area.**

Map ID	Site Name	Site ID	Activity	Status
1	Rainbow Auto Body Inc	1998	Air Quality; Hazardous Waste	Inactive
2	Northland Chiropractic Center	16441	Hazardous Waste	Inactive

Map ID	Site Name	Site ID	Activity	Status
3	Paul Bunyan Press	16117	Hazardous Waste	Inactive
4	Miller Dwan Medical Center	24220	Hazardous Waste	Inactive
5	Greysolon Plaza Property	24721	Hazardous Waste; Underground Tanks	Active
6	A Quality Lube Center	23708	Aboveground Tanks; Hazardous Waste	Active
7	Joes Peerless Auto Body	23379	Hazardous Waste; Underground Tanks	Inactive
8	Saint Anns Home & Residence	24501	Hazardous Waste, Minimal quantity generator	Active
9	A1 Auto Body	23711	Hazardous Waste	Inactive
10	Lake Superior Cust Photolab Inc	23329	Hazardous Waste	Inactive
11	Tri Towers Beauty Shop	23191	Hazardous Waste	Inactive
12	Dunbar's Auto Body	27688	Hazardous Waste	Inactive
13	Clean As New Auto Cleaning	29292	Hazardous Waste	Inactive
14	Whirlwind Power Co	25868	Hazardous Waste	Inactive
15	Northern Access Transportation	56856	Hazardous Waste	Inactive
17	Miller Dwan Medical Center	109580	Aboveground Tanks	Active
18	Grandview Manor	112895	Underground Tanks	Inactive
19	E 1st St Medical Parking Facility	146463	Petroleum Remediation, Leak Site; Underground Tanks	Inactive
20	Sheraton Hotel/Condominium	186951	Brownfields, Voluntary Investigation and Cleanup	Active
21	Graysolon Plaza	192682	Petroleum Remediation, Leak Site	Active
22	Former Pickwick Restaurant	193582	Petroleum Remediation, Leak Site	Active
23	Essentia Health Duluth 1st Street Pharmacy	213953	Hazardous Waste, Minimal quantity generator	Active
24	Duluth Opera Block	222216	Brownfields, Voluntary Investigation and Cleanup	Active
25	Essentia Health - Duluth	1668	Air Quality; Hazardous Waste, Large quantity generator; Site Assessment	Active
26	Gene's Auto Body	2509	Air Quality; Hazardous Waste, Very small quantity generator	Active
27	Harbor Centers Inc	14444	Hazardous Waste	Inactive

Map ID	Site Name	Site ID	Activity	Status
28	ISD 709 Central Administration Building	12415	Hazardous Waste, Very small quantity generator	Active
29	Royal Garage	13510	Hazardous Waste	Inactive
30	Arrowhead Hearing Aid Center	24529	Hazardous Waste	Inactive
31	Tv Spotlight Inc	23341	Hazardous Waste	Inactive
32	Johnson's Auto Repair of Duluth	26558	Hazardous Waste	Inactive
33	State Farm Mutual Insurance	26385	Hazardous Waste	Inactive
34	Housing & Redevelopment Authority Duluth	26400	Hazardous Waste, Small quantity generator	Active
35	HealthEast Transportation	26455	Aboveground Tanks; Hazardous Waste	Active
36	Balcum Appliance Inc	28366	Hazardous Waste	Inactive
37	Aubol Keith	50155	Hazardous Waste	Inactive
38	SMDC	64827	Hazardous Waste	Inactive
39	King Manor	112193	Underground Tanks	Inactive
40	Fitger's on the Lake LLC	120783	Hazardous Waste, Minimal quantity generator	Active
41	Greysolon Plaza Parking Lot	193848	Brownfields, Voluntary Investigation and Cleanup	Active
43	Uncle Dunbar's Auto Body Inc	1318	Air Quality; Hazardous Waste, Very small quantity generator	Active
44	SMDC Campus Addition	191217	Brownfields, Voluntary Investigation and Cleanup	Inactive
45	Tri-towers	112192	Underground Tanks	Active

If any contaminated soil/groundwater or hazardous material is encountered during construction, necessary steps to remediate will need to be taken.

MPCA Petroleum Remediation Program Map Online website

Five listings were mapped within the project area or within 1,000 feet of the project area that were also listed on the MPCA “What’s in My Neighborhood?” website. These listings include Voyager Motel/Lakewalk Inn, Greysolon Plaza Parking Lot, Former Pickwick Restaurant. One listing was mapped within 1,000 feet of the project area on the MPCA Petroleum Remediation Program Map Online that was not listed previously (**Table 10**).

**Table 10: MPCA Petroleum Remediation Program Map Online listings within 1,000 feet of the Project Area.**

Map ID	Site Name	Site ID	Activity	Status
na	Saint Marys Medical Center	LS0008875	Leak Site	Inactive

MDA “What’s in My Neighborhood?” website

No listings were mapped within the project area or within 1,000 feet of the project area.

Listings with potential environmental effects

Based on review of the identified MPCA listings, the potential to encounter contaminated soil, groundwater, and/or soil vapor at the proposed project area is high. Prior to project area redevelopment, the following MPCA regulatory file reviews should be reviewed and/or investigated for environmental planning purposes:

- Site 16 (Leak Sites LS0016259)
- Site 19 (Leak Site LS0016350)
- Site 20 (Voluntary Investigation and Cleanup VP21540)
- Site 42 (Petroleum Brownfields and Voluntary Investigation and Cleanup (BF0000232))

A Response Action Plan (RAP) and/or Construction Contingency Plan (CCP) will be developed for the proper management of contamination and/or regulated materials encountered during reconstruction. If contaminated materials are encountered during excavation, construction activities will cease and the CCP must be implemented.

- b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.**

Prior to site redevelopment, the removal/demolition of site structures will occur. State and Federal law requires a pre-demolition inspection consisting of but not limited to, an asbestos survey, lead paint sampling, and a regulated materials inventory. Regulated materials will be handled appropriately and remaining general demolition debris will need to be hauled to a licensed demolition landfill. Beneficial reuse and recycling of materials should be considered to minimize demolition waste. If lead is encountered in the pre-demolition inspection, lead abatement procedures and clearance levels will follow up to date EPA guidelines.

Project activities will generate wastes and debris typical of construction operations. All waste and unused materials will be properly contained and disposed of off-site in conformance with state and local standards.

- c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.**

Products, materials, or wastes typical of construction sites will be present during the construction of this project (e.g. gasoline, diesel fuel, oil, hydraulic fluid, portable toilets, etc.). To ensure compliance with the NPDES/SDS Construction Stormwater permit, products that have the potential to leach pollutants will be stored under cover; hazardous materials will be stored in sealed containers and will have secondary containment to prevent spills, solid wastes will be collected and disposed of properly, and vehicle and equipment washing will not be allowed on site.

- d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.**

The proposed project is not expected to generate any hazardous wastes during construction or operation. If hazardous wastes are generated by the contractor, it will be the responsibility of the contractor to recycle and/or dispose of the waste in accordance with local, State, and Federal regulations.

**13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):**

- a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.**

Habitat within the site is limited. Existing landcover within the project site is developed with mostly impervious surface. There are scrub trees present and one open lot with manicured lawn. Trees may provide for temporary resting place for birds and squirrels but do not provide critical habitat.

- b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-1003) and/or correspondence number (ERDB - 20210177) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.**

A MN DNR National Heritage Review was completed for the proposed project site to determine if any rare features or other significant natural features occur within an approximate 1-mile radius of the project site. This database review found three species within the search boundary including Peregrine falcon (*Falco peregrinus*) – State special concern species, Lake sturgeon (*Acipenser fulvescens*) –

Species in greatest conservation need, and Lake chub (*Couesius plumbeus*) – State special concern species.

According to the Fish and Wildlife Service's Information for Planning and Consultation (IPaC) database, there are four threatened or endangered species listed in the vicinity of the project. The species list includes two mammals, the Canada Lynx (*Lynx canadensis*) - threatened, and Northern Long-eared Bat (*Myotis septentrionalis*) – threatened; and two bird species Piping Plover (*Chaquadradius melodus*) - endangered, and Red Knot (*Calidris canutus rufa*) – threatened. Critical habitat has been designated for the Canada Lynx and this habitat overlaps the project area. No other state or federally listed critical habitat overlaps the project area.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.**

The site currently provides little to no wildlife habitat as the majority of the site is impervious surface in a highly developed urban area. Current and changed conditions at the site do not provide natural area that would support the threatened and endangered species listed in the area including the Canada Lynx, Long-eared Bat, and two shoreland bird species. The site is not within a township that contains any known roost trees or hibernaculum for the northern long-eared bat.

Nesting areas for the peregrine falcon include window ledges of multi-story complexes. A nest box on a nearby building has had nesting falcons for multiple years. It is unlikely that the construction activities will affect these birds. If the nesting Peregrine Falcons do exhibit unusual behaviors or signs of distress, especially during breeding season, the DNR Regional Nongame Specialist will be contacted. Nesting and fledging occur from April through July.

Building glass can create an illusion of clear airspace to birds and increase the chance for collision. Options such as fritted glass or decals may be considered to help mitigate this illusion and lessen the chance for collision.

Fish species can be adversely impacted by changes in stream hydrology or decreased water quality caused by construction activities. The project vicinity to Lake Superior requires that a stormwater management plan be developed and followed to minimize these impacts.

There is little risk for the introduction and spread of invasive species from this project site since most of the site is developed impervious surface.

- d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.**

Minimal impacts to fish and wildlife are anticipated. During and immediately following construction, erosion control BMPs will be in place to prevent erosion from the site into Lake Superior per the NPDES/SDS requirements.



**14. Historic properties:**

**Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.**

According to the Office of the State Archaeologist online portal, two archaeological sites are recorded within 400 to 800 feet of the project area. Both are submerged in Lake Superior and consist of a probable dock and the ruins of the 1870 Outer Harbor Breakwater. Neither site will be affected by the proposed project.

In 2005, A National Register of Historic Places Multiple Property Documentation Form (MPDF) was completed for the “Historic Resources of Downtown Duluth, Minnesota, 1872-1933.” The multiple property group for Duluth includes two historic districts - the Duluth Commercial Historic District and the West Superior Street Historic District. At that time, the Duluth Commercial Historic District contained 114 buildings (87 contributing, 20 non-contributing) and seven non-contributing vacant lots. The district is located in the geographical heart of Duluth, east-west along Superior Street. Of the contributing buildings, only two will be directly impacted by the project. The Hacienda del Sol (formerly known as the Carlson Bakery) at 319 East Superior Street, and the Duluth Oriental Grocery (formerly known as the Parker Millinery) at 323 East Superior Street, are slated to be demolished to accommodate new project construction.

Building Location and Historic Context

*Hacienda del Sol (formerly known as the Carlson Bakery)*

The two-story variegated orange brick structure is located at 319 East Superior Street, near the center of the block between North 3rd Avenue East and North 4th Avenue East. The structure has a long, narrow rectangular footprint and common brick sidewalls. Additions and remodeling of the structure to accommodate recent use as a restaurant are visible.

The Hacienda del Sol is currently vacant and in a general state of disrepair. The City has requested the property be secured to prevent further damage from trespassers who have burnt holes in the floor. The property has, in the past, been considered to be a contributing resource to the Duluth Commercial Historic District. Contributing resources are defined as structures, buildings, and sites which add to the historical integrity or architectural qualities from which a historic district was designated. Non-contributing resources, a modern hotel for example, do not contribute. Over time, structures may change contributing status based on significant alterations or remodeling. Although remodeling and additions have changed the original structure, these changes were completed prior to the designation of the Hacienda del Sol as a contributing resource. The current vacancy of the building, if left alone, creates a safety risk for the community and potential hazard for the surrounding district. The building itself is neither a locally designated property nor a nationally registered property.

*Duluth Oriental Grocery (formerly known as the Parker Millinery)*

The two-story structure is located at 323 East Superior Street, on the northeast side of the Hacienda del Sol. The Duluth Oriental Grocery is currently vacant and in a general state of disrepair. As a vacant property, the building creates a safety risk to the community and potential fire hazard for the surrounding district. Listed as contributing to the Duluth Commercial Historic District, the building itself is neither a locally designated property nor a nationally registered property.

### Background

#### *Hacienda del Sol (formerly known as the Carlson Bakery)*

The former Carlson Bakery (Hacienda del Sol) was designed by Anthony Puck and constructed in 1910. Born in Christiania, Norway, Puck came to Duluth in 1904. He was a prolific architect who also designed the Spina Building (2-8 West 1st Street) and the Pickwick Restaurant (508 East Superior Street). These still standing structures are typical examples of Puck's work.

The Hacienda del Sol has changed ownership and use over time, resulting in remodeling of the interior and exterior. In 1982, the facade and interior were remodeled as the building was converted to restaurant use. The building is further described in the MPDF as follows:

Two simple brick piers with red sandstone blocks frame a large new aluminum storefront assembly with false divided lights and transoms. The bulkhead appears to be new construction in a brick that roughly matches the original. New signage and wood paneled cornice with gooseneck lighting separate the rest and second floor. Three columns of large, tightly spaced brick quoins divide the second floor into two bays, with each bay holding a new pair of aluminum frame, single hung 1/1 windows with false divided light transoms. The windows rest off small, simple red sandstone sill, while the heads are formed from massive flat-faced red sandstone blocks. A series of two-brick steps are surmounted by a broad, flat brick fascia and dentil wooden projecting cornice. A low brick parapet is divided into two bays by projecting brick piers, and the whole is capped by a cast stone coping. A large two-story deck was added to the east facade in 2004, following the demolition of the adjacent historic building.

#### *Duluth Oriental Grocery (formerly known as the Parker Millinery)*

Designed by architect, F.L. Young, the Parker Millinery was constructed in 1900. Born in Ontario, Canada in 1858, Young arrived in Duluth in the 19th century and worked as a partner with several other Duluth architects. According to the MPDF, he worked with Austin Terryberry (1887-1888), Gearhard Tenbusch (1891-1897), and Carl Nystrom (1902-1905). Aside from the Parker Millinery, Young is known for his design of the Mutual Automobile Company Building (302 East Superior Street) and the Ely High School, in Ely, Minnesota.

Like the Hacienda del Sol, the Duluth Oriental Grocery has changed ownership and use over the last century. Limited remodeling and alterations have taken place. The structure is best described in the MPDF.

This is a two-story cream brick storefront with a rectangular plan and off-white terra cotta detailing. The first floor is largely intact and is composed of two flat brick piers with inset brick panels in a herringbone pattern, which frame a large storefront opening. Although the original windows have been replaced with new aluminum frame units and the bulkheads were covered in blue glazed certain

tile, the original configuration remains, along with the two recessed single-light wood entry doors, the hexagonal tile pavement at the east entrance, and the pressed metal ceiling on the interior. The storefront is topped by a large expanse of Luxfer prisms, altered only by the installation of a ventilation fan.

A simple terra cotta molding demarcates the base of the second floor, which is more elaborately decorated than the storefront. Two pairs of 9/1 double hung windows pierce the facade at the second floor, altered only slightly by the addition of metal screens and storms. Each pair is framed by a large terra cotta surround with a garland molding and a simple terra cotta sill, while a terra cotta panel with a bead-and-reel molding surrounding an inset panel separates the two windows in each pair. A large, flat terra cotta string course cuts across the facade at the midpoint of the windows, and three decorative terra cotta plaques bearing a sculpted shield motif flank the window pairs. Two large terra cotta brackets covered with acanthus leaves support a projecting terra cotta cornice, all of which sites just below a low brick parapet capped by terra cotta coping tiles.

Current Setting

The Hacienda del Sol and Duluth Oriental Grocery buildings are located on the north side of northeast-southwest running East Superior Street. To the northeast, on the corner of North 4th Avenue East is the Voyageur Inn, a motel constructed in 1959.

According to a newspaper article in 2016, new ownership remodeled the 42-room motel. The Voyageur Inn has not been inventoried or evaluated for National Register eligibility, likely due to the date of construction missing the 50-year criteria at the time of previous surveys. The mid-century building is outside the period of significance for the Duluth Commercial District and is a general representation of circa 1950-1960 hotel complexes.

Located to the southwest of the Hacienda del Sol and Duluth Oriental Grocery buildings stands the Sheraton (Duluth Grand). Constructed in 2006, the 11 story, 147-room modern hotel shadows the historic district.

A vacant lot between the Hacienda del Sol and Duluth Oriental Grocery buildings once contained a small commercial building. The structure, recorded as a vacant lot in the 2005 MPDF, was located at 321 East Superior. The building was demolished in 2003. Additions to the Hacienda del Sol were completed after the demolition of this structure.

On the south side of East Superior Street, are six contributing structures (**Table 11**). Construction dates of these buildings range from 1881 to 1928. Remodeling and restoration of many of the buildings has taken place in the last few years and they retain historic integrity supporting their contributing status.

**Table 11: Nearby Contributing Structures.**

Property Address	Historic Name	Current Name	Date of Construction	Architect
320 East Superior Street	Buffalo Saloon	Lindor-Ward Pianos (2005)	1881	Unknown

Property Address	Historic Name	Current Name	Date of Construction	Architect
318 East Superior Street	McNamara Automobiles	Duluth Vinyl Roofs (2005)	1913	Frederick German
314 East Superior Street	Northwestern Cadillac Company	Bisys Insurance/Superior USA	1920	Unknown
310 - 312 East Superior Street	Hotel Florham	Brigila Insurance, First Northern Consultants (2005)	1900	Unknown
308 East Superior Street	Burrell & Harmon Metal Work	Lester River Fly Shop (2005)/Carmody Irish Pub & Brewing (2020)	1905	Unknown
302 East Superior Street	Mutual Auto Co.	Charter Communications (2005)/Duluth Trading Company (2020)	1915	Frank Young

### Project Impacts and Mitigation

Demolition of the Hacienda del Sol and Duluth Oriental Grocery would remove two contributing resources from the Duluth Commercial Historic District. However, setting and feeling of the district has been compromised with the 2006 construction of the adjacent 11-story Sheraton Hotel. The current vacancy of the Hacienda del Sol and Duluth Oriental Grocery place safety risks on the landowners and city and create a potential fire hazard for the historic district. Incorporation or reuse of the existing structures is not practical. The creation of a mixed-use complex will open access to the downtown historic district, create much needed housing and commercial space and promote the cultural opportunities within the existing district.

The project has the potential to affect the adjacent and nearby contributing resources. Protective measures could be implemented to provide adequate protection to adjacent historic buildings. Additional mitigation measures may include:

- Recordation of the Hacienda del Sol and Duluth Oriental Grocery buildings following the Minnesota Historic Property Record (MHPR) guidelines for Level II Documentation
- Interpretation and signage acknowledging the non-extant properties
- Salvage opportunities for historic components prior to or during demolition.

### **15. Visual:**

**Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.**

The project site is located three blocks from Lake Superior and the lake can be viewed from the site. The proposed 15-story building may obstruct views of the lake from further uphill despite significant elevation change. The neighboring property to the southwest of the project site is an 11-story hotel and condominium complex that nearly matches the height of the proposed building. New construction of tall structures in this general area will naturally obstruct some views of the lake.

The City of Duluth has described a viewshed planning process in the 2006 Comprehensive Land Use Plan. An updated process for evaluating important views would support the establishment of parameters regulating the development types and heights across Duluth (*Imagine Duluth 2035*). Official viewsheds, evaluation, and implementation actions have not been created, however, important vistas have been identified, including views from Skyline Parkway. The nearest section of Skyline Parkway is located approximately 0.7 miles to the north and northwest of the project site and views are not expected to be impacted by the project development. Elevation at the project site is approximately 660 feet above sea level (ASL) and Skyline Parkway is over 1000 feet ASL.

## 16. Air:

- a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

The proposed project does not include heavy industrial facilities, but the project will still involve some stationary source air emissions. The complex will include heating and cooling systems operated by natural gas and electricity and will include a boiler which will result in direct or indirect sources of stationary greenhouse gas (GHG) emissions. Emissions from the project are expected to be similar to other institutional facilities in the area. Exhaust plumes from the boiler are not expected to be visible.

Although the project is not expected to have significant GHG impacts, several opportunities for climate change and GHG mitigation and adaptation exist. Potential GHG and climate change mitigation measures that may be considered include:

- Use energy efficient building materials that reduce needs for home heating and cooling.
- Install energy star appliances and programable thermostats.
- Install smart irrigation, or no irrigation at all, to reduce outdoor water use.
- Install high-albedo (reflective) roofing materials that reflect solar energy and save energy.
- Install rooftop solar, electric vehicle charging stations, and/or battery power walls in new homes to make them more energy autonomous and EV-ready.
- Allocate part of the site to a community solar garden and create a solar-ready community with lower long-term electricity costs.
- Create a microgrid for efficient, automated distribution of energy among participants.

- b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.**

The EPA has identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS). In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers. These are acrolein, benzene, 1, 3-butadiene, diesel particulate matter, plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. EPA rule requires controls that will dramatically decrease Mobile Source Air Toxin (MSAT) emissions through cleaner fuels and cleaner engines.

For this EAW, the amount of MSAT emitted would be proportional to the average daily traffic (ADT). The ADT estimated for the proposed site development is slightly higher than that for the no build condition, because the project involves an increase in residential housing that produces additional trips. This increase in ADT means MSAT under the build scenarios may be higher than the no build condition in the project area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks. Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

It is expected there may be slightly higher MSAT emissions in the project area with the project relative to the no build condition due to increased ADT. There also could be increases in MSAT levels in a few localized areas where ADT increases. In general, the EPA's vehicle and fuel regulations will ensure lower MSAT levels in the future when compared to today.

- c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.**

During demolition and construction, particulate emissions will temporarily increase due to generation of fugitive dust. The nearest and most sensitive receptors to the construction activity are the business and residential properties that immediately surround the property. Construction dust control is required to be in conformance with City ordinances and the NPDES Construction Stormwater permit. The construction and operation of the proposed site development is not anticipated to involve processes that would generate odors.

Prior to demolition of the existing buildings a demolition inspection will occur. If asbestos or other potential contaminants are encountered, these materials will be properly stored and disposed of by following a Hazardous Waste Contingency Plan that is developed by the contractor.

## 17. Noise

**Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.**

Existing sources of noise include surrounding roadways. Interstate 35 is located approximately 200 feet east of the project and E Superior St is a main thoroughfare in downtown Duluth that is directly adjacent to the project site. Traffic volumes on the cross streets of E Superior St and N 4<sup>th</sup> Ave E are not expected to increase dramatically after the project is complete. An existing parking garage will be used for tenant and customer parking for the proposed building. This parking garage currently serves other local businesses, residential, and hospital visitors. Nearby sensitive receptors include existing housing directly adjacent to the site.

During construction, noise levels will temporarily increase and vary in intensity based on the types of construction equipment being used (**Table 12**). To minimize the effects of this noise, construction will be limited to daytime hours consistent with the City's construction and noise ordinances. In addition, construction equipment will be fitted with mufflers that would be maintained throughout the construction process.

**Table 12: Typical Roadway Construction Equipment Noise Levels at 50 Feet.**

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level	
			Range	Average
Backhoe	5	6	74-92	83
Front Loader	5	30	75-96	85
Dozer	8	41	65-95	85
Grader	3	15	72-92	84
Scraper	2	27	76-98	87
Pile Driver	N/A	N/A	95-105	101

*Source: United States Environmental Protection Agency and Federal Highway Administration*

Following construction, noise in the area will be typical of downtown urban area. Additional traffic added to surrounding roadways is not expected to generate noise to a degree with would exceed noise standards or diminish quality of life for people living or working nearby.

## 18. Transportation

**a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.**

The proposed development includes a 200-dwelling unit high-rise residential building with commercial space on the first and second floors, which replaces two underused buildings and a 42-room hotel. The proposed development will provide off-street parking spaces for only three of the units, as the site is in the Duluth central business district. The Skywalk, Lakefront Park and

access to retail, commercial, medical and recreational opportunities are nearby. Bus routes and a Duluth Transit facility are located on the same block as the proposed development. For the residents that own personal vehicles, several parking facilities are close including a large parking ramp adjacent to the site where parking spaces have been secured.

1. 24 existing off-street parking spaces that will be removed. Six off-street parking spaces are proposed with the development that will serve three units of townhouses.
2. The estimated total average daily traffic generated by the site is 2,270 trips. The existing hotel generates an estimated 351 trips per day.
3. The estimated a.m. peak hour (between 7:00 and 9:00 a.m.) traffic is 207 trips and the estimated p.m. peak hour (between 4:00 and 6:00 p.m.) traffic is 137 trips. The existing hotel generates an estimated 20 and 26 trips during the a.m. and p.m. peak hours respectively.
4. Trip generation rates are based on Trip Generation Manual, 10<sup>th</sup> Edition by the Institute of Transportation Engineers, September 2017. The primary data source was Land Use: 232, High Rise Residential with 1<sup>st</sup> Floor Commercial. Due to the fact that this is a relatively new land use in the manual and there are fewer data points, Land Use: 222, Multifamily Housing (High-Rise) was used to provide additional data and check the validity and realism of the estimates. The data stated that it was based on 98.4% dwelling unit occupancy, so to provide a conservative estimate, a 100% occupancy was used for the calculations. **Table 13** shows the trip generation estimates for the proposed development. **Table 14** shows the trip generation estimates for the existing use.
5. The site of the proposed development is six blocks from the Duluth Transit Center, next to the 3<sup>rd</sup> Avenue East Transit Stop which is located in the adjacent parking ramp and a block away from several transit stops serving most of Duluth Transit’s bus routes. The site is within a block of the entrance to the Lakewalk system and a few blocks from 3.5 miles of Skywalk systems connecting pedestrians to commercial, residential, recreational, hospitality and medical facilities.

**Table 13: Trip Generation from Proposed Development.**

TRIP GENERATION										
Site	# of Units	Unit Type	ITE Code/Description	AM Trips			PM Trips			Weekday Trips
				In	Out	Total	In	Out	Total	
<b>Northstar Development Superior Street Duluth, MN</b>	200	Dwelling Units	232 - High Rise Residential with 1st Floor Commercial	50	157	207	83	54	137	2,270

Source: Institute of Transportation Engineers

**Table 14: Trip generation from Existing Development.**

TRIP GENERATION										
Site	# of Units	Unit Type	ITE Code/Description	AM Trips			PM Trips			Weekday Trips
				In	Out	Total	In	Out	Total	
<b>Voyageur Lakefront Inn Duluth, MN</b>	42	Hotel Rooms	310 - Hotel	12	8	20	13	13	26	351



- b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.**

*If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance.*

The proposed development will take advantage of its location in the Duluth downtown area. Being a mixed-use residential building, the proximity to public transit, many different land-uses (office, retail, recreational, medical, and institutional), the Duluth Lakewalk system and the climate-controlled Skywalk system, there are many transportation options other than a resident owned vehicle.

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.**

The proposed development removes a vehicle access onto Superior Street about 50 feet from the intersection with North 4<sup>th</sup> Avenue East. Six off-street parking spaces will be provided for townhomes via East 1<sup>st</sup> Alley, and most of the vehicle owners will utilize the secured spaces in an adjacent parking ramp or other nearby parking ramps. With the low number of on-site parking spaces provided and the development site located near attractions and transit routes, transportation impacts are expected to be manageable.

**19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)**

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.**

The proposed project will result in the construction of a 15-story mixed-use building and associated utilities in downtown Duluth. Impacts will result from construction of this building. Project-related impacts will include those associated with construction (e.g., soil disturbance, noise, dust, etc.) as well as those associated with the permanent conversion of the existing buildings on-site. These impacts will include visual impacts and increased traffic.

Construction of the mixed-use complex is anticipated to begin in fall 2021. Any impacts to the environment will be required to meet Federal, State, and Local regulation and will be mitigated as required; therefore, it is not anticipated that these impacts will combine to create a cumulative potential effect.

Adjacent to the project, Essentia Health is performing a redevelopment project for its downtown Duluth campus that will result in a replacement hospital bed tower, new surgical suites and outpatient space and renovations to the existing facilities. The proposed project includes a 920,000 square foot multi-story tower that will reduce Essentia Health's overall footprint. This

proposed redevelopment project is adjacent to the site to the northeast of N 4<sup>th</sup> Street East. Construction began in September 2019 and will be completed in the beginning of 2023.

The Essentia project is currently underway and these two projects have the potential to happen concurrently. These two projects may have temporary impacts to traffic with road and alley closures. Additionally, noise and dust generated by the construction activities at both sites will have a temporary cumulative potential effect.

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.**

There are no reasonably foreseeable future projects.

- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.**

The cumulative potential effects are temporary in nature. Both traffic and noise/dust will be impacted during construction activities and be restored once construction is complete. Road and alleyway closures will be coordinated among the projects to limit impacts to traffic. Concurrent schedules will also limit the timeframe where noise and dust will be produced, limiting impacts to sensitive receptors.

- 20. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.**

No additional environmental effects have been identified.

**RGU CERTIFICATION.** *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

**I hereby certify that:**

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature 

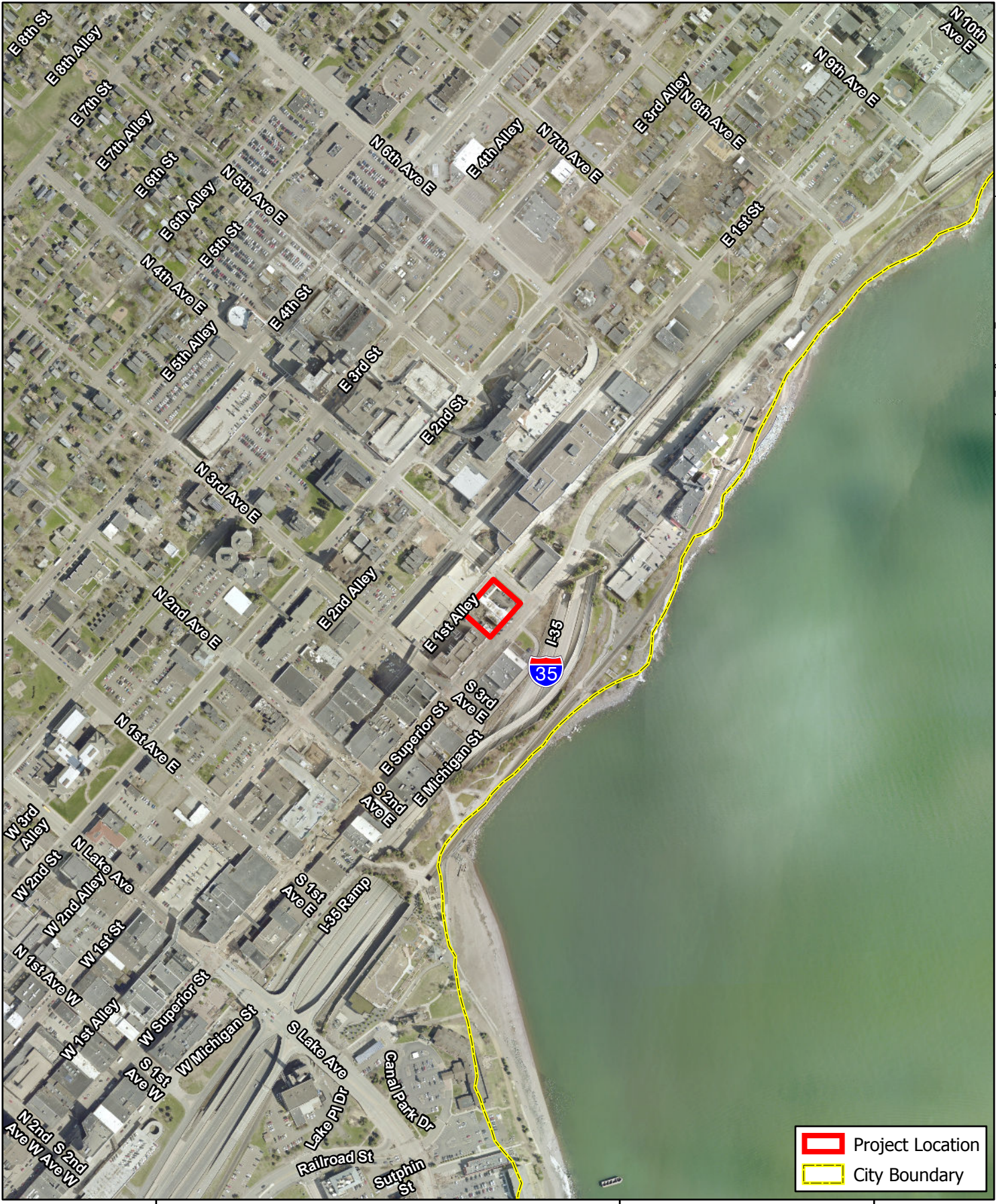
Date 2/10/2021



Title Deputy Director

# **APPENDIX A**

## Figures

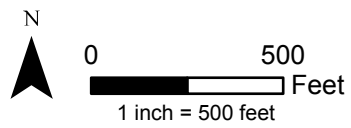




 Project Location  
 City Boundary



**Figure 1 - Project Location**  
 Duluth EAW Project  
 Duluth, MN







### Figure 2 - USGS Topography

Duluth EAW Project  
Duluth, MN



0 300  
Feet  
1 inch = 300 feet







### Figure 3 - Existing Site Conditions

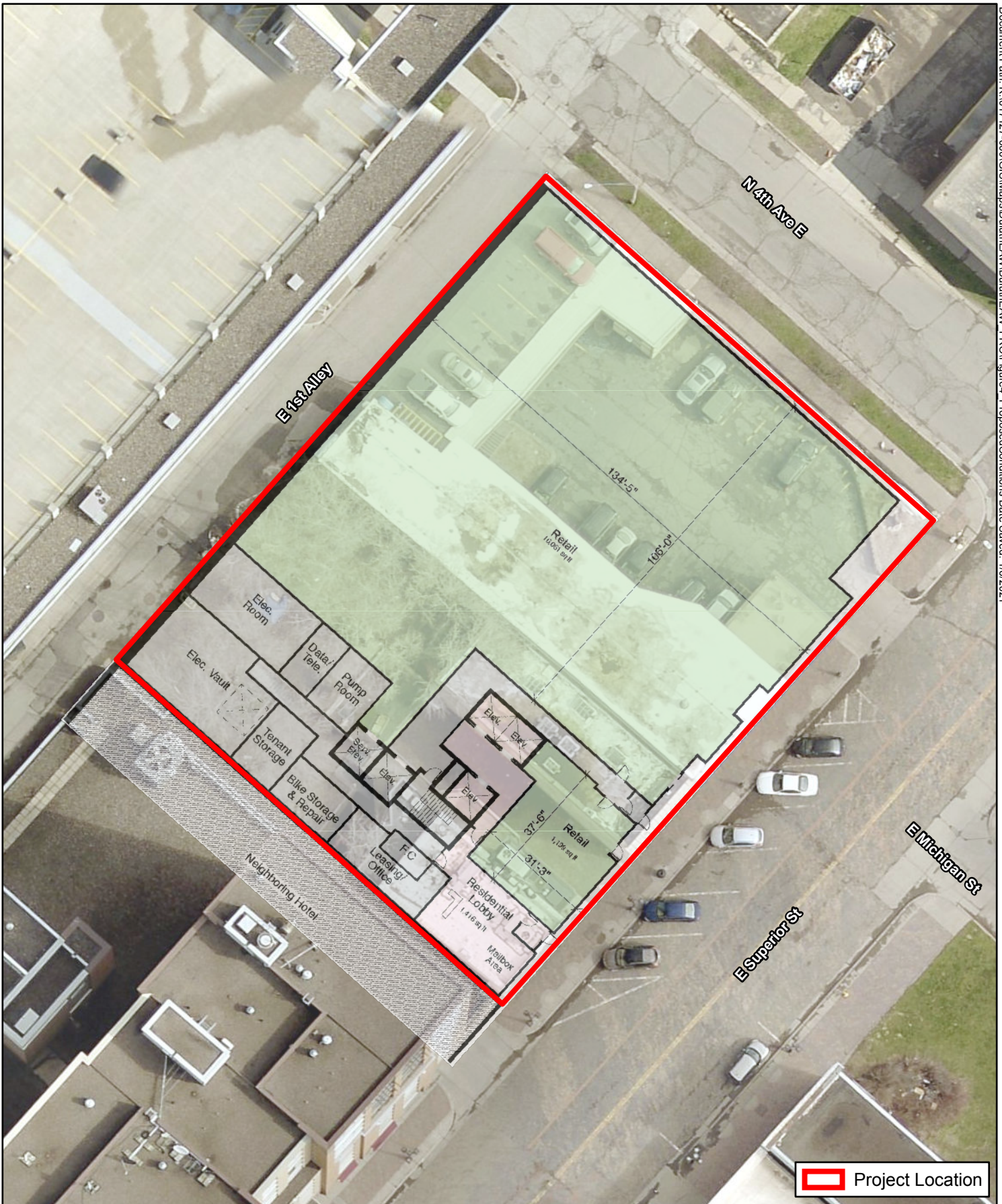
Duluth EAW Project  
Duluth, MN



0 100  
Feet  
1 inch = 100 feet







### Figure 4 - Proposed Site Conditions

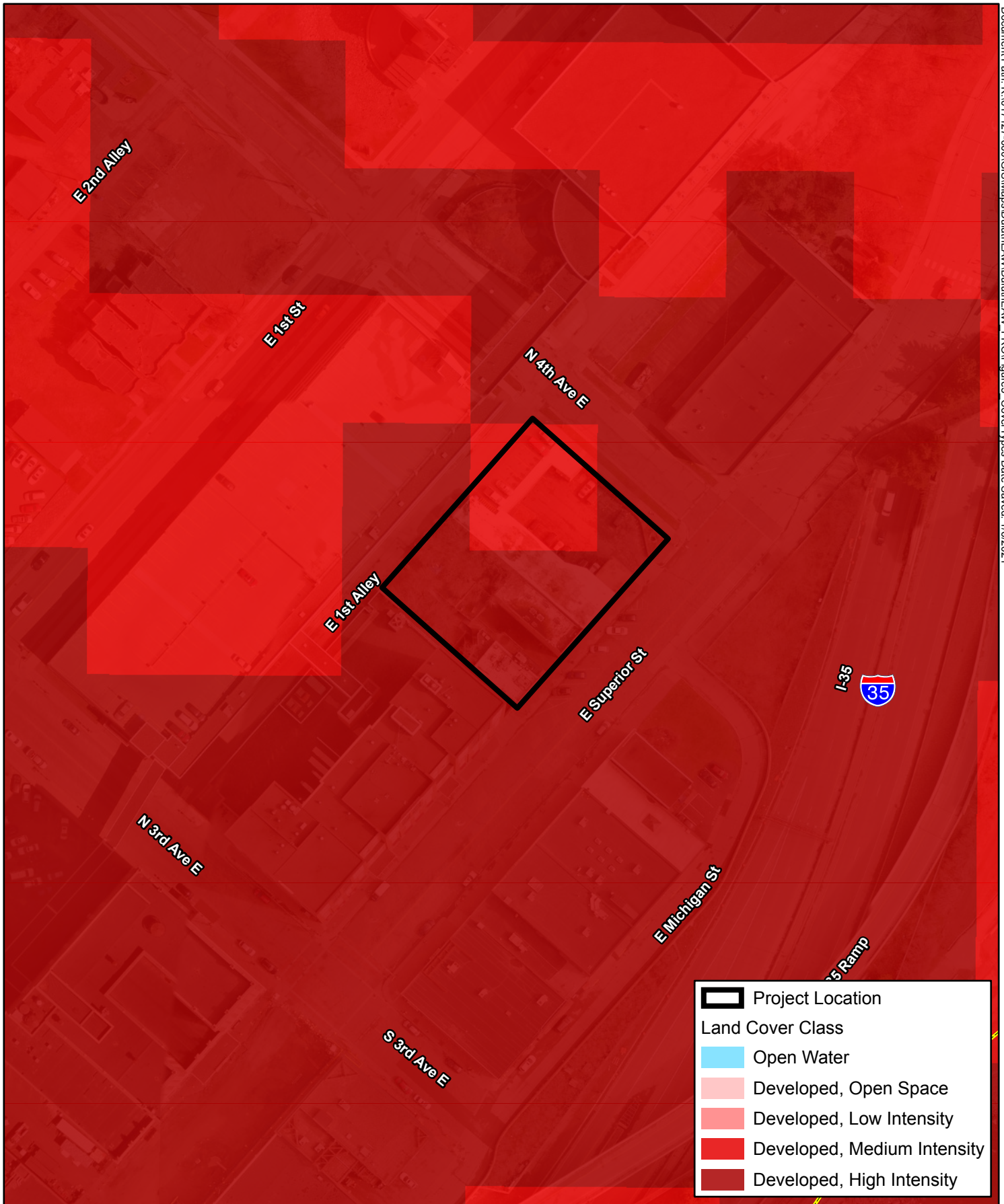
Duluth EAW Project  
Duluth, MN



0 35  
1 inch = 35 feet







### Figure 5 - Cover Types

Duluth EAW Project  
Duluth, MN



0 100 Feet  
1 inch = 100 feet







### Figure 6 - Land Use

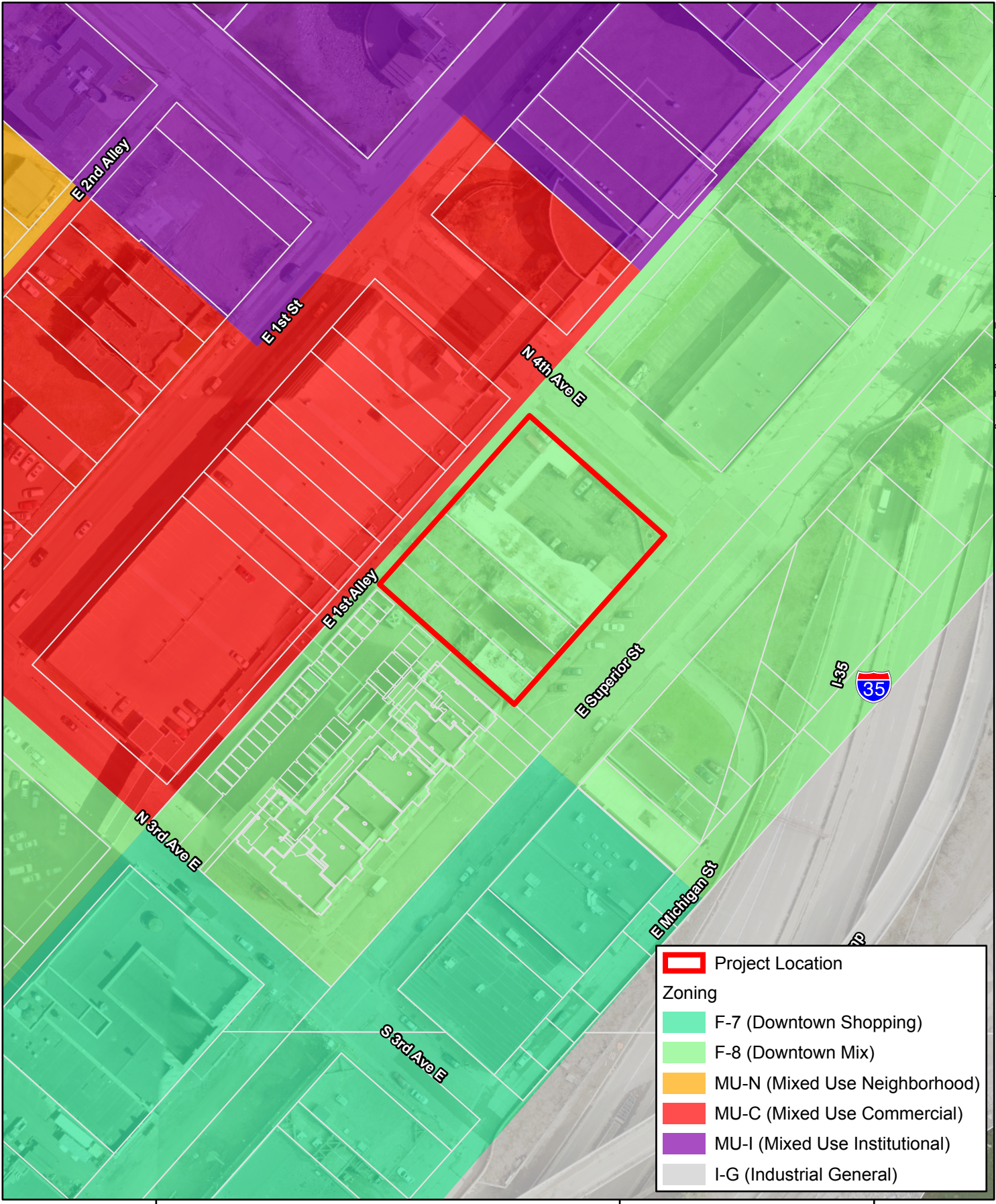
Duluth EAW Project  
Duluth, MN



0 100  
Feet  
1 inch = 100 feet







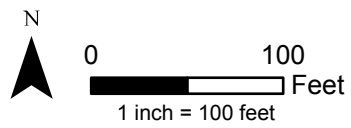
**Project Location**

**Zoning**

- F-7 (Downtown Shopping)
- F-8 (Downtown Mix)
- MU-N (Mixed Use Neighborhood)
- MU-C (Mixed Use Commercial)
- MU-I (Mixed Use Institutional)
- I-G (Industrial General)



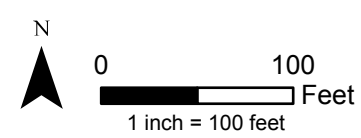
**Figure 7 - Current Zoning**  
 Duluth EAW Project  
 Duluth, MN



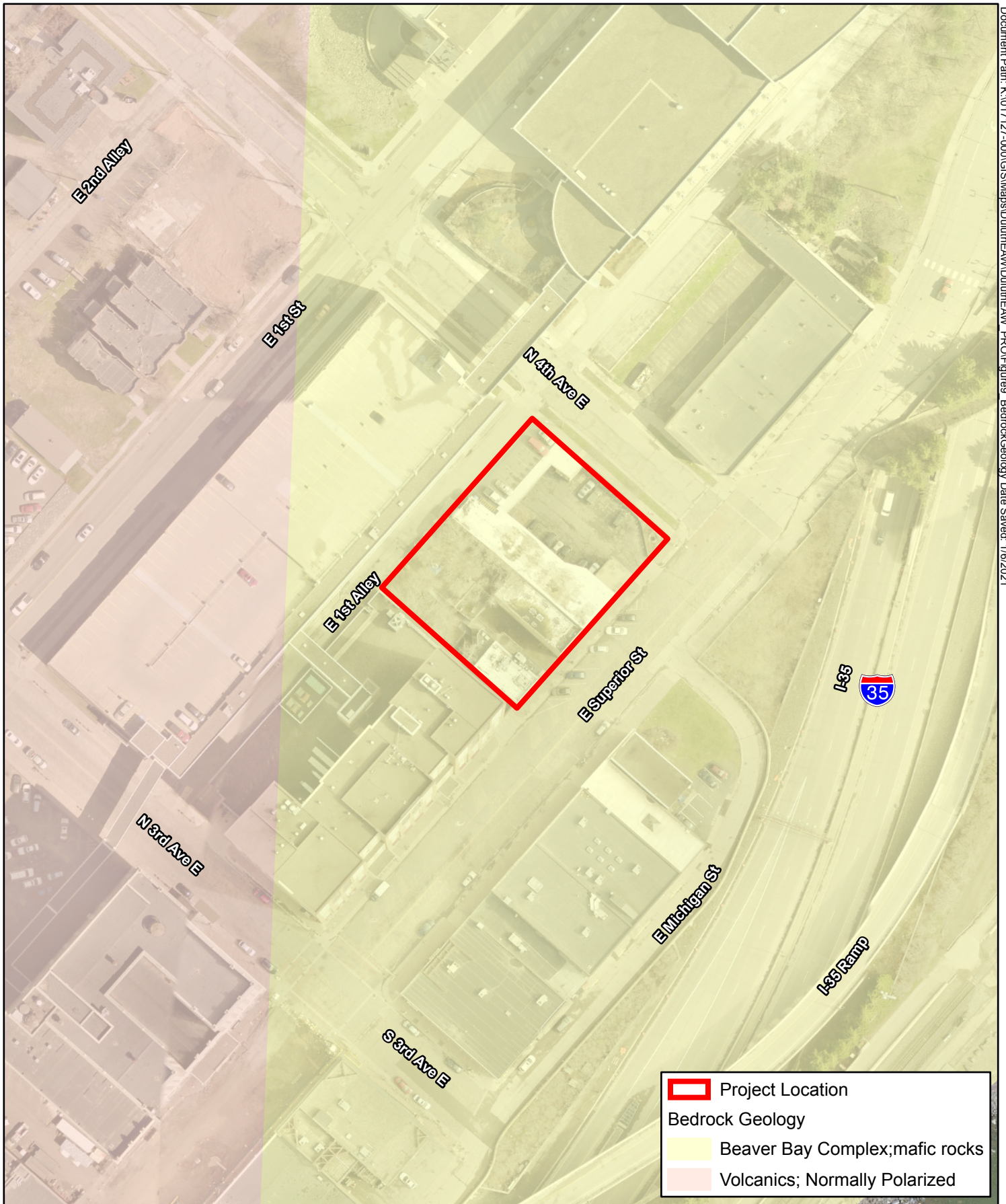




**Figure 8 - Surface Geology**  
Duluth EAW Project  
Duluth, MN







### Figure 9 - Bedrock Geology

Duluth EAW Project  
Duluth, MN



0 100  
Feet  
1 inch = 100 feet







### Figure 10 - County Soils

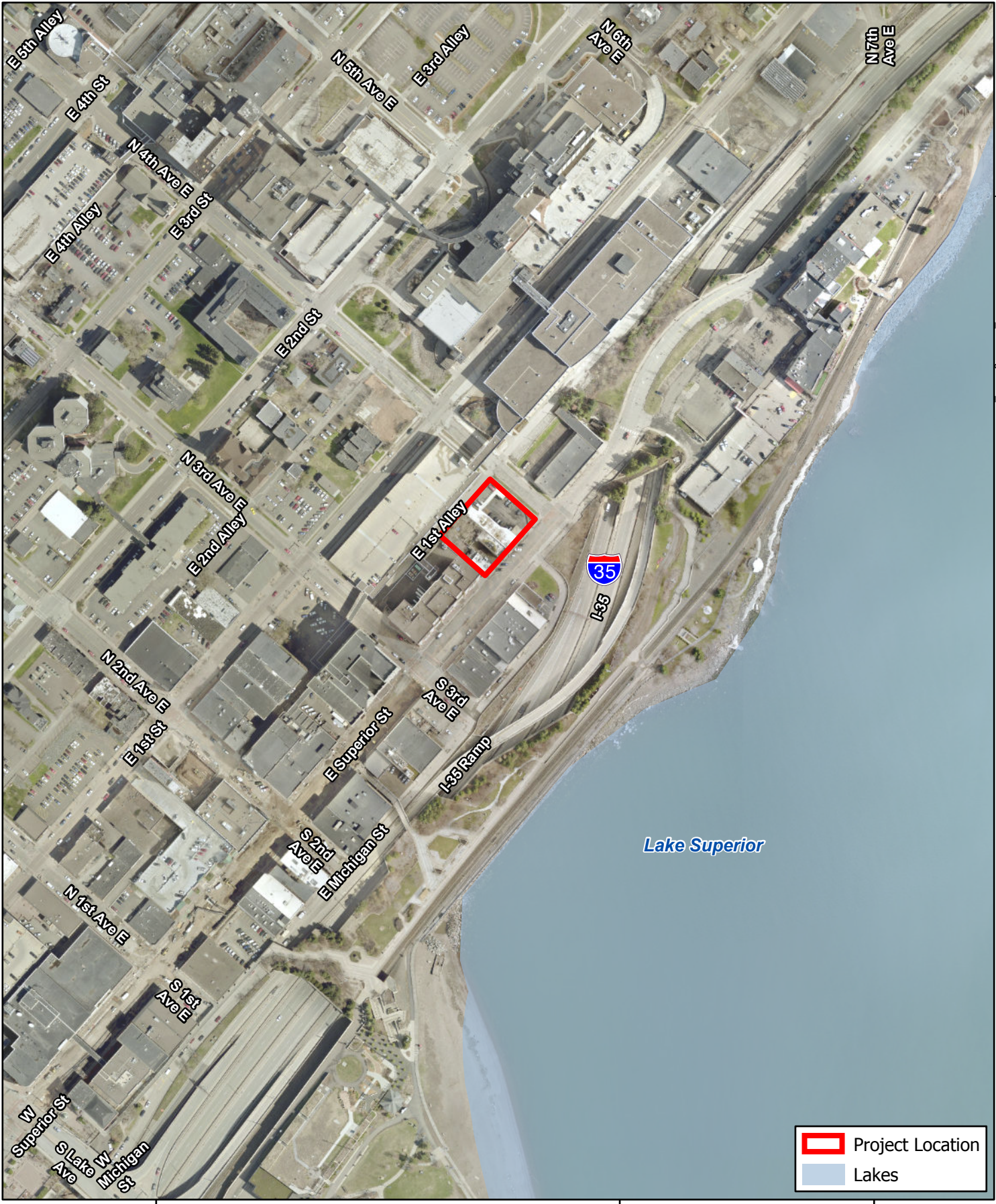
Duluth EAW Project  
Duluth, MN



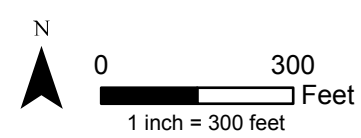
0 100 Feet  
1 inch = 100 feet







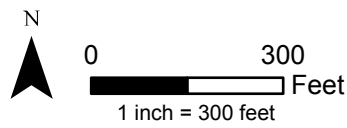
**Figure 11 - Surface Waters**  
Duluth EAW Project  
Duluth, MN



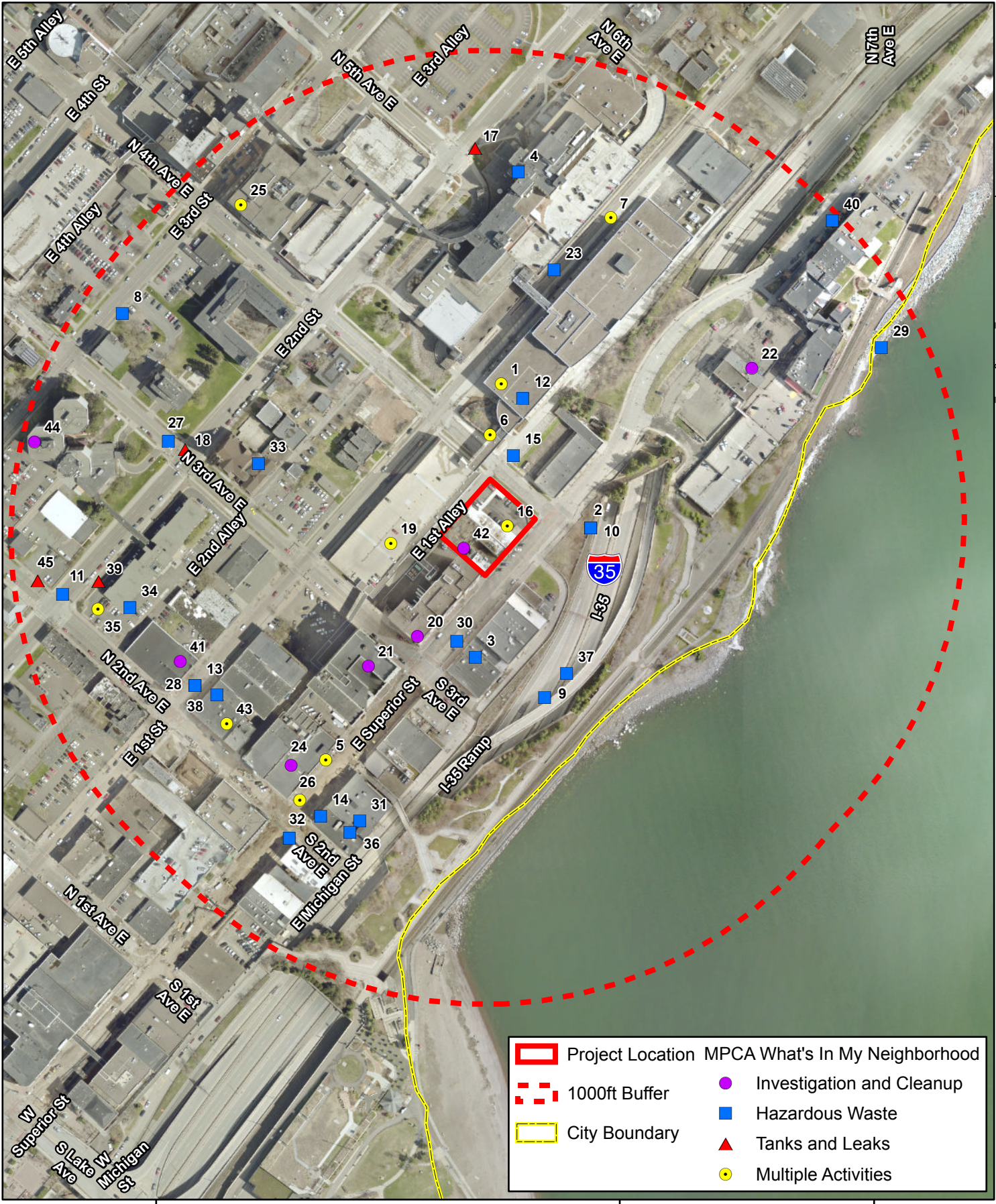




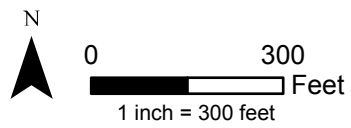
**Figure 12 -Wells**  
Duluth EAW Project  
Duluth, MN







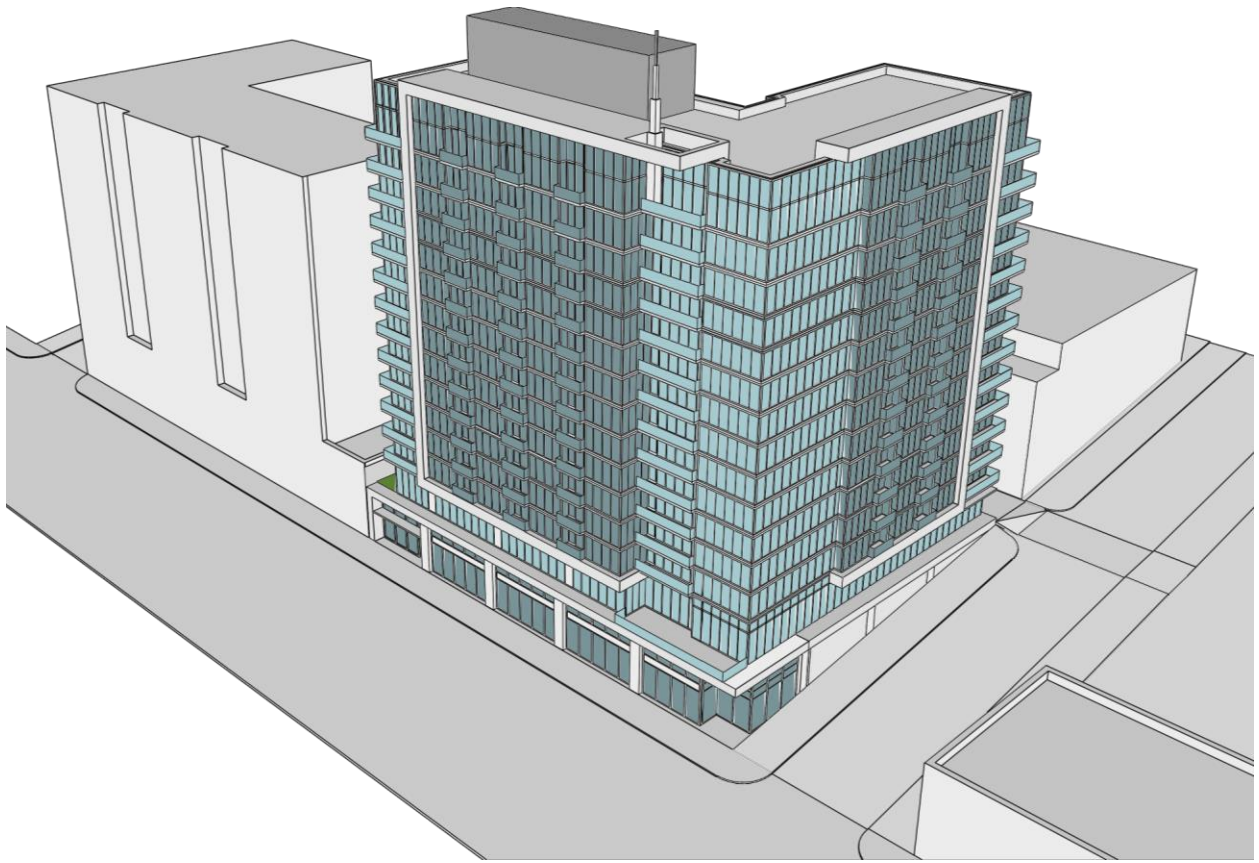
**Figure 13 - Environmental Hazards**  
Duluth EAW Project  
Duluth, MN



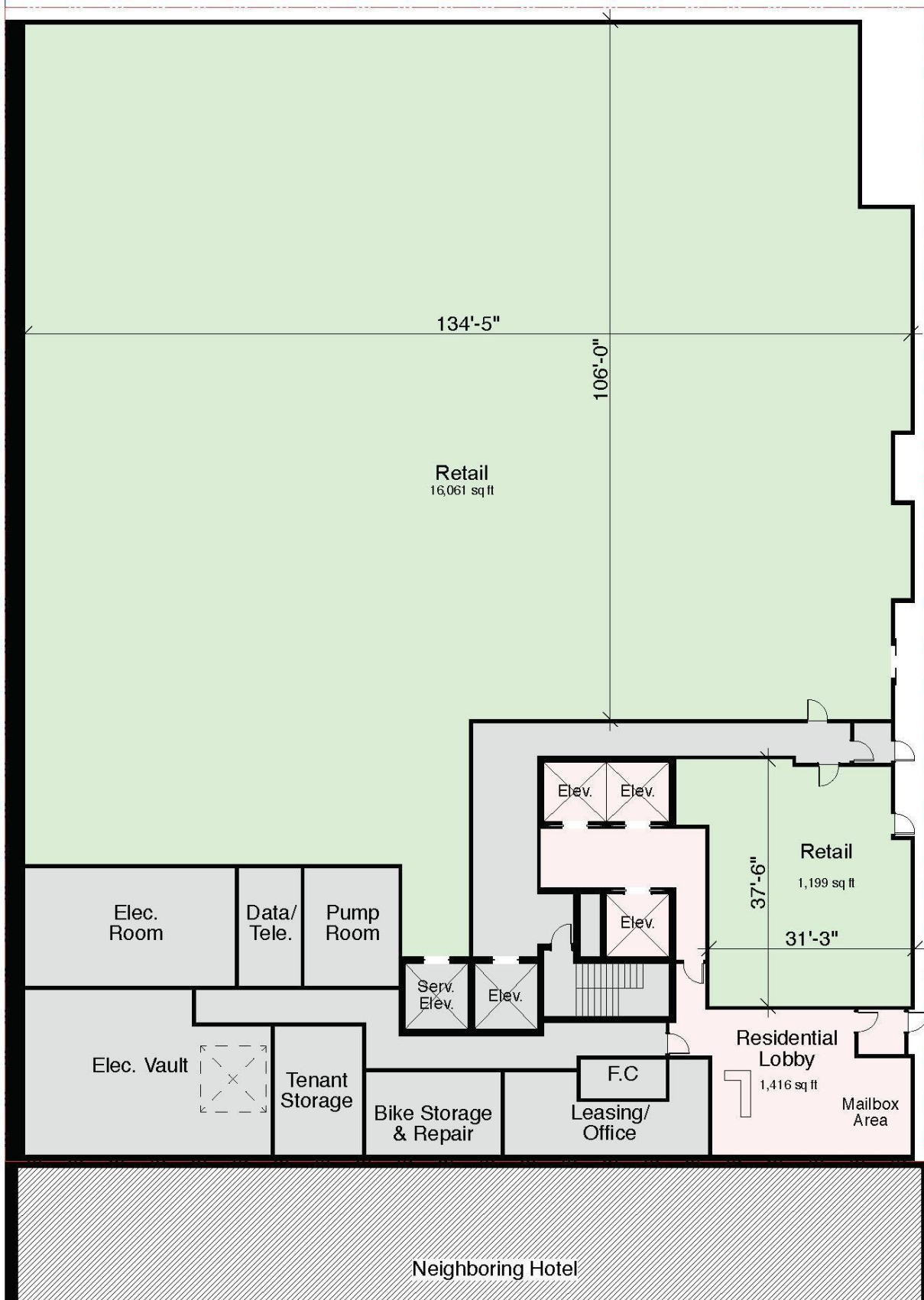
**APPENDIX B**  
Preliminary Site Plans



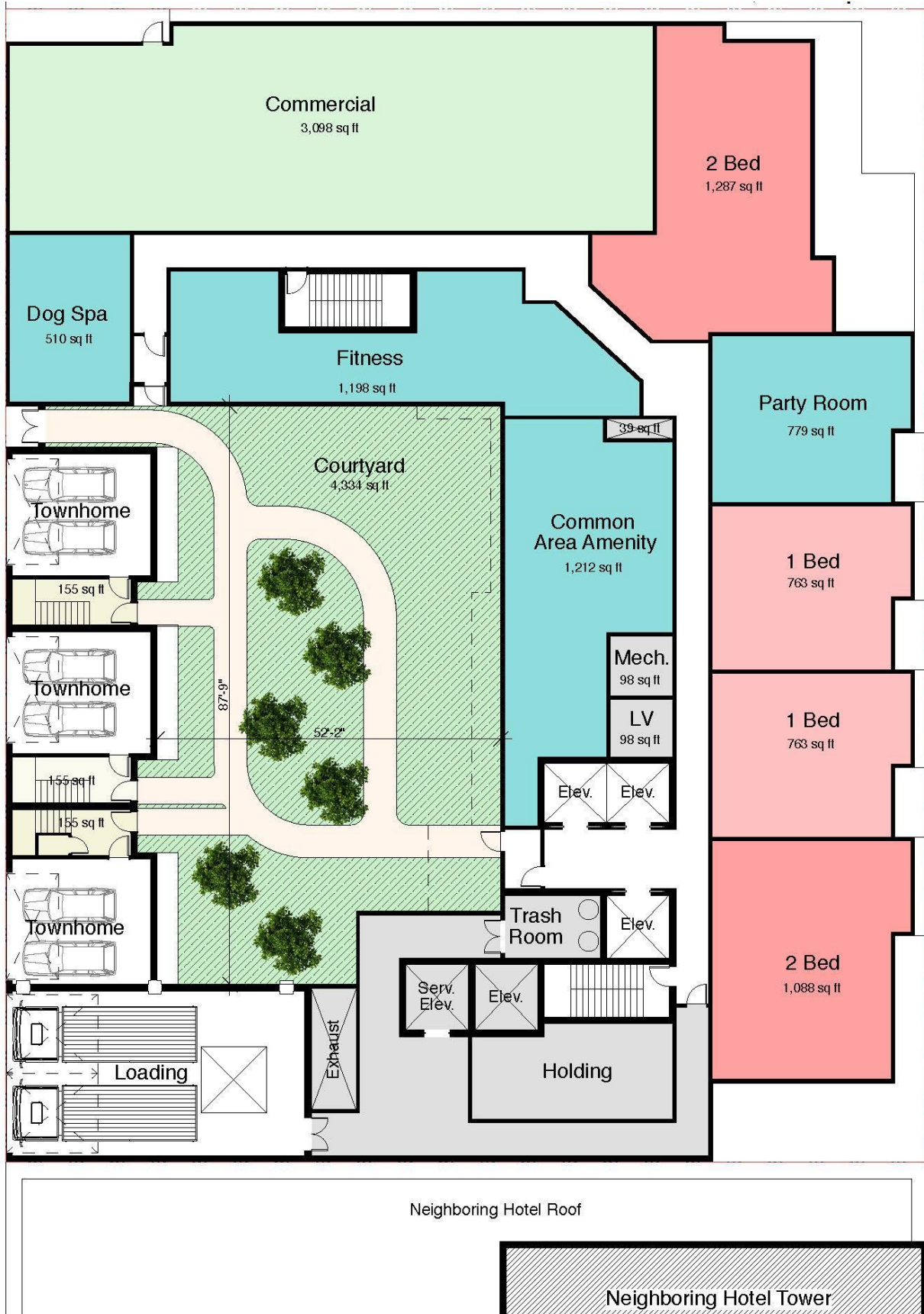
**PRELIMINARY BUILDING MASSING DIAGRAM – PROJECT CONCEPT**



PRELIMINARY FLOOR PLANS -1<sup>ST</sup> FLOOR



PRELIMINARY FLOOR PLANS -2<sup>ND</sup> FLOOR



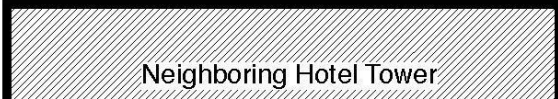
**PRELIMINARY FLOOR PLANS -3<sup>RD</sup> & 4<sup>TH</sup> FLOOR**



Neighboring Hotel Tower



PRELIMINARY FLOOR PLANS -5<sup>TH</sup> FLOOR



PRELIMINARY FLOOR PLANS -6<sup>TH</sup> FLOOR TO 15<sup>TH</sup> FLOOR (TYPICAL)



Neighboring Hotel Tower



# **APPENDIX C**

## Well Logs

**704151**

County St. Louis  
 Quad Duluth  
 Quad ID 244D

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date  
 Update Date 12/05/2019  
 Received Date 12/07/2004

<b>Well Name</b> ST. MARY'S	<b>Township</b> 50	<b>Range</b> 14	<b>Dir Section</b> W 27	<b>Subsection</b> AABADD	<b>Well Depth</b> 24 ft.	<b>Depth Completed</b> 24 ft.	<b>Date Well Completed</b> 11/09/2004
<b>Elevation</b> 687 ft.	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)				<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b>	
<b>Address</b> Well 402 1ST ST E DULUTH MN 55802					<b>Use</b> elevator	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>From</b>	<b>To</b>
Geological Material From To (ft.) Color Hardness GRANITE 0 24 GRAY V.HARD					<b>Casing Type</b> Step down	<b>Joint</b> Welded	
					<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Above/Below</b>	
					<b>Casing Diameter</b>	<b>Weight</b>	
					16 in. To 24 ft. 62.6 lbs./ft.		
					20 in. To 1 ft. 52.7 lbs./ft.		
					<b>Open Hole</b> From _____ ft. To _____ ft.		
					<b>Screen?</b> <input type="checkbox"/>	<b>Type</b>	<b>Make</b>
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer	Model	
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					Material	Amount	From To
					neat cement	18 Sacks	ft. 24 ft.
					<b>Nearest Known Source of Contamination</b>		
					0 feet	Direction	Type
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed	Date Installed	
					Manufacturer's name		
					Model Number	HP	Volt
					Length of drop pipe	ft	Capacity g.p. Typ
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Miscellaneous</b>		
					First Bedrock	upper southwest volc	Aquifer
					Last Strat	upper southwest volc	Depth to Bedrock 0 ft
					Located by Minnesota Geological Survey		
					Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)		
					System	UTM - NAD83, Zone 15, Meters	X 569253 Y 5182485
					Unique Number Verification	Plat Book	Input Date 04/06/2018
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					United Drilling, Inc.	L0008	SCHERER, B.
					Licensee Business	Lic. or Reg. No.	Name of Driller

**Remarks**  
 BROKEN ROCK FROM 19 TO 21 FT, BACK INTO SOLID.

**704152**

County St. Louis  
 Quad Duluth  
 Quad ID 244D

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date  
 Update Date 12/05/2019  
 Received Date 12/07/2004

<b>Well Name</b> ST. MARY'S	<b>Township</b> 50	<b>Range</b> 14	<b>Dir Section</b> W 27	<b>Subsection</b> AABDCB	<b>Well Depth</b> 42 ft.	<b>Depth Completed</b> 42 ft.	<b>Date Well Completed</b> 11/10/2004
<b>Elevation</b> 684 ft.	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)				<b>Drill Method</b> Air Rotary	<b>Drill Fluid</b>	
<b>Address</b> Well 402 1ST ST E DULUTH MN 55802					<b>Use</b> elevator	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>From</b>	<b>To</b>
Geological Material From To (ft.) Color Hardness GRANITE 0 42 GRAY V.HARD					<b>Casing Type</b> Step down	<b>Joint</b> Welded	
					<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Above/Below</b>	
					<b>Casing Diameter</b>	<b>Weight</b>	
					16 in. To 42 ft. 62.6 lbs./ft.		
					20 in. To 1 ft. 52.7 lbs./ft.		
					<b>Open Hole</b> From _____ ft. To _____ ft.		
					<b>Screen?</b> <input type="checkbox"/>	<b>Type</b>	<b>Make</b>
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer	Model	
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					Material	Amount	From To
					neat cement	2 Sacks	ft. 42 ft.
					<b>Nearest Known Source of Contamination</b>		
					feet	Direction	Type
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed	Date Installed	
					Manufacturer's name		
					Model Number	HP	Volt
					Length of drop pipe	ft	Capacity g.p. Typ
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Miscellaneous</b>		
					First Bedrock	upper southwest volc	Aquifer
					Last Strat	upper southwest volc	Depth to Bedrock 0 ft
					Located by Minnesota Geological Survey		
					Locate Method GPS SA Off (averaged) (15 meters)		
					System	UTM - NAD83, Zone 15, Meters	X 569180 Y 5182404
					Unique Number Verification	Plat Book	Input Date 04/06/2018
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					United Drilling, Inc.	L0008	SCHERER, B.
					Licensee Business	Lic. or Reg. No.	Name of Driller

**Remarks**  
 BROKEN ROCK FROM 19 TO 21 FT, BACK INTO SOLID.

**739032**

County St. Louis  
 Quad Duluth  
 Quad ID 244D

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date  
 Update Date 12/05/2019  
 Received Date 04/11/2006

<b>Well Name</b> CITY OF	<b>Township</b> 50	<b>Range</b> 14	<b>Dir Section</b> W 27	<b>Subsection</b> AACBCD	<b>Well Depth</b> 54 ft.	<b>Depth Completed</b> 54 ft.	<b>Date Well Completed</b> 03/23/2006
<b>Elevation</b> 663 ft.	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)	<b>Drill Method</b> Non-specified Rotary		<b>Drill Fluid</b>			
<b>Address</b> Well 302 1ST ST E DULUTH MN 55805					<b>Use</b> elevator		<b>Status</b> Active
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>From</b> <b>To</b>		
Geological Material From To (ft.) Color Hardness GRANITE 0 54 RED/BLK HARD					<b>Casing Type</b> Single casing <b>Joint</b> Welded		
					<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <b>Above/Below</b>		
					<b>Casing Diameter</b> 18 in. To 54 ft. 70.6 lbs./ft.		<b>Hole Diameter</b> 24 in. To 54 ft.
					<b>Open Hole</b> From _____ ft. To _____ ft.		
					<b>Screen?</b> <input type="checkbox"/> <b>Type</b> <b>Make</b>		
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b> Pitless adapter manufacturer _____ Model _____ <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Material Amount From To neat cement 3 Cubic yards ft. 54 ft.		
					<b>Nearest Known Source of Contamination</b> feet Direction Type Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed Date Installed _____ Manufacturer's name _____ Model Number _____ HP _____ Volt _____ Length of drop pipe _____ ft Capacity _____ g.p. Typ _____		
					<b>Abandoned</b> Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b> Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b> First Bedrock upper southwest volc Aquifer Last Strat upper southwest volc Depth to Bedrock 0 ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 569073 Y 5182268 Unique Number Verification Address verification Input Date 04/06/2018		
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b> United Drilling, Inc. L0008 LANGSDORF, A. Licensee Business Lic. or Reg. No. Name of Driller		
<b>Remarks</b> NO DRILL CASING.							

**739033**

County St. Louis  
 Quad Duluth  
 Quad ID 244D

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date 08/03/2006  
 Update Date 12/05/2019  
 Received Date 04/11/2006

<b>Well Name</b> CITY OF	<b>Township</b> 50	<b>Range</b> 14	<b>Dir Section</b> W 27	<b>Subsection</b> AACBDC	<b>Well Depth</b> 60 ft.	<b>Depth Completed</b> 60 ft.	<b>Date Well Completed</b> 03/23/2006
<b>Elevation</b> 662 ft.	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)	<b>Drill Method</b> Non-specified Rotary		<b>Drill Fluid</b>			
<b>Address</b> Well 302 1ST ST E DULUTH MN 55805					<b>Use</b> elevator		<b>Status</b> Active
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>From</b> <b>To</b>		
Geological Material From To (ft.) Color Hardness GRANITE 0 60 RED/BLK HARD					<b>Casing Type</b> Single casing <b>Joint</b> Welded		
					<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <b>Above/Below</b>		
					<b>Casing Diameter</b> 18 in. To 60 ft. 70.6 lbs./ft.		<b>Hole Diameter</b> 24 in. To 60 ft.
					<b>Open Hole</b> From _____ ft. To _____ ft.		
					<b>Screen?</b> <input type="checkbox"/> <b>Type</b> <b>Make</b>		
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b> Pitless adapter manufacturer _____ Model _____ <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Material Amount From To neat cement 3.25 Cubic yards ft. 60 ft.		
					<b>Nearest Known Source of Contamination</b> feet Direction Type Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed Date Installed _____ Manufacturer's name _____ Model Number _____ HP _____ Volt _____ Length of drop pipe _____ ft Capacity _____ g.p. Typ _____		
					<b>Abandoned</b> Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b> Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b> First Bedrock upper southwest volc Aquifer Last Strat upper southwest volc Depth to Bedrock 0 ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 569091 Y 5182277 Unique Number Verification Address verification Input Date 04/06/2018		
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b> United Drilling, Inc. L0008 LANGSDORF, A. Licensee Business Lic. or Reg. No. Name of Driller		
<b>Remarks</b> NO DRILL CASING.							

**764826**

County St. Louis  
 Quad Duluth  
 Quad ID 244D

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date 07/28/2009  
 Update Date 12/05/2019  
 Received Date 10/23/2009

<b>Well Name</b> HURLBUT-	<b>Township</b> 50	<b>Range</b> 14	<b>Dir Section</b> W 27	<b>Subsection</b> ADBBBA	<b>Well Depth</b> 34 ft.	<b>Depth Completed</b> 34 ft.	<b>Date Well Completed</b> 03/03/2009
<b>Elevation</b> 628 ft.	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)				<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b>	
<b>Address</b> C/W 222 SUPERIOR ST E DULUTH MN 55802					<b>Use</b> elevator	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>From</b>	<b>To</b>
<b>Geological Material</b>	<b>From</b>	<b>To (ft.)</b>	<b>Color</b>	<b>Hardness</b>	<b>Casing Type</b> Step down	<b>Joint</b> Welded	
BROKEN GRANITE	0	5	BLACK	HARD	<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Above/Below</b>	
GRANITE	5	34	BLACK	HARD	<b>Casing Diameter</b>	<b>Weight</b>	<b>Hole Diameter</b>
					16 in. To 34 ft. 62.6 lbs./ft.	20 in. To 34 ft.	
					20 in. To 5 ft. 52.7 lbs./ft.		
					<b>Open Hole</b> From _____ ft. To _____ ft.		
					<b>Screen?</b> <input type="checkbox"/>	<b>Type</b>	<b>Make</b>
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer	Model	
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	<b>Well Grouted?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					<b>Material</b>	<b>Amount</b>	<b>From To</b>
					neat cement	1.5 Cubic yards	ft. 34 ft.
					<b>Nearest Known Source of Contamination</b>		
					feet	<b>Direction</b>	<b>Type</b>
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input checked="" type="checkbox"/> Not Installed	Date Installed	
					Manufacturer's name		
					<b>Model Number</b>	<b>HP</b>	<b>Volt</b>
					Length of drop pipe	ft	Capacity g.p. Typ
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b>		
					<b>First Bedrock</b>	upper southwest volc	<b>Aquifer</b>
					<b>Last Strat</b>	upper southwest volc	<b>Depth to Bedrock</b> 0 ft
					Located by Minnesota Geological Survey		
					Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)		
					<b>System</b>	UTM - NAD83, Zone 15, Meters	X 569103 Y 5182134
					<b>Unique Number Verification</b>	<b>Address verification</b>	<b>Input Date</b> 04/28/2016
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					United Drilling, Inc.	1832	LANGSDORF, A.
					Licensee Business	Lic. or Reg. No.	Name of Driller