The Northerly Park Proposal

Proposed by

Lake of the Woods County

March 17, 2020

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Cody Hasbargen, Chairman, Lake of the Woods County Board
Mailing Address: 206 8th Avenue SE, Baudette, MN 56623
Phone: 218-395-0046
E-mail Address: cody_h@co.lake-of-the-woods.mn.us

Authorized Contact (do not complete if same as above): Joseph Laurin
Mailing Address: 32878 County Road 139, Badger, MN 56714
Phone: 763-350-4700
E-mail Address: joe.laurin@me.com

Agent Name: Michael Whitt, Whitt Environmental Services, Inc.
Mailing Address: 34366 County Road 4, Badger, MN 56714
Phone: 612-250-0131
E-mail Address: mike@whitt-es.com

PART TWO: Site Location Information

County: Lake of the Woods **City/Township:** Angle Inlet
Parcel ID and/or Address: 022831000
Legal Description (Section, Township, Range): SW1/4 Section 28, T 168 N, R 34 W
Lat/Long (decimal degrees):
Attach a map showing the location of the site in relation to local streets, roads, highways. See Figure 1
Approximate size of site (acres) or if a linear project, length (feet): 160 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

See Narrative

PART THREE. GENERAL PROJECT/SITE INFORMATION

INTRODUCTION, PURPOSE, AND NEED. The applicant proposes to create Northerly Park on the Northwest Angle, Lake of the Woods County, Minnesota, in the SW1/4 Section 28, T 168 N, R 34W (**FIGURE 1**). Jim's Corner, the U.S./Canada Customs remote check in location, occurs in the southwest corner of the subject property (**FIGURE 2**). Northerly Park would be a Lake of the Woods County project and Whitt Environmental Services was brought into the project to avoid the conundrum of the County proposing and approving their own project and because of our office proximity to the project area. Joseph Laurin is the President of the Edge Riders Snowmobile Club, and the lead for the volunteer Park Committee. Northerly Park would be the first and only park located in this remote and unique region of Minnesota. The Northwest Angle is the northernmost point of the lower 48 states and it was created as a result of a surveying error during the early days of the founding of the United States. The Northwest Angle only came onto the electrical grid in the 1970s, and to get to the Northwest Angle by land, one must traverse through Manitoba, Canada. Northwest Angle and this proposed park have much to offer in the way of history and natural beauty to potential visitors.

SITE CHARACTERISTICS. The ordinary highwater elevation (OWH) of Lake of the Woods is 1,061.25 feet MSL (1912 Datum) which the U.S. Army Corps of Engineers converted to 1060.67 feet MSL (1929 Datum) according to Brent Mason, DNR Hydrologist. The Shoreland Wetland Protection Zone is 1,000 feet from the OHW elevation. The highest elevation of approximately 1,072 feet MSL occurs at Jim's Corner in the southwestern portion of the property and the lowest elevation of approximately 1,060 feet MSL occurs in open water lake in the northeast corner (**FIGURE 3**). Significant portions of the property clearly meet wetland vegetation, soils, and hydrology criteria using off-site and on-site methods. The National Wetland Inventory classified the entire property as wetland (**FIGURE 4**). Wetland types using a combination of off-site and on-site methods include:

- Type 7, *Coniferous Swamp*, in the southern half of the subject property
- a mix of Type 6, *Shrub-carr*, and Type 7, *Hardwood Swamp*, in the northwestern one-third
- *Sedge Meadow*, Type 2, to *Shallow Marsh*, Type 3, to *Deep Marsh*, Type 4, in the northeastern one-fifth of the subject property

Soils as determined using the Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov) consist of four (4) soil types (**EXHIBIT 1**). The *Table Hydric Rating by Map Unit* reveals that *Littleswan silt loam, 0 to 3 percent slopes* (B57A), has the lowest hydric rating meaning it has the highest possibility of being non-hydric. Whitt Environmental Services believes the Littleswan soils on the subject property would meet *Field Indicators of Hydric Soils in the U.S.* based on the A2 Histic Epipedon criteria because the uppermost 6 inches or more of the soil profile would very likely consist of an organic soil underlain by mineral soil. Hydrology consists of saturation at the ground surface for at least 14 consecutive days during the early portion of most growing seasons in normal years.

Whitt Environmental Services informed members of the Park Committee during a July 2019 site visit that most of the subject property is wetland and that any development that impacts wetlands at this property would require a permit from Lake of the Woods County and likely the U.S. Army Corps of Engineers. Whitt Environmental Services did not conduct a wetland delineation at this location but we have conducted other wetland delineations in this area, and Michael Whitt, the principal of Whitt Environmental Services, owns land immediately adjacent to the subject property and is quite familiar with the area. We hope that regulatory personnel will agree that a wetland delineation is not necessary for this project because:

1. The parcel is mostly wetland except for the existing class 5 pad at Jim's Corner
2. The Applicant proposes project components within wetland areas that do not meet the definition of wetland fill in the Minnesota Wetland Conservation Act, and if it did meet the definition, the amount is less than the amount allowed under the de minimis exemption allowance written into the law (8420.0402, Subp. 8, A1b)
3. The project area does likely fall under the jurisdiction of the Clean Water Act as regulated by the U.S. Army Corps of Engineers. We are uncertain as to the manner in which the USCOE will regulate this project although we are optimistic that it will not require a wetland permit from the Corps

The project team decided that it would be prudent to complete this Joint Notification Form for review by all relevant agencies prior to initiating any work because of numerous uncertainties as to relevant regulatory requirements.

SCHEDULE AND SCOPE. Please see **FIGURE 5** for a site map of the components of the proposed Northerly Park project. The original Northerly Park proposal included many elements that would impact wetland (**FIGURE 6**). The Park Committee revised the original plan by making significant changes to avoid and minimize wetland impacts (see **ATTACHMENT C**). The project includes a visitor center, an observation tower, a raised boardwalk between the visitor center and observation tower, and a cross-country ski/hiking trail. The Park Committee hopes to begin implementation of the site improvements during summer and fall 2020.

CHARACTER, AND DIMENSIONS. The following describes the details of each project component:

Visitor Center. A 30 foot by 24 foot building located at Jim's Corner on the existing class 5 pad (Figure 5). This area is non-wetland, and as such, the visitor center has no wetland impact.

Board Walk. The boardwalk will traverse an approximate straight line between the Visitor Center and the Observation Tower (**FIGURE 5**). Please see **EXHIBIT 2** for a schematic of the boardwalk. It will be 7.5 feet wide and approximately 2,500 feet long. The boardwalk would traverse wetland area over its entire length. The applicant proposes to utilize two-inch diameter helical screw piles spaced eight feet on-center to support the boardwalk. The boardwalk would require approximately 628 helical screw piles posts with a total footprint of 14 square feet (see calculations below).

Board Walk Calculations

2 inch Helical Screw Piles radius = 1 inch

Area of a Circle: πr^2

$= (3.14)(1)^2$

=3.14 square inches per helical screw pile (HSP)

= (628 HSP) (3.14 square inches)

=1,972 square inches total

≈14 square feet

Cross-country Ski Trail. This amenity will consist of a mowed path in the shape of a Figure 8 of approximately ten feet wide and one mile in length (**EXHIBIT 2**). The trail may be groomed for skiing during the winter months. Trail maintenance will likely take place using tracked machines during late summer or fall when water tables are low. This amenity does not involve any wetland impacts.

Observation Tower. The applicant proposes an observation tower in the northwestern portion of the property (**FIGURE 5**). The tower will include a ramp to permit wheelchair access to the lower level. The plans specify four footings for the main posts, four (4) footings for the stair supports, and 16 posts for the ramp. The main and stair footings will be 24-inch square. The ramp posts will be 6 inches square. This would result in a total footprint of 27 square feet as follows:

Observation Tower Calculations

24 inch Main Footings

= (2) (2)

= (4 ft^2) (4 posts)

≈ 16 square feet

24 inch Stair Footings

= (2) (2)

= (4 ft^2) (4 posts)

≈ 16 square feet

Square Ramp Posts (6 inch x 6 ihch=0.25 square feet)

= (0.25 square feet) (16 posts)

= 4 square feet

Totals

16 ft^2 Main footings

16 ft^2 Stair footings

4 ft^2 Ramp posts

=36 square feet total

Thus, all proposed components of the Northerly Park project equal 50 square foot area that occurs within wetland.

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]
Figure 4	Wetland	Fill	P	50 sf	N/A	7	See Narrative

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ Date: 3/11/20

I hereby authorize Michael Whitt, Whitt Environmental Services to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☐ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

ATTACHMENT A. REQUEST FOR DELINEATION REVIEW, WETLAND TYPE DETERMINATION, OR JURISDICTIONAL DETERMINATION

We contend that a wetland delineation is not necessary for this project as described in the **PART THREE. GENERAL PROJECT/SITE INFORMATION** because:

1. The entire site is wetland except for the existing class 5 pad at Jim's Corner and the applicant has substantially amended the original concept plan with that fact in mind
2. The activities proposed do not constitute wetland impact according to the Minnesota Wetland Conservation Act

Attachment B
Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part ***if*** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR ***if*** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

ATTACHMENT B. SUPPORTING INFORMATION FOR APPLICATIONS INVOLVING EXEMPTIONS, NO LOSS DETERMINATIONS, AND ACTIVITIES NOT REQUIRING MITIGATION

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

Northerly Park development does not meet the definition of “impact” and “fill” as defined in 8420.0111 Subp. 32 and 8420.0111 Subp. 26. Additionally, the project is less than the de minimis as specified in 8420.0402 Subp. 8, Item A(1)c

Provide a detailed explanation of how your project or site qualifies for the above.

WCA defines “Impact”:

Subp. 32. Impact. "Impact" means a loss in the quantity, quality, or biological diversity of a wetland caused by draining or filling of wetlands, wholly or partially, or by excavation in the permanently and semipermanently flooded areas of type 3, 4, or 5 wetlands, as defined in subpart 75, and in all wetland types if the excavation results in filling, draining, or conversion to nonwetland.

WCA defines “fill”:

Subp. 26. Fill. "Fill" means any solid material added to or redeposited in a wetland that would alter the wetland's cross-section or hydrological characteristics, obstruct flow patterns, change the wetland boundary, or convert the wetland to a nonwetland. Fill does not include posts and pilings for linear projects such as bridges, elevated walkways, or powerline structures, or structures traditionally built on pilings such as docks and boathouses. Fill includes posts and pilings that result in bringing the wetland into a nonaquatic use or significantly altering the wetland's function and value, such as the construction of office and industrial developments, parking structures, restaurants, stores, hotels, housing projects, and similar structures. Fill does not include slash or woody vegetation, if the slash or woody vegetation originated from vegetation growing in the wetland and does not impair the flow or circulation of water or the reach of the wetland.

We are not entirely certain as to how this project will be regulated within Section 404 of the Clean Water Act, and that is the primary reason for this Joint Notification Form application.

Attachment C
Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

ATTACHMENT C. AVOIDANCE AND MINIMIZATION

Project Purpose, Need, and Requirements

Please see **PART THREE. GENERAL PROJECT/SITE INFORMATION** above

Avoidance

The applicant has avoided wetland impacts by eliminating or altering the location of the following features which may be evaluated by comparing **FIGURE 5**, the proposed site plan, with **FIGURE 6**, the original site plan:

- The visitor center moved to the existing class 5 pad at Jim's corner from the original plan located approximately 100 feet north of that location
- The parking lot was eliminated in favor of parking to be located at Jim's Corner
- The log pavilion and playground were eliminated
- The amphitheater was eliminated
- Fitness structures were eliminated
- The fishing dock was eliminated
- Most of the trails were eliminated and the cross-country ski trail only involves clearing vegetation for a clear winter and dry season access path. Passable trails would require improvements such as fill and culvert crossings at ditch areas at many areas on the property

Minimization

The applicant proposes the following actions to minimize impacts:

- The observation tower moved from the northeastern portion of the property to the northwestern portion of the property where elevation is higher, soil building suitability is improved, and access is better because of proximity to Nelson Drive, and existing Lake of the Woods County roadway
- An elevated boardwalk will traverse the distance from the visitor center to the observation tower.

Off-Site Alternatives

The applicant has not explored alternative locations and an alternatives analysis is not necessary because: (1) activities proposed are not wetland impacts according to the Minnesota Wetland Conservation Act, and (2) the impacts proposed only equal 50 square feet.

Technical Evaluation Panel Concurrence: Project Name and/or Number:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

Upon approval and signature by the TEP, application must be sent to: **Wetland Bank Administration**
Minnesota Board of Water & Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155

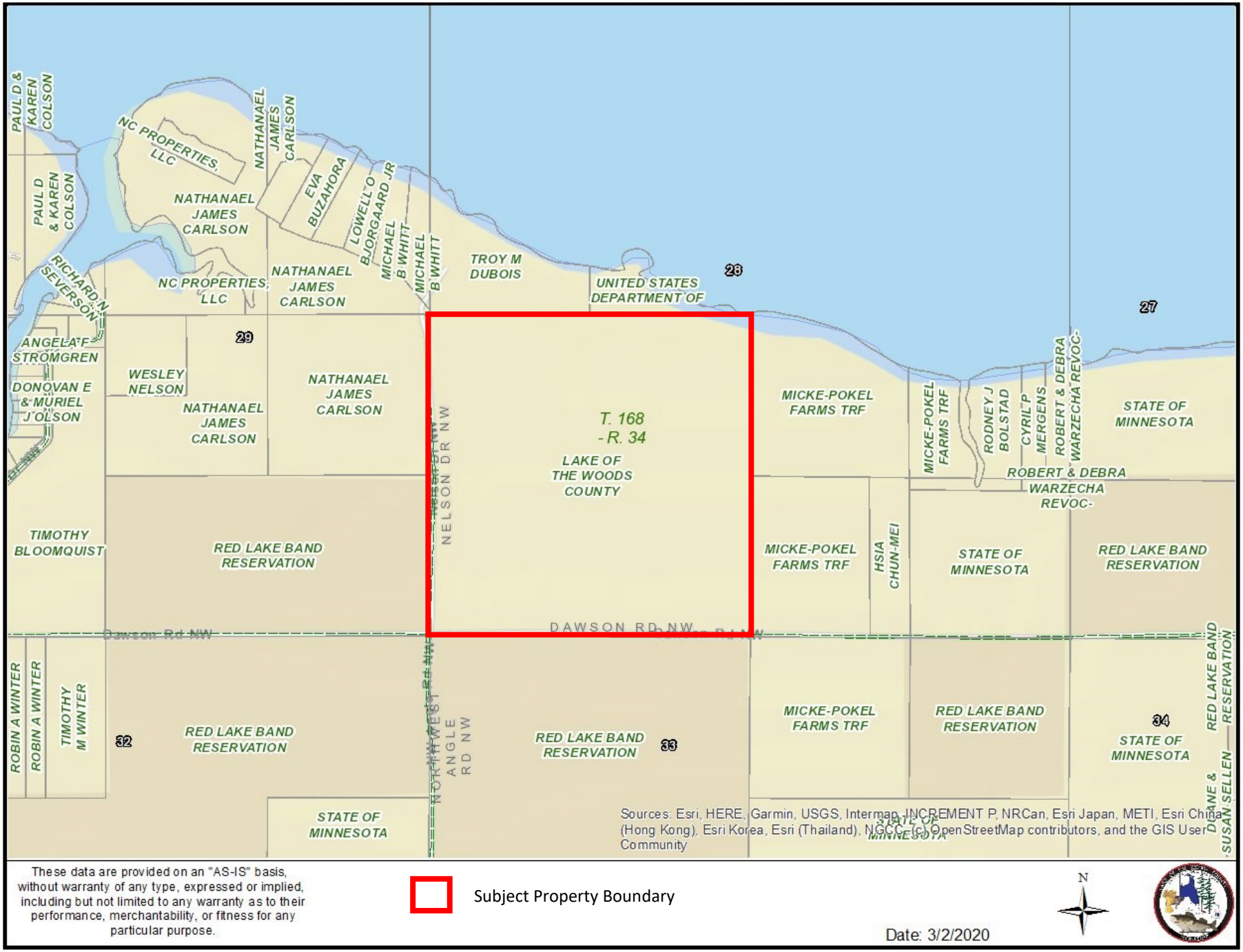


FIGURE 1. Northerly Park vicinity map that depicts the subject property in relation to local streets, roads, and highways

(Data obtained at Lake of the Woods County GIS: http://oak.co.lake-of-the-woods.mn.us/link/jsfe/index.aspx)

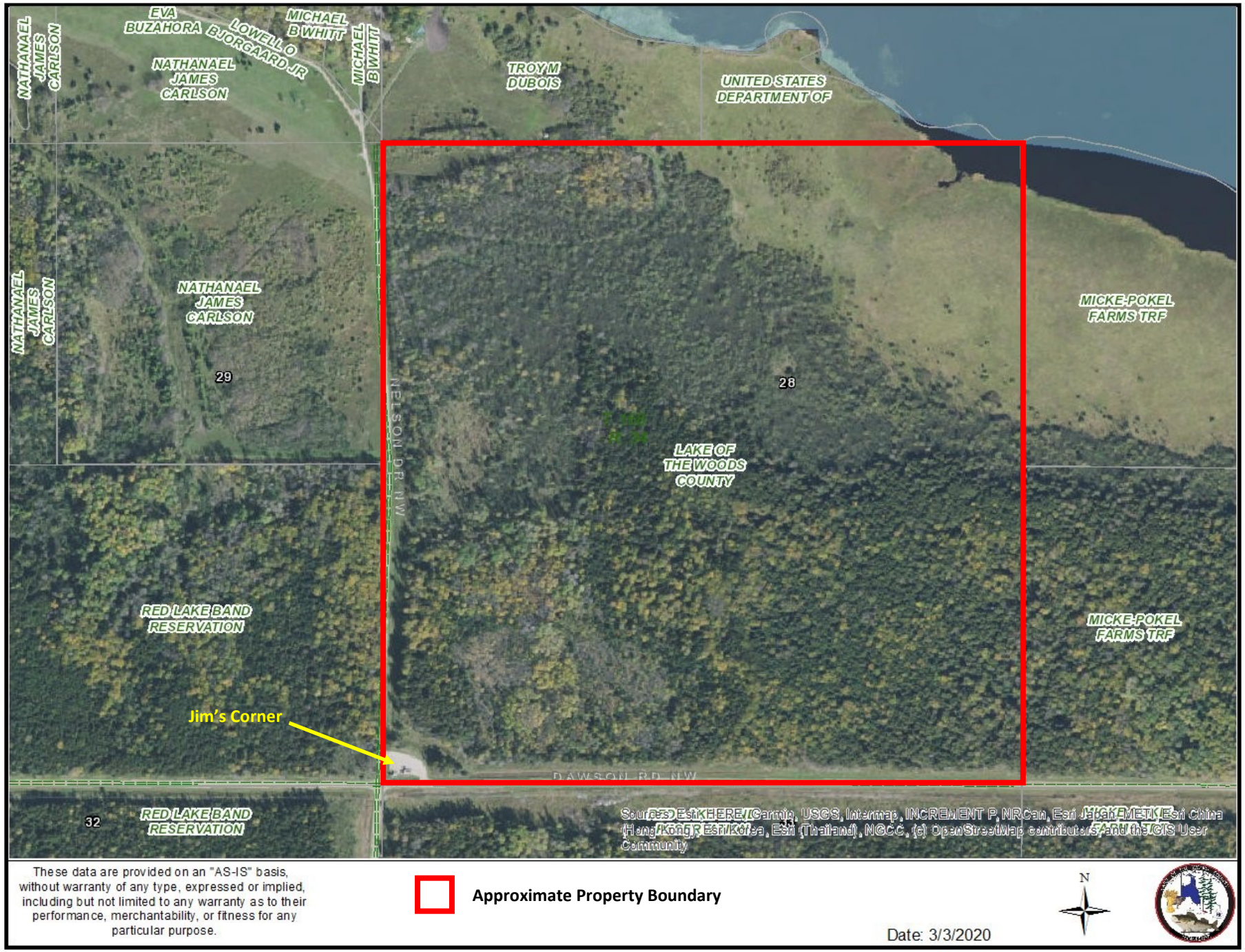


FIGURE 2. Northerly Park aerial photograph of the subject property (Data obtained at Lake of the Woods County GIS: http://oak.co.lake-of-the-woods.mn.us/link/jsfe/index.aspx)

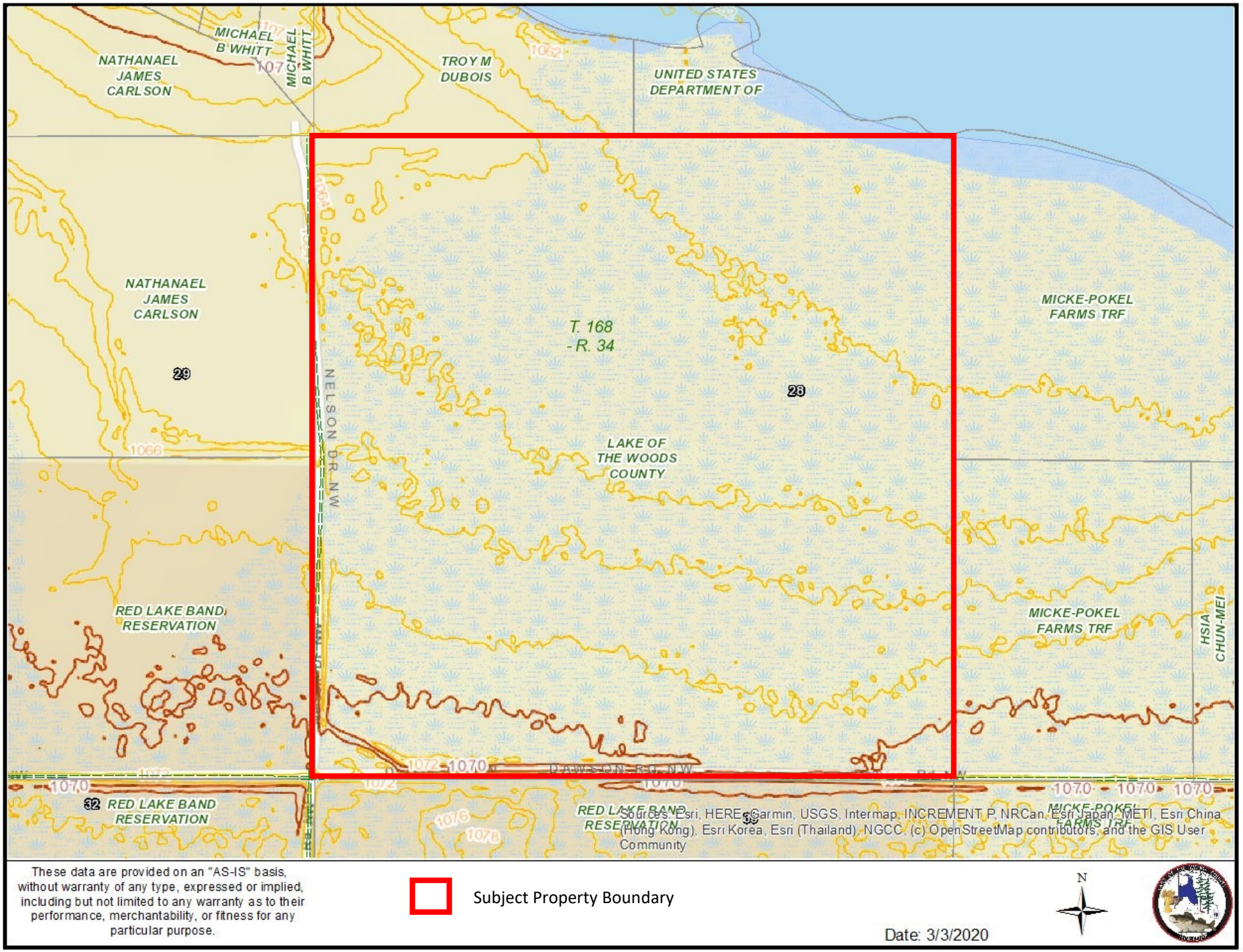
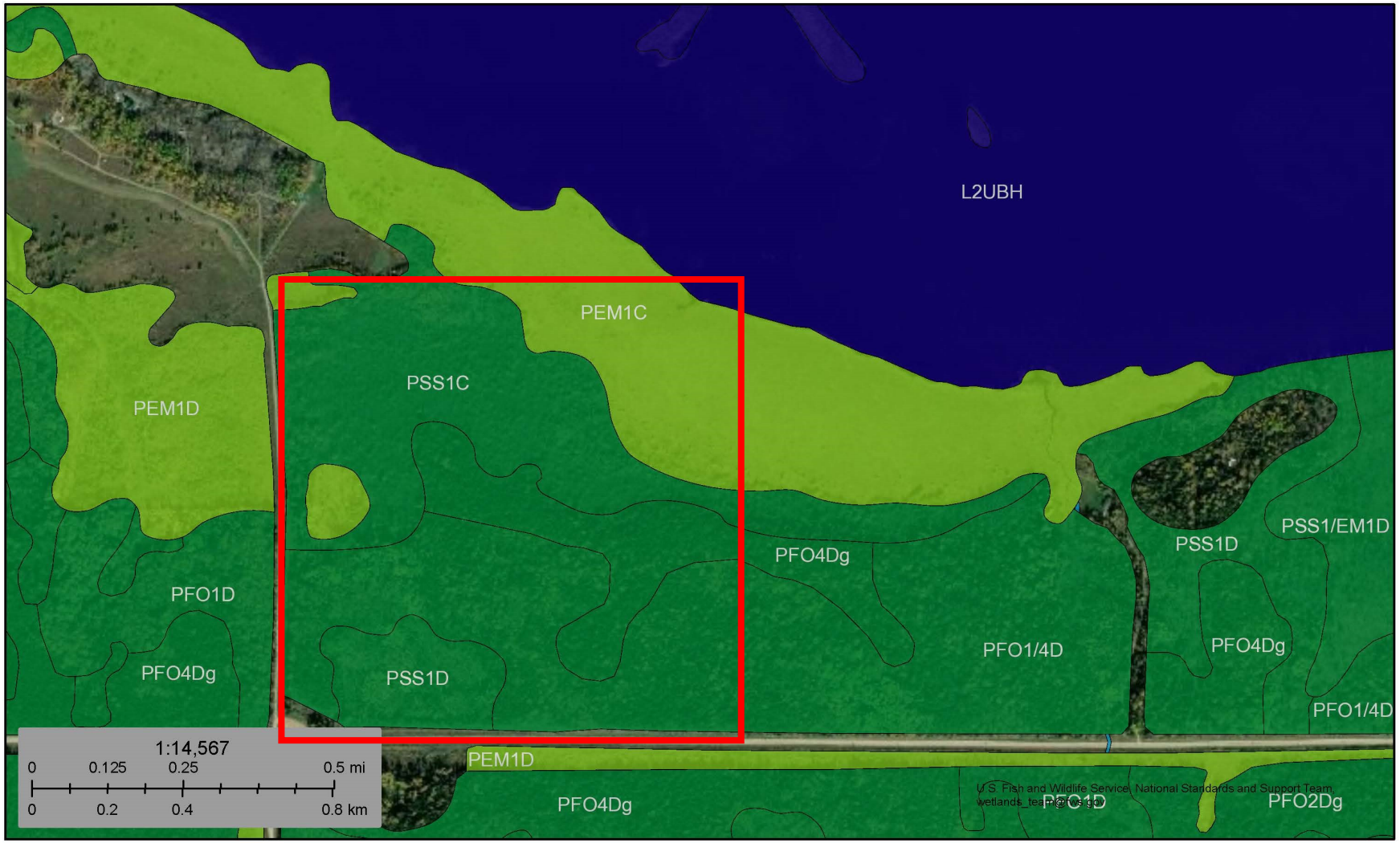


FIGURE 3. Northerly Park contour map of the subject property (Data obtained at Lake of the Woods County GIS: http://oak.co.lake-of-the-woods.mn.us/link/jsfe/index.aspx)

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI



March 3, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Subject Property Boundary

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

FIGURE 4. National Wetland Inventory map of the subject property (Data obtained at https://www.fws.gov/wetlands/Data/Mapper.html)

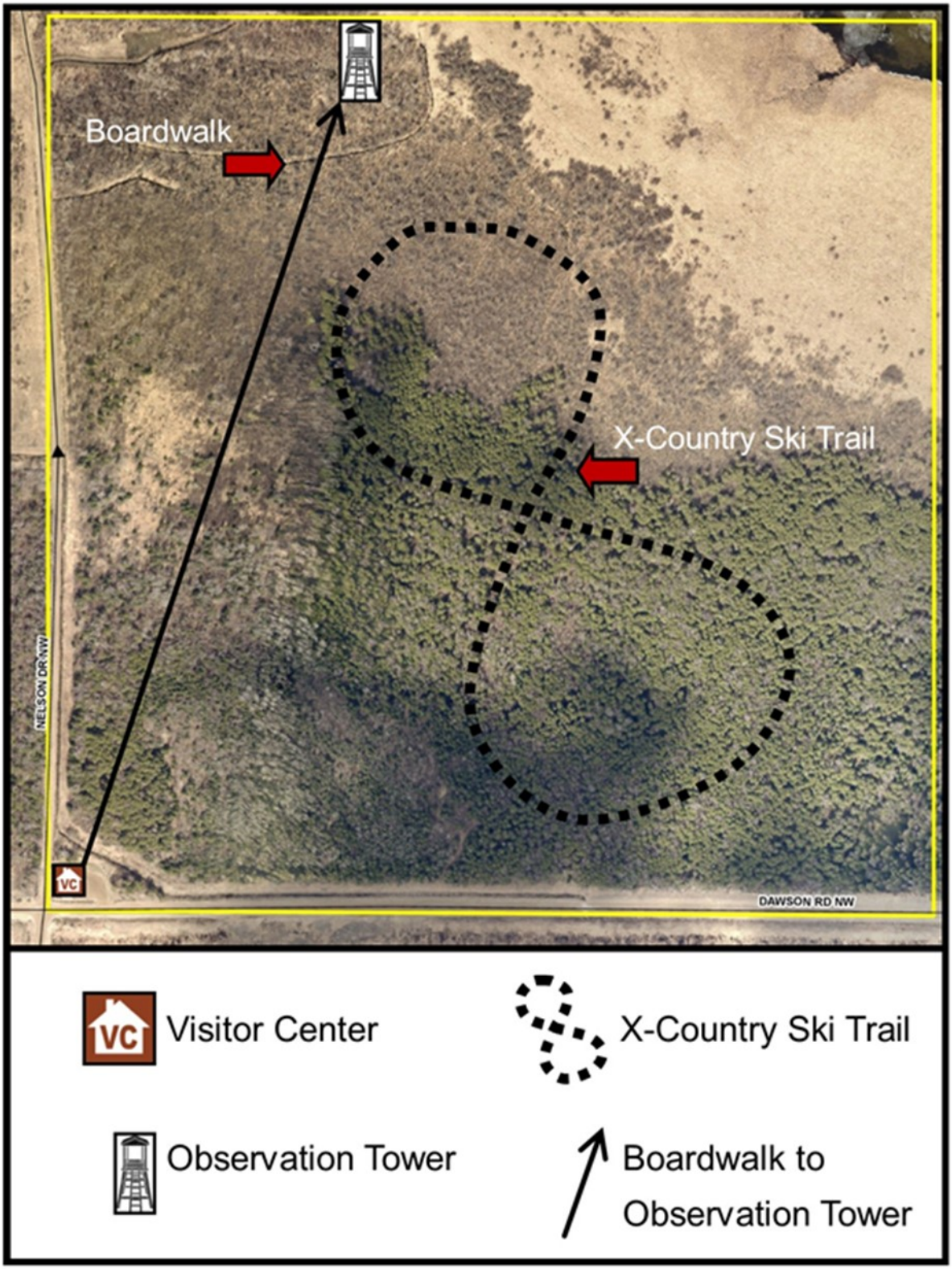


Figure 5. Proposed layout of the Northerly Park project

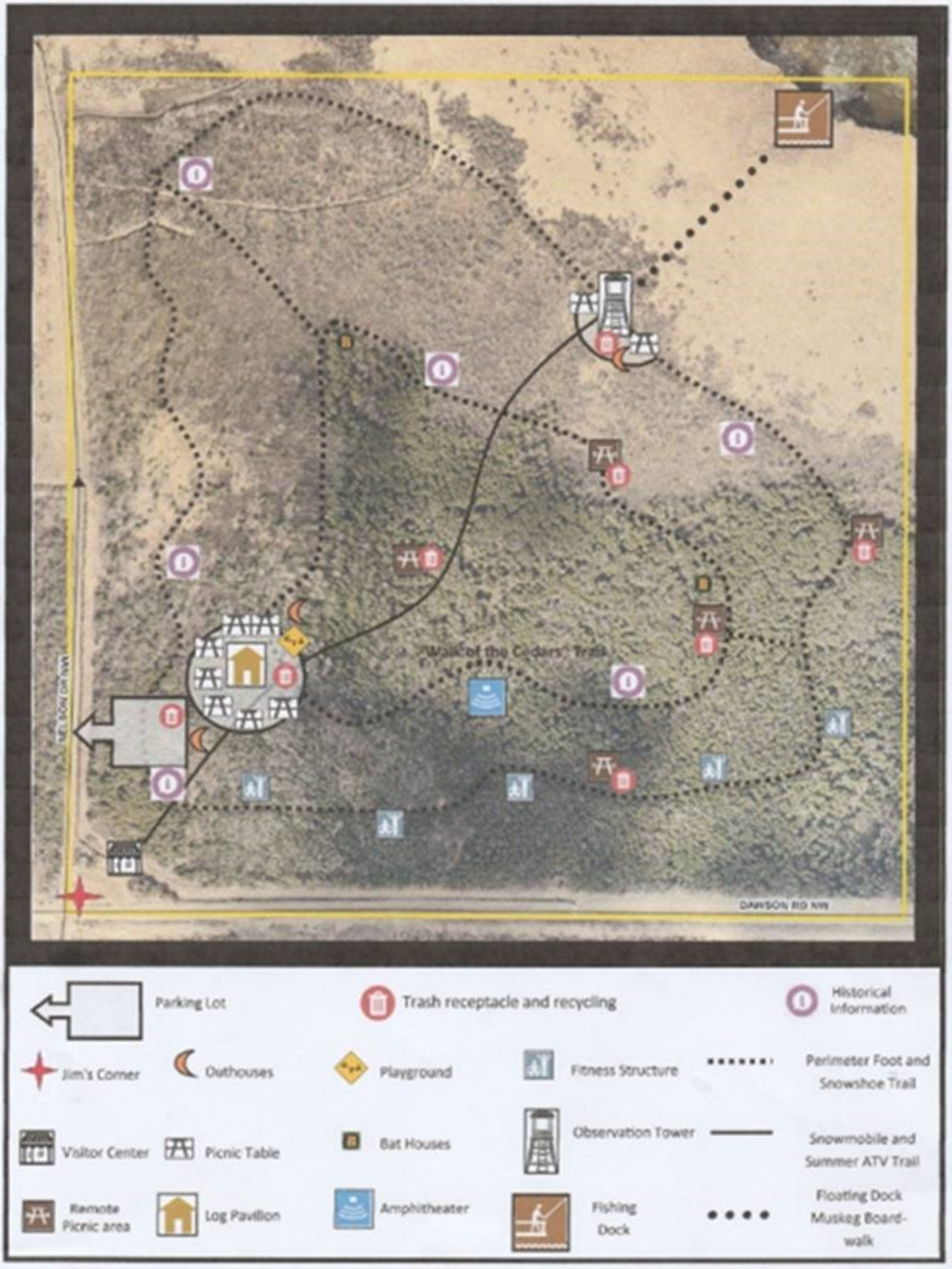
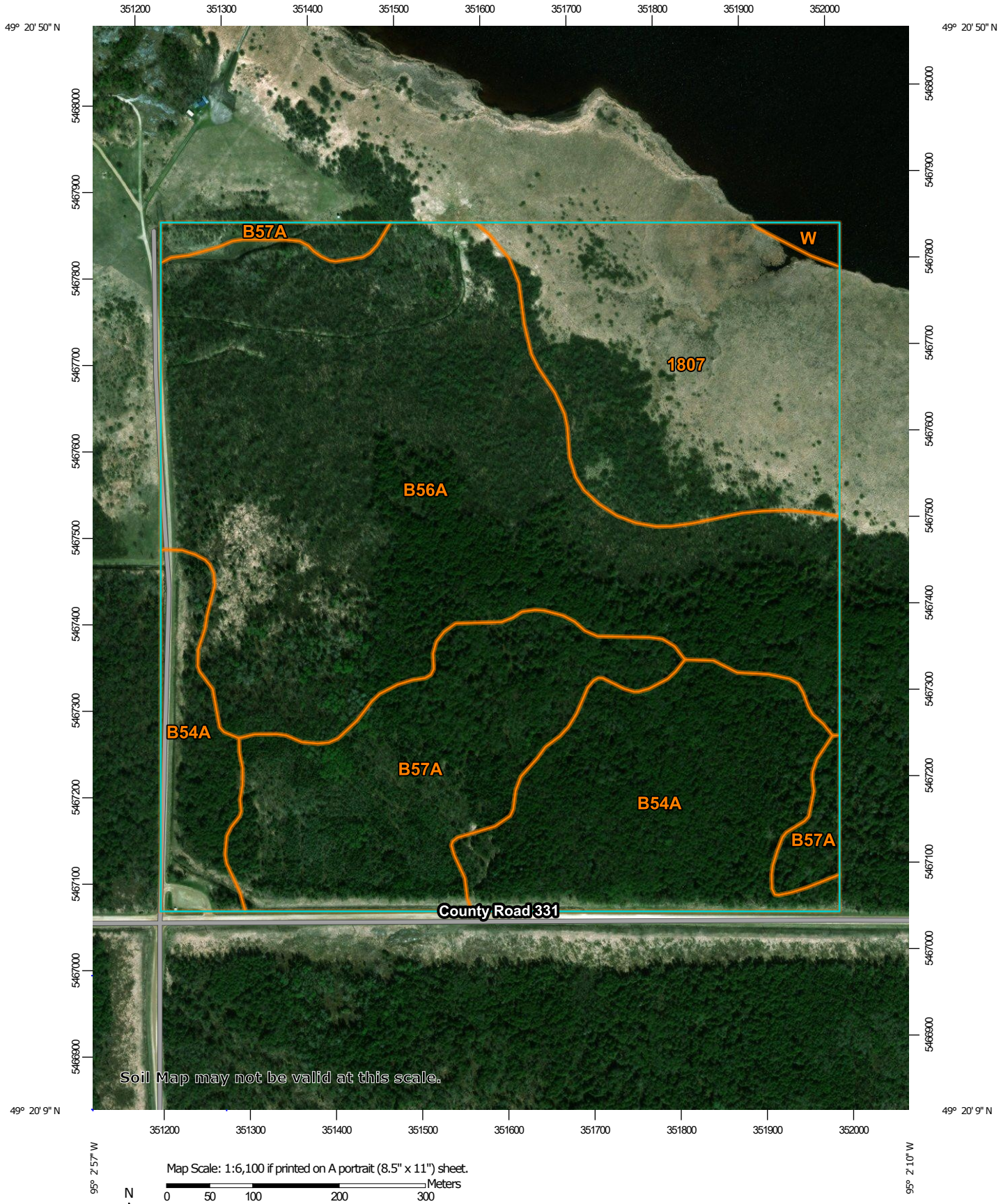


Figure 6. Original concept plan of the Northerly Park project

EXHIBIT 1

WEB SOIL SURVEY DATA

Soil Map—Lake of the Woods County, Minnesota



Map Scale: 1:6,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake of the Woods County, Minnesota
Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

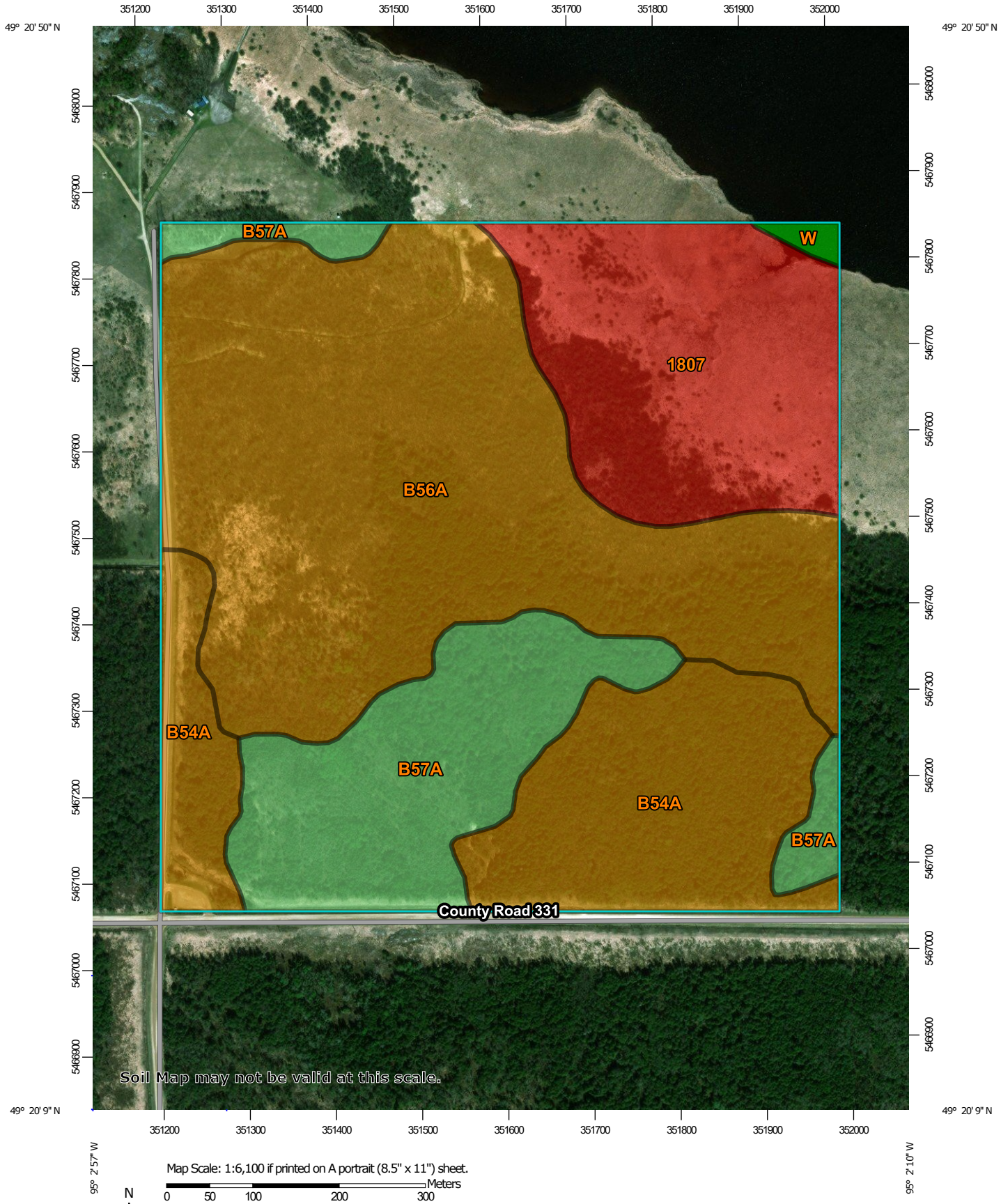
Date(s) aerial images were photographed: Apr 19, 2010—Oct 23, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1807	Cathro muck, ponded	28.3	18.2%
B54A	Spooner-Littleswan complex, 0 to 2 percent slopes	30.2	19.4%
B56A	Sax, frequently ponded-Spooner complex, 0 to 1 percent slopes	69.1	44.4%
B57A	Littleswan silt loam, 0 to 3 percent slopes	27.4	17.6%
W	Water	0.7	0.5%
Totals for Area of Interest		**155.7**	**100.0%**

Hydric Rating by Map Unit—Lake of the Woods County, Minnesota



Map Scale: 1:6,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake of the Woods County, Minnesota
Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 19, 2010—Oct 23, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1807	Cathro muck, ponded	100	28.3	18.2%
B54A	Spooner-Littleswan complex, 0 to 2 percent slopes	84	30.2	19.4%
B56A	Sax, frequently ponded-Spooner complex, 0 to 1 percent slopes	95	69.1	44.4%
B57A	Littleswan silt loam, 0 to 3 percent slopes	12	27.4	17.6%
W	Water	0	0.7	0.5%
Totals for Area of Interest			**155.7**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

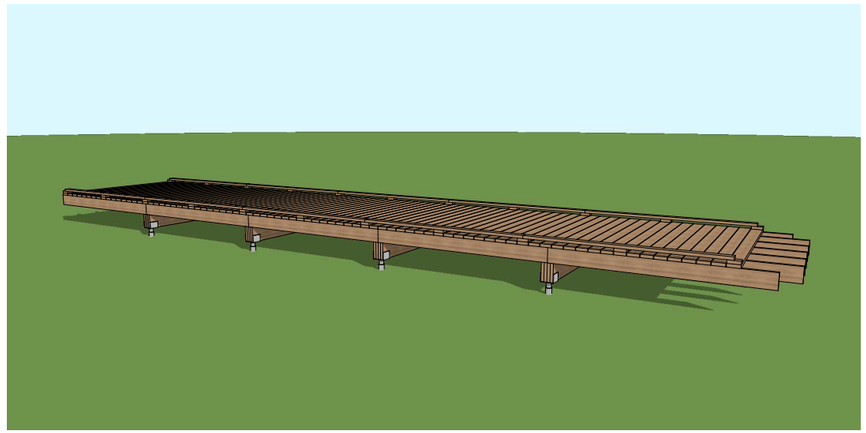
Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

EXHIBIT 2

SCHEMATIC OF BOARDWALK



General Notes:

1. *This drawing set is the exclusive property of Cornerstone Timberframes and may not be copied or reproduced without written permission.*
2. *Cornerstone Timberframes will take no responsibility for any errors, any change or discrepancy must be reported prior to the commencement of work.*
3. *Contractor/Owner to verify all measurements prior to Cornerstone commencing work.*
4. *Drawings not to be scaled.*

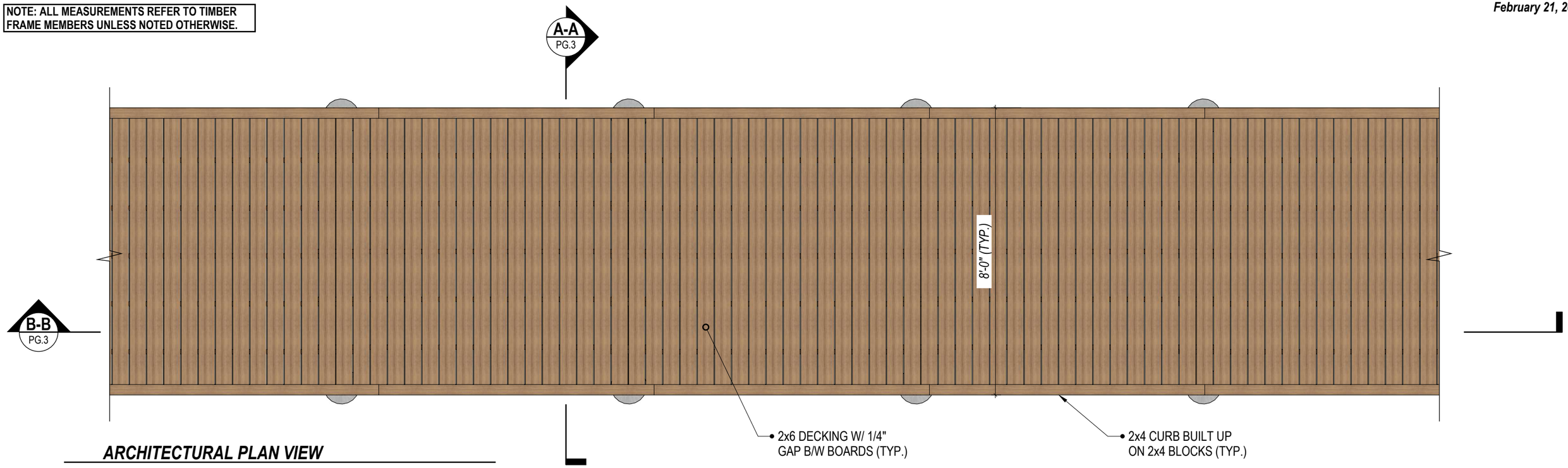
CORNERSTONE TIMBERFRAMES

Northerly Park Boardwalk

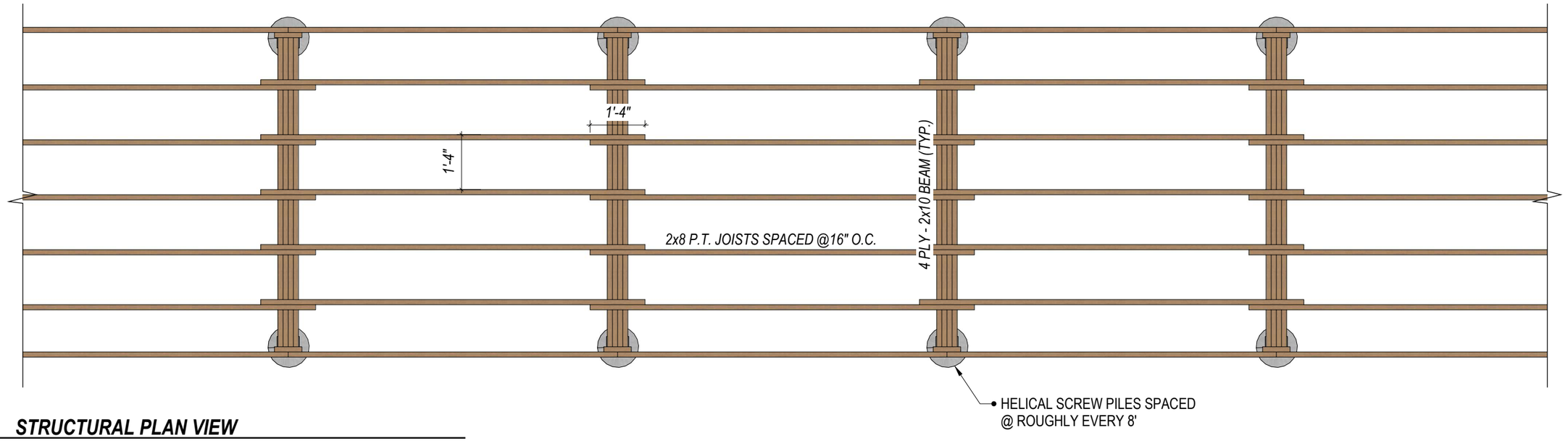
Overview

NOTE: ALL MEASUREMENTS REFER TO TIMBER FRAME MEMBERS UNLESS NOTED OTHERWISE.

February 21, 2020



ARCHITECTURAL PLAN VIEW



STRUCTURAL PLAN VIEW

CORNERSTONE TIMBERFRAMES

Northerly Park Boardwalk

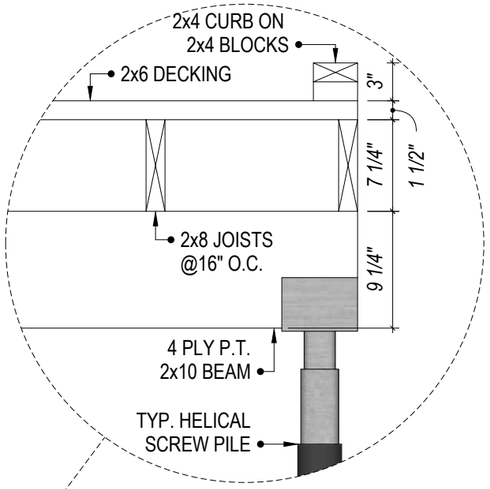
Scale : 3/8" = 1'-0"

Post Plan Overview

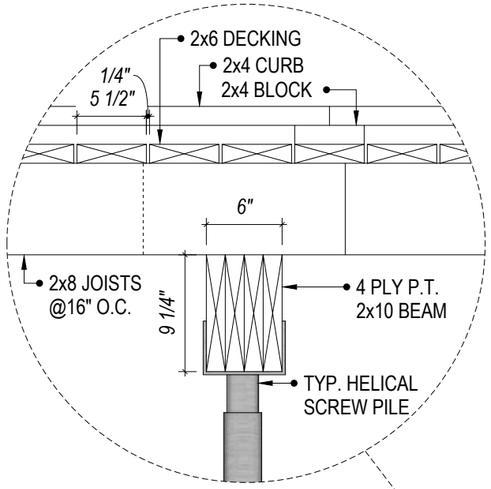
2 of 3

NOTE: ALL MEASUREMENTS REFER TO TIMBER FRAME MEMBERS UNLESS NOTED OTHERWISE.

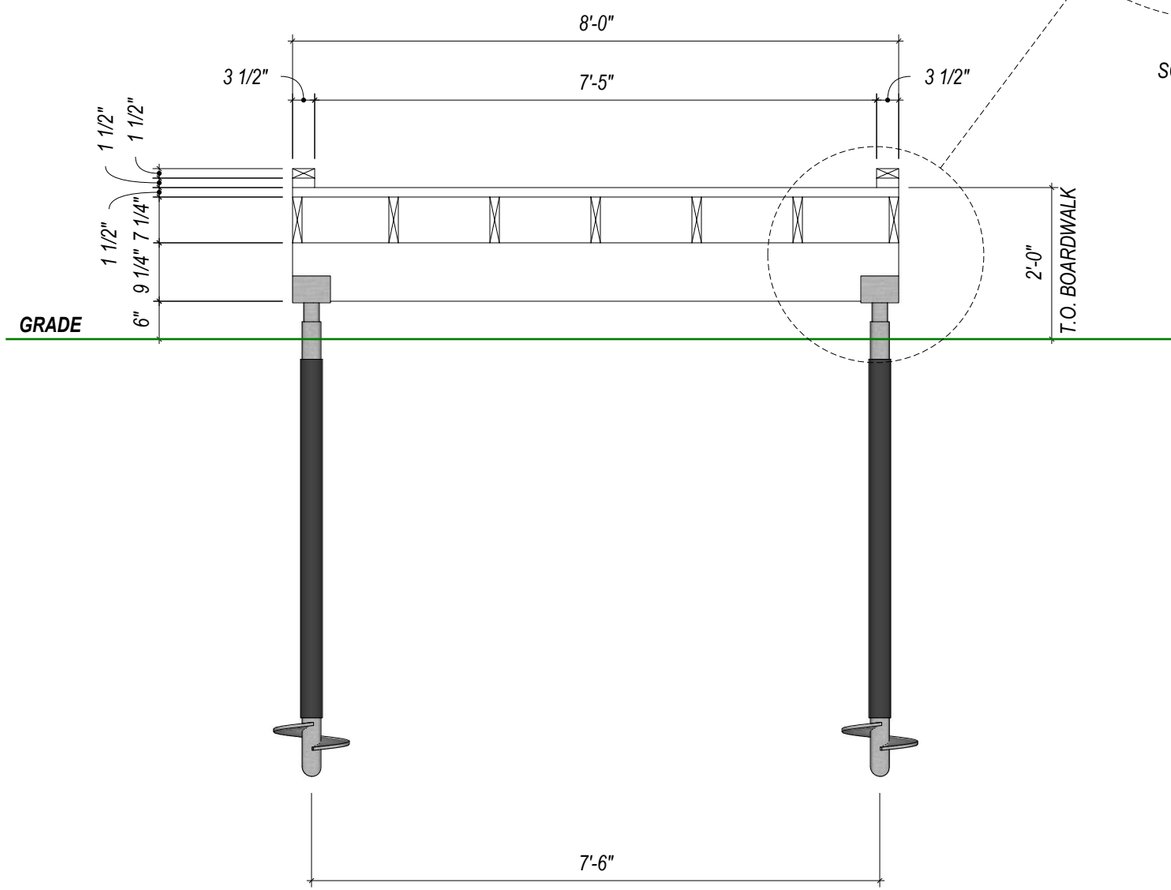
February 21, 2020



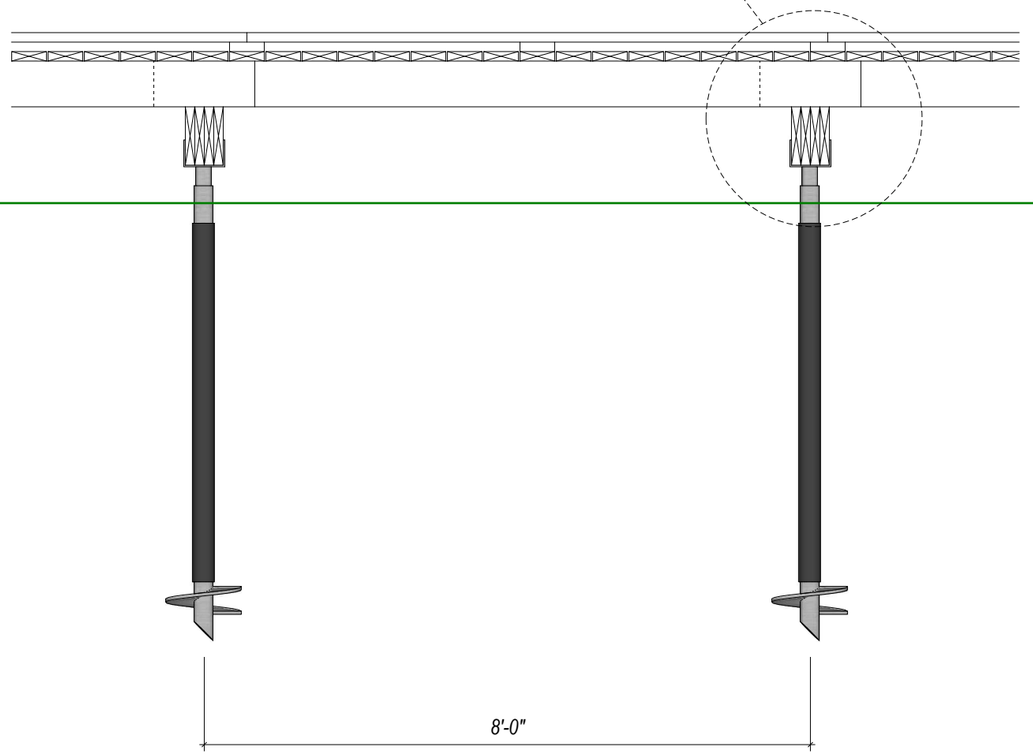
DETAIL A
SCALE: 1" = 1'-0"



DETAIL B
SCALE: 1" = 1'-0"



SECTION A-A



SECTION B-B

CORNERSTONE TIMBERFRAMES

Northerly Park Boardwalk

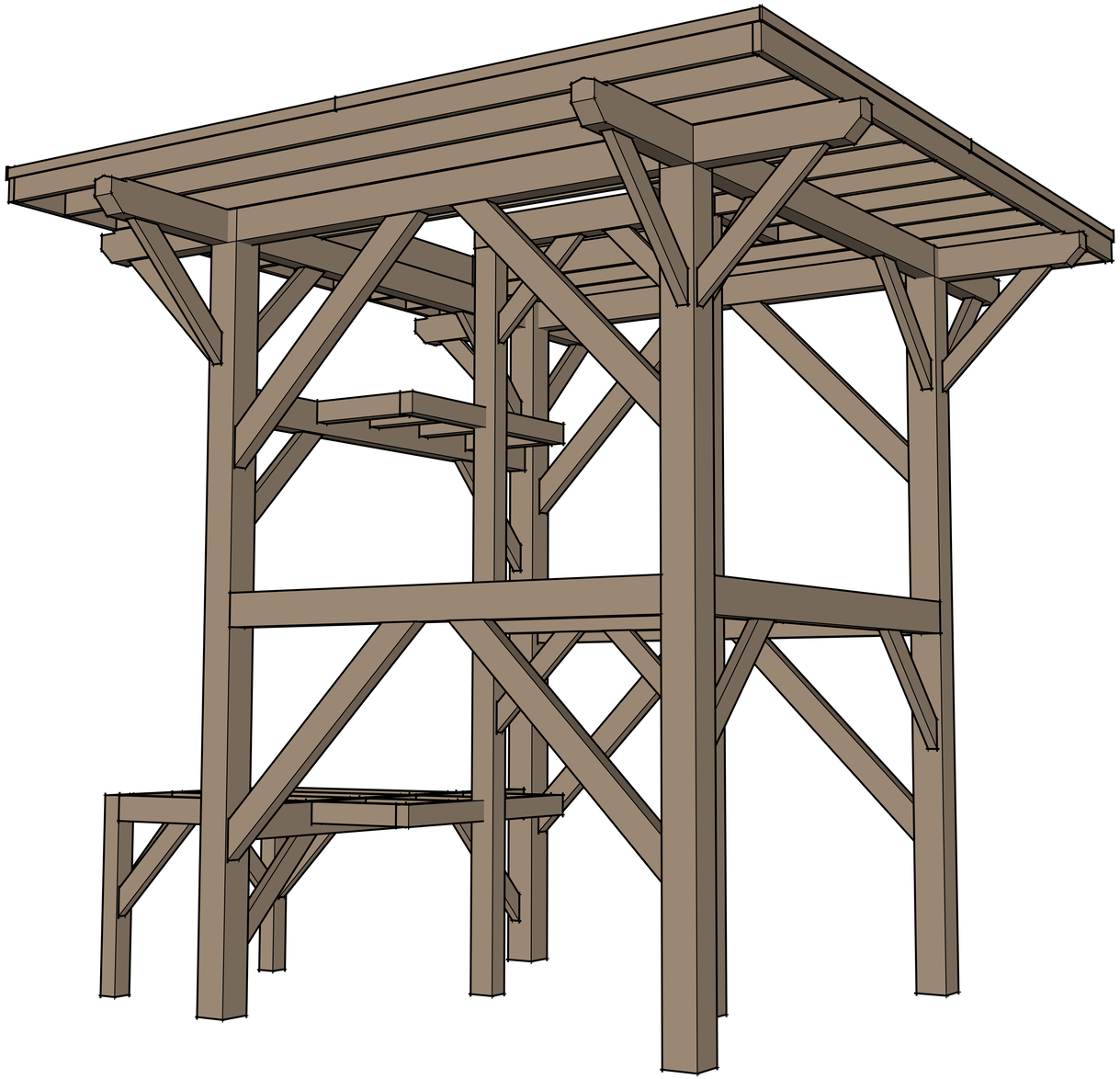
Scale : 1/2" = 1'-0"

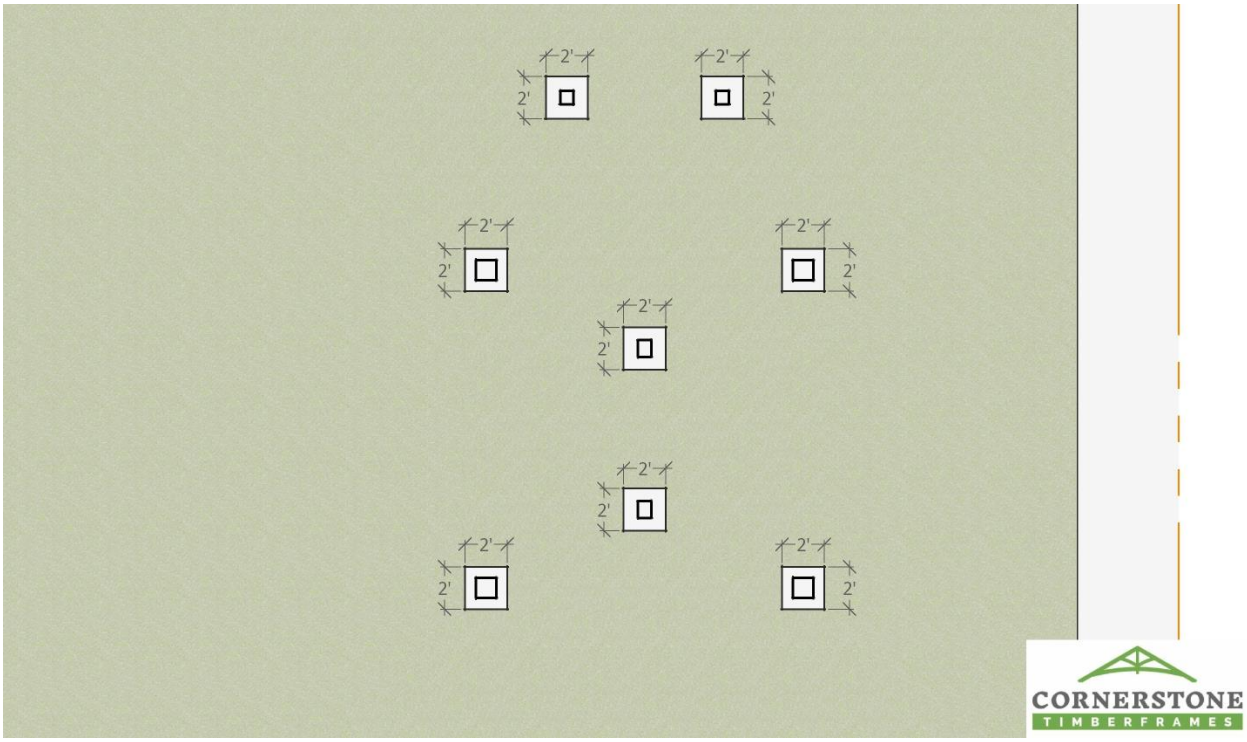
Post Plan Overview

3 of 3

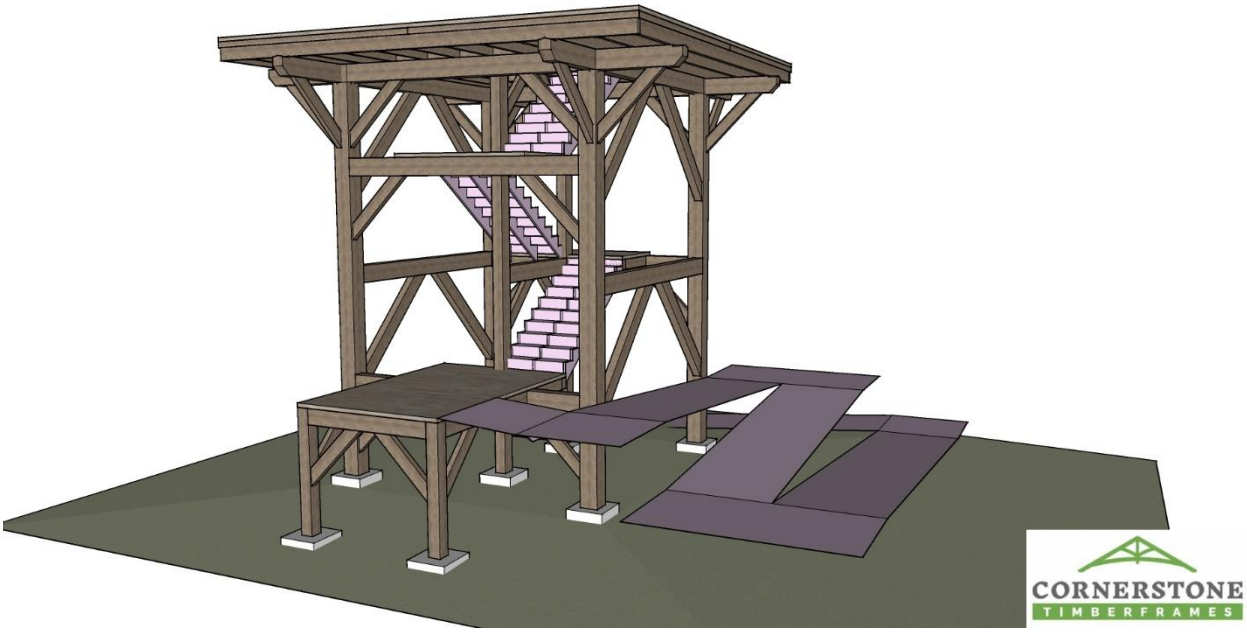
EXHIBIT 3

SCHEMATIC OF OBSERVATION TOWER





CORNERSTONE
TIMBERFRAMES



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TIMBERFRAMES