

# Exhibit LH-5 Natural Resources Report



## MEMORANDUM

To: Louis Hodgetts, Project File  
Date: November 8, 2022  
From: Grace Glynn  
Subject: VZW Marshfield Natural Resources Review  
Project No.: 422065

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This memorandum summarizes the wetland and waterway site investigation performed on August 19, 2022 along a proposed access road and tower site at 2264 U.S. Route 2, Marshfield VT, as shown on the attached Natural Resource Atlas Map.

### **Wetlands and Water Resources**

The proposed tower site is located just northwest of an existing powerline cut and on an existing logging road, and is shown on the attached Location Map. It is located in an upland area of Hemlock-Northern Hardwood Forest dominated by yellow birch, hemlock, striped maple, paper birch, and red maple with an understory of hay-scented fern, sensitive fern, interrupted fern, and long beech fern.

Three wetlands were identified within the project area and delineated in accordance with the COE 1987 Wetland Delineation Manual and the COE 2012 Regional Supplement for the Northcentral and Northeast Region. The wetland boundaries were flagged and recorded using a GPS unit with sub-meter accuracy. The wetlands are labeled as Wetland A, B, and C. The wetlands are shown on the attached exhibit, and photos are attached.

Wetland A is palustrine emergent/forested (PEM/PFO) and is located along an existing woods road, adjacent to an intermittent stream. It is dominated by sensitive fern, cinnamon fern, jewelweed, and white meadowsweet. The wetland's principal function is groundwater recharge. This wetland is presumptive Class II because it is hydrologically connected to an alder swamp within the powerline cut to the southeast; presumably the entire wetland complex is over .5 acres in size. Review by the district wetlands ecologist would be necessary to verify this wetland classification.

Wetland B is palustrine emergent/forested (PEM/PFO) and is located along the woods road. It is dominated by cinnamon fern, tearthumb, woolsedge, dark-green bulrush, and rattlesnake mannagrass. The wetland's principal functions include groundwater recharge and wildlife habitat. This wetland is presumptive Class II. Review by the district wetlands ecologist would be necessary to verify this wetland classification.

Wetland C is palustrine scrub-shrub (PSS) and is dominated by willows, Joe-pye weed, and goldenrods. This wetland is small, isolated, and has seemingly formed in a created ditch. It is therefore presumptive Class III. Review by the district wetlands ecologist would be necessary to verify this wetland classification.

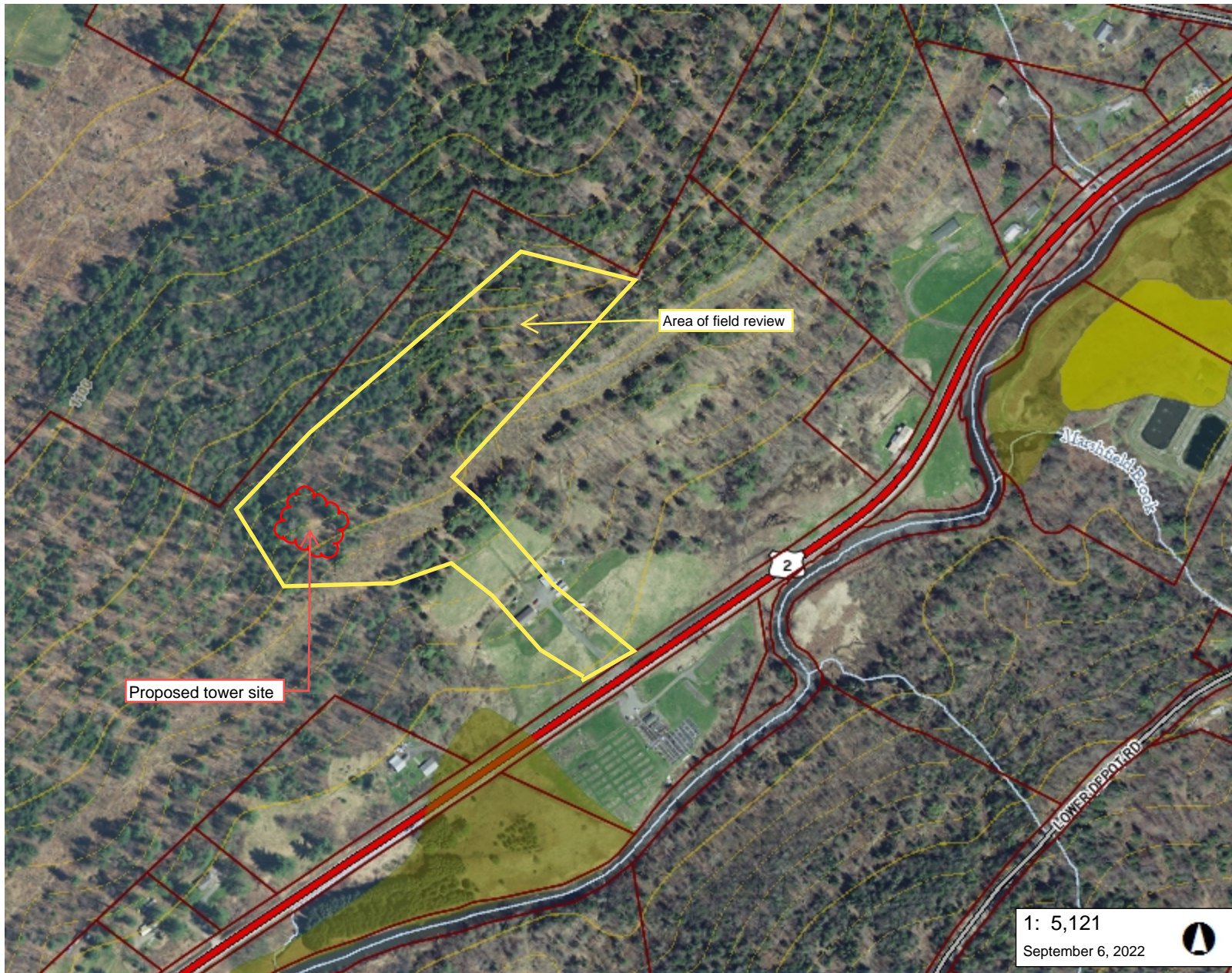
Work in any wetland would require an Army Corps of Engineers Section 404 Wetlands Permit. Work in any Class II wetland or in the 50ft jurisdictional buffer of any Class II wetland would require a VT Wetlands Permit.

### **Rare, Threatened and Endangered Species and Exemplary Natural Communities**

The Natural Resources Atlas Map of the area shows no elements of concern (rare, threatened, or endangered species or significant natural communities) in the immediate project area, as shown on the attached Natural Resources Map. No rare, threatened, or endangered species or significant natural communities were observed during the course of field work. The parcel is located at the edge of a medium-priority habitat block. No deer wintering areas are mapped on the parcel, and none were observed during the course of field work. No potential bat roost trees or other notable habitat features were observed during the course of field work.

### **Non-native Invasive Species**

Coltsfoot (*Tussilago farfara*) is common along the woods road. European honeysuckle (*Lonicera morrowii*) and moneywort (*Lysimachia nummularia*) are present in the southwest corner of the study area along the intermittent stream shown on the attached exhibit. Common barberry (*Berberis vulgaris*) was seen scattered throughout the study area. The non-native (but not considered invasive) Sherard's downy rose (*Rosa sherardii*) was observed at the edge of Wetland B.



### LEGEND

- Rare Threatened Endangered
  - Threatened or Endangered
  - Rare
- Significant Natural Community
  - Uncommon Species and Other
  - Animal
  - Plant
  - Natural Community
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Buffer
- Wetlands Advisory Layer
- Soils - Hydric
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads

1: 5,121  
September 6, 2022



260.0 0 130.00 260.0 Meters

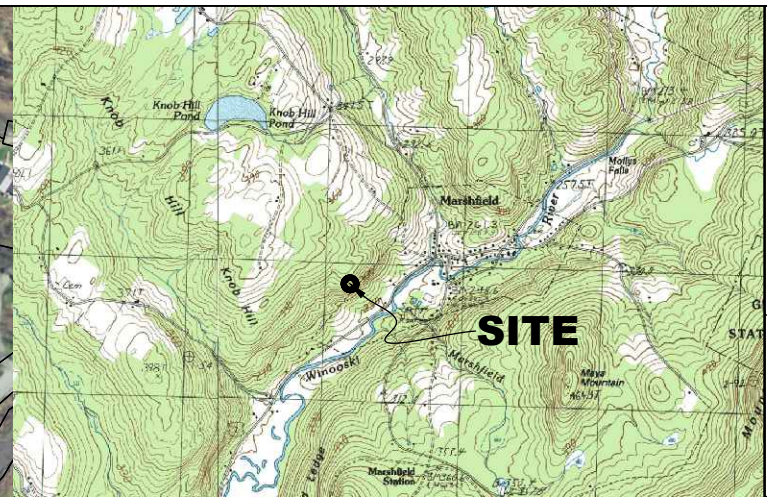
WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere 1" = 427 Ft. 1cm = 51 Meters

© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

**DISCLAIMER:** This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

### NOTES

Map created using ANR's Natural Resources Atlas



LOCATION MAP  
NOT TO SCALE

**NOTES:**

1. THE PURPOSE OF THIS DRAWING IS FOR CONCEPT ONLY. THE DIMENSIONS SHOWN ARE APPROXIMATE.
2. INFORMATION SHOWN ON THIS DRAWING IS BASED ON LIMITED FIELD MEASUREMENTS BY DUBOIS & KING, INC.
3. PROPERTY OWNER: GERARD E. PILETTE, JR.  
2264 U.S. ROUTE 2  
MARSHFIELD, VT 05658
4. SITE ADDRESS: 2264 U.S. ROUTE 2  
MARSHFIELD, VT 05658
5. PARCEL ID #: RT131.
6. LOCATION: LATITUDE: 44°-20'-51.04"±  
LONGITUDE: 72°-21'-55.60"±
7. FINAL ELECTRIC AND TELEPHONE ROUTING TO BE DETERMINED DURING FINAL DESIGN.
8. APPROXIMATE AMSL GROUND ELEVATION AT THE BASE OF THE TOWER IS 916'± AMSL.
9. TRUE NORTH INFORMATION, AMSL ELEVATIONS AND LATITUDE AND LONGITUDE VALUES SHOWN ARE BASED ON TOPOGRAPHIC SOFTWARE.
10. PROPERTY LINE INFORMATION FROM THE TOWN OF MARSHFIELD TAX MAPS.

**DuBois & King**  
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**NOT FOR  
CONSTRUCTION  
PRELIMINARY  
PLANS**

NO.	DATE	DESCRIPTION	BY	CK'D
4	11-08-22	REVISED TOWER LOCATION	JWP	
3	9-16-22	REVISED TO ALTERNATE TOWER SITE	JWP	
2	6-21-22	REVISED TO SHOW SITE 1	JWP	
1	6-10-22	CONCEPT FOR REVIEW	JWP	

PROJECT ID: 20202051531  
PROJECT TYPE: BDGCD  
LOCATION CODE: 470144

**MARSHFIELD**

2264 U.S. ROUTE 2  
MARSHFIELD, VT  
05658

SHEET TITLE

OVERALL  
SITE PLAN

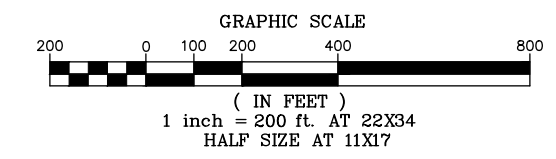
LEASE EXHIBIT

DRAWN BY	DATE
JWP	JUN. 2022
CHECKED BY	D&K PROJECT #
LJH	422065L1
PROJ. ENG.	D&K ARCHIVE #
LJH	

SHEET NUMBER

**C-1**

**DRAFT**



PROFESSIONAL SEAL

**NOT FOR  
 CONSTRUCTION  
 PRELIMINARY  
 PLANS**

NO.	DATE	DESCRIPTION	BY	CK'D
4	11-08-22	REVISED TOWER LOCATION	JWP	LJH
3	9-16-22	REVISED TO ALTERNATE TOWER SITE	JWP	LJH
2	6-21-22	REVISED TO SHOW SITE 1	JWP	LJH
1	6-10-22	CONCEPT FOR REVIEW	JWP	LJH

PROJECT ID: 20202051531  
 PROJECT TYPE: BDGCD  
 LOCATION CODE: 470144

**MARSHFIELD**

2264 U.S. ROUTE 2  
 MARSHFIELD, VT  
 05658

SHEET TITLE

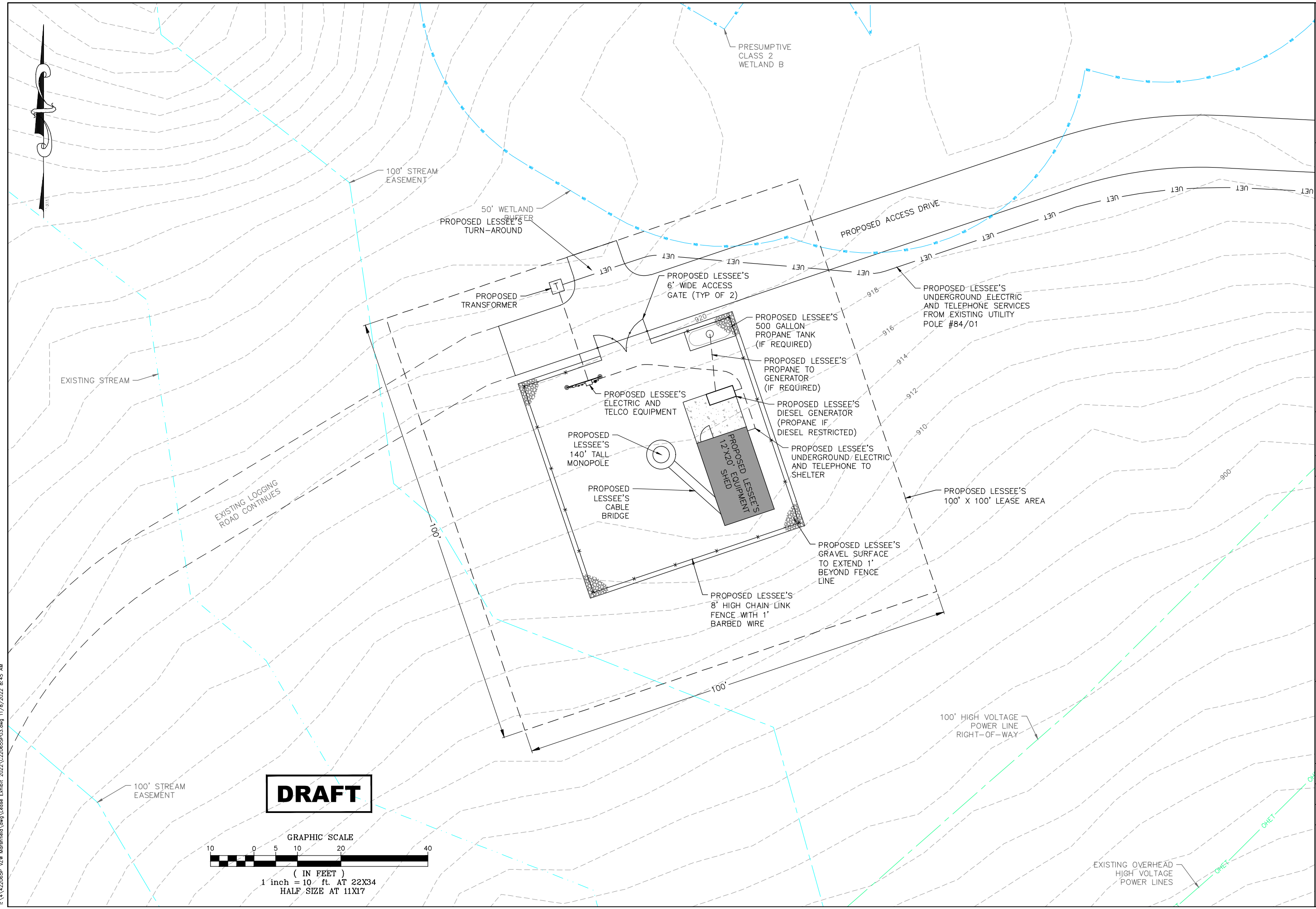
DETAIL  
 SITE PLAN

LEASE EXHIBIT

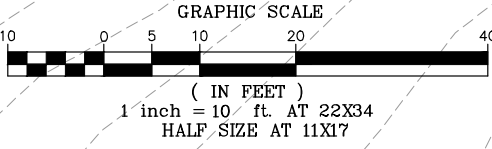
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PROJ. ENG.	D&K ARCHIVE #
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SHEET NUMBER

**C-2**



**DRAFT**



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**NOT FOR  
CONSTRUCTION  
PRELIMINARY  
PLANS**

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3	9-16-22	REVISED TO ALTERNATE TOWER SITE	JWP	LJH
2	6-21-22	REVISED TO SHOW SITE 1	JWP	LJH
1	6-10-22	CONCEPT FOR REVIEW	JWP	LJH

PROJECT ID: 20202051531  
PROJECT TYPE: BDGCD  
LOCATION CODE: 470144

**MARSHFIELD**

2264 U.S. ROUTE 2  
MARSHFIELD, VT  
05658

SHEET TITLE

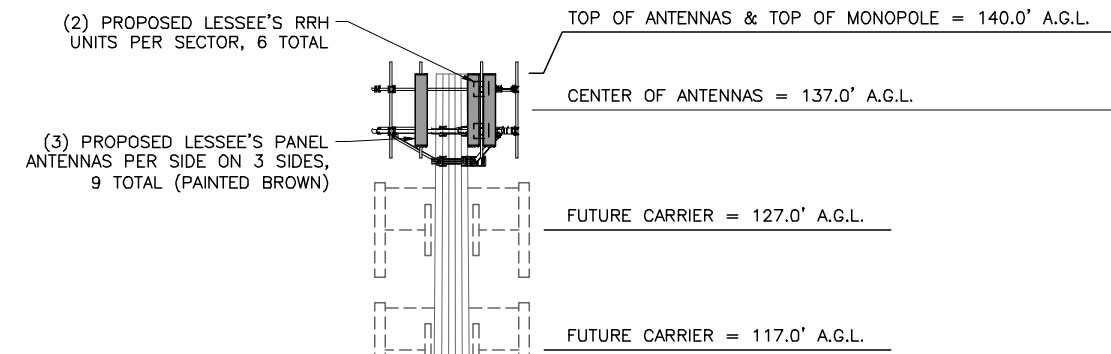
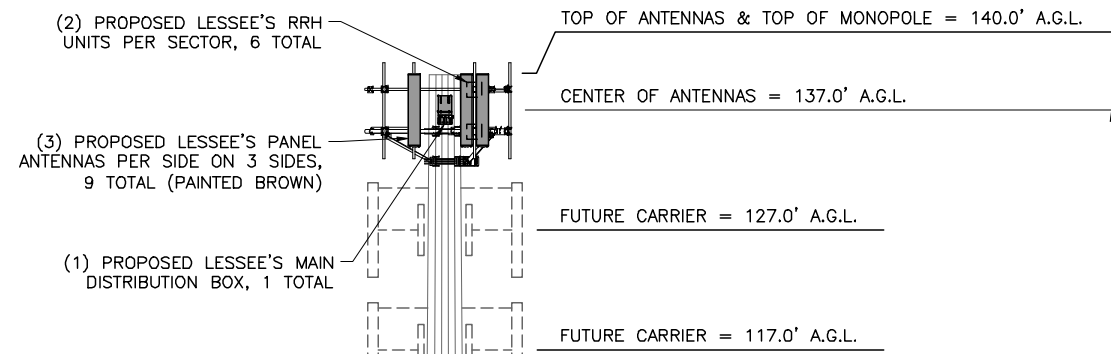
**TOWER  
ELEVATIONS**

LEASE EXHIBIT

DRAWN BY	DATE
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CHECKED BY	D&K PROJECT #
LJH	422065L1
PROJ. ENG.	D&K ARCHIVE #
LJH	

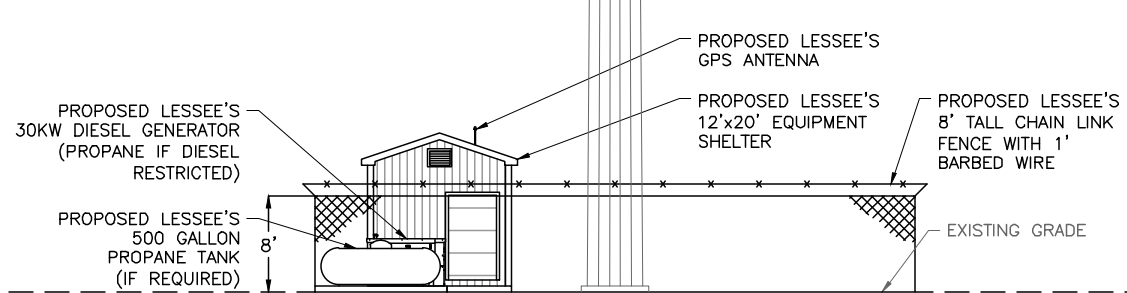
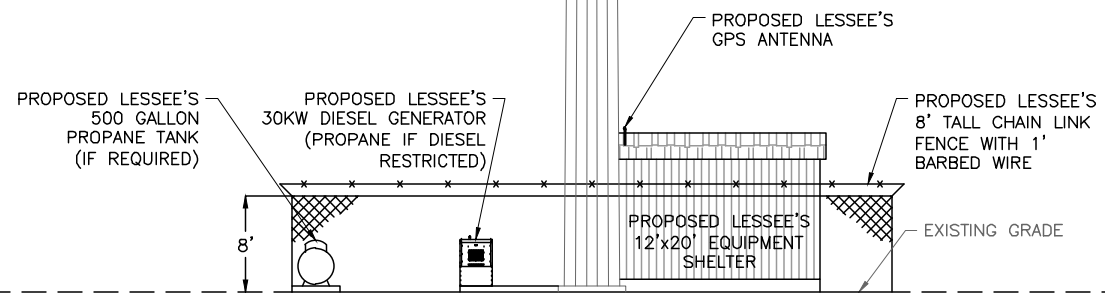
SHEET NUMBER

**C-3**



PROPOSED LESSEE'S 140' TALL MONOPOLE (PAINTED BROWN)

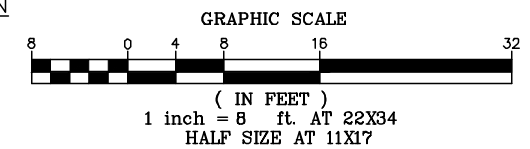
PROPOSED LESSEE'S 140' TALL MONOPOLE (PAINTED BROWN)



SOUTHWEST TOWER ELEVATION

NORTHWEST TOWER ELEVATION

**DRAFT**



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**NOT FOR  
CONSTRUCTION  
PRELIMINARY  
PLANS**

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3	9-16-22	REVISED TO ALTERNATE TOWER SITE	JWP	LJH
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**MARSHFIELD**

2264 U.S. ROUTE 2  
MARSHFIELD, VT  
05658

SHEET TITLE

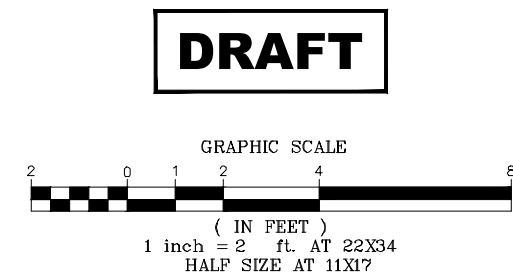
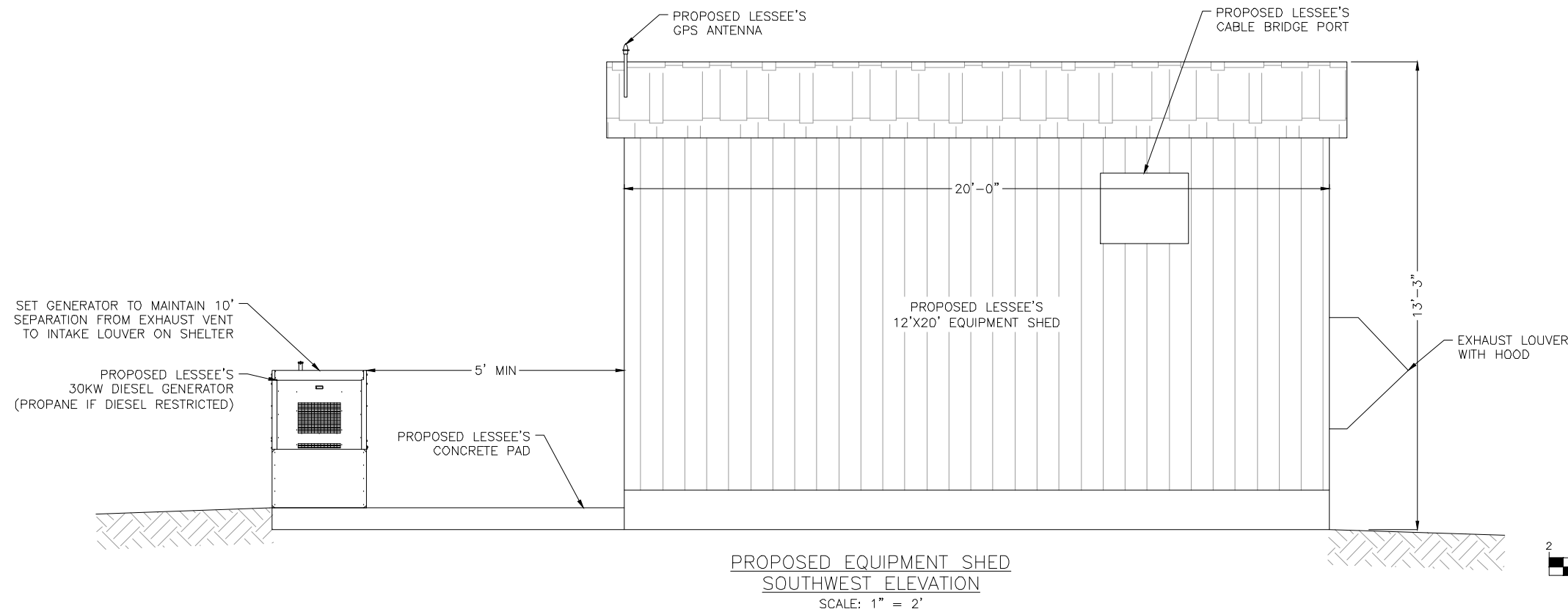
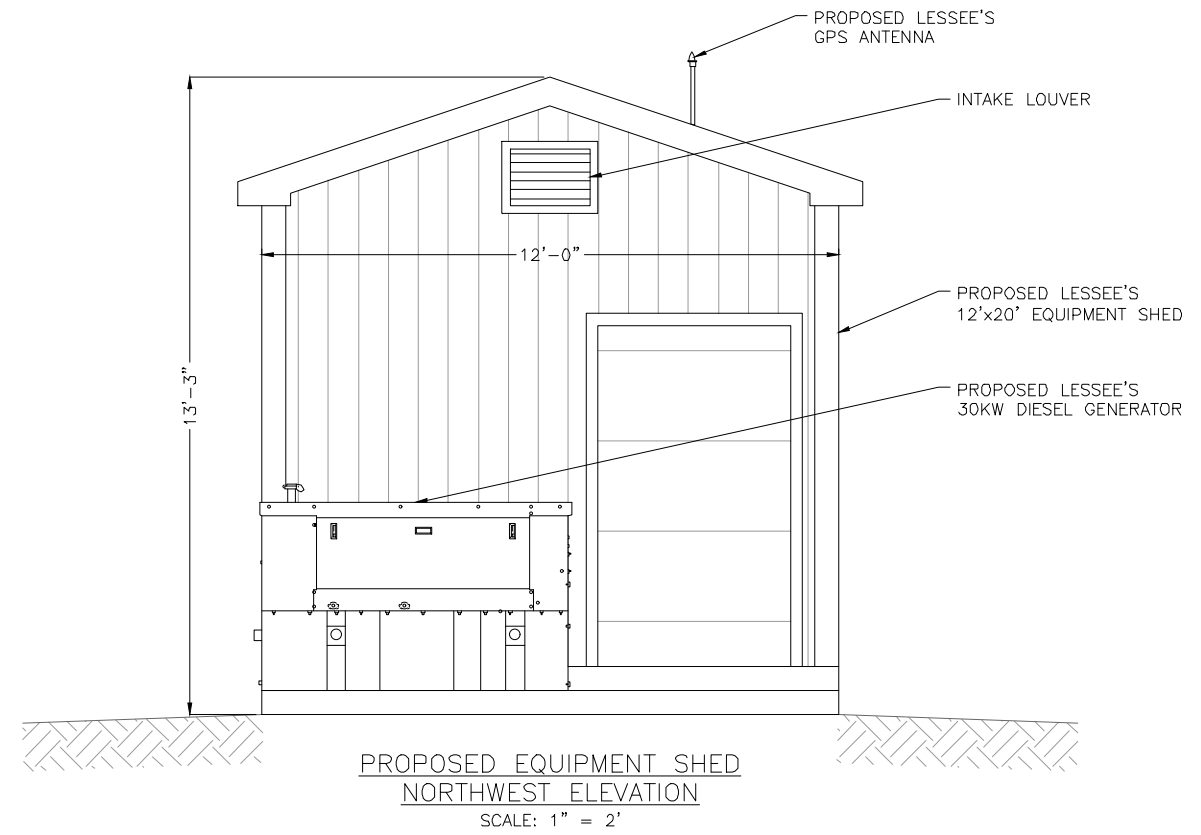
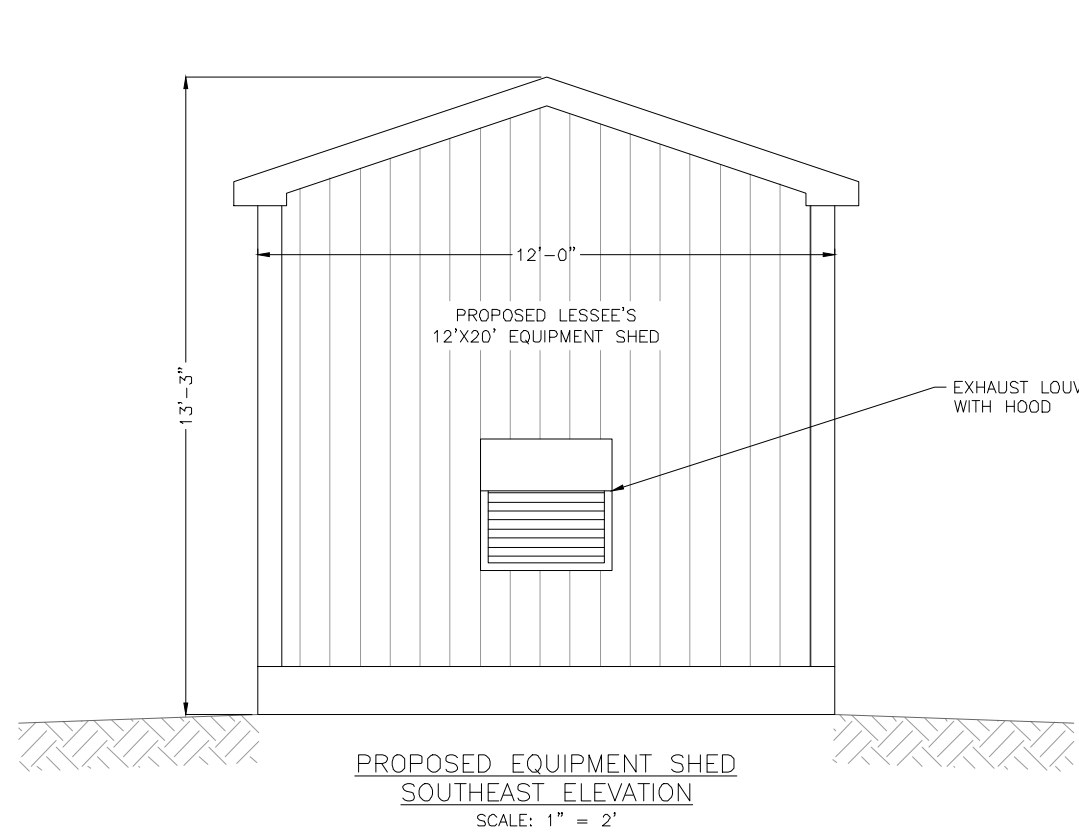
**EQUIPMENT  
SHELTER**

LEASE EXHIBIT

DRAWN BY	DATE
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CHECKED BY	D&K PROJECT #
LJH	422065L1
PROJ. ENG.	D&K ARCHIVE #
LJH	

SHEET NUMBER

**C-4**



**VZW Marshfield Wetlands Review: August 19, 2022**



Wetland A



Wetland B, looking south along woods road



Culvert below existing logging road; intermittent stream