

Dane County, Wisconsin
Final Wireless Communications Site Review
New Lattice Tower



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November 17, 2022

Mr. Majid Allan, Senior Planner
Dane County Planning & Development
210 Martin Luther King Jr. Blvd.
Madison, WI 53703

APPLICANT/PROVIDER: CelluSite LLC, Agent for Iron Mountain Towers LLC dba TowerKing and DISH Wireless LLC

SITE NAME: “Skaalen”

ADDRESS: 1576 Spring Road, Town of Dunkirk, WI

LATITUDE: 42°-55’-56.81” N LONGITUDE: 089°-11’-05.74” W

STRUCTURE PROPOSED: 195-foot Self-Supporting Lattice Tower (plus 4-foot lightning rod)

Dear Mr. Allan,

At your request, on behalf of Dane County (“County”), CityScape Consultants, Inc. (“CityScape”), in its capacity as telecommunications consultant for the County, has considered the merits of the above-referenced application submitted by TowerKing and Dish Wireless (collectively “Applicant”), to construct a new wireless telecommunications *lattice self-supporting* tower and associated ground equipment compound at 1576 Spring Road in the Town of Dunkirk, *see Figure 1*.

This application for a new wireless communications facility is proposed to bring DISH mobile personal wireless service to an area in southeastern Dane County. The Applicant’s application documents indicate that the tower will accommodate additional equipment by other wireless carriers.

DISH is a bona fide *personal wireless service provider*, meeting the FCC’s definition of such, and thus is afforded the protections of the federal Telecommunications Act of 1996, in that:

“The regulation of the placement, construction, and modification of personal wireless service facilities by any State of local government or instrumentality thereof— (I) shall not unreasonably discriminate among providers of functionally equivalent services; and (II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.”¹

The Applicant is requesting to construct a one hundred ninety five (195) foot *self-supporting lattice* tower, 199 feet including lightning rod, on a property that is zoned RR-2 (Rural Residential, 2 to 4 Acres) which requires a Conditional Use Permit. The County Ordinance limits the height of such a structure to one hundred ninety five (195) feet. Thus, a height variance is not required, and neither FAA-regulated aviation lighting nor marking are required. According to the Applicant’s application documents, the Applicant’s antennas will be at an elevation of one hundred ninety five (195) feet above ground. Up to three future collocators’ antennas would be at 185, 175, and 165 feet, *see Figure*

¹ 47 U.S. Code §332(c)(7)(B)(i)

2 (the minimum is three total users, including the primary per County Code).

The proposal will be evaluated from the following perspectives:

- Whether the proposed facility, as specified, is justified due to technological reasons and is essential for the Applicant to provide its telecommunications service; and,
- Whether the proposed facility will follow the requirements of Federal Law, Wisconsin State Law, the Dane County Ordinance and all other pertinent rules and regulations.

The Applicant has submitted a photosimulation report showing the tower as built, as required per County Code, however, the images of the tower do not show DISH's proposed antennas at the top. This omission could create a false impression of what the structure would look like when DISH's equipment is installed. CityScape recommends that the Applicant be requested by the County to fix the deficiencies of the photo simulation report prior to the hearing before the County Zoning & Land Regulation Committee ("Committee").

New Site Justification and Coverage

In order for the wireless communications facility to be justified, its need, location and height must be addressed. The application proposes to construct a new one hundred ninety five (195) foot (199 feet to top of lightning rod) *self-supporting lattice* tower, *see Figure 2*. The local authority has certain rights in regards to the height, location, type and appearance of the support structure (for example, the structure could be a monopole rather than a lattice tower) as well as the ability to assure the proposed facility is following FCC safety specifications and local building codes. It is apparent to CityScape that there is sufficient evidence of need and that the location was selected within the parameters of wireless network design and in accordance with FCC requirements.

The Applicant provided a notarized sworn statement from an RF network engineer from DISH Wireless justifying construction of a new wireless communication facility. The Applicant supplemented the sworn statement with propagation/coverage maps, provided only to CityScape on a confidential basis at Applicant's request, which shows DISH service coverage both before and after activation of the proposed facility. The RF engineer states the following:

- Collocation on existing structures is not feasible because collocating on either of the two nearest existing tall towers, which are both about 1.5 miles from the center of the search ring, would "create too much overlap in coverage" with an adjacent DISH facility and would "create a gap in coverage...which would require an additional tower to provide adequate service." CityScape has examined the propagation maps and has determined this assessment to be preponderant.
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- “The minimum height needed for this site is one hundred ninety five (195’) antenna centerline [above ground level]” In our opinion, this determination is reasonable given the significance of the coverage gap observed in the propagation maps.

The Applicant also provided a site search ring map, *see Figure 3*, however, though the center of the search area is shown, the actual search ring was apparently omitted. A subsequent site search map sent by the Applicant had the center of the search area at the proposed site, while the originally-sent search area map, shown in *Figure 3*, is centered near the intersection of Skaalen and Spring Roads, 0.6 mile away from the proposed site. CityScape requested that the Applicant clear up the confusion as to the true DISH pre-investigation search area for this project, but, to date, the Applicant has not responded to this request. This information is critical in determining if the proposed location and height are justified. Nevertheless, in this particular case, the point is moot with regard to possible collocations because the fact remains that DISH requires a new construction to fill its service gap regardless of which search area map is correct². However, the Applicant should be asked by the Committee to support in hearing the validity of the most recent search ring map submitted.

While collocation on an existing structure is preferred over new construction, currently the Applicant states this is not an option. CityScape has verified that there are no existing tall structures less than 1.5 miles within the search ring center (*Figure 3*). Searching both public and private communication tower databases, Cityscape has determined and plotted on a Google Earth map all existing structures of height greater than 100 feet within a 3.5-mile radius of the search ring center, *see Figure 4*. The nearest structures, previously mentioned in this report, are 1.51 miles north and 1.57 miles southeast of the search ring center shown in Page 1 of Exhibit F, which likely would be far beyond the search ring that may have been originally determined by the DISH engineer. The Applicant appears to have met the preponderance of evidence threshold for justifying new construction and the height of the proposed tower.

Ground Equipment

The Applicant proposes to construct a fifty foot by fifty foot (50’ X 50’) fenced compound within a larger sixty foot by sixty foot (60’ x 60’) lease area, *see Figure 7*. The 50’ x 50’ compound will encompass the tower and Applicant’s equipment and allow space for at least three future additional wireless providers. It should be noted that for future requests to collocate on this tower under Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (“the Act”) and the FCC rules implementing that Act, such requests are eligible for administrative approval if they meet certain requirements, among them if they do not entail excavation or deployment more than 30 feet beyond the *current boundaries of the leased property surrounding the tower and any access or utility easements currently related to the site.*

² CityScape estimates that the search ring, given the proposed antenna height of 195 feet above ground, would have an average radius of 0.50 mile. The site proposed by the Applicant is approximately 0.60 mile from the search ring center shown in *Figure 3*, thus slightly outside our estimated search ring, but often the lack of availability of land on which to build a tower within the search area dictates selection of a site slightly outside of it.

Visual Screening

The Applicant does not appear to address whether screening will be employed to visually obscure the equipment compound. The County does have the right under its Ordinance to require, unless shown to be unreasonable, visual screening or landscaping that it deems necessary to minimize the aesthetic impact of the facility, such as adding privacy slats to the chain link fence or planting evergreen trees outside the fence around the compound perimeter.

CityScape's Finding

It is the opinion of the undersigned that a need has been demonstrated for a new antenna support structure of one hundred ninety five (195) feet in the immediate vicinity of the proposed site to fill a gap in DISH Wireless's service coverage. The proposal facility would be available to other personal wireless carriers that may be experiencing service gaps or connection requests approaching capacity in this area.

Should the Committee approve the Conditional Use Permit application, CityScape recommends the following conditions:

1. At time of permitting, the Applicant shall provide an approved and stamped tower design from a Wisconsin-licensed Structural Engineer certifying that the tower will support the antennas and equipment of at least three (3) total wireless carriers; and,
2. The Applicant shall provide visual screening and/or landscaping to minimize the aesthetic impact of the tower and compound; and,
3. The proposed structure shall not be lighted nor shall it be painted a color incompatible with the environment.

If the Applicant or subsequent owner of the tower should request a tower height increase after the facility is built, the tower would require lighting per FAA requirements; however, this would be a "substantial change" and thus cannot be approved administratively under Section 6409(a) of the Middle Class Tax Relief and Job Creation Act.

I certify that, to the best of my knowledge, all the information included herein is accurate at the time of this report. CityScape only works for public entities and has unbiased opinions. All recommendations are based on technical merits without prejudice per prevailing laws and codes.

Respectfully submitted,



B. Benjamin Evans
Senior Project Engineer
CityScape Consultants, Inc.



Susan Rabold
Project Manager
CityScape Consultants, Inc.

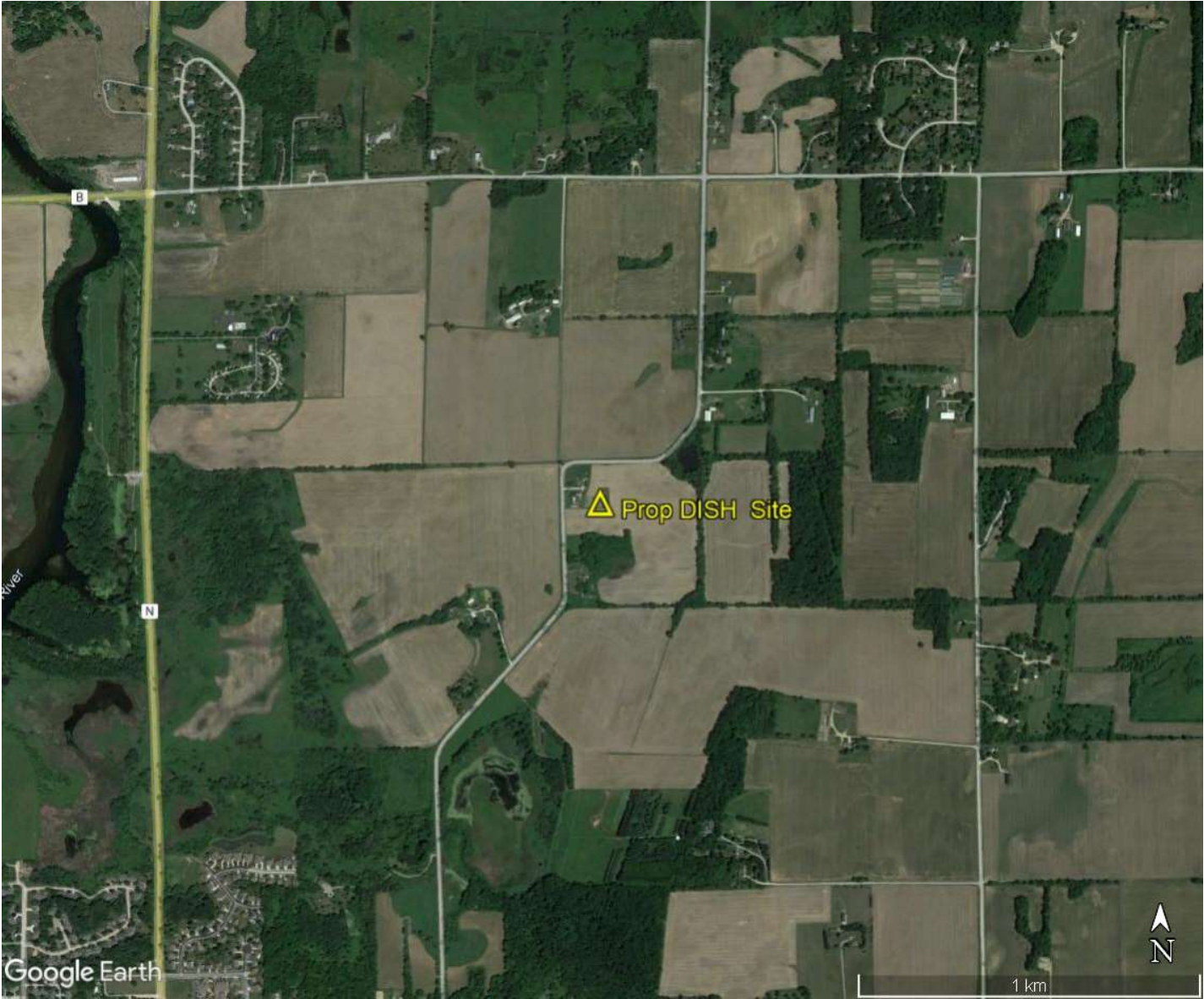


Figure 1 – Site Location Google Map

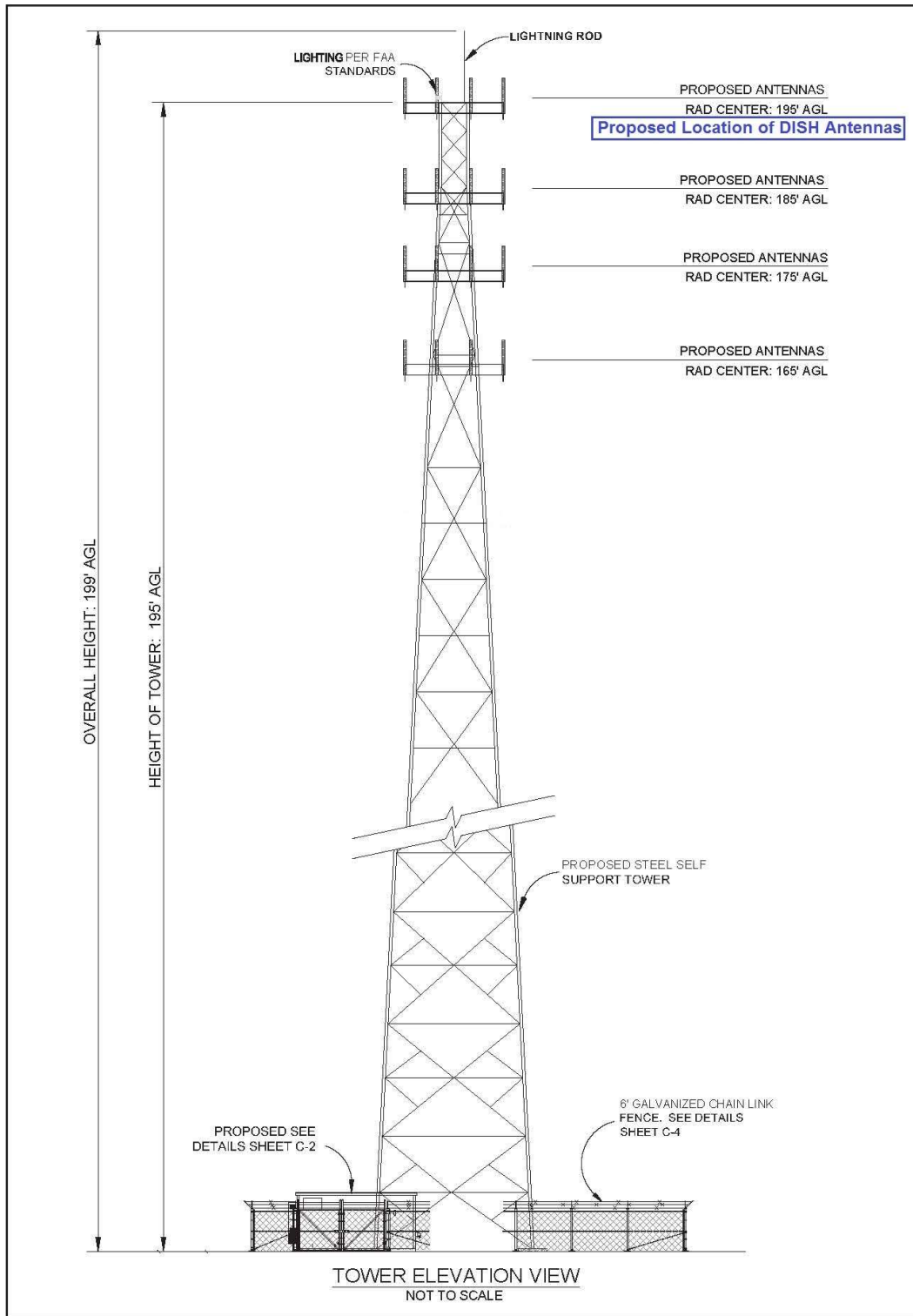


Figure 2 – Elevation Tower Sketch (with added note by CityScape in Blue)

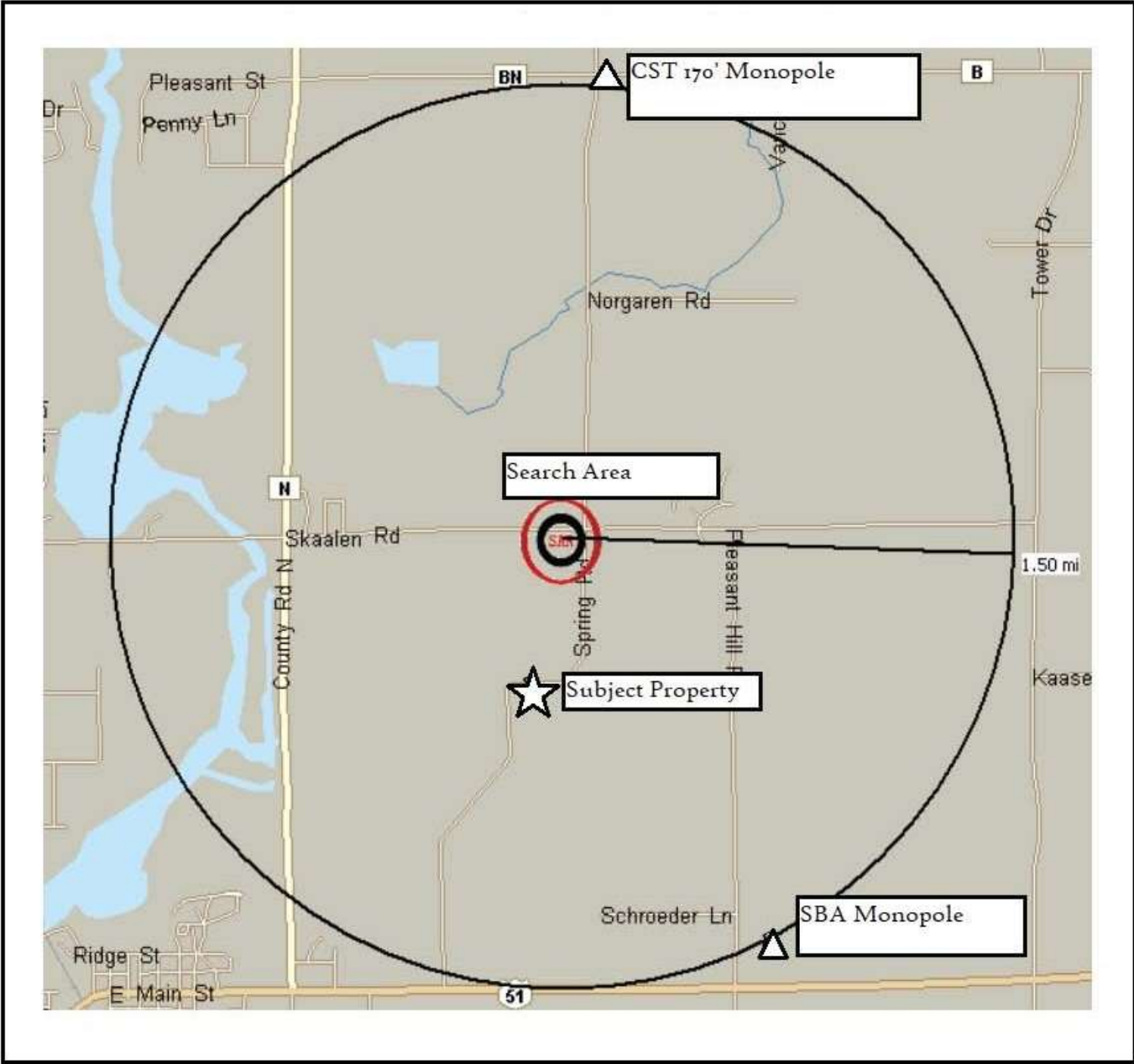


Figure 3 – Provided DISH Search Ring Map

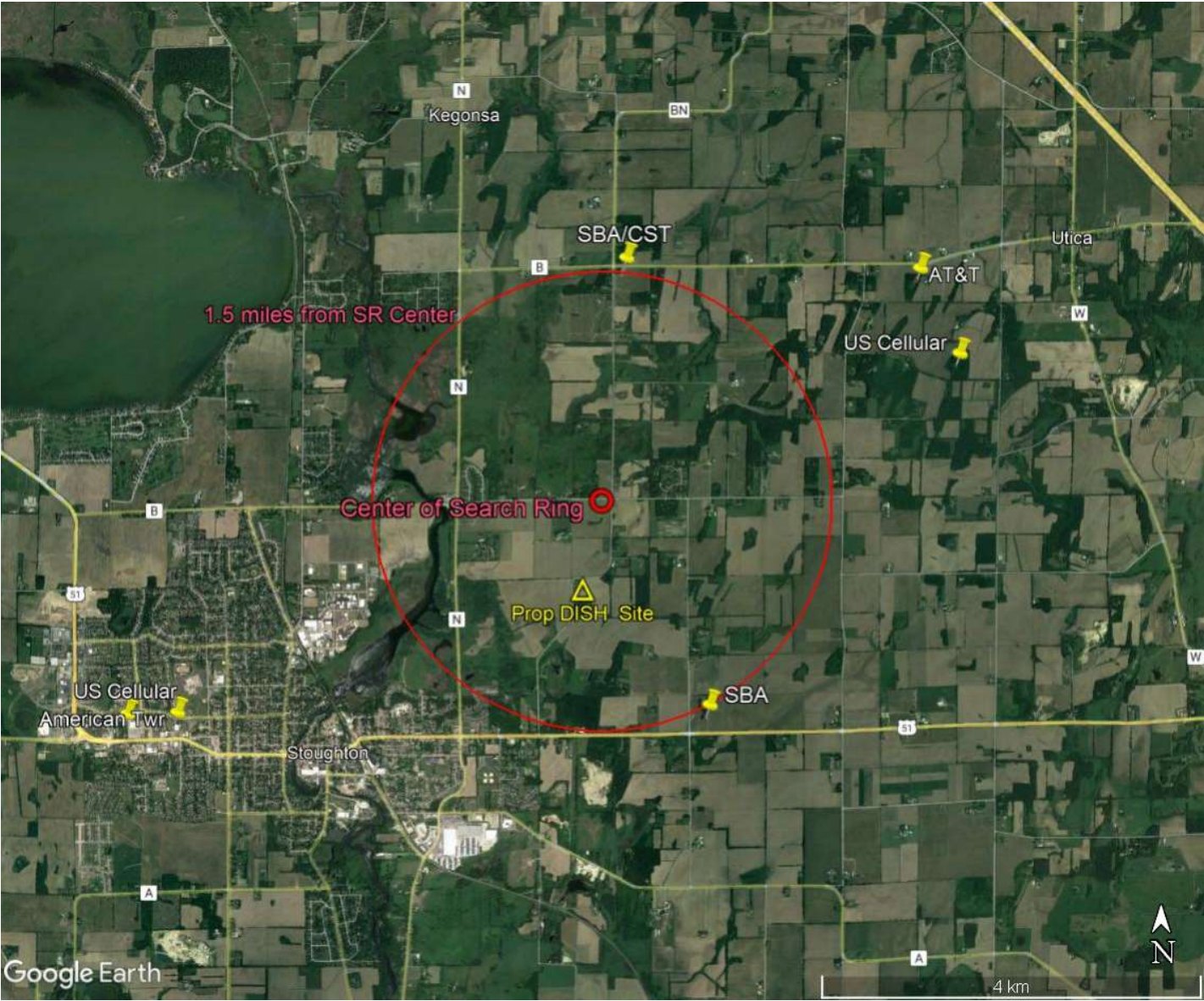


Figure 4 – Google Map of Proposed Site, Center of Search Area and Nearest Existing Antenna Structures

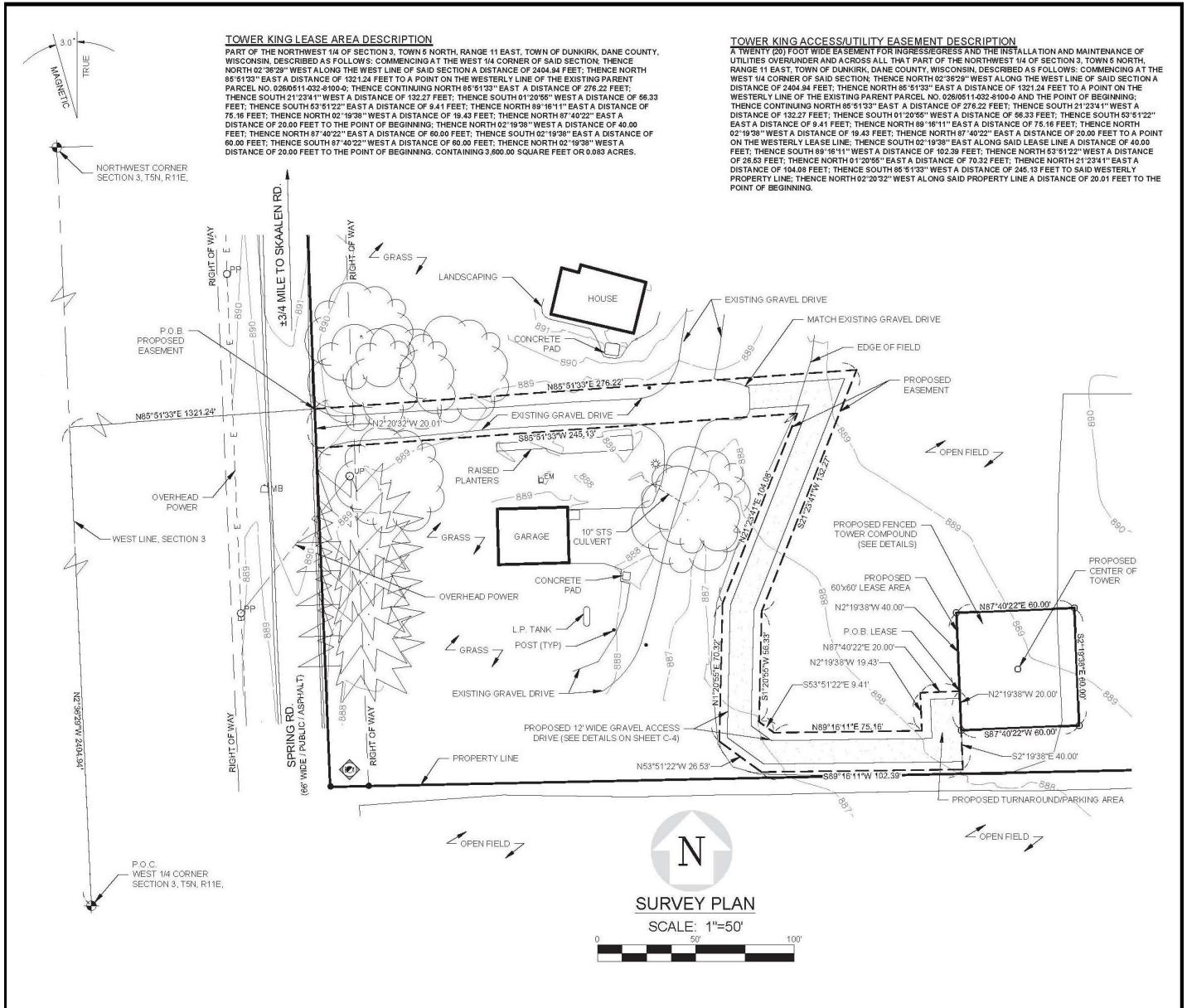


Figure 5 – Survey Plan

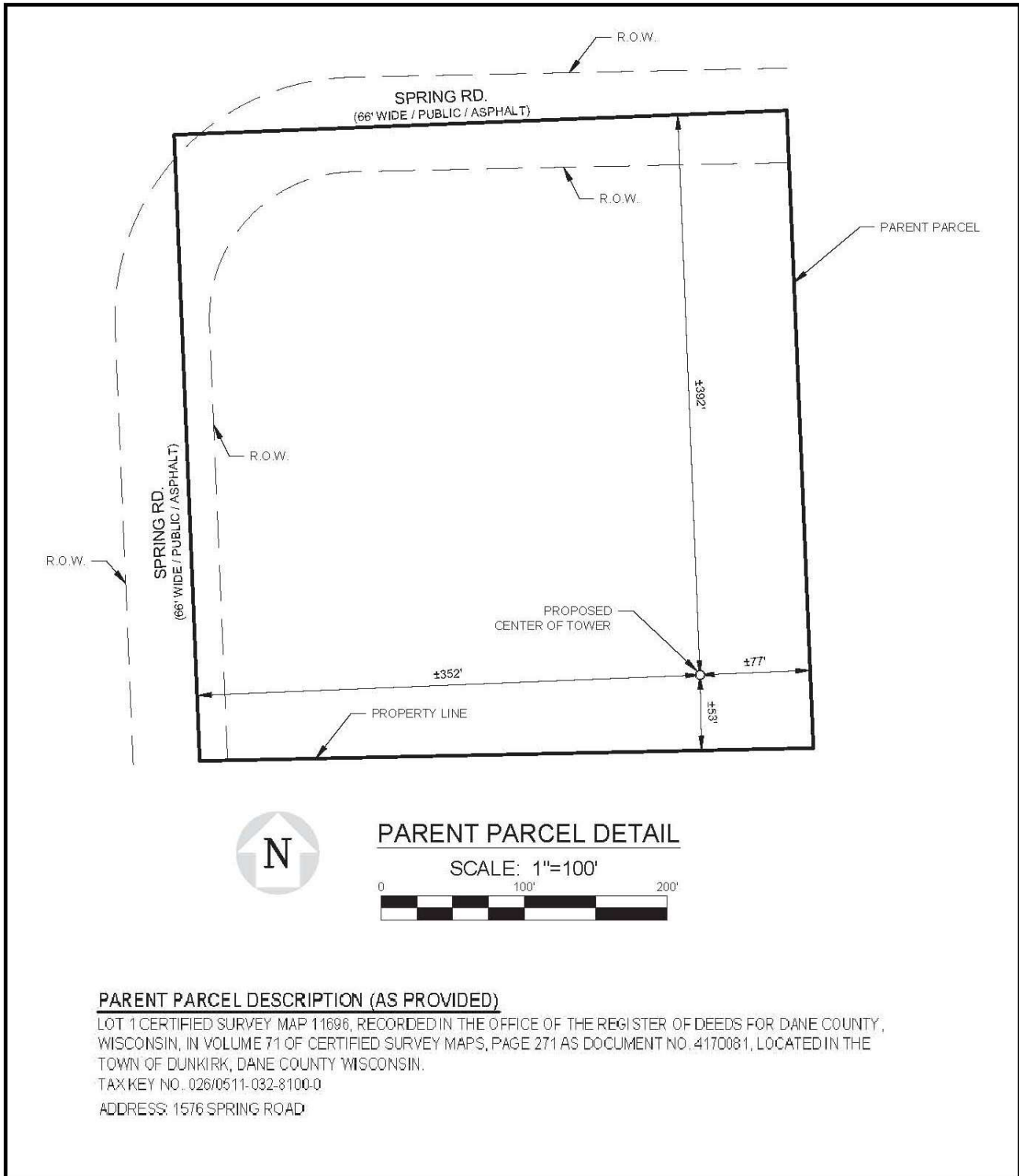


Figure 6 – Parcel Plan Drawing with Tower Property Line Setbacks

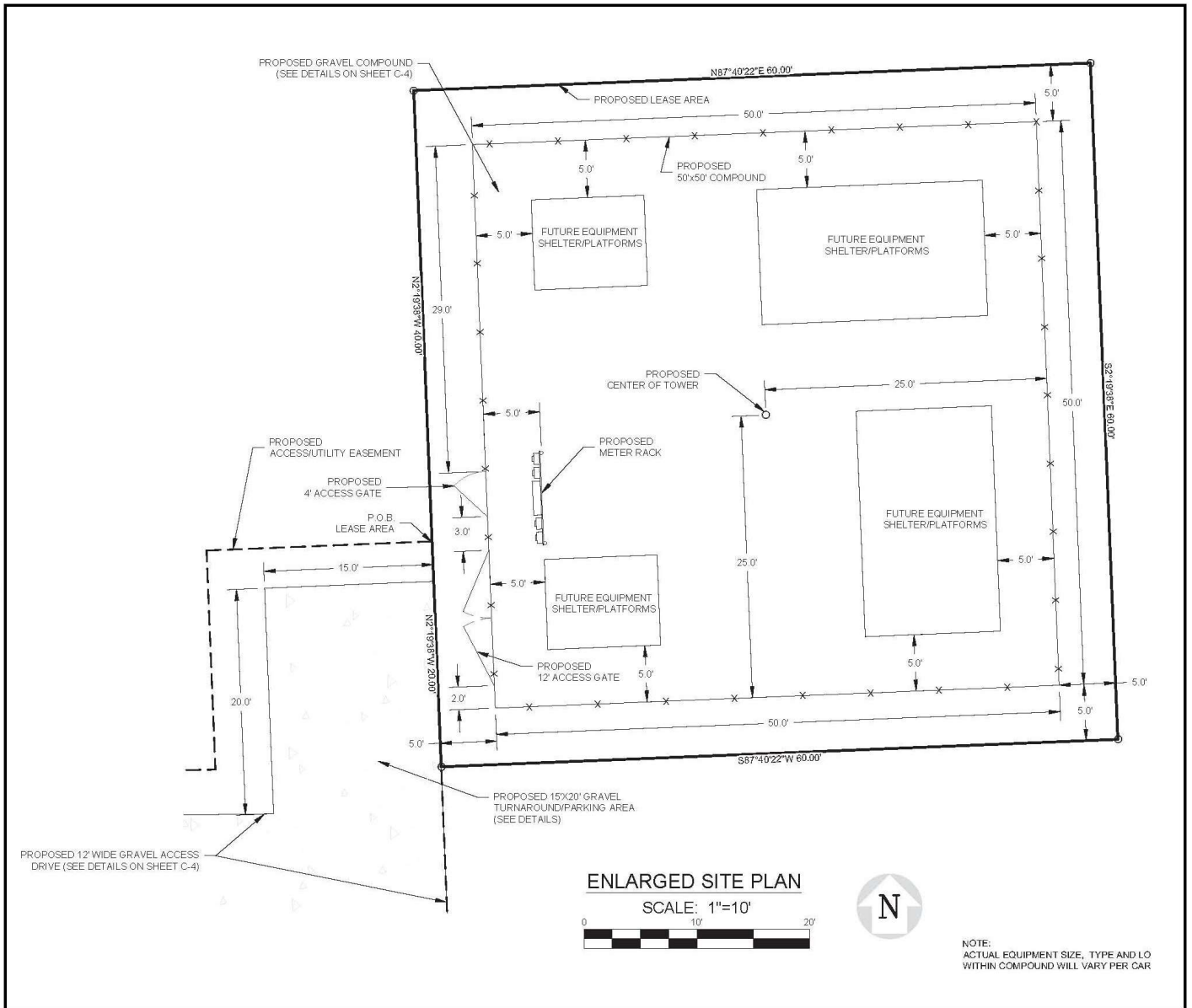


Figure 7 – Leased & Ground Compound Areas