DW Tower, LLC

PROPOSED
THOMPSON LEDGE
COMMUNICATIONS TOWER FACILITY

DW TOWER LLC - APPLICANT

Conditional Use Permit Application
Boulder, Utah

October 20, 2020

DW TOWER LLC
CONDITIONAL USE PERMIT APPLICATION
"THOMPSON LEDGE" WIRELESS COMMUNICATIONS FACILITIES

October 20, 2019

PART A – PROPOSAL

DW Tower LLC (DWT) proposes to construct a new wireless telecommunications facility on Thompson Ledge at the existing tower facility. Thompson Ledge is within the Town of Boulder Utah. The property is owned by Peterson Boulder Ranch LP and is the location of an existing 60-foot-tall communications tower and four wood poles on which antennae are attached. Detailed property information is found in Figure 1. The Proposed Facility is located on Thompson Ledge as shown on the detailed location map (Figure 2 and Photo 1). The proposed new communications facility is designed for colocation and use by multiple FCC licensed wireless carriers and the existing uses. The proposed facility will provide tower and equipment space for the DWT microwave system and can serve as a wireless coverage site for the high-density use areas within the Town of Boulder.

Figure 1 – Property Information

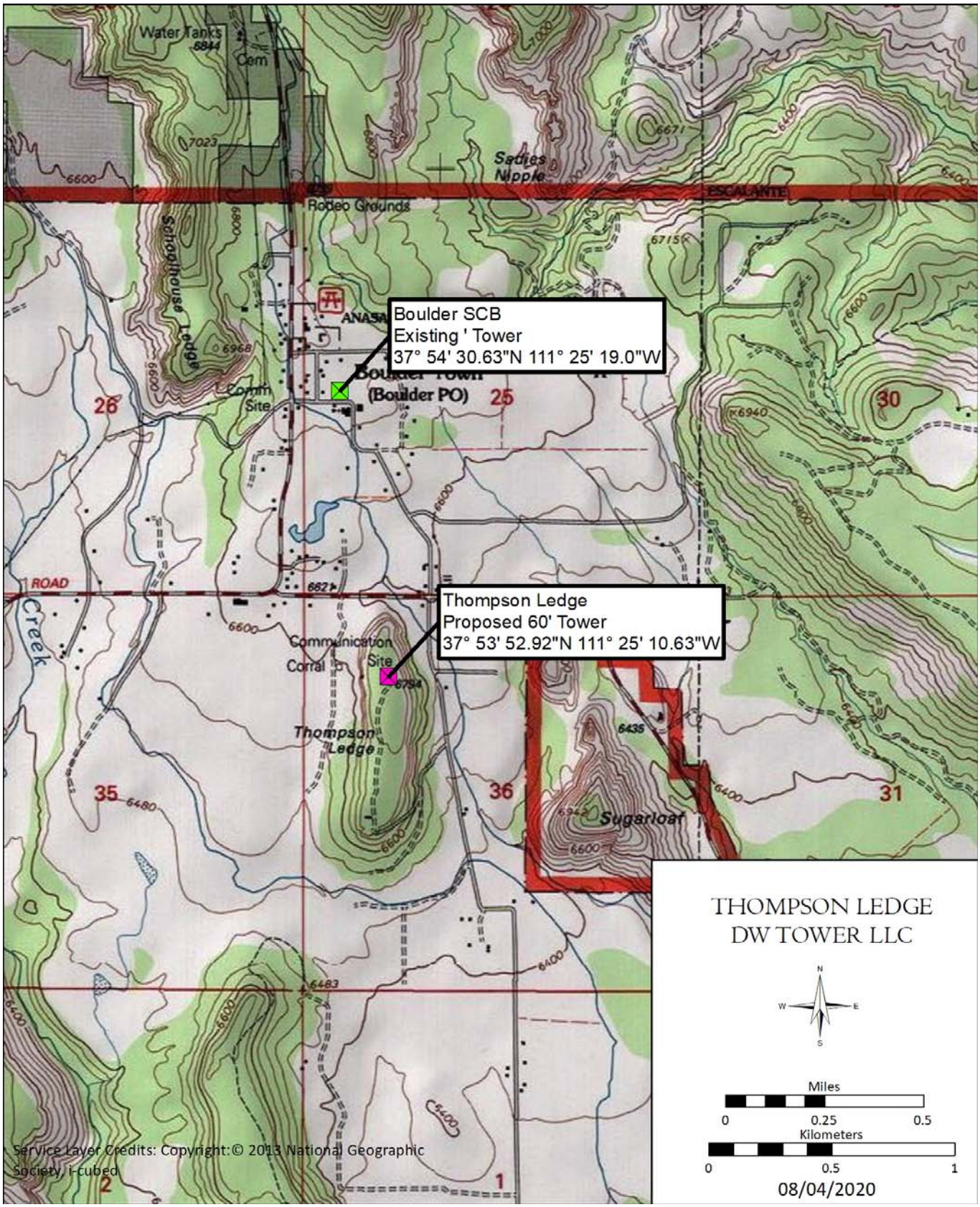

Figure 2 – Location Map

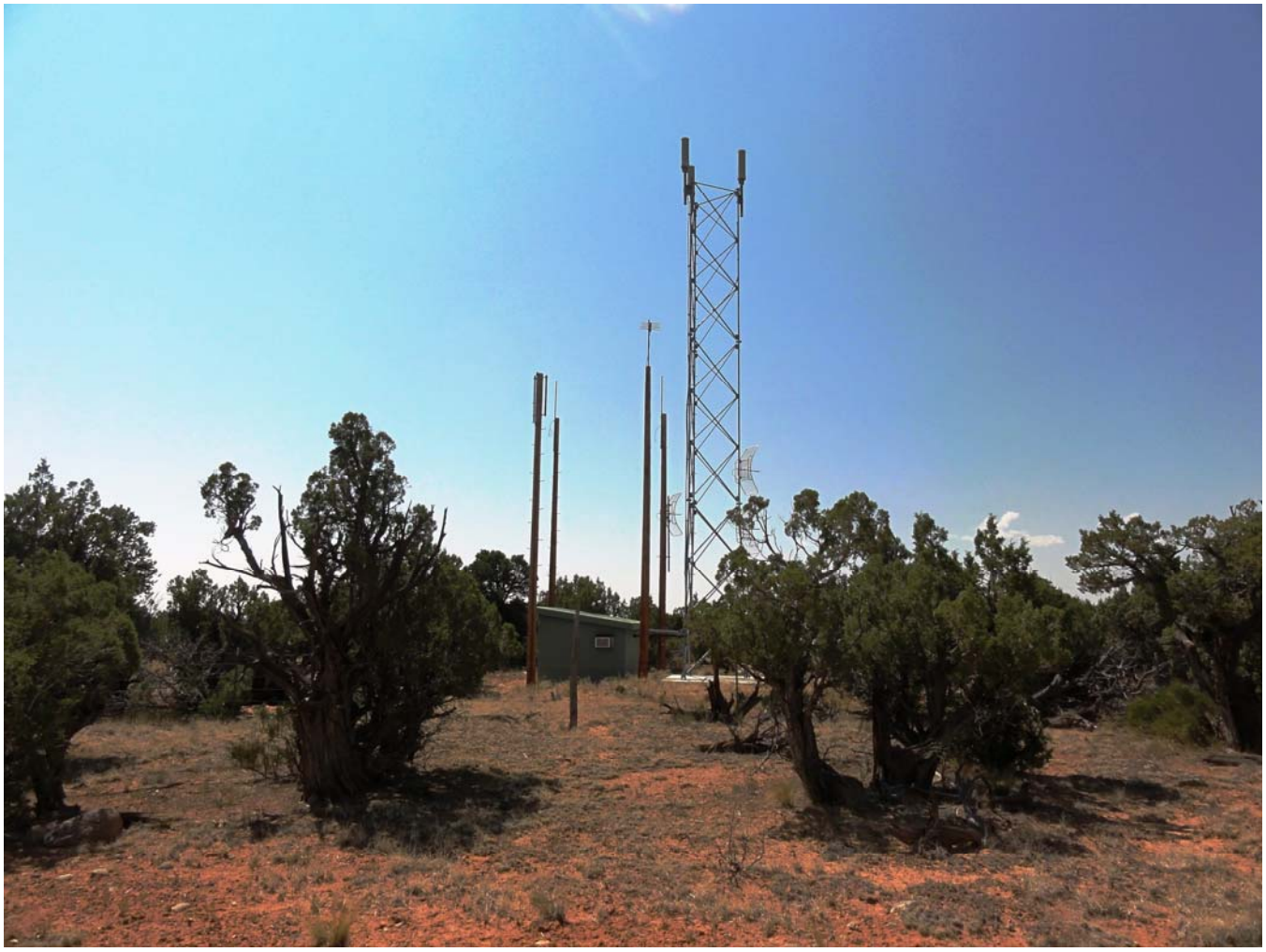

Photo 1- Existing Tower facility site looking southeast.

The major components of the proposal are depicted on the site plan drawings (Appendix B) and are summarized as follows:

1. The proposed facility is designed to replace and re-develop the existing communications facility with a new and modern facility that will accommodate the DWT microwave system with a 10-foot microwave dish, all antennae currently located on the existing tower, and three wireless carriers. The proposed facility will consist of one free standing lattice tower 60 feet above ground level (AGL) within a 50-foot by 50-foot fenced compound to accommodate three wireless carriers and local emergency service agencies radio equipment if desired (Appendix B). A lattice tower can accommodate more uses as compared to a monopole tower.
2. The proposed 60-foot-tall tower facility will be located on Thompson Ledge adjacent to the existing tower and equipment shelter. After construction of the new tower, the existing antennae will be removed from the old tower and placed on the new tower. After that the old tower and telephone poles will be removed leaving a single tower capable of accommodating multiple users.

3. Currently the Thompson Ledge tower site is used for low power television broadcast. DWT radio frequency (RF) engineers confirmed the proposed tower and new uses (wireless carriers) will not interfere with the television broadcast frequencies.
4. The tower will be treated with a product called Natina which turns shiny galvanized steel into a rusty brown color which helps it blend with the surrounding topography. All antennae and microwave dishes will also be painted rusty brown to reduce the visual impacts associated with the facility.
5. Electrical power will be provided by Garkane. Energy from existing infrastructure near the site. Fiber optic line will be brought in overhead on the existing power line.
6. Lighting – There will be no exterior lights in the compound and aviation hazard lights are not required on the tower.

PART B – SITE SELECTION RATIONALE/PURPOSE AND NEED

1. Site Selection Rationale and Purpose and Need For the proposal

The rationale for the proposed Thompson Ledge Tower facility is based on the need for a strategically located single colocation communications facility that will improve wireless serviced in the town of Boulder. The proposed tower at Thompson Ledge is strategically located to provide a colocation facility that can provide improved reliable wireless service to the Town of Boulder.

Thompson Ledge is the site of an existing 60-foot tall tower facility. The Thompson Ledge communications site has access to electrical power and fiber optics. However, the existing tower on Thompson Ledge is not structurally capable of accommodating the DW microwave dish and multiple wireless carrier antennae.

There is also a need for microwave connectivity from Boulder to Mount Pennell. Thompson Ledge has line-of-site to Mount Pennell. This line-of-site enables DWT to have a microwave shot to Mount Pennell which will then be relayed to towers in the Bullfrog area at Lake Powell. This will finally bring bandwidth to the Bullfrog area vastly improving their wireless telephone service and broadband internet opportunities for visitors, residents, and the school.

Propagation studies were run to predict potential wireless service from the Ledge at 60 feet AGL to determine the proper height of a tower that would offer three antennae positions at heights that will provide adequate coverage for the three carriers that are active in the area (Appendix C). With a 60 feet AGL tower, all three carriers can operate effectively. A shorter tower would make the lower antenna positions less effective and may require an additional tower in the future.

The existing South-Central Communications (SCC) facility in Boulder does have line of sight to Mount Pennell for a microwave shot. Due to the need for a microwave shot to Mount Pennell and the need for improved wireless service at Boulder and Highway 12 the DWT Radio Frequency team investigated to see if the nearest sites, specifically the existing SCC facility near the school could be updated or modified to provide improved coverage within the Town. Propagation studies confirmed that the wireless service area from carriers operating at the existing SCC site would be inferior to that from Thompson Ledge (Appendix C).

Site Selection Rationale – Alternatives and Environmental Factors

After technical analysis DWT then looked at the environmental factors of potential alternatives to determine the best location from an environmental and technical aspect without regard to land ownership or government jurisdiction.

DWT concluded that because of the higher elevation of the existing Thompson Ledge facility, and the fact that the site is existing and previously impacted by a tower, this location is superior to the existing facility near the school. The Thompson Ledge location is superior to the other alternatives for meeting the service objective and visual objectives and is located away from the school, church, business district, and residential areas.

2. Visual Analysis

Visual analysis of the proposed Thompson Ledge facility was conducted using visual simulations (Appendix B) of the proposed new tower from strategic locations throughout the community.

DWT submits that the proposed location for the Thompson Ledge tower at 60 feet AGL is acceptable and consistent with the Town of Boulder's zoning because the proposal will not add towers to the existing site. It will actually reduce the number of vertical intrusions because the existing antennae on the poles and existing tower will be consolidated onto one colocation tower (Appendix B).

PART C – FINDINGS

Pursuant to **Section 1021 Wireless Communication Towers and Facilities** of the Town of Boulder Zoning Ordinance, DWT submits that the proposal meets the following criteria:

The proposed use will require a Conditional Use Permit in Open Space Zone.

This proposal conflicts with section 1021 in that the proposed facility is located on a mesa and the proposed tower exceeds the 50-foot height limitations for towers. DWT submits that this this proposal warrants approval by special exception at this location because of the following:

1. There are no existing towers in the area that provide the height and location to fulfill coverage objectives for the carriers
2. Thompson Ledge is an existing communications tower facility with an existing 60-foot tall tower. The DWT proposal replaces the existing tower with a tower of equal height and removes the telephone poles at the site. Therefore, the DWT proposal maintains or actually improves visual impacts associated with the Thompson Ledge communications site while providing a single tower capable of multiple wireless carrier tenants and other users. (Appendix A)
3. The proposed location is previously disturbed by the existing tower facility including roads, power transformers, a tower, and telephone poles used to attach antennae. The proposed facility will provide the Town with a modern communications facility strategically located in Town to provide improved wireless service for multiple carriers and the existing uses on a single 60-foot tall tower.
4. The proposed location of the tower and facilities will not be detrimental to the public health, safety, or welfare, or affect the existing property and improvements. The addition of a wireless

facility at this location will improve emergency communications and therefore have a beneficial effect to public health and safety. The tower is located far enough away from other property owners to have minimal impact and will meet FCC health and safety standards for radio frequency radiation (RF) exposure.

PART D – OPERATIONS

Electricity

Electrical power will be provided by Garkane Energy. Power will be supplied from existing infrastructure at the site.

Access and Road Maintenance

The proposed facility will use existing road to the Peterson property for access. The road is adequate for construction and operation of the communications site. DWT will help maintain the road.

Number and Type of Uses

The proposed facility is primarily designed to provide tower space and equipment shelter for FCC licensed Personal Communications Services (PCS), cellular, and other radio-based services that interconnect with the public switched telephone network. The facility proposed by DWT will provide space for up to three wireless carrier tenants, the DWT microwave system, the existing television broadcast antennae, and government emergency services agencies, if needed. The design of the compound will accommodate expansion of services if and when additional tower and equipment shelter space is needed. The initial proposed facility development that could accommodate up to three wireless carriers is expected to be adequate for foreseeable future.

Management and Maintenance

DWT will use in-house resources for performing Facility Owner Manager (FOM) duties for operations support at the proposed Ebert site. DWT owns and operates multiple sites in this area, consequently has a FOM program in place for the area to effectively respond to any operational support needs. DWT will ensure that all tenant equipment is operated in accordance with the industry acceptable technical standards. DWT will use in-house and in-place resources to maintain the proposed facility.

Carrier Interest

DWT has established FOM/tenant business relationships with Verizon, AT&T, FirstNet, T-Mobile, and Commnet.

APPENDICIES

A. **Photo Simulations**

B. **Site Plan Drawings**

C. **Propagation Study**

D. **DWT Corporate Information**