

## STAFF REPORT FOR PLANNING COMMISSION MEETING OF OCTOBER 27, 2021

FILE NO: LU-2021-0296

AGENDA ITEM: 6.C

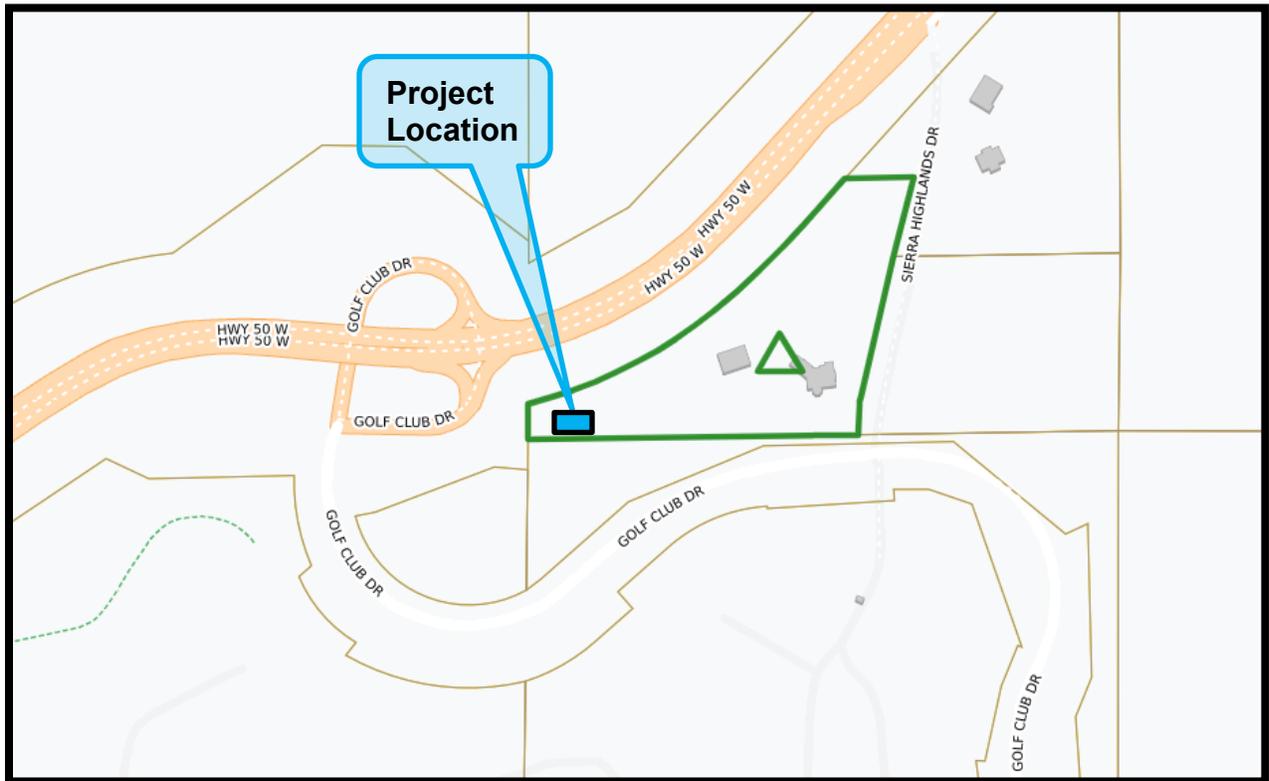
STAFF CONTACT: Heather Manzo, Associate Planner

**AGENDA TITLE:** For Possible Action: Discussion and possible action regarding a request for a special use permit to allow for collocation of wireless facilities on an existing stealth monopine communication tower on a property zoned Single Family 5 Acres ("SF5A"), located at 5364 Sierra Highlands Drive, APN 007-051-66. (Heather Manzo, [hmanzo@carson.org](mailto:hmanzo@carson.org))

Summary: The applicant is proposing collocated facilities at an existing 98-foot tall stealth monopine communications facility site. The proposal includes installation of new antennas and associated ground equipment within the existing footprint of the lease area. This proposal will not result in an increase to the monopole height. Per Carson City Municipal Code ("CCMC") Section 18.15 (Communication Facilities and Equipment), wireless communication facilities, including collocated facilities, are not permitted within residential zoning districts without first obtaining approval of a special use permit. The Planning Commission is authorized to approve a special use permit.

**PROPOSED MOTION:** "I move to approve special use permit LU-2021-0296, based on the ability to make all findings and subject to the conditions of approval contained in the staff report."

### VICINITY MAP:



**RECOMMENDED CONDITIONS OF APPROVAL:**

1. The applicant must sign and return the notice of decision for conditions for approval within 10 days of receipt of notification. If the notice of decision is not signed and returned within 10 days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.
2. All development shall be substantially in accordance with the development plans approved with this application, except as otherwise modified by these conditions of approval.
3. All on- and off-site improvements shall conform to City standards and requirements.
4. The applicant shall meet all the conditions of approval and commence the use for which this permit is granted, within 12 months of the date of final approval. A single, one-year extension of time may be granted if requested in writing to the Planning Division at least 30 days prior to the one-year expiration date. Should this permit not be initiated within one-year, and no extension granted, the permit shall become null and void
5. The applicant shall submit a copy of the signed notice of decision, conditions of approval, and explanation of how the request addresses each condition with the building permit application.
6. Construction shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 7:00 a.m. and 5:00 p.m. on Saturdays. Construction activities on Sunday shall be prohibited. A note to this effect shall be placed on the building permit plans.
7. At least 10 days prior to the commencement of construction, the applicant shall provide written notification to the owner of 5364 Sierra Highlands Drive. At a minimum, the notice shall include the anticipated construction timeline. Should the construction timeline be extended, the applicant shall notify the property owner of the new anticipated completion date. The applicant shall send the notification(s) to the Carson City Community Development Department with a reference to Case No. LU-2021-0296.
8. On-site lighting of the ground facility shall only be turned on during maintenance visits to the site. Lights must be recessed or shielded with a 90-degree full cutoff so that light is projected downward and not horizontally or upward. Light sources or refractors shall not extend below the bottom of the shield.
9. Prior to the issuance of a permit, the applicant shall demonstrate that all new ground-mounted equipment shall be painted in a manner that is consistent with the existing equipment. Any observed damage to the existing screen fence shall be repaired as part of the construction of this project.
10. Prior to the issuance of a permit, the applicant shall demonstrate that 24 hour emergency contact information is posted at the site or that a sign with this information will be installed with the construction of this project.

**LEGAL REQUIREMENTS:** CCMC 18.02.080 (Special Use Permits), 18.04.040 (Permitted Uses within the Single Family 5 Acre (SF5A) zoning district), 18.15 (Communication Facilities and Equipment), and Development Standards Division 1 Land Use and Site Design at 1.9 (Wireless

Telecommunication Facilities and Equipment).

**MASTER PLAN DESIGNATION:** Rural Residential (5-20 acres per dwelling unit)

**PRESENT ZONING:** Single Family-5 Acre

**KEY ISSUES:** Will the proposal be in keeping with all the standards of the Carson City Municipal Code?

#### **SURROUNDING ZONING AND LAND USE INFORMATION**

WEST: Conservation Reserve ("CR") / State of Nevada owned vacant land

EAST: SF5A / Single Family Residence and vacant parcel

NORTH: CR & Public Regional ("PR") / US HWY 50 West and vacant land

SOUTH: CR / State of Nevada owned vacant land

#### **ENVIRONMENTAL INFORMATION**

FLOOD ZONE: Zone D no special flood mitigation is required

EARTHQUAKE FAULT: Beyond 500 feet away which as a slip rate between 1 and 5 mm/year

SLOPE: The site has a slope of approximately 21%

#### **SITE DEVELOPMENT INFORMATION**

LOT SIZE: 5.51 acres (900 square foot ground leased area)

STRUCTURE SIZE/HEIGHT: Collocation of antennas and ancillary equipment to an existing 98-foot tall stealth monopole (monopine), within a 900 square foot lease area containing the stealth monopine pole and supporting equipment.

SETBACKS: Front = 100, Side = 50, Street Side = 50, Rear = 50

VARIANCES REQUESTED: None

#### **PREVIOUS REVIEWS**

- SUP-040-157 and VAR-04-158 – November 17, 2004, the Planning Commission approved the construction of a new stealth wireless communications facility and associated ground equipment. The request included a special use permit for the establishment of the use within a residentially zoned property and a variance to allow for a reduction to the required rear yard setback.

#### **DISCUSSION:**

CCMC Chapter 18.15 *Communication Facilities and Equipment* notes that wireless telecommunication facilities are prohibited in the SF5A residential zoning district except when a special use permit for a proposed new facility or collocation at an existing facility is first approved by the Planning Commission.

It is worth noting that wireless telecommunication facilities are regulated by the Federal Telecommunications Act of 1996 which prohibits local governments from adopting ordinances that impose unreasonable barriers to the siting of towers/antennas and the provision of wireless service. Local governments cannot write regulations that would: 1) discriminate among providers of functionally equivalent services; 2) prohibit, or effectively prohibit, wireless service provisions; or 3) regulate personal wireless service facilities based on environmental effects of radio frequency emissions, assuming the facilities comply with the Federal Communications Commission ("FCC") regulations related to radio frequency.

The Federal Telecommunications Act also requires local governments to review applications in a

timely manner and sets timeframes for review and decision regarding such applications. Additionally, in the event an application is denied, the local government must include a written explanation for the denial, substantiated by evidence.

Local governments do have the ability to regulate telecommunication facilities to a certain extent. Regulations may include permitted locations and design elements of towers and antennas, setbacks and screening requirements, “stealth” design standards, and different standards for residential zones, historic districts, or environmentally sensitive areas.

The regulations for such facilities within the CCMC are based on the federal requirements, which are generally intended to facilitate the provision and expansion of the wireless service network nationwide while retaining zoning control at the local government level.

**PUBLIC COMMENTS:** On October 7, 2021, public notices were mailed to 33 adjacent property owners 6,500 feet of the subject site. As of the writing of this report staff has not received any comments regarding the request. Any comments that are received after this report is completed will be submitted to the Planning Commission prior to or at the October 27, 2021 meeting, depending on the date of submission of the comments to the Planning Division.

**OTHER CITY DEPARTMENTS OR OUTSIDE AGENCY COMMENTS:** The following comments were received by various City departments. Recommendations have been incorporated into the recommended conditions of approval, where applicable.

**Carson City Fire Department:**

1. The project must comply with the International Fire Code (“IFC”) and northern Nevada amendments, as adopted by Carson City.

**Carson City Development Engineering Division:**

The Engineering Division has no preference or objection to the special use request provided that the following conditions are met:

- The project will need to meet all code requirements, design standards, and standard details.

The Engineering Division has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses. The Engineering Division offers the following discussion:

**CCMC 18.02.080(5)(a) - Master Plan**

The request is not in conflict with any Master Plan elements.

**CCMC 18.02.080(5)(b) – Use, Peaceful Enjoyment, Economic Value, Compatibility**

The Engineering Division has no comment on this finding.

**CCMC 18.02.080(5)(c) - Traffic/Pedestrians**

Local intersections: The closest intersection is Sierra Highlands Drive and Golf Club Drive, both streets are classified as local streets. Parking and internal circulation: The existing wireless communications facility is located on a developed single family residential parcel. Adjacent Streets On-Street Parking: There is no paved on-street parking.

**CCMC 18.02.080(5)(d) - Public Services**

Sanitary Sewer: This parcel is currently served via septic.

Water: This parcel is currently served via well.  
Storm Drain: The site currently drains to an 18-inch reinforced concrete to the south of the property. There are no noted drainage issues.

**CCMC 18.02.080(5)(e) – Title 18 Standards**

The Engineering Division has no comment on this finding.

**CCMC 18.02.080(5)(f) – Public health, Safety, Convenience, and Welfare**

The project meets will meet engineering standards for health and safety.

**CCMC 18.02.080(5)(g) – Material Damage or Prejudice to Other Property**

The Engineering Division has no comment on this finding.

**CCMC 18.02.080(5)(h) – Adequate Information**

The plans and reports provided were adequate for this analysis.

**Health Department:** No noted concerns.

**FINDINGS:** The staff recommendation is based upon the findings as required by CCMC 18.02.080 (Special Use Permits) enumerated below and substantiated in the public record for the project.

***1. Will be consistent with the master plan elements.***

The proposed collocation on an existing facility supports cellular coverage, a service provided universally to residents, the traveling public, tourists, and businesses. Goal 1.5 of the Master Plan calls for the City to cooperate and coordinate services for infrastructure, schools, etc. The proposed project is also consistent with Goal 3.2, Protect Visual Resources, Issue 3.2c, Communication Facilities and Equipment. The proposed equipment will be located in a manner where the antenna are above the monopine limbs and the ground mounted equipment will be stored within the existing screened enclosure.

***2. Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and will cause no objectionable noise, vibrations, fumes, odors, dust, glare or physical activity.***

Since the proposal is to collocate equipment within an existing facility, the proposed project, as designed and conditioned, will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood. The project will not cause objectionable noise, vibrations, fumes, odors, dust, glare or physical activity. The ground mounted portions of the facility will be screened from view. Once construction is complete, the site will function very similarly to how it operates today. **Condition No. 6** is recommended to limit the construction hours since the site is located on a single-family residential lot. **Condition No. 7** is recommended to provide the owner of the residence with notification of the commencement of construction activity to ensure that potential conflicts may be avoided. The notice will also be sent to the Carson City Community Development Department to demonstrate compliance with this condition.

***3. Will have little or no detrimental effect on vehicular or pedestrian traffic.***

Once the equipment is installed, traffic to the site will be related to maintenance of the equipment and facility. The facility is accessed from existing easements and a long-term land lease is in

effect. The proposal will not have an impact on vehicular or pedestrian traffic.

***4. Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public improvements.***

The facility will be un-manned and therefore will not require the extension or expansion of any public services and facilities are adequate in the area to accommodate the proposed facility.

***5. Meets the definition and specific standards set forth elsewhere in this title for such particular use and meets the purpose statement of that district.***

Pursuant to CCMC 18.04.040, the SF5A zoning district is intended to provide for low-density residential development on large lots which convey a rural environment. Pursuant to CCMC 18.15.025, the applicant is requesting approval of a Special Use Permit to collocate additional wireless telecommunication antenna and equipment on an existing site with a stealth monopine tower.

Division 1.9 of Carson City Development Standards must also be met. A majority of the standards set forth in Division 1.9 were met when the original facility was constructed. Since the request is to collocate within an existing facility that will not result in a change to the structure height nor the size of the lease area. The applicant is proposing the antenna and pole-mounted equipment located in a manner where the branches and existing screen fence will mitigate the potential visual impacts normally associated with this type of use. Division 1.9 requires that lighting only be provided when required by the Federal Aviation Administration (“FAA”) and that 24-hour emergency contact information be posted at the site. If emergency contact information is not currently posted at the site, **Condition No. 10** is recommended to require the applicant to post this information as part of this project.

***6. Will not be detrimental to the public health, safety, convenience, and welfare.***

The proposed collocated antennas and equipment will not be detrimental to the public health, safety, convenience and welfare, and will cause no adverse impacts to surrounding properties. The request will expand services available without the need for another individual monopole in the area. Per the Federal Telecommunications Act, it has been determined that electromagnetic waves emitted by or to such facilities are not a public health risk and may not be considered in reviewing an application.

***7. Will not result in material damage or prejudice to other property in the vicinity.***

As noted above, the impacts of the proposed facility, with the recommended conditions of approval, will be minimal and will not result in material damage or prejudice to other property in the vicinity as the proposal is to add new antenna and equipment to an established facility.

**Carson City Planning Division**  
 108 E. Proctor Street • Carson City NV 89701  
 Phone: (775) 887-2180 • E-mail: [planning@carson.org](mailto:planning@carson.org)

FOR OFFICE USE ONLY:

CCMC 18.02.080

## SPECIAL USE PERMIT

### FILE #

**FEE\*:** \$2,450.00 MAJOR  
 \$2,200.00 MINOR (Residential zoning districts)  
 + noticing fee  
 \*Due after application is deemed complete by staff

**APPLICANT** PHONE #  
 Dish Wireless L.L.C. (Irina Gardini - agent) 646-266-3061

**MAILING ADDRESS, CITY, STATE, ZIP**  
 1 Park Place, suite 300, Dublin, CA 94568

**EMAIL ADDRESS**  
 irina.gardini@crowncastle.com

**PROPERTY OWNER** PHONE #  
 GLOBAL SIGNAL ACQUISITION 941-308-5986

**MAILING ADDRESS, CITY, STATE, ZIP**  
 PO BOX 277455, Atlanta, GA 30384-7455

**EMAIL ADDRESS**

**APPLICANT AGENT/REPRESENTATIVE** PHONE #  
 Irina Gardini 646-266-3061

**MAILING ADDRESS, CITY STATE, ZIP**  
 1 Park Place, suite 300, Dublin, CA 94568

**EMAIL ADDRESS**  
 irina.gardini@crowncastle.com

- SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 Copies) including:**
- Application Form
  - Detailed Written Project Description
  - Site Plan
  - Building Elevation Drawings and Floor Plans
  - Special Use Permit Findings
  - Master Plan Policy Checklist
  - Applicant's Acknowledgment Statement
  - Documentation of Taxes Paid-to-Date
  - Project Impact Reports (Engineering)

- CD or USB DRIVE with complete application in PDF**

**Application Received and Reviewed By:**

**Submittal Deadline:** Planning Commission application submittal schedule.

**Note:** Submittals must be of sufficient clarity and detail for all departments to adequately review the request. Additional information may be required.

<u>Project's Assessor Parcel Number(s):</u> 007-051-66	<u>Street Address</u> 5364 SIERRA HIGHLAND DR Carson City, NV 89703
---	--

<u>Project's Master Plan Designation</u>	<u>Project's Current Zoning</u> UTL 780	<u>Nearest Major Cross Street(s)</u> Golf Club Drive
--	--	---

Please provide a brief description of your proposed project and/or proposed use below. Provide additional pages to describe your request in more detail.  
 Install antennas, ancillary tower and ground equipment etc. at an unmanned wireless facility with no change to structure height or ground space

### PROPERTY OWNER'S AFFIDAVIT

I, Jim Heinrich, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

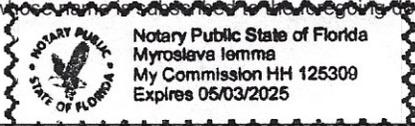
<u><i>Jim Heinrich</i></u>	<u>200 Spectrum, Suite 1700, Irvine, CA 92618</u>	<u>7/9/21</u>
Signature	Address	Date

Use additional page(s) if necessary for additional owners.

STATE OF ~~NEVADA~~ FL )  
 COUNTY Broward )

On August 13, 2021, Jim Heinrich, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

*M. L...*  
 Notary Public



**NOTE:** If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.

## SPECIAL USE PERMIT CHECKLIST

Each application must include the following:

1. Detailed Written Project Description
2. Special Use Permit Findings
3. Master Plan Policy Checklist
4. Documentation of Taxes Paid to Date
5. Project Impact Reports: Provide documentation regarding project impacts related to traffic, drainage, water, and sewer, including supportive calculations and/or reports required per the Carson City Development Standards, Divisions 12, 14 and 15. Contact Development Engineering to determine if these are necessary for your project at (775) 887-2300.
6. Building Elevation Drawings and floor plans
7. Site plan including the following information:
  - a. The site plan shall be drawn on quality paper (minimum size of 8.5 inches by 11 inches) at an appropriate scale or dimension to depict the parcel. Any site plan larger than 8.5 inches by 11 inches must be folded.
  - b. Show a north point arrow and site plan scale. A bar scale is preferred because when the drawings are reduced, it will still show an accurate scale. A bar scale could appear like this for a project that has a scale of one inch equals 20 feet on the original site plan:



- c. Vicinity map must be shown on the site plan. This is a map, not to scale, that you would provide a visitor unfamiliar with the area as directions to get to your property. It will show adjacent streets.
    - d. Title block in lower right-hand corner including:
      - i. Applicant's name, mailing address, and daytime phone number (including area code).
      - ii. The name, mailing address, and daytime phone number of the person preparing the site plan, if different from applicant.
      - iii. The name, mailing address, and daytime phone number of the record owner of the subject property, if different from applicant.
      - iv. Assessor Parcel Number(s) (APN) and address (location, if no address) of the subject property.
      - v. Project title and permit request. (Example: Variance, Special Use Permit).
8. Property lines of the subject property with dimensions indicated.
9. All existing and proposed structures shall be shown, including:
  - a. Distances from property lines indicated by dimensions.
  - b. Distances between buildings shall be indicated on the site plan.
  - c. Clearly label existing and proposed structures and uses, and show dimensions.
  - d. Square footage of all existing and proposed structures.
  - e. If a commercial or multi-family project, show all elevations and submit roof plans showing all proposed roof equipment and means of screening from view along with plans for trash receptacle screening and loading/unloading area location and design.
  - f. Elevations of any proposed structures/additions.
  - g. All easements.
10. Show curb, gutter, sidewalks, ADA facilities, PFD, circulation.
11. Project access:
  - a. Show the location of proposed street access and all existing accesses of neighboring properties including across the street.
  - b. Show adjoining street names.
  - c. Show all curb cuts with dimension.
12. Show the Assessor Parcel Number(s) of adjoining parcels.

13. Show all existing and proposed parking, landscape islands and traffic aisles, with dimensions. If you are requesting approval for off-site parking within 300 feet, provide site plans showing (1) parking on your site, (2) parking on the off-site parking lot, and (3) how much of the off-site parking area is required for any business other than your own.
14. Show location of existing and proposed utilities and drainage facilities, and indicate whether overhead or underground. Show the location of any septic lines/fields.
15. If specific landscape areas are required or provided, show with dimensions.
16. Show location of all proposed amenities, such as gazebos, retaining walls, retention areas, etc.

## **SPECIAL USE PERMIT APPLICATION FINDINGS**

State law requires that the Planning Commission consider and support the statements below with facts in the record. These are called "FINDINGS". Since staff's recommendation is based on the adequacy of your findings, you need to complete and attach the required findings with as much detail as possible to ensure that there is adequate information supporting your proposal.

**THE FINDINGS BELOW ARE PROVIDED IN THE EXACT LANGUAGE FOUND IN THE CARSON CITY MUNICIPAL CODE (CCMC), FOLLOWED BY EXPLANATIONS TO GUIDE YOU IN YOUR RESPONSE. ON A SEPARATE SHEET TO BE INCLUDED WITH YOUR COMPLETE APPLICATION, LIST EACH FINDING AND PROVIDE A RESPONSE IN YOUR OWN WORDS. ANSWER THE QUESTIONS AS COMPLETELY AS POSSIBLE TO PROVIDE THE PLANNING COMMISSION WITH THE DETAILS NECESSARY TO CONSIDER YOUR PROJECT. IF A FINDING DOES NOT APPLY TO YOUR SITUATION, EXPLAIN WHY.**

**CCMC 18.02.080(5) FINDINGS.** Findings from a preponderance of evidence must indicate that the proposed use:

**1. Will be consistent with the objectives of the Master Plan elements.**

Explanation: Explain how your project will further and be in keeping with, and not contrary to, the goals of the Master Plan elements. Turn to the Master Plan Policy Checklist included with this application. The Master Plan Policy Checklist for Special Use Permits and Major Project Reviews addresses five items that appear in the Carson City Master Plan. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. Address each theme; a check indicates that the proposed development meets the applicable Master Plan Policy. Provide written support of the policy statement in your own words as a part of these findings. For additional guidance, please refer to the Carson City Master Plan document on our website at [www.carson.org/planning](http://www.carson.org/planning) or you may contact the Planning Division to review the document in our office or request a copy.

**2. Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhoods or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise, vibrations, fumes, odors, dust, glare or physical activity.**

- Explanation:
- A. Describe the general types of land uses and zoning designations adjoining your property (for example: North: grocery store, Retail Commercial zoning)
  - B. Explain why your project is similar to existing development in the neighborhood, and why it will not hurt property values or cause problems, such as noise, dust, odors, vibration, fumes, glare, or physical activity, etc. with neighboring property owners. Have other properties in your area obtained approval of a similar request? How will your project differ in appearance from your neighbors? Your response should consider the proposed physical appearance of your proposal, as well as comparing your use to others in the area.
  - C. Provide a statement explaining how your project will not be detrimental to the use, peaceful enjoyment or development of surrounding properties and the general neighborhood.
  - D. If outdoor lighting is to be a part of the project, please indicate how it will be shielded from adjoining property and the type of lighting (wattage/height/placement) provided.

- E. Describe the proposed landscaping, including screening and arterial landscape areas (if required by the zoning code). Include a site plan with existing and proposed landscape shown on the plan which complies with City ordinance requirements.
- F. Explain any short-range and long-range benefit to the people of Carson City that will occur if your project is approved.

**3. Will have little or no detrimental effect on vehicular or pedestrian traffic.**

Explanation: Consider the pedestrian and vehicular traffic that currently exists on the road serving your project. What impact will your development have to pedestrian and vehicular traffic when it is successfully operating? Will additional walkways and traffic lights be needed? Will you be causing traffic to substantially increase in the area? State how you have arrived at your conclusions.

**4. Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.**

- Explanation:
- A. How will your project affect the school district? Will your project add to the student population or will it provide a service to the student population?
  - B. How will your project affect police and fire protection?
  - C. Is the water supply serving your project adequate to meet your needs without degrading supply and quality to others in the area? Is there adequate water pressure? Are the lines in need of replacement? Is your project served by a well? Contact the Development Engineering Division at (775) 887-2300 for assistance with this item, if applicable.
  - D. If your project will result in the covering of land area with paving or a compacted surface, how will drainage be accommodated? Contact the Development Engineering Division at (775) 887-2300 for assistance with this item, if applicable.
  - E. Is there adequate capacity in the sewage disposal trunk line that you will connect to in order to serve your project, or is your site on a septic system? Contact the Development Engineering Division at (775) 887-2300 for assistance with this item, if applicable.
  - F. What kind of road improvements are proposed or needed to accommodate your project? Contact the Development Engineering Division at (775) 887-2300 for assistance with this item, if applicable.
  - G. Indicate the source of the information that you are providing to support your conclusions and statements made in this application (private engineer, Development Engineering, Public Works, Transportation, title report or other sources).

**5. Meets the definition and specific standards set forth elsewhere in Carson City Municipal Code, Title 18 for such particular use and meets the purpose statement of that district.**

Explanation: Explain how your project meets the purpose statement of the zoning district in which it is located and how it meets the specific standards that are set forth in that zoning district. In CCMC Section 18.04, Use Districts, find the zoning district where your property is located. Refer to the purpose statement at the beginning of the zoning district section and explain how your project meets the purpose statement of that district. In addition, find the specific Intensity and Dimensional Standards for your zoning district in either CCMC Section 18.04.190 (Residential) or CCMC Section 18.04.195 (Non-Residential) and explain how your project meets these specific standards. To access the Carson City Municipal Code, visit our website at [www.carson.org/planning](http://www.carson.org/planning).

**6. Will not be detrimental to the public health, safety, convenience and welfare.**

Explanation: Provide a statement explaining how your project will not be detrimental to the public health, safety, convenience and welfare. If applicable, provide information on any benefits that your project will provide to the general public.

**7. Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.**

Explanation: Provide a statement explaining how your project will not result in material damage or prejudice to other property in the vicinity.

If there is any additional information that would provide a clearer picture of your proposal that you would like to add for presentation to the Planning Commission, please be sure to include it in your detailed description.

If there is any additional information that would provide a clearer picture of your proposal that you would like to add for presentation to the Planning Commission, please be sure to include it in your detailed description.

Please type and sign the statement on the following page at the end of your findings response.

**ACKNOWLEDGMENT OF APPLICANT**

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.

*Irina Gardini*

Irina Gardini (agent)

7/8/21

\_\_\_\_\_  
Applicant's Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

September 14, 2021

*Via email only to [HManzo@carson.org](mailto:HManzo@carson.org)*

Heather Manzo  
Associate Planner  
108 E. Proctor Street  
Carson City, NV 89701

**Re: Eligible Facilities Request for Modification of Existing Wireless Facilities Located at 5364 Sierra Highland Drive, Carson City, NV 89703, Crown Castle BU# 828012 (the “Site”) – Supplemental Materials for Special Use Permit Application**

Dear Planner Manzo:

On August 13, 2021, on behalf of our customer Dish Wireless, L.L.C. (“Dish”), Crown Castle USA, Inc. (“Crown Castle”) submitted to the City of Carson City, Nevada (the “City”), its Special Use Permit Application seeking approval of Dish’s request to modify the existing wireless tower located at the Site (hereinafter, the “Application”). As you know, following the City website guidance that the City is a “one stop shop” for permitting, we previously submitted the City’s Community Development – Building Division – Permit Application on June 10, 2021 (the “Original Submission”).<sup>1</sup> With the Original Submission, we provided a cover letter explaining that this proposed work is an “eligible facilities request” (“EFR”) that will not result in a “substantial change” to the existing wireless tower, as such terms are defined by applicable federal law.<sup>2</sup>

Section 6409 mandates that local governments, like the City, “shall approve” and “may not deny” EFRs within a 60-day shot clock or they can be “deemed granted” by operation of law.<sup>3</sup> The 60-day shot clock for reviewing an EFR starts when the applicant takes the “first procedural step” that the City requires as part of its review and submits documentation showing the proposed modification is an EFR.<sup>4</sup> Section

---

<sup>1</sup> The City’s Building and Fire departments approved the Original Submission on July 7. That same day, the City’s Planning department requested that we provide a Special Use Permit Application given that the Site is located within SF5A zone.

<sup>2</sup> The applicable federal law is comprised of a federal statute commonly known as “Section 6409,” which is codified at 47 U.S.C. § 1455(a) and the regulations set forth at 47 C.F.R. § 1.6100 as well as several Federal Communications Commission (“FCC”) Orders interpreting that statute: *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 80 Fed. Reg. 1238-01 (Jan. 8, 2015) (the “2014 Infrastructure Order”); *Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, 85 Fed. Reg. 45126 (July 27, 2020) (the “5G Upgrade Order”); and *Accelerating Wireless and Wireline Deployment by Streamlining Local Approval of Wireless Infrastructure Modifications*, WT Docket # 19-250, RM-11849; FCC 20-153 (Nov. 3, 2020) (the “Compound Expansion Order”) (together, the “FCC Orders”).

<sup>3</sup> 47 C.F.R. § 1.6100(c)(2)-(4); 2014 Infrastructure Order at paras. 135-241; 5G Upgrade Order at para. 7.

<sup>4</sup> 47 C.F.R. § 1.6100(c)(2); 5G Upgrade Order at paras. 16-17; 2014 Infrastructure Order at paras. 214-217.

6409 and the FCC Orders do provide a mechanism for local jurisdictions to toll the 60-day shot clock so that the jurisdiction can review whether the Application meets the afore-mentioned criteria – but such tolling only occurs by the agreement of the parties or a written notice that (a) is provided by the County within 30 calendar days of the start of the shot clock, (b) clearly delineates all missing documents or information and specifies the publicly-available code, ordinance, instruction, or procedures requiring the information; and (c) is limited to information “reasonably related” to whether the request meets 6409(a) requirements.<sup>5</sup>

After we submitted the Application on August 13, 2021, the City requested certain additional information on two different occasions: August 20 and August 24. The purpose of this letter is to respond to these requests by the City. For each request, we will state whether (a) the request is duplicative because the material was already included in the Application or the Original Submission; (b) the request does not toll the 60-day period for review of the Application but we are voluntarily providing the material to ease your review of the Application; or (c) the request does not toll the 60-day period for review of the Application because the request is not “reasonably related” to determining whether the Application is an EFR and, thus, we will not be providing a response. We will address each of your requests in turn.

## **1. Detailed Written Project Description**

Such a request is not “reasonably related” to determining whether the Application is an EFR and, therefore, does not toll the 60-day period for review of the Application. Notwithstanding the foregoing, Crown Castle respectfully refers the City to the cover letter that accompanied the Original Submission and the Special Use Permit Findings Narrative enclosed with today’s submission. *See* No. 4 below. Additionally, Crown Castle explains that, with the Application, Dish proposes modifying the existing wireless tower at the Site by installing (3) antennas, (6) remote radio heads, and (1) over-voltage-protector on the tower. The City will be able to see additional detail set forth in the Construction Drawings included with the Original Submission and attached again herewith.

Specifically, Dish proposes installing (3) JMA Wireless MX08FRO665-20 antennae, (3) Fujitsu TA08025-B604 remote radio heads, (3) Fujitsu TA08025-B605 remote radio heads, and (1) Raycap RDIDC-9181-PF-48 over-voltage-protector on the tower. Dish also proposes installing (1) equipment cabinet on the ground inside the existing compound at the Site. There is no tower extension and no compound expansion proposed as part of this project. Given that the Site is stealthed as a monopine, the proposed project will be installed in such a manner to continue the stealthed nature of the existing wireless tower – the antennae will be painted to match the green exterior of the monopine and concealed as part of the existing structure. This proposed installation is part of Dish’s nationwide effort to deploy its wireless network.

---

<sup>5</sup> *See* 47 C.F.R. § 1.6100(c)(1)-(c)(3); 2014 Infrastructure Order at paras. 214-217.

## **2. Site Plan.**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Construction Drawings included with the Original Submission and/or the Application.

## **3. Building Elevation Drawings and Floor Plan.**

Such a request does not toll the 60-day period for review of the Application because it is irrelevant to the work proposed in the Original Submission and the Application. The Application proposes a modification of the existing wireless tower located at the Site; there are not buildings associated with this request.

## **4. Special Use Permit Findings Narrative.**

Such a request is not “reasonably related” to determining whether the Application is an EFR and therefore does not toll the 60-day period for review of the Application. Notwithstanding the foregoing, Crown Castle has voluntarily provided a Special Use Permit Findings Narrative along with this submission.

## **5. Completed Master Plan Policy Checklist.**

Such a request does not toll the 60-day period for review of the Application because it is irrelevant to the work proposed in the Original Submission and the Application. The Application proposes a modification of the existing wireless tower located at the Site; this proposal is not a new development within the City’s jurisdiction but rather a collocation at any already-existing (and properly approved and permitted) wireless facility. Crown Castle respectfully submits that allowing Dish to collocate at this existing wireless facility, which is what is proposed here, comports with all five themes expressed in your Master Plan Policy Checklist. Specifically, collocation at the existing Site obviates the need to construct a new tower in the areas and is therefore advancing the themes of a balanced land use pattern, economic vitality, livable neighborhoods, and a connected city. Dish simply proposes installing equipment on an existing structure and therefore improving its network and connectivity in your area, aiding your residents amidst these unprecedented times.

## **6. Documentation Regarding Taxes Being Up to Date for the Property.**

Such a request is not “reasonably related” to determining whether the Application proposes an EFR and, accordingly, this request does not toll the 60-day period for review of the Application. Notwithstanding the foregoing, Crown Castle responds as follows: neither Crown Castle nor CCTMO LLC, our tower operator affiliate that operates the existing tower, is aware of any issues with regard to the proper payment of taxes related to operation of the Site, which is located on Tax Parcel ID No. 007-051-66.

**7. Any Engineering Reports Relevant to the Request.**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Structural Analysis and Anchorage Calculations included with the Original Submission and/or the Application.

**8. Technical Specifications, Materials List, and/or Equipment Brochures for The Proposed Use, Including Any Security Barrier Proposed.**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Construction Drawings included with the Original Submission and/or the Application.

**9. Color Samples for All Visible Components Proposed**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Construction Drawings included with the Original Submission and/or the Application. Additionally, Crown Castle is pleased to voluntarily provide the enclosed photographic simulations with today's submission that will indicate colors to the extent relevant to the project. Further, as discussed above, the new equipment will be painted to match the existing state of the monopine located at the Site in order to comply with its intended appearance as a stealthed wireless facility.

**10. Visual Representation, Either Through Photographic Simulations or Other Acceptable Techniques, Of The Proposed Use And Its Location Within The Subject Property. The Graphic Should Include Perspectives from Surrounding Viewpoints, Particularly If Residential In Nature. All Components of The Proposed Use Shall Be Depicted.**

Crown Castle hereby incorporates by reference its request to City's issue No. 9, immediately above, with regard to this request.

**11. All Dimensional Measurements (Length, Height, Width, Circumference, Etc.) of the Proposed Use.**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Construction Drawings included with the Original Submission and/or the Application.

## **12. Proposed Siting and Screening Provisions.**

Such a request does not toll the 60-day period for review of the Application because it is duplicative of materials already provided with the Original Submission and/or the Application. Crown Castle respectfully refers the City to the Construction Drawings included with the Original Submission and/or the Application as well as the photographic simulations provided with today's submission.

## **13. Justification Statement for The Proposed Location and Height Of The Facility.**

Such a request does not toll the 60-day period for review of the Application because it is irrelevant to the project at issue here. The proposed project is not the development of a new facility but rather the simple modification of an already existing – and properly sited and permitted – wireless facility located at the Site. There is not tower height extension nor any compound expansion associated with this project and, thus, this request is irrelevant to your determination of whether the Application is an EFR.

## **14. Documentation that Dish is a Carrier Licensed by The Federal Communications Commission and Has the Legal Right to Install and Use the Proposed Facility.**

Such a request does not toll the 60-day period for review of the Application because it is not “reasonably related” to determining whether the Application is an EFR. Notwithstanding the foregoing, Crown Castle responds as follows: our tower operator affiliate, CCTMO LLC, is the entity that operates the existing Site pursuant to that certain Communications Site Lease Agreement dated August 9, 2004, Carson City County Records Instrument No. 406950, that certain Master Prepaid Lease and Management Agreement dated November 30, 2012, Carson City County Records Instrument No. 435409, and that certain Memorandum of Master Prepaid Lease and Management Agreement dated July 30, 2012, Carson City County Records Instrument No. 437354. CCTMO granted to Dish a license to install, operate, and maintain equipment on the existing tower at the Site with that certain Site Lease Agreement dated July 23, 2021, a confidential agreement between the parties. Thus, with this letter, I can certify for you that our tower operator affiliate CCTMO LLC has granted Dish has the legal right to install, operate, and maintained equipment at the Site.

## **15. Noticing Fee.**

Crown Castle will provide the total amount due by September 21, 2021.

We hope that these additional materials aid in your review of the Application and confirm what we stated in the cover letter that accompanied the Original Submission: that this project is an EFR entitled to streamlined processing and mandatory approval under Section 6409. If the City fails to act on the Application by the expiration of that 60-day review period, the Application is subject to being deemed granted by operation of federal law. If you have any questions, please do not hesitate to contact me. Crown Castle, on behalf of its customer Dish, reserves all rights and remedies under federal law whether

referenced specifically herein, including potentially deeming the Application granted under Section 6409 upon expiration of the 60-day review period.

Best regards,

*/s/ Kiely Lewandowski*

Kiely Lewandowski

Attorney

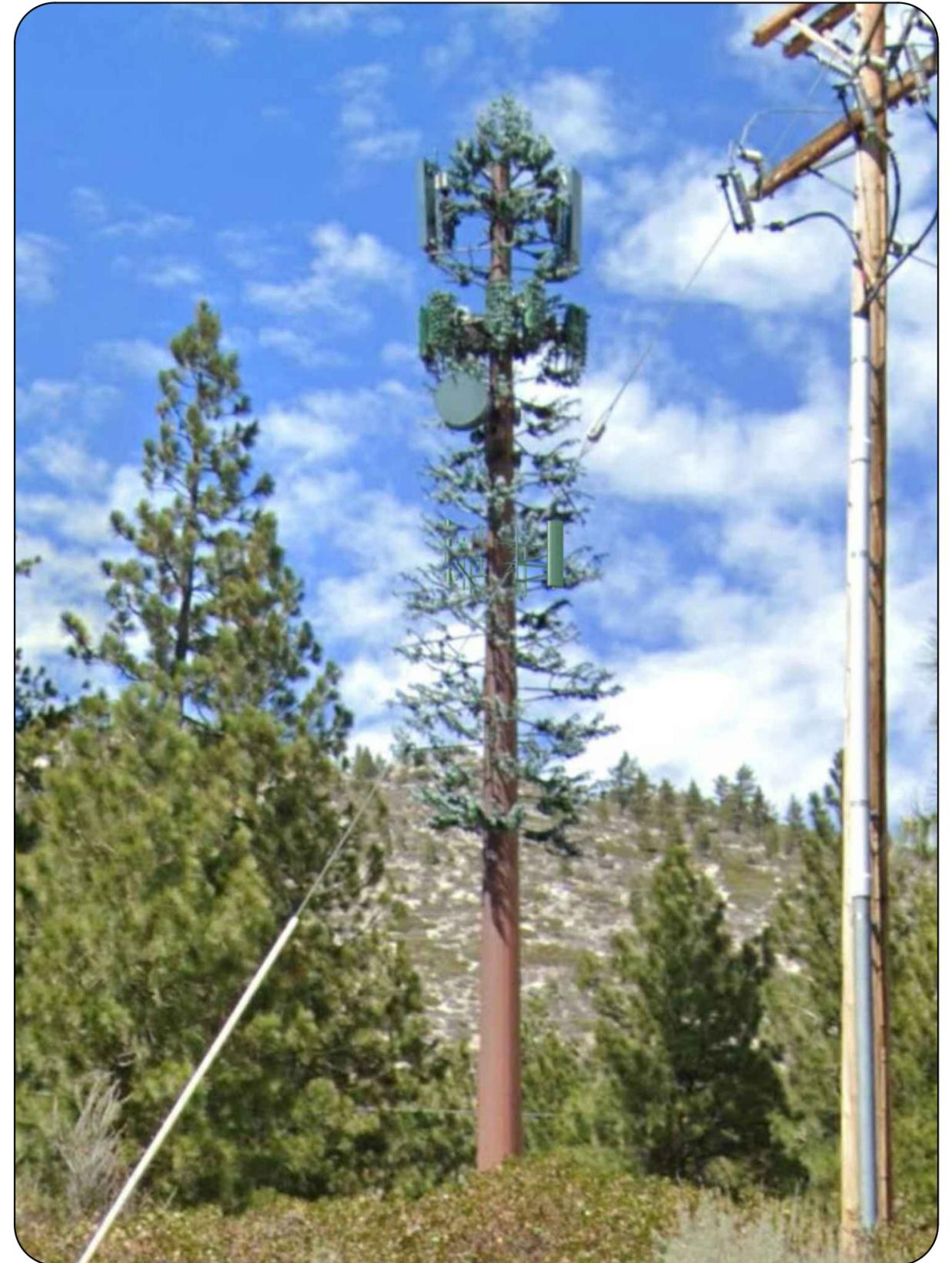
[kiely.lewandowski@crowncastle.com](mailto:kiely.lewandowski@crowncastle.com)

O: 724-743-7788 | (M): 412-491-1918

cc: Irina Gardini, Crown Castle (*via email to [irina.gardini@crowncastle.com](mailto:irina.gardini@crowncastle.com)*)  
Heather Ferris (*via email to [hferris@carson.org](mailto:hferris@carson.org)*)  
Lena Reseck (*via email to [lreseck@casron.org](mailto:lreseck@casron.org)*)



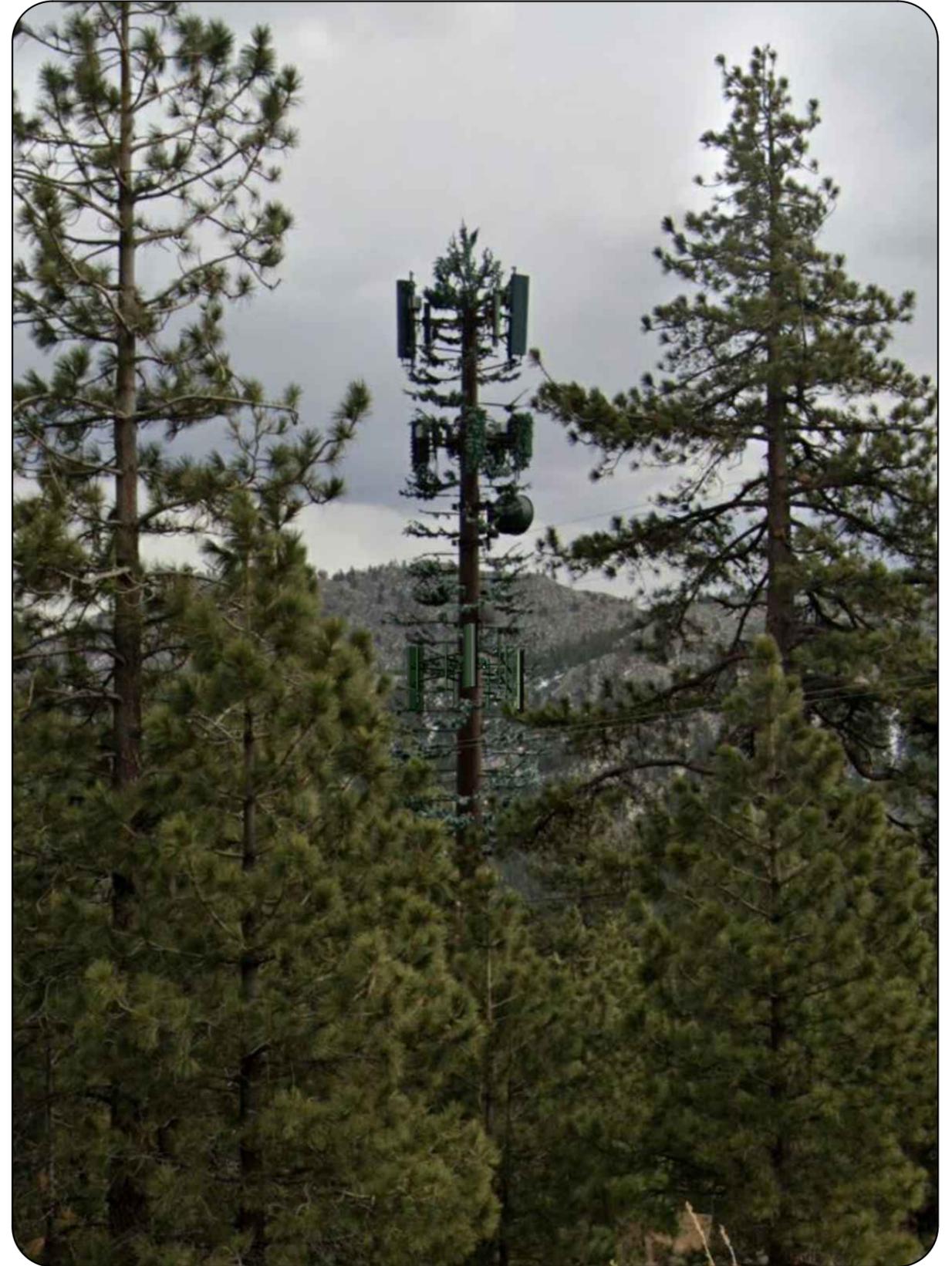
**VIEW 1 EXISTING**



**VIEW 1 PROPOSED**



**VIEW 2 EXISTING**



**VIEW 2 PROPOSED**

October 12, 2021

*Via email only to [HManzo@carson.org](mailto:HManzo@carson.org)*

Heather Manzo  
Associate Planner  
108 E. Proctor Street  
Carson City, NV 89701

**Re: Eligible Facilities Request for Modification of Existing Wireless Facilities Located at 5364 Sierra Highland Drive, Carson City, NV 89703, Crown Castle BU# 828012 (the “Site”) – Second Voluntary Submission of Supplemental Materials for Special Use Permit Application**

Dear Planner Manzo:

As you know, on August 13, 2021, on behalf of our customer Dish Wireless, L.L.C. (“Dish”), Crown Castle USA, Inc. (“Crown Castle”) submitted to the City of Carson City, Nevada (the “City”), its Special Use Permit Application seeking approval of Dish’s request to modify the existing wireless tower located at the Site (hereinafter, the “Application”). The Application proposes an “eligible facilities request” (“EFR”) that will not result in a “substantial change” to the existing wireless tower, as such terms are defined by applicable federal law.<sup>1</sup>

Section 6409 mandates that local governments, like the City, “shall approve” and “may not deny” EFRs within a 60-day shot clock or they can be “deemed granted” by operation of law.<sup>2</sup> The 60-day shot clock for reviewing an EFR starts when the applicant takes the “first procedural step” that the City requires as part of its review and submits documentation showing the proposed modification is an EFR.<sup>3</sup> Section 6409 and the FCC Orders do provide a mechanism for local jurisdictions to toll the 60-day shot clock so that the jurisdiction can review whether the Application meets the afore-mentioned criteria – but such tolling only occurs by the agreement of the parties or a written notice that (a) is provided by the County within 30 calendar days of the start of the shot clock, (b) clearly delineates all missing documents or information and specifies the publicly-available code, ordinance, instruction, or procedures requiring the

---

<sup>1</sup> The applicable federal law is comprised of a federal statute commonly known as “Section 6409,” which is codified at 47 U.S.C. § 1455(a) and the regulations set forth at 47 C.F.R. § 1.6100 as well as several Federal Communications Commission (“FCC”) Orders interpreting that statute: *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 80 Fed. Reg. 1238-01 (Jan. 8, 2015) (the “2014 Infrastructure Order”); *Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, 85 Fed. Reg. 45126 (July 27, 2020) (the “5G Upgrade Order”); and *Accelerating Wireless and Wireline Deployment by Streamlining Local Approval of Wireless Infrastructure Modifications*, WT Docket # 19-250, RM-11849; FCC 20-153 (Nov. 3, 2020) (the “Compound Expansion Order”) (together, the “FCC Orders”).

<sup>2</sup> 47 C.F.R. § 1.6100(c)(2)-(4); 2014 Infrastructure Order at paras. 135-241; 5G Upgrade Order at para. 7.

<sup>3</sup> 47 C.F.R. § 1.6100(c)(2); 5G Upgrade Order at paras. 16-17; 2014 Infrastructure Order at paras. 214-217.

information; and (c) is limited to information “reasonably related” to whether the request meets 6409(a) requirements.<sup>4</sup>

We have already responded to two different requests for additional information from the City: one received on August 20 and one received on August 24. On September 30, 2021, the City responded with three additional questions about the Application. Because these questions were received more than 30 days after we submitted the Application, they are untimely under federal law. Notwithstanding the foregoing, and without waiving any of the federal law rights of our customer Dish, we are pleased to address each of your requests in turn.

- 1. Our code requires utility infrastructure such as cable and power lines to be underground. Some of your plans note that a fiber line is to be underground while other sheets identify it as OH. Please confirm that all of your electrical and fiber optic cable lines will be underground.**

Confirmed.

- 2. Please provide the square footage of the ground lease area.**

900 square feet.

- 3. Please provide information on the height and material of the existing ground lease area fence or wall and the proposed height of the ground mounted equipment that is being proposed. All new equipment will need to be fully screened.**

As we explained in the cover letter that accompanied the Application, the Application is an EFR under federal law because it meets none of the FCC’s “substantial change” criteria. One of the “substantial change” criteria is that the proposed project would not cause non-conformance with any conditions of the original siting approval, in this case the City’s Planning Commission March 30, 2005 Notice of Decision approving SUP 04-157 and VAR-04 158 to allow a reduction from the required 50 foot setback to 13 feet to allow construction and operation of a monopine at the Site (the “Original Approval”). With regard to fencing/screening, the Original Approval requires only that the “security fencing surrounding the ground mounted equipment to be 100% sight-obscuring dark green material.” We are pleased to confirm that the project proposed in the Application does not cause non-conformance with this condition in the Original Approval – the fence is a six-foot tall fence built with sight-obscuring vinyl privacy slats that hide the equipment contained therein and the Site itself is located in a remote location surrounded by trees. The Original Approval does not require equipment to be “fully screened,” rather it requires only that the ground equipment be enclosed within security fencing built with sight-obscuring materials. Given that the project proposed in the Application does not cause non-conformance with the Original Approval, federal law

---

<sup>4</sup> See 47 C.F.R. § 1.6100(c)(1)-(c)(3); 2014 Infrastructure Order at paras. 214-217.

requires that the City “shall approve” and “may not deny” the Application within federally-mandated timeframes.

We are pleased to have been able to provide this information voluntarily even though the request was received more than 30 days after the Application was submitted (which is a federal law requirement). We also look forward to presenting to the Planning Commission on October 27, 2021 at 5:00 p.m. **With this letter, we formally request that my colleague Irina Gardini, who lives in California, be permitted to present the Application via teleconference or videoconference at the Planning Commission meeting.** She is the subject matter expert on this Application here at Crown Castle who has been working with you throughout the process and would be best positioned to answer the Commission’s questions about the Application, which is an EFR entitled to streamlined processing and mandatory approval under federal law.

If you have any questions, please do not hesitate to contact me. Crown Castle, on behalf of its customer Dish, reserves all rights and remedies under federal law whether referenced specifically herein, including potentially deeming the Application granted under Section 6409 upon expiration of the 60-day review period.

Best regards,

*/s/ Kiely Lewandowski*

Kiely Lewandowski

Attorney

[kiely.lewandowski@crowncastle.com](mailto:kiely.lewandowski@crowncastle.com)

O: 724-743-7788 | (M): 412-491-1918

cc: Irina Gardini, Crown Castle (via email to [irina.gardini@crowncastle.com](mailto:irina.gardini@crowncastle.com))

### Narrative Statement In Support of Special Use Permit

On behalf of our customer Dish Wireless, L.L.C., Crown Castle appreciates the opportunity to provide this Narrative Statement In Support of Special Use Permit explaining that Dish's proposed modification of the existing wireless facility located at 5364 Sierra Highland Drive, Carson City, NV 89703, Crown Castle BU# 828012 (the "Site") why the requested variance is appropriate for the wireless comports with the required findings (the "Findings"). In accordance with the Carson City Planning Division (the "City") Finding, we respectfully submit that the proposed project at the existing wireless facility at the Site:

- a) Will be consistent with the objectives of the Master Plan elements;
- b) Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhoods or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise, vibrations, fumes, odors, dust, glare or physical activity;
- c) Will have little or no detrimental effect on vehicular or pedestrian traffic;
- d) Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements;
- e) Meets the definition and specific standards set forth elsewhere in this Title for such particular use and meets the purpose statement of that district;
- f) Will not be detrimental to the public health, safety, convenience and welfare; and
- g) Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.

With this Narrative Statement, Crown Castle will also provide information about how the subject application constitutes an "eligible facilities request" under applicable federal law and detail certain discussions with County staff regarding the subject application.

The parent parcel includes an existing WCF (the "monopine") and is also surrounded by assorted pine trees and vegetation. The monopine is a 98' monopole that has been stealthed to appear like a pine tree with the tip of its concealment branches reaching to 102' 11." There are two other carriers installed on the monopine. With the subject application, which was originally submitted on June 10, 2021 and submitted as a Special Use Permit Application on August 13, 2021, Dish proposes to collocate a new antenna array on the monopine (the "Application"). Dish proposes modifying the monopine at the Site by installing (3) antennas, (6) remote radio heads, and (1) over-voltage-protector on the tower. Specifically, Dish proposes installing (3) JMA Wireless MX08FRO665-20 antennae, (3) Fujitsu TA08025-B604 remote radio heads, (3) Fujitsu TA08025-B605 remote radio heads, and (1) Raycap RDIDC-9181-PF-48 over-voltage-protector on the tower. Dish also proposes installing (1) equipment cabinet on the ground inside the existing compound at the Site. There is no tower extension and no compound expansion proposed as part of this project. Given that the Site is stealthed as a monopine, the proposed project will be installed in such a manner to continue the stealthed nature of the existing wireless tower – the three new antennae installed by Dish will be painted to match the green exterior of the monopine and

concealed as part of the existing structure. This proposed installation is part of Dish’s nationwide effort to deploy its wireless network. Dish is especially pleased to install this antenna array on the existing monopine at the Site rather than having to construct an entirely new wireless communications facility in your City. Instead, by simply collocating these antennae and ancillary equipment at the Site, Dish can obtain the coverage necessary to serve your area without a disruptive new site build. This seems like a better arrangement for all concerned in that it allows Dish to achieve what Dish needs to build out its network without adding another vertical element to the neighborhood.

Dish anticipates that once this modification at the existing monopine is complete, its ability to provide your neighbors will coverage and connectivity will be vastly improved. If there is anything that the years living through the COVID-19 pandemic has taught us, it is the importance of coverage and connectivity during these unprecedented times – where all of us are spending more time at home, students are learning from home, professionals are working from home, and first responders are getting the information they need to serve the people of your area when they need help most.

As discussed with City Staff, this modification request is an “eligible facilities request” subject to streamlined review under federal law, specifically Section 6409(a) of the Spectrum Act and the Federal Communications Commission’s rules implementing that federal statute.<sup>1</sup> Section 6409(a) requires that the County shall approve, and may not deny, “eligible facilities requests,” like the modification proposed in the subject application, when they do not result in a “substantial change” to the physical dimensions of the existing structure. The intent behind this federal law is to promote deployment to help our country meet the ongoing technological revolution and connect our citizens with each other, with their schools, with their jobs, and with life-saving technologies.

This modification request is consistent with the City’s Master Plan elements because Dish is taking advantage of existing infrastructure within the area and not seeking to build a new site.

This modification request will not be detrimental to the use, peaceful enjoyment, or economic value of surrounding properties because there is such a minimal change – Dish is not proposing to build an entirely new wireless facility. Rather, it seeks only to install its standard configuration on the already existing – and properly sited and approved – monopine at the Site.

This modification request will have no impact on vehicular or pedestrian traffic – the project simply proposes installing three antennas and associated equipment on the exiting monopine and a 5’x7’ raised platform on the ground within the existing site compound that is already located at the Site.

---

<sup>1</sup> The applicable federal law is comprised of a federal statute commonly known as “Section 6409,” which is codified at 47 U.S.C. § 1455(a) and the regulations set forth at 47 C.F.R. § 1.6100 as well as several Federal Communications Commission (“FCC”) Orders interpreting that statute: *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 80 Fed. Reg. 1238-01 (Jan. 8, 2015) (the “2014 Infrastructure Order”); *Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, 85 Fed. Reg. 45126 (July 27, 2020) (the “5G Upgrade Order”); and *Accelerating Wireless and Wireline Deployment by Streamlining Local Approval of Wireless Infrastructure Modifications*, WT Docket # 19-250, RM-11849; FCC 20-153 (Nov. 3, 2020) (the “Compound Expansion Order”) (together, the “FCC Orders”). Crown Castle, on behalf of Dish, reserves all rights and remedies available under Section 6409, including potentially deeming the Application granted under Section 6409 upon expiration of federally mandated time frames. Crown Castle is voluntarily providing this Narrative Statement in support of the afore-mentioned project.

This modification request will have no impact on existing public services and facilities because it simply entails the installation of new tower-mounted and ground-based equipment at an already-existing wireless facility.

This modification request will not be detrimental to public health, safety, convenience, and welfare – Dish only proposes transmitting within its frequencies already approved and licensed by the FCC, the prime regulator that occupies the field of regulating these kinds of transmissions in this county.

This modification request will not result in any damage or prejudice to other property in the vicinity given that the project simply involves the installation of three antennae and associated equipment on the tower at the Site and ground-based equipment within the existing compound that is already properly sited and approved by the City.



DISH WIRELESS, LLC. SITE ID:

**SCRNO00032A**

DISH WIRELESS, LLC. SITE ADDRESS:

**5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703**

SCOPE OF WORK	
THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:	
<b>TOWER SCOPE OF WORK:</b>	
<ul style="list-style-type: none"> <li>• INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)</li> <li>• INSTALL (3) PROPOSED ANTENNA MOUNTS (1 PER SECTOR)</li> <li>• INSTALL PROPOSED JUMPERS</li> <li>• INSTALL (6) PROPOSED RRUs (2 PER SECTOR)</li> <li>• INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)</li> <li>• INSTALL (1) PROPOSED HYBRID CABLE</li> </ul>	
<b>GROUND SCOPE OF WORK:</b>	
<ul style="list-style-type: none"> <li>• INSTALL (1) PROPOSED CONCRETE PAD</li> <li>• INSTALL (1) PROPOSED ICE BRIDGE</li> <li>• INSTALL (1) PROPOSED PPC CABINET</li> <li>• INSTALL (1) PROPOSED EQUIPMENT CABINET</li> <li>• INSTALL (1) PROPOSED POWER CONDUIT</li> <li>• INSTALL (1) PROPOSED TELCO CONDUIT</li> <li>• INSTALL (1) PROPOSED TELCO-FIBER BOX</li> <li>• INSTALL (1) PROPOSED GPS UNIT</li> <li>• INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)</li> <li>• INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)</li> <li>• INSTALL (1) PROPOSED METER SOCKET</li> </ul>	

SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: GLOBAL SIGNAL ACQUISITIONS IV LLC ADDRESS: PO BOX 277455 ATLANTA, GA 30384-7455	APPLICANT: DISH WIRELESS, LLC. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER TYPE: MONOPOLE	TOWER OWNER: CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317 (877) 486-9377
TOWER CO SITE ID: 828012	SITE DESIGNER: INFINIGY 2500 W. HIGGINS RD. STE. 500 HOFFMAN ESTATES, IL 60169 (847) 648-4068
TOWER APP NUMBER: 553905	SITE ACQUISITION: NICHOLAS CURRY (980) 430-8582
COUNTY: CARSON CITY	CONSTRUCTION MANAGER: LEE NORRIS (916) 300-7277
LATITUDE (NAD 83): 39° 07' 01.53" N 39.117092 N	RF ENGINEER: SHREYA RAI
LONGITUDE (NAD 83): -119° 50' 36.67" W -119.8435194 W	
ZONING JURISDICTION: CITY OF CARSON CITY, NV	
ZONING DISTRICT: UTL 780 (Locally Assessed Utility Use)	
PARCEL NUMBER: 007-051-99	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: V-B	
POWER COMPANY: NV ENERGY	
TELEPHONE COMPANY: ZAYO	



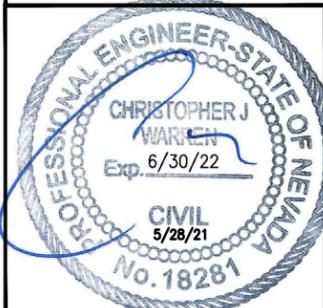
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



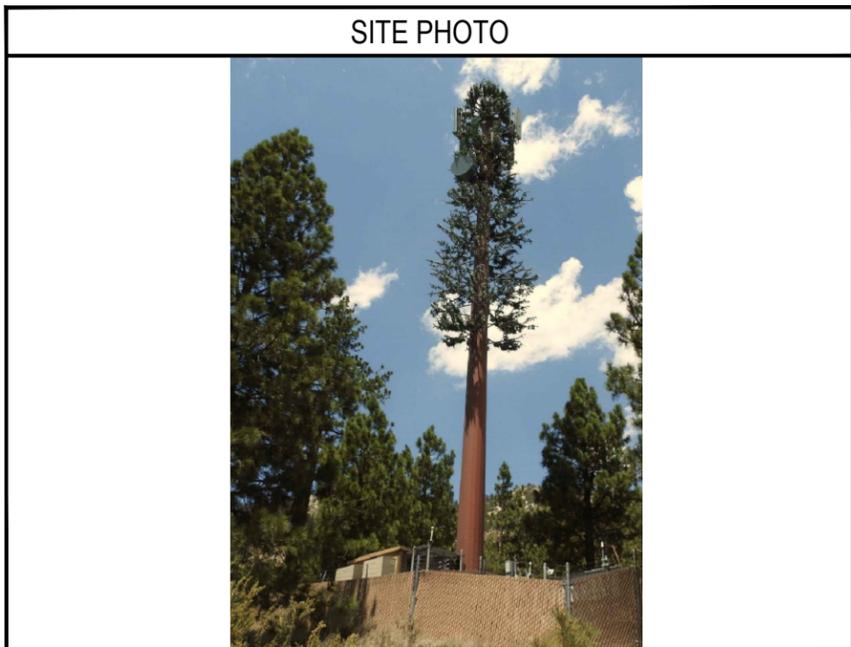
2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD. SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



USA NORTH 811  
UTILITY NOTIFICATION CENTER OF NEVADA  
(800) 642-2444  
WWW.USANORTH811.ORG  
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

**GENERAL NOTES**

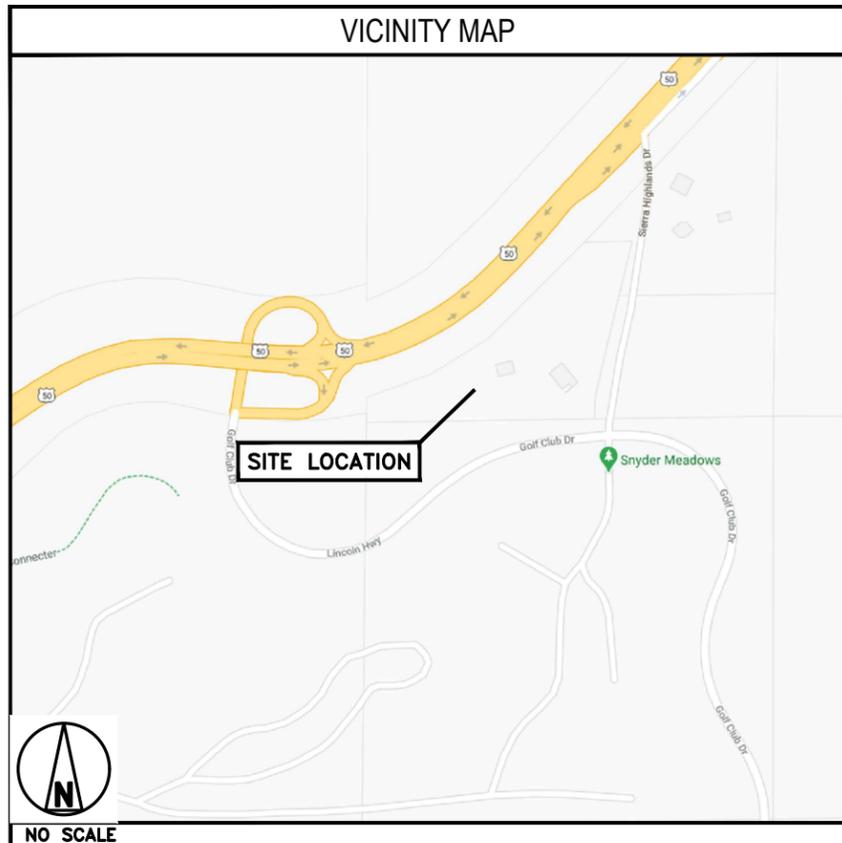
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

**DIRECTIONS**

**DIRECTIONS FROM CARSON CITY AIRPORT:**  
HEAD WEST ON COLLEGE PKWY TOWARD AIRPORT RD, TAKE THE RAMP FOR I-580 S / US-395 S, KEEP STRAIGHT TO GET ONTO US-50 W / US HIGHWAY 50, TAKE THE RAMP ON THE RIGHT, KEEP STRAIGHT TO GET ONTO GOLF CLUB DR, TURN LEFT, ARRIVE AT 5364 SIERRA HIGHLAND DR, CARSON CITY, NV 89703



**NEVADA COMPLIANCE**

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THESE CODES.

1. 2018 INTERNATIONAL BUILDING CODE
2. 2018 INTERNATIONAL MECHANICAL CODE
3. 2018 INTERNATIONAL FIRE CODE
4. 2018 UNIFORM PLUMBING CODE
5. 2017 NATIONAL ELECTRICAL CODE
6. 2018 INTERNATIONAL FUEL GAS CODE
7. 2018 INTERNATIONAL ENERGY CONSERVATION CODE
8. TIA-EIA-222-G OR LATEST EDITION
9. ASCE 7-16
10. NFPA 780 - LIGHTNING PROTECTION CODE
11. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITION
12. LOCAL AMENDMENTS TO THE ABOVE, WHERE APPLICABLE
13. CITY/COUNTY ORDINANCES
14. LIFE SAFETY CODE NFPA-101

**SHEET INDEX**

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	EXISTING ELEVATION
A-2.1	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT CONCRETE PAD AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
A-7	FENCING & RETAINING WALL DETAILS
E-1	ELECTRICAL ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
RF-2	RF PLUMBING DIAGRAM
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

DRAWN BY: RCD	CHECKED BY: SS	APPROVED BY: CJW
RFDS REV #: N/A		

**CONSTRUCTION DOCUMENTS**

SUBMITTALS

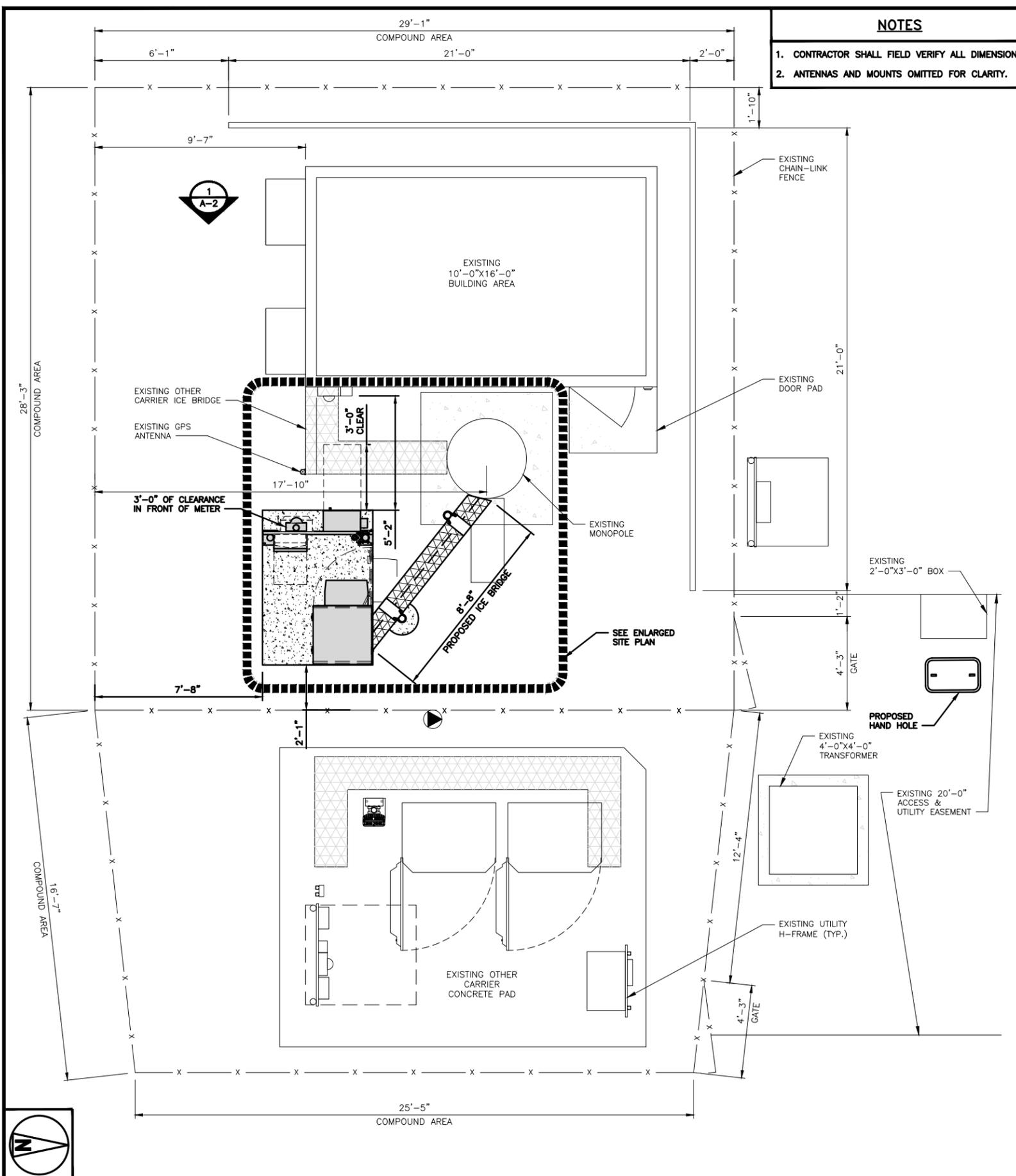
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRNO00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

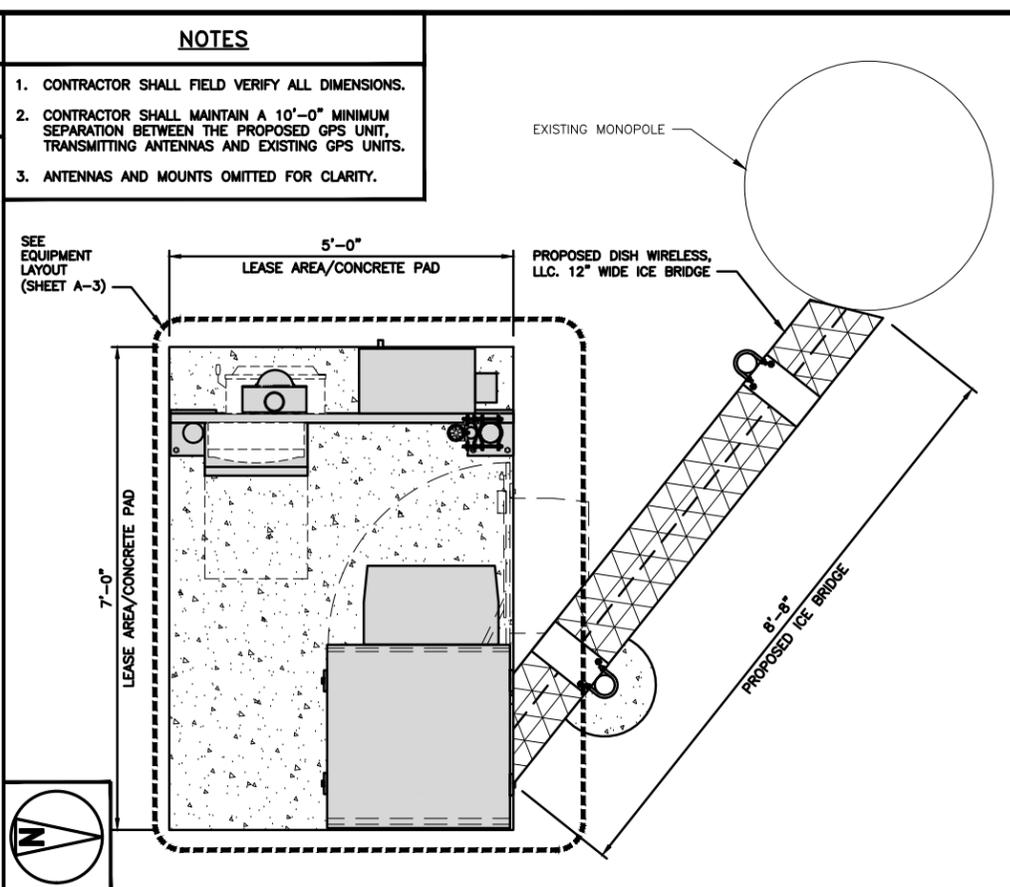
SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
**T-1**



**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



**dish wireless.**

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**CROWN CASTLE**

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

**INFINIGY**

FROM ZERO TO INFINIGY

the solutions are endless

2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM

**PROFESSIONAL ENGINEER-STATE OF NEVADA**

CHRISTOPHER J WARREN  
Exp. 6/30/22  
CIVIL  
5/28/21  
No. 18281

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS

REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

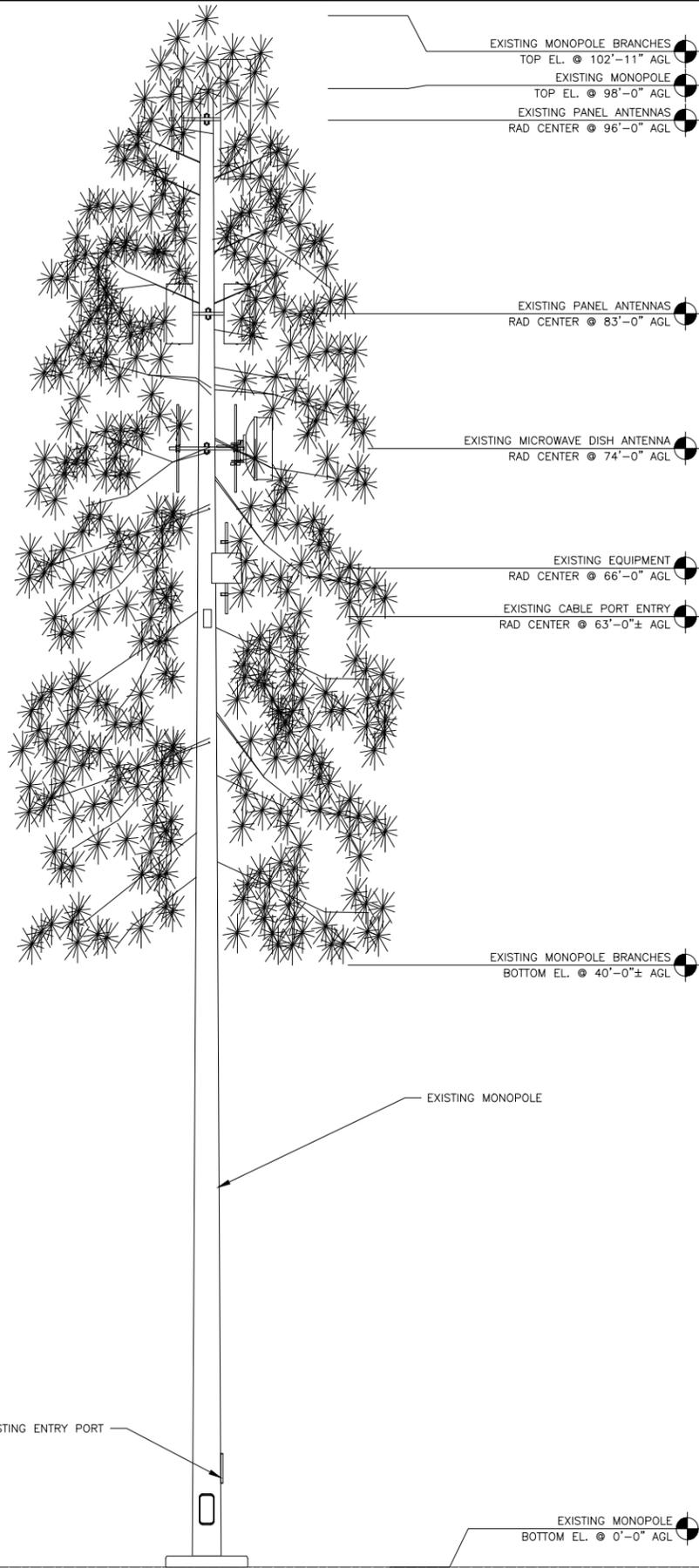
SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
OVERALL AND ENLARGED  
SITE PLAN

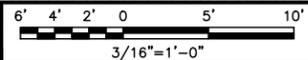
SHEET NUMBER  
**A-1**

**NOTES**

1. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



**PROPOSED WEST ELEVATION**



1

**NOT USED**

NO SCALE

2

**NOT USED**

NO SCALE

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
1	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

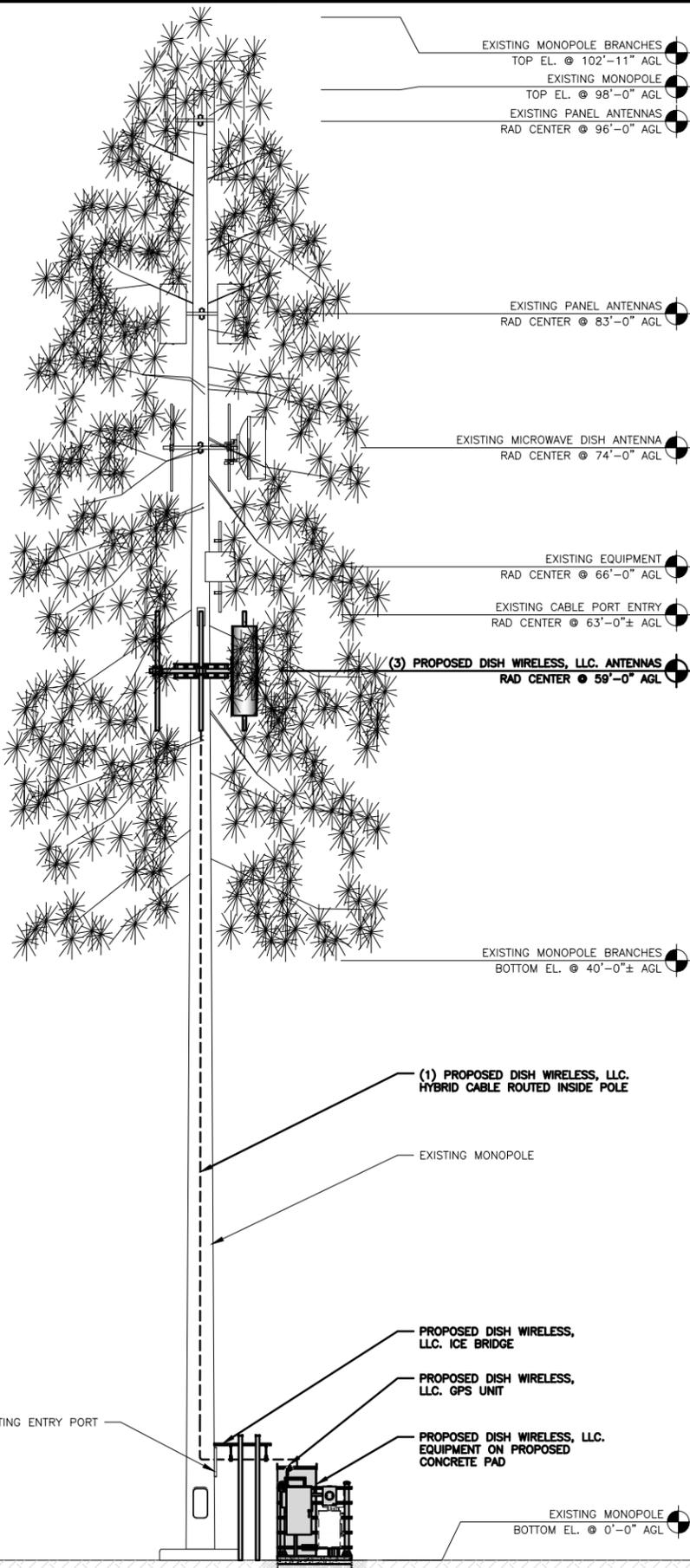
DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN00032A  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
EXISTING ELEVATION

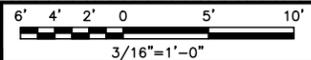
SHEET NUMBER  
**A-2**

**NOTES**

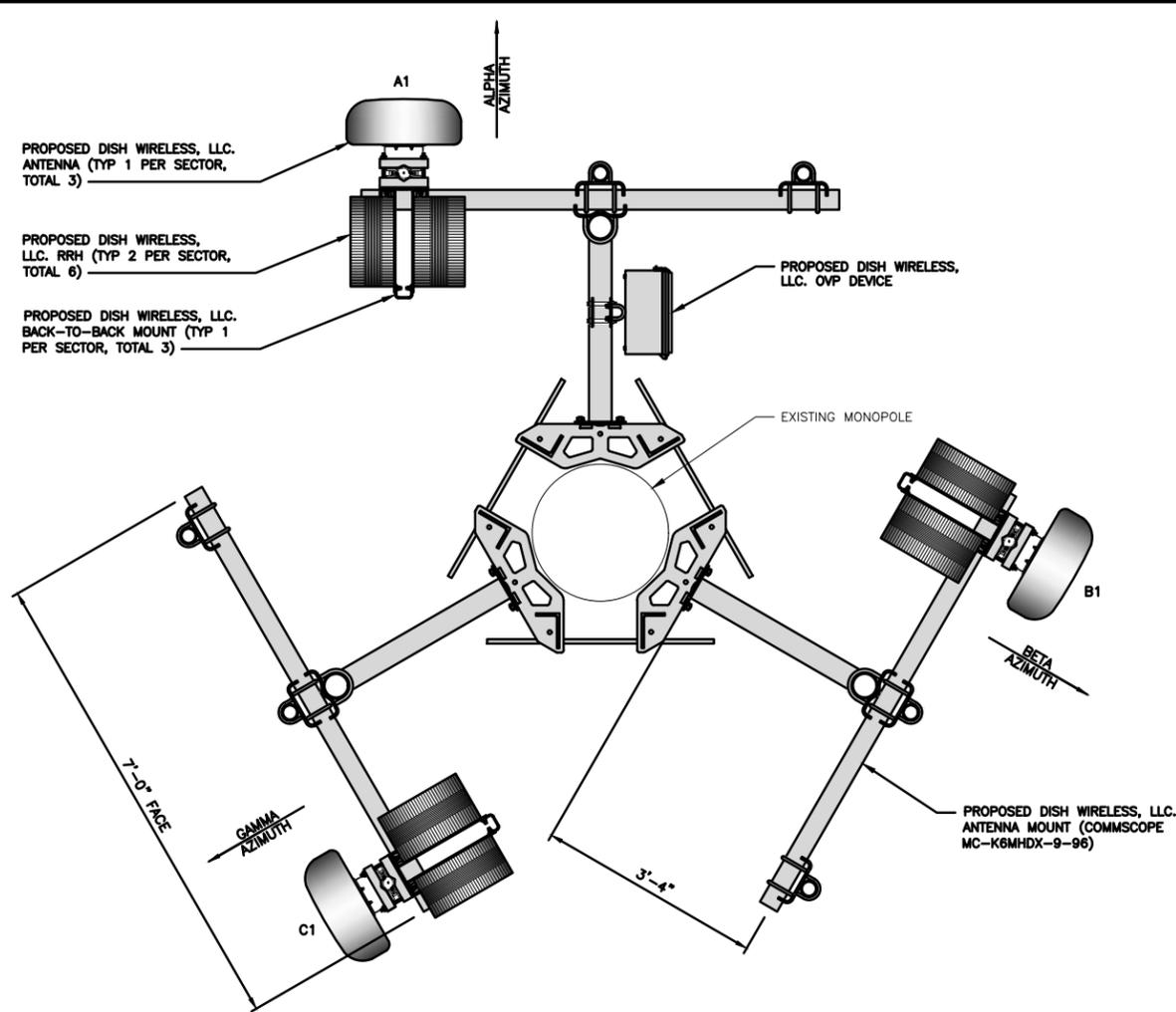
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.
4. INFINIGY HAS NOT EVALUATED THE TOWER OR MOUNT STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS.
5. PAINT TO MATCH NEW ANTENNA FRAME WITH ASSOCIATED EQUIPMENT



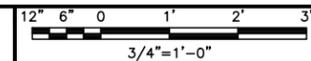
**PROPOSED WEST ELEVATION**



1



**ANTENNA LAYOUT**



2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA WIRELESS - MX08FRO665-20	5G	72.0" x 20.0"	0°	59'-0"	(1) HIGH-CAPACITY HYBRID CABLE (91' LONG)
BETA	B1	PROPOSED	JMA WIRELESS - MX08FRO665-20	5G	72.0" x 20.0"	120°	59'-0"	
GAMMA	C1	PROPOSED	JMA WIRELESS - MX08FRO665-20	5G	72.0" x 20.0"	240°	59'-0"	

**NOTES**

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA OR RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

SECTOR	POSITION	RRH		NOTES
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY	
ALPHA	A1	FUJITSU - TA08025-B604	5G	1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS. 2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.
	A1	FUJITSU - TA08025-B605	5G	
BETA	B1	FUJITSU - TA08025-B604	5G	
	B1	FUJITSU - TA08025-B605	5G	
GAMMA	C1	FUJITSU - TA08025-B604	5G	
	C1	FUJITSU - TA08025-B605	5G	

**ANTENNA SCHEDULE**

NO SCALE

3



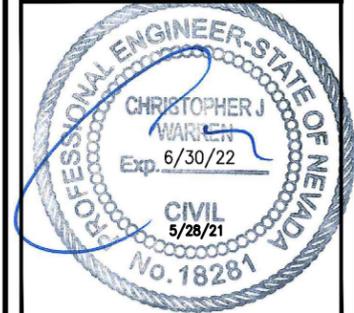
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

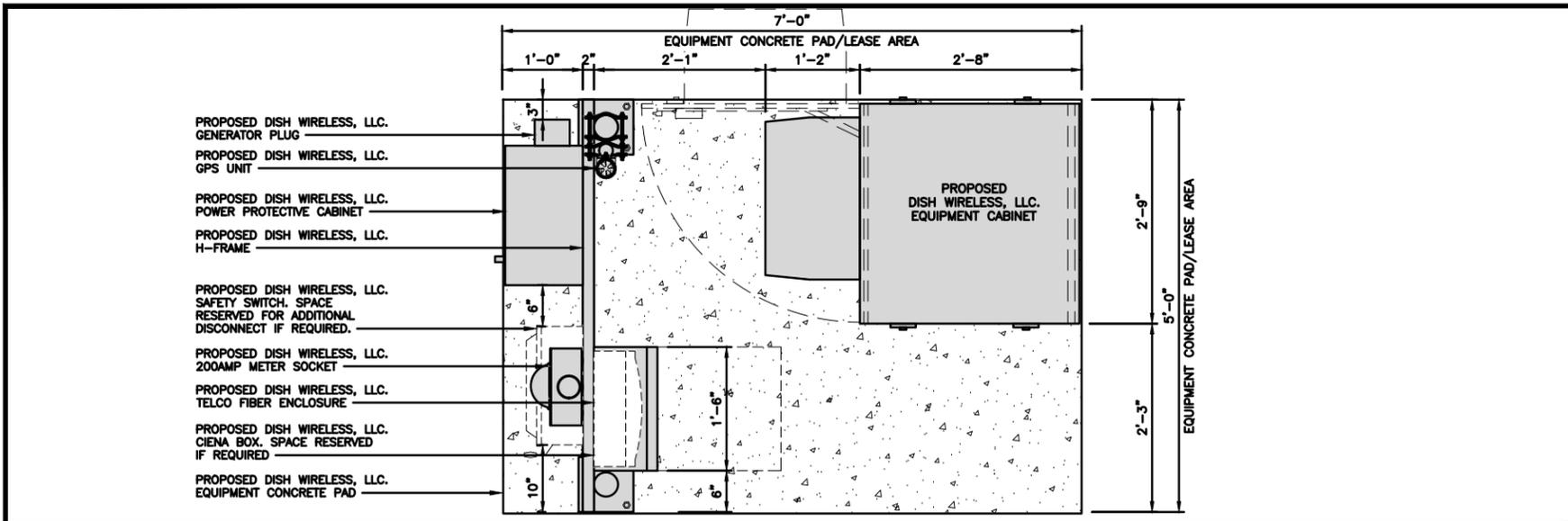
A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

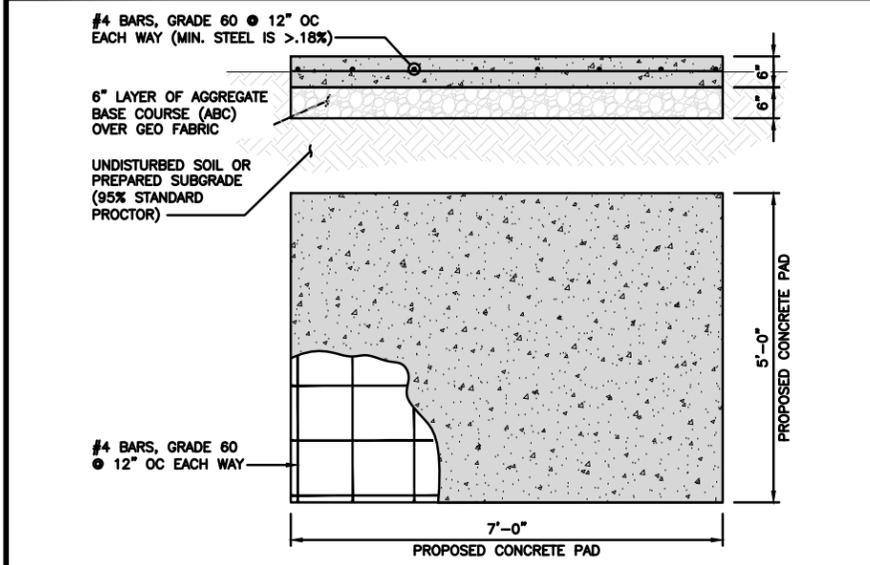
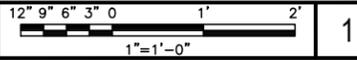
SHEET TITLE  
ELEVATION, ANTENNA  
LAYOUT AND SCHEDULE

SHEET NUMBER

**A-2**

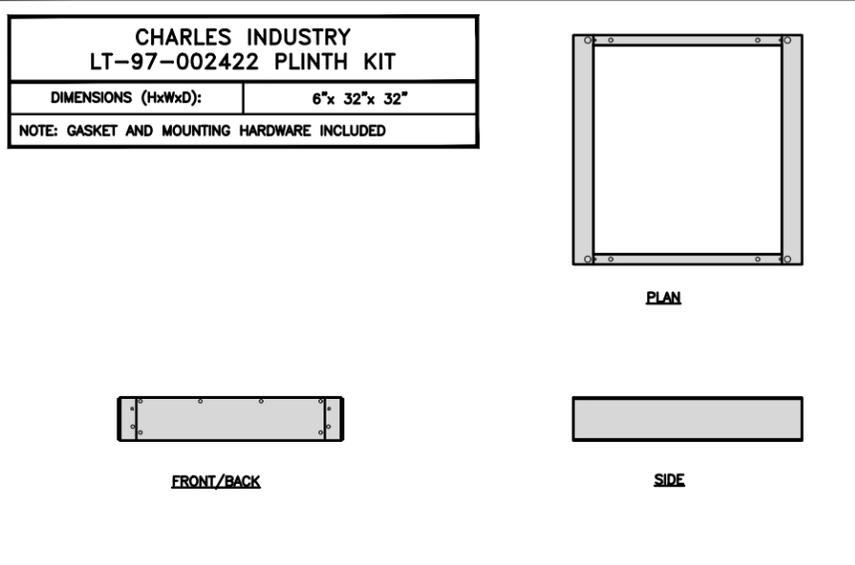


CONCRETE PAD EQUIPMENT PLAN



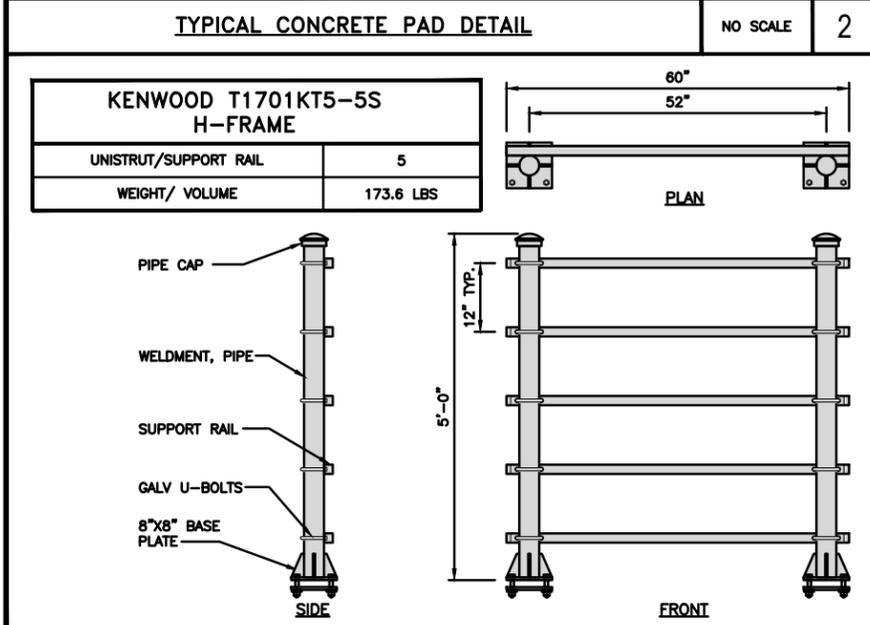
TYPICAL CONCRETE PAD DETAIL

NO SCALE 2



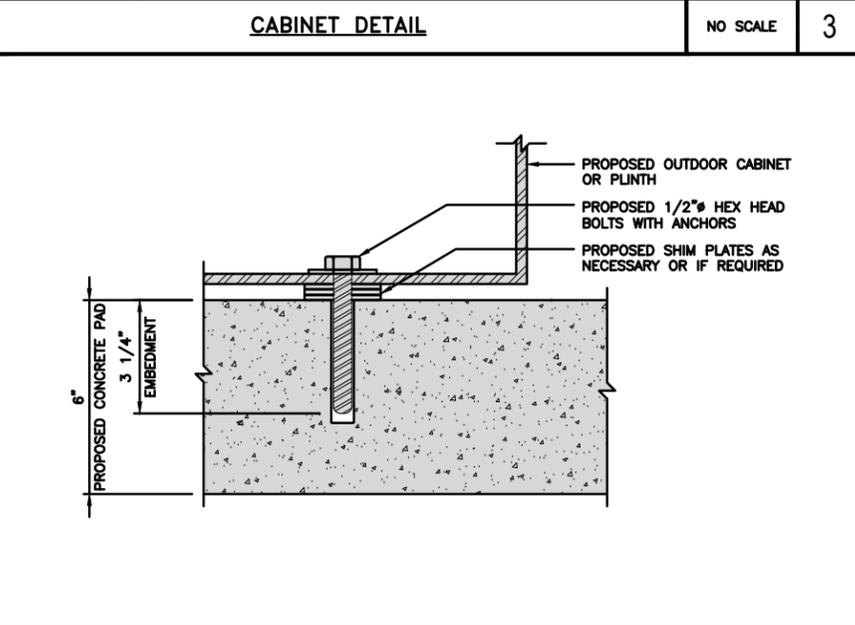
CABINET DETAIL

NO SCALE 3



H-FRAME DETAIL

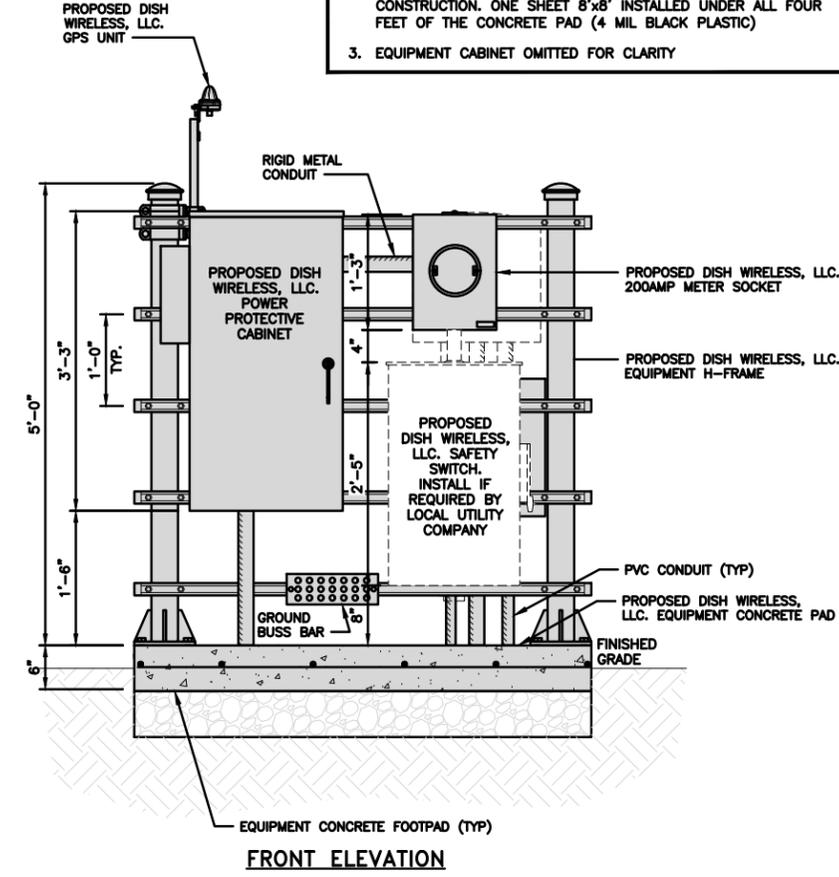
NO SCALE 4



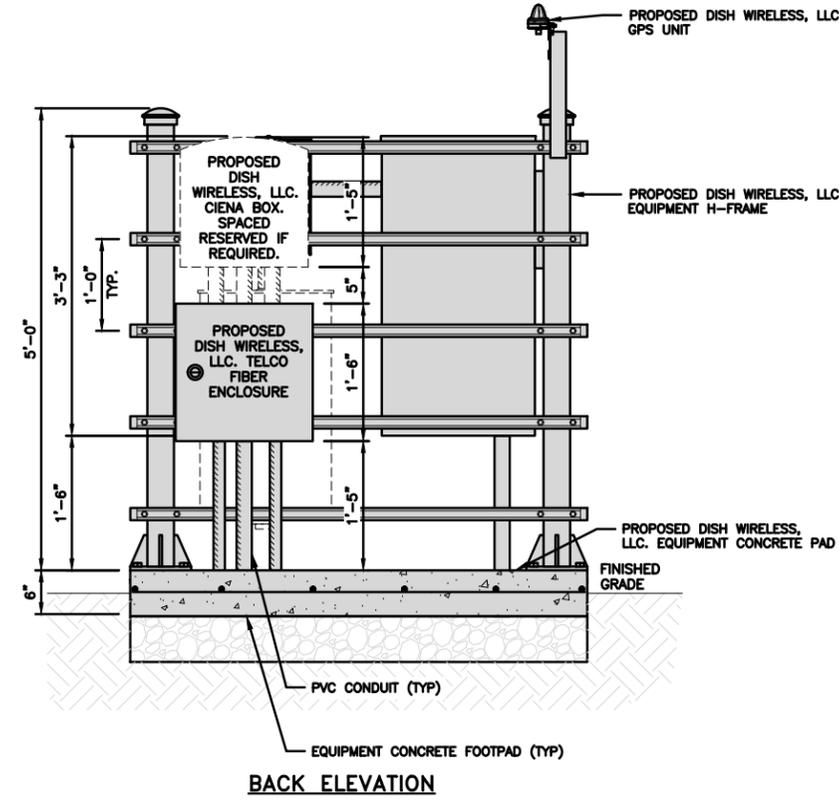
TYPICAL OUTDOOR EQUIPMENT TO CONCRETE SLAB ANCHORAGE

NO SCALE 5

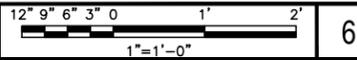
- NOTES**
- CONTRACTOR TO BURY CONCRETE PAD FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
  - WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH WIRELESS, LLC. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE CONCRETE PAD (4 MIL BLACK PLASTIC)
  - EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION



H-FRAME EQUIPMENT ELEVATION

NO SCALE 6



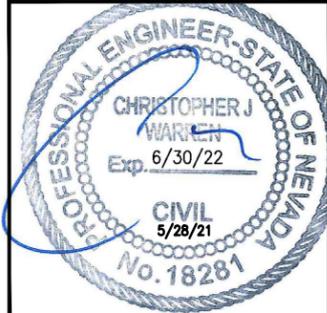
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW
RFDS REV #:	N/A	

**CONSTRUCTION DOCUMENTS**

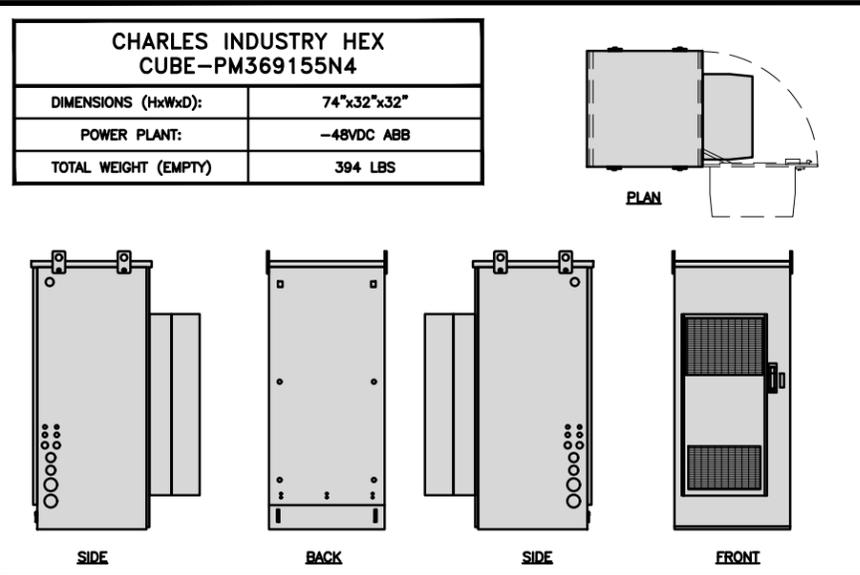
SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

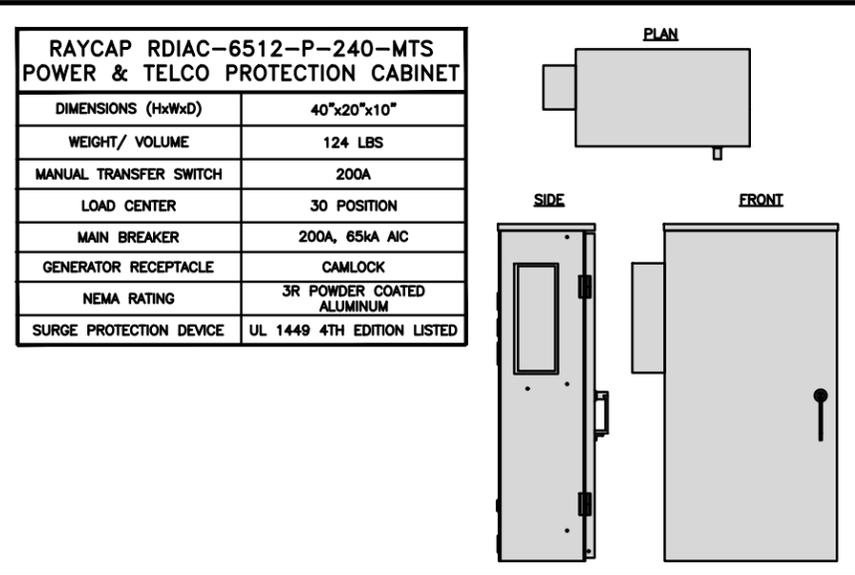
DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
EQUIPMENT CONCRETE PAD AND H-FRAME DETAILS

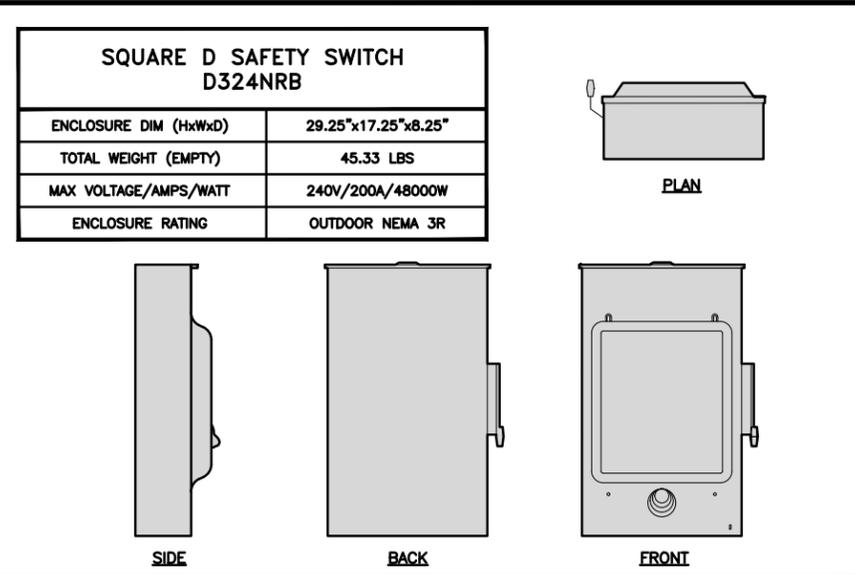
SHEET NUMBER  
**A-3**



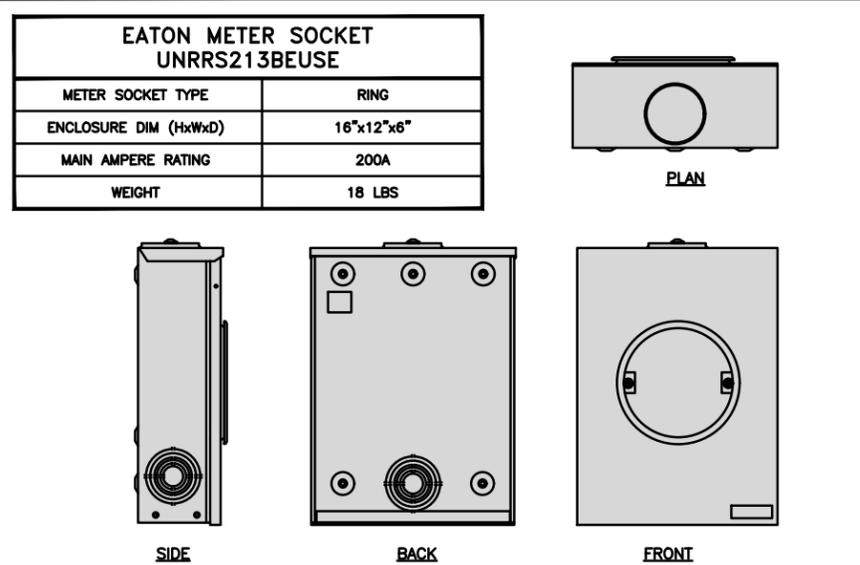
**CABINET DETAIL** NO SCALE 1



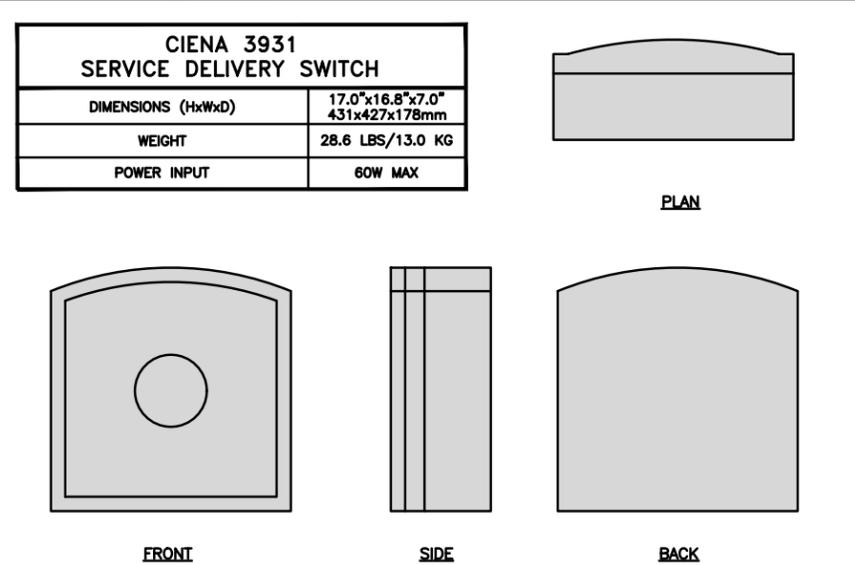
**POWER PROTECTION CABINET (PPC) DETAIL** NO SCALE 2



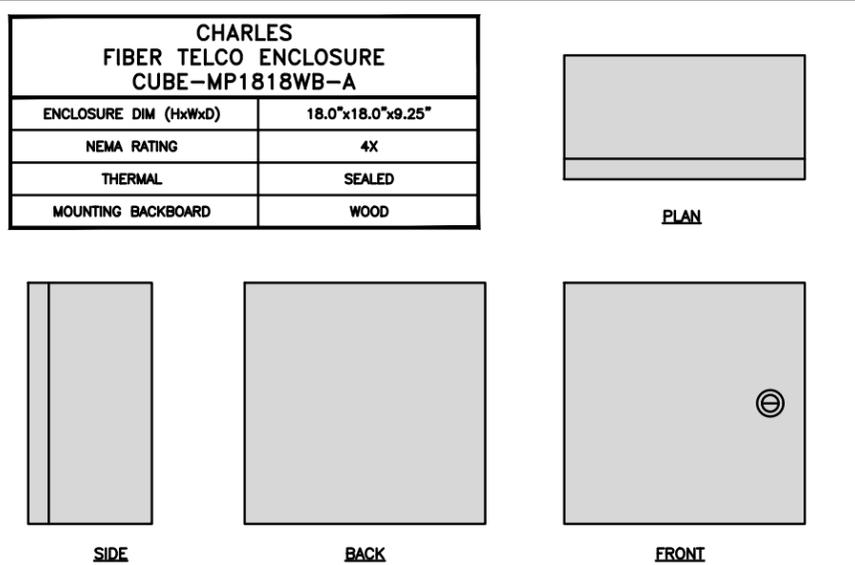
**SAFETY SWITCH** NO SCALE 3



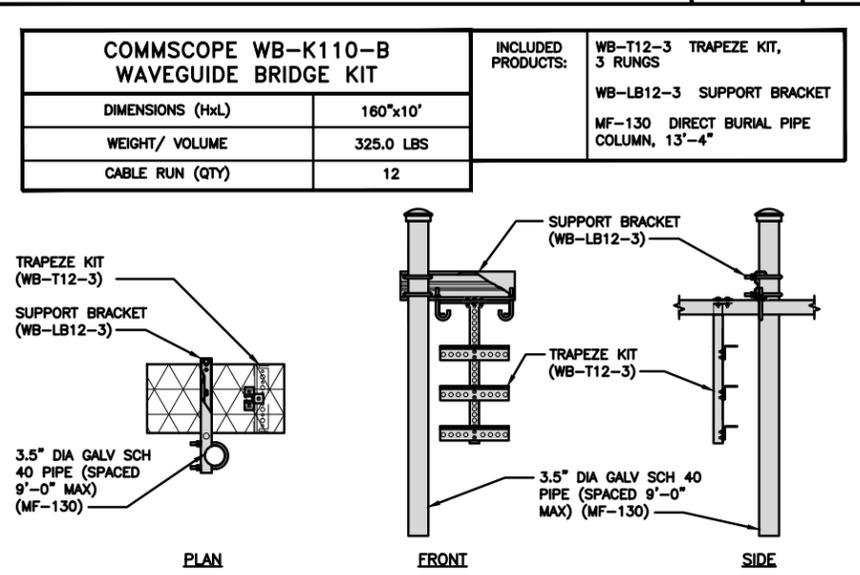
**METER SOCKET DETAIL** NO SCALE 4



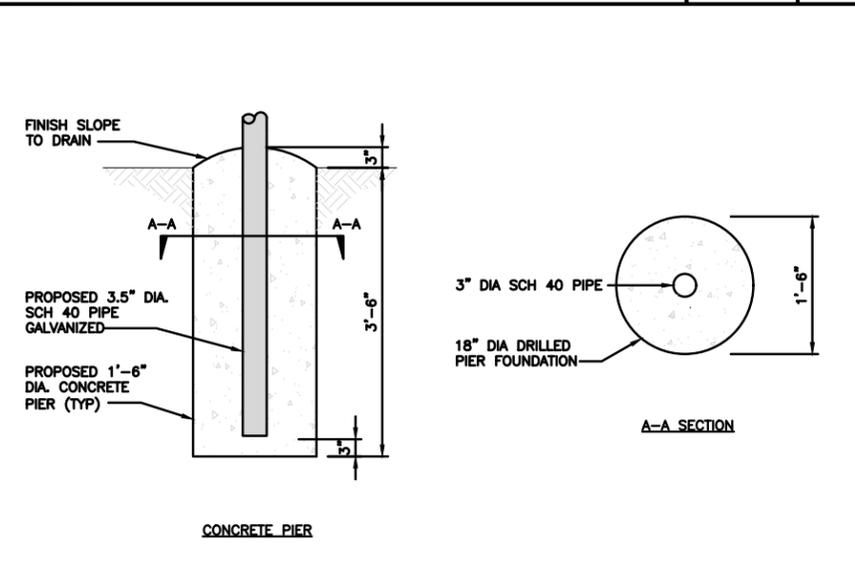
**CIENA DETAIL** NO SCALE 5



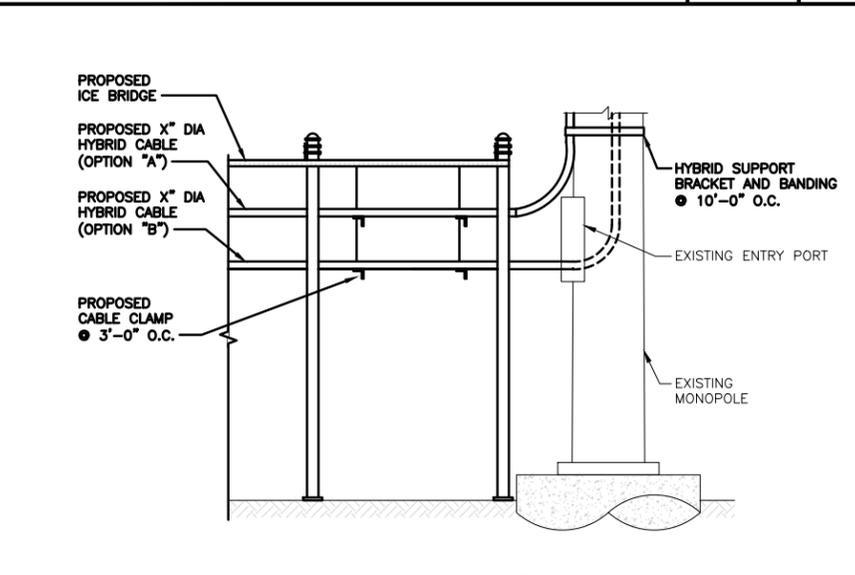
**FIBER TELCO ENCLOSURE DETAIL** NO SCALE 6



**ICE BRIDGE DETAIL** NO SCALE 7



**TYPICAL ICE BRIDGE CONCRETE PIER DETAIL** NO SCALE 8



**HYBRID CABLE RUN** NO SCALE 9

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: RCD	CHECKED BY: SS	APPROVED BY: CJW
RFDS REV #: N/A		

### CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

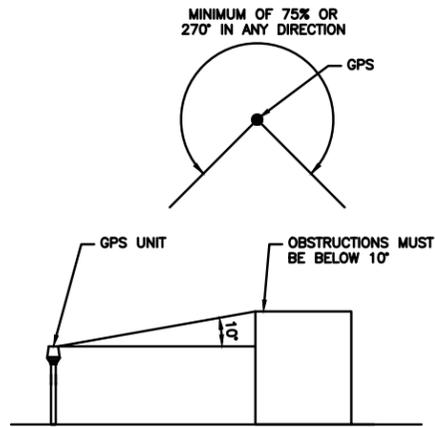
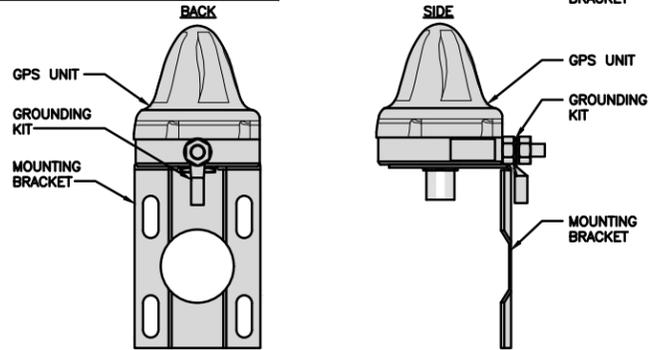
A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

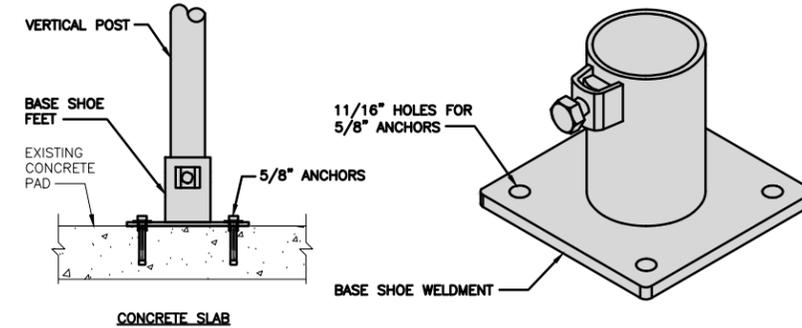
SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-4**

ROSENBERGER GPSGLONASS-36-N-S	
DIMENSION (DIA x H)	69mm x 98.5mm
WEIGHT (WITH ACCESSORIES)	515.74g
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1559 MHz ~ 1610.5MHz



SITEPRO1 BSF35 BASE SHOE FEET	
DIMENSIONS (HxWxL)	8"x8"x1/2"
WEIGHT	15.0 LBS
POST SIZE:	2-7/8" OR 3-1/2"



GPS ANTENNA DETAIL NO SCALE 1

GPS MINIMUM SKY VIEW REQUIREMENTS NO SCALE 2

ICE BRIDGE PIPE MOUNT DETAIL NO SCALE 3

NOT USED

NOT USED

NOT USED

NOT USED NO SCALE 4

NOT USED NO SCALE 5

NOT USED NO SCALE 6

NOT USED

NOT USED

NOT USED

NOT USED NO SCALE 7

NOT USED NO SCALE 8

NOT USED NO SCALE 9

**dish**  
wireless.

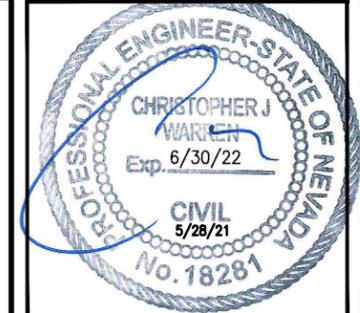
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**CROWN  
CASTLE**

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

**INFINIGY**  
FROM ZERO TO INFINIGY

the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION  
DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
1	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

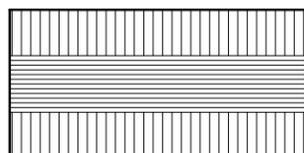
SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
EQUIPMENT DETAILS

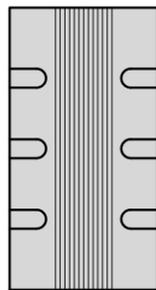
SHEET NUMBER

**A-5**

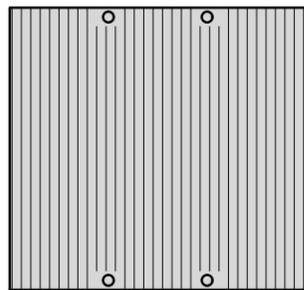
FUJITSU TA08025-B604 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x200/14.9"x15.7"x7.8"
WEIGHT(KG,LB)/ VOLUME	29kg,63.9lb/ 30L
POWER SUPPLY	DC-58~36V



PLAN



SIDE



FRONT

**NOTES**

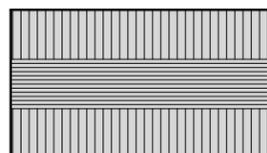
FINAL RRH SPECIFICATIONS TO BE CONFIRMED BY GC

REMOTE RADIO HEAD DETAIL

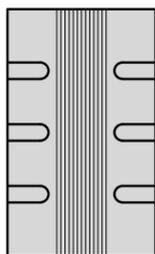
NO SCALE

1

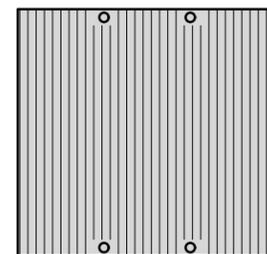
FUJITSU TA08025-B605 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x230/14.9"x15.7"x9.0"
WEIGHT(KG,LB)/ VOLUME	34kg,74.9lb/ 35L
POWER SUPPLY	DC-58~36V



PLAN



SIDE



FRONT

**NOTES**

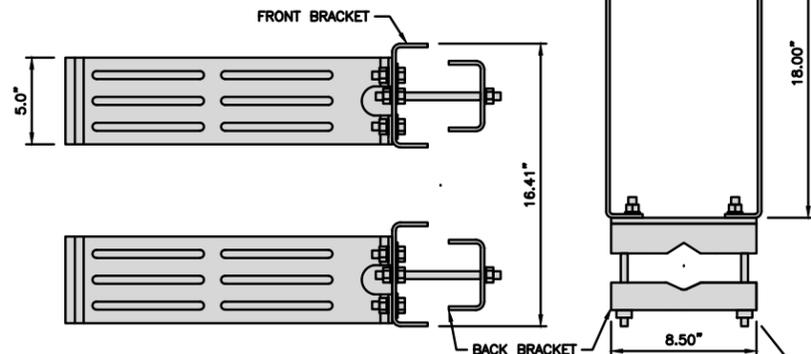
FINAL RRH SPECIFICATIONS TO BE CONFIRMED BY GC

REMOTE RADIO HEAD DETAIL

NO SCALE

2

COMMSCOPE BACK-TO-BACK MOUNT RR-FA2	
DIMENSIONS (HxWxD)	16.41"x18.0"x3.0"
WEIGHT	39.22 lb
PACKAGE QUANTITY	2



REMOTE RADIO MOUNT DETAIL

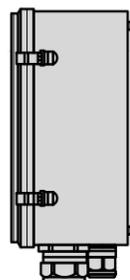
NO SCALE

3

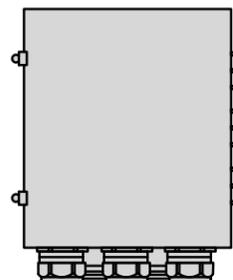
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



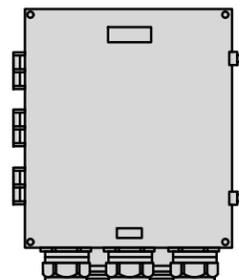
PLAN



SIDE



BACK



FRONT

SURGE SUPPRESSION DETAIL

NO SCALE

4

JMA WIRELESS MX08FRO665-20 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	54 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE



PLAN



**NOTES**

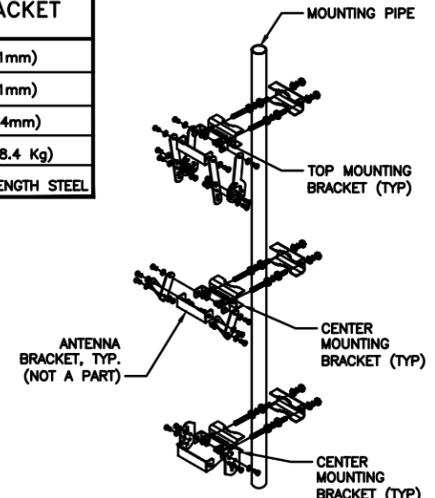
FINAL ANTENNA SPECIFICATIONS TO BE CONFIRMED BY GC

ANTENNA DETAIL

NO SCALE

5

JMA 91900318 MOUNTING BRACKET	
WIDTH	8.3" (211mm)
DEPTH	7.5" (191mm)
HEIGHT	11.2" (284mm)
TOTAL WEIGHT (WITH BRACKETS)	18.5 LBS (8.4 Kg)
HOUSING MATERIAL	GALV. HIGH STRENGTH STEEL

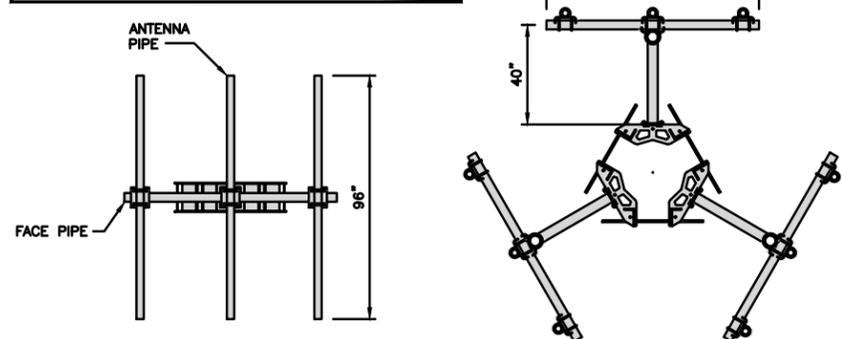


ANTENNA MOUNTING DETAIL

NO SCALE

6

COMMSCOPE MC-K6MHDX-9-96	
FACE WIDTH	7'-0"
WEIGHT	1203.31 lbs
NOTE: 15" TO 50" O.D.	

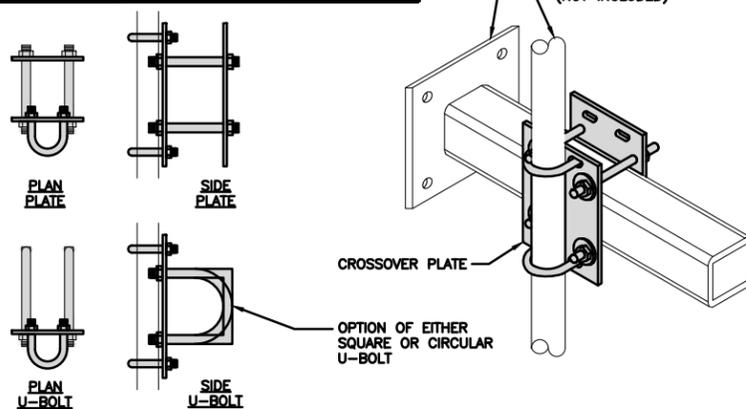


T-ARM MOUNT DETAIL

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS



RRH/OVP MOUNT DETAIL

NO SCALE

8

NOT USED

NO SCALE

9



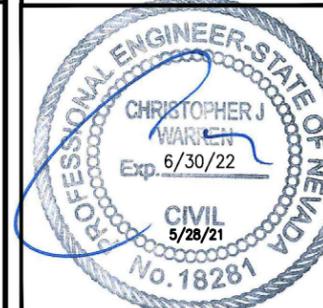
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION  
DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

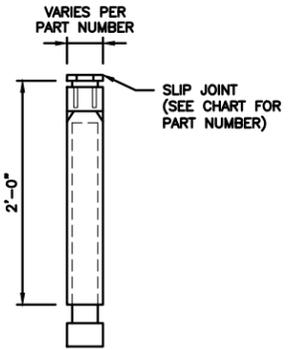
SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER

**A-6**



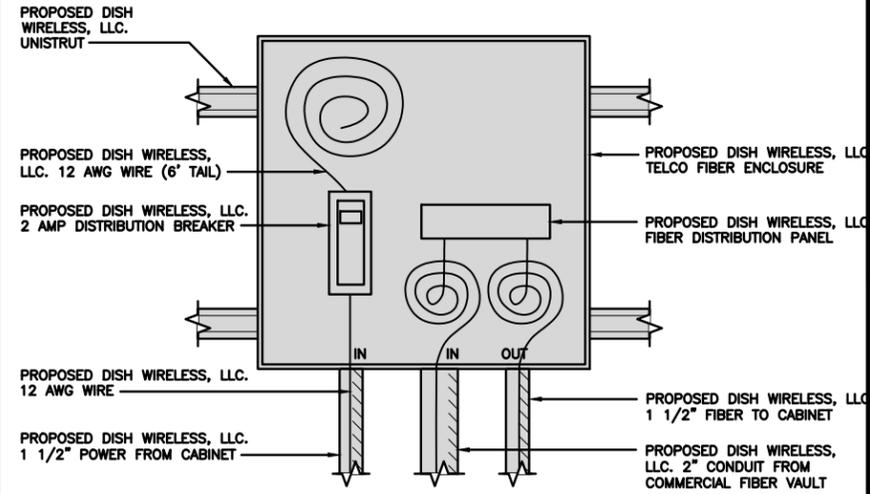
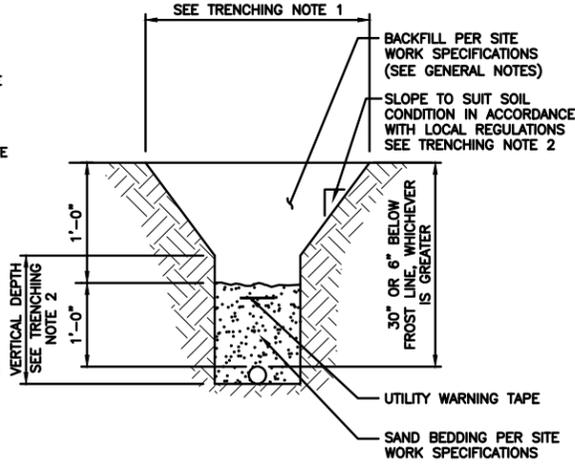
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"



NOTE: CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

**TRENCHING NOTES**

- CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



EXPANSION JOINT DETAIL

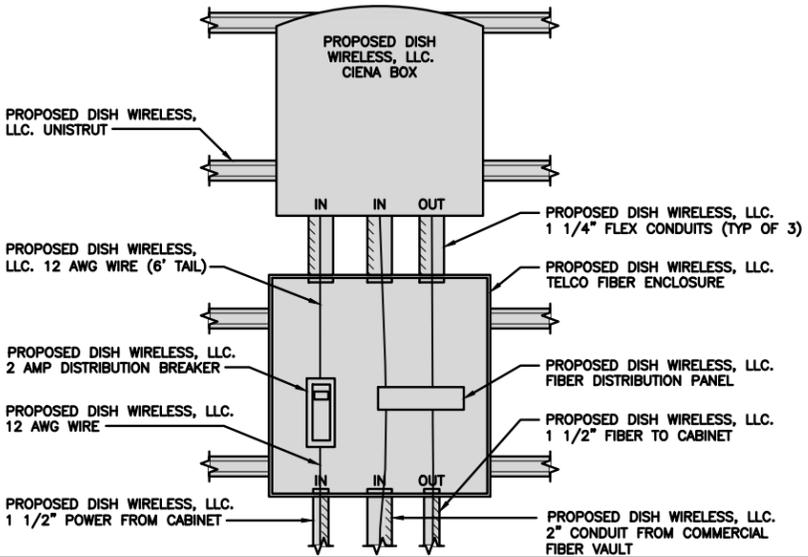
NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL

NO SCALE 2

DARK TELCO BOX - INTERIOR WIRING LAYOUT

NO SCALE 3



LIT TELCO BOX - INTERIOR WIRING LAYOUT

NO SCALE 4

NOT USED

NO SCALE 5

NOT USED

NO SCALE 6

NOT USED

NO SCALE 7

NOT USED

NO SCALE 8

NOT USED

NO SCALE 9



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:  
RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

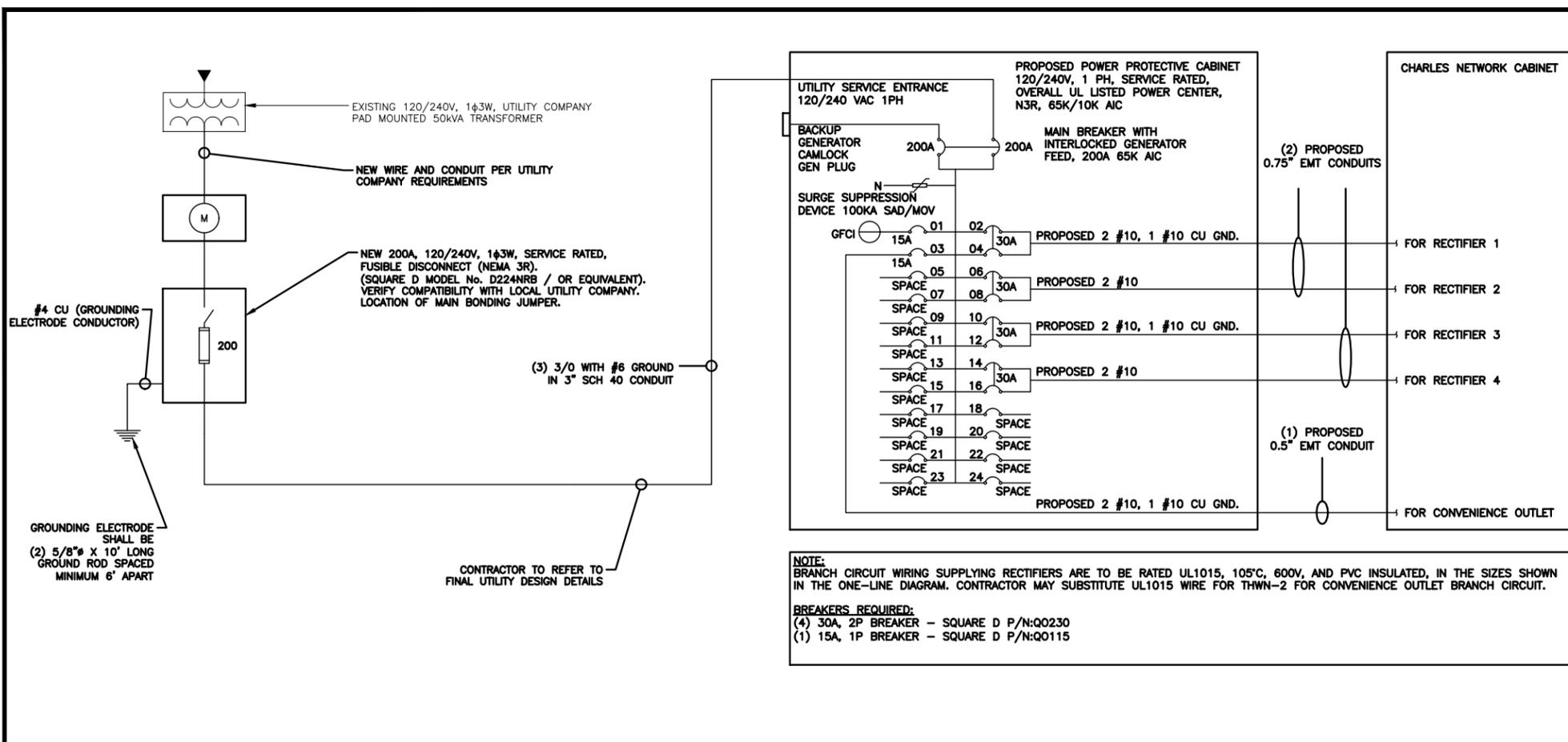
A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
ELECTRICAL  
DETAILS

SHEET NUMBER

E-2



**NOTES**

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(a) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A  
 #10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A  
 #8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A  
 #6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.  
 0.5" CONDUIT - 0.122 SQ. IN AREA  
 0.75" CONDUIT - 0.213 SQ. IN AREA  
 2.0" CONDUIT - 1.316 SQ. IN AREA  
 3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.  
 #10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN  
 #10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND  
 TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.  
 #10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN  
 #10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND  
 TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.  
 3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN  
 #6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND  
 TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

**NOTE:**  
 BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

**BREAKERS REQUIRED:**  
 (4) 30A, 2P BREAKER - SQUARE D P/N:Q0230  
 (1) 15A, 1P BREAKER - SQUARE D P/N:Q0115

PPC ONE-LINE DIAGRAM

NO SCALE 1

**PROPOSED CHARLES PANEL SCHEDULE**

LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED
	L1	L2						L1	L2	
PPC GFCI OUTLET	180	180	15A	1	A	2	30A	2880	2880	ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET	180	180	15A	3	B	4	30A	2880	2880	ABB/GE INFINITY RECTIFIER 1
-SPACE-				5	A	6	30A	2880	2880	ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8	30A	2880	2880	ABB/GE INFINITY RECTIFIER 2
-SPACE-				9	A	10	30A	2880	2880	ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12	30A	2880	2880	ABB/GE INFINITY RECTIFIER 3
-SPACE-				13	A	14	30A	2880	2880	ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16	30A	2880	2880	ABB/GE INFINITY RECTIFIER 4
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS		180	180					11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V				L1	L2					
MB RATING: 65,000 AIC				11700	11700					
				98	98					
				98						
				123						

PANEL SCHEDULE

NO SCALE 2

NOT USED

NO SCALE 3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
 the solutions are endless  
 2500 W. HIGGINS RD., SUITE 500 |  
 HOFFMAN ESTATES, IL 60169  
 PHONE: 847-648-4068 | FAX: 518-690-0793  
 WWW.INFINIGY.COM

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW
RFDS REV #:	N/A	

**CONSTRUCTION DOCUMENTS**

SUBMITTALS

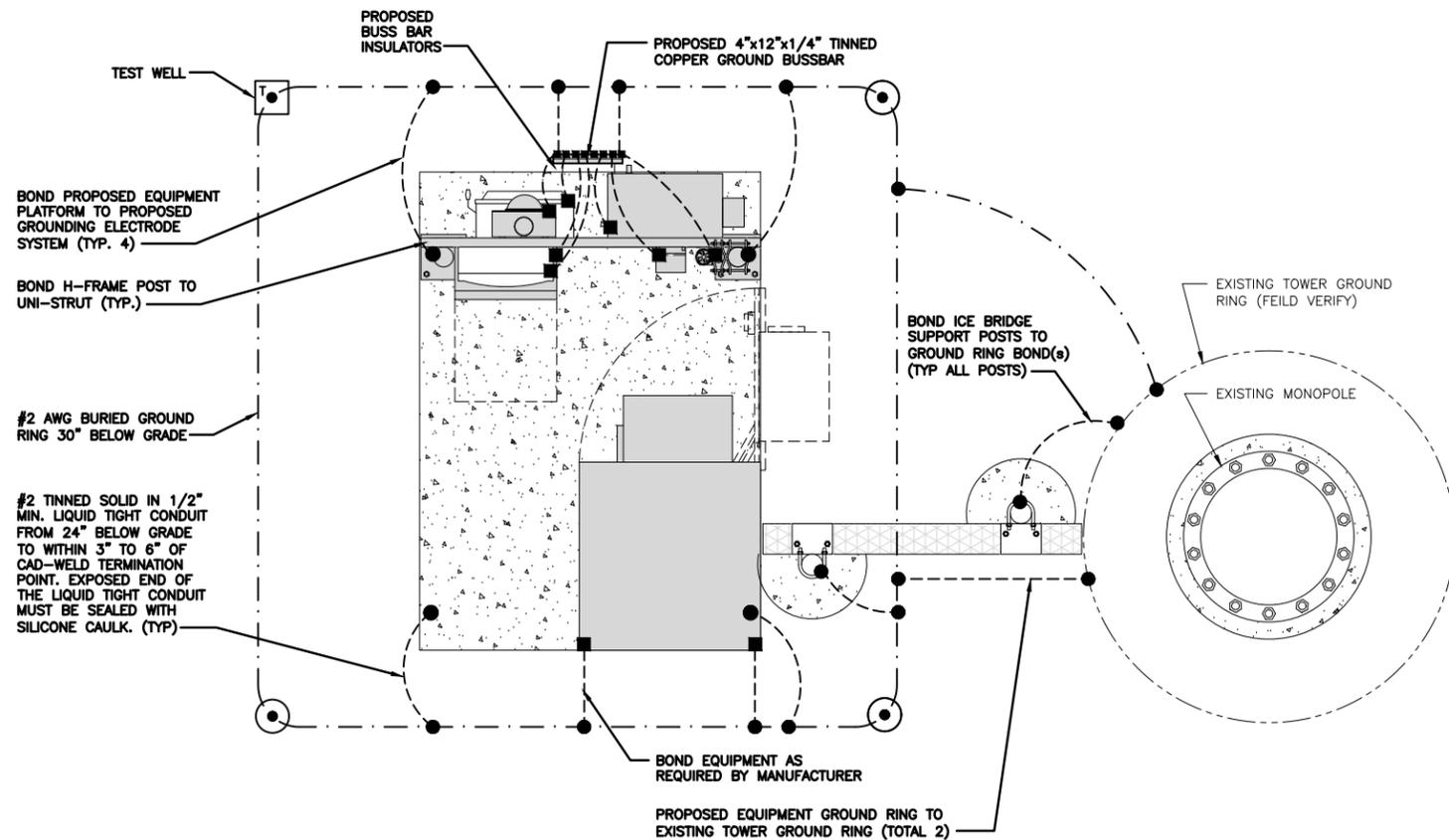
REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
ELECTRICAL ONE-LINE, FAULT  
CALCS & PANEL SCHEDULE

SHEET NUMBER  
**E-3**

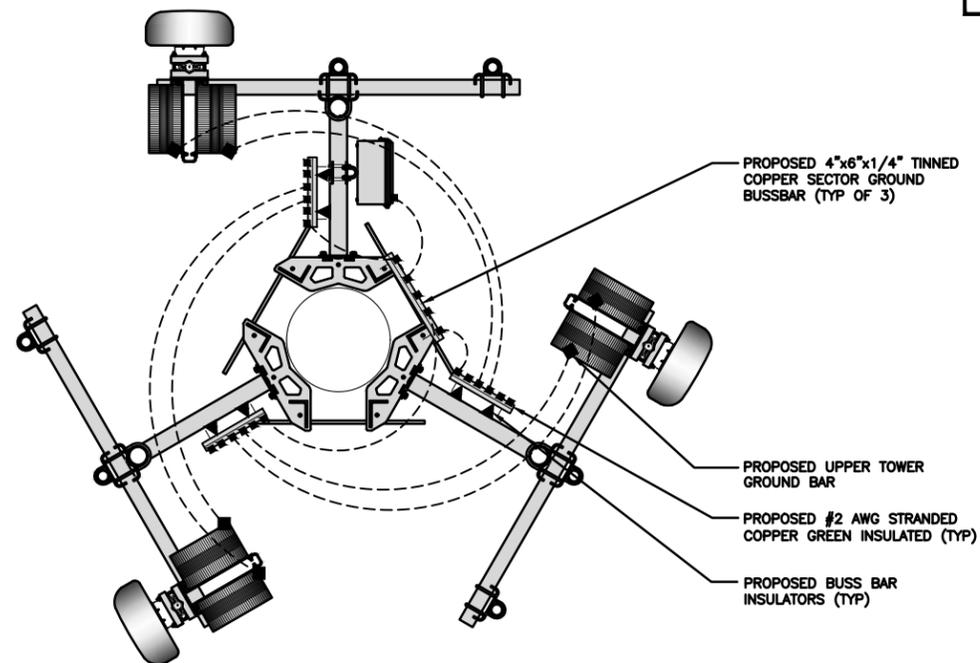


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

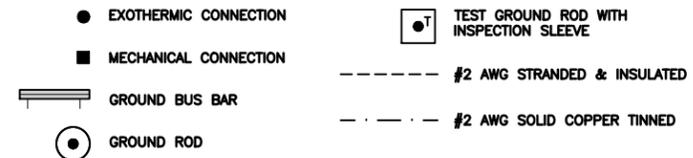
NOTES

1. ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH WIRELESS, LLC. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

- (A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.
- (B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.
- (C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.
- (D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.
- (E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.
- (F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE. STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.
- (G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.
- (H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.
- (J) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (K) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (L) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.
- (M) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.
- (N) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE
- (P) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.
- (Q) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR
- (R) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR. REFER TO DISH WIRELESS, LLC. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE 3

dish wireless.

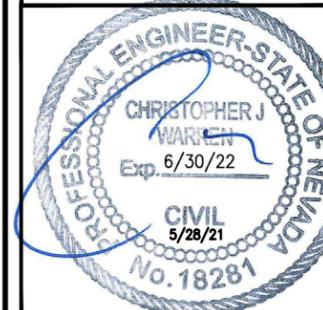
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

CROWN CASTLE

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

INFINIGY  
FROM ZERO TO INFINIGY

the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

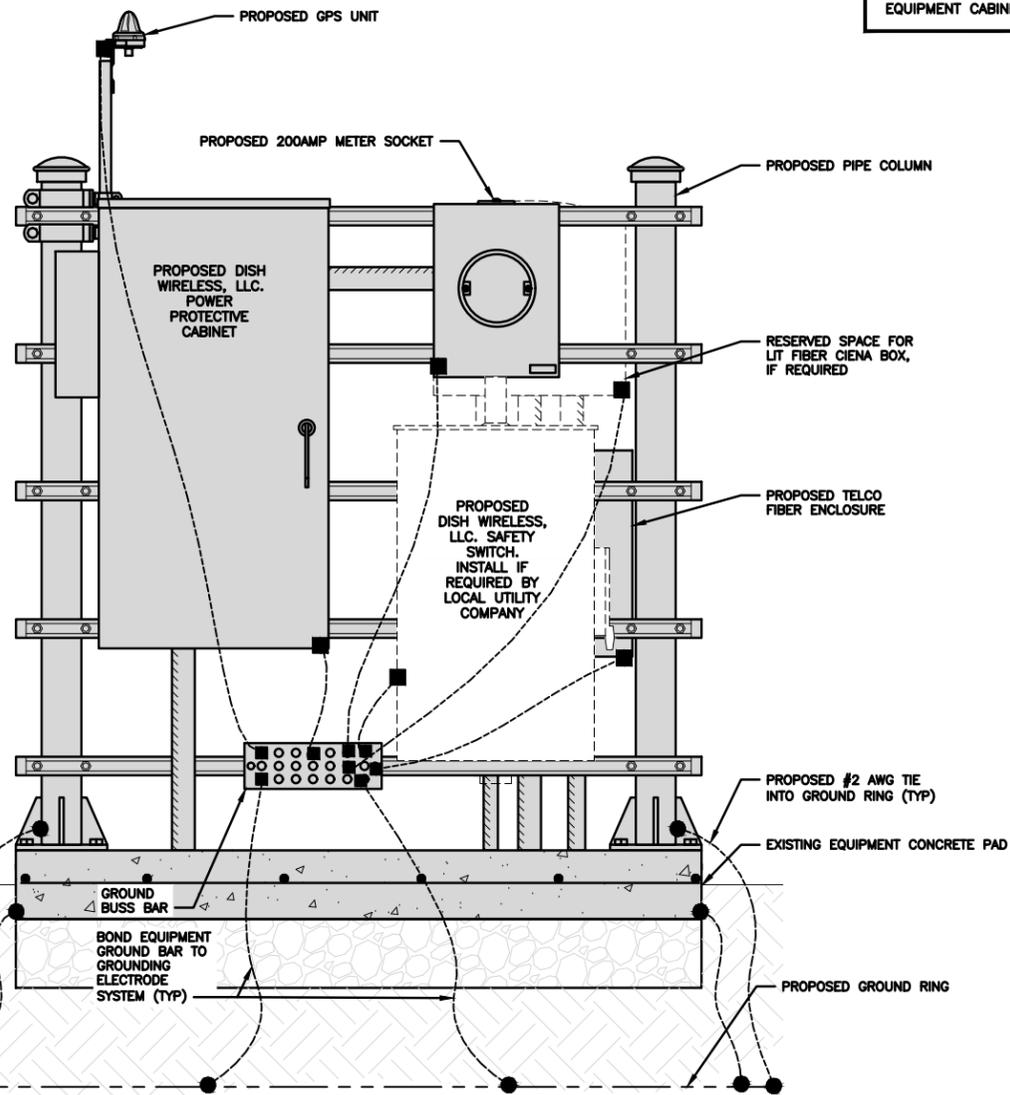
SHEET TITLE  
GROUNDING PLANS  
AND NOTES

SHEET NUMBER

G-1

**NOTES**

EQUIPMENT CABINET OMITTED FOR CLARITY



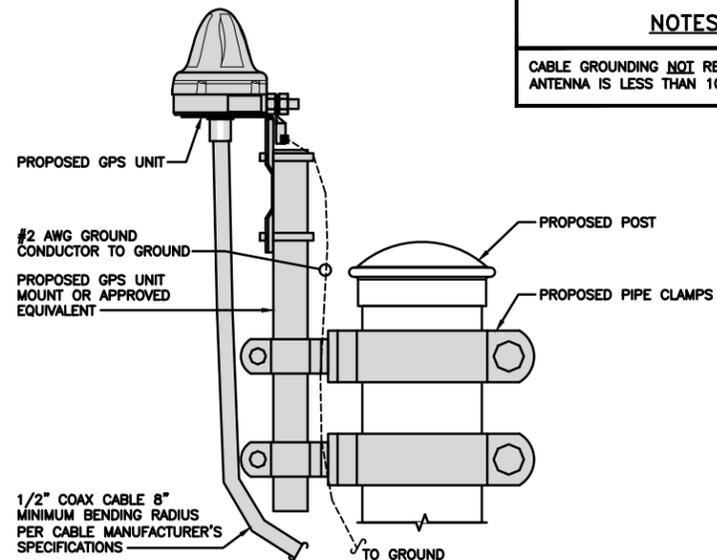
#2 TINNED SOLID IN 1/2" MIN. LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (TYP)

**H-FRAME GROUNDING DETAIL**

NO SCALE 1

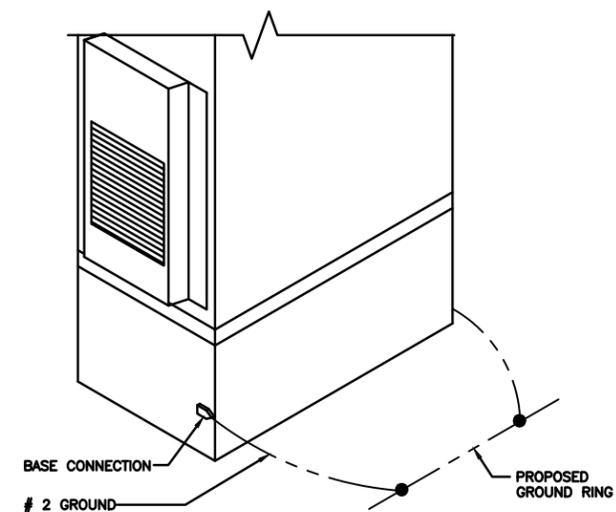
**NOTES**

CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



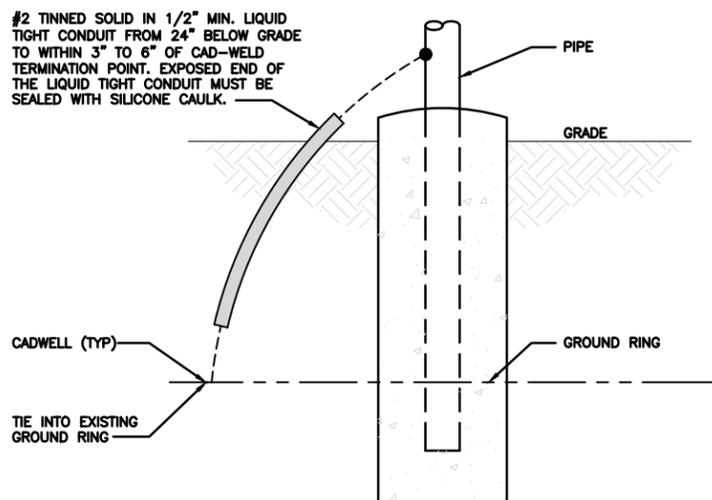
**TYPICAL GPS UNIT GROUNDING**

NO SCALE 2



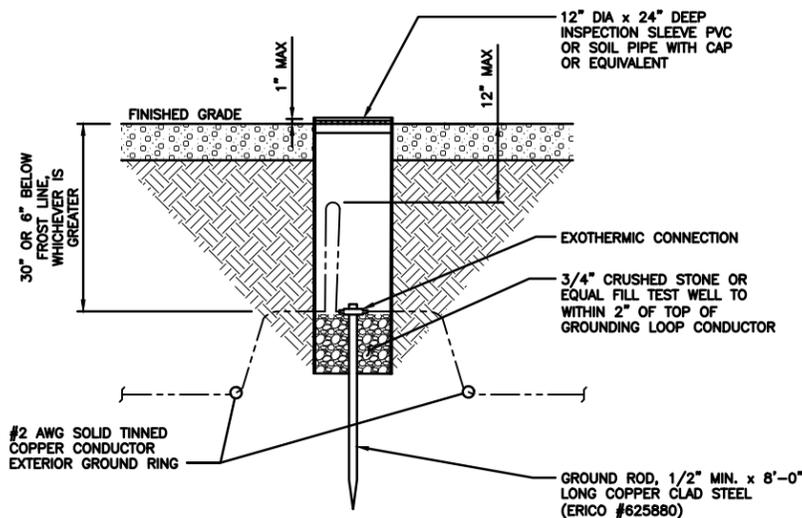
**OUTDOOR CABINET GROUNDING**

NO SCALE 3



**TRANSITIONING GROUND DETAIL**

NO SCALE 4



**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE**

NO SCALE 5

**NOT USED**

NO SCALE 6

**dish wireless.**

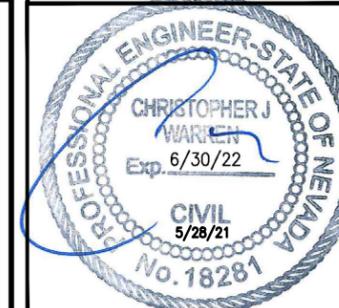
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**CROWN CASTLE**

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

**INFINIGY**  
FROM ZERO TO INFINIGY

the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

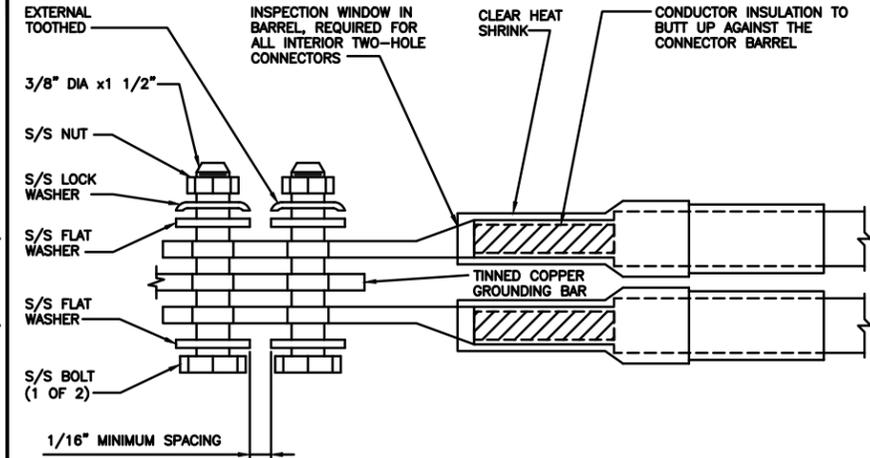
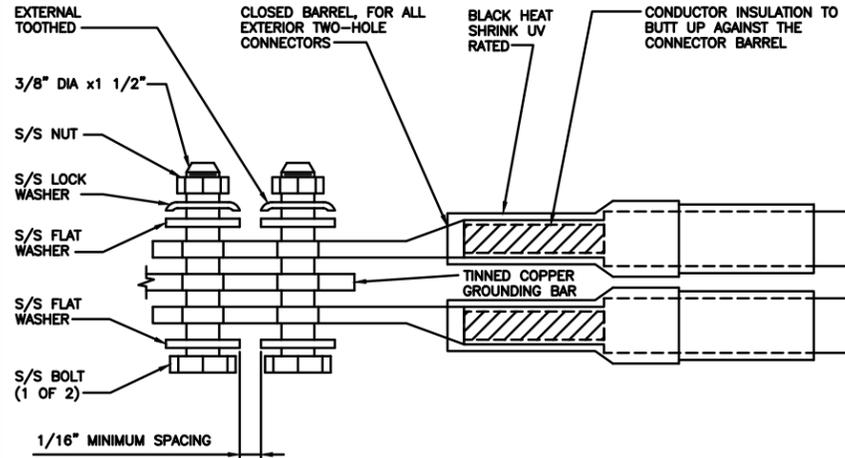
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER

**G-2**

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
9. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

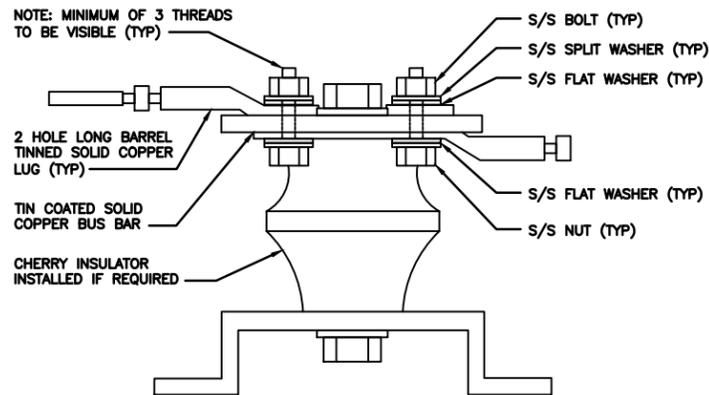
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

**dish**  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

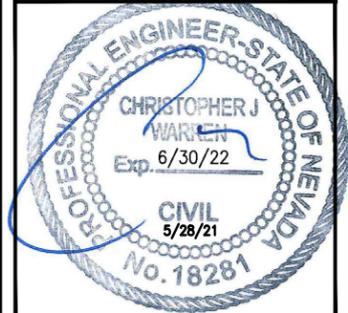
**CROWN**  
**CASTLE**

2000 CORPORATE DRIVE  
CANONSBURG, PA 15317

**INFINIGY**

FROM ZERO TO INFINIGY

the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION**  
**DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION

SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER

**G-3**

**RF JUMPER COLOR CODING**

3/4" TAPE WIDTHS WITH 3/4" SPACING

LOW-BAND RRH -  
(600MHz N71 BASEBAND) +  
(850MHz N26 BAND) +  
(700MHz N29 BAND) - OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND  
(CBRS WILL USE YELLOW BANDS)

ALPHA RRH				BETA RRH				GAMMA RRH			
PORT 1 + SLANT	PORT 2 + SLANT	PORT 3 + SLANT	PORT 4 + SLANT	PORT 1 + SLANT	PORT 2 + SLANT	PORT 3 + SLANT	PORT 4 + SLANT	PORT 1 + SLANT	PORT 2 + SLANT	PORT 3 + SLANT	PORT 4 + SLANT
RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
	WHITE (1) PORT	ORANGE	ORANGE		WHITE (1) PORT	ORANGE	ORANGE		WHITE (1) PORT	ORANGE	ORANGE
			WHITE (1) PORT				WHITE (1) PORT				WHITE (1) PORT

MID-BAND RRH -  
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND  
(CBRS WILL USE YELLOW BANDS)

RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (1) PORT	PURPLE	PURPLE		WHITE (1) PORT	PURPLE	PURPLE		WHITE (1) PORT	PURPLE	PURPLE
			WHITE (1) PORT				WHITE (1) PORT				WHITE (1) PORT

**HYBRID/DISCREET CABLES**

INCLUDE SECTOR BANDS BEING SUPPORTED AM  
LONG WITH FREQUENCY BANDS

EXAMPLE 1 - HYBRID, OR DISCREET, SUPPORTS  
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS  
CBRS ONLY, ALL SECTORS

EXAMPLE 1	EXAMPLE 2
RED	RED
BLUE	BLUE
GREEN	GREEN
ORANGE	YELLOW
PURPLE	

**HYBRID/DISCREET CABLES**

LOW-BAND RRH FIBER CABLES HAVE SECTOR  
STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	LOW BAND RRH	LOW BAND RRH	LOW BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**POWER CABLES TO RRHs**

LOW-BAND RRH POWER CABLES HAVE SECTOR  
STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	LOW BAND RRH	LOW BAND RRH	LOW BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**RET MOTORS AT ANTENNAS**

PORT 1/ ANTENNA 1 "IN"	PORT 1/ ANTENNA 1 "IN"	PORT 1/ ANTENNA 1 "IN"
RED	BLUE	GREEN

**MICROWAVE RADIO LINKS**

LINKS WILL HAVE A 1.5-2 INCH WHITE WRAP WITH  
THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.  
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH  
ADDITIONAL MW RADIO.

MICROWAVE CABINETS WILL REQUIRE P-TOUCH  
LABELS INSIDE THE CABINET TO IDENTIFY THE  
LOCAL AND REMOTE SITE ID'S.

PRIMARY	SECONDARY
WHITE	WHITE
RED	RED
WHITE	WHITE
	RED
	WHITE

**RF CABLE COLOR CODES**

NO SCALE 1

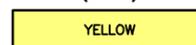
LOW BANDS (N71-N28)  
OPTIONAL - (N29)



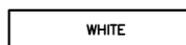
AWS  
(N65+N70+H-BLOCK)



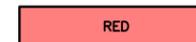
CBRS TECH  
(3 GHz)



NEGATIVE SLANT PORT  
ON ANTRRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



COLOR IDENTIFIER

NO SCALE 2

NOT USED

NO SCALE 3

NOT USED

NO SCALE 4



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

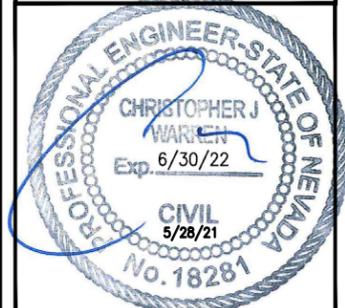


2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY

the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

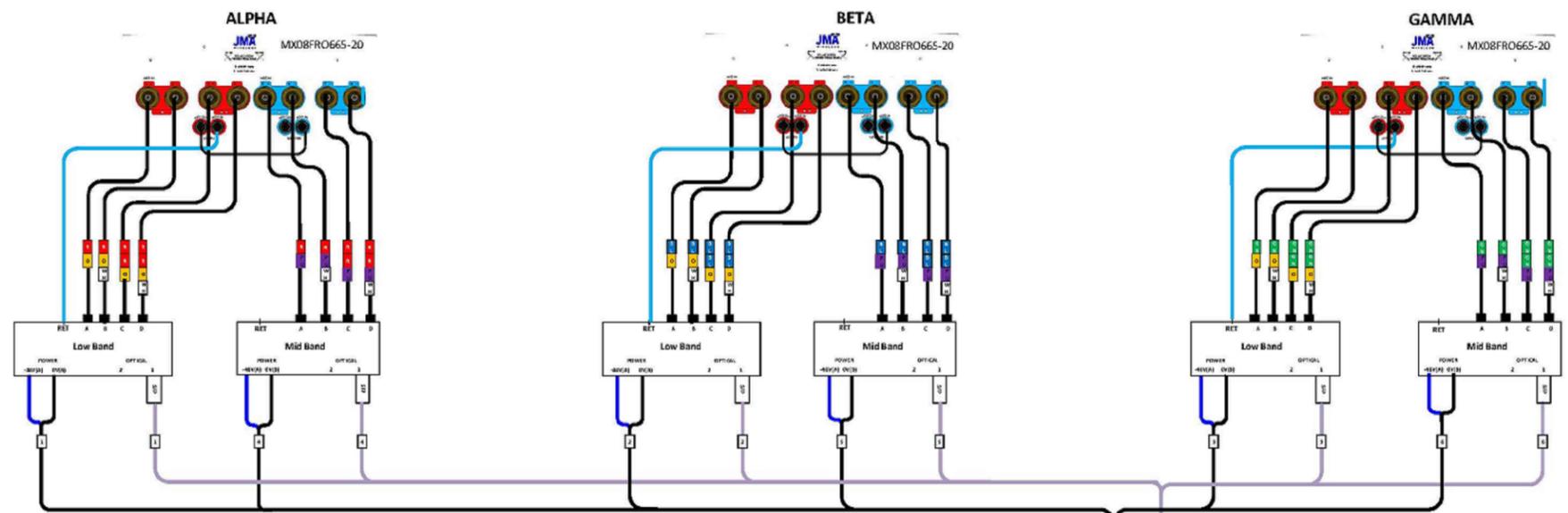
DISH WIRELESS, LLC.  
PROJECT INFORMATION

SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
RF  
CABLE COLOR CODES

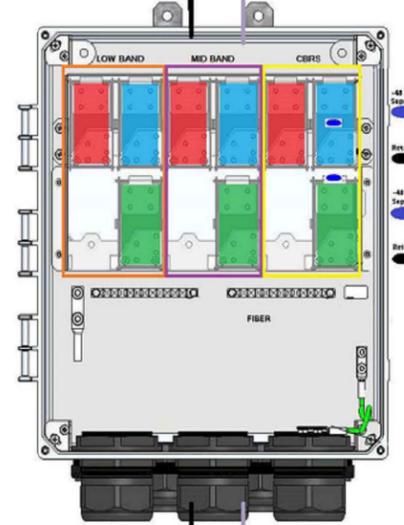
SHEET NUMBER

RF-1



Fiber Patch Panel

Bottom Row	Pair 1	Pair 2	Pair 3	Pair 10	Open	Open
Middle Row	Pair 4	Pair 5	Pair 6	Pair 11	Open	Open
Top Row	Pair 7	Pair 8	Pair 9	Pair 12	Open	Open

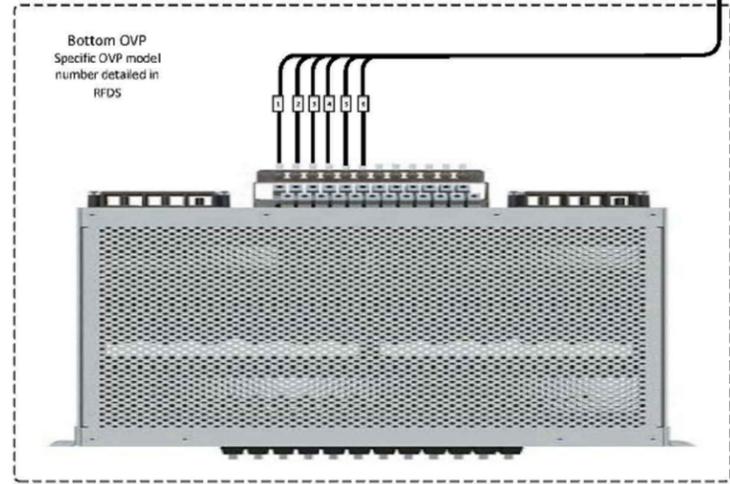


CSR NCS540

Port	Interface	Description
0	Gi0/0/0	SneBoss
1	Gi0/0/1	CBRS - Alpha
2	Gi0/0/2	CBRS - Beta
3	Gi0/0/3	CBRS - Gamma
4	Te0/0/4	Fujitsu Low-Band RU - Alpha
5	Te0/0/5	Fujitsu Mid-Band RU - Alpha
6	Te0/0/6	Fujitsu Low-Band RU - Beta
7	Te0/0/7	Fujitsu Mid-Band RU - Beta
8	Te0/0/8	Fujitsu Low-Band RU - Gamma
9	Te0/0/9	Fujitsu Mid-Band RU - Gamma
10	Te0/0/10	Fixed Wifi
11	Te0/0/11	Fixed Wifi
12	Te0/0/12	Fixed Wifi
13	Te0/0/13	Fixed Wifi
14	Te0/0/14	CBRS1
15	Te0/0/15	CBRS2
16	Te0/0/16	CBRS3
17	Gi0/0/17	SM1 - BMC
18	Gi0/0/18	SM2 - BMC
19	Te0/0/19	SM1 - Data 1
20	Te0/0/20	SM1 - Data 2
21	Te0/0/21	SM2 - Data 1
22	Te0/0/22	SM2 - Data 2
23	Te0/0/23	Reserved Uplink (EDC, LDC)
24	Te0/0/24	Blank/Future
25	Te0/0/25	Blank/Future
26	Te0/0/26	Fiber NIU
27	Te0/0/27	Fiber NIU
28	Te0/0/28	Blank/Future
29	Te0/0/29	Blank/Future

Bottom OVP Layout

Circuit 1	Alpha Low Band
Circuit 2	Beta Low Band
Circuit 3	Gamma Low Band
Circuit 4	Alpha Mid Band
Circuit 5	Beta Mid Band
Circuit 6	Gamma Mid Band
Circuit 7	Alpha CBRs
Circuit 8	Beta CBRs
Circuit 9	Gamma CBRs
Circuit 10	Open
Circuit 11	Open
Circuit 12	Open



	5G plumbing diagram JMA MX08FRO665-20 2-2-(LB+MB)			
	Qian Liu	JEL	12/01/20	01/15/21
5-Jan-2021	1/1/21	1/1/21	1/1/21	3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW

RFDS REV #: N/A

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
1	05/27/2021	ISSUED FOR CONSTRUCTION

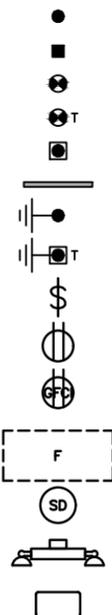
A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

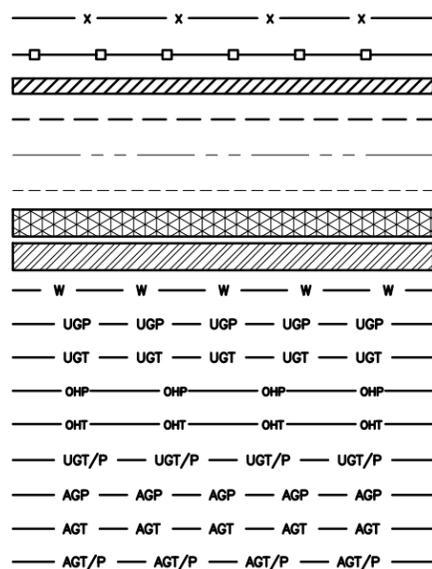
SHEET TITLE  
RF  
PLUMBING DIAGRAM

SHEET NUMBER  
RF-2

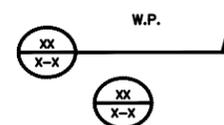
EXOTHERMIC CONNECTION  
 MECHANICAL CONNECTION  
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 EXOTHERMIC WITH INSPECTION SLEEVE  
 GROUNDING BAR  
 GROUND ROD  
 TEST GROUND ROD WITH INSPECTION SLEEVE  
 SINGLE POLE SWITCH  
 DUPLEX RECEPTACLE  
 DUPLEX GFCI RECEPTACLE  
 FLUORESCENT LIGHTING FIXTURE  
 (2) TWO LAMPS 48-T8  
 SMOKE DETECTION (DC)  
 EMERGENCY LIGHTING (DC)  
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW  
 LED-1-25A400/51K-SR4-120-PE-DEBTD



CHAIN LINK FENCE  
 WOOD/WROUGHT IRON FENCE  
 WALL STRUCTURE  
 LEASE AREA  
 PROPERTY LINE (PL)  
 SETBACKS  
 ICE BRIDGE  
 CABLE TRAY  
 WATER LINE  
 UNDERGROUND POWER  
 UNDERGROUND TELCO  
 OVERHEAD POWER  
 OVERHEAD TELCO  
 UNDERGROUND TELCO/POWER  
 ABOVE GROUND POWER  
 ABOVE GROUND TELCO  
 ABOVE GROUND TELCO/POWER  
 WORKPOINT



SECTION REFERENCE  
 DETAIL REFERENCE



**LEGEND**

AB ANCHOR BOLT  
 ABV ABOVE  
 AC ALTERNATING CURRENT  
 ADDL ADDITIONAL  
 AFF ABOVE FINISHED FLOOR  
 AFG ABOVE FINISHED GRADE  
 AGL ABOVE GROUND LEVEL  
 AIC AMPERAGE INTERRUPTION CAPACITY  
 ALUM ALUMINUM  
 ALT ALTERNATE  
 ANT ANTENNA  
 APPROX APPROXIMATE  
 ARCH ARCHITECTURAL  
 ATS AUTOMATIC TRANSFER SWITCH  
 AWG AMERICAN WIRE GAUGE  
 BATT BATTERY  
 BLDG BUILDING  
 BLK BLOCK  
 BLKG BLOCKING  
 BM BEAM  
 BTC BARE TINNED COPPER CONDUCTOR  
 BOF BOTTOM OF FOOTING  
 CAB CABINET  
 CANT CANTILEVERED  
 CHG CHARGING  
 CLG CEILING  
 CLR CLEAR  
 COL COLUMN  
 COMM COMMON  
 CONC CONCRETE  
 CONSTR CONSTRUCTION  
 DBL DOUBLE  
 DC DIRECT CURRENT  
 DEPT DEPARTMENT  
 DF DOUGLAS FIR  
 DIA DIAMETER  
 DIAG DIAGONAL  
 DIM DIMENSION  
 DWG DRAWING  
 DWL DOWEL  
 EA EACH  
 EC ELECTRICAL CONDUCTOR  
 EL ELEVATION  
 ELEC ELECTRICAL  
 EMT ELECTRICAL METALLIC TUBING  
 ENG ENGINEER  
 EQ EQUAL  
 EXP EXPANSION  
 EXT EXTERIOR  
 EW EACH WAY  
 FAB FABRICATION  
 FF FINISH FLOOR  
 FG FINISH GRADE  
 FIF FACILITY INTERFACE FRAME  
 FIN FINISH(ED)  
 FLR FLOOR  
 FDN FOUNDATION  
 FOC FACE OF CONCRETE  
 FOM FACE OF MASONRY  
 FOS FACE OF STUD  
 FOW FACE OF WALL  
 FS FINISH SURFACE  
 FT FOOT  
 FTG FOOTING  
 GA GAUGE  
 GEN GENERATOR  
 GFCI GROUND FAULT CIRCUIT INTERRUPTER  
 GLB GLUE LAMINATED BEAM  
 GLV GALVANIZED  
 GPS GLOBAL POSITIONING SYSTEM  
 GND GROUND  
 GSM GLOBAL SYSTEM FOR MOBILE  
 HDG HOT DIPPED GALVANIZED  
 HDR HEADER  
 HGR HANGER  
 HVAC HEAT/VENTILATION/AIR CONDITIONING  
 HT HEIGHT  
 IGR INTERIOR GROUND RING

IN INCH  
 INT INTERIOR  
 LB(S) POUND(S)  
 LF LINEAR FEET  
 LTE LONG TERM EVOLUTION  
 MAS MASONRY  
 MAX MAXIMUM  
 MB MACHINE BOLT  
 MECH MECHANICAL  
 MFR MANUFACTURER  
 MGB MASTER GROUND BAR  
 MIN MINIMUM  
 MISC MISCELLANEOUS  
 MTL METAL  
 MTS MANUAL TRANSFER SWITCH  
 MW MICROWAVE  
 NEC NATIONAL ELECTRIC CODE  
 NM NEWTON METERS  
 NO. NUMBER  
 # NUMBER  
 NTS NOT TO SCALE  
 OC ON-CENTER  
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
 OPNG OPENING  
 P/C PRECAST CONCRETE  
 PCS PERSONAL COMMUNICATION SERVICES  
 PCU PRIMARY CONTROL UNIT  
 PRC PRIMARY RADIO CABINET  
 PP POLARIZING PRESERVING  
 PSF POUNDS PER SQUARE FOOT  
 PSI POUNDS PER SQUARE INCH  
 PT PRESSURE TREATED  
 PWR POWER CABINET  
 QTY QUANTITY  
 RAD RADIUS  
 RECT RECTIFIER  
 REF REFERENCE  
 REINF REINFORCEMENT  
 REQ'D REQUIRED  
 RET REMOTE ELECTRIC TILT  
 RF RADIO FREQUENCY  
 RMC RIGID METALLIC CONDUIT  
 RRH REMOTE RADIO HEAD  
 RRU REMOTE RADIO UNIT  
 RWY RACEWAY  
 SCH SCHEDULE  
 SHT SHEET  
 SIAD SMART INTEGRATED ACCESS DEVICE  
 SIM SIMILAR  
 SPEC SPECIFICATION  
 SQ SQUARE  
 SS STAINLESS STEEL  
 STD STANDARD  
 STL STEEL  
 TEMP TEMPORARY  
 THK THICKNESS  
 TMA TOWER MOUNTED AMPLIFIER  
 TN TOE NAIL  
 TOA TOP OF ANTENNA  
 TOC TOP OF CURB  
 TOF TOP OF FOUNDATION  
 TOP TOP OF PLATE (PARAPET)  
 TOS TOP OF STEEL  
 TOW TOP OF WALL  
 TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION  
 TYP TYPICAL  
 UG UNDERGROUND  
 UL UNDERWRITERS LABORATORY  
 UNO UNLESS NOTED OTHERWISE  
 UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM  
 UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)  
 VIF VERIFIED IN FIELD  
 W WIDE  
 W/ WITH  
 WD WOOD  
 WP WEATHERPROOF  
 WT WEIGHT

**ABBREVIATIONS**



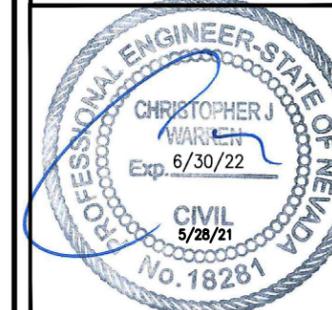
5701 SOUTH SANTA FE DRIVE  
 LITTLETON, CO 80120



2000 CORPORATE DRIVE  
 CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
 the solutions are endless  
 2500 W. HIGGINS RD., SUITE 500 |  
 HOFFMAN ESTATES, IL 60169  
 PHONE: 847-648-4068 | FAX: 518-690-0793  
 WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON,  
 UNLESS THEY ARE ACTING UNDER THE DIRECTION  
 OF A LICENSED PROFESSIONAL ENGINEER,  
 TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

RCD SS CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
 2039-Z5555C

DISH WIRELESS, LLC.  
 PROJECT INFORMATION  
 SCRNO00032A  
 SN305 SPOONER GRADE  
 5364 SIERRA HIGHLAND DR  
 CARSON CITY, NV 89703

SHEET TITLE  
 LEGEND AND  
 ABBREVIATIONS

SHEET NUMBER

**GN-1**

**SITE ACTIVITY REQUIREMENTS:**

- NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH WIRELESS, LLC. AND TOWER OWNER NOC & THE DISH WIRELESS, LLC. AND TOWER OWNER CONSTRUCTION MANAGER.
- "LOOK UP" – DISH WIRELESS, LLC. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:  
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH WIRELESS, LLC. AND DISH WIRELESS, LLC. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH WIRELESS, LLC. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH DISH WIRELESS, LLC. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH WIRELESS, LLC. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH WIRELESS, LLC. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH WIRELESS, LLC. AND TOWER OWNER, AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

**GENERAL NOTES:**

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
CARRIER:DISH WIRELESS, LLC.  
TOWER OWNER:TOWER OWNER
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH WIRELESS, LLC. AND TOWER OWNER
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



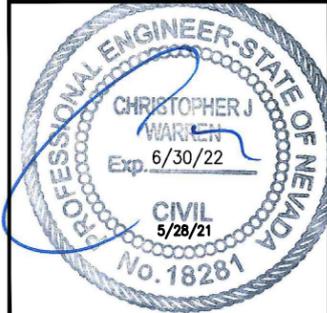
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD. SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-2**

**CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°F AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
  - #4 BARS AND SMALLER 40 ksi
  - #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BARS AND LARGER 2"
    - #5 BARS AND SMALLER 1-1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    - SLAB AND WALLS 3/4"
    - BEAMS AND COLUMNS 1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

**ELECTRICAL INSTALLATION NOTES:**

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
  - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
  - 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH WIRELESS, LLC. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH WIRELESS, LLC."
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4088 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW
RFDS REV #:	N/A	

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN00032A  
SN305 SPOONER GRADE  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-3**

**GROUNDING NOTES:**

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.



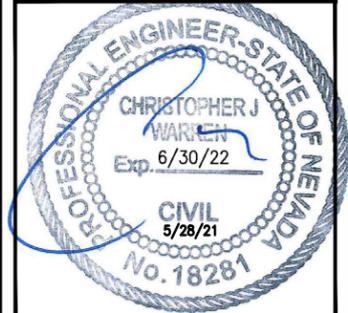
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



2000 CORPORATE DRIVE  
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY  
the solutions are endless  
2500 W. HIGGINS RD., SUITE 500 |  
HOFFMAN ESTATES, IL 60169  
PHONE: 847-648-4068 | FAX: 518-690-0793  
WWW.INFINIGY.COM



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
RCD	SS	CJW

RFDS REV #: N/A

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
Δ	05/27/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
2039-Z5555C

DISH WIRELESS, LLC.  
PROJECT INFORMATION  
SCRN000032A  
5364 SIERRA HIGHLAND DR  
CARSON CITY, NV 89703

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-4**