



Planning Commission
Brooklyn Park Council Chambers
5200 85th Avenue North

Wednesday, December 14, 2022
7:00 p.m.

PLANNING COMMISSION REGULAR MEETING – AGENDA

Commissioners: Chair Syed Husain, Vice Chair Nichole Klonowski, General Officer Liam Cavin, James Turnham, Kathy Fraser, John Kiekow, Roberta Reindorf, Christopher Udomah, Rich Xiong
Staff Liaison Paul Mogush, Amber Turnquest, and Erin McDermott.

Members of the public can monitor the meeting by watching it on CCX Media Channel 16 or by livestreaming it at https://nwscce-brooklynpark.granicus.com/ViewPublisher.php?view_id=5.

Anyone who wants to address the Planning Commission during the Public Comment period may do so in person or by calling **763-493-8056** or emailing planning@brooklynpark.org by 4:00 p.m. on the meeting day. You will be asked to provide your name, address, email, and phone number. You will then be registered to speak during the Public Comment period or on the agenda item and will be provided the call in number to address the Planning Commission.

For reasonable accommodations or alternative formats, please provide a 72-hour notice by calling 763-424-8000 or emailing Josie.Shardlow@brooklynpark.org. Para asistencia, 763-493-8059. Yog xav tau kev pab, hu 763-493-8059.

- 1. CALL TO ORDER**
- 2. ROLL CALL/PLEDGE OF ALLEGIANCE**
- 3. EXPLANATION BY CHAIR**

Please be advised that the public hearings are recorded and televised live on cable television and web-streamed over the internet at brooklynpark.org. The audio system will not pick up comments from the seating area. If you want to be heard and made a part of the public record, please go to the podium or, if participating remotely, turn on your camera; speak into the microphone, stating your full name and address. Please sign the public hearing logbook on the table near the entrance to the Council Chambers if you are attending in person to ensure accuracy of name and address in the public record. Please note that the agenda for tonight's meeting indicates that the Commission Chair has the prerogative to invoke a time limit for speakers during any public hearing in the interest of maintaining focus and the effective use of time. Thank you in advance for your cooperation.

The Planning Commission consists of nine resident-volunteer members appointed by the City Council to advise the City Council on planning and land use issues. The Commission discusses and evaluates development proposals based on zoning regulations and comprehensive plan policies. The Planning Commission vote is a recommendation that is forwarded to the City Council for official and final action.

- 4. APPROVAL OF AGENDA**
- 5. CONSENT AGENDA**

5.1. **Approval of Minutes** – November 9, 2022 Regular Meeting

- 6. PUBLIC HEARING**

6.1 **APC Towers** – Conditional Use Permit, #22-123 for a Communication Tower on a property zoned PI – Public Institution.

Presented by: Erin McDermott

7. **OTHER BUSINESS**
8. **DISCUSSION ITEMS**
9. **INFORMATION ITEMS**
 - A. **Council Comments**
 - B. **Commission Comments**
 - C. **Staff Comments**
10. **ADJOURNMENT TO WORK SESSION**



Planning Commission
Brooklyn Park Room A203
5200 85th Avenue North

Wednesday, December 14, 2022
7:00 p.m.

PLANNING COMMISSION WORK SESSION – AGENDA

Commissioners: Chair Syed Husain, Vice Chair Nichole Klonowski, General Officer Liam Cavin, James Turnham, Kathy Fraser, John Kiekow, Roberta Reindorf, Christopher Udomah, Rich Xiong
Staff Liaison Paul Mogush, Amber Turnquest, and Erin McDermott.

For reasonable accommodations or alternative formats, please provide a 72-hour notice by calling 763-424-8000 or emailing Josie.Shardlow@brooklynpark.org. Para asistencia, 763-493-8059. Yog xav tau kev pab, hu 763-493-8059.

1. **CALL TO ORDER**
2. **DISCUSSION ITEMS**
 - A. **Just Deeds**
Sarah Abe, Development Project Coordinator
Paul Mogush, Planning Director
3. **OTHER BUSINESS**
4. **ADJOURNMENT**

UNAPPROVED MINUTES

MINUTES OF THE BROOKLYN PARK PLANNING COMMISSION Regular Meeting – NOVEMBER 9, 2022



1. CALL TO ORDER

The meeting was called to order at 7:00 PM.

2. ROLL CALL/PLEDGE OF ALLEGIANCE

Those present were: Commissioners Cavin, Fraser, Husain, Kiekow, Klonowski, Turnham, and Xiong; Council Liaison West-Hafner; Planning Director Mogush; Principal Planner Turnquest; and Associate Planner McDermott.

Those arrived late: None

Those not present were: Commissioner Reindorf and Commissioner Udomah (with prior notice).

3. EXPLANATION BY CHAIR

4. APPROVAL OF AGENDA

MOTION CAVIN, SECOND KLONOWSKI TO APPROVE THE NOVEMBER 9, 2022 AGENDA.

MOTION CARRIED UNANIMOUSLY.

5. CONSENT AGENDA

A. Minutes – October 12, 2022

Chair Husain noted on page six, the first roll call vote should show himself as voting nay and Commissions Kiekow as voting aye.

MOTION HUSAIN, SECOND KIEKOW TO APPROVE THE NOVEMBER 9, 2022 CONSENT AGENDA WITH THE NOTED CHANGE.

MOTION CARRIED UNANIMOUSLY.

6. PUBLIC HEARING

A. APC Towers – Conditional Use Permit, #22-123 for a Communication Tower on a property zoned PI – Public Institution.

Associate Planner McDermott presented a request for a conditional use permit and variance, noting that the Commission previously approved this planning case in 2019. She identified the property location, adjacent uses and provided details on the subject property including zoning and adjacent zoning. She provided details on the proposal from the applicant including fencing and tower design. She stated that staff reviewed this against the zoning ordinance for the Crystal airport noting that this would meet the allowed height. She stated that staff recommends approval of the requests.

Commission Chair Husain opened the public hearing.

Donna Jorgensen stated that her concern would be that the radio waves could impact the children and seniors living in this area. She commented that her husband died from cancer related to radio wave activity. She did not believe that due diligence was performed as parents of the children at the schools were not notified.

Commission Chair Husain closed the public hearing but reminded the public that comments can be submitted via email to City Staff for consideration in the City Council agenda packet.

Commissioner Klonowski asked if the applicant has data supporting or negating the concerns of the resident.

Pierre Giguere, representing the applicant, commented that the FCC and American Cancer Society have both addressed this topic on their websites.

Commissioner Klonowski asked if the City has data to support or negate the concerns of the resident.

Planning Director Mogush replied that the role of the City is related to land use approvals and telecommunications towers are regulated by the FCC. He stated that the issues before the City are related to land use and site design. He noted that the health effects do not fall to the City.

Commissioner Klonowski asked the number of cell towers in the community.

Planning Director Mogush replied that he did not have that exact number. He noted that they are largely placed on publicly owned land but recognized that would not work to address all communications needs.

Commissioner Klonowski stated that the Commission is to consider land use, irregardless of the public testimony.

Chair Husain stated that he researched this topic years ago when the Commission considered this request. He noted that 5G is stronger than 4G and would like the City to look into that more.

Commissioner Turnham asked if he understood it correctly that the church is going to build a cross tower and the 5G would be inside of that.

Mr. Giguere confirmed that would be correct. He noted that the tower would be supported by three support poles. He provided details on the cross design and use of bells.

Chair Husain asked for a summary of the setback requests.

Mr. Giguere provided details on the requested variances for setbacks from the northern and eastern property lines. He noted that up to three carriers could be supported on the tower and three carriers on the base.

Commissioner Cavin referenced the comment that Chair Husain would like additional study on the health impacts but noted that a vote would still be necessary tonight.

Chair Husain stated that he does not feel there is sufficient information on the health impact, noting that just because the FCC allows something does not mean it is healthy.

Commissioner Cavin recommended that this be tabled until there is additional information on health and safety.

Commissioner Turnham referenced the map which shows other cell towers in the area and asked if those are 4G or 5G.

Mr. Giguere replied that the towers focus on the installation of cell towers and equipment. He noted that while not all the towers are 5G, they will continue to move towards that because of the advancement in technology.

Commissioner Husain commented that obviously there are already 5G towers and most cell phones already use 5G as well.

Mr. Giguere commented that the church location is in the middle of the map showing the other towers in the area, which would help to close a coverage gap that exists.

Chair Husain asked for input from staff on the concept of tabling.

Planning Director Mogush replied that the Commission could table the request. He noted the allowable review time, noting that the City would need to exercise the ability to extend the 60-day review period in order to table the request.

Commissioner Cavin asked the impact on staff that tabling would have as the Commission would be requesting information on the health and safety impacts of radio waves.

Planning Director Mogush stated that his request is that any motion be clear as to what is requested and what is asked of the applicant and/or staff. He stated that they would not otherwise plan to hold a December Planning Commission meeting.

Councilmember West-Hafner noted that this application has been through this process once before and the approval expired. She noted that perhaps that information is already available on that topic.

Associate Planner McDermott commented that this question was not addressed at that time.

Planning Director Mogush was appreciative that Councilmember West-Hafner reminded the Commission of that previous approval, which is very similar to this request. He stated that if this were to lead to denial that would be a high bar to deny something that was already approved with pretty much the same facts and regulations.

Commissioner Xiong asked what would happen with 4G towers, where those are removed or upgraded as technology advances.

Mr. Giguere commented that in most cases towers are permanent until removed. He stated that when technology advances, the antennas are removed, and the new technology is installed in its place. He noted that it would be impossible to tell the type of technology on the tower by looking.

Commissioner Klonowski stated that this was presented and then a concern was received from a neighbor related to a health concern. She stated that in looking online the American Cancer Society says there is no link, while European sources have mixed reviews. She stated that it would be helpful to have some background information provided by staff in order to make an informed discussion.

Commissioner Turnham asked if the existing towers are three carriers or are single carrier towers.

Mr. Giguere replied that in order to make the best use of space most towers are multiple tenant, ranging from one to four.

Commissioner Xiong commented that this was reviewed by the Planning Commission and City Council in 2019 and was approved. He believed that there are systems and processes in place to review and therefore would not want to see this delayed if it were already approved previously.

MOTION XIONG, SECOND KIEKOW TO ADOPT FINDINGS OF FACT FOR THE APPROVAL OF A VARIANCE REQUEST FOR A SETBACK REDUCTION OF 101 FEET 9 INCHES FROM THE NORTHERN PROPERTY LINE FOR A SETBACK OF 142 FEET THREE INCHES, AND A REDUCTION OF 143 FEET SIX INCHES FROM THE EASTERN PROPERTY LINE FOR A SETBACK OF 100 FEET SIX INCHES FOR A COMMUNICATIONS TOWER AT 5840 69TH AVENUE NORTH, SUBJECT TO CONDITIONS IN THE DRAFT RESOLUTION.

MOTION CARRIED 4 – 3 (CAVIN, FRASER, AND HUSAIN OPPOSED).

MOTION XIONG, SECOND KIEKOW TO RECOMMEND APPROVAL OF A RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR A COMMUNICATIONS TOWER AT 5840 69TH AVENUE NORTH, SUBJECT TO CONDITIONS IN THE DRAFT RESOLUTION.

MOTION FAILED 3 (XIONG, KEIKOW, AND TURNHAM IN FAVOR) – 4.

Planning Director Mogush replied that the Commission would need to do something with that request as the motion to approve failed.

Councilmember West-Hafner stated that perhaps there were conditions that someone would like to add.

Chair Husain stated that he is not comfortable to approve the request because of the questions related to health impacts.

MOTION KLONOWSKI, SECOND ?? TO TABLE CONSIDERATION OF A RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR A COMMUNICATIONS TOWER AT 5840 69TH AVENUE NORTH, SUBJECT TO CONDITIONS OF THE CITY MEETING WITH THE PLANNING COMMISSION TO DISCUSS HEALTH IMPACTS PRIOR TO APPROVAL.

FURTHER DISCUSSION: PLANNING DIRECTOR MOGUSH REPLIED THAT IT WOULD BE IMPORTANT TO TABLE TO A CERTAIN DATE, NOTING THAT THE DECEMBER MEETING WOULD BE SCHEDULED FOR DECEMBER 14TH. HE STATED THAT STAFF COULD BE DIRECTED TO INCLUDE INFORMATION ON THE HEALTH IMPACTS OF 5G COMMUNICATION TOWERS.

CHAIR HUSAIN CONFIRMED THAT AMENDED LANGUAGE TO BE ADDED FOR CLARITY.

MOTION PASSED 5 -2 (KIEKOW AND XIONG OPPOSED).

B. Six Ten Zane Fourth Addition – Preliminary Plat, #22-124 for the creation of a 7.4-acre lot on a property zoned Business Park District/Planned Unit Development Overlay.

Principal Planner Turnquest introduced the application for preliminary plat for Six Ten Zane Fourth Addition. She provided details on the subject property, adjacent uses, and zoning. She stated that this preliminary plat would create one lot and one outlot to create Six Ten Zane Fourth Addition. She noted that while no formal development request has been submitted at this time, it would be anticipated in the near future.

Eddie Wolf (the applicant), introduced himself and stated that there is currently not a user selected but they are engaged with a user. He stated that in the future when the user would want to develop and construct, they would submit a site plan that would meet the necessary criteria.

Commission Chair Husain opened the public hearing.

Seeing no one approach the podium, Commission Chair Husain closed the public hearing.

Commissioner Kiekow stated that as he understands there would be no change to the property other than the boundary lines.

Chair Husain asked if there would be two new access points created.

Principal Planner Turnquest confirmed that there would be but noted that would be determined at the time of site plan review.

MOTION KLONOWSKI, SECOND CAVIN TO RECOMMEND APPROVAL OF PRELIMINARY PLAT OF “SIX TEN ZANE FOURTH ADDITION” FOR THE CREATION OF ONE LOT AND ONE OUTLOT, SUBJECT TO CONDITIONS IN THE DRAFT RESOLUTION.

MOTION CARRIED UNANIMOUSLY.

Planning Director Mogush stated the public hearing item is scheduled to be reviewed at the City Council meeting on November 28, 2022.

C. Edinburgh Center Third Addition – Preliminary Plat, #22-122 for the reconfiguration of three lots to create a buildable site for future development on a property zoned PCDD – Planned Community Development District.

Associate Planner McDermott introduced the application for a preliminary plat request for Edinburgh Center Third Addition. She provided details on the subject property, adjacent uses, and zoning. She stated that the property owner received previous approvals to fill the wetland, which has been completed and therefore the property owner would like to subdivide the property in order to sell a portion for development. Staff recommends approval with the conditions noted.

Commission Chair Husain opened the public hearing.

Seeing no one approach the podium, Commission Chair Husain closed the public hearing.

Commissioner Xiong thanked the property owner for continuing to bring businesses to Brooklyn Park. He noted that he often visits this area and is excited for new businesses to be added.

MOTION XIONG, SECOND KLONOWSKI TO RECOMMEND APPROVAL OF PRELIMINARY PLAT OF "EDINBURGH CENTER 3RD ADDITION" FOR THE RECONFIGURATION OF LOT 6, BLOCK 1 EDINBURGH CENTER, AND LOTS 2 AND 3, BLOCK 1, EDINBURGH CENTER SECOND ADDITION FOR THE CREATION OF THREE LOTS, SUBJECT TO CONDITIONS IN THE DRAFT RESOLUTION.

MOTION CARRIED UNANIMOUSLY.

Planning Director Mogush stated the public hearing item is scheduled to be reviewed at the City Council meeting on November 28, 2022.

- D. NorthPark Buildings XII & XIII – Preliminary Plat and Site Plan Review, #22-125 for two speculative warehouse buildings on a property zoned BP/PD – Business Park with a Planned Development Overlay.**

Commissioner Klonowski recused herself from the discussion as her firm represents the design work for this project.

Principal Planner Turnquest introduced the application for preliminary plat and site plan review for NorthPark Buildings XII and XIII. She provided details on the subject site, adjacent uses, and zoning. She stated that the request would subdivide the outlot into two lots and one outlot. He applicant proposes two 210,000 square foot warehouse buildings with office space on lots one and two. She stated that all criteria have been met by the requests with more green space provided than required. She provided additional details on the proposed landscaping and noted that even with this development the entire NorthPark development would remain under the 70 percent impervious threshold. She noted that the building style and materials would be similar to the buildings that already exist within the development. Staff recommends approval of the request with the conditions noted.

Commission Chair Husain opened the public hearing.

Seeing no one approach the podium, Commission Chair Husain closed the public hearing.

Commissioner Cavin commented that with such large buildings, sustainability remains a discussion. He noted that he would love to see the applicant and designers attempt to enhance sustainability.

Chair Husain asked if the other buildings have been occupied.

Michael Conzemius, spoke in representation of the applicant, noting that building eight is mainly leased, nine is vacant and ten is mainly leased. He stated that they skipped over building 11 as that is a build to suit.

MOTION TURNHAM, SECOND CAVIN TO RECOMMEND APPROVAL OF PRELIMINARY PLAT FOR "NORTHPARK BUSINESS CENTER NINTH ADDITION" AT THE NORTHWEST INTERSECTION OF XYLON AVENUE NORTH AND OXBOW CREEK DRIVE.

MOTION CARRIED UNANIMOUSLY.

MOTION TURNHAM, SECOND CAVIN TO RECOMMEND APPROVAL OF A SITE PLAN FOR TWO 210,000 SQUARE FOOT WAREHOUSE BUILDINGS ON LOTS 1 AND 2, BLOCK 1, NORTHPARK BUSINESS CENTER NINTH ADDITION.

MOTION CARRIED UNANIMOUSLY.

Planning Director Mogush stated the public hearing item is scheduled to be reviewed at the City Council meeting on November 28, 2022.

7. OTHER BUSINESS

None.

8. DISCUSSION ITEMS

None.

9. INFORMATION ITEMS

A. Council Comments

Council Liaison West-Hafner provided a brief update on recent Council activity concerning planning cases.

B. Commission comments

No comments.

C. Staff Comments

Planning Director Mogush stated that they will not hold the regular November worksession due to the Thanksgiving holiday. He stated that they will hold a worksession tonight following this meeting. He noted that they will hold a December meeting to consider the tabled item and will have a worksession following that meeting.

Commissioner Xiong congratulated Commissioner Klonowski on her election to the City Council and expressed thanks to Councilmember West-Hafner for her service.

10. ADJOURNMENT TO WORKSESSION

Commission Chair Husain adjourned the meeting to worksession at 7:50 PM.

Respectfully submitted,

Devon Miller
Planning Program Assistant

City of Brooklyn Park Planning Commission Staff Report

Agenda Item:	6.1	Meeting Date:	December 14, 2022
Agenda Section:	Public Hearing	Originating Department:	Community Development
Resolution:	X	Prepared By:	Erin McDermott, Associate Planner
Ordinance:	X		
Attachments:	6	Presented By:	Erin McDermott, Associate Planner
Item:	APC Towers – Conditional Use Permit and Variance, #22-123 for a Communication Tower on a property zoned PI – Public Institution.		

City Manager’s Proposed Action:

MOTION _____ SECOND _____ TO RECOMMEND APPROVAL OF A RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR A COMMUNICATIONS TOWER AT 5840 69TH AVENUE NORTH, SUBJECT TO THE CONDITIONS IN THE DRAFT RESOLUTION.

Summary:

Planning Commission Request:

At the November 9, 2022 Planning Commission Regular Meeting this body voted in favor of recommending approval of the findings of fact for the approval of the requested variance for this land use application. There was a motion to approve the CUP, and a second, but the motion failed with a vote of three in favor, and four opposed, at which time this item was tabled. The Planning Commission requested staff research the safety of this use.

Staff Findings:

- Section 704 of the Telecommunication Act of 1996 governs oversight of telecommunications towers, which clarifies the extent of municipalities have over the installation of towers – limiting it to zoning authority only. (Attachment B)
- The City Attorney has provided a memo confirming that the safety of 5G cannot be a consideration in the recommendation by the Planning Commission to City Council, as the Federal Communications Commission (FCC) is the sole governing body with the jurisdiction to determine the safety of the antennas. (Attachment C)

The applicant supplied staff with a compliance report for this site, which certifies that this site complies with FCC requirements for radio frequency (RF) emissions. (Attachment D)

Conditional Use Permit

Conditional uses must be reviewed against the standards of the Code (§ 152.035). Traffic, Parking, City Services, and Architectural Standards are omitted from this report, as they do not pertain to a communication tower.

- (D) **Review Standards.** The request may address the following factors, although the City Council, the Planning Commission, and city staff has the authority to request additional information from the applicant concerning operational factors pertaining to the proposed use or to retain experts with the consent and at the expense of the applicant concerning operational factors, when necessary to establish performance conditions to effect the intent of this chapter.

- (1) **Comprehensive Plan.** Compliance with the Comprehensive Plan, public facilities and capital improvement plans, and all sections of the City Code.

Communication Towers are a conditional use in all zoning districts, and the Comprehensive Plan does not impact the placement of towers. Public facilities, and capital improvement plans are not impacted by the addition of a communication tower.

(5) Screening and landscaping. The ability to screen and buffer incompatible off-site impacts of the proposed use on adjacent property and the surrounding neighborhood. The city may require additional landscaping or screening above that required in the specific zoning district.

The proposed site has existing landscaping. No additional landscaping is required for the screening of the proposed tower. The tower and subsequent equipment will be enclosed and screened with slatted fencing. The applicant has addressed the code requirements in the narrative provided, and staff has confirmed the proposed screening is consistent with the zoning ordinance.

(7) Other sections of the city code. The applicant may be required to submit additional information demonstrating that the development is able to comply with any other applicable section of this chapter or the city code.

Tower Performance Standards

There are four primary considerations within the zoning ordinance to ensure the public health, safety and general welfare of the community (§152.090). These considerations are as follows:

- (A) Provide for the appropriate location, compatible with surrounding land uses, for the development of communication facilities to serve the residents and businesses of the city;
- (B) Minimize adverse visual effects of communication towers and other facilities through careful design and siting standards;
- (C) Avoid potential tower failure damage to adjacent properties through structural standards and setback requirements; and,
- (D) Maximize the use of existing and approved towers, buildings and other structures to accommodate wireless telecommunication devices to reduce the number of towers needed to serve the community.

Preference for tower location prioritizes existing structures. In this instance there are none available to the applicant. Several other properties had been contacted during the initial process, and the applicant was unable to locate a viable location. The next location priority prescribed by code is Public Institution sites, making this site the next ideal location by ordinance.

In order to minimize any adverse visual effects of this tower, as a required condition of the initial approvals, this tower is required to be brown or beige to match the church. The applicant is also proposing to minimize the visual effects by creating the appearance of a bell tower, which is consistent with the current use of the property.

The proposed tower will meet all building code requirements for the structure. The applicant requested a variance from setback requirements as addressed below.

The required findings of § 152.035 have been addressed and Staff recommends approval of this CUP request.

Alternatives to consider:

1. Approve the CUP as recommended by Staff.
2. Approve the CUP with modifications.
3. Deny the CUP based on certain findings within scope allowed by Section 704 of the Telecommunications Act of 1996.

Attachments:

- A. RESOLUTION – CONDITIONAL USE PERMIT
- B. FCC FACT SHEET
- C. ATTORNEY MEMO
- D. COMPLIANCE REPORT
- E. PLANS

RESOLUTION #2023-____

RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR A COMMUNICATIONS
TOWER AT 5840 69TH AVENUE NORTH

Planning Commission File #22-123

WHEREAS, Mr. Pierre Gugierre of Insite, Inc, on behalf of APC Towers III, LLC, has made application for a Conditional Use Permit under the provisions of Chapter 152 of the City Code at Brooklyn Evangelical Lutheran Church at 5840 69th Avenue North and legally described as:
LOT 1, BLOCK 1, A1 RELIABLE HOME SERVICES, HENNEPIN COUNTY,
MINNESOTA.

WHEREAS, the matter has been referred to the Planning Commission who have given their advice and recommendation to the City Council; and

WHEREAS, the effect of the proposed use upon the health, safety and welfare of surrounding lands and existing and anticipated effects on the neighborhood have been considered; and

WHEREAS, the Planning Commission held a public hearing on November 9, 2022; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BROOKLYN PARK that a Conditional Use Permit be granted to allow the construction and operation of a 125-foot communication tower subject to the following:

1.00 CONDITIONS

1. Per plans dated revised 10-26-2022 presented to the City Council.
2. The tower must be available to accommodate at least two additional communications users.
3. The tower's color must be brown or beige for better coordination with the building.
4. The tower shall not be used as signage.

The petitioner shall be required to record a copy of this resolution with the Hennepin County Recorder and to pay all fees for said recording. Proof of said recording shall be filed promptly with the City. The building permit shall not be issued until or unless the recording is made within one year from the date of this approval.



April 23, 1996

FEDERAL COMMUNICATIONS COMMISSION

FACT SHEET

Information provided by the Wireless Telecommunications Bureau

NEW NATIONAL WIRELESS TOWER SITING POLICIES

The Telecommunications Act of 1996 contains important provisions concerning the placement of towers and other facilities for use in providing personal wireless services. Most state and local communities have worked closely with cellular and other wireless service providers on such placement plans, but this new law establishes new responsibilities for communities and for the Federal Communications Commission (FCC). The rapid expansion in the wireless industry makes these issues even more important.

This fact sheet is intended to explain the new provisions and to help state and local governments as they deal with the complex issues of facilities siting in their local communities. At the end of this fact sheet, you will find names of contacts for additional information about this area and other issues before the FCC.

Section 704 of the Telecommunications Act of 1996 (the "1996 Act") governs federal, state and local government oversight of siting of "personal wireless service" facilities. The 1996 Act establishes a comprehensive framework for the exercise of jurisdiction by state and local zoning authorities over the construction, modification and placement of facilities such as towers for cellular, personal communications service (PCS), and specialized mobile radio (SMR) transmitters:

- The new law preserves local zoning authority, but clarifies when the exercise of local zoning authority may be preempted by the FCC.
- Section 704 prohibits any action that would discriminate between different providers of personal wireless services, such as cellular, wide-area SMR and broadband PCS. It also prohibits any action that would ban altogether the construction, modification or placement of these kinds of facilities in a particular area.
- The law also specifies procedures which must be followed for acting on a request to place these kinds of facilities, and provides for review in the courts or the FCC of any decision by a zoning authority that is inconsistent with Section 704.

- Finally, Section 704 requires the federal government to take steps to help licensees in spectrum-based services, such as PCS and cellular, get access to preferred sites for their facilities. Federal agencies and departments will work directly with licensees to make federal property available for this purpose, and the FCC is directed to work with the states to find ways for states to accommodate licensees who wish to erect towers on state property, or use state easements and rights-of-way.

The attachments to this fact sheet seek to provide information concerning tower siting for personal wireless communications services. They include a summary of the provisions of Section 704 of the 1996 Act, the actual text of Section 704, and a technical information summary that describes the cellular, wide-area SMR and broadband PCS technologies that underlie the majority of requests for new tower sites.

Questions about the Telecommunications Act of 1996 generally may be addressed to Sheryl Wilkerson in the FCC's Office of Legislative and Intergovernmental Affairs, 202-418-1902 (e-mail: swilkers@fcc.gov). Questions about tower siting, licensing issues or technical matters may be addressed to Steve Markendorff, Deputy Chief, Commercial Wireless Division in the Wireless Telecommunications Bureau, 202-418-0620, (e-mail: smarkend@fcc.gov).

This Fact Sheet is available on our fax-on-demand system. The telephone number for fax-on demand is 202-418-2830. The Fact Sheet may also be found on the World Wide Web at <http://www.fcc.gov/wtb/wirehome.html>.

SUMMARY OF SECTION 704 OF THE TELECOMMUNICATIONS ACT OF 1996

The following is a summary of key provisions. The text of Section 704 is reproduced in its entirety as an attachment to this summary.

1. Local Zoning Authority Preserved

Section 704(a) of the 1996 Act amends Section 332(c) of the Communications Act ("Mobile Services") by adding a new paragraph (7). It preserves the authority of state and local governments over decisions regarding the placement, construction, and modification of personal wireless service facilities, except as provided in the new paragraph (7).

2. Exceptions

a. States and Localities May Not Take Discriminatory or Prohibiting Actions

Section 704(a) of the 1996 Act states that the regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof shall not unreasonably discriminate among providers of functionally equivalent services and shall not prohibit or have the effect of prohibiting the provision of personal wireless services. 47 U.S.C. §332(c)(7)(B)(i).

Review: Any person that is adversely affected by a state or local government's action or failure to act that is inconsistent with Section 332(c)(7) may seek expedited review in the courts. 47 U.S.C. §332(c)(7)(B)(v).

b. Procedures for Ruling on Requests to Place, Construct or Modify Personal Wireless Service Facilities

Section 704(a) also requires a State or local government to act upon a request for authorization to place, construct, or modify personal wireless service facilities within a reasonable time. Any decision to deny a request must be made in writing and be supported by substantial evidence contained in a written record. 47 U.S.C. §332(c)(7)(B)(ii), (iii).

c. Regulations Based On Environmental Effects of RF Emissions Preempted

Section 704(a) of the 1996 Act expressly preempts state and local government regulation of the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the FCC's regulations concerning such emissions. 47 U.S.C. §332(c)(7)(B)(iv).

Review: Parties may seek relief from the FCC if they are adversely affected by a state or local government's final action or failure to act that is inconsistent with this provision. 47 U.S.C. § 332(c)(7)(B)(v).

3. Federal Guidelines Concerning RF Emissions

Section 704(b) requires the FCC to prescribe and make effective new rules regarding the environmental effects of radio frequency emissions, which are under consideration in ET Docket 93-62, within 180 days of enactment of the 1996 Act.

NOTE: The pendency of this proceeding before the FCC does not affect the rules which currently are in effect governing the environmental effects of radio frequency emissions. Section 704(b) gives preemptive effect to these existing rules. See related attachments to the Fact Sheet.

4. Use of Federal or State Government Property

a. Federal Property

Section 704(c) of the 1996 Act requires the President (or his designee) to prescribe procedures by which the federal government may make available on a fair, reasonable and nondiscriminatory basis, property, rights-of-way and easements under their control, for the placement of new spectrum-based telecommunications services.

b. State Property

With respect to facilities siting on state property, Section 704(c) of the 1996 Act requires the FCC to provide technical support to States to encourage them to make property, rights-of-way and easements under their jurisdiction available for the placement of new spectrum-based telecommunications services.

NOTE: Information concerning technical support for tower siting which the FCC is making available to state and local governments is attached to the Fact Sheet.

5. Definitions

"Personal wireless services" include commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services. 47 U.S.C. §332(c)(7)(C)(i).

"Commercial mobile services" are defined in Section 332 of the Communications Act and the FCC's rules, and include cellular telephone services regulated under Part 22 of the FCC's rules, SMR services regulated under Part 90 of the FCC's rules, and PCS regulated under Part 24 of the FCC's rules. 47 C.F.R. §20.9.

"Unlicensed wireless services" are defined as the offering of telecommunications services using duly authorized devices which do not require individual licenses; direct-to-home satellite services are excluded from this definition. 47 U.S.C. §332(c)(7)(C)(iii).

COMPLETE TEXT OF SEC. 704 OF THE TELECOMMUNICATIONS ACT OF 1996

SEC. 704. FACILITIES SITING; RADIO FREQUENCY EMISSION STANDARDS.

(a) NATIONAL WIRELESS TELECOMMUNICATIONS SITING POLICY- Section 332(c) (47 U.S.C. 332(c)) is amended by adding at the end the following new paragraph:

`(7) PRESERVATION OF LOCAL ZONING AUTHORITY-

`(A) GENERAL AUTHORITY- Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.

`(B) LIMITATIONS-

`(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof--

`(I) shall not unreasonably discriminate among providers of functionally equivalent services; and

`(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

`(ii) A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.

`(iii) Any decision by a State or local government or place,

construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.

`(iv) No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

`(v) Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any

court of competent jurisdiction. The court shall hear and decide such action on an expedited basis. Any person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.

(C) DEFINITIONS- For purposes of this paragraph--

(i) the term 'personal wireless services' means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services;

(ii) the term 'personal wireless service facilities' means facilities for the provision of personal wireless services; and

(iii) the term 'unlicensed wireless service' means the offering of telecommunications services using duly authorized devices which do not require individual licenses, but does not mean the provision of direct-to-home satellite services (as defined in section 303(v)).'

(b) RADIO FREQUENCY EMISSIONS- Within 180 days after the enactment of this Act, the Commission shall complete action in ET Docket 93-62 to prescribe and make effective rules regarding the environmental effects of radio frequency emissions.

(c) AVAILABILITY OF PROPERTY- Within 180 days of the enactment of this Act, the President or his designee shall prescribe procedures by which Federal departments and agencies may make available on a fair, nondiscriminatory basis, property, rights-of-way, and easements under their control for the placement of new telecommunications services that are dependent, in whole or in part, upon the utilization of Federal spectrum rights for the transmission or reception of such services. These procedures may establish a presumption that requests for the use of property, rights-of-way, and easements by duly authorized providers should be granted absent unavoidable direct conflict with the department or agency's mission, or the current or planned use of the property, rights-of-way, and easements in question. Reasonable fees may be charged to providers of such telecommunications services for use of property, rights-of-way, and easements. The Commission shall provide technical support to States to encourage them to make property, rights-of-way, and easements under their jurisdiction available for such purposes.

TECHNICAL INFORMATION CONCERNING CELLULAR, SPECIALIZED MOBILE RADIO AND PERSONAL COMMUNICATIONS SERVICES

April 1996

Cellular Information

The FCC established rules and procedures for licensing cellular systems in the United States and its Possessions and Territories. These rules designated 306 Metropolitan Statistical Areas and 428 Rural Service Areas for a total of 734 cellular markets and spectrum was allocated to license 2 systems in each market. Cellular is allocated spectrum in the 824-849 and 869-894 MHz ranges. Cellular licensees are generally required to license only the tower locations that make up their outer service contour. Licensees desiring to add or modify any tower locations that are within an already approved and licensed service area do not have to submit an application for that location to be added to their cellular license, although they may need FCC approval if the antenna would constitute a major environmental action (See question 2, below) or would exceed the criteria specified in Part 17 of the FCC's Rules ("Construction, Marking and Lighting of Antenna Structures"). Part 17 includes criteria for determining when construction or placement of a tower would require prior notification to the Federal Aviation Administration (FAA). (See question 3, below.)

A cellular system operates by dividing a large geographical service area into cells and assigning the same frequencies to multiple, non-adjacent cells. This is known in the industry as frequency reuse. As a subscriber travels across the service area the call is transferred (handed-off) from one cell to another without noticeable interruption. All the cells in a cellular system are connected to a Mobile Telephone Switching Office (MTSO) by landline or microwave links. The MTSO controls the switching between the Public Switched Telephone Network (PSTN) and the cell site for all wireline-to-mobile and mobile-to-wireline calls.

Specialized Mobile Radio (SMR) Information

Specialized Mobile Radio (SMR) service licensees provide land mobile communications on a commercial (*i.e.*, for profit) or private basis. A traditional SMR system consists of one or more base station transmitters, one or more antennas and end user radio equipment which often consists of a mobile radio unit either provided by the end user or obtained from the SMR operator. The base station receives either telephone transmissions from end users or low power signals from end user mobile radios.

SMR systems operate in two distinct frequency ranges: 806-821/851-866 MHz (800 MHz) and 896-901/935-940 MHz (900 MHz). 800 MHz SMR services have been licensed by the FCC on a site-by-site basis, so that the SMR provider must approach the FCC and receive a license for each and every tower/base site. In the future the FCC will license this band on a wide-area market approach. 900 MHz SMR was originally licensed in 46 Designated Filing Areas (DFAs) comprised of only the top 50 markets in the country. The Commission is in the process of auctioning the remainder of the United States and its Possessions and Territories in the Rand McNally defined 51 Major Trading Areas.

PCS Information

Broadband PCS systems are very similar to the cellular systems but operate in a higher frequency band, in the 1850-1990 MHz range. One other difference is that the FCC used different market areas for licensing purposes. The FCC used the Rand McNally definitions for 51 Major Trading Areas (MTAs) and 493 Basic Trading Areas (BTAs). PCS was allocated spectrum for six Broadband PCS systems and 26 Narrowband systems. The six Broadband PCS systems will be licensed as follows: two Broadband PCS licenses will be issued for each of the 51 MTAs and four for each of the 493 BTAs. The 26 Narrowband systems will be licensed as follows: eleven Narrowband PCS licenses will be issued for nationwide systems, six for each of five regional areas, seven for each of the 51 MTAs and two for each of the 493 BTAs.

PCS licensees are issued a blanket license for their entire market area and are not required to submit applications to license individual cell sites unless construction of the facility would be a major environmental action or would require FAA notification. Major environmental actions are defined by the National Environmental Policy Act of 1969 that is discussed in question 2, below. Therefore, the FCC has no technical information on file concerning PCS base stations.

Frequently asked questions concerning tower siting for personal wireless services.

1. Do local zoning authorities have any authority to deny a request for tower siting?

Answer: Yes. The Telecommunications Act of 1996 specifically leaves in place the authority that local zoning authorities have over the placement of personal wireless facilities. It does prohibit the denial of facilities siting based on RF emissions if the licensee has complied with the FCC's regulations concerning RF emissions. It also requires that denials be based on a reasoned approach, and prohibits discrimination and outright bans on construction, placement and modification of personal wireless facilities.

2. What requirements do personal wireless communications licensees have to determine whether a site is in a flood plain? A historical sites must also comply with the National Environmental Policy Act of 1969 (NEPA). as well as other mandatory federal environmental statutes. The FCC's rules that implement the federal environmental statutory provisions are contained in sections 1.1301-1.1319. The FCC's environmental rules place the responsibility on each applicant to investigate all the potential environmental effects, and disclose any significant effects on the environment in an Environmental Assessment (EA), as outlined in section 1.1311, prior to constructing a tower. The applicant is required to consult section 1.1307 to determine if its proposed antenna structure will fall under any of the listed categories that may significantly affect the environment. If it does, the applicant must provide an EA prior to proceeding with the tower construction and, under section 1.1312, must await FCC approval before commencing any such construction even if FCC approval is not otherwise required for such construction. The FCC places all proposals that may significantly impact the environment on public notice for a period of 30 days, seeking any public comments on the proposed structures.

The categories set forth in section 1.1307 include:

Wilderness Area
Wildlife Preserve
Endangered Species
Historical Site
Indian Religious Site
Flood Plain
Wetlands
High Intensity White Lights in Residential Neighborhoods
Excessive Radiofrequency Radiation Exposure

3. Are there any FCC regulations that govern where towers can or cannot be placed?

Answer: The FCC mandates that personal wireless companies build out their systems so that adequate service is provided to the public. In addition, all antenna structures used for communications must be approved by the FCC in accordance with Part 17 of the FCC Rules. The FCC must determine if there is a reasonable possibility that the structure may constitute a menace to air navigation. The tower height and its proximity to an airport or flight path will be considered when making this determination. If such a determination is made the FCC will specify appropriate painting and lighting requirements. Thus, the FCC does not mandate where towers must be placed, but it may prohibit the placement of a tower in a particular location without adequate lighting and marking.

4. Does the FCC maintain any records on tower sites throughout the United States? How does the public get this information (if any)?

Answer: The FCC maintains a general tower database on the following structures: (1) any towers over 200 feet, (2) any towers over 20 feet on an existing structure (such as a building, water tower, etc.) and (3) towers that are close to airports that may cause potential hazards to air navigation. The FCC's licensing databases contain some base site information for Cellular and SMR systems. The general tower database and the Cellular and SMR data that may be on file with the FCC is available in three places:

(1) Cellular licensing information is available in the Public Reference Room of the Wireless Telecommunications Bureau's Commercial Wireless Division. The Public Reference Room is located on the fifth floor of 2025 M Street, NW, Washington, DC 20554, telephone (202)418-1350. On-line database searches of cellular licensing information along with queries of the FCC's general tower database can also be accomplished at the Public Reference Room.

(2) People who would like to obtain general tower information through an on-line public access database should call or write Interactive Systems, Inc., 1601 North Kent St., Suite 1103, Arlington, VA 22209, telephone 703-812-8270.

(3) The FCC does not duplicate these records, but has contracted with International Transcription Service, Inc. to provide this service. Requests for copies of information should be addressed to International Transcription Service, Inc. (ITS, Inc.), 2100 M St., NW, Suite 140, Washington, DC 20037, telephone 202-857-3800.

5. Why do Cellular and PCS providers require so many tower sites?

Answer: Low powered transmitters are an inherent characteristic of Cellular Radio and Broadband PCS. As these systems mature and more subscribers are added, the effective radiated power of the cell site transmitters is reduced so frequencies can be reused at closer intervals thereby increasing subscriber capacity. There are over 30 million mobile/portable cellular units and more than 22 thousand cell sites operating within the United States and its Possessions and Territories. PCS is just beginning to be offered around the country. Due to the fact that Broadband PCS is located in a higher frequency range, PCS operators will require more tower sites as they build their systems to provide coverage in their service areas as compared to existing Cellular carriers. Therefore, due to the nature of frequency reuse and the consumer demand for services, Cellular and PCS providers must build numerous base sites.

6. Can Cellular, SMR and PCS providers share tower structures?

Answer: Yes, it is technologically possible for these entities to share tower structures. However, there are limits to how many base station transmitters a single tower can hold and different tower structures have different limits. Moreover, these providers are competitors in a more and more competitive marketplace and may not be willing to share tower space with each other. Local zoning authorities may wish to retain a consulting engineer to evaluate the proposals submitted by wireless communications licensees. The consulting engineer may be able to determine if there is some flexibility as to the geographic location of the tower.

7. Is the Federal government helping to find ways to accommodate multiple licensees of personal wireless services?

Answer: Yes. The FCC has designated Steve Markendorff, Chief, Broadband Branch, Commercial Wireless Division, Wireless Telecommunications Bureau, FCC to as and respond to questions concerning tower siting issues. His telephone number is 202-418-0620. Also, President Clinton issued an Executive Memorandum on August 10, 1995 directing the Administrator of General Services (GSA), in coordination with other Government departments and agencies, to develop procedures to facilitate appropriate access to Federal property for the siting of mobile services antennas. GSA recently released "Government-Wide Procedures for Placing Commercial Antennas," 61 Fed Reg 14,100 (March 29, 1996). For further information contact James Herbert, Office of Property Acquisition and Realty Services, Public Building Service, General Services Administration, 18th & F Streets, NW, Washington, DC 20405, telephone 202-501-0376.

8. Have any studies been completed on potential hazards of locating a tower/base site close to residential communities?

Answer: In connection with its responsibilities under NEPA, the FCC considers the potential effects of radiofrequency (RF) emissions from FCC-regulated transmitters on human health and safety. Since the FCC is not the expert agency in this area, it uses standards and guidelines developed by those with the appropriate expertise. For example, in the absence of a uniform federal standard on RF exposure, the FCC has relied since 1985 on the RF exposure guidelines issued in 1982 by the American National Standards Institute (ANSI C95.1-1982). In 1991, the Institute of Electrical and Electronic Engineers (IEEE) issued guidelines designed to replace the RF ANSI exposure guidelines. These guidelines (ANSI/IEEE C95.1-1992) were adopted by ANSI. The Telecommunications Act of 1996 mandates that the FCC complete its proceeding in ET Docket 93-62, in which it is considering updating the RF exposure guidelines, no later than early August 1996. Copies of this proceeding can be obtained from the International Transcription Service, Inc. (ITS), telephone 202-857-3800. Presently, RF emission requirements are contained in Section 1.1307(b) of the FCC's rules, 47 C.F.R. §1.1307(b), for all services. PCS has service specific RF emission provisions in Section 24.52 of the FCC's rules, 47 C.F.R. § 24.52.

Additional information concerning RF emission hazards can be obtained through a variety of sources:

- (1) Information concerning RF hazards can be obtained on the World Wide Web at <http://www.fcc.gov/oet/faqs>. RF safety questions are answered and further RF documents and information are contained under the Cellular Telephony Section.
- (2) OET Bulletins 56 and 65 concerning effects and potential RF hazards can be requested through the Radiofrequency Safety Program at 202-418-2464. Additionally, any specific questions concerning RF hazards can be answered by contacting the FCC at this phone number.

The FCC maintains a Communications and Crisis Management Center which is staffed 24 hours a day, seven days a week. In the event of an emergency, such as a radiofrequency hazard threatening public safety or health, you may call 202-632-6975. The watch officer who answers at that number can contact our compliance personnel in your area and dispatch them within a matter of hours.

Erin McDermott

From: Strommen, James M. <jstrommen@Kennedy-Graven.com>
Sent: Friday, December 2, 2022 12:06 PM
To: Paul Mogush
Cc: Erin McDermott; Thomson, James J.; Vose, Robert J.
Subject: Case #22-123 - APC Towers

Paul,

This email is in response to your request and our telephone conference regarding the rights of the City to consider identified or asserted potential health effects of 5G or other radio frequency (RF) emissions exposure in evaluating an application for a conditional use permit (CUP) and set back variance for a cell tower. It is my understanding that this application has been before the Planning Commission and testimony was received regarding a resident's concern over potential health effects of 5G.

The specific question is whether the Commission or City Council can consider testimony, written evidence, or other information on potential health impacts of RF emissions in deciding whether to grant, deny or modify this application, or similar applications governed by the Telecommunication Act of 1996 ("Act"). As you know, the Act governs local government authority in approving this application. **The answer is no.**

Section 704(a) of the Act preempts state and local government regulation of the "placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent such facilities comply with the FCC's regulations concerning such emissions." 47 U.S.C. § 332(c)(7)(B)(iv). The foregoing federal preemption of the environmental effects RF emissions from wireless facilities, including cellular towers, was enacted as part of the 1996 Act legislation and remains in place unamended.

The RF emission standards to be met by wireless providers are established through the FCC, which looks to other governmental health agencies and non-governmental institutions such as the Institute of Electrical and Electronics Engineers (IEEE) and the World Health Organization (WHO), among others that study the effects of RF emissions on persons using or otherwise subject to wireless devices and facilities. Only evidence that relevant wireless facilities do not comply with FCC RF emission regulations would enable a local government to consider denial of an application on grounds of the emissions' health effects of cellular tower radiation. The City's zoning authority is otherwise expressly preserved in its consideration of this, and similar applications governed by the Act.

If have you have any further questions concerning the Act, please contact me or Bob Vose of our office.

James M. Strommen | Attorney at Law
Kennedy & Graven, Chartered



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Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

T-Mobile Proposed Facility

Site ID: MN-1618

BROOKLYN EV LUTHERAN

5840 69th Ave N, Brooklyn Park, Minnesota 55429

November 29, 2022

EBI Project Number: 6222006814



Report Findings: Compliant

Prepared by:



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I.0 Executive Summary

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by T-Mobile to conduct radio frequency electromagnetic (RF-EME) modeling for T-Mobile Site MN-1618 located at 5840 69th Ave N in Brooklyn Park, Minnesota to determine RF-EME exposure levels from proposed T-Mobile wireless communications equipment at this site. As described in detail in Appendix B of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields. This report contains a detailed summary of the RF EME analysis for the site.

This document addresses the compliance of T-Mobile's proposed transmitting facilities independently at the site.

While access to this site is considered uncontrolled, the MPE analysis considers exposures with respect to both controlled (Occupational) and uncontrolled (General Public) limits.

The FCC's General Public or Occupational Limit is expressed as a percentage and each limit is reached at values meeting or exceeding 100% of the representative limit.

The Maximum Emissions Value is 0.8900% of the FCC's general public limit (0.1780% of the FCC's occupational limit) at the ground level. The proposed site is in compliance with Federal regulations regarding (radio frequency) RF Emissions.

At the nearest walking/working surfaces to the T-Mobile antennas on the ground level, the maximum power density generated by the T-Mobile antennas is approximately 0.8900% of the FCC's general public limit (0.1780% of the FCC's occupational limit). The composite maximum power density generated by all onsite antennas is approximately 0.8900% of the FCC's general public limit (0.1780% of the FCC's occupational limit) at ground level.

Based on worst-case predictive modeling, there are no modeled exposures on any accessible ground level-walking/working surface related to T-Mobile's equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. These predicted exposures are identified at the ground level in the horizontal transmission path of the antennas.

Signage is not required at the site as presented in Attachment I. The site is compliant with FCC rules and regulations.

2.0 MPE Calculations

Calculations were completed for the proposed T-Mobile Wireless antenna tower facility located at 5840 69th Ave N in Brooklyn Park, Minnesota using the equipment information listed below. All calculations were performed per the specifications under FCC Office of Engineering & Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (OET-65). Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas in the immediate vicinity of the antennas.

In accordance with T-Mobile's RF Exposure policy, EBI performed theoretical modeling using RoofMaster™ software to estimate the worst-case power density at the site ground-level resulting from operation of the antennas. Using the computational methods set forth in OET-65, RoofMaster™ calculates power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

For this report, EBI utilized antenna and power data provided by T-Mobile and compared the resultant worst-case MPE levels to the FCC's general public/uncontrolled exposure limits outlined in OET Bulletin 65. EBI has performed theoretical worst-case modeling using RoofMaster™ to estimate the maximum potential power density from each proposed antenna based on worst-case assumptions for the number of antennas and power. All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmission paths per carrier prescribed configuration. Modeling for Ericsson AIR 6449 and AIR 6488 antennas is based on worst-case assumptions that include all beams transmitting simultaneously. This is to ensure that all areas of potential concern are taken into consideration. As such, the results are conservative in nature and reflect potentially higher levels of RF emissions compared to actual on-air conditions. It is recommended that areas of concern be confirmed with onsite measurements once the facility is active.

The assumptions used in the modeling are based upon information provided by T-Mobile in the supplied drawings.

There are no collocated carriers on the tower.

The data for all T-Mobile antennas used in this analysis is shown in Section 3.0. Actual antenna gains for each antenna were used per manufacturer's specifications. All calculations were done with respect to the FCC's general public/uncontrolled threshold limits.

Based on information provided by T-Mobile, access to this site is considered uncontrolled.

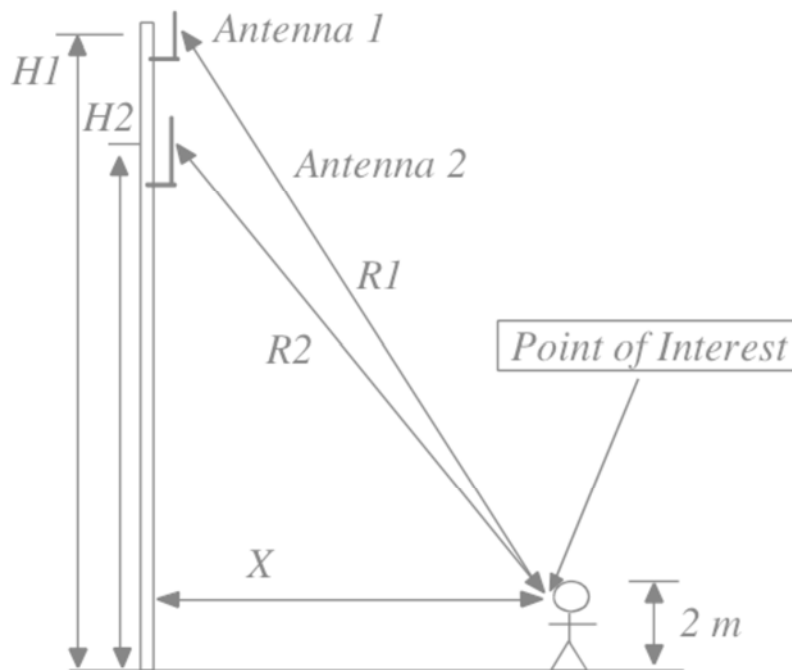
3.0 T-Mobile Antenna Inventory

Sector	Antenna Number	Technology	Antenna Make	Antenna Model	Azimuth (°)	Centerline Height (feet) Above Nearest Walking Surface	Centerline Height (feet) Above Ground Level
A	1	NR	COMMSCOPE	FFHH-65C-R3 02DT 600	0	118.0	118.0
A	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 600	0	118.0	118.0
A	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 700	0	118.0	118.0
A	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 1900	0	118.0	118.0
A	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 2100	0	118.0	118.0
A	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_5	0	118.0	118.0
A	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_6	0	118.0	118.0
A	2	LTE	Nokia	SON_AEHC_LTE_B4I_BW65_SSB	0	118.0	118.0
B	1	NR	COMMSCOPE	FFHH-65C-R3 02DT 600	120	118.0	118.0
B	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 600	120	118.0	118.0
B	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 700	120	118.0	118.0
B	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 1900	120	118.0	118.0
B	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 2100	120	118.0	118.0
B	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_5	120	118.0	118.0
B	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_6	120	118.0	118.0
B	2	LTE	Nokia	SON_AEHC_LTE_B4I_BW65_SSB	120	118.0	118.0
C	1	NR	COMMSCOPE	FFHH-65C-R3 02DT 600	240	118.0	118.0
C	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 600	240	118.0	118.0
C	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 700	240	118.0	118.0
C	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 1900	240	118.0	118.0
C	1	LTE	COMMSCOPE	FFHH-65C-R3 02DT 2100	240	118.0	118.0
C	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_5	240	118.0	118.0
C	2	NR	Nokia	SON_AEHC_NR_B4I_32TRX_90AO_BeamSet_6	240	118.0	118.0
C	2	LTE	Nokia	SON_AEHC_LTE_B4I_BW65_SSB	240	118.0	118.0

4.0 FCC Rules and Regulations and Guidelines from OET 65

When considering the contributions to field strength or power density from other RF sources, care should be taken to ensure that such variables as reflection and re-radiation are considered. In cases involving very complex sites, predictions of RF fields may not be possible, and a measurement survey may be necessary. The process for determining compliance for other situations can be similarly accomplished using the techniques described in this section and in Supplement A to this bulletin that deals with radio and television broadcast operations. However, as mentioned above, measurements may be necessary at very complex sites.

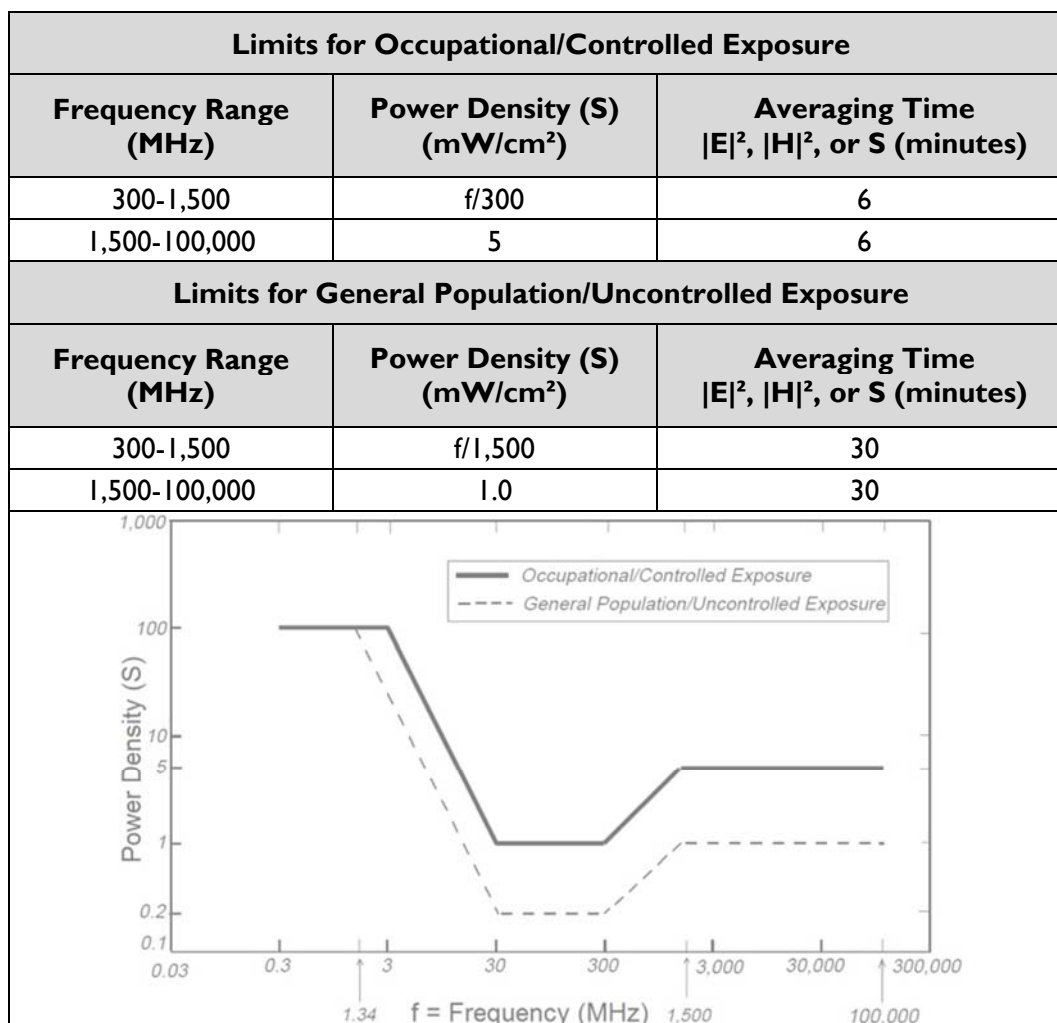
In the simple example shown in the below diagram, it is desired to determine the power density at a given location X meters from the base of a tower on which are mounted two antennas. One antenna is a CMRS antenna with several channels, and the other is an FM broadcast antenna. The system parameters that must be known are the total ERP for each antenna and the operating frequencies (to determine which MPE limits apply). The heights above ground level for each antenna, $H1$ and $H2$, must be known in order to calculate the distances, $R1$ and $R2$, from the antennas to the point of interest.



This summarizes the policies, guidelines, and requirements that were adopted by the FCC on August 1, 1996, amending Part 1 of Title 47 of the Code of Federal Regulations, and further amended by action of the Commission on August 25, 1997 (see 47 CFR Sections 1.1307(b), 1.1310, 2.1091 and 2.1093, as amended from FCC "OET Bulletin 65"). Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the preparation of an Environmental Assessment (EA), as described in 47 CFR Section 1.1311, if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency (RF) electromagnetic fields in excess of these limits. For exact language, see the relevant FCC rule sections.

The FCC-adopted limits for Maximum Permissible Exposure (MPE) are generally based on recommended exposure guidelines published by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3. Copyright NCRP, 1986, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, exposure limits for field strength and power density are also generally based on the MPE limits found in Section 4.1 of, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017, and approved for use as an American National Standard by the American National Standards Institute (ANSI). The exposure guidelines are based on thresholds for known adverse effects and they incorporate a significant margin of safety. The federal health and safety agencies such as: the Environmental Protection Agency ("EPA"), the Food and Drug Administration ("FDA"), the National Institute on Occupational Safety and Health ("NIOSH") and the Occupational Safety and Health Administration ("OSHA") have also been actively involved in monitoring and investigating issues related to RF exposure.

The formulas used in RoofMaster™ for calculating Power density are based on FCC "OET Bulletin 65", Section 2: PREDICTION METHODS, August 1997, Edition 97-01. Power density is converted to Maximum Permissible Exposure Limits (MPE Limits) based on Limits of General Population/Uncontrolled Exposure and Limits of Occupational/Controlled Exposure presented in the following table generated from Appendix A of "OET Bulletin 65."



5.0 Safety Recommendations

5.1 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS

OSHA requires that those in the Occupational classification must complete training in RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides the following options for Hazard Prevention and Control:

Hazard Prevention	Control
<ul style="list-style-type: none"> Utilization of good equipment Enact control of hazard areas Limit exposures Employ medical surveillance and accident response 	<ul style="list-style-type: none"> Employ Lockout/Tag out Utilize personal alarms & protective clothing Prevent access to hazardous locations Develop or operate an administrative control program

5.2 RF SIGNAGE AND BARRIERS

All RF signs should be obeyed at all times.

Guidelines		Blue Notice Sign			
Yellow Caution Sign		Orange Warning Sign		Red Danger Sign	

If there are workers in an area with a sign that they do not understand, they can call the NOC Number at 877-611-5868 for guidance.

6.0 FCC Limits

6.1 CONTRIBUTION TO CO-LOCATED AREAS

Any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance. All co-located sites should have a separate 5% modeling that shows only T-Mobile antennas transmitting. This separate modeling indicates T-Mobile's contribution in all areas that is recognized to be greater than 100% of MPE limits.

6.2 OCCUPATIONAL LIMITS

Apply in situations in which persons are exposed as a consequence of their employment, provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

6.3 GENERAL POPULATION LIMITS

Apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. (those without significant and documented RF Safety & Awareness training)

6.4 CONTROLLED ENVIRONMENT

Applies to environments that are restricted or "controlled" in order to prevent access from members of the General Population classification.

6.5 UNCONTROLLED ENVIRONMENT

Applies to environments that are unrestricted or "uncontrolled" that allow access from members of the General Population classification.

6.6 GENERIC VALUES

The use of "Unknown" for an operator means the information regarding the carrier, their FCC license and / or antenna information was not available. Generic values are used as an estimation for Effective Radiated Power (ERP) and antenna characteristics for unknown antennas.

8.0 Summary

All calculations performed for this analysis yielded results that were within the allowable limits for exposure to RF Emissions. Based on predictive modeling, there are no modeled exposures on any accessible ground level-walking/working surface related to T-Mobile's equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. These predicted exposures are identified at the ground level in the horizontal transmission path of the antennas.

There are no collocated carriers on the tower.

The anticipated maximum contribution from each sector of the proposed T-Mobile facility is 0.8900% of the allowable FCC established general public limit (0.1780% of the FCC occupational limit). This was determined through calculations along a radial from each sector taking full power values into account as well as actual vertical plane antenna gain values per the manufacturer-supplied specifications for gain.

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards. For this facility, the calculated values were within the allowable 100% threshold standard per the federal government.


Signage is not required because there is no access within 30 feet of an antenna. To reduce the risk of exposure and/or injury, EBI recommends that access to the tower or areas associated with the active antenna installation be restricted and secured where possible.

9.0 Certification

Preparer Certification

I, Andy Crum, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified “occupational” under the FCC regulations.
- I am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation.
- I have been trained on RF-EME modeling using RoofMaster™ modeling software.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

A rectangular box containing a handwritten signature in black ink that reads "Andy Crum". The signature is written in a cursive style.

RF-EME Compliance Report
MN-1618/BROOKLYN EV LUTHERAN

6222006814
5840 69th Ave N, Brooklyn Park Minnesota

Reviewed and Approved by:

Professional Engineer

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature:  _____

Typed or Printed Name: Michael Augustine McGuire

Date: 11/29/2022 License Number: 56188

sealed 29nov2022 mike@h2dc.com
H2DC PLLC MN CoA#: 1120792300-024

Michael McGuire
Electrical Engineer
mike@h2dc.com

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.

T-Mobile®

APPROVAL SIGNATURE BLOCK

The following parties have reviewed these documents:

Site Aquisition Specialist:	Approved: <input type="checkbox"/> Rejected: <input type="checkbox"/>	Date:
RF Engineer:	Approved: <input type="checkbox"/> Rejected: <input type="checkbox"/>	Date:
Construction Manager:	Approved: <input type="checkbox"/> Rejected: <input type="checkbox"/>	Date:
Project Manager:	Approved: <input type="checkbox"/> Rejected: <input type="checkbox"/>	Date:

DRAWINGS ARE NO LONGER TO BE "APPROVED WITH COMMENTS" – IF YOU HAVE ANY REDLINES TO THESE DRAWINGS THEN YOU MUST SELECT REJECTED



APC SITE #: MN-1618
APC SITE NAME: MINNEAPOLIS

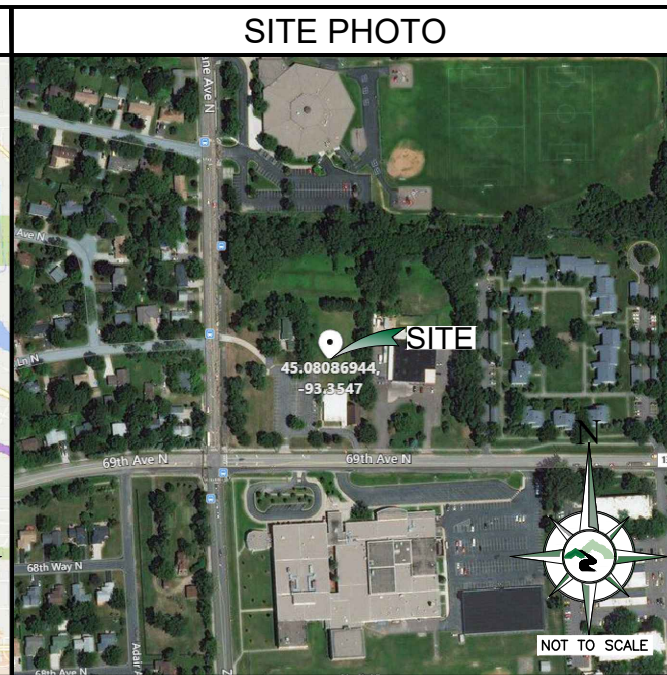
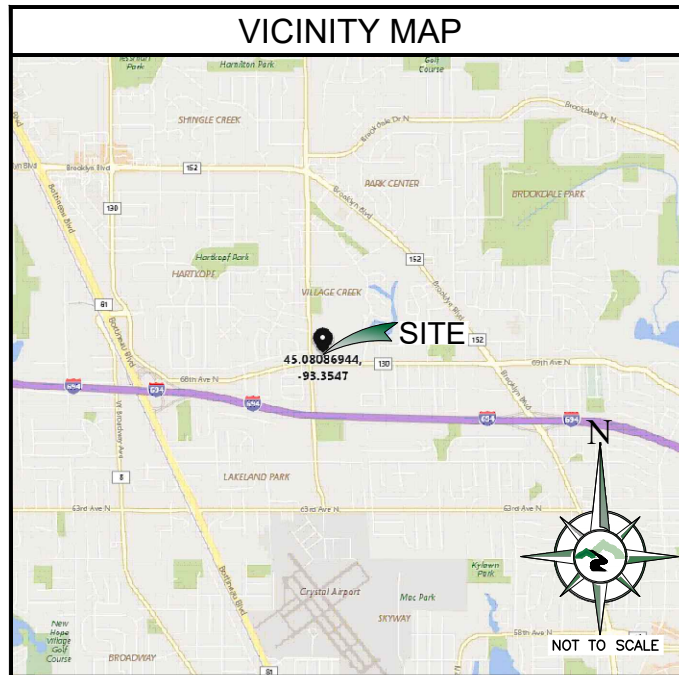
T-MOBILE #: A100194A
T-MOBILE SITE NAME:
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N, BROOKLYN PARK, MN 55429

122' BELL TOWER
(125' WITH LIGHTNING ROD)
NEW SITE BUILD

DRAWING INDEX		
SHEET NO.	DESCRIPTION	REV
T-1	TITLE SHEET	5
GN-1	GENERAL NOTES	5
GN-2	GENERAL NOTES	5
GN-3	GENERAL NOTES	5
LS-1	LEGAL DESCRIPTIONS	
LS-2	SITE SURVEY	
C-1.0	OVERALL SITE PLAN	5
C-1.1	COMPOUND PLAN	5
C-1.2	SIGNAGE	5
C-2.0	EQUIPMENT PLAN	5
C-2.1	EQUIPMENT DETAILS	5
C-2.2	EQUIPMENT DETAILS	5
C-2.3	EQUIPMENT DETAILS	5
C-3	CONSTRUCTION DETAILS	5
C-4.0	PLATFORM DETAILS	5
C-4.1	PLATFORM DETAILS	5
C-4.2	PLATFORM DETAILS	5
C-4.3	PLATFORM DETAILS	5
C-4.4	PLATFORM DETAILS	5
C-5.0	ELEVATION & ANTENNA PLAN	5
C-5.1	CABLE & PENDANT SPECIFICATIONS	5
C-6.0	CONSTRUCTION DETAILS	5
C-7.0	FENCE DETAIL	5
C-8.0	OVERALL UTILITY DESIGN	5
C-8.1	UTILITY DESIGN	5
C-9	DIAGRAM DETAILS	5
G-1	GROUNDING PLAN	5
G-2	GROUNDING PLANS	5
G-3	GROUNDING DETAILS	5
G-4	GROUNDING DETAILS	5
G-5	GROUNDING DETAILS	5
G-6	GROUNDING DETAILS	5

SITE INFORMATION	
TOWER OWNER:	APC TOWERS IV, LLC
APC E911 SITE	5840 69TH AVE N
ADDRESS:	BROOKLYN PARK, MN 55429
COUNTY:	RAMSEY
LATITUDE:	45.08086944' (45° 4' 51.133" N)
LONGITUDE:	-93.3547' (93° 21' 16.921" W)
GROUND ELEVATION:	862' AMSL
OCCUPANCY TYPE:	UNMANNED
ZONING JURISDICTION:	BROOKLYN PARK
ZONING CODE:	R4
PARCEL NUMBER:	28-119-21-34-0009
POWER PROVIDER:	XCEL ENERGY (800) 481-4700
TELCO PROVIDER:	XFINITY STORE BY COMCAST (800) 934-6489



CONTACT INFORMATION	
A&E SERVICES:	POWDER RIVER DEVELOPMENT SERVICES, LLC. 408 S. EAGLE ROAD, SUITE 200 EAGLE, ID 83616 CONTACT: TODD ROTGE PHONE: 541.647.2777 EMAIL: todd.rotge@powderriverdev.com
SITE ACQUISITION:	INSITE INC. 15660 MIDWEST ROAD, SUITE 140 OAKBROOK TERRACE, IL 60181 CONTACT: TOM JERMILLO PHONE: 630.923.3496 EMAIL: jermilo@insite-inc.com
APPLICANT:	APC TOWERS IV, LLC 8601 SIX FORKS ROAD, SUITE 250 RALEIGH, NC 27615 CONTACT: MIKE GALLIAGHER PHONE: 919.578.8233 EMAIL: mgallagher@apctowers.com

DRIVING DIRECTIONS	
DIRECTIONS FROM MINNEAPOLIS INTERNATIONAL AIRPORT	
DEPART AIRPORT TOWARDS GLUMACK DR. TAKE RAMP LEFT FOR MN-5 EAST TOWARD MINNEAPOLIS / ST PAUL. TAKE RAMP RIGHT FOR MN-55 WEST TOWARD MINNEAPOLIS. TAKE RAMP RIGHT AND FOLLOW SIGNS FOR I-35W NORTH. AT EXIT 16A, TAKE RAMP LEFT FOR MN-65 N TOWARD DOWNTOWN EXITS. TAKE RAMP RIGHT AND FOLLOW SIGNS FOR I-94 WEST. ARRIVE AT I-694 W / I-94 W / US-52 N ON THE RIGHT.	

APPLICABLE CODES	
MINNESOTA BUILDING CODE 2020 ELECTRICAL CODE 2020 NEC	

APPROVALS	
THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.	
REAL ESTATE: _____	DATE: _____
RF ENGINEER: _____	DATE: _____
CONSTRUCTION MANAGER: _____	DATE: _____
OPERATIONS: _____	DATE: _____
LAND USE PLANNER: _____	DATE: _____
PROPERTY OWNER: _____	DATE: _____

SCOPE OF WORK	
APC TOWERS PROPOSES TO BUILD A NEW WIRELESS FACILITY WITH A NEW 122' BELL TOWER AND 50'x55' FENCED COMPOUND WITHIN A NEW 2,750 S.F. EASEMENT.	
T-MOBILE PROPOSES TO INSTALL THE FOLLOWING IN NEW APC FACILITY:	
TOWER LEVEL: INSTALL (3) SECTOR FRAMES, (6) ANTENNAS, (3) AHLOA, (3) AHFIG, (2) HCS 2.0 HYBRID CABLE w/ INTEGRAL PENDANT BREAKOUT.	
GROUND LEVEL: INSTALL (1) LB3 BATTERY CABINET, (1) HPL3 CABINET, (1) PPC, (1) RAC24, (2) HCS 2.0 JUNCTION BOXES, (2) ASIB, (1) ASIL, (3) ABIA, (3) ABIC, (2) ABIO, (2) AMIA (1) CSR IXRe V1, (1) VOLTAGE BOOSTER w/ (1) AMP, (1) 8'x8' PLATFORM WITHIN 15'x20' EASEMENT AND INSTALL (1) GENERATOR ON CONCRETE PAD WITHIN EASEMENT.	
THESE DRAWINGS ARE BASED ON RFDS VERSION 1 DATED 08/26/2022 GENERAL CONTRACTOR TO VERIFY AND INCORPORATE MOST RECENT VERSION OF THE RFDS WITH T-MOBILE NETWORKS PRIOR TO CONSTRUCTION.	

6.1E PLANS
Page 33

TOWER OWNER
APC Towers

TENANT ON APC TOWER
T-Mobile

POWDER RIVER
Development Services, LLC

BUSINESS LICENSE #:		N/A
REVISIONS		
REV	DATE	DESCRIPTION
5	10/24/22	REVISIONS
4	07/15/19	REVISIONS
3	06/19/19	REVISIONS
2	05/31/19	REVISIONS
1	04/15/19	REVISIONS
0	03/29/19	100% CONSTRUCTION
A	03/19/19	ISSUED FOR REVIEW 90%

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER

DATE: 10/24/2022

LICENSE NUMBER: 55851

THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES

1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST EDITION OF THE BUILDING CODE AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ENGINEER SO THAT THE PROPER REVISION MAY BE MADE. MODIFICATIONS OF CONSTRUCTION DETAILS SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
5. THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BUT NOT LIMITED TO BRACING, TEMPORARY SUPPORTS AND SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONTRACTORS PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. NEITHER THE OWNER NOR ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
6. SAFETY: CONFORM TO ALL APPLICABLE OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ENGINEER OR OWNER.
7. ANY PROPRIETARY COMPONENTS, MOUNTS, MATERIALS, CHEMICAL, EPOXY AND WEDGE ANCHORS, AND SHOT PINS SHALL BE EXACTLY AS CALLED FOR IN THESE DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED OR DISAPPROVED BY THE ENGINEER AT THE EXPENSE OF THE ENTITY REQUESTING THE SUBSTITUTION PRIOR TO THE INSTALLATION.
8. THE CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE ALL ITEMS DEFINED IN THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: THE CONTRACT, SPECIFICATIONS AND CONSTRUCTION DRAWINGS.
9. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR COORDINATION AND ASSEMBLY OF ALL PARTS OF THE CONSTRUCTION DEPICTED HEREIN. THE CONTRACTOR SHALL PERFORM ANY CONSTRUCTABILITY REVIEW OR COORDINATION DRAWINGS NECESSARY TO IDENTIFY CONSTRUCTABILITY PROBLEMS PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND EXISTING JOB SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL SERVICE AND OVERALL COORDINATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS, ETC., SHALL BE REPORTED TO THE CARRIER CONSTRUCTION SUPERVISOR BEFORE PROCEEDING WITH THE WORK.
11. THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING STRUCTURES, LANDSCAPING OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE TENANT, BUILDING OWNER OR OWNER'S REPRESENTATIVE AT THE EXPENSE OF THE CONTRACTOR.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.
14. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED BY THE GOVERNING AGENCY.
15. THE CONTRACTOR AND ALL SUBORDINATE CONTRACTORS SHALL COMPLY WITH ALL LOCAL AND STATE AND FEDERAL REGULATIONS.
16. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO CARRIER.
17. CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS OFF SITE, NOR PERFORM ANY CONSTRUCTION ACTIVITIES UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAVE BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS. IN ALL CASES WHERE A CONFLICT MAY OCCUR, SUCH AS BETWEEN ITEMS COVERED IN SPECIFICATIONS AND NOTES ON THE DRAWINGS OR BETWEEN GENERAL NOTES AND SPECIFIC PLANS OR DETAILS, THE ENGINEER SHALL BE NOTIFIED, AND HE/SHE WILL INTERPRET THE INTENT OF THE CONTRACT DOCUMENTS PRIOR TO THE INSTALLATION OF THAT PORTION OF WORK.
18. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR OF ANY CONFLICTS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR FIELD CONDITIONS PRIOR TO EXECUTING THE WORK IN QUESTION.
19. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR IF DETAILS ARE CONSIDERED UNSOUND, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO THE DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB

20. EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.
21. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
22. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT NOT OTHERWISE SHOWN HEREIN. ALL SUSPENDED MECHANICAL EQUIPMENT TO BE SWAY OR LATERALLY BRACED.
23. GOVERNING AGENCY-APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. AT ALL TIMES THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.
24. DESIGN DRAWINGS ARE DIAGRAMMATIC ONLY AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION CONDITIONS WILL PERMIT. ANY ERROR, OMISSION, OR DESIGN DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE CARRIER CONSTRUCTION SUPERVISOR FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.
25. AS-BUILT REQUIREMENTS: DO NOT USE RECORD DOCUMENTS FOR CONSTRUCTION PURPOSES. PROTECT RECORD DOCUMENTS FROM DETERIORATION AND LOSS IN A SECURE, FIRE-RESISTANT LOCATION. PROVIDE ACCESS TO RECORD DOCUMENTS FOR THE CARRIER CONSTRUCTION SUPERVISOR'S REFERENCE DURING NORMAL WORKING HOURS. MAINTAIN A CLEAN, UNDAMAGED SET OF BLUE OR BLACK LINE PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK WHICH DRAWINGS ARE MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. MARK RECORD SETS WITH RED ERASABLE PENCIL. USE OTHER COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE WORK. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER BUT WAS NOT SHOWN ON THE CONTRACT DRAWINGS, DETAILS OR SHOP DRAWINGS. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. NOTE RELATED RECORD DRAWING INFORMATION AND PRODUCT DATA. UPON COMPLETION OF THE WORK, SUBMIT ONE (1) COMPLETE SET OF RECORD DOCUMENTS TO THE CARRIER CONSTRUCTION SUPERVISOR FOR THE OWNER'S RECORDS.
26. A CLOSEOUT BOOK CONTAINING THE FOLLOWING, SHALL BE PROVIDED BY THE CONTRACTOR, AS APPLICABLE:
 - A. AS BUILT DESIGN DRAWINGS
 - B. SWEEP TEST RESULTS
 - C. RESISTIVELY TEST
 - D. PHOTO DOCUMENTATION OF:
 - I. UNDERGROUND CONDUITS AND GROUND RING
 - II. ANTENNA, COAX, JUMPER ATTACHMENTS AND GROUND KIT ATTACHMENTS
 - III. ANTENNA DOWN TILT MEASUREMENT USING AN INCLINOMETER ON THE BACK PLANE OF THE ANTENNA
 - IV. GROUND BAR ATTACHMENTS
 - E. SIGNED OFF PERMIT CARDS
 - F. CERTIFICATE OF OCCUPANCY
 - G. RETURN OF KEYS AND/OR ACCESS AUTHORIZATION
 - H. ORIGINAL BUILDING PERMIT

SITE WORK NOTES

1. SCOPE: CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUB GRADE PREPARATION, FINISH GRADING AND SECURITY FENCE, AS REQUIRED BY CONSTRUCTION DRAWINGS AND DETAIL DRAWINGS.
2. REFERENCES:
 - A. DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR THE STATE IN WHICH THE PROJECT IS LOCATED.
 - B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
 - C. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 - D. AASHTO (AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS)
3. INSPECTION AND TESTING:
 - A. FIELD TESTING OF EARTHWORK, AGGREGATE BASE COURSE, COMPATION AND CONCRETE TESTING SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LAB.
 - B. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE CARRIER CONSTRUCTION SUPERVISOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF THE WORK INACCESSIBLE OR DIFFICULT TO INSPECT.
4. SITE MAINTENANCE AND PROTECTION:
 - A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF THE WORK UNTIL COMPLETION OF THE CONTRACT.
 - B. CONTACT THE ONE-CALL UTILITY LOCATION SERVICE PRIOR TO ANY EXCAVATING ACTIVITIES TO HAVE LOCATIONS OF UNDERGROUND UTILITIES VERIFIED.
 - C. AVOID DAMAGE TO THE SITE INCLUDING EXISTING FACILITIES, STRUCTURES, TREES AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING ITEMS THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
 - D. KEEP SITE FREE OF ALL PONDING WATER.
 - E. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, CITY, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT

- ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS AND CHECK DAMS.
- F. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT LIFE AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
5. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE WELL DRAINED AT ALL TIMES.
6. ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.
7. PERFORM ALL SURVEY, LAYOUT, STAKING AND MARKING TO ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
8. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE AND ONLY THE IMMEDIATE SURROUNDINGS NECESSARY TO COMPLETE THE WORK. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED AND GRUBBED.
9. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING IS NOT PERMITTED.
10. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS, AND ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, CULVERT, STREAM CROSSING OR OTHER ITEM NOT SHOWN THAT MIGHT AFFECT OR INTERFERE WITH THE NEW CONSTRUCTION. NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
11. SEPARATE AND STOCKPILE ALL EXCAVATED MATERIALS SUITABLE FOR BACK FILL. ALL EXCESS EXCAVATED, AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN AN AREA DESIGNATED BY THE CARRIER CONSTRUCTION SUPERVISOR. (UNSUITABLE MATERIAL MAY BE REQUIRED TO BE REMOVED FROM THE SITE.)



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

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SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

**GENERAL
NOTES**

SHEET NUMBER:

GN-1

ELECTRICAL NOTES

1. THESE NOTES DESCRIBE THE MINIMUM REQUIREMENT FOR INSTALLATION OF ALL ELECTRICAL SYSTEMS. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. THE PUBLICATIONS LISTED BELOW FORM PART OF THESE NOTES. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS:
 - A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - B. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
 - C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
 - D. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
 - E. NFPA 70 (NATIONAL FIRE PROTECTION ASSOCIATION)
 - F. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION), INCLUDING ALL APPLICABLE AMENDMENTS
 - G. UL (UNDERWRITERS LABORATORIES)
 - H. APPLICABLE LOCAL CODES AND ORDINANCES
3. THE CONTRACTOR SHALL INSTALL UNDERGROUND ELECTRICAL AND TELEPHONE CONDUITS AND CABLE AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.
4. WHEN FINISHED, WORK SHALL BE IN A COMPLETE AND UNDAMAGED STATE, AS REQUIRED IN THE CONTRACT DOCUMENTS.
5. ITEMS SHALL BE NEW AND SHALL BE INSTALLED ONLY IF IN FIRST-CLASS CONDITION.
6. SUBSTITUTIONS FOR MATERIAL WILL BE PERMITTED ONLY BY WRITTEN APPROVAL OF THE CARRIER CONSTRUCTION SUPERVISOR AND BY THE ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL EXCEPT AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL MATERIAL SHALL BE APPROVED AND LISTED BY OR BEAR THE UL LABEL, AND WILL COMPLY WITH ANSI, IEEE AND NEMA STANDARDS WHERE APPLICABLE.
8. CONDUITS:
 - A. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, SIZED AS SHOWN ON THE CONSTRUCTION DRAWINGS.
 - B. ALL EXTERIOR ABOVEGROUND CONDUIT SHALL BE PER LOCAL CODE REQUIREMENTS.
 - C. ALL INTERIOR CONDUIT SHALL BE EMT WITH COMPRESSION-TYPE FITTINGS.
 - D. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR OUTDOOR LOCATIONS WHERE FLEXIBLE CONNECTION IS REQUIRED.
9. CABLES CONDUCTORS FOR GENERAL WIRING SHALL BE NEC STANDARD ANNEALED COPPER WIRE WITH NEC 600-VOLT INSULATION.
 - A. #8 AND LARGER-STRANDED TYPE, THHN OR THWN.
 - B. #10 AND SMALLER-SOLID TYPE THHN OR THWN.
 - C. CONDUCTORS IN CONDUIT IN OR ADJACENT TO HIGH HEAT SOURCE SHALL BE TYPE XHHW.
 - D. CONDUCTORS IN CONDUITS ABOVE ROOF, ON TOP OF ROOF OR INSIDE BUILT-UP ROOFING MATERIAL SHALL BE TYPE XHHW
10. CONVENIENCE OUTLET, UNLESS NOTED OTHERWISE, SURFACE-MOUNTED OUTLETS FOR EXTERIOR LOCATIONS SHALL BE FERALLOY, CAD/ZINC ELECTROPLATED WITH THREADED HUBS OR CONDUIT ENTRANCES DRILLED AND TAPPED. ALL COVERS SHALL BE SELF-CLOSING AND GASKETED. SURFACE MOUNTED OUTLETS FOR INTERIOR LOCATIONS SHALL BE GALVANIZED, PRESSED STEEL WITH COVER PLATE, SIERRA PLASTIC STYLE, IVORY COLOR.
11. COAXIAL CABLE SUPPORTS 1. ALL WAVE GUIDE SUPPORTS SHALL BE MANUFACTURED TO MEET ALL COAX MINIMUM BENDING REQUIREMENTS. SUPPORTS SHALL BE PROVIDED EVERY 3'-0" ON CENTER.
12. BEFORE LAYING OUT WORK, EXERCISE PROPER PRECAUTION TO VERIFY EACH MEASUREMENT.
13. USE EXTREME CAUTION BEFORE EXCAVATING IN EXISTING AREAS TO LOCATE EXISTING UNDERGROUND SERVICES.
14. A VISUAL CHECK OF ELECTRICAL AND TELEPHONE CABLES, CONDUITS AND OTHER ITEMS SHALL BE MADE BY A CARRIER CONSTRUCTION SUPERVISOR BEFORE THESE ITEMS ARE PERMANENTLY INSTALLED.
15. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR 24 HOURS PRIOR TO TRENCH BACK FILL.
16. TRENCHING, BACK FILLING, BEDDING AND COMPACTING SHALL COMPLY WITH SITE WORK SPECIFICATIONS.
17. DIG TRENCHES TO THE REQUIRED DEPTH AS SHOWN ON THE DRAWINGS WITHOUT POCKETS OR DIPS. REMOVE LARGE STONES FROM THE BOTTOM OF THE TRENCH AND FIRMLY TAMP LOOSE FILL IN THE BOTTOM BEFORE CONDUIT IS LAID.
18. INSTALL UNDERGROUND CONDUIT WITH A MINIMUM 3-INCH TO 100-FOOT SLOPE OR TO A SLOPE SHOWN ON THE DRAWINGS.
19. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, TERMINATE AND CAP ALL STUB-UPS 12 INCHES ABOVE FINISHED GRADE ELEVATION.
20. WHEREVER CONDUITS CROSS UNDER ROADWAYS, USE GALVANIZED RIGID STEEL CONDUITS IN ALL CASES, EXTENDING 5 FEET BEYOND THE EDGE OF THE ROAD BED. MINIMUM DEPTH FOR CONDUIT SHALL BE 4 FEET BELOW ROADWAY GRADE.
21. MARK UNDERGROUND CONDUITS WITH A 6-INCH WIDE RED POLYETHYLENE TAPE BURIED 6 INCHES UNDER THE SURFACE DIRECTLY OVER THE CONDUITS. MARK THE TAPE THUS: CAUTION-BURIED ELECTRICAL CABLE.
22. FOR SEALING CONDUITS, USE ONLY NON-THERMOPLASTIC COMPOUNDS SUCH AS J.M. DUXSEAL, OR AN CARRIER-APPROVED SUBSTITUTE. THE COMPOUND SHALL HAVE NO EFFECT ON RUBBER OR RUBBER-LIKE INSULATIONS, LEAD, ALUMINUM OR FERROUS ALLOYS; IT SHALL BE INSOLUBLE IN WATER AND WITHSTAND MAXIMUM TEMPERATURE RANGES OF THE LOCALITY.
23. COAXIAL - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.
24. ANTENNA - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.
25. LNA/MHA - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.

GROUNDING NOTES

1. THIS SPECIFICATION PRESCRIBES THE REQUIREMENTS FOR FURNISHING, INSTALLATION AND TESTING OF THE GROUNDING CABLE, CONNECTORS AND ASSOCIATED COMPONENTS AS INDICATED ON THE DRAWINGS.
2. APPLICATIONS OF ELECTRICAL GROUNDING AND BONDING WORK SPECIFIED IN THIS SPECIFICATION INCLUDE THE FOLLOWING:
 - A. FENCE AND GATE POSTS
 - B. ELECTRICAL POWER SYSTEMS
 - C. GROUNDING ELECTRODES
 - D. GROUND BUS BAR
 - E. SERVICE EQUIPMENT
 - F. ENCLOSURES
 - G. MONOPOLE / LATTICE TOWER
 - H. ICE BRIDGE
3. REFERENCES: THE PUBLICATIONS LISTED BELOW FORM PART OF THESE DRAWINGS. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THESE DRAWINGS ARE ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THESE DRAWINGS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.
 - A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - B. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
 - C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
 - D. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
 - E. NESC (NATIONAL ELECTRICAL SAFETY CODE), LATEST EDITION
 - F. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 - G. UL (UNDERWRITERS' LABORATORIES)
 - H. APPLICABLE LOCAL CODES AND ORDINANCES
4. MATERIALS: EXCEPT AS OTHERWISE INDICATED, PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEMS INDICATED; WITH ASSEMBLY OF MATERIAL, INCLUDING, BUT NOT LIMITED TO, GROUNDING ELECTRODES, BONDING JUMPER AND ADDITIONAL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION. WHERE MORE THAN ONE TYPE OF COMPONENT PRODUCT MEETS INDICATED REQUIREMENTS, SELECTION IS INSTALLER'S OPTION. WHERE MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS WHICH COMPLY WITH NEC, UL, AND IEEE REQUIREMENTS AND WITH ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED.
 - A. GROUNDING:
 - I. THE EQUIPMENT SHALL BE GROUNDED AS FOLLOWS, AS SHOWN ON THE DRAWINGS AND IN COMPLIANCE WITH NEC ARTICLE 250 AND STATE AND LOCAL CODES.
 - II. GROUND RODS AND QUANTITY SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL PERFORM A GROUND-RESISTANCE-TO-EARTH TEST. SHOULD THE INSTALLATION HAVE A RESISTANCE OF 5 OHMS OR MORE, CONTRACTOR SHALL INSTALL MORE GROUND RODS AS NECESSARY SO THAT THE OVERALL GROUND-TO-EARTH RESISTANCE IS LESS THAN 5 OHMS.
 - III. INSTALL ELECTRICAL GROUNDING AND BONDING SYSTEMS AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NEC'S "STANDARD OF INSTALLATION," AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS COMPLY WITH REQUIREMENTS.
 - IV. COORDINATE WITH OTHER ELECTRICAL WORK AS NECESSARY TO INTERFACE INSTALLATION OF ELECTRICAL GROUNDING AND BONDING SYSTEMS.
 - V. INSTALL GROUND CONDUCTORS A MINIMUM OF 36 INCHES BELOW FINISHED GRADE WHICH ENIRCLE THE TOWER AND EQUIPMENT, AND ARE CONNECTED TO EACH DRIVEN GROUND ROD. GROUND TRENCH SHALL BE AT LEAST 24 INCHES AWAY FROM FOUNDATIONS.
 - VI. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUE FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUEING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUE SPECIFIED IN UL 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
 - VII. APPLY CORROSION-RESISTANT FINISH (NO-OX OR CARRIER-APPROVED EQUIVALENT) TO FIELD-CONNECTIONS, AT COPPER GROUND BARS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATING HAVE BEEN DESTROYED, OR ARE SUBJECTED TO CORROSIVE AND/OR OXIDATION PROCESS.
 - VIII. ON EXISTING LATTICE TOWERS, WATER TOWERS AND ROOF TOPS, WHEN A NEW GROUNDING SYSTEM IS INSTALLED, THE CONTRACTOR SHALL TIE THE NEW GROUND SYSTEM TO THE EXISTING WATER TOWER, LATTICE TOWER STRUCTURAL STEEL OR BUILDING STRUCTURAL STEEL AS THE CASE MAY BE AT A MINIMUM OF ONE LOCATION SO THAT THEY ARE AT THE SAME VOLTAGE POTENTIAL.
 - IX. ALL TOWER AND TOP GROUND WIRES SHALL BE SUPPORTED EVERY TWO FEET MAXIMUM.
 - B. GROUND RODS:
 - I. GROUND RODS SHALL BE 5/8" DIAMETER WITH 8'-0" EMBEDMENT MIN., COPPER CLAD DRIVEN ROD(S).
 - II. GROUND ROD(S) SHALL BE LOCATED AT THE PERIMETER OF EQUIPMENT AS TO CREATE A GROUND RING AS SHOWN ON THE DRAWINGS.
 - III. GROUND ROD(S) SHALL BE SPACED AT A MINIMUM OF 8'-0" AND A MAXIMUM SPACING OF 10'-0" ON CENTER.
 - IV. GROUND RODS SHALL BE BURIED BELOW THE FROSTLINE. AT NO TIME SHALL THIS DEPTH BE LESS THAN 18" BELOW FINISHED GRADE.
 - V. GROUND RODS WHICH CANNOT BE DRIVEN STRAIGHT DOWN THE ENTIRE 10'-0", SHALL BE DRIVEN AT AN ANGLE NOT GREATER THAN 45 DEGREES (NEC 250-83 AND 250-84).
 - VI. GROUND ROD LOCATIONS SHALL BE NOTED ON THE AS-BUILT DRAWING

- COMPLETE WITH DIMENSIONS.
- VII. PROVIDE GROUND TEST WELLS SHOWN ON THE CONSTRUCTION DRAWINGS.
- C. GROUND CONDUCTOR:
 - I. ALL DIRECT BURIED GROUND CONDUCTORS SHALL BE TINNED SOLID (#2 AWG) WIRE. BURIED GROUND CONDUCTOR SHALL BE INSTALLED AT MINIMUM DEPTH OF 36" BELOW GRADE.
 - II. ALL SUB GRADE GROUND CONNECTIONS SHALL BE MADE USING EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE SPLICES, TEES AND ALL GROUND ROD CONNECTIONS. MOLD, WELD KITS, ETC., SHALL BE MANUFACTURED BY CADWELD AND SHALL BE I INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS.
 - III. GROUND CONDUCTORS SHALL BE ROUTED IN THE SHORTEST AND C STRAIGHTEST DISTANCES POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. CONDUCTORS SHALL BE INSTALLED AS FOLLOWS:
 - IV. ALL GROUND CONDUCTORS SHALL FOLLOW A CONTINUOUS DOWNWARD PATTERN TO THE GROUND SOURCE. (NEVER RUN GROUND CONDUCTOR IN AN UPWARD DIRECTION.)
 - V. CONDUCTORS SHALL BE INSTALLED WITH A MINIMUM OF 12-INCH MINIMUM BENDING RADIUS.
 - VI. WHEN THE MINIMUM BENDING RADIUS CANNOT BE ACHIEVED, GROUND CABLES SHALL BE ROUTED AT 90-DEGREE BENDS WITH THE USE OF EXOTHERMIC CONNECTIONS AT 90 DEGREES, WITH THE INTENT IS TO ELIMINATE THE CABLE BEND RADIUS AND REPLACE THE RADIUS WITH AN EXOTHERMIC CONNECTION.
5. PREPARATION:
 - A. ALL SURFACES TO WHICH GROUND CONNECTIONS WILL BE MADE SHALL BE FREE OF PAINT, GALVANIZING DIRECT CORROSION, ETC.
 - B. ALL METAL SURFACES EXPOSED ON GROUNDING SHALL BE EITHER COLD GALVANIZE, OR PAINTED TO MATCH ORIGINAL SURFACE.
6. EXAMINE AREAS AND CONDITIONS UNDER WHICH ELECTRICAL GROUNDING AND BONDING CONNECTIONS ARE TO BE MADE AND NOTIFY CARRIER CONSTRUCTION SUPERVISOR AND ENGINEER OF RECORD IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR A MINIMUM OF 24 HOURS PRIOR TO TRENCH BACK FILL. ALL WORK DONE BELOW FINISHED GRADE SHALL BE INSPECTED BY THE CONSTRUCTION SUPERVISOR DURING THAT PERIOD.
7. GROUND TESTING:
 - A. THE CONTRACTOR SHALL TEST THE GROUND ELECTRODE ROD RESISTANCE IN ACCORDANCE WITH THE METHODS OF MEASUREMENT DEFINED IN THE FALL OF POTENTIAL METHOD.
 - B. TEST INSTRUMENTS SHALL OPERATE AT A FREQUENCY OTHER THAN 60 HERTZ AND SHALL CONTAIN STRAY CURRENT AND DC FILTERS, FAULT CURRENT PROTECTION AND HAVE SENSITIVITY TO OPERATE A LOW SIGNAL STRENGTH.
 - C. PRIOR TO TESTING, THE CONTRACTOR SHALL DE-ENERGIZE ALL POWER SOURCES, DISCONNECT THE ELECTRODE CONDUCTOR FROM THE GROUND ROD, WEAR HIGH VOLTAGE RUBBER SAFETY GLOVES.
 - D. GROUND TESTS ARE TO BE PERFORMED BY QUALIFIED PERSONS FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE EQUIPMENT AND THE HAZARDS INVOLVED.
 - E. AN INDEPENDENT, APPROVED OUTSIDE FIRM SHALL PERFORM THE GROUND TEST AS OUTLINED. ALL TEST RESULTS SHALL BE FORWARDED TO THE CARRIER CONSTRUCTION SUPERVISOR FOR APPROVAL.



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:

NAME: GLENN WALKER
10/24/2022

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LICENSE NUMBER: 55851

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APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

GENERAL
NOTES

SHEET NUMBER:

GN-2

CONCRETE NOTES

1.THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS:

F'C = 4,000 PSI – FOOTINGS, GRADE BEAMS & ALL OTHER CONCRETE, U.N.O.

F'C = 4,000 PSI – RETAINING WALLS & PILASTERS

F'C = 4,000 PSI – SLAB ON GRADE

2.ALL CONCRETE UNLESS NOTED OTHERWISE SHALL BE NORMAL WEIGHT TYPE (150 PCF). AGGREGATES SHALL CONFORM TO ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN .05% (MAXIMUM SIZE).

3.CEMENT SHALL CONFORM TO ASTM C-150 (TYPE V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.

4.CONCRETE MIX DESIGN FOR DESIGN COMPRESSIVE STRENGTH GREATER THAN 2500 P.S.I. SHALL BE PREPARED BY AN APPROVED TESTING LABORATORY AND SHALL BE STAMPED AND SIGNED BY A LICENSED ENGINEER, IN THE STATE OF JURISDICTION. THE MIX DESIGN SHALL THEN BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE USE OF A POLYMER BASED WATER REDUCING ADMIXTURE IS OPTIONAL, BUT IF USED, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

5.DESIGN MIXES TO PROVIDE NORMAL WEIGHT CONCRETE WITH THE FOLLOWING REQUIREMENTS:

A.THE MAXIMUM ALLOWABLE CONCRETE SHRINKAGE (28 DAYS) SHALL BE AS FOLLOWS:

.04% – WALLS

.06% – SLABS, FOUNDATIONS AND ALL OTHER CONCRETE, U.N.O.

B.FLY ASH SHALL BE A MINIMUM OF 15%, MAXIMUM OF 25%, OF THE TOTAL CEMENTITIOUS MATERIAL OF ALL MIX DESIGNS FOR CONCRETE > 4000 P.S.I.. FLY ASH WITH THESE SAME LIMITS MAY ALSO BE USED IN ANY OTHER MIX DESIGN FOR CONCRETE STRENGTH < 4000 P.S.I.

C.FLY ASH SHALL CONFORM TO ASTM C-618, CLASS F, WITH MAXIMUM LOSS ON IGNITION (L.O.I.) TO BE 3%.

D.MAXIMUM ALLOWABLE WATER-TO-CEMENT (W/C) RATIO SHALL INCLUDE THE TOTAL WEIGHT OF CEMENT AND FLY ASH.

6.CONCRETE SHALL BE CURED AND PROTECTED IN ACCORDANCE WITH ACI 308.1-11.

7.CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET. USE TREMIE OR PUMP.

8.LOCATION OF CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFIED OR DETAILED, SHALL BE APPROVED BY THE ENGINEER BEFORE PLACEMENT OF CONCRETE.

9.ALL CONCRETE WITH 28 DAY STRENGTH GREATER THAN 2500 PSI SHALL BE INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS AND FREQUENCY OF INSPECTION DEFINED IN IBC TABLE 1705.3 AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES – SEE SPECIAL INSPECTION NOTES. ANY EXCEPTIONS TO THIS REQUIREMENT WILL BE STATED ON THE PLANS OR SPECIFIC DETAILS.

10. PRIOR TO PLACING CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL-SECURED IN POSITION.

11. SLEEVES NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL BE LOCATED BY THE TRADES INVOLVED AND SHALL BE REVIEWED BY THE ENGINEER BEFORE THE CONCRETE IS PLACED. CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF OPENINGS, SLEEVES, CURBS, CONDUITS, ETC., RELATED TO THE WORK. PIPES, CONDUITS OR DUCTS MAY PASS THROUGH STRUCTURAL CONCRETE IN EMBEDDED SLEEVES BUT SHALL NOT BE EMBEDDED IN STRUCTURAL SLABS, WALLS, CONTINUOUS FOOTINGS, GRADE BEAMS, SPREAD FOOTINGS, ETC. UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. THE SPREAD FOOTING MAY BE LOWERED TO ALLOW THE PASSAGE OF PIPES, CONDUITS OR DUCTS THROUGH NON-STRUCTURAL SLABS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ELEVATIONS OF ALL FOUNDATIONS, COORDINATING WORK OF ALL TRADES PRIOR TO ANY PLACEMENT OF CONCRETE AND SHALL NOTIFY THE ENGINEER OF FIELD MODIFICATIONS.

12. SUPERIMPOSED LOADS SHALL NOT BE APPLIED TO ELEVATED STRUCTURAL CONCRETE MEMBERS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE PLACEMENT AND UNTIL 28 DAY STRENGTH HAS BEEN REACHED. SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING SHALL REMAIN IN PLACE 28 DAYS MINIMUM. AT NO TIME DURING THE RESHORING PROCESS SHALL THE CONCRETE MEMBER BE UNSUPPORTED.

13. PROVIDE 3/4" CHAMFER AT EXPOSED EDGES OF CURBS, WALLS, CONCRETE BEAMS AND COLUMNS AND ALL OTHERWISE EXTERIOR CONSTRUCTION JOINTS, U.N.O.

14. NON-SHRINK GROUT: SHALL CONFORM TO ASTM C-1107. MIN F'C = 6500 P.S.I. AT 28 DAYS.

15. ALL STRUCTURAL CONCRETE IS TO BE REINFORCED. UNLESS SHOWN OTHERWISE, SLABS ARE TO HAVE A MINIMUM REINFORCEMENT PERCENTAGE OF 0.20 CONTINUOUS EACH WAY AND WALLS ARE TO HAVE MINIMUM REINFORCEMENT PERCENTAGES OF 0.25 CONTINUOUS IN THE HORIZONTAL DIRECTION AND 0.15 CONTINUOUS IN THE VERTICAL DIRECTION.

16. CONCRETE FLOOR AND SLAB ON GRADE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ACI 302, "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION". FLATNESS / LEVELNESS SHALL CONFORM TO THE REQUIREMENTS OF ASTM E1155.

FOUNDATION NOTES

1.THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION AND FORMING AND PLACEMENT OF CONCRETE.

2.IF A GEOTECHNICAL ENGINEER HAS BEEN ENGAGED TO PROVIDE GEOTECHNICAL ENGINEERING SERVICES FOR THIS SITE AND SCOPE OF WORK, THE GEOTECHNICAL REPORT IN ITS ENTIRETY SHALL BE INCLUDED AS PART OF THESE CONTRACT DOCUMENTS AND SHALL SERPERSEDE ANY CONFLICTING DIRECTIVES CONTAINED WITHIN THESE NOTES, SHOULD ANY CONFLICTS BE PRESENT. FOR RECOMMENDED SOIL BEARING PRESSURE, FOUNDATION MATERIAL, FILL, FOUNDATION EXCAVATION AND SITE GRADING, REFER TO THE GEOTECHNICAL REPORT. ALL FILL AND FOUNDATION EXCAVATION SHALL BE OBSERVED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

3.THE DESIGN ALLOWABLE SOIL BEARING PRESSURE IS 1500 PSF.

4.STRUCTURAL EXCAVATION:

A.AFTER EXCAVATION, THE EXPOSED SOILS SHALL BE INSPECTED AND TESTED. ANY UNSUITABLE DEPOSITS SHALL BE REMOVED AS DIRECTED TO REACH SUITABLE BEARING SOIL. ALL OVER-EXCAVATED AREAS SHALL BE BACK FILLED WITH SELECT STRUCTURAL FILL OR WITH LEAN CONCRETE FILL TO THE ELEVATION OF THE BOTTOM OF FOOTING OR FOUNDATION AS INDICATED ON THE DRAWINGS.

B.NO FOUNDATIONS OR STRUCTURES SHALL BE CONSTRUCTED UNTIL THE BASE MATERIALS HAVE BEEN INSPECTED BY THE CARRIER CONSTRUCTION SUPERVISOR.

5.BACKFILL:

A.FILL AND BACKFILL SHALL BE COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557. FLOODING NOT PERMITTED.

B.BACK FILL SHALL NOT BE PLACED SOONER THAN THE FOUNDATION OR RETAINING STRUCTURE HAS REACHED THE FULL DESIGN STRENGTH UNLESS OTHERWISE DIRECTED IN WRITING BY THE ENGINEER.

C.PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL HAVE BEEN REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS AND UNSUITABLE MATERIALS.

6.TRENCH EXCAVATION:

A.UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE CARRIER CONSTRUCTION SUPERVISOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.

B.THE TRENCH WIDTH EXTENDS A MINIMUM OF 6 INCHES BEYOND EACH OUTSIDE EDGE OF THE CONDUIT OR OUTERMOST CONDUIT, WHICHEVER IS APPLICABLE.

C.WHEN SOFT, YIELDING OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED AT THE REQUIRED TRENCH BOTTOM ELEVATION, OVER-EXCAVATE THE TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

7.TRENCH BACK FILL:

A.PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND THE UTILITY REQUIREMENTS, UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER

B.NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR 24 HOURS IN ADVANCE OF BACK FILLING.

C.CONDUCT UTILITY CHECK TESTS BEFORE BACK FILLING BACK FILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.

D.PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACES AROUND THE CONDUITS.

E.PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING.

F.ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 9-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.

G.COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557.

8.AGGREGATE ACCESS ROAD:

A.CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD AND TOWER COMPOUND TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS.

B.THE AGGREGATE SUB BASE AND BASE SHALL BE IMMEDIATELY COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D-1557.

C.AFTER PREPARATION OF THE SUB GRADE IS COMPLETED, THE GEOTEXTILE FABRIC SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY OR SITE. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUB GRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING THE MATERIAL AS SMOOTHLY AS POSSIBLE.

I. OVERLAPS PARALLEL TO THE ROADWAY AND SITE WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY OR SITE SURFACE WIDTH (I.E. WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE.

II. TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET.

III. ALL OVERLAPS SHALL BE PINNED WITH STAPLES OR NAILS BETWEEN 10 AND 12 INCHES LONG TO ENSURE STABLE POSITIONING DURING THE PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25-FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET ON CENTER.

D.THE AGGREGATE SUB BASE, BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT MORE THAN 4 INCHES (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE END-DUMPED ON

THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. AT NO TIME SHALL EQUIPMENT, EITHER DUMPING THE AGGREGATE OR GRADING THE AGGREGATE, BE PERMITTED ON THE ROADWAY OR COMPOUND WITH LESS THAN 8 INCHES OF MATERIAL COVERING THE FABRIC.

9.FINISH GRADING

A.PERFORM ALL FINISHED GRADING TO PROVIDE SMOOTH, EVEN SURFACE AND SUBSURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.

B.UTILIZE SATISFACTORY FILL MATERIALS RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR THE REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.

C.REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

CONCRETE REINFORCING STEEL

1.REINFORCING STEEL FOR CONCRETE SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, (DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A 305 AS FOLLOWS:

GRADE 60: (#4 BARS AND LARGER)

GRADE 40: (#3 BARS)

THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS SHALL NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000PSI) AND THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL YIELD STRENGTH SHALL NOT BE LESS THAN 1.25.

2.WWF SHALL CONFORM TO ASTM A 82 AND ASTM A 185. LAP 1 1/2 SPACES (9" MIN.)

3.DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM TO A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."

4.MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:

CAST AGAINST EARTH 3"

CAST AGAINST FORM BELOW GRADE 2"

FORMED SLABS (#11 BAR & SMALLER) 3/4"

SLABS ON GRADE (FROM TOP OF SLAB) 1"

COLUMNS AND BEAMS (MAIN BARS) 2"

WALLS EXPOSED TO WEATHER (#6 - #18 BARS) 2"
(#5 & SMALLER)1 1/2"

NOT EXPOSED TO WEATHER (#11 & SMALLER) 3/4"

5.BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BEND SHALL BE MADE COLD.

6.PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.

7.WHEN WELDING OF REINFORCING BARS IS REQUIRED, IN ADDITION TO THE REQUIREMENTS OF ASTM A-615, A REPORT OF MATERIAL PROPERTIES SHALL BE PROVIDED BY THE REINFORCING MANUFACTURER TO VERIFY THAT MATERIAL PROPERTIES ARE THOSE NECESSARY FOR CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4, "STRUCTURAL WELDING CODE – REINFORCING STEEL". IN LIEU OF SUPPLYING A SUPPLEMENTAL REPORT, BARS CONFORMING TO ASTM A-706 MAY BE USED. E90XX ELECTRODES SHALL BE USED TO WELD REINFORCING BARS.

8.WHEN REQUIRED, CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION OF REINFORCING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF IBC TABLE 1705.3 AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES – SEE SPECIAL INSPECTION NOTES. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OF REINFORCING STEEL.

9.FOR STANDARD REBAR HOOKS, REFER TO THE STANDARD HOOK DETAIL CONTAINED HEREIN, AND FOR STANDARD REBAR SPLICE REQUIREMENTS, REFER TO THE STANDARD REBAR SPLICE DETAIL CONTAINED HEREIN.

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
GENERAL
NOTES

SHEET NUMBER:

GN-3

SITE SURVEY

PROPERTY DESCRIPTION:(per Old Republic National Title Insurance Commitment No. 01-18057895-01T, effective date August 7, 2022.)

Situated in the County of Hennepin, State of Minnesota:

Being that property described as Lot 1, Block 1, of the plat of "A1 RELIABLE HOME SERVICES", recorded in Plat Instrument No. 10834636 of Hennepin County Records, to which express reference is hereby made for further description.

Tax ID: 28-119-21-34-0009

Being a portion of the same property conveyed to Brooklyn Evangelical Lutheran Church, a Minnesota Corporation, grantee, from Wisconsin Evangelical Lutheran Synod, grantor, by deed recorded 01/12/1978, as Document No. 4348501, of the Hennepin County Records.

SCHEDULE "B" EXHIBITS:(per Old Republic National Title Insurance Commitment No. 01-18057895-01T, effective date August 7, 2022.)

1-8.) Not related to the survey.

9.) Subject to the easement set forth in the Warranty Deed, recorded 01/12/1978, as Document No. 4348501, of the Hennepin County Records.
This document does not affect the lease area or easements and is not shown on the survey.

10-11.) Intentionally deleted

12.)Easement in favor of the City of Brooklyn Park, recorded 03/20/2014, as Document No. A10063071, of the Hennepin County Records.
This document describes easements for trail and utility purposes. Said easements affect the surveyed area and are shown on the survey.

13.) Intentionally deleted

PROPOSED LEASE AREA DESCRIPTION:

That part of Lot 1, Block 1, A1 RELIABLE HOME SERVICES, according to the recorded plat thereof, Hennepin County, Minnesota, described as follows:

Commencing at the southeast corner of the Southeast Quarter of the Southwest Quarter of Section 28, Township 119 North, Range 21 West of the Fifth Principal Meridian, said Hennepin County, thence South 89 degrees 52 minutes 51 seconds West along the South line of said Southeast Quarter of the Southwest Quarter, a distance of 923.60 feet; thence North 0 degrees 07 minutes 09 seconds West, a distance of 262.97 feet to the Point of Beginning of the lease area to be described; thence North 89 degrees 25 minutes 43 seconds West, a distance of 50.00 feet; thence North 0 degrees 34 minutes 17 seconds East, a distance of 55.00 feet; thence South 89 degrees 25 minutes 43 seconds East, a distance of 50.00 feet; thence South 0 degrees 34 minutes 17 seconds West, a distance of 55.00 feet to the Point of Beginning.

PROPOSED ACCESS & UTILITIES EASEMENT DESCRIPTION:

A 20.00 foot wide easement for ingress, egress and utility purposes over, under and across Lot 1, Block 1, A1 RELIABLE HOME SERVICES, according to the recorded plat thereof, Hennepin County, the centerline of said easement is described as follows:

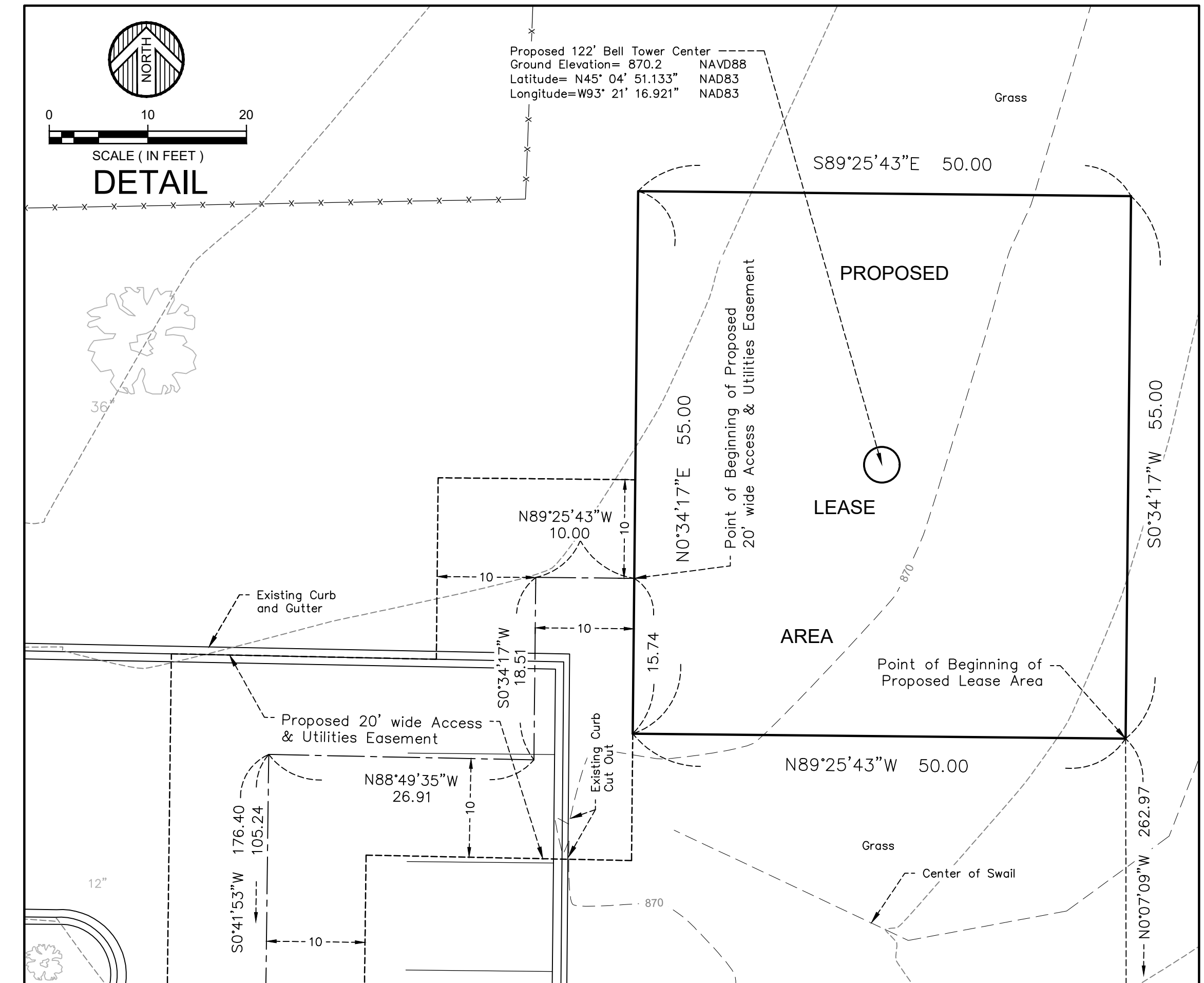
Commencing at the southeast corner of the Southeast Quarter of the Southwest Quarter of Section 28, Township 119 North, Range 21 West of the Fifth Principal Meridian, said Hennepin County, thence South 89 degrees 52 minutes 51 seconds West along the South line of said Southeast Quarter of the Southwest Quarter, a distance of 923.60 feet; thence North 0 degrees 07 minutes 09 seconds West, a distance of 262.97 feet; thence North 89 degrees 25 minutes 43 seconds West, a distance of 50.00 feet; thence North 0 degrees 34 minutes 17 seconds East, a distance of 15.74 feet to the Point of Beginning of the centerline to be described; thence North 89 degrees 25 minutes 43 seconds West, a distance of 10.00 feet; thence South 0 degrees 34 minutes 17 seconds West, a distance of 18.51 feet; thence North 88 degrees 49 minutes 35 seconds West, a distance of 26.91 feet; thence South 0 degrees 41 minutes 53 seconds West, a distance of 105.24 feet; thence South 89 degrees 26 minutes 25 seconds East, a distance of 44.60 feet to the South line of said Lot 1 and said centerline there terminating.

The sidelines of said easement shall be shortened or lengthened to terminate at the said South line of Lot 1.

PROPOSED UTILITIES EASEMENT DESCRIPTION:

An 8.00 foot wide easement for utility purposes over, under and across Lot 1, Block 1, A1 RELIABLE HOME SERVICES, according to the recorded plat thereof, Hennepin County, the centerline of said easement is described as follows:

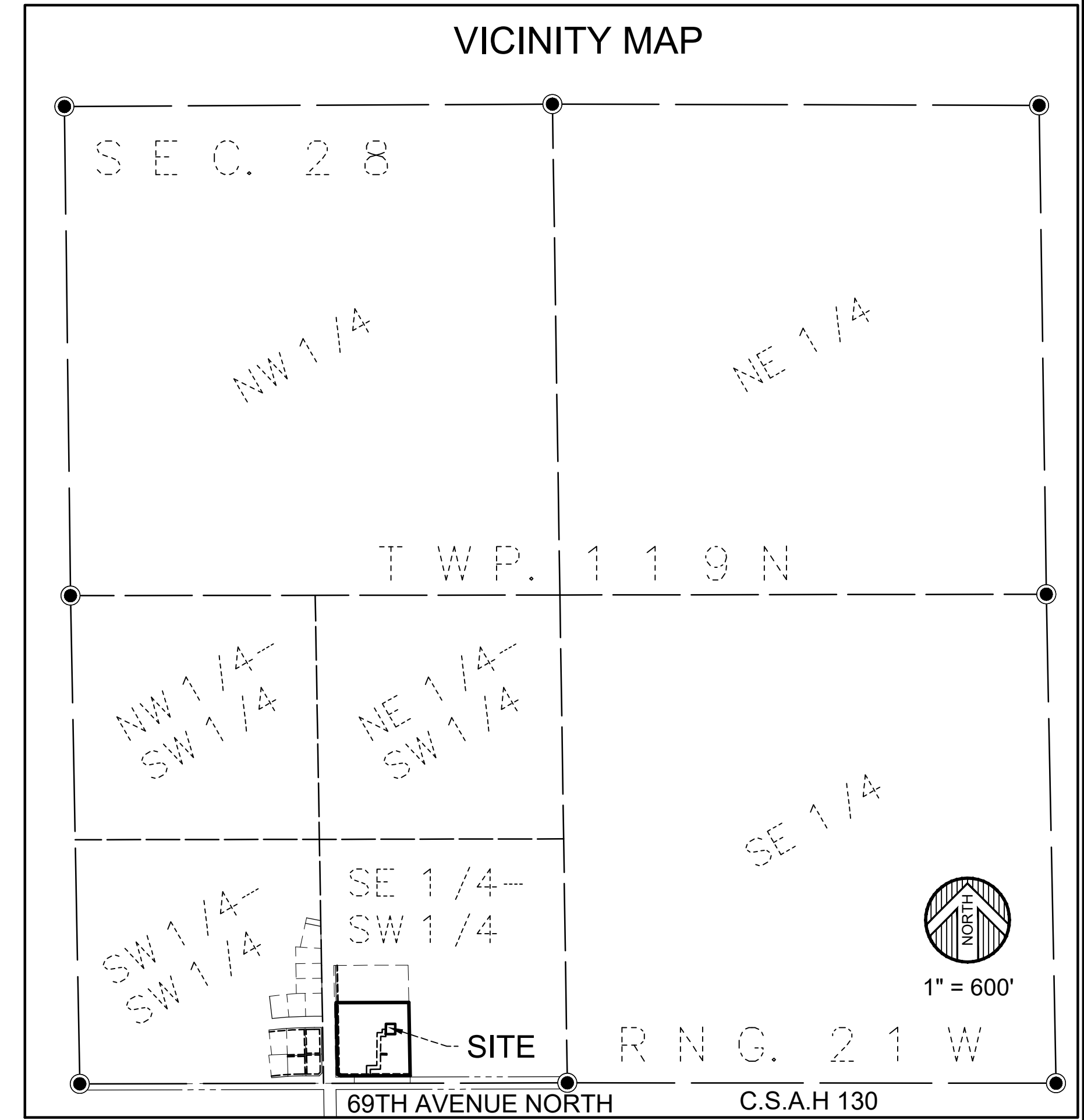
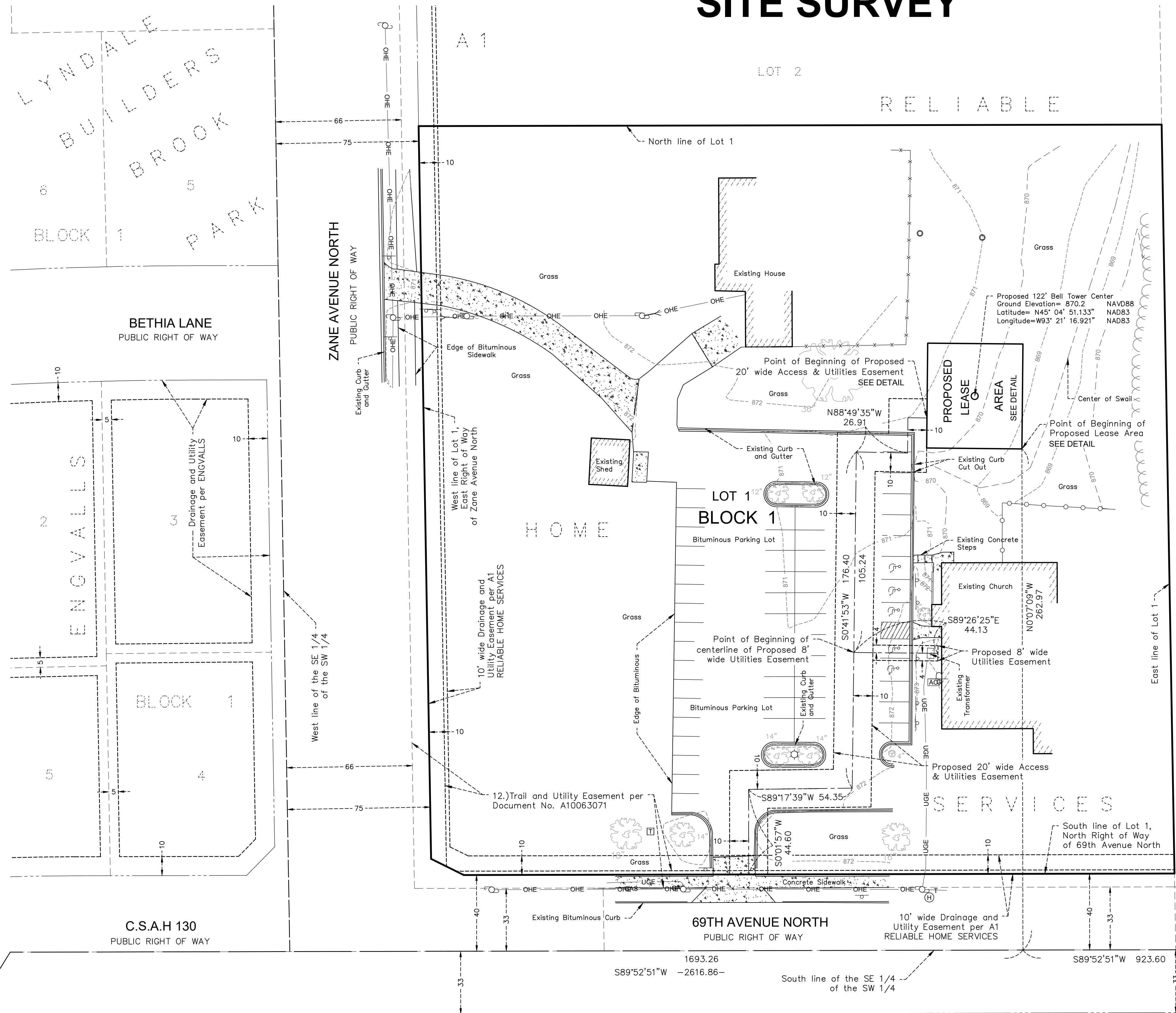
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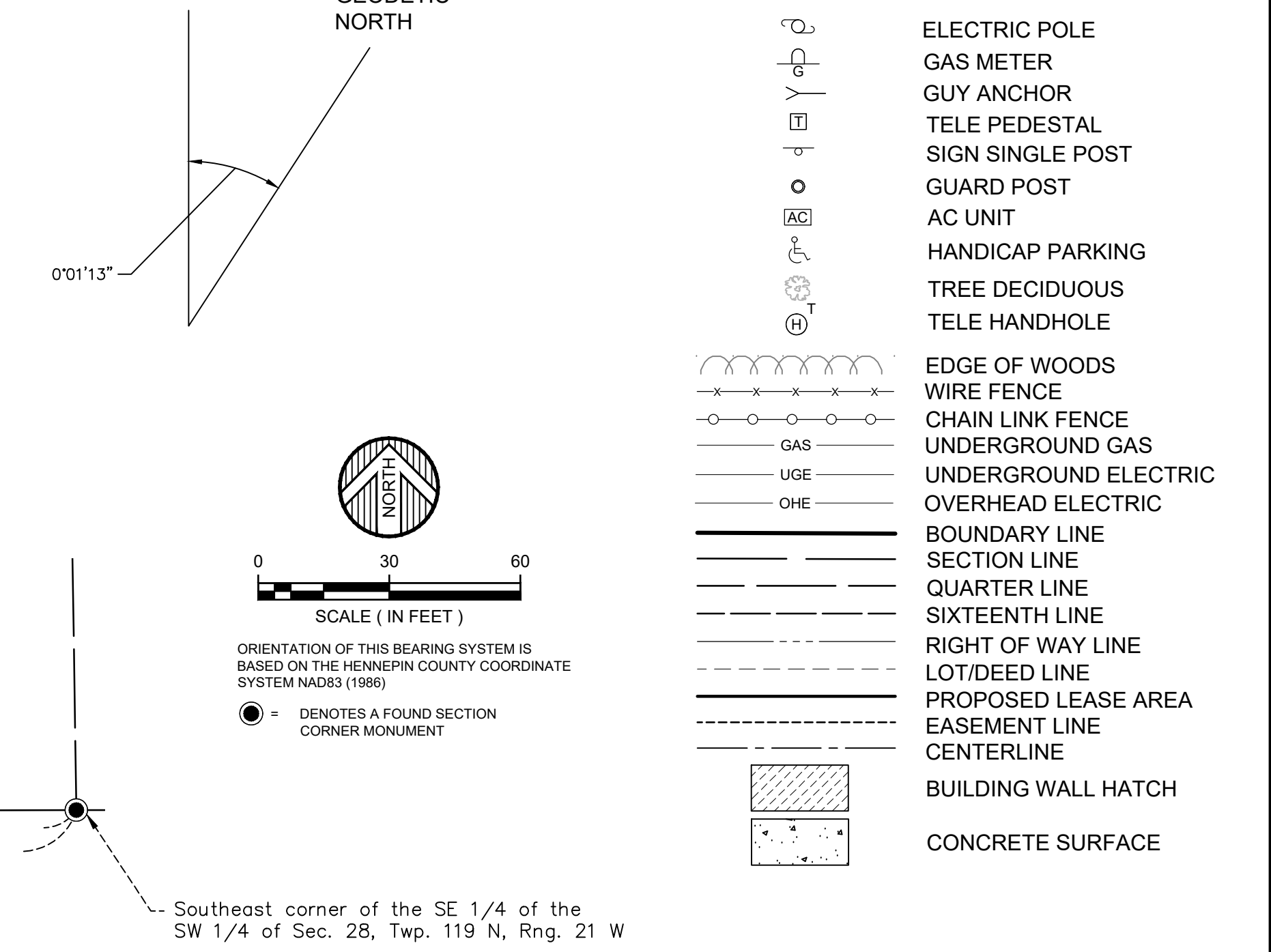
SHEET 1 OF 2 SHEETS

<p>APC SITE NUMBER: MN-1618 APC SITE NAME: MINNEAPOLIS APC E911 SITE ADDRESS: 5840 69th Ave. N Brooklyn Park, MN 55249</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">3</td> <td style="width: 10%;">9/9/22</td> <td style="width: 50%;">ADDED FINAL PLAT "A1 RELIABLE HOMES SERVICES" UPDATED TITLE REPORT</td> <td style="width: 5%;">JMB</td> <td style="width: 5%;">JBr</td> <td style="width: 5%;">BTB</td> </tr> <tr> <td>2</td> <td>6/3/19</td> <td>CLIENT COMMENTS</td> <td>JMB</td> <td>BTB</td> <td>BTB</td> </tr> <tr> <td>1</td> <td>4/16/19</td> <td>CLIENT COMMENTS</td> <td>JMB</td> <td>BTB</td> <td>BTB</td> </tr> <tr> <td>No.</td> <td>Date</td> <td>REVISIONS</td> <td>By</td> <td>CHK</td> <td>APP'D</td> </tr> </table>	3	9/9/22	ADDED FINAL PLAT "A1 RELIABLE HOMES SERVICES" UPDATED TITLE REPORT	JMB	JBr	BTB	2	6/3/19	CLIENT COMMENTS	JMB	BTB	BTB	1	4/16/19	CLIENT COMMENTS	JMB	BTB	BTB	No.	Date	REVISIONS	By	CHK	APP'D	<p>I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p>SIGNATURE: <i>Bryan T. Balcome</i> BRYAN T. BALCOME, L.S. DATE: 3/28/19 LICENSE # 42594</p>	<p>© 2022 WIDSETH SMITH HOLTING</p> <p>WIDSETH ARCHITECTS ■ ENGINEERS ■ SCIENTISTS ■ SURVEYORS</p> <p>2022-11461</p>	<p>FULL SCALE ON 22"x34" MEDIA HALF SCALE ON 11"x17" MEDIA</p>
3	9/9/22	ADDED FINAL PLAT "A1 RELIABLE HOMES SERVICES" UPDATED TITLE REPORT	JMB	JBr	BTB																							
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1	4/16/19	CLIENT COMMENTS	JMB	BTB	BTB																							
No.	Date	REVISIONS	By	CHK	APP'D																							
<p>FIELD WORK: 3/19/19 CHECKED BY: JBR DRAWN BY: NTG/JMB</p>																												

SITE SURVEY



LEGEND



SURVEYOR NOTES:

- 1.) Utilities are per observed evidence and markings and per GOPHER STATE ONE CALL, Locate Request Ticket No. 190710254, dated March 18, 2019.
- 2.) Due to snow and ice present at the time of the survey, some utilities and improvements may have not been located.

APC SITE NUMBER: MN-1618		APC SITE NAME: MINNEAPOLIS		APC E911 SITE ADDRESS:	
5840 69th Ave. N		Brooklyn Park, MN 55249			
No.	Date	REVISIONS	By	CHK	APP'D
3	9/9/22	ADDED FINAL PLAT "A1 RELIABLE HOMES SERVICES" UPDATED TITLE REPORT	JMB	JBr	BTB
2	6/3/19	CLIENT COMMENTS	JMB	BTB	BTB
1	4/16/19	CLIENT COMMENTS	JMB	BTB	BTB
FIELD WORK: 3/19/19		CHECKED BY: JBR	DRAWN BY: NTG/JMB		

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Bryan T. Balcome*
BRYAN T. BALCOME, L.S.
DATE: 3/28/19 LICENSE # 42594

© 2022 WIDSETH SMITH NOLTING

FULL SCALE ON 22"x34" MEDIA
HALF SCALE ON 11"x17" MEDIA

WIDSETH

ARCHITECTS ■ ENGINEERS ■ SCIENTISTS ■ SURVEYORS

2022-11461

SHEET 2 OF 2 SHEETS

TOWER OWNER
APC Towers

TENANT ON APC TOWER
T-Mobile

POWDER RIVER
Development Services, LLC

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

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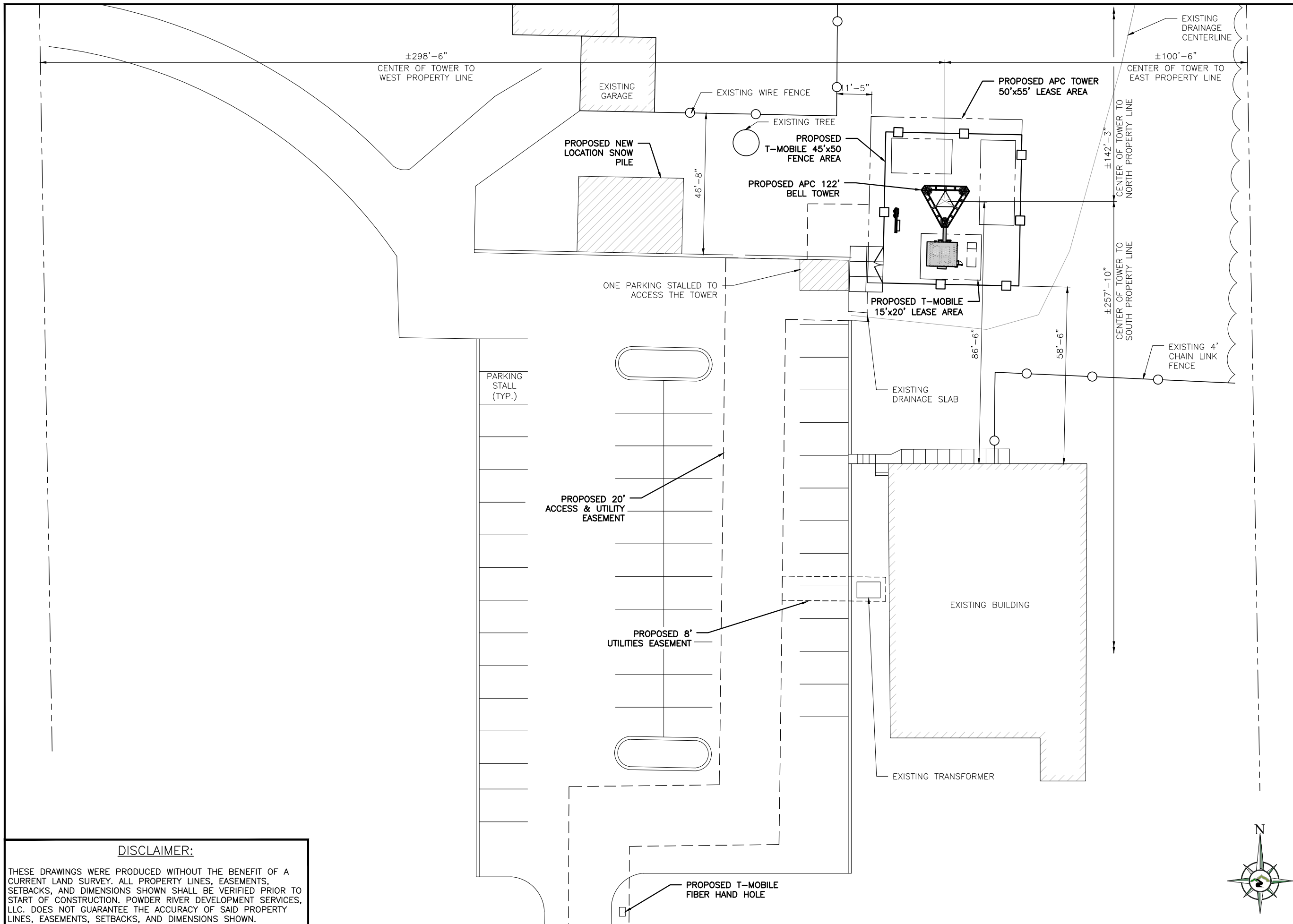
SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER:
C-1.0



DISCLAIMER:
THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. POWDER RIVER DEVELOPMENT SERVICES, LLC. DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN.

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
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4	07/15/19	REVISIONS	DLD
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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022
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MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

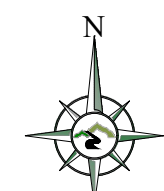
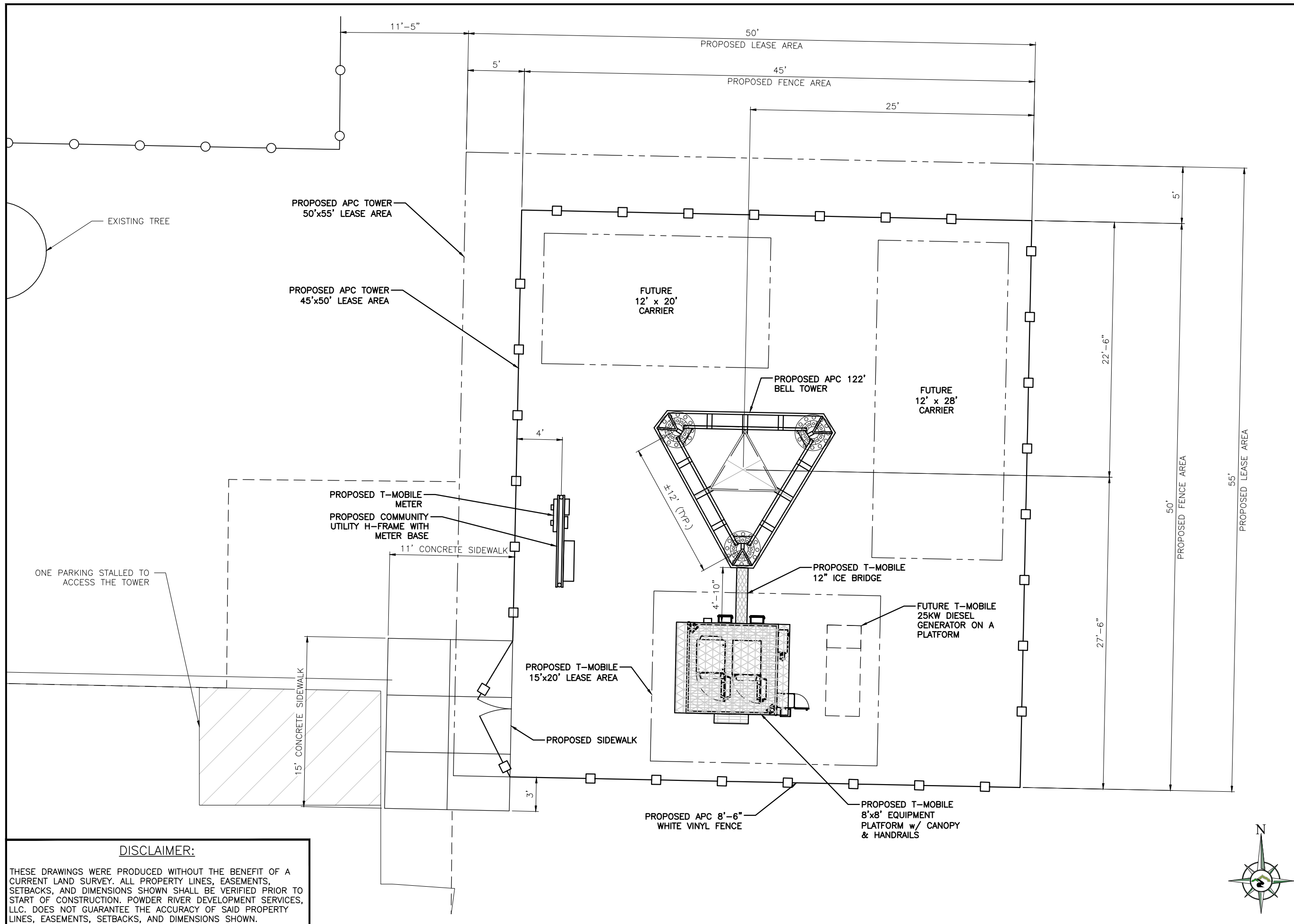
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

COMPOUND
PLAN

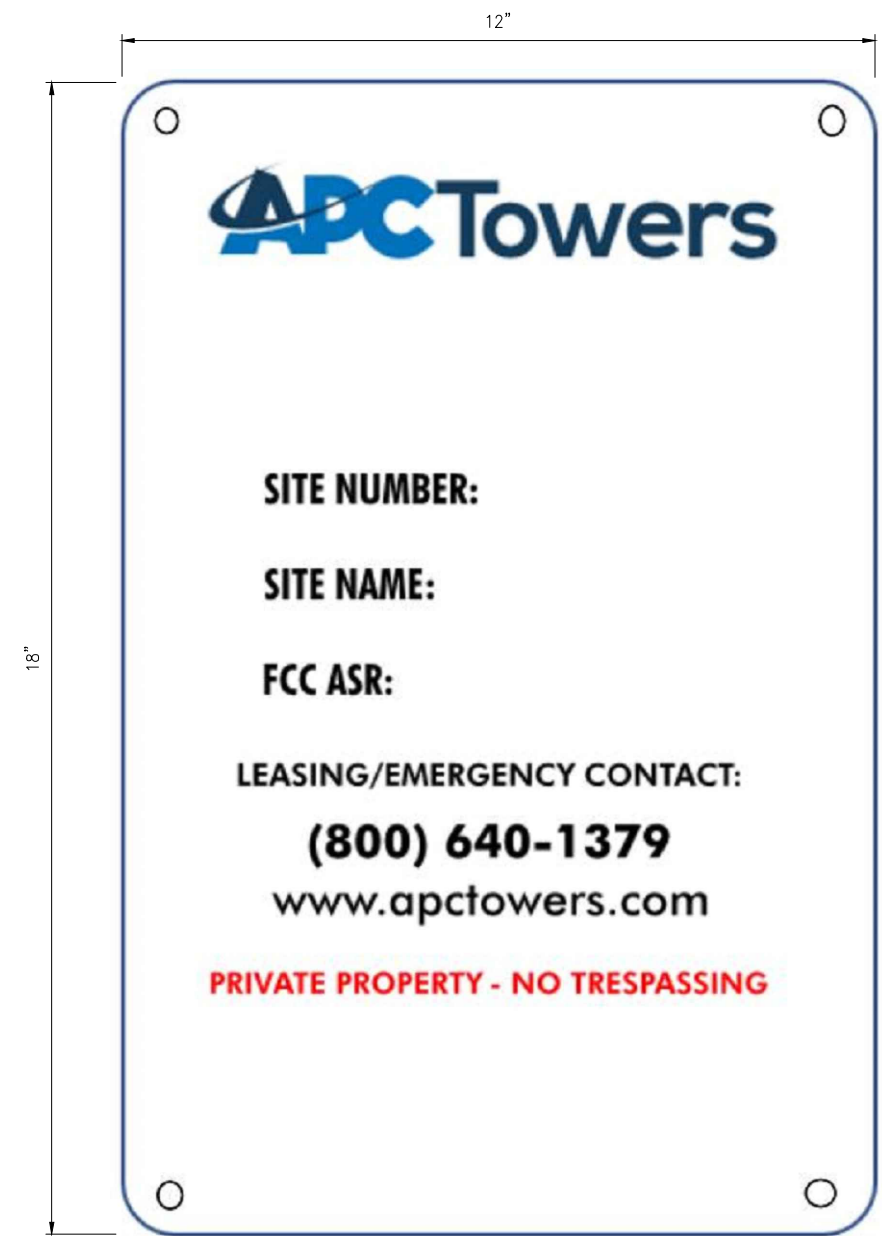
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C-1.1

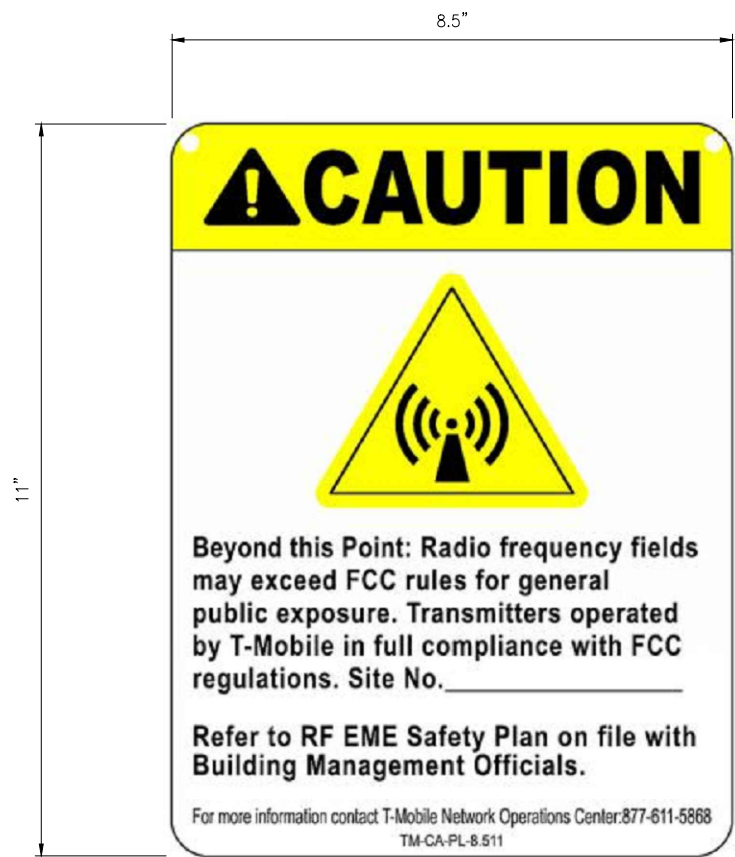


DISCLAIMER:
THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. POWDER RIVER DEVELOPMENT SERVICES, LLC. DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN.

THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.



APC SITE IDENTIFICATION SIGNAGE
.032 ALUMINUM
UV COATING FOR OUTDOOR USE
HOLES = 1/4"
LOCATION: RIGHT HAND GATE



T-MOBILE RF CAUTION SIGNAGE
.032 ALUMINUM
UV COATING FOR OUTDOOR USE
HOLES = 1/4"
LOCATION: RIGHT HAND GATE

TOWER OWNER

TENANT ON APC TOWER

POWDER RIVER
Development Services, LLC

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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SIGNATURE:

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

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SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME: MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
SIGNAGE

SHEET NUMBER:
C-1.2

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS				
REV	DATE	DESCRIPTION	INT	
5	10/24/22	REVISIONS	JCC	
4	07/15/19	REVISIONS	DLD	
3	06/19/19	REVISIONS	JFS	
2	05/31/19	REVISIONS	JDB	
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0	03/29/19	100% CONSTRUCTION	JDB	
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APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

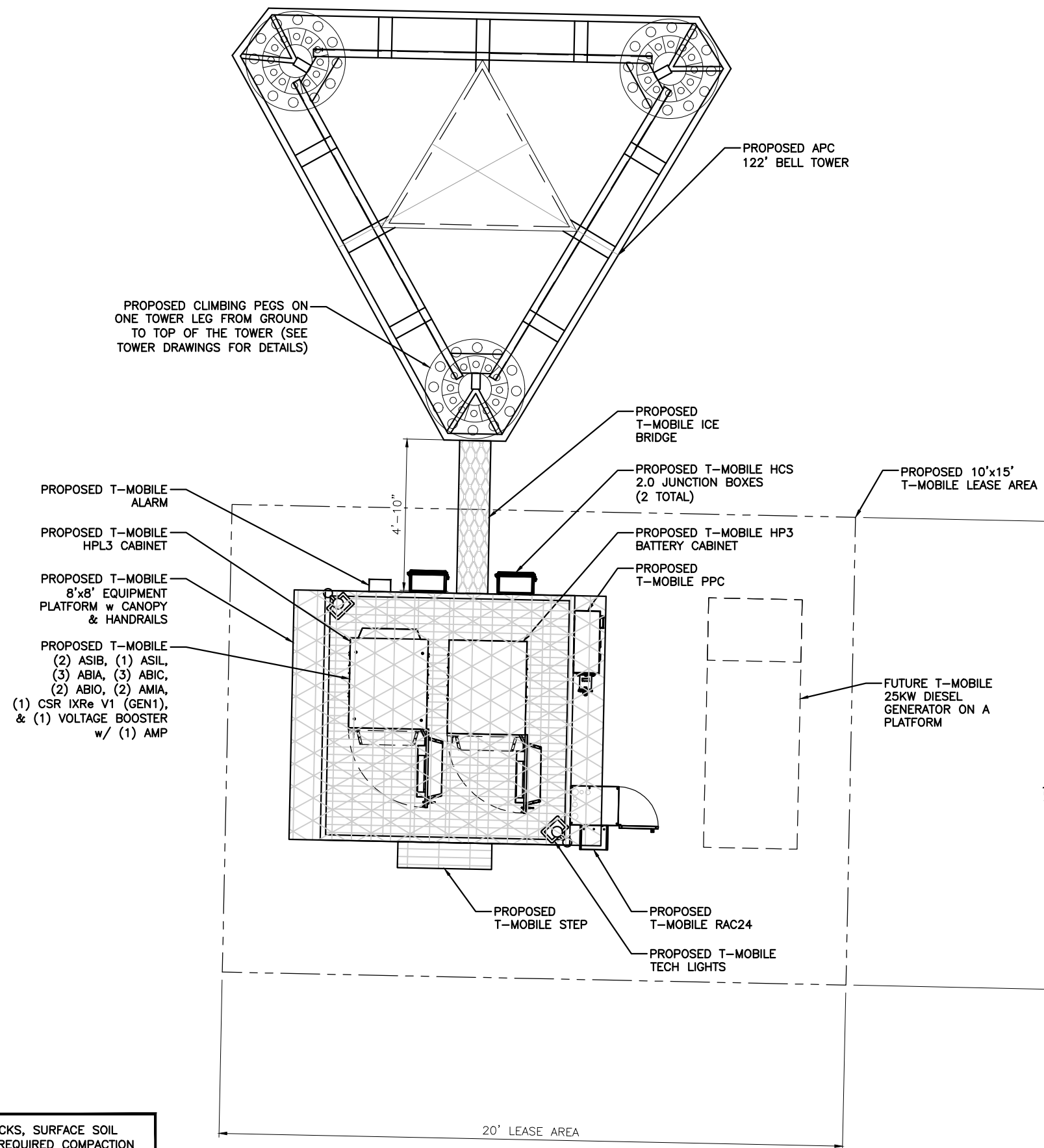
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

EQUIPMENT
PLAN

SHEET NUMBER:

C-2.0



CONTRACTOR SHALL CLEAR LEASE AREA OF ALL TREES, SHRUBS, ROCKS, SURFACE SOIL AND DEBRIS.. EXCAVATE INTO SLOPES AND/OR ADD FILL DIRT WITH REQUIRED COMPACTION TO LEVEL THE COMPOUND. SITE SHALL BE GRADED TO ALLOW NATURAL DRAINAGE FROM THE COMPOUND. CONTRACTOR WILL GRADE THE AREA AROUND COMPOUND TO PREVENT SOIL EROSION AND ADHERE TO ALL LOCAL, STATE AND FEDERAL REGULATIONS. RETAINING WALLS AND RIP-RAP ARE OUT OF SCOPE AND WILL REQUIRE A CHANGE ORDER UNLESS INCLUDED IN THE CONSTRUCTION PLANS OR ADDED TO SCOPE DURING BID WALKS.

EQUIPMENT PLAN (PROPOSED)

SCALE: 1/4" = 1'-0" (11x17)

1

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
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APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

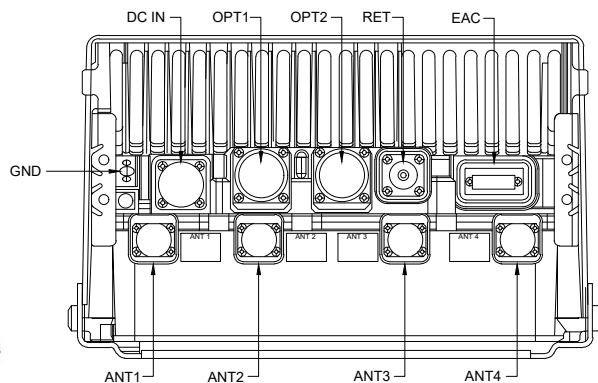
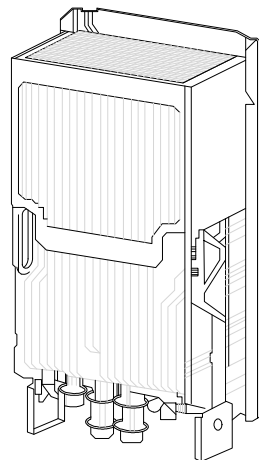
T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
**EQUIPMENT
DETAILS**

SHEET NUMBER:
C-2.1

NOKIA



Specification	
Configuration	4T4R Dual Band
Output Power	4x30W
IBW/OSW	Full Band/Full Band
PIM Cancellation	Yes (Multi Band)
Power Sharing	Yes
Weight	83.7 lbs with no covers & brackets
Size	Approx 32.6L
Dimensions	560 mm x 308 mm x 189 mm
Connector	4.3-10+ (4 ports)

AHLOA

- Based on Airscale Platform
- Tower installation only (No Ground installation)
- License requirement for MIMO Functions and Dual Band
- Utilizes 4.3-10 RF Connector
- CPRI fiber front haul
- Product expected Q2 2018

MANUFACTURER: NOKIA
MODEL: AHLOA
WEIGHT: 83.8 LBS
DIMENSIONS: HxWxD: 22.0" x 12.1" x 7.4"

NOKIA

Standard	3GPP/ETSI/FCC/5G NR/LTE compliant, TDD
Supported RAT	4G, 5G
Band / Frequency range	2496 - 2690 MHz
Max. supported modulation	256 QAM
Number of TX/RX paths	64T / 64R
MIMO streams	16
Instantaneous bandwidth IBW	194 MHz
Occupied bandwidth OBW	190 MHz
Total average EIRP	79 dBm
Max. output power per TRX	3 W / TRX (320 W total, 2 W/4x up to 160 MHz)
Dimensions / Volume	964 mm (H) x 544 mm (W) x 150 mm (D) / 72 l
Weight	49 kg, without mounting brackets
Wind load Front/Rear/Side	704/738/138 N, EN1991-1-4, wind velocity 42m/s (150 km/h)
Supply voltage / Connector type	DC -36 V ... -60 V / APPG
Power consumption	1347 W (75% OL duty cycle, ETSI Average)
Optical ports	4 x SFP28, 10/25GE eCPRI / OCTIS
Other interfaces / Connector type	Central AISG / RS-485, External Alarms / MDR26, 5 status LEDs
Operational temperature range	-40 °C ... +55 °C
Cooling	Forced cooling
Installation options	Pole and wall mounting with AMPF, ± 15° mechanical vertical tilt
EMC / Surge protection	IP65, Class II 20 kA
Antenna configuration	12, 8, 2 (145° X-polarized), Logical (4,8,2)
Typical Antenna Gain (as defined by Rastal, *)	24 dBi ±1 dB
Minimum azimuth beamwidth (*), HPBW	13° ± 1°
Azimuth scanning range	±45° (3dB), ±50° (4dB)
Envelope azimuthal beamwidth (*)	±60° (7dB)
Minimum elevation beamwidth (*), HPBW	6.5° ± 0.5°
Envelope elevation beamwidth (*), HPBW	+15°...-4° (upper SLS > 6dB); +14°...-2° (upper SLS > 10dB)
Elevation Scanning Range (**)	±7° (upper SLS > 6dB), ±5° (upper SLS > 10dB)
Vertical tilt (pre-tilt) angle	+6°
Front to Back Ratio	> 28 dB
Cross-Polar discrimination (Boresight)	> 18 dB



MANUFACTURER: NOKIA
MODEL: AEHC AIRSCALE MAA 64T64R 192AE B41 320W
WEIGHT: 108.027 LBS
DIMENSIONS: HxWxD: 37.95" x 21.42" x 5.91"
FREQUENCY: 2496 - 2690 MHz



MANUFACTURER: COMMSCOPE
MODEL: FFH-65C-R3
WEIGHT: 127.6 LBS
DIMENSIONS: HxWxD: 95.9" x 25.2" x 9.3"
FREQUENCY: 617MHz-806 MHz
1695-2360 MHz
CONNECTION: (8) 4.3-10 FEMALE

RADIO INFORMATION

SCALE: N.T.S.

5

ANTENNA INFORMATION

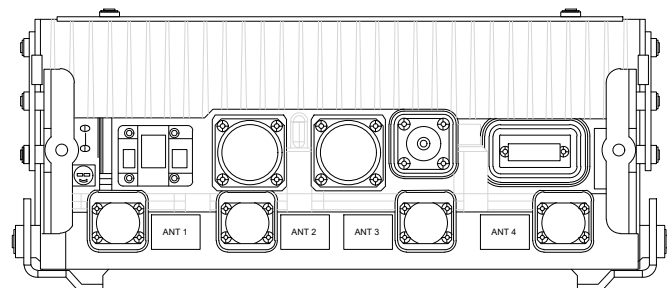
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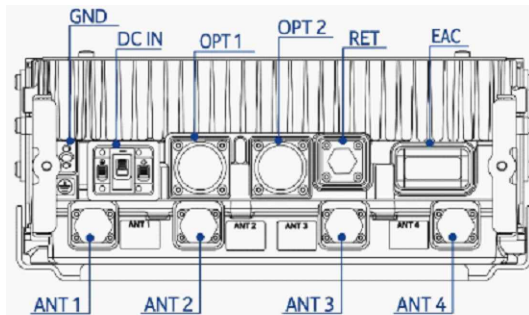
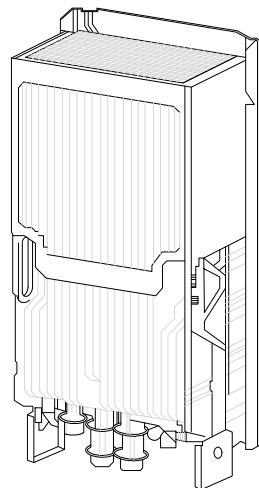
ANTENNA INFORMATION

SCALE: N.T.S.

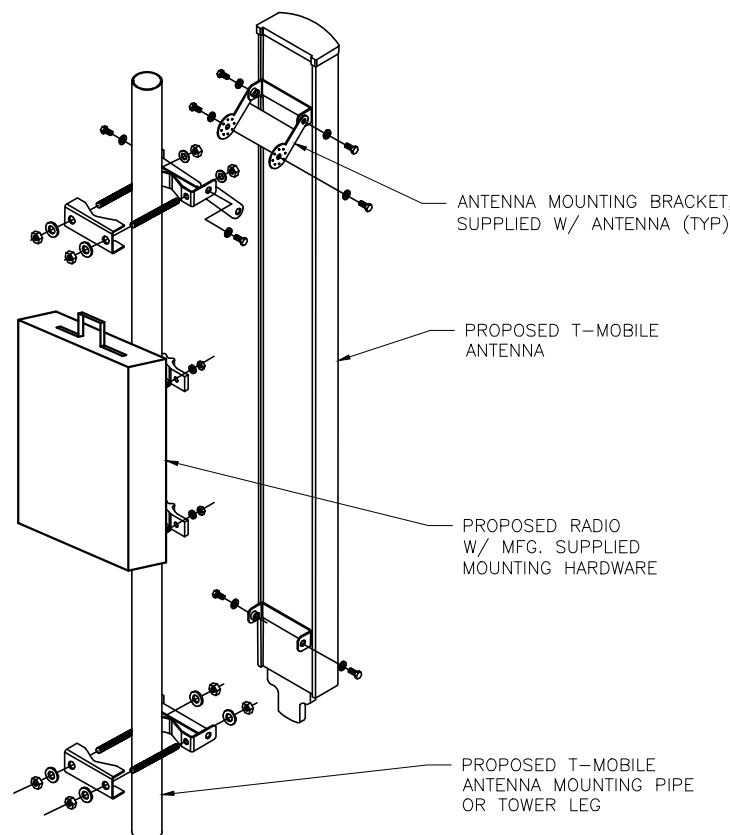
1



NOKIA



MANUFACTURER: NOKIA
MODEL: AHFG
WEIGHT: 70.6 LBS
DIMENSIONS: HxWxD: 28.7" x 12.9" x 5.6"
FREQUENCY: 1710 - 1780 MHz



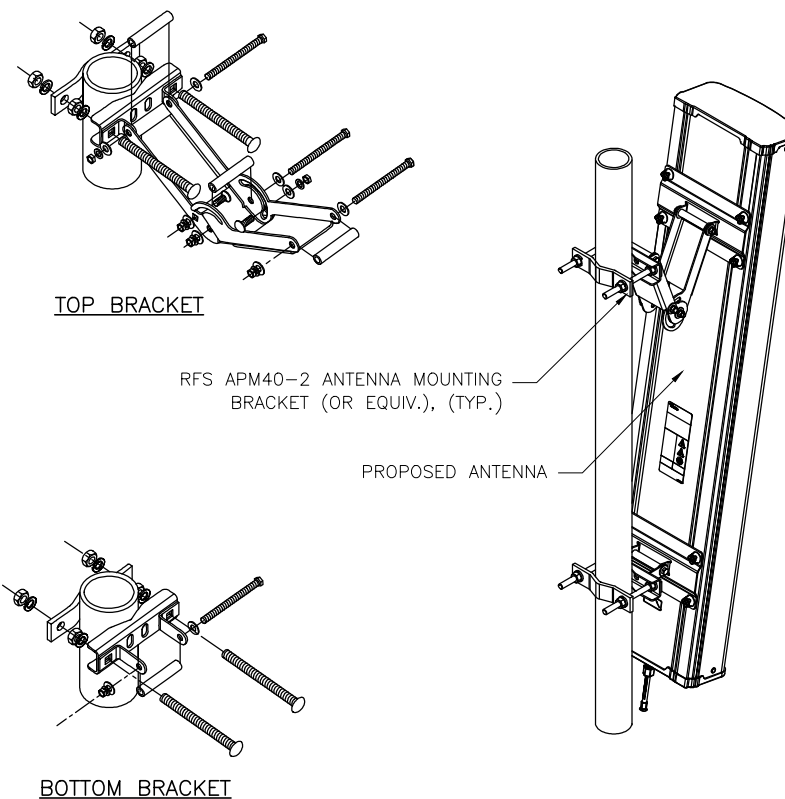
SCALE: N.T.S.

4

ANTENNA ATTACHMENT

SCALE: N.T.S.

2



RADIO INFORMATION

SCALE: N.T.S.

6

RADIO MOUNTING DETAIL

SCALE: N.T.S.

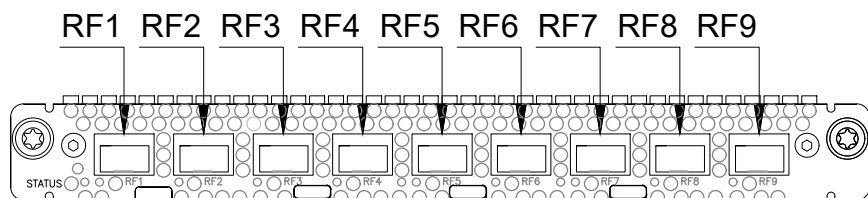
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ANTENNA ATTACHMENT

SCALE: N.T.S.

2

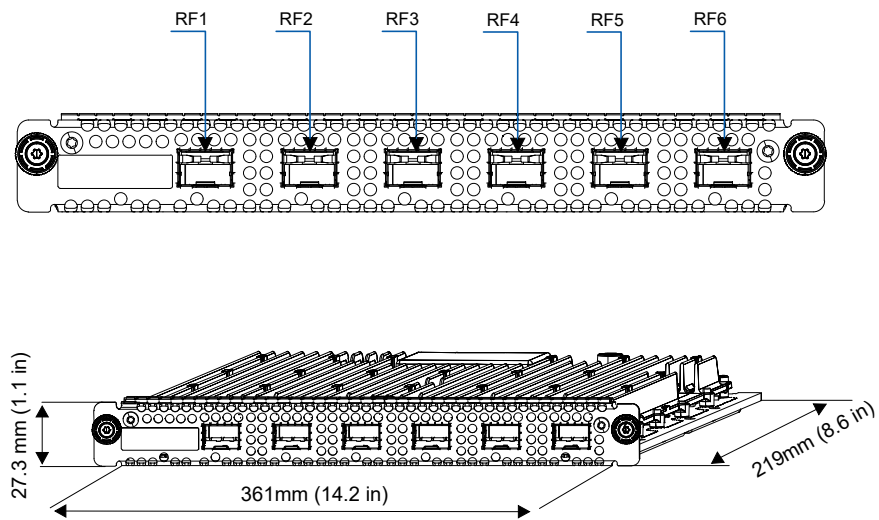
NOKIA



MANUFACTURER: NOKIA
MODEL: ABIO
DIMENSIONS: HxWxD: 0.98" x 14.33" x 8.62"
WEIGHT: 5.84LB

ABIO DETAIL SCALE: N.T.S. 5

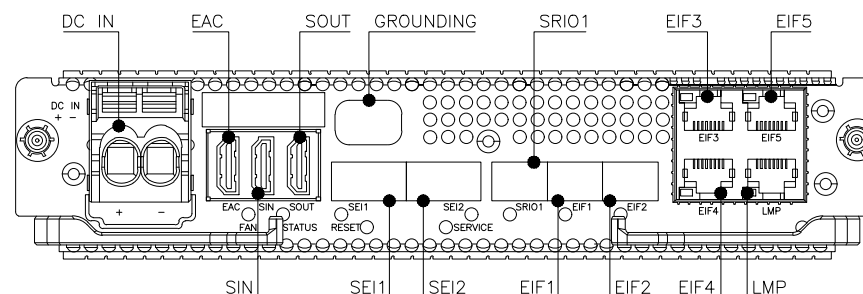
NOKIA



MANUFACTURER: NOKIA
MODEL: ABIA
DIMENSIONS: HxWxD: 1.1" x 14.2" x 8.6"
WEIGHT: 4.6LB

ABIA DETAIL SCALE: N.T.S. 3

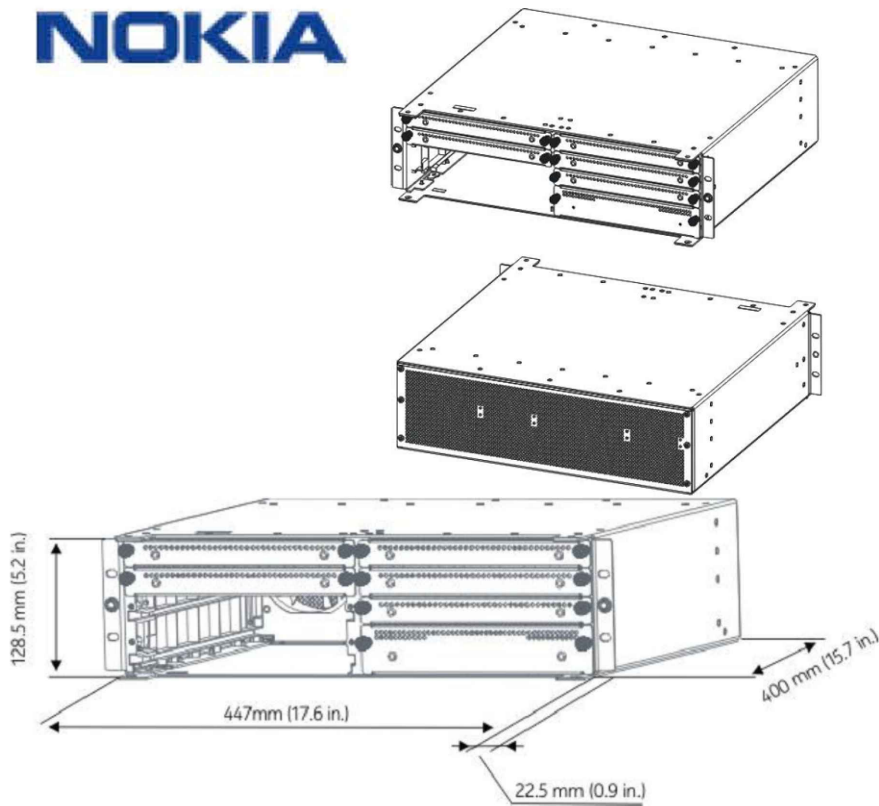
NOKIA



MANUFACTURER: NOKIA
MODEL: ASIB
DIMENSIONS: HxWxD: 1.7" x 8.6" x 14.2"
WEIGHT: 6.4LB

ASIB DETAIL SCALE: N.T.S. 1

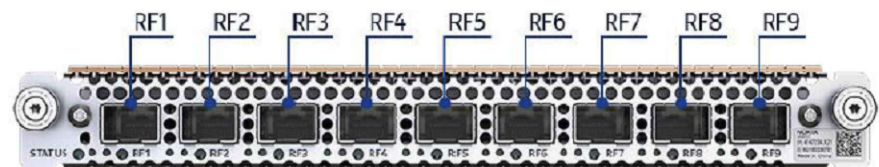
NOKIA



MANUFACTURER: NOKIA
MODEL: AMIA
DIMENSIONS: HxWxD: 5.1" x 17.6" x 15.7"
WEIGHT: 11.2LB

AMIA DETAIL SCALE: N.T.S. 6

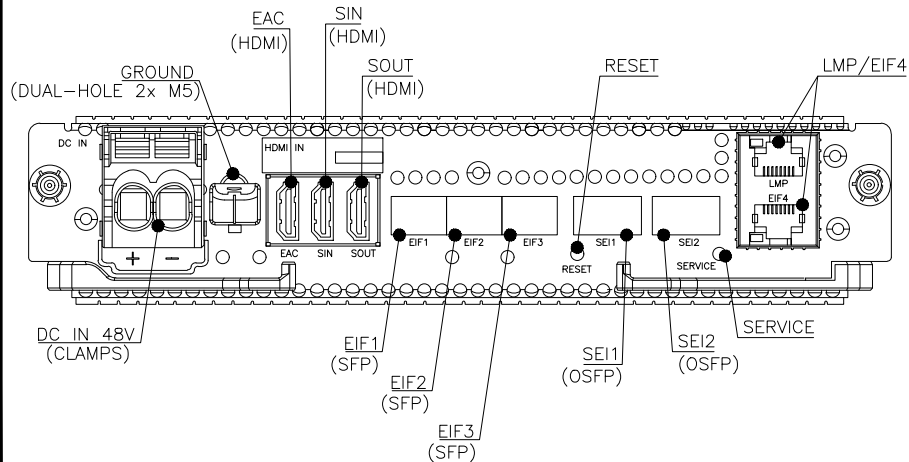
NOKIA



MANUFACTURER: NOKIA
MODEL: ABIC
DIMENSIONS: HxWxD: 1.7" x 14.2" x 8.6"
WEIGHT: 5.8LB

ABIC DETAIL SCALE: N.T.S. 4

NOKIA



MANUFACTURER: NOKIA
MODEL: ASIL
DIMENSIONS: HxWxD: 1.9" x 8.62" x 14.84"
WEIGHT: 6.8LB

ASIL DETAIL SCALE: N.T.S. 2

TOWER OWNER
APC Towers

TENANT ON APC TOWER

T-Mobile

POWDER RIVER
Development Services, LLC

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022
DATE:

LICENSE NUMBER: 55851

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APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
**EQUIPMENT
DETAILS**

SHEET NUMBER:

C-2.2

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
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T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
EQUIPMENT
DETAILS
SHEET NUMBER:
C-2.3

Power Transmission
PowerPlus
PowerPlus 100-3-U

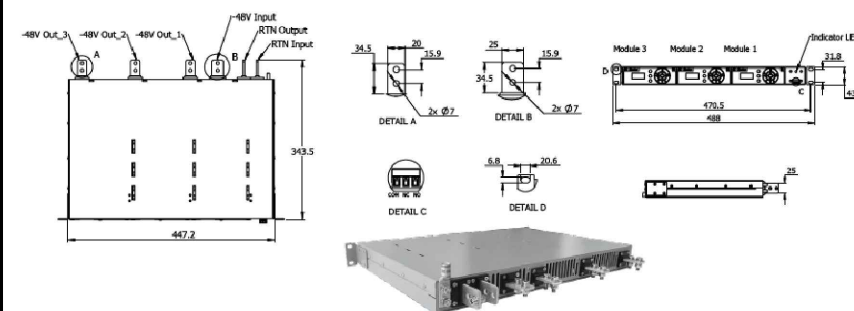


Back	
Module capacity	3 PowerPlus Modules
Total power	183.5 kW
Total maximum output current	300 A
Total output voltage ripple (3 modules) @ Po, max	580 mVpp
Combined efficiency (3 modules)	99%
Electrical Specification (per module)	
Input voltage range	-60 to -40 Vdc
Max input current	100 A
Efficiency	99%
Output voltage range	-65 to -55 Vdc
Output current max	100A
Rated output power	63.5 kW
Output voltage ripple @ Po, max @ nom I _o	540 mVpp

Environmental Specification		Mechanical Specification	
Operating temperature	-20 to +70 °C	Depth (back)	343.5 mm
Storage temperature	-30 to +80 °C	Net weight (back)	5.1 kg
		Depth (module)	174 mm
		Height (module)	41 mm
		Width (module)	192 mm
		Weight (module)	0.915 kg
		Cooling	Dynamic Ventilation

Standards Compliance	
UL 60900	
EN 50522 (IAC)	
CE, UL (Pending)	

Dimensional Drawings [in mm]



Nokia 7250 IXR-e Interconnect Routers



7250 IXR-e 2QSFP28 8SFP28 24SFP+



7250 IXR-e 14SFP+ 4RJ45

Table 1. 7250 IXR-e series specifications

Feature	7250 IXR-e 2QSFP28 8SFP28 24SFP+	7250 IXR-e 14SFP+ 4RJ45
System throughput: Half duplex (HDI) IMX traffic	600 Gb/s	240 Gb/s
Service interfaces	<ul style="list-style-type: none"> 2 x QSFP28/QSFP+ 100/40GE 8 x SFP28/SFP+/SFP 25/10/1GE 24 x SFP+/SFP 10/1GE 	<ul style="list-style-type: none"> 14 x SFP+/SFP 10/1GE 4 x RJ-45 100/1000 Mb/s
Control interfaces	Console, management, USB*, 1PPS out, SD slot, reset button	Console, management, USB*, 1PPS out, SD slot, reset button
Timing and synchronization	<ul style="list-style-type: none"> Includes Stratum 3E oscillator ITU-T Synchronous Ethernet (SyncE) IEEE 1588v2 <ul style="list-style-type: none"> Boundary clock (BC) Profile: ITU-T G.8275.1 ITU-T G.8273.2 Class B** RFC 5905 Network Time Protocol (NTP) Pulse-per-second (1PPS) timing Integrated GNSS receiver*** Support for GNSS SFP 	<ul style="list-style-type: none"> Includes Stratum 3E oscillator ITU-T SyncE IEEE 1588v2 <ul style="list-style-type: none"> BC Profile: ITU-T G.8275.1 ITU-T G.8273.2 Class B** RFC 5905 NTP 1PPS timing Integrated GNSS receiver*** Support for GNSS SFP
Indicators	<ul style="list-style-type: none"> Management, power status (1 & 2) LEDs Per port link and activity status LEDs System (Stat), fan, remote management (LOC) status LEDs 	<ul style="list-style-type: none"> Management, power status (1 & 2) LEDs Per port link and activity status LEDs System (Stat), fan, remote management (LOC) status LEDs
Memory buffer size	3 GB	1 GB
Hardware redundancy	Power supplies, cooling fans N+1	Power supplies, cooling fans N+1
Dimensions	<ul style="list-style-type: none"> Height: 18U, 4.5 cm (1.75 in) Depth: 25.4 cm (10.0 in) Width: 43.8 cm (17.25 in) Rack-mountable in a 48.2-cm rack, 30-cm depth (standard 19-in equipment rack, 12-in depth) ETX 300-mm compliant 	<ul style="list-style-type: none"> Height: 18U, 4.5 cm (1.75 in) Depth: 25.4 cm (10.0 in) Width: 43.8 cm (17.25 in) Rack-mountable in a 48.2-cm rack, 30-cm depth (standard 19-in equipment rack, 12-in depth) ETX 300-mm compliant
Power supply options	<ul style="list-style-type: none"> Two feeds: Modular AC and DC power supplies Supports concurrent use of AC and DC power supplies 	<ul style="list-style-type: none"> Two feeds: Modular AC and DC power supplies Supports concurrent use of AC and DC power supplies
Power requirements	<ul style="list-style-type: none"> AC input: 100 V to 240 V, 50 Hz to 60 Hz DC input: 20 V to 60 V Low-voltage DC, with single feed: -40 V to -72 V 	<ul style="list-style-type: none"> AC input: 100 V to 240 V, 50 Hz to 60 Hz DC input: 20 V to 60 V Low-voltage DC, with single feed: -40 V to -72 V
Cooling	<ul style="list-style-type: none"> Internal non-replaceable fans Replaceable filter Right-to-left airflow 	<ul style="list-style-type: none"> Internal non-replaceable fans Replaceable filter Right-to-left airflow
Normal operating temperature range	-40°C to +65°C (-40°F to +149°F) sustained	-40°C to +65°C (-40°F to +149°F) sustained
Shipping and storage temperature	-40°C to +70°C (-40°F to +158°F)	-40°C to +70°C (-40°F to +158°F)
Normal humidity	5% to 95%, non-condensing	5% to 95%, non-condensing

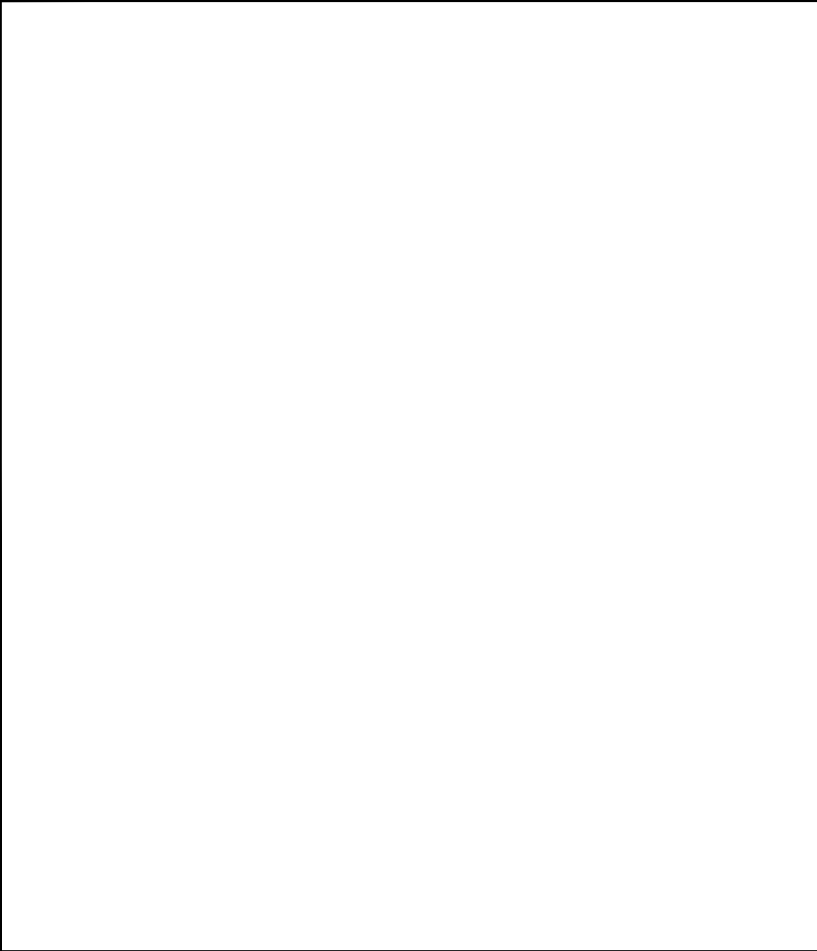
* Future software deliverable
** For router generation only
*** Future orderable variant

Data sheet
Nokia 7250 IXR-e Interconnect Routers

NOT USED

5 VOLTAGE BOOSTER INFORMATION

SCALE: N.T.S. 3



MANUFACTURER: RAYCAP
MODEL: BOTTOM JUNCTION BOX
WEIGHT: 21.9 LB
DIMENSIONS: HxWxD: 14" x 16" x 8"

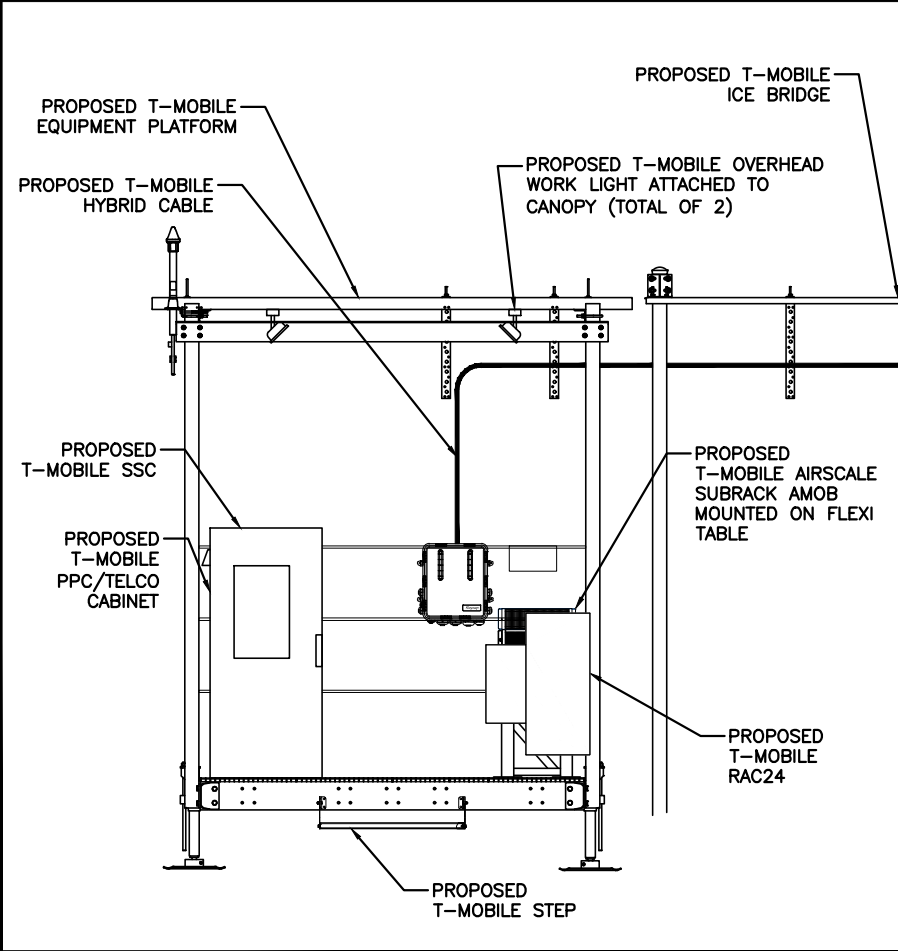
NOT USED

6 JUNCTION BOX DETAIL

SCALE: N.T.S. 4

7250 IXR-E V1 INTERCONNECT ROUTER DETAIL

SCALE: N.T.S. 1



NOT USED

4 PLATFORM ELEVATION

SCALE: N.T.S. 2



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

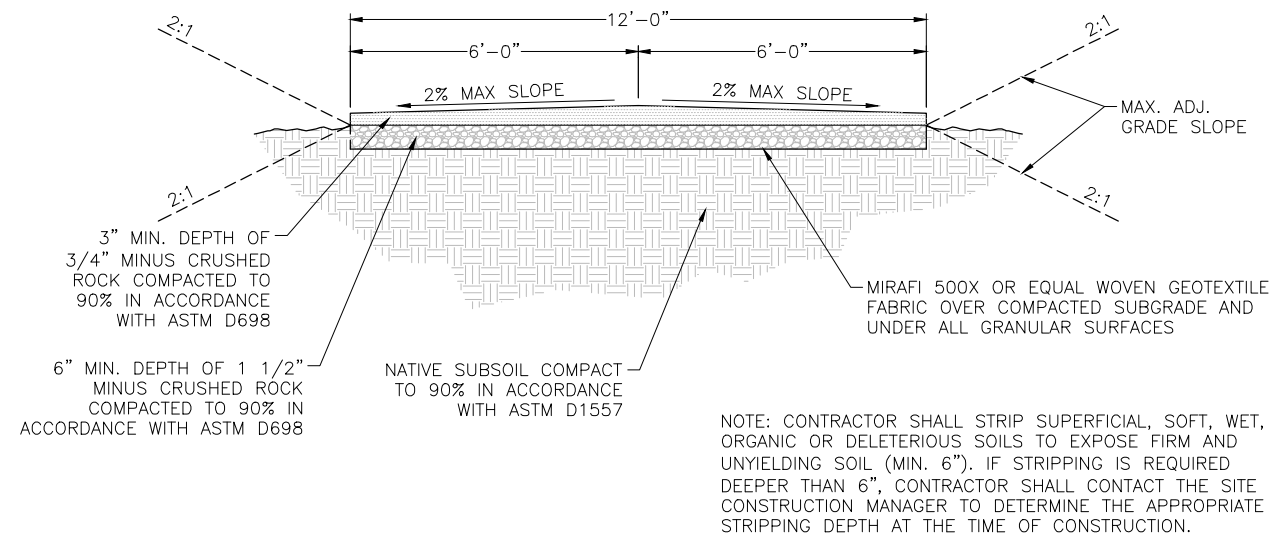
SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
**CONSTRUCTION
DETAILS**

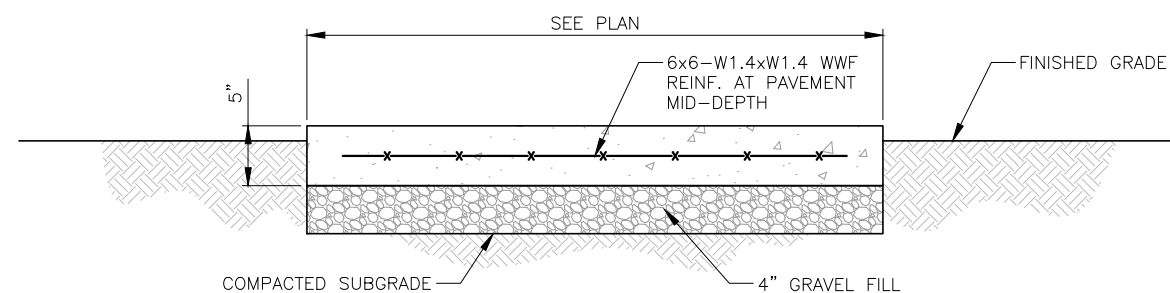
SHEET NUMBER:
C-3



ACCESS ROAD DETAIL

SCALE: N.T.S.

1



PROVIDE HAND TOOLED TRANSVERSE & LONGITUDINAL CONTRACTION JOINTS @ 5'-0" O.C. MAX., 3/8" EXPANSION JOINTS @ 25'-0" O.C. MAX

CONCRETE WALK DETAIL

SCALE: N.T.S.

2

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

FOR REFERENCE ONLY

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T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
PLATFORM DETAILS

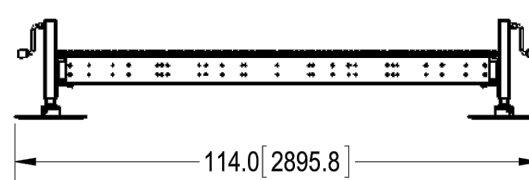
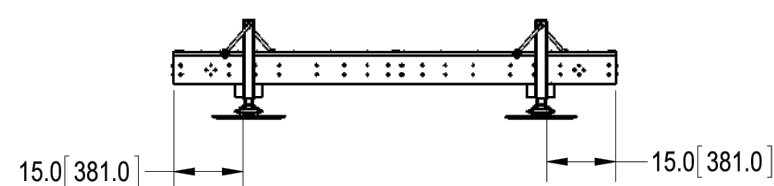
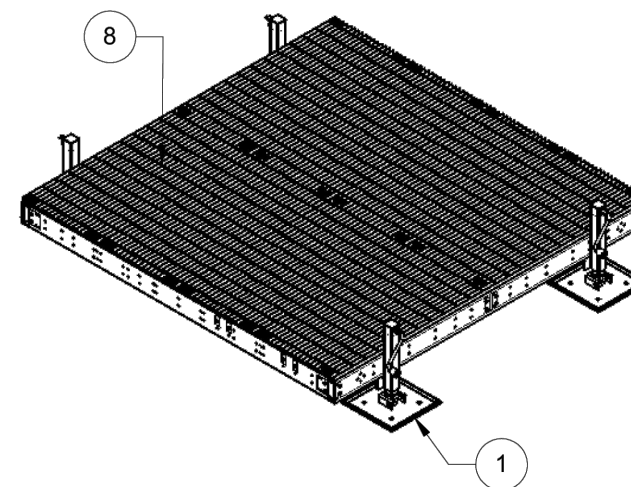
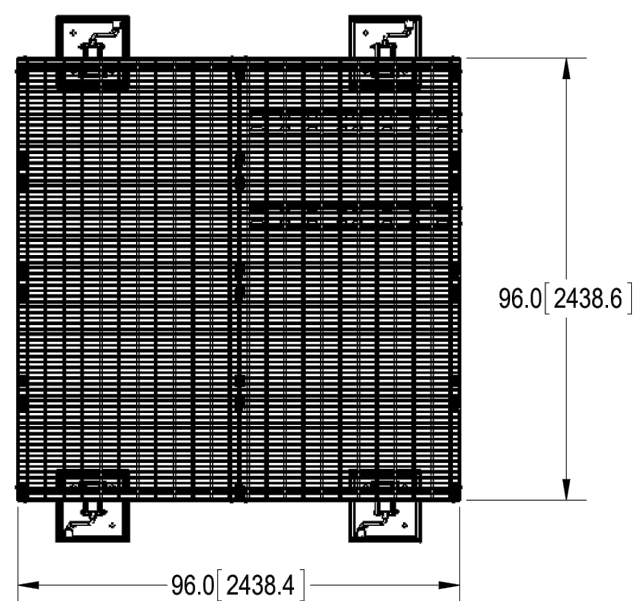
SHEET NUMBER:

C-4.0

NOTE:
PLATFORM AND ICE CANOPY DESIGN,
FOUNDATION AND ANCHORAGE BY OTHERS.

NOTES:
1.0 ALL METRIC DIMENSIONS ARE IN BRACKETS.

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000030684	INITIAL RELEASE	MRC	07/09/18



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	EQ-P-AL	ADJ. LEG FOR EQ. PLATFORM	4	56 LBS	
2	GB-03105	3/8" X 1" GALV BOLT KIT	36	0.05 LBS	
3	MTC390324	GRATING CLIP, INTEGRATED PLATFORM	24	0.17 LBS	
4	MTC398801	CHANNEL, 8" PLATFORM	2	65.63 LBS	
5	MTC398904	CHANNEL, FORMED 6" X 8" PLATFORM	4	28.78 LBS	
6	MTC398905	BRACKET, CHANNEL ADAPTER	8	0.84 LBS	
7	MTC4037B12	CHANNEL, 11 GA, 4" X 5.2" X 47.5"	2	21.16 LBS	
8	MTC79020808.03	24" X 96" BAR GRATING	4	114.17 LBS	
9	TS1220	12-24 X 2" SELF DRILLING SCREW	24	0.03 LBS	

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES		SAP MATERIAL MASTER
0 PLACE X ± .25	2 PLACE XX ± .06	MTC4037AL
1 PLACE X ± .12	ANGLES ± 2°	

FINISH	MATERIAL
GALV A123	A1011/A1018, A500

NAME	DATE	TITLE
MRC	06/26/18	8X8 C6 EQUIP PLAT WITH (4) AL FEET
CE		
RW		
RV		
AD		
RE	06/26/18	SCALE DOCUMENT NO.
ECN	8000030684	1:24 MTC4037AL

DENSITY	0	lbs/in ³
MASS	984	lbs
VOLUME		in ³
SURFACE AREA		in ²
HEIGHT		
LENGTH		
WIDTH		

SIZE	WORK AREA	MODEL	DRAWING	SHEET
C		VERSION	STATUS	1 OF 3
		REVISION	STATUS	
			REVISION	
			A	

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NOTE:
PLATFORM AND ICE CANOPY DESIGN,
FOUNDATION AND ANCHORAGE BY OTHERS.



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

**FOR
REFERENCE
ONLY**

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APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

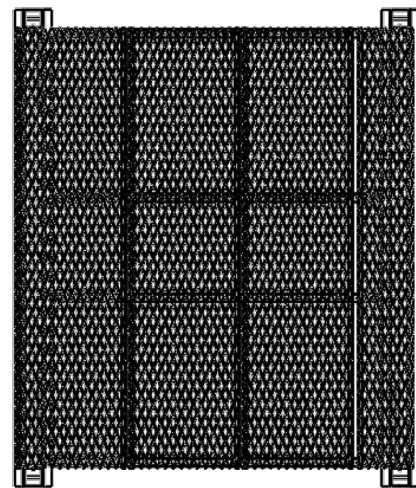
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
PLATFORM DETAILS

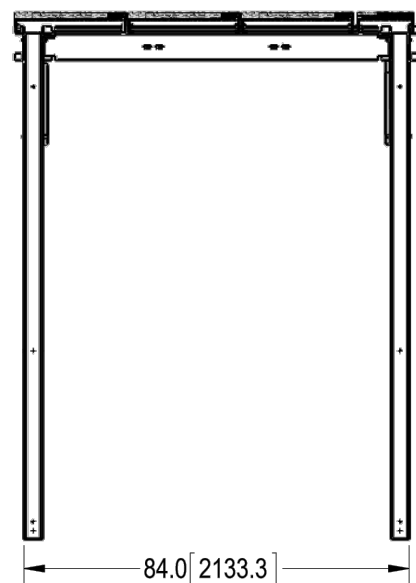
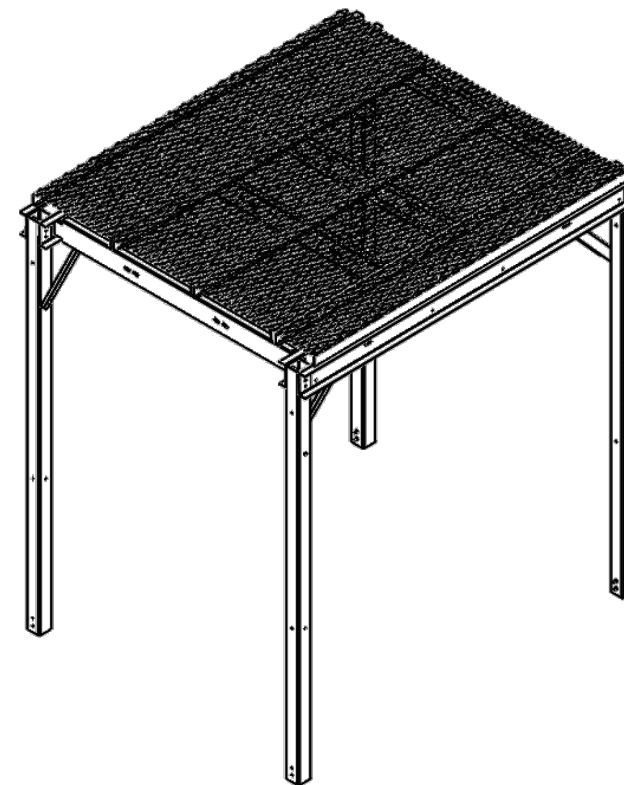
SHEET NUMBER:
C-4.1

NOTES:
1.0 ALL METRIC DIMENSIONS ARE IN BRACKETS.

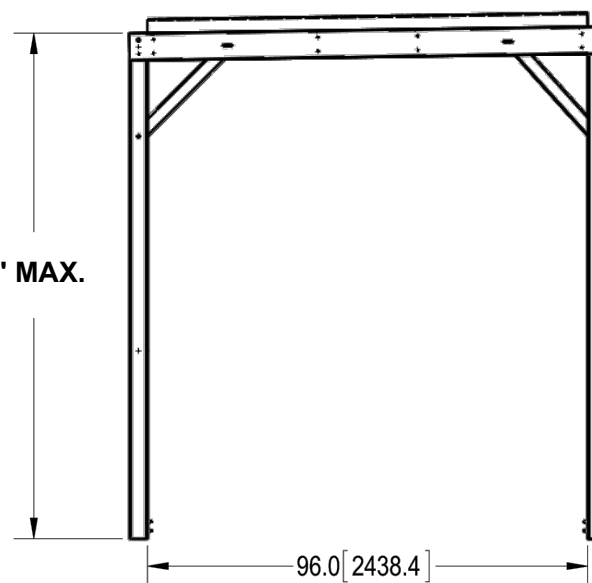
REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000030684	INITIAL RELEASE	MRC	07/09/18



NOTE:
THE HEIGHT OF THE FENCE HAS BEEN INCREASED TO 8.5' AND THE EQUIPMENT PLATFORM WITHIN THE FENCED COMPOUND HAS BEEN LOWERED TO ACHIEVE THE REQUIRED SCREENING. GC NEED TO ADJUST THE CANOPY THAT THE MAX HEIGHT IS 8'-6".



8'-6" MAX.



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	MTC4037C10	POST, 4 X 4 X 110.25	4	56 LBS	
2	MTC4037C11	CHANNEL FORMED CANOPY END, 8' PLAT	4	33.52 LBS	
3	MTC4037C12	CHANNEL FORMED CANOPY, 8' PLATFORM	4	22.78 LBS	
4	MTC3813C14	CANOPY BRACE, 11 GA, 30"	4	4.18 LBS	
5	MTC9664.01	SAFETY GRATING 24" X 8'	3	88.80 LBS	
6	MTC329190	12" x 96" Ice Shield	1	56.00 LBS	
7	GB-03105	3/8" X 1" GALV BOLT KIT	28	0.05 LBS	
8	GW-03	3/8" GALV FLAT WASHER	4	0.01 LBS	
9	GB-03505	3/8" X 5" GALV BOLT KIT	8	0.17 LBS	
10	TS1275	TEK SCREW #12 X 3/4, WITH NEOPRENE WASHER	32	0.02 LBS	

DENSITY	0.28	lbs/in ³
MASS	468.82	lbs
VOLUME	1663.69	in ³
SURFACE AREA		in ²
HEIGHT		
LENGTH		
WIDTH		

COMMScope, INC. OF NORTH CAROLINA

TOLERANCES		SAP MATERIAL MASTER
0 PLACE X ± .25	2 PLACE XX ± .06	MTC4037CG
1 PLACE X ± .12	ANGLES ± 2°	

FINISH	MATERIAL
GALV A123	A1011/1018, A500

NAME	DATE	TITLE
CE MRC	06/26/16	8'X8' EQUIPMENT PLATFORM ICE CANOPY
RE CC	06/26/16	
ECN	8000030684	SCALE DOCUMENT NO. 1:24 MTC4037CG

SIZE	WORK AREA	MODEL	DRAWING	SHEET
C		VERSION	STATUS REVISION	VERSION STATUS REVISION
				A

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TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

FOR REFERENCE ONLY

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SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

PLATFORM DETAILS

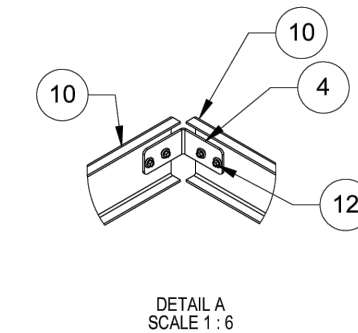
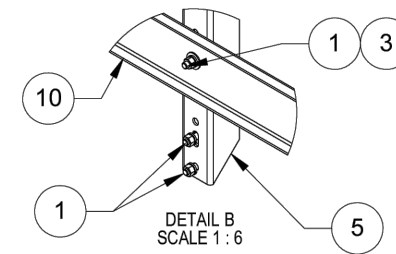
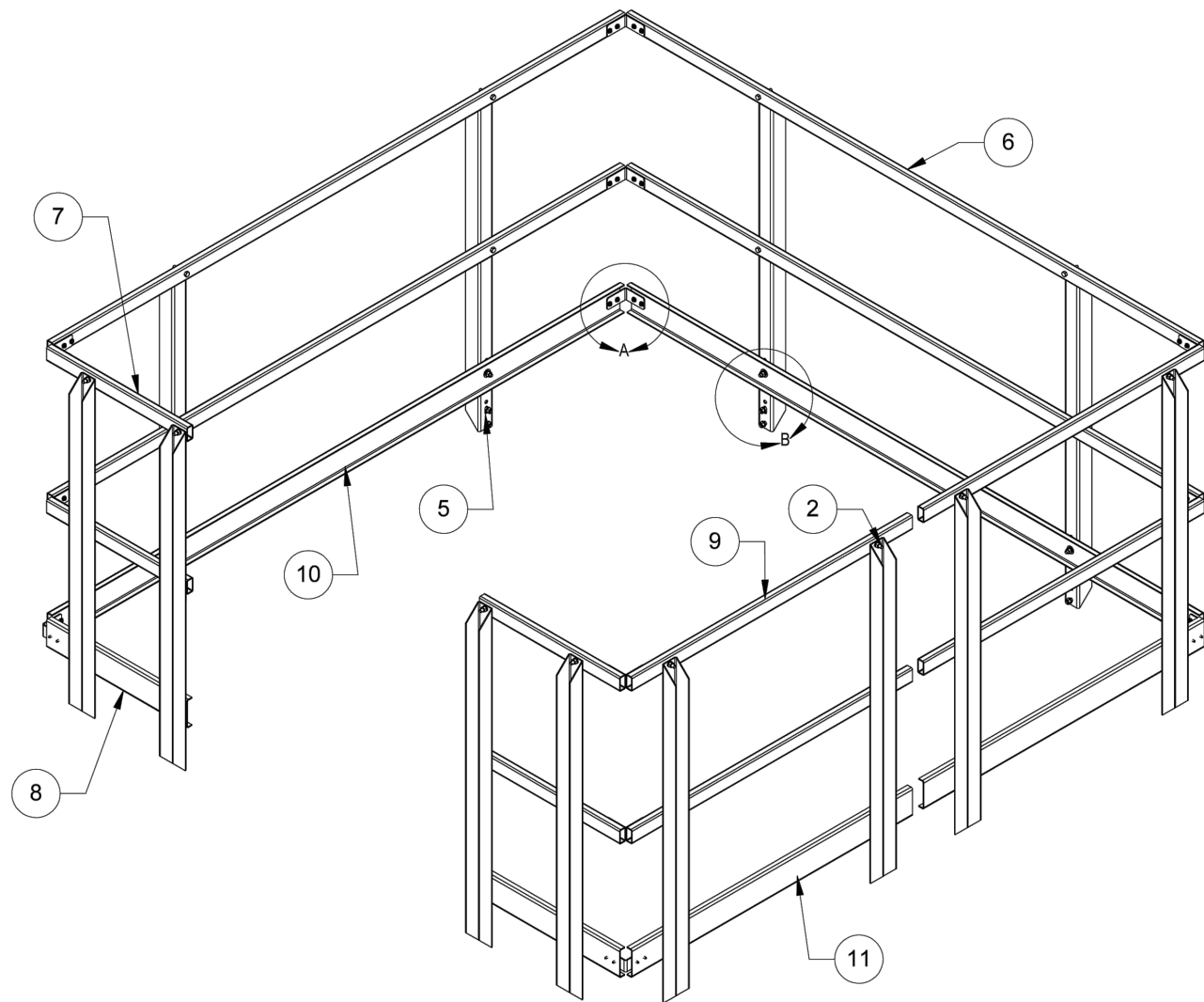
SHEET NUMBER:

C-4.2

NOTE:
PLATFORM AND ICE CANOPY DESIGN,
FOUNDATION AND ANCHORAGE BY OTHERS.

NOTES:
1.0 ALL METRIC DIMENSIONS ARE IN BRACKETS.

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000030684	INITIAL RELEASE	RDLs	07/13/18



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	GB-03105	3/8" X 1" GALV BOLT KIT	36	0.05 LBS	
2	GB-03205	3/8" X 2" GALV BOLT KIT	24	0.08 LBS	
3	GWf-03	3/8" GALV FLAT WASHER	24	0.01 LBS	
4	MTC3979HR19	ANGLE BRKT, HANDRAIL	12	0.32 LBS	
5	MTC403721	POST, HANDRAIL	12	9.99 LBS	
6	MTC40378816	HANDRAIL, HORIZONTAL	4	16.80 LBS	
7	MTC4037HR12	HANDRAIL, HORIZONTAL, 23"	4	4.10 LBS	
8	MTC4037HR13	PLATE, HANDRAIL TOEBOARD	2	4.04 LBS	
9	MTC4037HR14	HANDRAIL, HORIZONTAL 46"	4	8.22 LBS	
10	MTC4037HR15	PLATE, HANDRAIL TOEBOARD	2	16.58 LBS	
11	MTC4037HR16	PLATE, HANDRAIL TOEBOARD	2	8.11 LBS	
12	TS1275	TEK SCREW #12 X 3/4, WITH NEOPRENE WASHER	48	0.02 LBS	

COMMScope, INC. OF NORTH CAROLINA

TOLERANCES: 0 PLACE X± .25, 2 PLACE XX± .06, 1 PLACE .X± .12, ANGLES ±2°

SAP MATERIAL MASTER: MTC4037HR

FINISH: GALV A123, MATERIAL: A1011/A1018, A500

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS AND DECIMALS. DIMENSIONS IN PARENTHESES ARE IN INCHES AND FRACTIONS. THIRD EDITION (2002)

NAME	DATE	TITLE
MRC	06/26/18	8X8 PLATFORM HANDRAIL W TOE BOARD
CE		
RW		
RV		
AD		
RE	06/26/18	SCALE: 1:12, DOCUMENT NO. MTC4037HR
ECN	8000030684	

SIZE	WORK AREA	MODEL	DRAWING	SHEET
C		VERSION	STATUS	REVISION
				A
				1 OF 2

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HANDRAIL DETAIL

SCALE: N.T.S.

1



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

PLATFORM DETAILS

SHEET NUMBER:

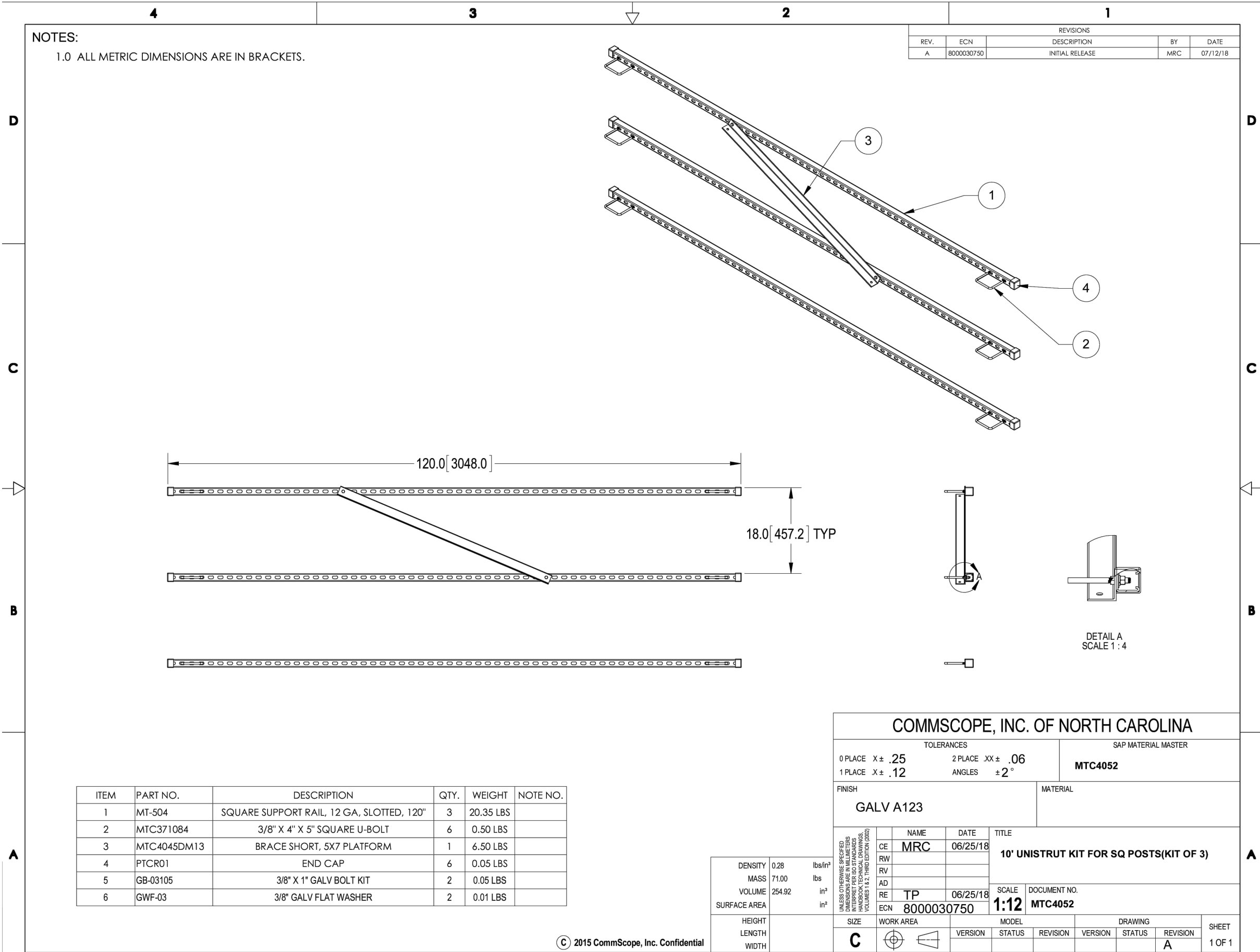
C-4.3

NOTE:
PLATFORM AND ICE CANOPY DESIGN,
FOUNDATION AND ANCHORAGE BY OTHERS.

NOTES:

1.0 ALL METRIC DIMENSIONS ARE IN BRACKETS.

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000030750	INITIAL RELEASE	MRC	07/12/18



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	MT-504	SQUARE SUPPORT RAIL, 12 GA, SLOTTED, 120"	3	20.35 LBS	
2	MTC371084	3/8" X 4" X 5" SQUARE U-BOLT	6	0.50 LBS	
3	MTC4045DM13	BRACE SHORT, 5X7 PLATFORM	1	6.50 LBS	
4	PTCR01	END CAP	6	0.05 LBS	
5	GB-03105	3/8" X 1" GALV BOLT KIT	2	0.05 LBS	
6	GWF-03	3/8" GALV FLAT WASHER	2	0.01 LBS	

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DENSITY	0.28	lbs/in ³
MASS	71.00	lbs
VOLUME	254.92	in ³
SURFACE AREA		in ²
HEIGHT		
LENGTH		
WIDTH		

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES
0 PLACE X ± .25 2 PLACE .XX ± .06
1 PLACE X ± .12 ANGLES ± 2°

FINISH: GALV A123 SAP MATERIAL MASTER: MTC4052

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS SHALL BE TO THE CENTER UNLESS INDICATED OTHERWISE. INTERFERING DIMENSIONS SHALL BE TO THE CENTER UNLESS INDICATED OTHERWISE. VOLUMES 1 & 2, THIRD EDITION (2022)

NAME	DATE	TITLE
CE MRC	06/25/18	10' UNISTRUT KIT FOR SQ POSTS(KIT OF 3)
RW		
RV		
AD		
RE TP	06/25/18	SCALE: 1:12 DOCUMENT NO. MTC4052
ECN 8000030750		

SIZE	WORK AREA	MODEL	DRAWING	SHEET
C		VERSION	STATUS	REVISION
		VERSION	STATUS	REVISION
				A

1 OF 1

NOTE:
PLATFORM AND ICE CANOPY DESIGN,
FOUNDATION AND ANCHORAGE BY OTHERS.



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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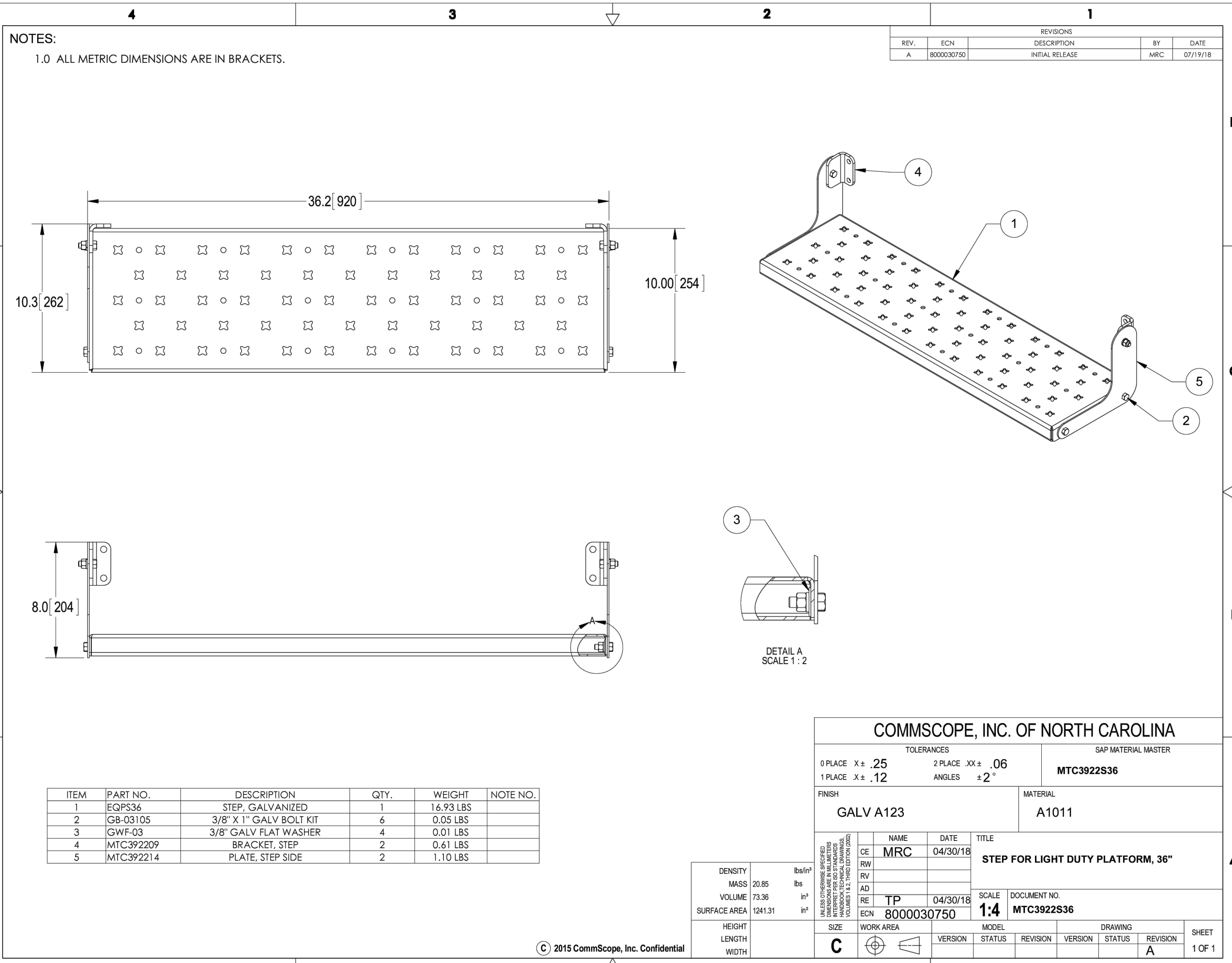
SITE INFORMATION
APC SITE #: MN-1618
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MINNEAPOLIS

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T-MOBILE SITE NAME
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APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
PLATFORM DETAILS

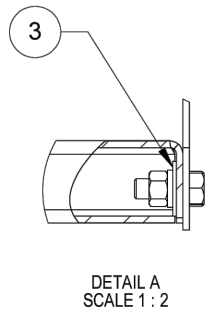
SHEET NUMBER:
C-4.4



NOTES:
1.0 ALL METRIC DIMENSIONS ARE IN BRACKETS.

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000030750	INITIAL RELEASE	MRC	07/19/18

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	EQPS36	STEP, GALVANIZED	1	16.93 LBS	
2	GB-03105	3/8" X 1" GALV BOLT KIT	6	0.05 LBS	
3	GWF-03	3/8" GALV FLAT WASHER	4	0.01 LBS	
4	MTC392209	BRACKET, STEP	2	0.61 LBS	
5	MTC392214	PLATE, STEP SIDE	2	1.10 LBS	



COMMScope, INC. OF NORTH CAROLINA

TOLERANCES
 0 PLACE X ± .25 2 PLACE .XX ± .06
 1 PLACE X ± .12 ANGLES ± 2°

SAP MATERIAL MASTER
MTC3922S36

FINISH: GALV A123 MATERIAL: A1011

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS INTERPRET PER ISO STANDARDS UNLESS OTHERWISE NOTED VOLUMES 1 & 2, THIRD EDITION (2002)

NAME	DATE	TITLE
MRC	04/30/18	STEP FOR LIGHT DUTY PLATFORM, 36"
CE		
RW		
RV		
AD		
RE	TP 04/30/18	SCALE DOCUMENT NO.
ECN	8000030750	1:4 MTC3922S36

SIZE	WORK AREA	MODEL	DRAWING		SHEET
C			VERSION	STATUS	1 OF 1
			REVISION	REVISION	
				A	

DENSITY	20.85	lbs/in ³
MASS	73.36	lbs
VOLUME	1241.31	in ³
SURFACE AREA		
HEIGHT		
LENGTH		
WIDTH		

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BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022
DATE:

LICENSE NUMBER: 55851

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T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
ELEVATION &
ANTENNA PLAN

SHEET NUMBER:

C-5.0

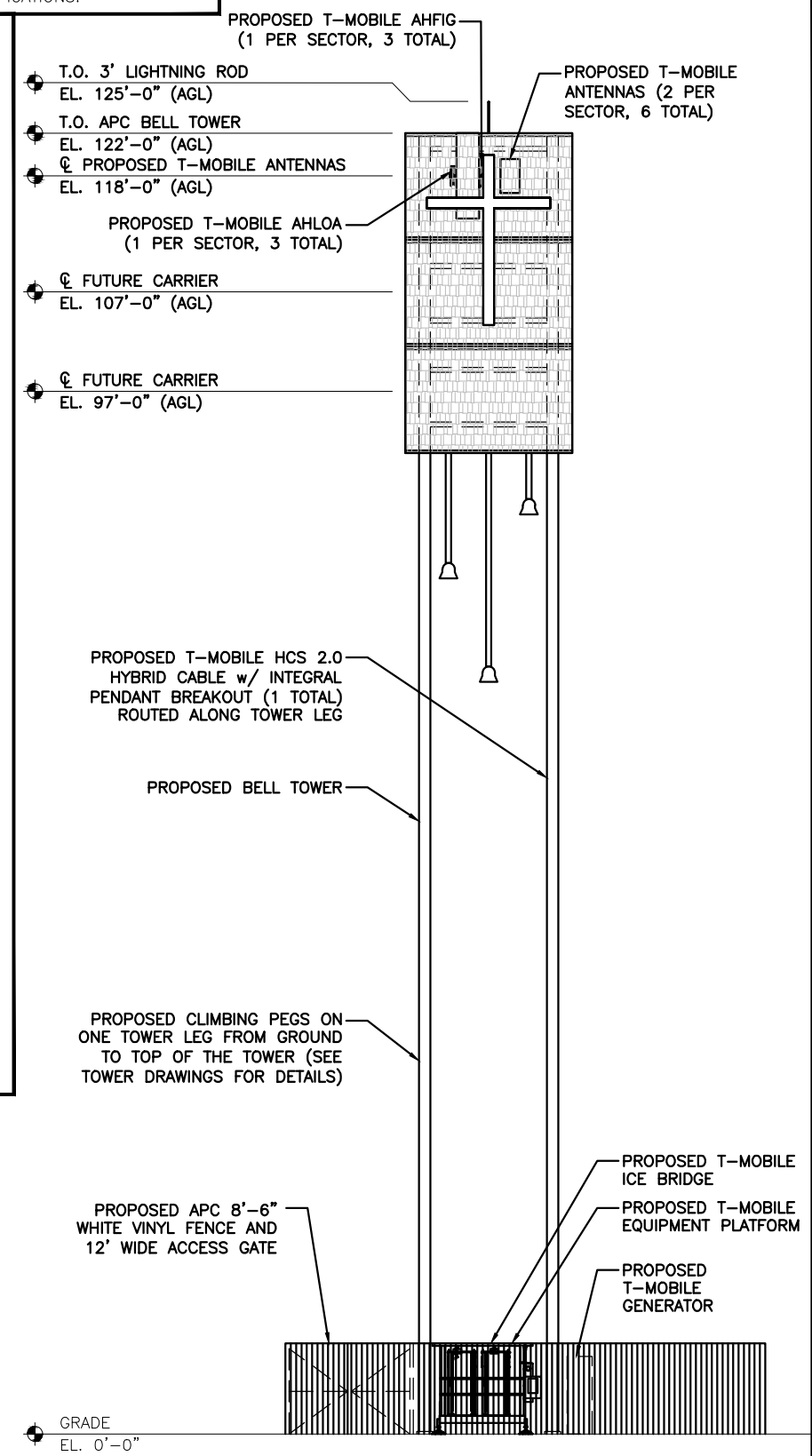
PRIOR TO CONSTRUCTION, STRUCTURAL ANALYSIS SHALL BE PERFORMED FOR ALL NEW AND EXISTING SUPPORTING TOWERS, ROOFTOPS, FLAG POLES, LIGHT POLES AND ASSOCIATED EQUIPMENT MOUNTS. CONTRACTOR SHALL REVIEW THE SIGNED/SEALED STRUCTURAL ANALYSIS REPORTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES LISTED WITHIN THE REPORT(S). ALL CONSTRUCTION, MODIFICATIONS AND/OR REPLACEMENT SPECIFICATIONS SHALL BE FULLY IMPLEMENTED EXACTLY AS NOTED WITHIN THE STRUCTURAL ANALYSES REPORTS/LETTERS.

POWDER RIVER DEVELOPMENT SERVICES, LLC HAS NOT PERFORMED STRUCTURAL ANALYSIS FOR THE NEW EQUIPMENT MOUNTS, NOR THE SUPPORTING STRUCTURE(S), AND ASSUMES NO RESPONSIBILITY FOR ITS ABILITY TO SUPPORT THE PROPOSED MODIFICATIONS.

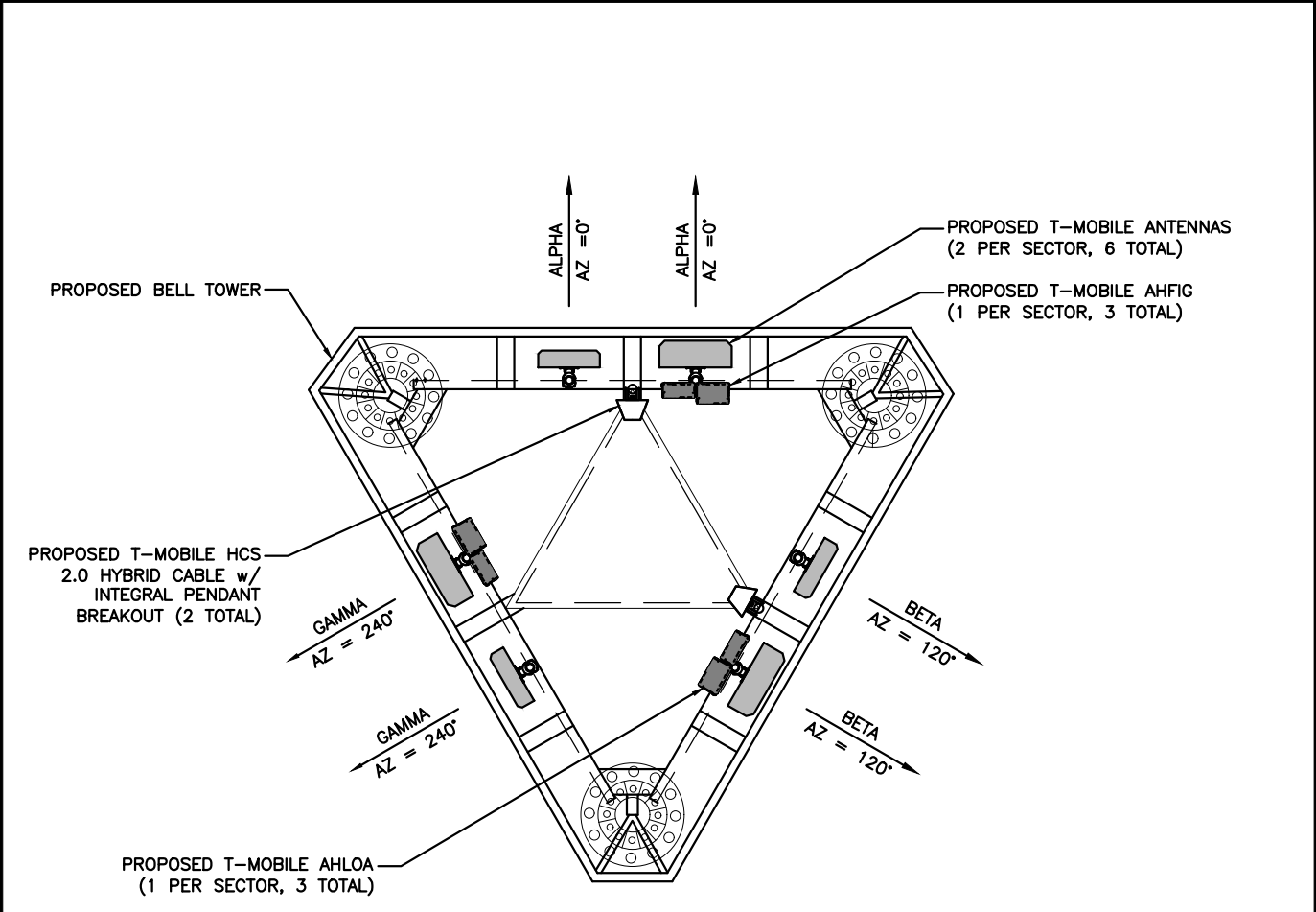
- ANTENNA CABLE NOTES:**
- ALL FIBER AND DC CABLES SHALL BE SECURED USING ROSENBERGER. COORDINATE WITH CM FOR APPROVED SNAP-IN OR CLAMP HANGERS.
 - WHERE APPLICABLE, VAPOR WRAP WILL BE USED TO SEAL ALL CONNECTIONS.
 - ALL JUMPERS TO THE ANTENNAS FROM THE RRU WILL BE 1/2" JUMPERS AND SHALL NOT EXCEED 15' -0".
 - UPON COMPLETION, PROVIDE A HEIGHT VERIFICATION DEPICTING RAD CENTER AND TOP OF ANTENNA.

- ANTENNA MOUNTING NOTES:**
- ALL AZIMUTHS ARE TO BE ESTABLISHED CLOCKWISE FROM THE TRUE NORTH HEADING.
 - CONTRACTOR SHALL VERIFY PROPOSED ANTENNA RAD CENTER AND ORIENTATIONS WITH CUSTOMER PRIOR TO INSTALLATION OF ANTENNAS.
 - PRIOR TO ATTACHING ANTENNAS AND MOUNTING SECTIONS, EXISTING TOWER AND TOWER FOUNDATION MUST BE ANALYZED BY A LICENSED STRUCTURAL ENGINEER TO VERIFY TOWER IS CAPABLE OF SUPPORTING THE PROPOSED LOADS. REFER TO STRUCTURAL ANALYSIS BY OTHERS.
 - CONTRACTOR SHALL REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION (WHERE APPLICABLE) OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
 - DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA/EIA-222-F OR APPLICABLE LOCAL CODES.
 - ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123, UNLESS NOTED OTHERWISE.
 - ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153 UNLESS NOTED OTHERWISE.
 - DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
 - ALL ANTENNA MOUNTS SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
 - MINIMUM HORIZONTAL SPACING SHALL BE 3' -0" BETWEEN ANTENNAS.

PROPOSED SOUTH ELEVATION



SCALE: 1/16" = 1'-0" (11x17) 2



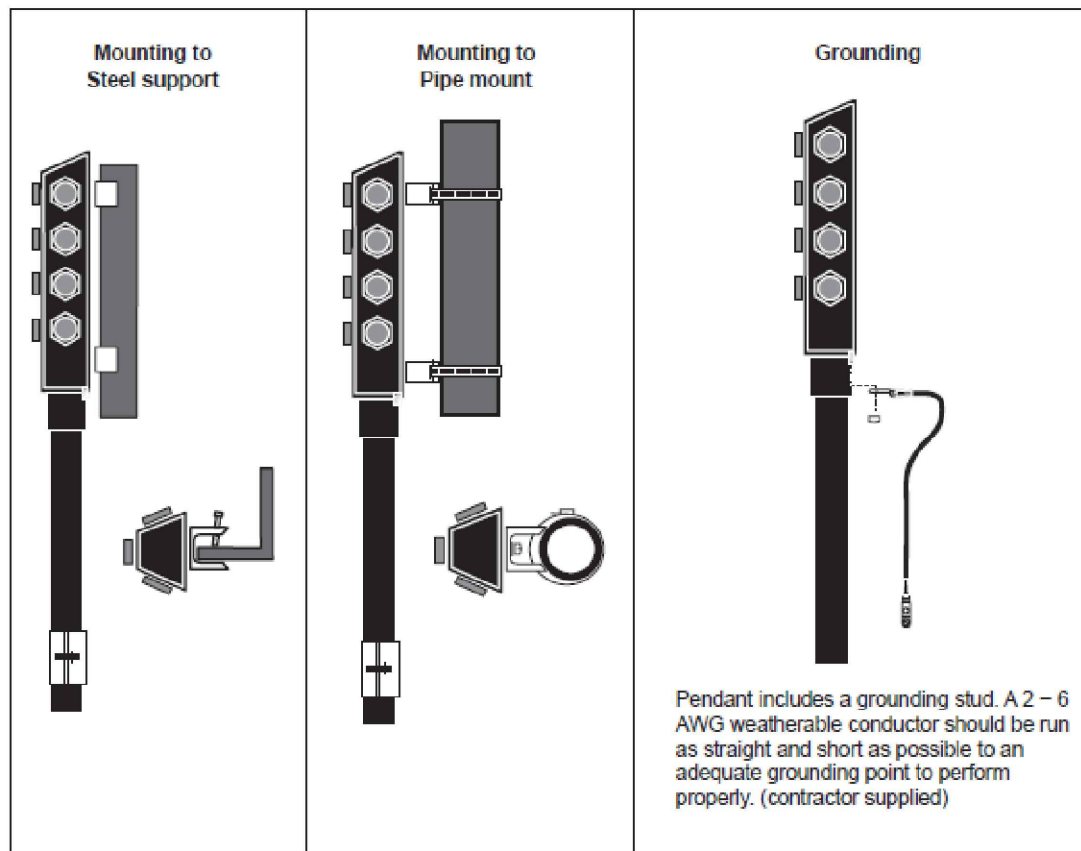
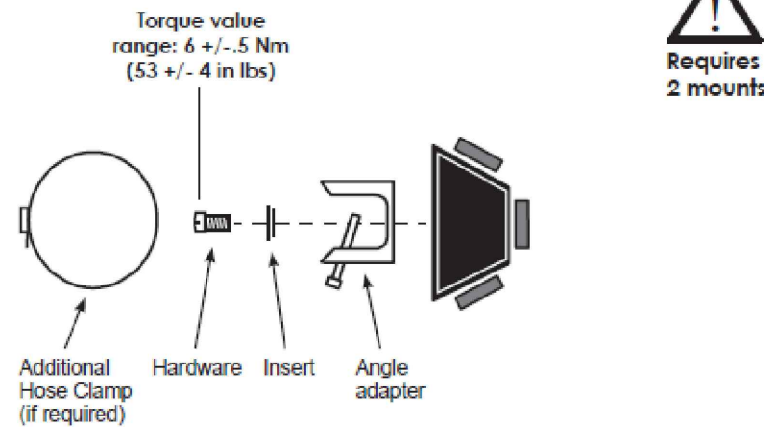
ANTENNA MOUNTING PLAN
RAD CENTER @ 118'

ANTENNA AND EQUIPMENT SCHEDULE						
SECTOR	ANTENNA MODEL	E/M TILT	TECHNOLOGY	AZ	ANTENNA RAD	RRH MODEL
ALPHA	AEHC	2' / 0°	L2500/N2500	0°	118'	
	COMMSCOPE FFHH-65C-R3	2' / 0°	L600/N600/L700 /L1900/L2100	0°	118'	AHLOA/AHFIG
BETA	AEHC	2' / 0°	L2500/N2500	120°	118'	
	COMMSCOPE FFHH-65C-R3	2' / 0°	L600/N600/L700 /L1900/L2100	120°	118'	AHLOA/AHFIG
GAMMA	AEHC	2' / 0°	L2500/N2500	240°	118'	
	COMMSCOPE FFHH-65C-R3	2' / 0°	L600/N600/L700 /L1900/L2100	240°	118'	AHLOA/AHFIG

CABLE COUNT		
QTY	CABLE TYPE	CABLE LENGTH
2	HCS 2.0 HYBRID CABLE	200'

SCALE: 3/16" = 1'-0" (11x17) 1

Section 4: Mounting / Grounding



Visit www.commscope.com for complete specifications on all the products listed

Bulletin # 7727406 Rev. C

7

Section 2: General Specifications

Cable Type	FD2606-24S55-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	6
Total Fiber Quantity	24
Shielding Type	Corrugated aluminum
Fiber Type	Bend insensitive single mode fiber (G.657.A2)
Construction Type	Direct Breakout
Dimensions	
Cable Weight	1450.0 kg/km 970.0 lb/kft
Diameter Over Jacket	30.50 mm 1.20 in
Breakout Length, Fiber, end 1	HQLC Connectors
Breakout Length, Power, end 1	HQLC Connectors
Breakout Length, Fiber, end 2	826 mm 33 in
	775 mm 31 in
Breakout Length, Power, end 2	610 mm 24 in
Physical Specifications	
Minimum Bend Radius, loaded	609.6 mm 24 in
Minimum Bend Radius, unloaded	304.8 mm 12 in
Tensile Load, long term, maximum	1068 N 240 lbf
Tensile Load, short term, maximum	3559 N 800 lbf

Cable Type	FD21206-48S55-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	12
Total Fiber Quantity	48
Shielding Type	Corrugated aluminum
Fiber Type	Bend insensitive single mode fiber (G.657.A2)
Construction Type	Direct Breakout
Dimensions	
Cable Weight	2544.0 kg/km 1710.0 lb/kft
Diameter Over Jacket	39.38 mm 1.55 in
Breakout Length, Fiber, end 1	HQLC Connectors
Breakout Length, Power, end 1	HQLC Connectors
Breakout Length, Fiber, end 2	826 mm 33 in
	775 mm 31 in
Breakout Length, Power, end 2	610 mm 24 in
Physical Specifications	
Minimum Bend Radius, loaded	787.4 mm 31.0 in
Minimum Bend Radius, unloaded	472.4 mm 18.6 in
Tensile Load, long term, maximum	801 N 180 lbf
Tensile Load, short term, maximum	2669 N 600 lbf

Visit www.commscope.com for complete specifications on all the products listed

Bulletin # 7727406 Rev. C

3

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
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3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022

DATE:

LICENSE NUMBER: 55851

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SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
CABLE & PENDANT SPECIFICATIONS

SHEET NUMBER:

C-5.1

BUSINESS LICENSE #: N/A

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REV	DATE	DESCRIPTION	INT
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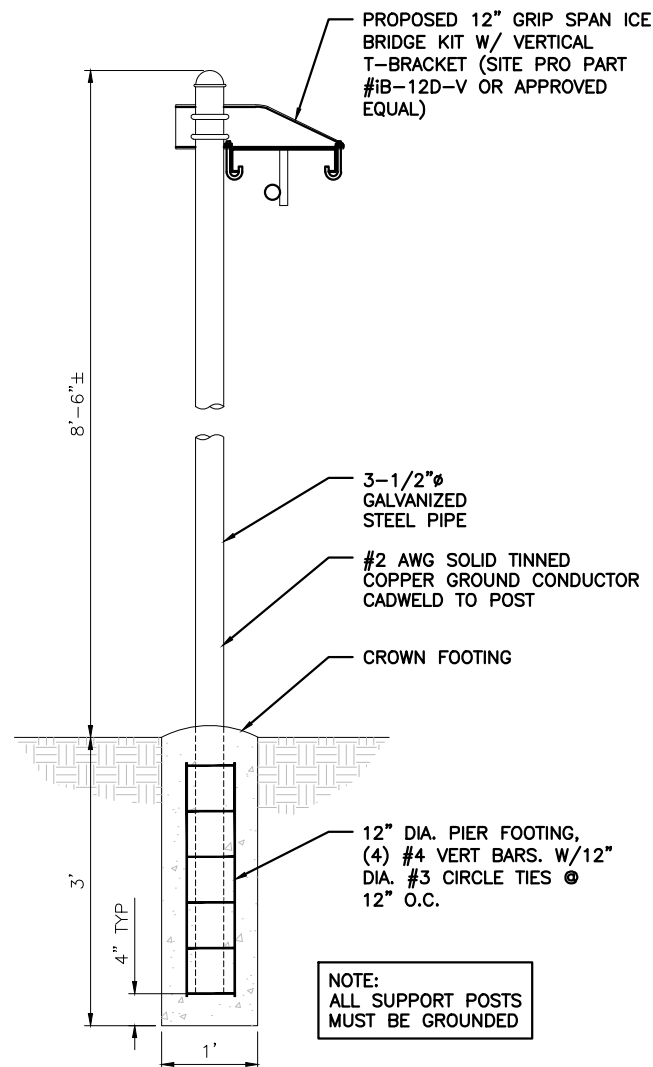
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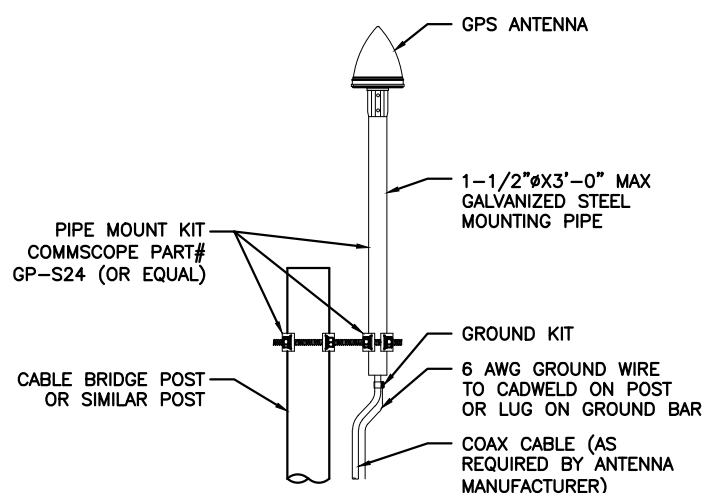
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CONSTRUCTION DETAILS

SHEET NUMBER:

C-6.0

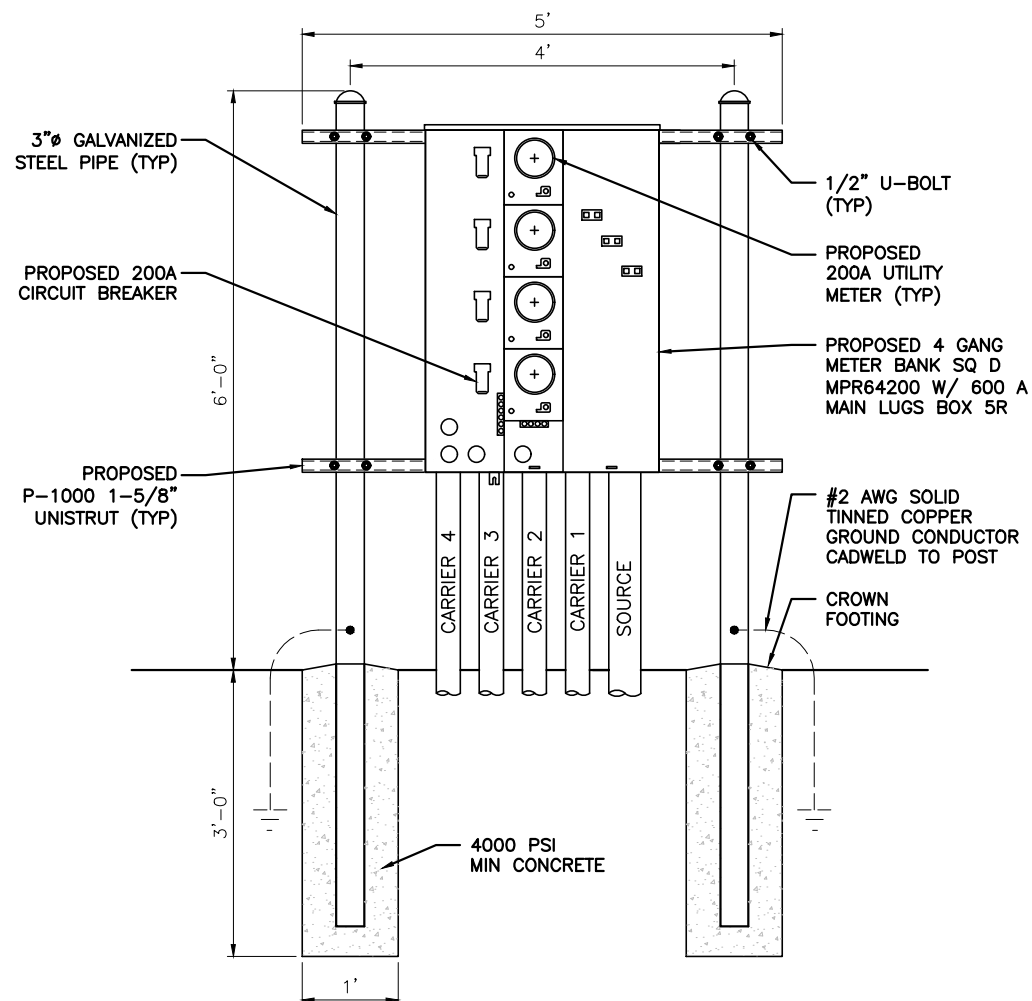


CABLE BRIDGE DETAIL SCALE: N.T.S. 6

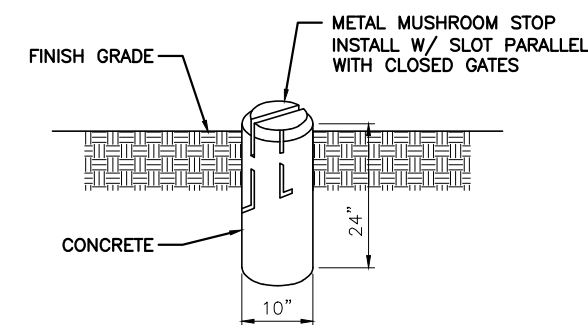


GPS ANTENNA MOUNTING DETAIL SCALE: N.T.S. 7

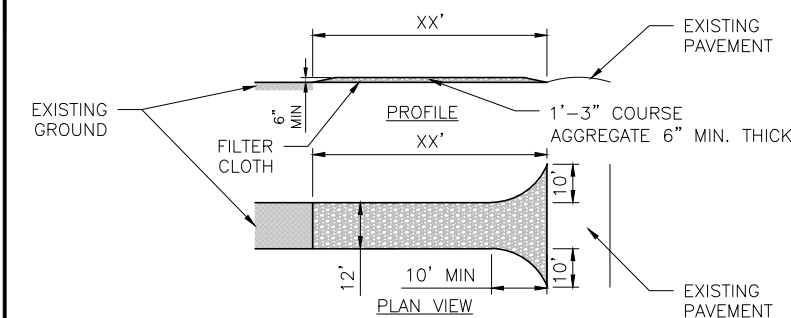
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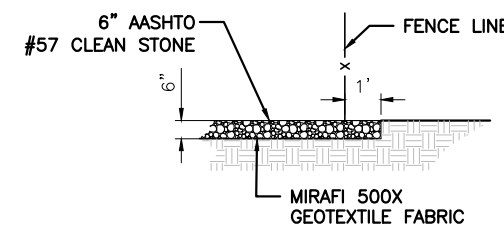
UTILITY BACKBOARD H-FRAME SCALE: N.T.S. 5



MUSHROOM STOP DETAIL SCALE: N.T.S. 2



GRAVEL DRIVEWAY TYPICAL SECTION SCALE: N.T.S. 3



GRAVEL COMPOUND / ANCHOR DETAIL SCALE: N.T.S. 4

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

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BROOKLYN EV LUTHERAN

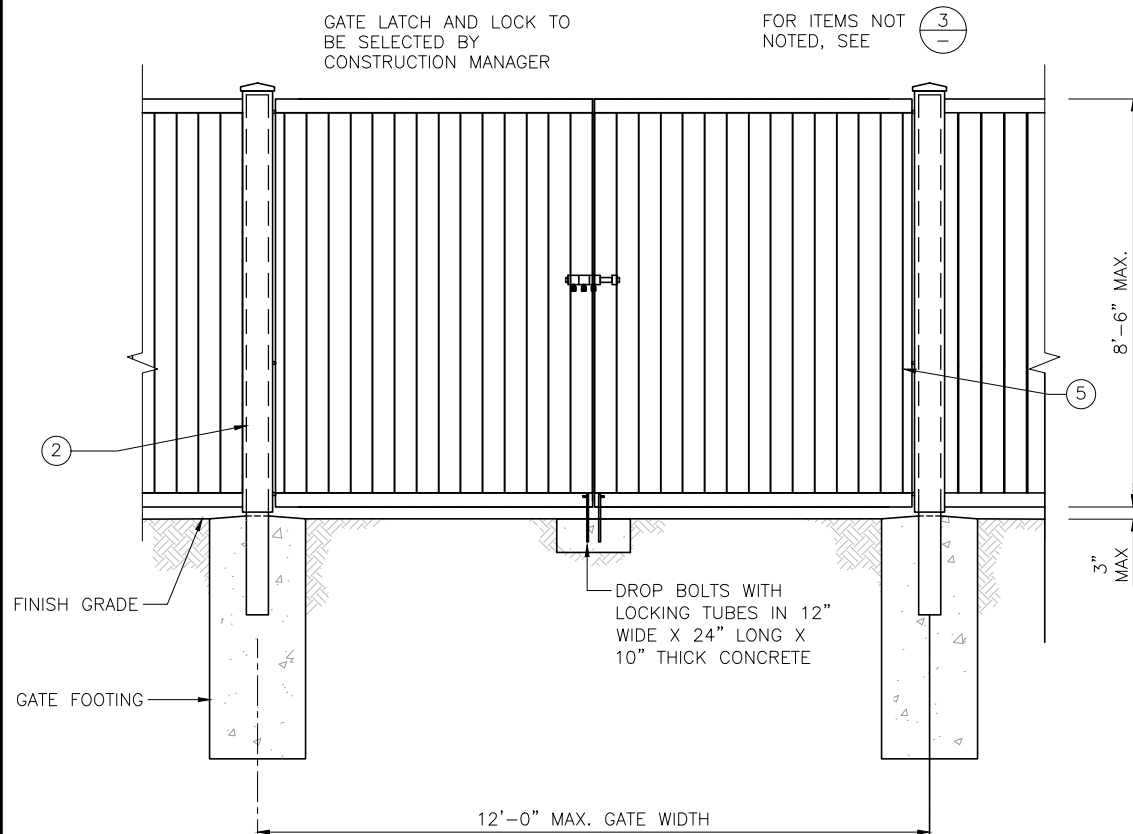
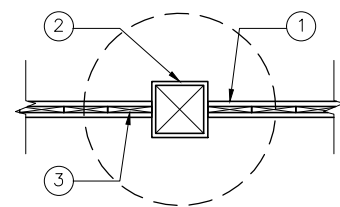
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

FENCE DETAILS

SHEET NUMBER:

C-7.0



FENCE NOTES

- GATES SHALL SWING FREELY AND UNOBSTRUCTED IN THE DIRECTION SHOWN ON CONSTRUCTION DRAWINGS TO THE FULL OPEN POSITION.
- BOTTOM OF CONCRETE BASE SHALL BE SET BELOW FROST LINE (SEE LOCAL CODE). FENCE POST POLE FOOTING SHALL BE EMBEDDED IN SOIL CLASS GW, GP, SW, SP, SM, SC, GM OR GC (V.I.F.).
- ALL HARDWARE TO BE HOT DIPPED GALVANIZED.
- ALL LUMBER SHALL BE CLEAN #2 CONSTRUCTION GRADE SOUTHERN PINE OR DOUGLAS FIR-LARCH.
- ALL LUMBER SHALL BE STRAIGHT, SOUND, AND FREE OF SPLINTS, WARPS, CRACKS, LARGE KNOTS AND OTHER DEFECTS.

KEYNOTE LEGEND

- ① VINYL FENCE HORIZ. RAIL & ATTACHMENT TO FENCE POST PER MFR.
- ② 8x8 P.T. FENCE POST, (TYP.) w/ VINYL SLEEVE PER MFR.
- ③ VINYL PANEL w/ ATTACHMENT TO HORIZ. RAIL PER MFR.
- ④ FENCE POST POLE FOOTING
- ⑤ GATE FRAME PER VINYL FENCE MFR.

FENCE ATTACHMENT DETAIL

SCALE: 1/2" = 1'-0" (11x17)

6

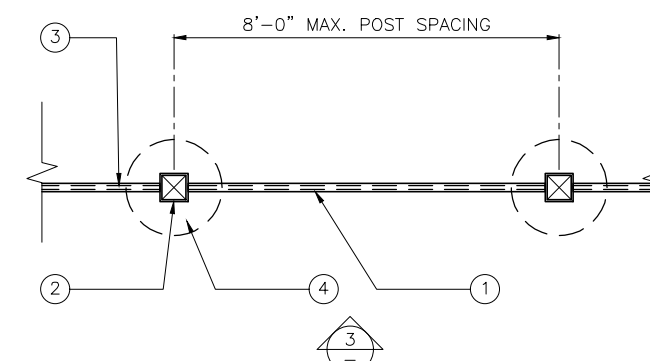
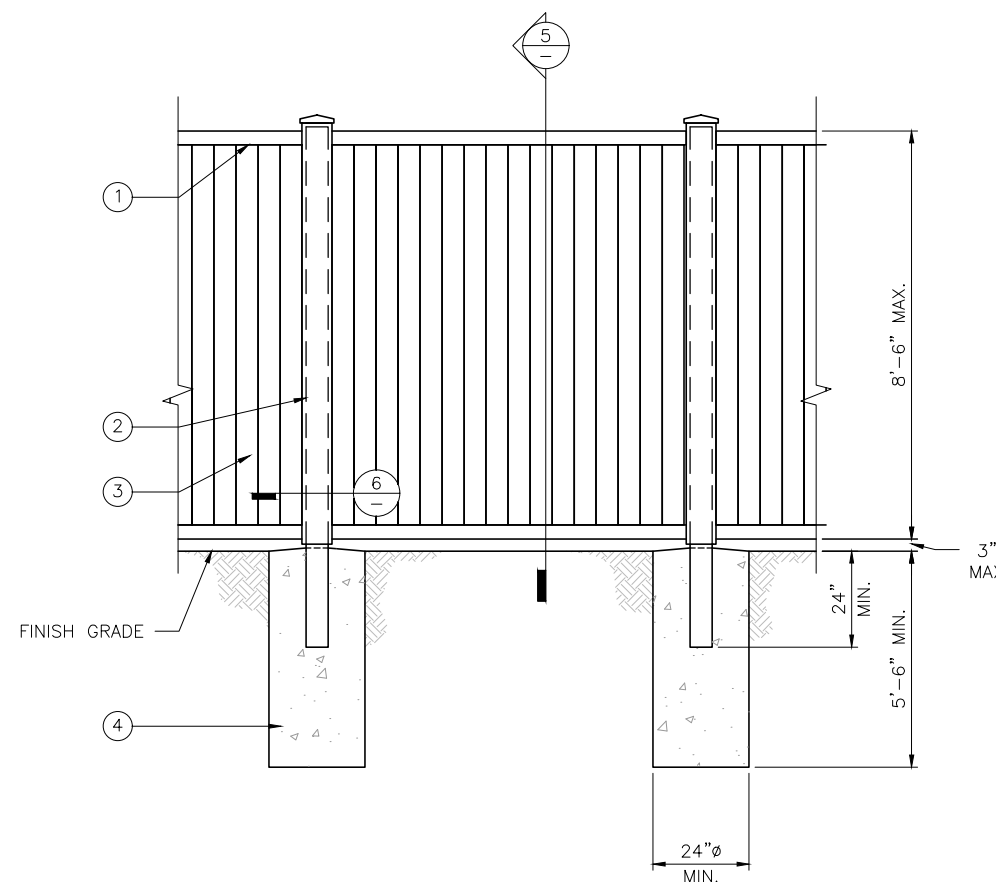
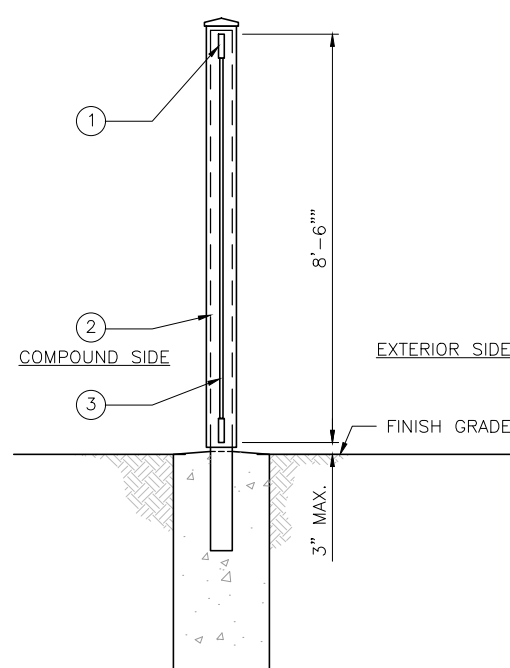
GATE ELEVATION

SCALE: 1/4" = 1'-0" (11x17)

4

FENCE NOTES

2



FENCE SECTION

SCALE: 1/4" = 1'-0" (11x17)

5

FENCE ELEVATION

SCALE: 1/4" = 1'-0" (11x17)

3

FENCE PLAN

SCALE: 1/4" = 1'-0" (11x17)

1



BUSINESS LICENSE #: N/A

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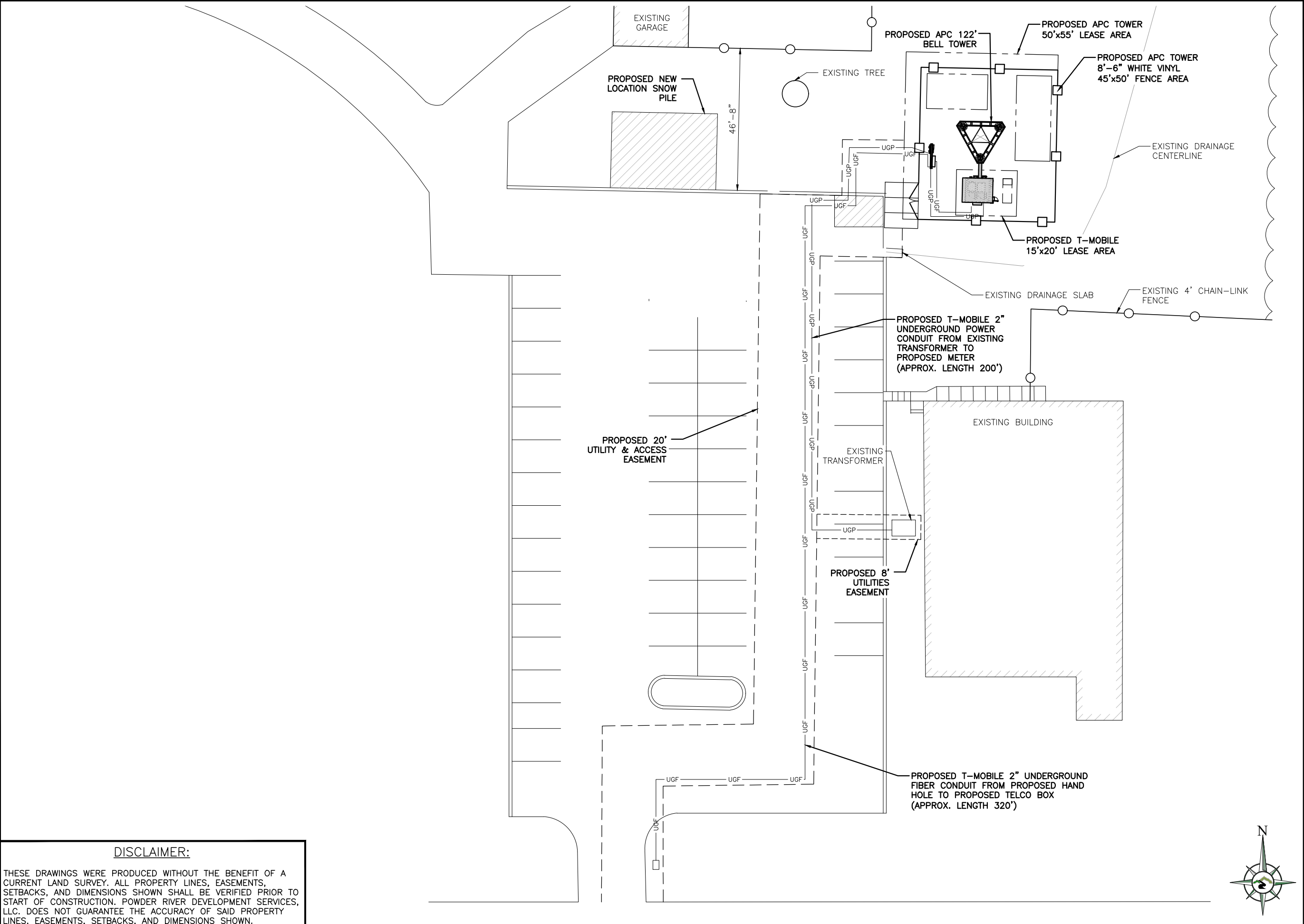
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APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
OVERALL UTILITY
PLAN

SHEET NUMBER:
C-8.0



DISCLAIMER:
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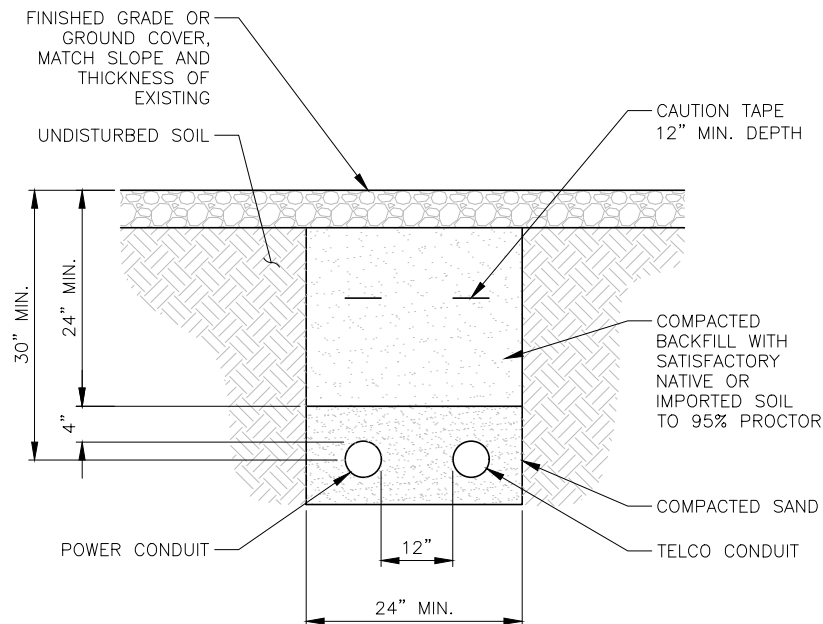
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
UTILITY
DESIGN

SHEET NUMBER:
C-8.1

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE A COMPLETE INVENTORY OF THE UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

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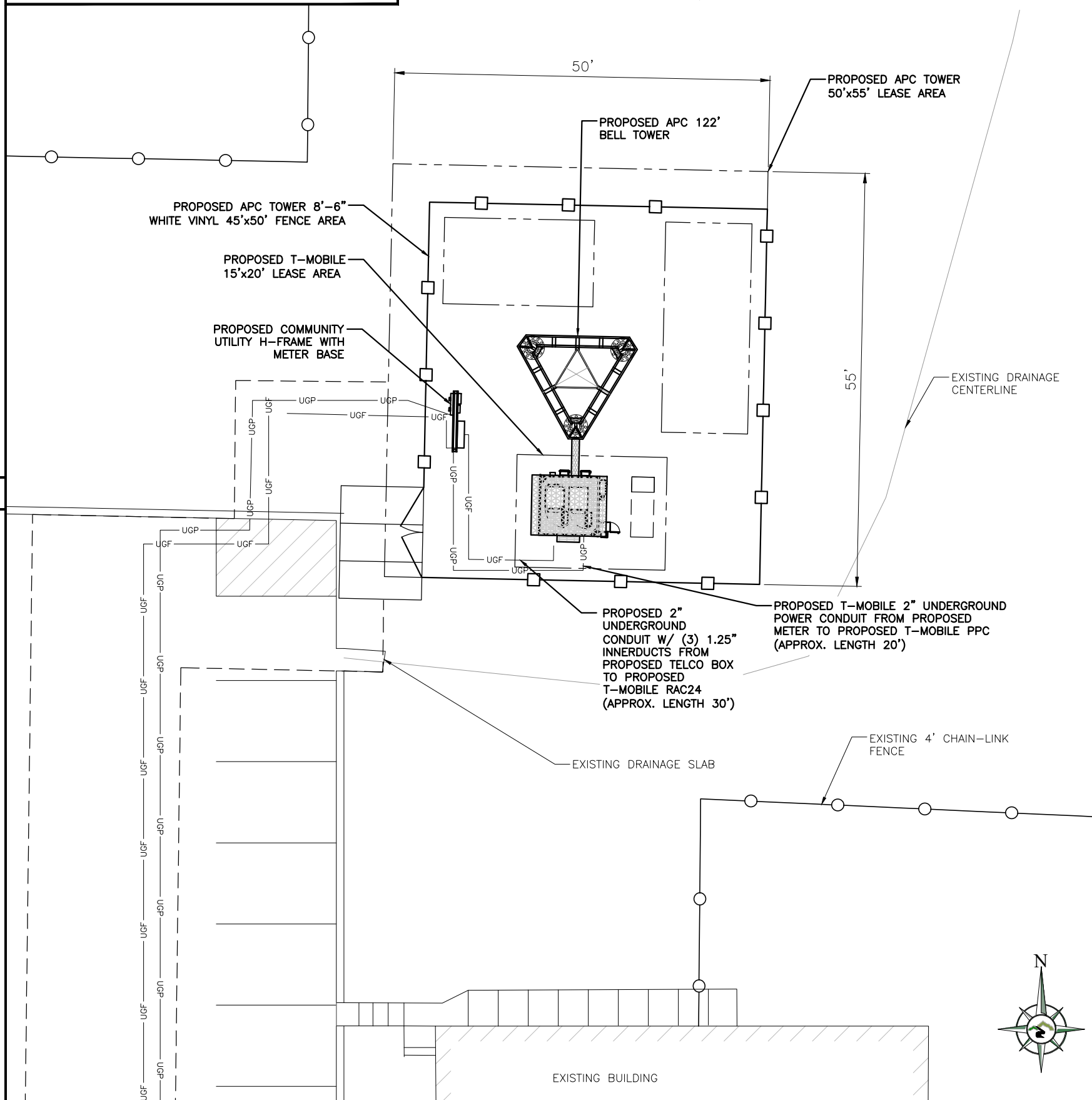
NOTES:

- LEAN CONCRETE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND.
- IF POWER AND TELCO ARE PLACED IN THE SAME TRENCH, PER NEC CODE, A MINIMUM OF 12" SEPARATION IS REQUIRED BETWEEN THE POWER AND FIBER CONDUIT.

CONDUIT TRENCH DETAIL

SCALE: N.T.S.

2



SCALE: 1/16" = 1'-0" (11x17)

1

GENERATOR CONDUIT DETAIL

SCALE: N.T.S.

3

UTILITY DESIGN

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

REVISIONS			
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PANEL No. TMOB-1		VOLT 240/120 V, 1-PH, 3W		22,000 AIC RATING		22,000A PANEL BRACING					
LOCATION: H-FRAME		Bus Rating 200A		SURFACE MOUNT							
				NEMA 3R							
MCB RATING (A): 200				SYSTEM VOLTAGE: 240							
DESCRIPTION	VA	WIRE	BKR	POS. #	L1	L2	POS. #	BKR	WIRE	VA	DESCRIPTION
TECH LIGHT	500	2#12, #12G, 1"C	20	3	7500		2	100/2	4#2, #8G, 1"C	7500	T-MOBILE SSC CABINET
T-MOBILE RECEPTACLE	360	2#12, #12G, 1"C	20	5	860		6	20	2#12, #12G, 1"C	500	TECH LIGHT
				7		0	8				
				9		0	10				
				11		0	12				
				13		0	14				
				15		0	16				
				17		0	18				
				19		0	20				
				21		0	22				
				23		0	24				
				25		0	26				
				27		0	28				
				29		0	30				
PHASE TOTALS (VA):					8360	8000					
				CONNECTED LOAD: 16.4 kVA		68 A					
				DEMAND LOAD: 20.5 kVA		85 A					
				PANEL CAPACITY 48 kVA		200 A					

PANEL SCHEDULE

1

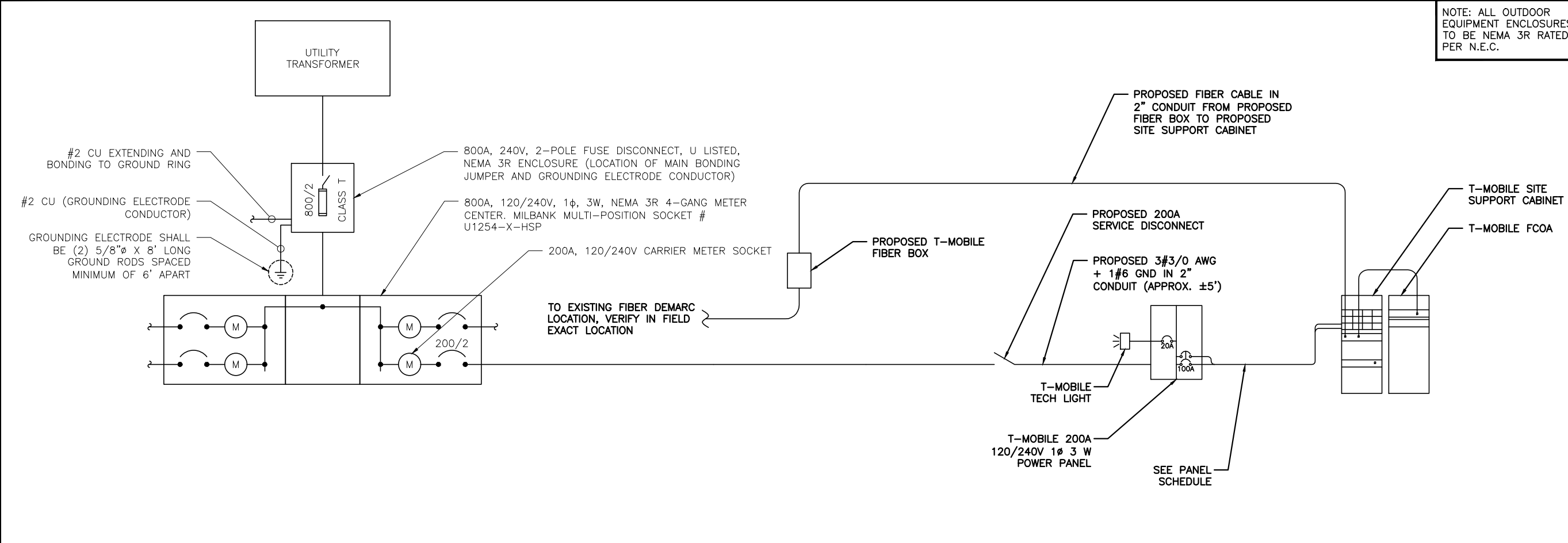


DIAGRAM DETAILS

2

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T-MOBILE SITE NAME: BROOKLYN EV LUTHERAN
APC E911 SITE ADDRESS: 5840 69TH AVE N, BROOKLYN PARK, MN 55429

SHEET TITLE: DIAGRAM DETAILS

SHEET NUMBER: C-9

NOTE: THE GROUNDING PLAN PROVIDED HEREIN IS SCHEMATIC BY NATURE. REFER TO GROUNDING NOTES ON SHEET GN-2 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



TOWER OWNER



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
5	10/24/22	REVISIONS	JCC
4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
2	05/31/19	REVISIONS	JDB
1	04/15/19	REVISIONS	JDB
0	03/29/19	100% CONSTRUCTION	JDB
A	03/19/19	ISSUED FOR REVIEW 90%	JPN

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SIGNATURE:

NAME: GLENN WALKER
DATE: 10/24/2022

LICENSE NUMBER: 55851

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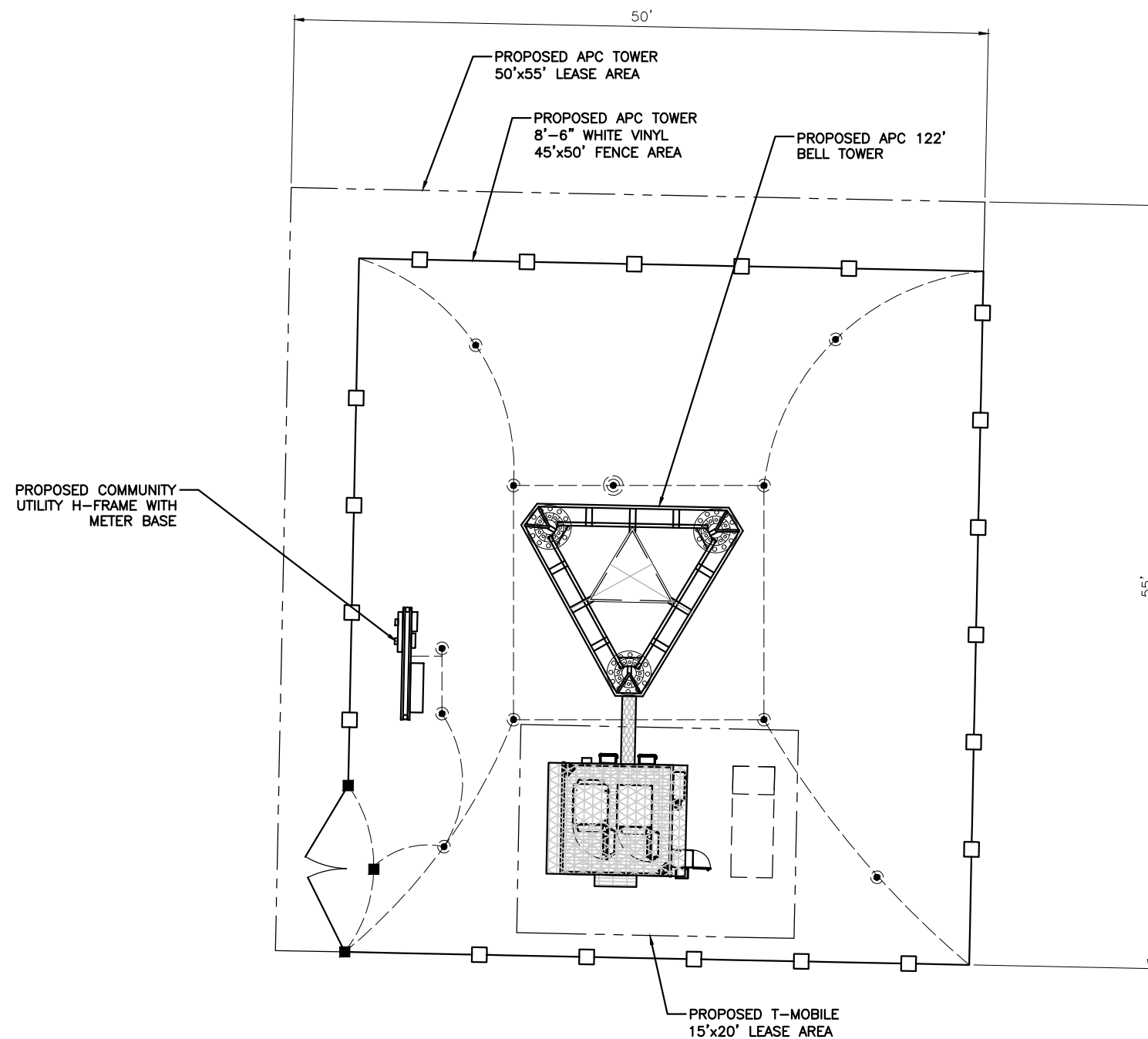
SITE INFORMATION
APC SITE #: MN-1618
APC SITE NAME:
MINNEAPOLIS

T-MOBILE # A100194A
T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
GROUNDING PLAN

SHEET NUMBER:
G-1



- LEGEND:
- PROPOSED GROUND WIRE
 - MECHANICAL CONNECTION
 - ⊙ GROUNDING ROD
 - ⊙ TEST WELL





TOWER OWNER



BUSINESS LICENSE #: N/A

REVISIONS			
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4	07/15/19	REVISIONS	DLD
3	06/19/19	REVISIONS	JFS
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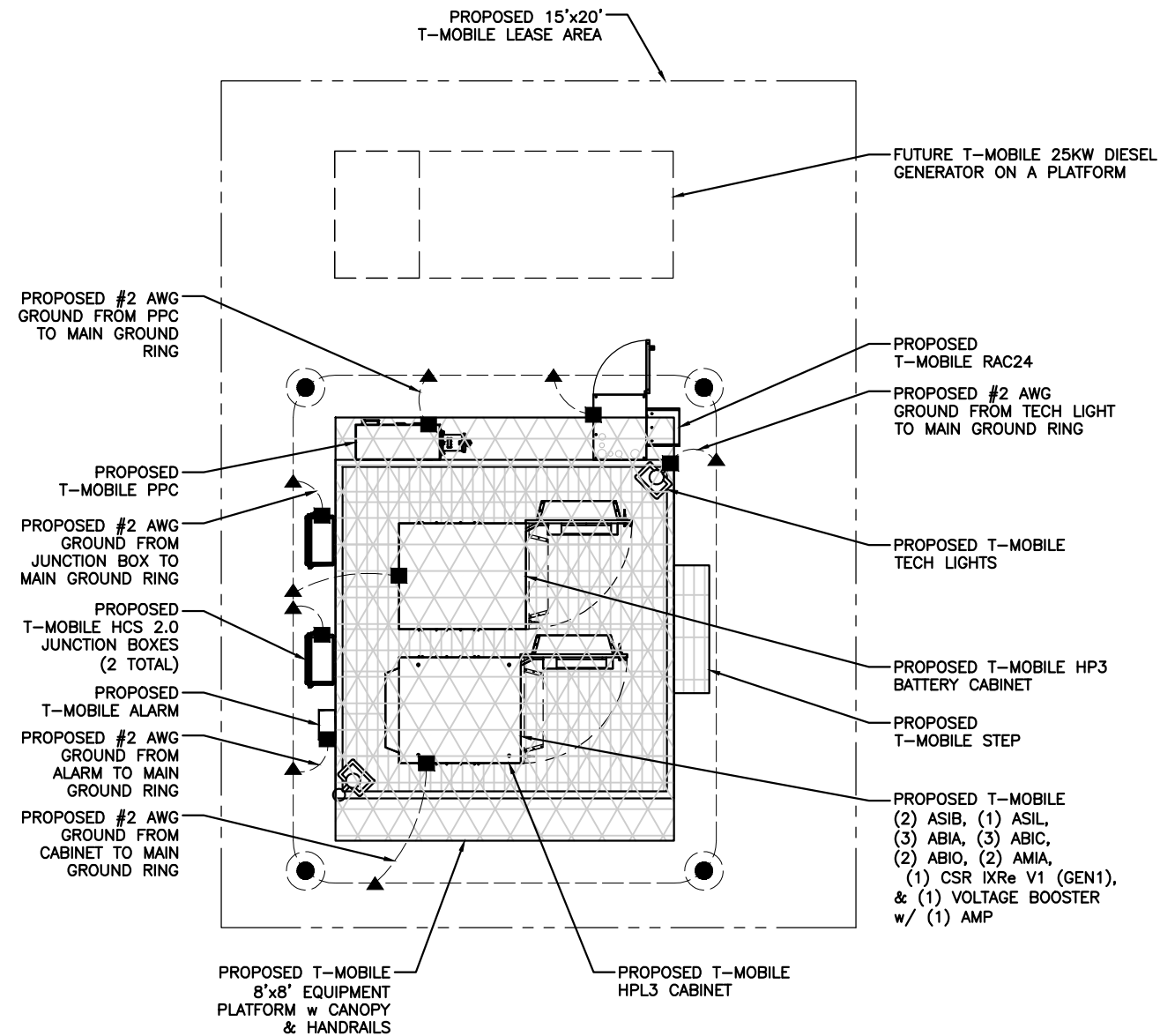
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T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

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5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
GROUNDING PLANS

SHEET NUMBER:
G-2

NOTE: THE GROUNDING PLAN PROVIDED HEREIN IS SCHEMATIC BY NATURE. REFER TO GROUNDING NOTES ON SHEET GN-2 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



LEGEND:

- PROPOSED GROUND WIRE
- ▲ CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUNDING ROD
- ⊙ TEST WELL

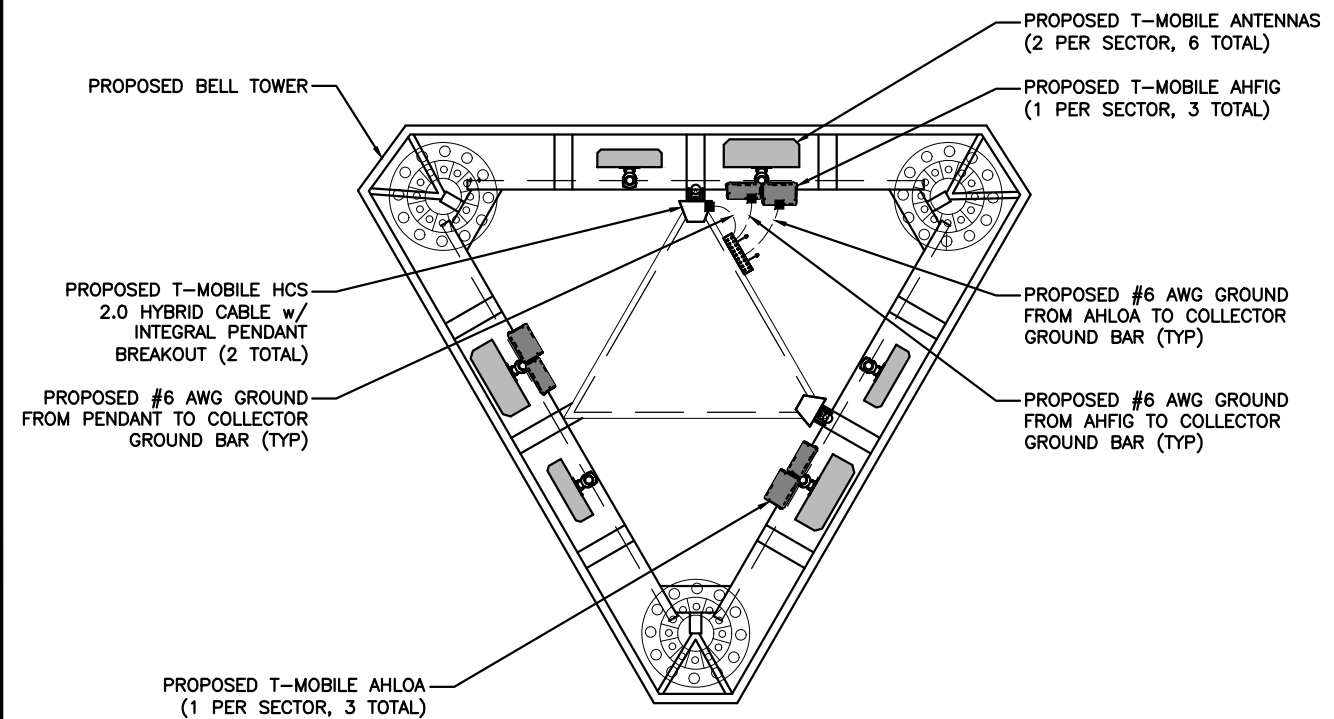


EQUIPMENT GROUNDING PLAN

SCALE: N.T.S.

2

ANTENNA GROUNDING PLAN



LEGEND:

- PROPOSED GROUND WIRE
- ▲ CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION



SCALE: N.T.S.

1



BUSINESS LICENSE #: N/A

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REV	DATE	DESCRIPTION	INT
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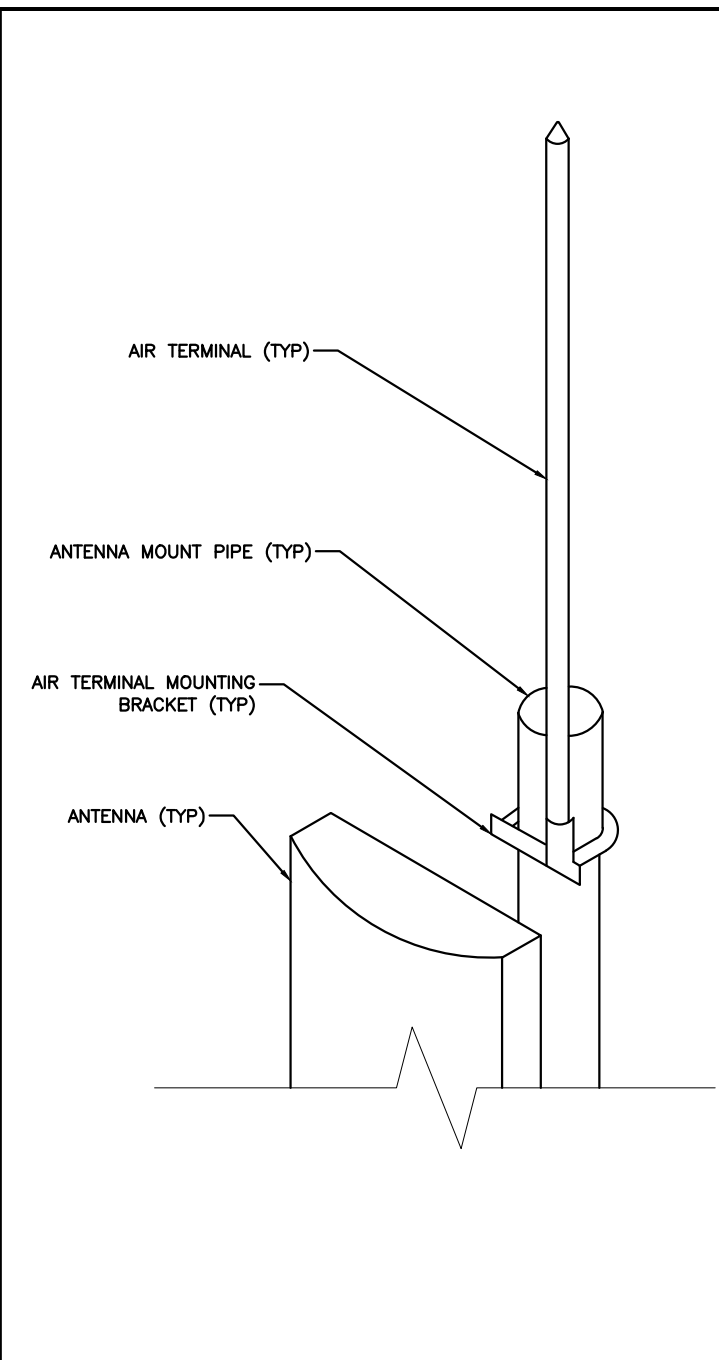
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:

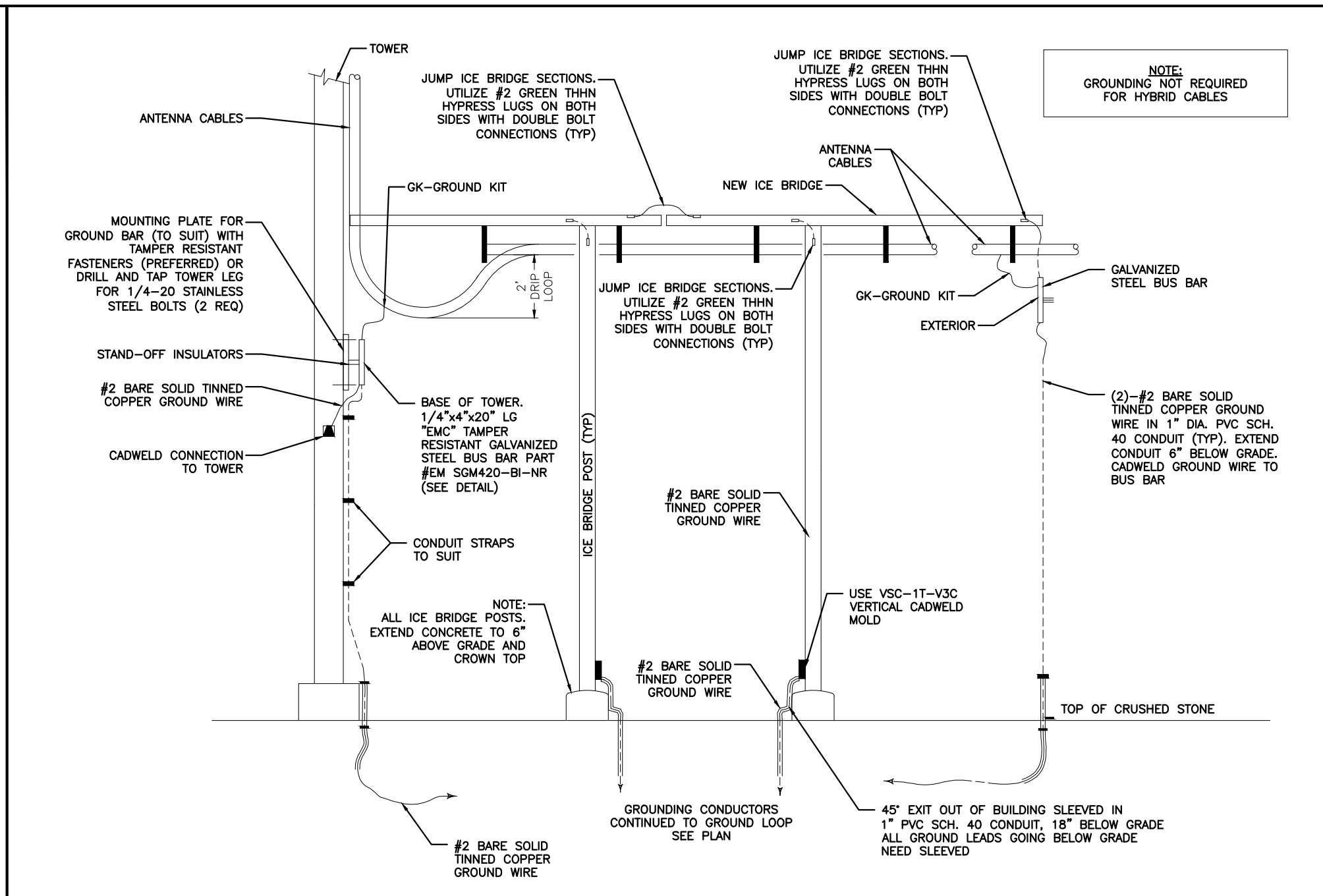
GROUNDING
DETAILS

SHEET NUMBER:

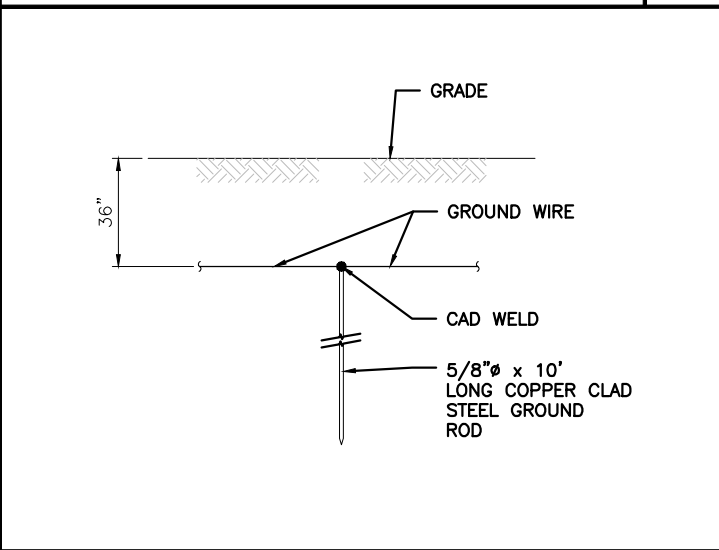
G-3



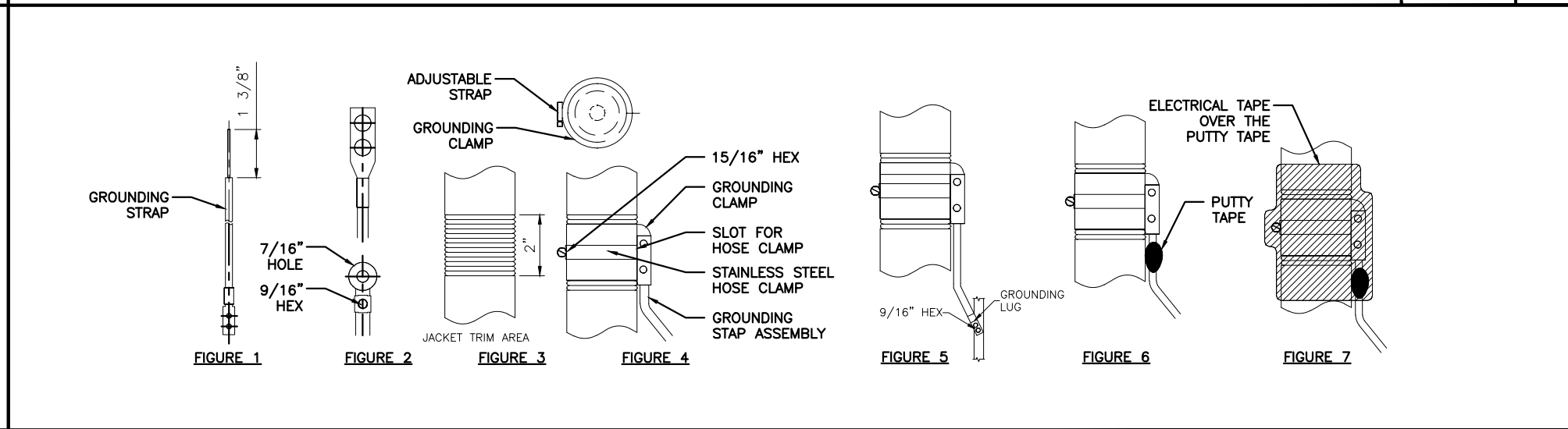
AIR TERMINAL DETAIL 3



COAXIAL GROUNDING AT ICE BRIDGE 1



GROUNDING ROD DETAIL 4



GROUNDING STRAP WEATHERPROOFING DETAIL 2

TOWER OWNER



TENANT ON APC TOWER



BUSINESS LICENSE #: N/A

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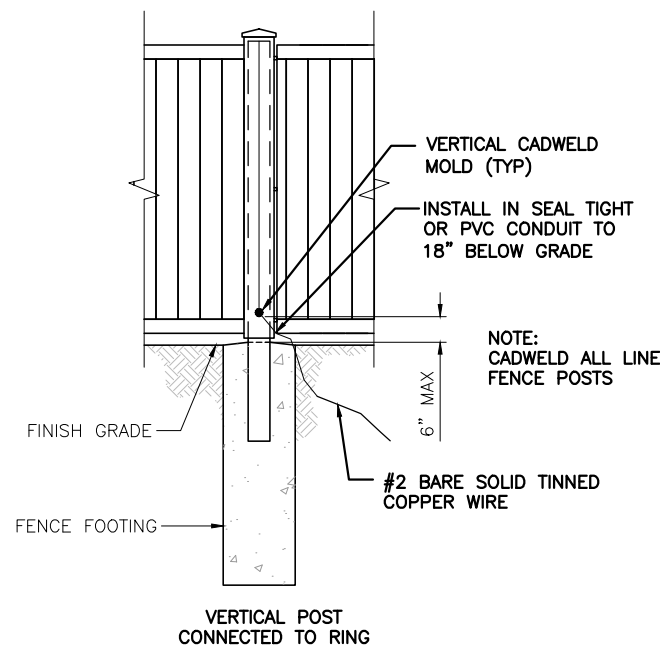
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T-MOBILE SITE NAME
BROOKLYN EV LUTHERAN

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BROOKLYN PARK, MN 55429

SHEET TITLE:
GROUNDING
DETAILS

SHEET NUMBER:

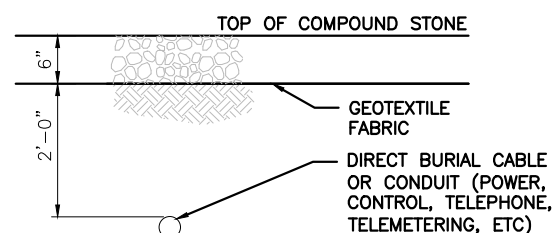
G-4



TYPICAL FENCE POST GROUNDING

SCALE: N.T.S.

5



INSTALLATION

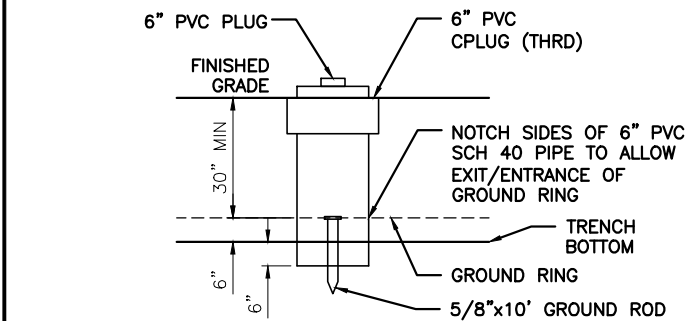
1. THE TAPE SHALL BE LAID DIRECTLY ABOVE THE CABLE OR CONDUIT UNDER RIGID TYPE AND OIL MAT PAVEMENTS, AND DIRECTLY ON TOP OF THE COMPACTED EARTH SUBGRADE IMMEDIATELY BEFORE RESTORING THE PAVEMENT.
2. IN OPEN AREAS, THE TAPE SHALL BE LAID DURING THE BACKFILLING OPERATION ON SMOOTH, COMPACTED BACKFILL AT A DISTANCE OF 8" BELOW THE SURFACE OF THE AREA.
3. THE ENDS OF THE TAPE SHALL BE LAPPED APPROXIMATELY SIX (6) INCHES.
4. TAPE SHALL BE THE COLOR AS INDICATED AND HAVE THE FOLLOWING MARKINGS:

RED	CAUTION	CAUTION	CAUTION
	BURIED ELECTRIC LINE BELOW		
ORANGE	CAUTION	CAUTION	CAUTION
	BURIED TELEPHONE LINE BELOW		

STANDARD MARKER TAPE DETAIL

SCALE: N.T.S.

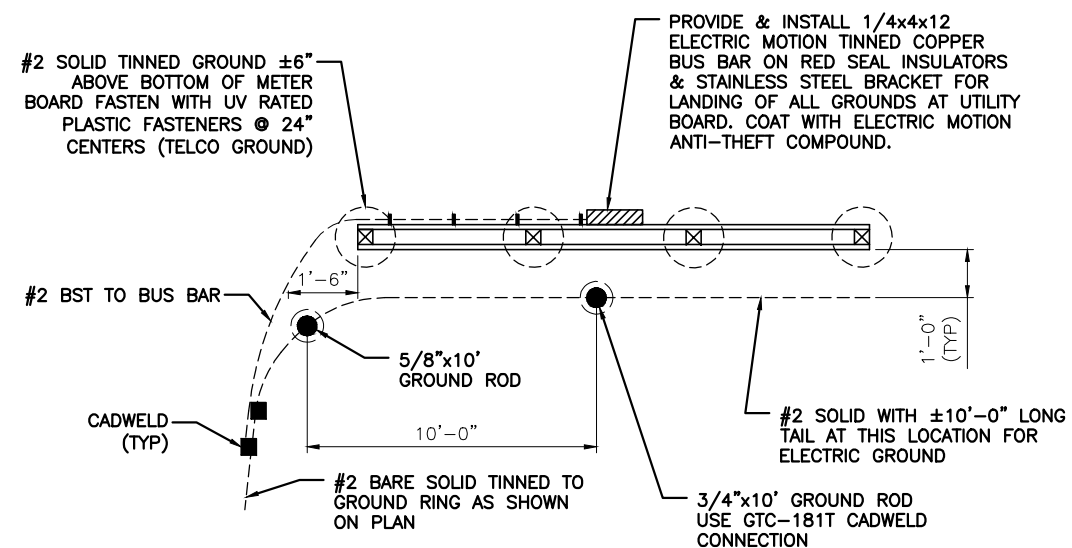
6



INSPECTION WELL DETAIL

SCALE: N.T.S.

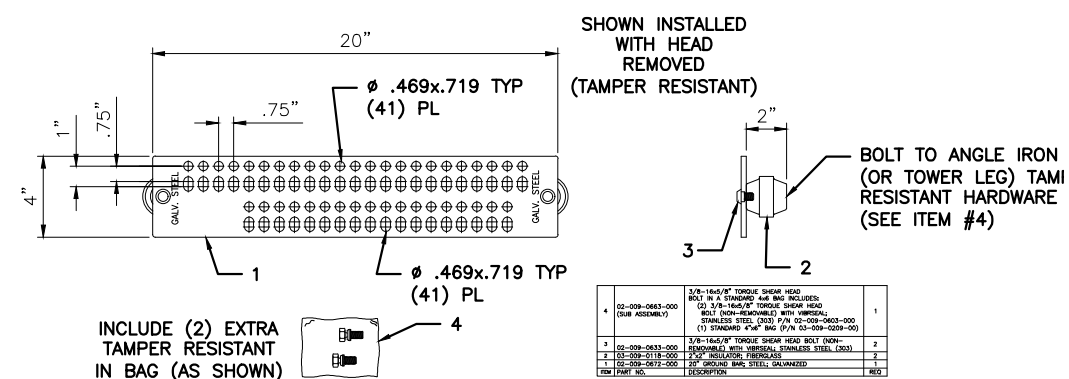
1



METER BOARD UTILITY GROUNDING DETAIL

SCALE: N.T.S.

3



TOWER LEG BUS BAR DETAIL

SCALE: N.T.S.

4

BUSINESS LICENSE #: N/A

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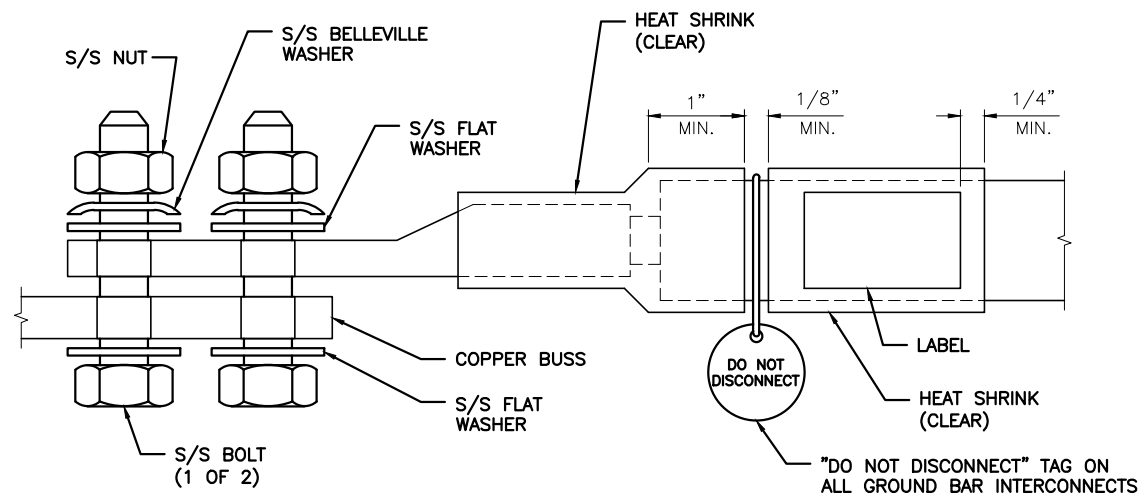
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MINNEAPOLIS

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APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
G-5



NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND.
3. COAT ALL BARRELS WITH ANTI-OXIDATION COMPOUND BEFORE CRIMPING.

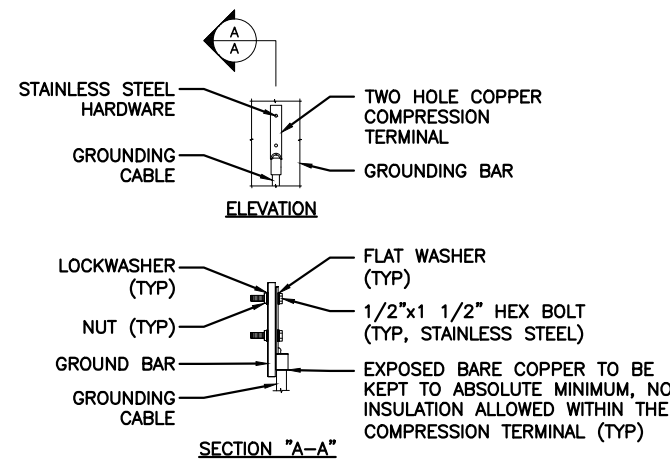
NOT USED

4

GENERAL LUG DETAIL

SCALE: N.T.S.

1



NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

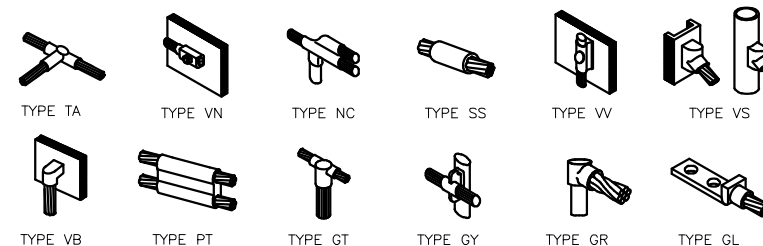
NOT USED

5

CADWELD GROUNDING CONNECTION DETAILS

SCALE: N.T.S.

3



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
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SIGNATURE: *Glenn Walker*

NAME: GLENN WALKER
10/24/2022
DATE:

LICENSE NUMBER: 55851

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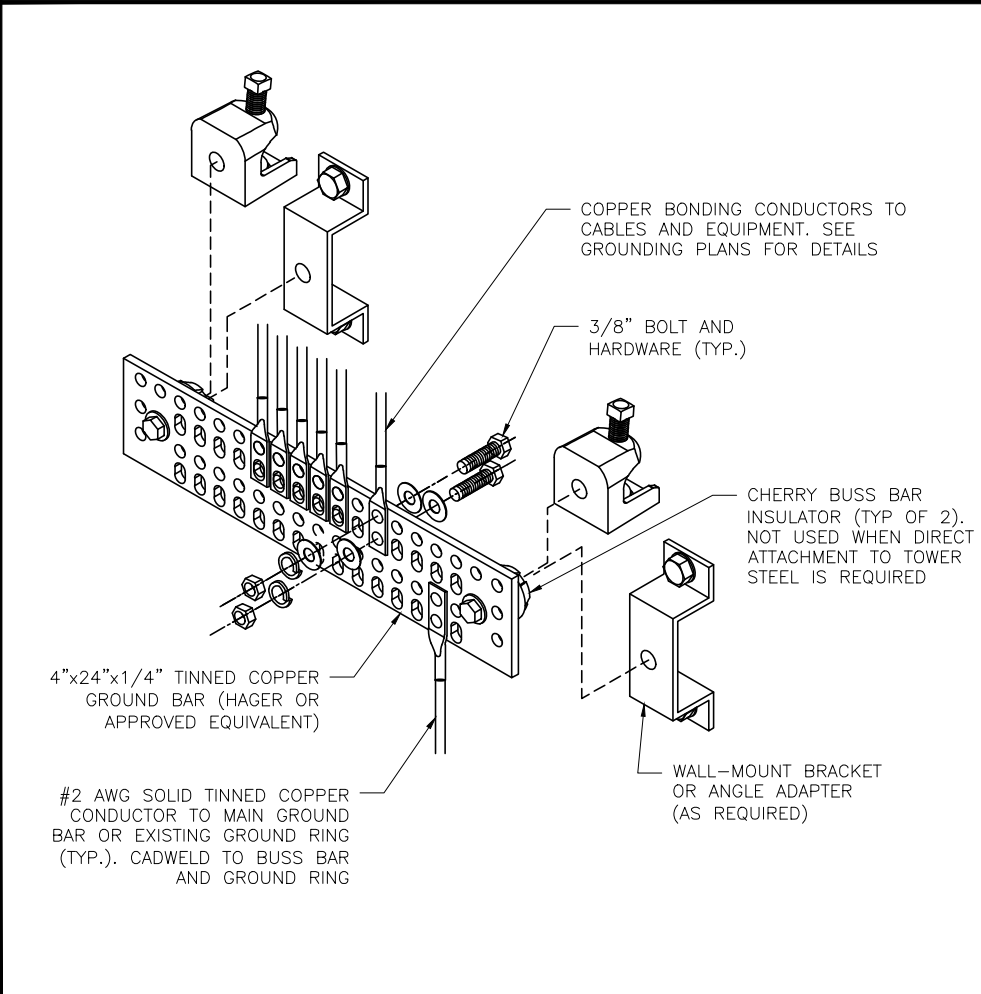
APC E911 SITE ADDRESS:
5840 69TH AVE N
BROOKLYN PARK, MN 55429

SHEET TITLE:
GROUNDING DETAILS

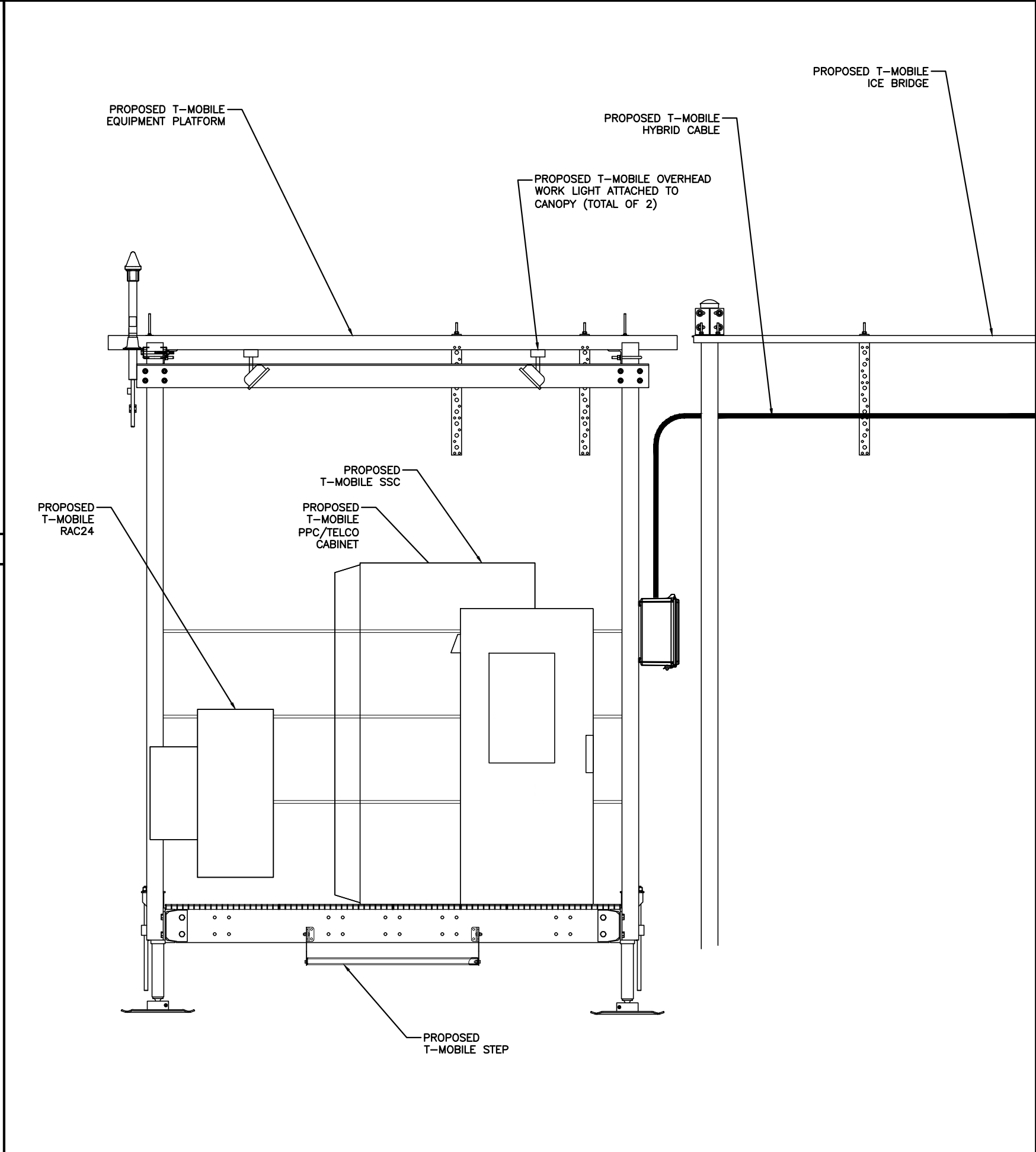
SHEET NUMBER:
G-6



NOT USED 2



GROUND BAR DETAIL SCALE: N.T.S. 3



PLATFORM GROUNDING DETAIL (TYP.) SCALE: N.T.S. 1

MEMORANDUM

Date: October 21, 2022
To: Planning Commission Members
From: Sarah Abe, Development Project Coordinator
Paul Mogush, Planning Director
Subject: October 26 Work Session Item 2A – Just Deeds

Just Deeds project

In September 2022, the City of Brooklyn Park became the 15th member of the Just Deeds coalition. The Just Deeds coalition was founded in 2020 by the city of Golden Valley with partners from Minnesota Association of City Attorneys, Minneapolis Area Realtors, Mapping Prejudice, and Edina Realty Title.

Just Deeds mission

Coalition members provide free legal and title services to help property owners find discriminatory covenants and discharge them from their property titles. The Coalition also provides education opportunities to help communities acknowledge this racist history and pursue reconciliation and anti-racist solutions. Member organizations share responsibility for creating and correcting systemic racism in housing and acknowledge the racist systems that exist in our communities, working together to dismantle them.

Discriminatory covenants

Discriminatory covenants refer to contractual agreements that prohibit the purchase, lease, or occupation of a piece of property by a particular group of people. Racial covenants were used for decades to control who could buy or live on certain properties. Through the University of Minnesota's Mapping Prejudice project, over 26,000 property records with racially restrictive covenants have been identified in Hennepin and Ramsey Counties. Governments also played a significant role in the use of discriminatory covenants; for example, the federal government required discriminatory covenants to secure FHA mortgage financing.

In Brooklyn Park, there are 100 discriminatory covenants which are primarily concentrated in the northeast section of the city.

Promoting participation in the coalition

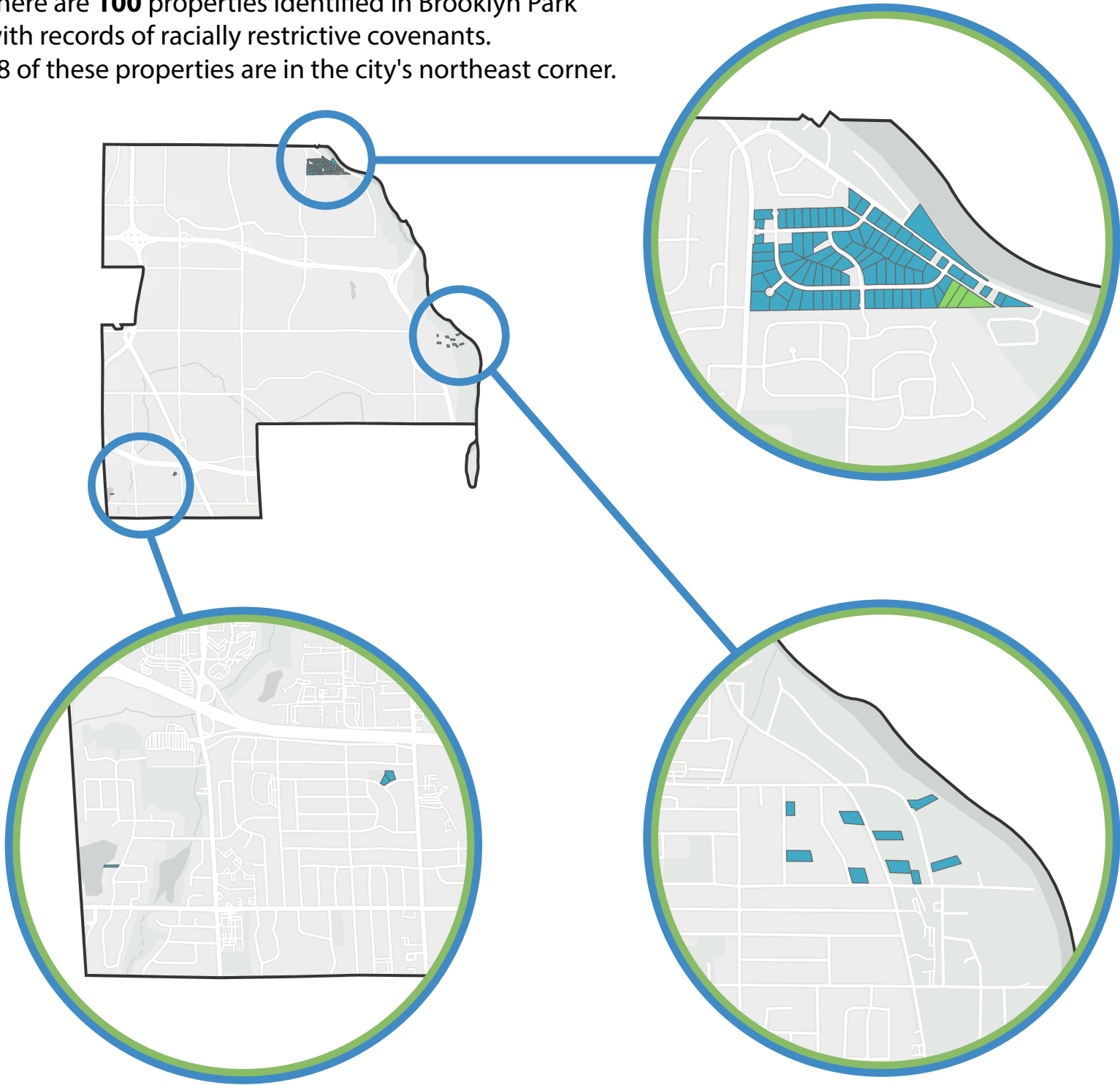
Staff are currently gathering feedback from the Planning Commission, Human Rights Commission, and the Community Long-Range Improvement Commission. This discussion will focus on how the Planning Commission would like to continue to engage with this project.

Attachments:


Map of covenants in Brooklyn Park

Racial Covenants in Brooklyn Park

There are **100** properties identified in Brooklyn Park with records of racially restrictive covenants. 88 of these properties are in the city's northeast corner.



 City owned parcels

 Covenants in Brooklyn Park

**3 properties in Brooklyn Park are on city owned land*

Language of racial covenants may include:

- "Said premises shall not be occupied by Negroes or Jews"
 - "Subject to mineral rights reserved by the State of Minnesota and building and racial restrictions of record, if any."
 - "Said premises shall not be occupied by any person other than those of the Caucasian race"
- or "No lot, plot, or parcel shall be sold, leased, mortgaged, used or occupied, nor any right thereto be granted, given, or permitted to any person, other than a member of the Caucasian race, except that this covenant shall not prevent occupancy by persons of other races in domestic service upon such premises"