

FOR THE MEETING OF: September 17, 2020
AGENDA ITEM: 5.a

TO: Historic Landmarks Commission

THROUGH: Lisa Anderson-Ogilvie, AICP, Deputy Community Development Director and Planning Administrator

FROM: Kimberli Fitzgerald, AICP, Historic Preservation Officer

HEARING DATE: September 17, 2020

CASE NO.: Historic Design Review Case No. HIS20-20

APPLICATION SUMMARY: A proposal to modify existing antennae, PRU's and Cabinets on the roof of Capitol Tower. (1926).

LOCATION: 388 State Street

REQUEST Major Historic Design Review of a proposal to modify existing antennae, PRU's and cabinets on the roof of Capitol Tower, a historic contributing resource in Salem's Downtown Historic District, located at 388 State Street (Marion County tax lot 073W27AB07200).

APPLICANT(S): Hannah Kamph for T-Mobile

APPROVAL CRITERIA: Salem Revised Code (SRC) Chapter 230
230.065 General Guidelines for Historic Contributing Resources

RECOMMENDATION: APPROVE with the following **CONDITION:**

Condition 1: Any new or replacement communication device(s), including but not limited to dishes, antennas and associated equipment shall not exceed the total number and cumulative size of the dishes, antennas and associated equipment currently approved for installation.

BACKGROUND

On July 31, 2020, the applicant submitted materials for a Major Historic Design Review for removing, relocating and installing new antennae and associated equipment on the roof of the Capitol Tower. The application was deemed complete for processing on August 27, 2020. This resource has approximately 33 antennas on the rooftop belonging to various carriers. The HLC has made it clear that their intent is to limit the cumulative adverse impact of too much wireless equipment attached to the roof of this historic resource. Therefore, due to concerns about the cumulative adverse effect resulting from adding more antennas to this resource, the HLC added a condition of

approval to a previous Decision which limited the total number and cumulative size of antennas and associated equipment by this applicant (HIS18-24).

Notice of public hearing was sent by mail to surrounding property owners and tenants pursuant to Salem Revised Code (SRC) requirements on August 27, 2020 (**Attachment A**). Public hearing notice was also posted on the property in accordance with the posting provision outlined in SRC 300.620.

The City of Salem Historic Landmarks Commission will hold a virtual public hearing for the case on September 17, 2020 at 5:30 p.m. **To provide testimony virtually at the public hearing:** Sign up by contacting Zachery Cardoso at zcardoso@cityofsalem.net or 503-540-2304 by September 17, 2020 at 3:00 P.M. to receive instructions. To view and listen to this hearing LIVE, you may visit this link with any computer, tablet, or smart phone: <https://bit.ly/planningpublicmeetings>

The state-mandated 120-day deadline to issue a final local decision, including any local appeals in this case is December 25, 2020, unless an extension is granted by the applicant.

PROPOSAL

The applicant (T-Mobile) currently has nine (9) antennae on the roof of the Capitol Tower. T-Mobile is proposing to remove four (4) antennae, relocate three (3) antennae, and install five (5) new antennae and associated equipment on the roof of the Capitol Tower. Additionally, eight (8) remote radio units, eight (8) diplexers and three (3) tower mounted amplifiers (TMA's) will be removed and two existing cabinets will be replaced as well as the associated cables. According to their proposal, the proposed replacement antennae and associated equipment do not exceed the cumulative size of the existing visible antennae and equipment, and in fact represent a decrease in size (**Attachment C**).

SUMMARY OF RECORD

The following items are submitted to the record and are available upon request: All materials submitted by the applicant and any materials and comments from public agencies, City departments, neighborhood associations, and the public; and all documents referenced in this report.

APPLICANT'S STATEMENT

A request for historic design review must be supported by proof that it conforms to all applicable criteria imposed by the Salem Revised Code. The applicants submitted a written statement, which is included in its entirety as **Attachment C** in this staff report.

Staff utilized the information from the applicant's statements to evaluate the applicant's proposal and to compose the facts and findings within the staff report. Salem Revised Code (SRC) **230.065 General Guidelines for Historic Contributing Resources** are

the applicable criteria for evaluation of this proposal.

FACTS & FINDINGS

1. Historic Designation

Under Salem Revised Code (SRC) Chapter 230, no development permit for a designated historic resource shall be issued without the approval of the Historic Landmarks Commission (HLC). The HLC shall approve, conditionally approve, or deny the application on the basis of the project's conformity with the criteria. Conditions of approval, if any, shall be limited to project modifications required to meet the applicable criteria.

According to SRC 230.020(f), historic design review approval shall be granted if the application satisfies the applicable standards set forth in Chapter 230. The HLC shall render its decision supported by findings that explain conformance or lack thereof with relevant design standards, state the facts relied upon in rendering the decision, and explain justification for the decision.

2. Historic Significance

According to nomination documents the Capitol Tower Building was constructed in 1926 by T.A. Livesly, a prosperous hops farmer and the Mayor of Salem at the time of construction. The Capitol Tower is an eleven-story commercial building designed by the Portland architect L. L. Dougan, and at the time of construction was Salem's tallest building. (**Attachment B**).

This resource is historic contributing to Salem's Downtown Commercial Historic District and retains a high degree of integrity.

3. Neighborhood and Citizen Comments

The subject property is located within the Central Area Downtown Neighborhood Association (CANDO). Notification of the public hearing was sent to the neighborhood association, all property owners and tenants within the Salem Downtown National Register District, and surrounding property owners within 250 feet of the property pursuant to Salem Revised Code (SRC) requirements on August 27, 2020. Notice of public hearing was also posted on the subject property. At the time of writing this staff report, no comments were received from the neighborhood association or from adjoining property owners.

4. City Department and Public Agency Comments

The Building and Safety Division indicates that the applicant must obtain required building permits.

5. Historic Design Review

SRC Chapter 230.065 specifies the standards and guidelines applicable to this project. The applicant is proposing to remove, relocate and install new antennae and associated equipment on the roof of the Capitol Tower (**Attachment 3**). Historic Landmarks Commission staff reviewed the project proposal and has the following findings for the applicable guidelines.

FINDINGS

Criteria 230.065 General Guidelines for Historic Contributing Resources

(a) Except as otherwise provided in this Chapter, the property shall be used for its historic purpose, or for a similar purpose that will not alter street access, landscape design, entrance(s), height, footprint, fenestration, or massing.

Finding: The applicant is proposing to install one new antennae, remove four (4) antennae, replace four (4) antennae and relocate three (3) antennae and associated equipment on the roof of the Capitol Tower. While it is clear that the original building was not constructed for this use, the impact of the antennae has been minimized due to the height of the structure and the placement of the antennae. The installation of the antennae (and associated equipment) will not alter the use of the building, the street access, landscape design, entrance(s), height, footprint, fenestration, or massing of the affected building. Staff recommends that the HLC find that this use is compatible and that this guideline has been met.

(b) Historic materials, finishes and distinctive features shall, when possible, be preserved and repaired according to historic preservation methods, rather than restored.

Finding: Staff recommends that the HLC find that there are no historic materials or features proposed for removal, reconstruction, or repair and that Guideline 230.065 (b) is not applicable to the evaluation of this proposal.

(c) Distinctive stylistic features or examples of skilled craftsmanship significance shall be treated with sensitivity.

Finding: Staff recommends that the HLC find that there are no distinctive stylistic features proposed for removal, reconstruction, or repair and Guideline 230.065 (c) does not apply to the evaluation of this proposal.

(d) Historic features shall be restored or reconstructed only when supported by physical or photographic evidence.

Finding: Staff recommends that the HLC find that there are no historic materials or features proposed for removal, reconstruction, or repair and that Guideline 230.065 (d) is not applicable to the evaluation of this proposal.

(e) Changes that have taken place to a historic resource over the course of time are evidence of the history and development of a historic resource and its environment, and should be recognized and respected. These changes may have acquired significance in their own right, and this significance should be recognized and respected.

Finding: Staff recommends that the HLC find that there are no distinctive historic materials or features that have acquired significance in their own right within the scope of this project and that SRC 230.065 (e) does not apply.

(f) Additions and alterations to a historic resource shall be designed and constructed to minimize changes to the historic resource.

Finding: While the applicant's proposal will increase the total number of antennae on the roof from nine to ten, the cumulative size of the antennae and associated visible equipment will be reduced by 183.05 square inches. The replacement of these antennae and associated equipment will not damage the integrity of the building and, although visible, will not adversely affect the resource, or surrounding historic district. The addition of the equipment will be visible, but will be minimized due to the height of the building, minimizing the adverse visual impact due to their addition. Staff recommends that the HLC find that the antennas and the addition of associated equipment are compatible with the size and scale of the Capitol Building, and that SRC 230.065(f) has been met.

(g) Additions and alterations shall be constructed with the least possible loss of historic materials and so that significant features are not obscured, damaged, or destroyed.

Finding: In 2018, the HLC approved T-Mobile's proposal to remove and replace three (3) of their nine (9) antennae, and associated equipment on the roof of the Capitol Tower. The current proposal increases the total number of antennae on the roof from nine (9) to ten (10), but further reduces the cumulative size of the antennae and associated visible equipment by 183.05 square inches. While staff recommends that the HLC find that this standard has been met, due to concerns about the cumulative adverse effect resulting from adding more antennae to this resource, staff recommends that the HLC adopt the following CONDITION of APPROVAL:

Condition 1: Any new or replacement communication device(s), including but not limited to dishes, antennas, and associated equipment shall not exceed the total number and cumulative size of the dishes, antennas, and associated equipment currently approved for installation.

(h) Structural deficiencies in a historic resource shall be corrected without visually changing the composition, design, texture or other visual qualities.

Finding: Staff recommends that the HLC find that the proposal does not include any plans to correct structural deficiencies, and that Guideline 230.065 (h) does not

apply to the evaluation of this proposal.

(i) Excavation or re-grading shall not be allowed adjacent to or within the site of a historic resource which could cause the foundation to settle, shift, or fail, or have a similar effect on adjacent historic resources.

Finding: Staff recommends that the HLC find that the proposal does not include any plans for excavation or regrading, and that Guideline 230.065 (i) does not apply to the evaluation of this proposal.

RECOMMENDATION

Based upon the information presented in the application, plans submitted for review, and findings as presented in this staff report, staff recommends that the Historic Landmarks Commission **APPROVE** the proposal with the following CONDITION:

Condition 1: Any new or replacement communication device(s), including but not limited to dishes, antennas, and associated equipment shall not exceed the total number and cumulative size of the dishes, antennas, and associated equipment currently approved for installation.

DECISION ALTERNATIVES

1. APPROVE the proposal as submitted by the applicant and indicated on the drawings.
2. APPROVE the proposal with conditions to satisfy specific guideline(s).
3. DENY the proposal based on noncompliance with identified guidelines in SRC 230, indicating which guideline(s) is not met and the reason(s) the guideline is not met.

Attachments: A. Hearing Notice and Vicinity Map
B. Excerpt from National Register Historic Resource Document
C. Applicant's Submittal Materials

Prepared by Kimberli Fitzgerald, AICP, Historic Preservation Officer



HEARING NOTICE

LAND USE REQUEST AFFECTING THIS AREA

There is a development proposal for the property listed in this notice and shown on the attached map. The City is seeking input from neighbors on the proposal. If you have questions or comments about the proposal, contact the case manager.

Esta carta es un aviso sobre una propuesta de desarrollo para la propiedad enumerada y que se muestra en el mapa adjunto. La ciudad está buscando la opinión de los vecinos sobre la propuesta. Si tiene preguntas o comentarios sobre la propuesta, póngase en contacto con nosotros al 503-588-6213

CASE NUMBER:	Major Historic Design Review Case No. HIS20-20
PROPERTY LOCATION:	388 State St, Salem OR 97301
SUMMARY:	A proposal to modify existing antennae, PRU's and Cabinets on the roof of Capitol Tower.
HEARING INFORMATION:	<p>DUE TO SOCIAL DISTANCING MEASURES IN PLACE TO HELP STOP THE SPREAD OF THE COVID-19 VIRUS THIS HEARING WILL BE HELD VIRTUALLY.</p> <p><u>Historic Landmarks Commission, September 17, 2020 at 5:30 p.m.</u></p> <p>To view the meeting LIVE on YouTube please visit this link with any computer, tablet, or smart phone: http://bit.ly/planningpublicmeetings</p>
HOW TO PROVIDE TESTIMONY:	<p>Both written and in-person comments will be accepted on this case. Only those participating by submitting written testimony, or testifying during the virtual hearing, have the right to appeal the decision.</p> <p>To provide written testimony: Direct written comment to the case manager listed below. Staff recommends emailing your comments to ensure receipt before the public hearing.</p> <p>To provide testimony virtually at the public hearing: Sign up by contacting Zachery Cardoso at zcardoso@cityofsalem.net or 503-540-2304 by <u>September 17, 2020 at 3:00 P.M.</u> to receive instructions.</p>
CASE MANAGER:	<p>Kimberli Fitzgerald, Planner III, City of Salem Planning Division, 555 Liberty Street SE, Room 305, Salem, OR 97301. Telephone: 503-540-2397; E-mail: kfitzgerald@cityofsalem.net.</p>
NEIGHBORHOOD ORGANIZATION:	<p><i>Neighborhood associations are volunteer organizations of neighbors coming together to make neighborhoods the best they can be. They receive notice of land use applications within their boundaries, and they often submit comments on the applications to the City. Neighborhood association meetings are open to everyone. Contact your neighborhood association to get involved:</i></p> <p>Central Area Neighborhood Development Organization (CAN-DO), Neal Kern, Chair; Phone: 503-856-2207; Email: neal.t.kern@gmail.com.</p>
STAFF REPORT:	The Staff Report will be available seven (7) days prior to the hearing and will thereafter be posted on the Community Development website: https://www.cityofsalem.net/notice .
ACCESS:	The Americans with Disabilities Act (ADA) accommodations will be provided on request.
CRITERIA:	<p>Salem Revised Code (SRC) Chapter(s) 230.065 General Guidelines for Historic Contributing Resources</p> <p>Salem Revised Code (SRC) is available to view at this link: http://bit.ly/salemorcode. Type in the chapter number(s) listed above to view the applicable criteria.</p>

OWNER(S):	Mediah Rogers on behalf of MT Capitol LLC(Patricia Chapman and Mountain Trust Limited Partnership)
APPLICANT / AGENT(S):	Hannah Kamph, Technology Associates EC INC., on behalf of T MOBILE West LLC (David Miller and Corporation Service Company)
PROPOSAL REQUEST:	Major Historic Design Review of a proposal to modify existing antennae, PRUfts and Cabinets on the roof of Capitol Tower, a historic contributing resource in Salem's Downtown Historic District, located at 388 State Street (Marion County tax lot 073W27AB07200).
HEARING PROCEDURE:	<p>The hearing will be conducted with the staff presentation first, followed by the applicant's case, neighborhood organization comments, testimony of persons in favor or opposition, and rebuttal by the applicant, if necessary. The applicant has the burden of proof to show that the approval criteria can be satisfied by the facts. Opponents may rebut the applicant's testimony by showing alternative facts or by showing that the evidence submitted does not satisfy the approval criteria. A hearing is not a venue to ask questions of staff, the applicant or the decision maker(s) on this case but rather an opportunity to provide testimony to the decision maker(s) on the merits of the land use case; questions about the application, the recommended conditions of approval, or the Planning Administrator's recommendation, should be directed to the Case Manager prior to the hearing.</p> <p>Any participant may request an opportunity to present additional evidence or testimony regarding the application. A ruling will then be made to either continue the Public Hearing to another date or leave the record open to receive additional written testimony. Failure to raise an issue in person or by letter prior to the close of the Public Hearing with sufficient specificity to provide the opportunity to respond to the issue, precludes appeal to the Land Use Board of Appeals (LUBA) on this issue. A similar failure to raise constitutional issues relating to proposed conditions of approval precludes an action for damages in circuit court.</p> <p>Following the close of the Public Hearing a decision will be issued and mailed to the applicant, property owner, affected neighborhood association, anyone who participated in the hearing, either in person or in writing, and anyone who requested to receive notice of the decision.</p>
MORE INFORMATION:	Documents and evidence submitted by the applicant are available for review and paper copies can be obtained at a reasonable cost. You can also find out more information about the status of the proposed application on the City's online Permit Application Center at https://permits.cityofsalem.net . Just enter the permit number listed here: 20 112637
NOTICE MAILING DATE:	August 27, 2020

PLEASE PROMPTLY FORWARD A COPY OF THIS NOTICE TO ANY OTHER OWNER, TENANT OR LESSEE.

For more information about Planning in Salem:

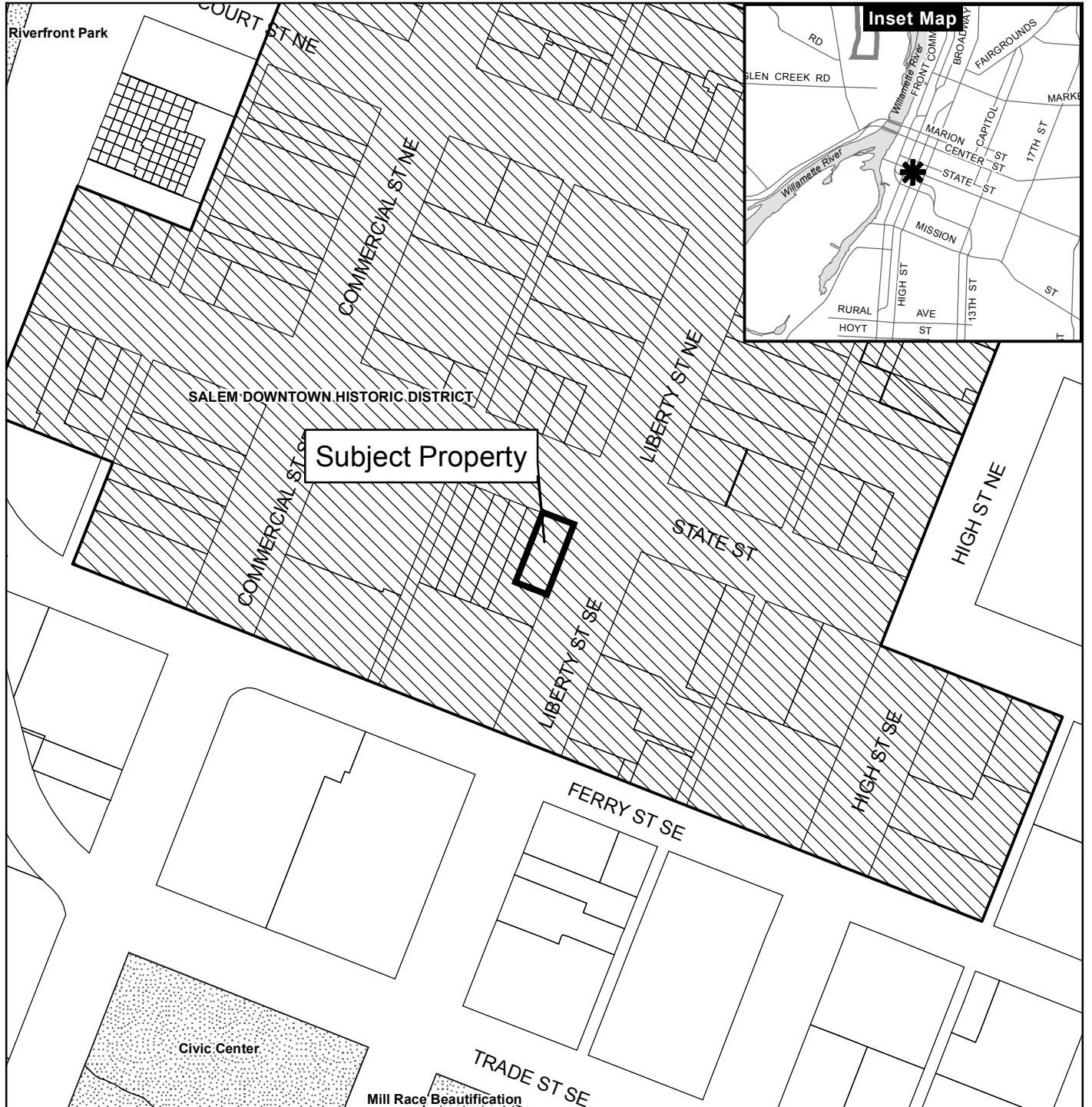
<http://www.cityofsalem.net/planning>

It is the City of Salem's policy to assure that no person shall be discriminated against on the grounds of race, religion, color, sex, marital status, familial status, national origin, age, mental or physical disability, sexual orientation, gender identity and source of income, as provided by Salem Revised Code Chapter 97. The City of Salem also fully complies with Title VI of the Civil Rights Act of 1964, and related statutes and regulations, in all programs and activities. Disability-related modification or accommodation, including auxiliary aids or services, in order to participate in this meeting or event, are available upon request. Sign language and interpreters for languages other than English are also available upon request. To request such an accommodation or interpretation, contact the Community








Development Department at 503-588-6173 at least three business days before this meeting or event.

TTD/TTY telephone 503-588-6439 is also available 24/7

Vicinity Map 388 State Street



Legend

-  Taxlots
-  Urban Growth Boundary
-  City Limits
-  Outside Salem City Limits
-  Historic District
-  Schools
-  Parks

CITY OF Salem
AT YOUR SERVICE
Community Development Dept.

0 100 200 400 Feet



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United States Department of the Interior
National Park Service

National Register of Historic Places

Continuation Sheet

Section number: 7 Salem Downtown Historic District

388 State Street

Classification: Historic Contributing (Listed in the National Register in 1986)

Historic Name: First National Bank, Old/Capitol Tower

Current Name: Bank of the Cascades

Year of Construction: 1926

Legal Description: 073W27AB07200; Salem Addition from Lots 1 and 2 in Block 34

Owner(s): Salem Gargoyle, LLC
c/o Jennings and Company
Attention: Ted Pikes
POB 70407
Eugene, Oregon 97401

Description: This eleven-story reinforced architectural scored concrete, skyscraper, the tallest building in Salem, was designed by L.L. Dougan. A Commercial style building, it is situated on the southwest corner of State and Liberty streets. It has two primary facades. The north-facing facade is 45 feet wide and comprised of three bays; the east-facing facade is 100 feet wide with seven bays.

Characteristic of the Commercial style, this 145-foot tall building is architecturally divided into three parts: a two-story ground-level section, a seven-story central or shaft section, and the upper two stories. Each of the three sections is architecturally distinctive. A massive two-story arch dominates the ground floor of the north elevation over the main building entryway. The east-facing facade has five two-story arched window bays that echo the entryway arch. The second and third stories are separated by a prominent masonry belt course that is decorated with dentil molding consisting of a series of four different faces that alternate between human and mythological faces.

Four undecorated masonry pilasters extend up from this belt course to the parapet. These pilasters divide the north facade (above the third floor) into three bays. From the fourth to the tenth floors these bays are bisected by narrow engaged columns, which appear to buttress semi-circular arches (two per bay) directly above the tenth-story windows. There are fourteen two-light steel casement windows with transoms in each bay. All the windows are rectangular except the six tenth-story windows that have arched transoms.

The building has elaborate ornamentation on the north and east elevations from the eleventh floor upward to the parapet. The outer bay has a standing human figure with stylized wings surrounding it, bearded human faces in relief, and statuary of griffins at both the northwest and northeast corners of the building. A third such statue is also near the southeast corner. The parapet itself is divided above each bay into three rectangular segments; the center one is somewhat higher and more protruding than the two flanking it. Aside from its longer horizontal dimension and additional bays (seven as opposed to three on the north facade), the east elevation is substantially similar to the north. Recently, an elevated, covered walkway has been extended out from the south facade to connect with a multi-level parking structure.

This building retains its historic integrity and contributes to the character of the downtown district.

History and Significance This building was designed by Portland architect L.L. Dougan, financed by Thomas A. Livesley (through the First National Bank), and constructed in 1926. Three years earlier when the First National Bank was organized, Thomas Livesley, who sat on the bank's board of directors had announced that the directors "would erect as a home for the bank and for other important business institutions in Salem, a modern steel and concrete building on the corner of State and Liberty streets." When completed in 1926, seventy-five percent of available office space was leased, with physicians and dentists predominating as

United States Department of the Interior
National Park Service

National Register of Historic Places

Continuation Sheet

Section number: 7 Salem Downtown Historic District

tenants.¹³¹ The First National Bank occupied the ground floor until the late 1940s when Stevens & Sons Jewelers became tenants through 1982. The building is locally significant for its integrity and physical dominance in the historic district. It is the premiere example of reinforced concrete construction in Salem. The building is also significant for its association with Thomas Livesley, leading hop grower in the Northwest, politician, and Salem entrepreneur.

Thomas A. Livesley was born December 8, 1863, in Ironton, Wisconsin. His father is reputed to be the first person to export hops from Wisconsin to Great Britain. In 1887 Thomas Livesley's father relocated his family to Seattle where he continued in the hops trade. Young Livesley worked in the family hops business until he was thirty-one. In 1894 he began his own hop business in Salem, and came to own one of the largest hop farms in the Northwest.¹³² Additionally, Livesley served as Salem's mayor and filled an unexpired term in the state senate.

Leigh L. Dougan, the Portland architect, grew up in Indiana, studied architecture at the Armour Institute of Technology in Chicago, and spent fourteen years with the Portland, Oregon, firm of Houghtaling & Dougan. In 1925 the firm disbanded; Dougan continued practicing on his own. Dougan became well known for his broad knowledge and use of classical style design elements in his buildings. In addition to Salem's First National Bank, he is credited with the design of the Medical Dental Building in Portland, Oregon, the Oregon State Tuberculosis Hospital in Salem, the Lake Oswego grade school building, the John Day high school, the Jesuit Novitiate in Sheridan, Oregon, and the monastery at the Sanctuary of Our Sorrowful Mother in Portland. Dougan was also known for his sketches in both oil and water colors. During the Great Depression he began a series of illustrations, "Wildlife of the Pacific Northwest."¹³³

¹³¹ John M. Tess, "Nation Register of Historic Places Inventory-Nomination," First National Bank Building, 1985

¹³² *Ibid.*

¹³³ *Ibid.*

Historic Alteration Review Worksheet

Site Address: 388 State Street Salem, OR

Resource Status: Contributing Non- Contributing Individual Landmark

Type of Work Activity Proposed: Major Minor

Chose One: Commercial District Individual Resource Public District
Residential District Sign

Replacement, Alteration, Restoration or Addition of:

Architectural Feature:

- Awning
- Door
- Exterior Trim, Lintel
- Other architectural feature
- Roof/Cornice
- Masonry/Siding
- Storefront
- Window(s) Number of windows: _____

Landscape Feature:

- Fence
- Streetscape
- Other Site feature (describe)
Replace antennas, radios, cabinets

New:

- Addition
- Accessory Structure
- Sign
- Mural
- Accessibility Ramp
- Energy Improvements
- Mechanical Equipment
- Primary Structure

Will the proposed alteration be visible from any public right-of-way? Yes No

Project's Existing Material: No material changes. Project's New Material: No material changes.

Project Description

Briefly provide an overview of the type of work proposed. Describe how it meets the applicable design criteria in SRC Chapter 230. Please attach any additional information (i.e., product specification sheets) that will help staff and the HLC clearly understand the proposed work:

T-Mobile proposes to relocate (3) antennas, remove (4) antennas, install (5) new antennas, remove (8) remote radio units, install (3) new remote radio units, remove (8) diplexers, remove (3) TMA's, replace (3) existing low-cap hybrid cables and COVP's with (3) new high-cap hybrid cables and COVP's, remove all existing coax lines, replace (2) existing cabinets. Please see plans for additional details.

Signature of Applicant

Date Submitted/Signed



T-Mobile USA, Inc.
12920 S.E. 38th Street
Bellevue, WA 98006

Response to SRC 230.65

(a) Except as otherwise provided in this chapter, the property shall be used for its historic purpose, or for a similar purpose that will not alter street access, landscape design, entrance(s), height, footprint, fenestration, or massing.

Applicant's Response: The proposed modification are used for similar purpose (telecommunications) and will not alter street access, landscape design, entrance, height, footprint, fenestration, or massing.

(b) Historic materials, finishes and distinctive features shall, when possible, be preserved and repaired according to historic preservation methods, rather than restored.

Applicant's Response: No historic materials, finishes or features of the existing building will be disturbed.

(c) Distinctive stylistic features or examples of skilled craftsmanship significance shall be treated with sensitivity.

Applicant's Response: Application agrees to treat building with sensitivity.

(d) Historic features shall be restored or reconstructed only when supported by physical or photographic evidence.

Applicant's Response: No restoration or reconstruction will be required as there should be no disturbance made based on T-Mobile's proposal. All proposed modifications will remain within existing areas of telecommunication equipment.

(e) Changes that have taken place to a historic resource over the course of time are evidence of the history and development of a historic resource and its environment, and should be recognized and respected. These changes may have acquired significance in their own right, and this significance should be recognized and respected.

Applicant's Response: Applicant agrees to recognize and respect the environmental.

(f) Additions and alterations to a historic resource shall be designed and constructed to minimize changes to the historic resource.

Applicant's Response: T-Mobile's proposed changes are constructed to minimize the changes to the historic building. Majority of the proposed equipment will result in no visible changes – coax modifications and cabinet changes will not be seen from the roadways. The new antennas and radio units will not significantly change in size to the existing equipment and will have minimal visual impact. Please see the attached site plan for additional details.

(g) Additions and alterations shall be constructed with the least possible loss of historic materials and so that significant features are not obscured, damaged, or destroyed.

Applicant's Response: As shown in the attached site plan, T-Mobile's proposed changes will be constructed with the least possible loss of historic materials. No features will be obscured, damaged or destroyed. All equipment will be mounted where existing T-Mobile equipment. As stated above, majority of proposed equipment will result in no visible changes and will not be seen from the roadway. Antenna and radio changes will have minimal visual impact. Please see attached site plan for additional details.

Condition 1 (HIS18-24): Any new or replacement communication device(s), including but not limited to dishes, antennas and associated equipment shall not exceed the total number and cumulative size of the dishes, antennas and associated equipment currently approved for installation.

Applicant's Response: Due to the reduction in overall visible equipment, T-Mobile total number of equipment and cumulative size of antennas and associated equipment will not exceed the existing configuration. Please see below which breaks down existing visible equipment and proposed visible equipment. RRU's will now be mounted behind the antennas and should not account for additional square inches.

T-Mobile's Existing Visible Cumulative equipment size (area in square inches):

- (3) Commscope – FFHH-65C-R3 Panel antennas at 72.7" x 25.2" each = 5,496 square inches
- (4) Andrew – TMBXX-6516-R2M Panel antennas at 59" x 11.9" each = 2,808.4 square inches
- (2) Andrew – HBXX-3817B1-VTM Panel antennas at 54.7" x 11.9" each = 1,301.86 square inches
- (4) FRIG - RRUs at 23.81" x 17.24" each = 1,641.94 square inches
- (4) FHFB - RRU at 23" x 12.6" each = 1,159.2 square inches
- (3) AHLOA - RRUs at 22.05" x 12.13" each = 802.39 square inches
- (3) Commscope - ETW190VS12UB TMAs at 10.2" x 6.7" each = 205.02 square inches
- (8) Andrew - E15S08P77 Diplexers at 2.8" x 7.6" = 170.24 square inches

T-Mobile's Existing Equipment Inventory equipment size (area in square inches): 13,585.05 square inches

T-Mobile Proposed Visible Cumulative equipment size (area in square inches):

- (3) Commscope - FFHH-65C-R3 Panel antennas at 72.7" x 25.2" each = 5,496 square inches
- (2) Commscope - 2HH-38A-R4-V2 Panel Antennas at 53.1" x 25.2" each = 2,676.24 square inches
- (3) Nokia - AEHC Panel Antennas at 35.4" x 22.8" each = 2,421.36 square inches
- (2) Andrew – TMBXX-6516-A2M Panel antennas at 59" x 11.9" each = 2,808.4 square inches

** TMA & Diplexers to be removed. RRU's will be mounted behind panel antennas and will not be visible.*

Total Square inches of the proposed final equipment inventory = 13,402 square inches

OREGON STATE CODE COMPLIANCE:

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

- 2019 OREGON STRUCTURAL SPECIALTY CODE
- 2019 OREGON MECHANICAL SPECIALTY CODE
- 2017 OREGON RESIDENTIAL SPECIALTY CODE
- 2019 OREGON FIRE CODE
- 2019 OREGON ZERO ENERGY READY COMMERCIAL CODE
- ENERGY CONSERVATION CODE 2018 OF OREGON
- 2017 OREGON ELECTRICAL SPECIALTY CODE
- 2017 OREGON PLUMBING SPECIALTY CODE
- 2010 OREGON MANUFACTURED DWELLING INSTALLATION SPECIALTY CODE
- 2002 OREGON MANUFACTURED DWELLING AND PARK SPECIALTY CODE
- LOCAL CODES AND AMENDMENTS

FCC NOTE:

THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

CODE COMPLIANCE

APPLICANT:
T-MOBILE USA INC.
830 NE HOLLADAY STREET
PORTLAND, OR 97232

PROPERTY OWNER:
QA INVESTMENT LLC
189 LIBERTY ST NE #203A
SALEM, OR 97301

LATITUDE AND LONGITUDE:
N 44° 56' 23.59", W 123° 02' 21.22"
(RAD SECTOR A)
(BASED ON 1A SURVEY DATED 05/18/2018)

N 44° 56' 23.42", W 123° 02' 21.91"
(RAD SECTOR B)
(BASED ON 1A SURVEY DATED 05/18/2018)

N 44° 56' 23.51", W 123° 02' 21.46"
(RAD SECTOR C)
(BASED ON 1A SURVEY DATED 05/18/2018)

HANDICAP REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS REQUIREMENT(S) DO NOT APPLY

SITE ADDRESS:
388 STATE ST
SALEM, OR 97301

TOTAL LEASE AREA:
± 150 sq. ft.

NEW/EXISTING USE:
UNMANNED TELECOMMUNICATIONS FACILITY

COUNTY:
MARION COUNTY

JURISDICTION:
CITY OF SALEM

ZONING:
CB - COMMERCIAL BUSINESS

SITE PARCEL NUMBER:
73W27AB 07200

LEGAL DESCRIPTION:
SALEM, BLOCK 34, LOT FR 1,2

SITE INFORMATION

BASED ON RFDS VERSION 8 DATED: 06/26/2020

- RELOCATE (3) EXISTING ANTENNAS (FFHH-65B-R3)
- REMOVE (2) EXISTING ANTENNAS (TMBXX-6516-A2M)
- REMOVE (2) EXISTING ANTENNA (HBXX-3817B1-A2M)
- REMOVE (4) EXISTING FRIG AT ANTENNAS
- REMOVE (4) EXISTING FHFB AT ANTENNAS
- REMOVE (8) EXISTING DIPLEXERS AT ANTENNAS
- REMOVE (3) EXISTING TMAS AT ANTENNAS
- REMOVE (3) EXISTING TRX AT ANTENNAS
- REMOVE (3) EXISTING NSM LOW CAP HCS (100)
- REMOVE (3) EXISTING FIBER JUMPERS 15'
- REMOVE (6) EXISTING COAX CABLES 75'
- REMOVE (2) EXISTING CABINETS
- REMOVE (1) EXISTING ROUTER IN CABINET
- REMOVE (2) EXISTING AMOB IN CABINET
- REMOVE (1) EXISTING FSMF IN CABINET
- REMOVE (6) EXISTING COVPS (3 AT EQUIPMENT, 3 AT CABINETS)
- RELOCATE (1) EXISTING ASIA IN CABINET
- RELOCATE (1) EXISTING ASIK TO NEW CABINET
- RELOCATE (3) EXISTING ABIA TO NEW CABINET
- RELOCATE (1) EXISTING ABIL TO NEW CABINET
- RELOCATE (1) EXISTING ESMB TO NEW CABINET
- RELOCATE (1) EXISTING FSMF TO NEW CABINET
- RELOCATE (1) EXISTING XFCC TO ANTENNAS
- INSTALL (3) NEW ANTENNAS (AEHC)
- INSTALL (2) NEW ANTENNAS (2HH-38A-R4-V2)
- INSTALL (3) NEW AHFIG AT ANTENNAS
- INSTALL (3) NEW HCS 2.0 TRUNKS (100')
- INSTALL (3) NEW HCS 2.0 JUMPERS 15'
- INSTALL (3) NEW HCS 2.0 PENDANTS
- INSTALL (3) NEW HCS 2.0 JUNCTION BOXES
- INSTALL (2) NEW EQUIPMENT CABINETS
- INSTALL (1) NEW ROUTER IN NEW CABINET
- INSTALL (1) NEW ASIB IN NEW CABINET
- INSTALL (1) NEW ASIK IN NEW CABINET
- INSTALL (3) NEW ABIL IN NEW CABINET
- INSTALL (3) NEW ABIC IN NEW CABINET
- INSTALL (2) NEW AMIA IN NEW CABINET
- UPGRADE EXISTING METER PANEL FROM 125 AMP TO 200 AMP

PROJECT DESCRIPTION

PROJECT MANAGEMENT:
T-MOBILE USA INC.
830 NE HOLLADAY STREET
PORTLAND, OR 97232
CONTACT: KEELY WILLIAMS
OFFICE: (406) 546-8073
EMAIL: keely.williams316@t-mobile.com

ZONING & PERMITTING:
TECHNOLOGY ASSOCIATES EC, INC
7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: HANNAH KAMPH
OFFICE: (503) 422-9965
EMAIL: hannah.kamph@taec.net

SITE ACQUISITION:
TECHNOLOGY ASSOCIATES EC, INC
7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: HANNAH KAMPH
OFFICE: (503) 422-9965
EMAIL: hannah.kamph@taec.net

CONSTRUCTION MANAGER:
TECHNOLOGY ASSOCIATES EC, INC
7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: JEREMY JONES
PHONE: (503) 949-0759
EMAIL: jeremy.jones@taec.net

ARCHITECTURE:
TECHNOLOGY ASSOCIATES EC, INC
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108
CONTACT: EMILIO VALERIO-HERNANDEZ, PE
OFFICE: (858) 300-2346
EMAIL: emilio.valerio-herandez@taec.net

ENGINEER:
TECHNOLOGY ASSOCIATES EC, INC
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108
CONTACT: EMILIO VALERIO-HERNANDEZ, PE
OFFICE: (858) 300-2346
EMAIL: emilio.valerio-herandez@taec.net

CONTACT INFORMATION

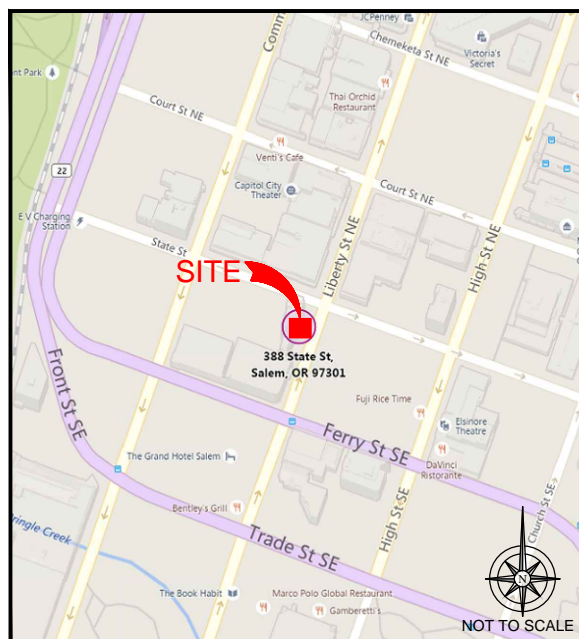


SITE NAME:
SALEM DOWNTOWN

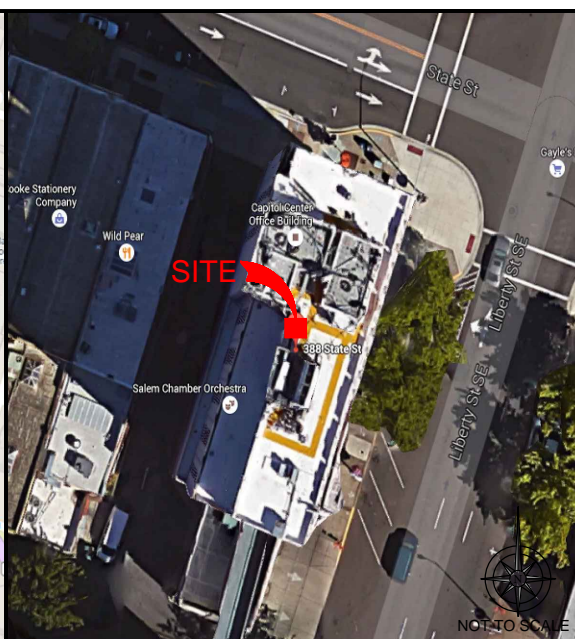
SITE NUMBER:
PO00201A

PO00201A_SALEM DOWNTOWN_ANCHOR_FCD_TAEC_07-30-2020

388 STATE ST, SALEM, OR 97301



VICINITY MAP



LOCAL MAP

STARTING FROM 830 NE HOLLADAY STREET, PORTLAND, OR 97232:

1. HEAD EAST ON NE HOLLADAY ST TOWARD NE 9TH AVE
 2. TURN LEFT AT THE 1ST CROSS STREET ONTO NE 9TH AVE
 3. TURN LEFT ONTO NE BROADWAY
 4. TURN LEFT ONTO N VANCOUVER AVE
 5. CONTINUE ONTO NE WHEELER AVE
 6. TURN SLIGHT LEFT ONTO THE INTERSTATE 5 S RAMP TO INTERSTATE 84 E
 7. MERGE ONTO I-5 S
 8. KEEP RIGHT TO STAY ON I-5 S, FOLLOW SIGNS FOR INTERSTATE 5 S/SALEM
 9. TAKE EXIT 260A FOR OR-99E BUS TOWARD SALEM PKWY
 10. CONTINUE ONTO OR-99EBUS S/SALEM PKWY
 11. CONTINUE TO FOLLOW OR-99EBUS S
 12. CONTINUE ONTO COMMERCIAL ST NE
 13. TURN LEFT ONTO STATE ST
- DESTINATION WILL BE ON THE RIGHT

DRIVING DIRECTIONS

APPROVAL	SIGNATURE	DATE
PROJECT MANAGER		
T-MOBILE RF ENGINEER		
SITE ACQUISITION		
CONSTRUCTION MANAGER		
SITE OWNER		
T-MOBILE DEVELOPMENT MANAGER		
T-MOBILE CONSTRUCTION MANAGER		
T-MOBILE OPS MANAGER		
T-MOBILE REGULATORY REVIEW		
T-MOBILE PROJECT MANAGER		
T-MOBILE PERMITTING		

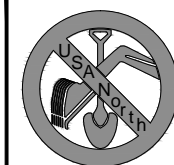
APPROVALS

SHEET	DESCRIPTION
T-1	TITLE SHEET
T-2	NOTES & LEGEND
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN
A-3	ANTENNA PLAN
A-3.1	EQUIPMENT PLAN
A-4	ELEVATIONS
A-5	ELEVATIONS
A-6	DETAILS
A-7	DETAILS
A-8	ANTENNA MOUNTING SPECIFICATIONS
A-9	HELIX FIBER FEED PENDANT CONNECT
G-1	GROUNDING PLANS
G-2	GROUNDING DETAILS
RF-1	RF DETAILS
RF-2	RF DIAGRAM

SHEET INDEX

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING LOCATIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



Know what's below.
CALL before you dig.

CALL AT LEAST TWO WORKING
DAYS BEFORE YOU DIG

DIG ALERT



EXPIRES: 06/30/2022

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



PNW MARKET OFFICE
7117 SW BEVELAND STREET, SUITE 101
TIGARD, OR 98006



ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A

SALEM DOWNTOWN

**388 STATE ST
SALEM, OR 97301
ROOFTOP**

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL NOTES

- THIS FACILITY IS EXEMPT FROM HANDICAP REQUIREMENTS PER 2019 OREGON STRUCTURAL SPECIALTY CODE SECTION 1103.2.9. THIS FACILITY IS NON-OCCUPIABLE SPACE AND ENTERED ONLY BY SERVICE PERSONNEL. THIS SPACE IS NOT FOR HUMAN OCCUPANCY.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING ANY WORK.
- THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES AS THEY MAY BE DISCOVERED IN THE PLANS, SPECIFICATIONS, & NOTES PRIOR TO STARTING CONSTRUCTION, INCLUDING BUT NOT LIMITED BY DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERRORS, OMISSION, OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION. THE METHOD OF CORRECTION SHALL BE APPROVED BY THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR HAS THE RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR OR SUBCONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGE TO THE UTILITIES CAUSED DURING THE EXECUTION OF THE WORK. CONTACT USA DIG ALERT @ 800-227-2600
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO PROPOSED OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGED AREAS.
- A COPY OF THE APPROVED PLANS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY. AND BY LAW SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS AT THE SITE FOR THE PURPOSE OF DOCUMENTING ALL AS-BUILT CHANGES, REVISIONS, ADDENDA, OR CHANGE ORDERS. THE CONTRACTOR SHALL FORWARD THE AS-BUILT/HIRED DRAWINGS TO THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT AT THE CONCLUSION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY POWER, WATER, AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER OR GOVERNING AGENCY.
- ALL CONSTRUCTION THROUGH THE PROJECT SHALL CONFORM TO THE LATEST OREGON BUILDING CODES AND ALL OTHER GOVERNING CODES, THE MOST RESTRICTIVE CODE SHALL GOVERN.
- THE CONTRACTOR AND SUBCONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS INCLUDING ALL OSHA REQUIREMENTS.
- WHEN REQUIRED STORAGE OF MATERIALS OCCURS, THEY SHALL BE EVENLY DISTRIBUTED OVER THE FLOOR OR ROOF SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE THE STRUCTURE OR SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT.
- THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. HE IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCING AND COORDINATING ALL PORTIONS OF THE WORK UNDER THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR AUTHORIZED AGENT. CONTRACTOR SHALL OBTAIN THE PERMIT AND MAKE FINAL PAYMENT OF SAID DOCUMENT.
- ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE. DRAWINGS ARE NOT TO BE SCALED UNDER ANY CIRCUMSTANCES.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR SUPPORTS FOR INSTALLATION OF ITEMS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE THE FIRE MARSHALL OR U.L APPROVED MATERIALS TO FILL/SEAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
- PROPOSED CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL AND PAINT COLOR EXCEPT AS NOTED IN THE PLANS.
- THE CONTRACTOR IS TO PROVIDE PORTABLE FIRE EXTINGUISHERS HAVING A MINIMUM 2A:10-B:C RATING WITHIN 75FT. OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA. (2019 OREGON FIRE CODE SECTION 906.1.1 & 906.1.7 AND SECTION 906.3.1)
- MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AVAILABLE AS REQUIRED BY THE LOCAL GOVERNING AGENCY RESPONSIBLE FOR APPROVING THE RESULTS.
- ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE.
- ALL DEBRIS AND REFUSE IS TO BE REMOVED FROM THE PROJECT. PREMISES SHALL BE LEFT IN A CLEAN BROOM FINISHED CONDITION AT ALL TIMES.
- BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GRADING AND CONSTRUCTION EFFORT AS MANDATED BY THE GOVERNING AGENCY.
- ALL SYMBOLS AND ABBREVIATIONS ARE CONSIDERED CONSTRUCTION INDUSTRY STANDARDS. IF A CONTRACTOR HAS A QUESTION REGARDING THEIR EXACT MEANING THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT SHALL BE NOTIFIED FOR CLARIFICATIONS.
- SITE CONTRACTOR TO CALL DIG ALERT (1-800-227-2600) TO LOCATE ANY AND ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- ALL FACILITIES TO BE INSTALLED ARE UNMANNED. NO (E) PARKING SPACES WILL BE USED OR REMOVED BY THIS PROJECT.
- PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS, THE APPLICANT SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH THE CITY'S MUNICIPAL CODES INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS.
- PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS, THE APPLICANT SHALL SUBMIT A WATER POLLUTION CONTROL PLAN (WPCP). THE WPCP SHALL BE PREPARED IN ACCORDANCE WITH THE GUIDELINES IN APPENDIX E OF THE CITY'S STORM WATER STANDARDS.
- THIS PROJECT PROPOSES NO DEVELOPMENT IMPROVEMENTS OUTSIDE THE EXISTING BUILDING FOOTPRINT FOR THIS DISCRETIONARY REVIEW AND THEREFORE DOES NOT REQUIRE ANY PERMANENT STORM WATER BEST MANAGEMENT PRACTICES.
- THIS IS ROOFTOP INSTALLATION ON AN EXISTING FACILITY AND NO GROUND DISTURBANCE OR TRENCHING IS PROPOSED BY THIS PROJECT.
- THIS PROJECT PROPOSES NO WORK WITHIN THE PUBLIC RIGHT-OF-WAY.

STORM WATER QUALITY NOTES CONSTRUCTION BMPs:

- THIS PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE PERMIT.
- NOTES 1-6 BELOW REPRESENT KEY MINIMUM REQUIREMENTS FOR CONSTRUCTION BMPs.
- SUFFICIENT BMPs MUST BE INSTALLED TO PREVENT SILT, MUD OR OTHER CONSTRUCTION DEBRIS FROM BEING TRACKED INTO THE ADJACENT STREET(S) OR STORM WATER CONVEYANCE SYSTEMS DUE TO CONSTRUCTION VEHICLES OR ANY OTHER CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY SUCH DEBRIS THAT MAY BE IN THE STREET AT THE END OF EACH WORK DAY OR AFTER A STORM EVENT THAT CAUSES A BREACH IN THE INSTALLED CONSTRUCTION BMPs.
 - ALL STOCK PILES OF UN-COMPACTED SOIL AND/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT UNPROTECTED FOR A PERIOD GREATER THAN SEVEN CALENDAR DAYS ARE TO BE PROVIDED WITH EROSION AND SEDIMENT CONTROLS. SUCH SOIL MUST BE PROTECTED EACH DAY WHEN THE PROBABILITY OF RAIN IS 40% OR GREATER.
 - A CONCRETE WASHOUT SHALL BE PROVIDED ON ALL PROJECTS WHICH PROPOSE THE CONSTRUCTION OF ANY CONCRETE IMPROVEMENTS THAT ARE TO BE POURED IN PLACE ON THE SITE.
 - ALL EROSION/SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN WORKING ORDER AT ALL TIMES.
 - ALL SLOPES THAT ARE CREATED OR DISTURBED BY CONSTRUCTION ACTIVITY MUST BE PROTECTED AGAINST EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.
 - THE STORAGE OF ALL CONSTRUCTION MATERIALS AND EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.

GENERAL FIRE NOTES:

- BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL BE IN ACCORDANCE WITH 2019 OREGON FIRE CODE AND ALL GOVERNING CODES.
- ADDRESS SHALL BE PROVIDED FOR ALL PROPOSED AND EXISTING BUILDINGS IN A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. (2019 OREGON FIRE CODE SECTION 505.1)
- DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION. (2019 OREGON FIRE CODE SECTION 806.1)
- PORTABLE FIRE EXTINGUISHERS: AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2-A:10-B:C SHALL BE PROVIDED WITHIN 75 FEET MAXIMUM TRAVEL DISTANCE FOR EACH 3,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR. (2019 OREGON FIRE CODE SECTION 906.1.1 AND SECTION 906.3.1)

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A.B.	ANCHOR BOLT	EQ.	EQUAL	P/C	PRECAST CONCRETE
ABV.	ABOVE	EXP.	EXPANSION	PCS	PERSONAL COMMUNICATION SERVICES
ACCA	ANTENNA CABLE COVER ASSEMBLY	EXST.(E)	EXISTING	PLY	PLYWOOD
ADD'L	ADDITIONAL	EXT.	EXTERIOR	PPC	POWER PROTECTION CABINET
A.F.F.	ABOVE FINISHED FLOOR	FAB.	FABRICATION(OR)	PRC	PRIMARY RADIO CABINET
A.F.G.	ABOVE FINISHED GRADE	F.F.	FINISH FLOOR	P.S.F.	POUNDS PER SQUARE FOOT
ALUM.	ALUMINUM	F.G.	FINISH GRADE	P.S.I.	POUNDS PER SQUARE INCH
ALT.	ALTERNATE	FIN.	FINISH(ED)	P.T.	PRESSURE TREATED
ANT.	ANTENNA	FLR.	FLOOR	PWR.	POWER (CABINET)
APPRX.	APPROXIMATE(LY)	FDN.	FOUNDATION	QTY.	QUANTITY
ARCH.	FACE OF CONCRETE	F.O.C.	FACE OF CONCRETE	RAD.(R)	RADIUS
AWG.	AMERICAN WIRE GAUGE	F.O.M.	FACE OF MASONRY	REF.	REFERENCE
BLDG.	BUILDING	F.O.S.	FACE OF STUD	REINF.	REINFORCEMENT(ING)
BLK.	BLOCK	F.O.W.	FACE OF WALL	REQD.	REQUIRED
BLKG.	BLOCKING	F.S.	FINISH SURFACE	RGS.	RIGID GALVANIZED STEEL
BM.	BEAM	FT.(')	FOOT(FEET)	RRU.	RADIO REMOTE UNIT
B.N.	BOUNDARY NAILING	FTG.	FOOTING	SCH.	SCHEDULE
BTOW.	BARE TINNED COPPER WIRE	G.	GROWTH (CABINET)	SHIT.	SHEET
B.O.F.	BOTTOM OF FOOTING	GA.	GAUGE	SIM.	SIMILAR
B/U	BACK-UP CABINET	GI.	GALVANIZE(D)	SPEC.	SPECIFICATION(S)
CAB.	CABINET	G.F.I.	GROUND FAULT CIRCUIT INTERRUPTER	SQ.	SQUARE
CANT.	CANTILEVER(ED)	GLB.(GLU-LAM)	GLUE LAMINATED BEAM	S.S.	STAINLESS STEEL
C.I.P.	CAST IN PLACE	GPS	GLOBAL POSITIONING SYSTEM	STD.	STANDARD
C.S.	CEILING	GRND.	GROUND	STL.	STEEL
CLR.	CLEAR	HDR.	HEADER	STRUC.	STRUCTURAL
COL.	COLUMN	HGR.	HANGER	TEMP.	TEMPORARY
CONC.	CONCRETE	HT.	HEIGHT	THK.	THICK(NESS)
CONN.	CONNECTION(OR)	IGGB.	ISOLATED COPPER GROUND BUS	TMA	TOWER MOUNTED AMPLIFIER
CONST.	CONSTRUCTION	IN.(')	INCHES	T.N.	TOE NAIL
CONT.	CONTINUOUS	INT.	INTERIOR	T.O.A.	TOP OF ANTENNA
d	PENNY (NAILS)	LB.(#)	POUND(S)	T.O.C.	TOP OF CURB
DBL	DOUBLE	L.B.	LAG BOLTS	T.O.F.	TOP OF FOUNDATION
DEPT.	DEPARTMENT	L.F.	LINEAR FEET (FOOT)	T.O.P.	TOP OF PLATE (PARAPET)
D.F.	DOUGLAS FIR	L.	LONGITUDINAL	T.O.S.	TOP OF STEEL
DIA.	DIAMETER	M.	MASONRY	T.O.W.	TOP OF WALL
DIAG.	DIAGONAL	MAX.	MAXIMUM	TYP.	TYPICAL
DIM.	DIMENSION	M.B.	MACHINE BOLT	U.G.	UNDER GROUND
DWG.	DRAWING(S)	MECH.	MECHANICAL	U.L.	UNDERWRITERS LABORATORY
DWL.	DOWEL(S)	MFR.	MANUFACTURER	UN.O.	UNLESS NOTED OTHERWISE
EA.	EACH	MIN.	MINIMUM	V.I.F.	VERIFY IN FIELD
EL.	ELEVATION	MISC.	MISCELLANEOUS	W	WIDE(WIDTH)
ELEC.	ELECTRICAL	MTL.	METAL	W	WOOD
ELEV.	ELEVATOR	(N)	NEW	WD.	WEATHERPROOF
EMT.	ELECTRICAL METALLIC TUBING	NO.(#)	NUMBER	W.P.	WEIGHT
E.N.	EDGE NAIL	N.T.S.	NOT TO SCALE	WT.	WEIGHT
ENG.	ENGINEER	O.C.	ON CENTER	W.T.	WEIGHT
		OPNG.	OPENING	C	CENTERLINE
				R	PLATE

ABBREVIATIONS

	NEW ANTENNA		GRID REFERENCE
	EXISTING ANTENNA		DETAIL REFERENCE
	GROUND ROD		ELEVATION REFERENCE
	GROUND BUS BAR		SECTION REFERENCE
	MECHANICAL GRND. CONN.		GROUT OR PLASTER
	CADWELD		(E) BRICK
	GROUND ACCESS WELL		(E) MASONRY
	ELECTRIC BOX		CONCRETE
	TELEPHONE BOX		EARTH
	LIGHT POLE		GRAVEL
	FND. MONUMENT		PLYWOOD
	SPOT ELEVATION		SAND
	SET POINT		WOOD CONT.
	REVISION		WOOD BLOCKING
	CENTERLINE		STEEL
	PROPERTY/LEASE LINE		T/E OVERHEAD SERVICE CONDUCTORS
	MATCH LINE		A COAXIAL CABLE
	WORK POINT		F FIBER
	GROUND CONDUCTOR		P/F POWER AND FIBER
	TELEPHONE CONDUIT		X CHAIN LINK FENCING
	ELECTRICAL CONDUIT (POWER)		WOOD FENCE
			OVERHEAD POWER LINE
			UGP BURIED POWER LINE
			DHT OVERHEAD TELEPHONE LINE
			UG/T BURIED TELEPHONE LINE
			W BURIED WATER LINE
			SS BURIED SANITARY SEWER
			SD BURIED STORM DRAIN



EXPIRES: 06/30/2022

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

830 HOLLADAY STREET
PORTLAND, OR 97232

PNW MARKET OFFICE
7117 SW BEVELAND STREET, SUITE 101
TIGARD, OR 98006

ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

1

LANDLORD SIGNATURE

PO00201A
SALEM
DOWNTOWN
388 STATE ST
SALEM, OR 97301
ROOFTOP

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
NOTES &
LEGEND

SHEET NUMBER
T-2

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL NOTES

4

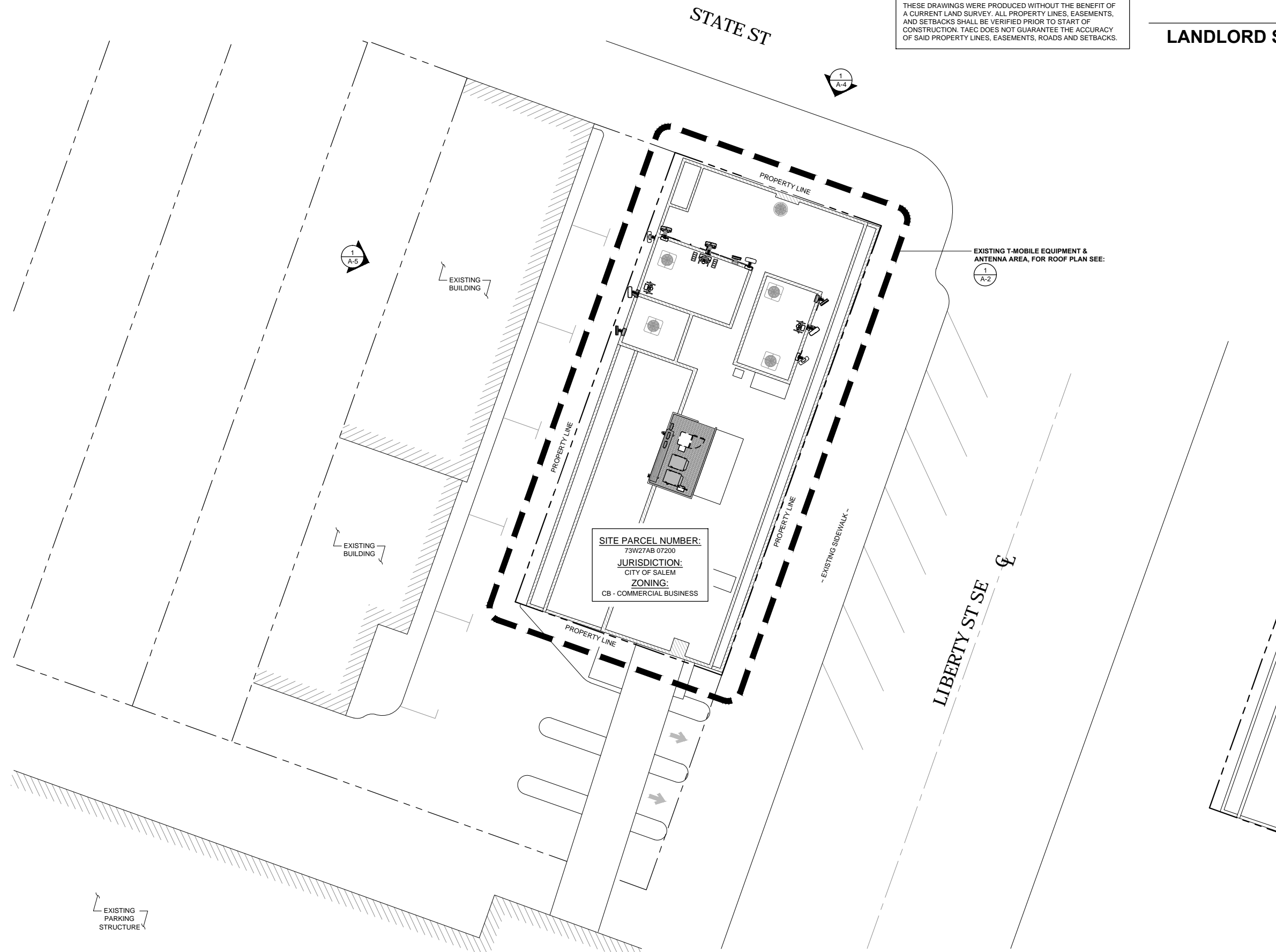
LEGEND

3

NOT USED

2

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DISCLAIMER
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LANDLORD SIGNATURE



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 PNW MARKET OFFICE
 7117 SW BEVELAND STREET, SUITE 101
 TIGARD, OR 98006

Technology Associates
 ARCHITECTURE & ENGINEERING
 2667 CAMINO DEL RIO SOUTH, STE. 205
 SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
 SALEM DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
 ROOFTOP

JURISDICTION APPROVAL STAMP
 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
 SITE PLAN

SHEET NUMBER
A-1

SITE PLAN

10' 0' 5' 10' SCALE: 1" = 10'-0" (24x36)
 (OR) 1/2" = 10'-0" (11x17)



1

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LANDLORD SIGNATURE

REGISTERED PROFESSIONAL ENGINEER
 94765 PE
 OREGON
 MAY 14, 2018
 EMILIO MARIO VALERIO-HERNANDEZ
 07/30/2020
 EXPIRES: 06/30/2022
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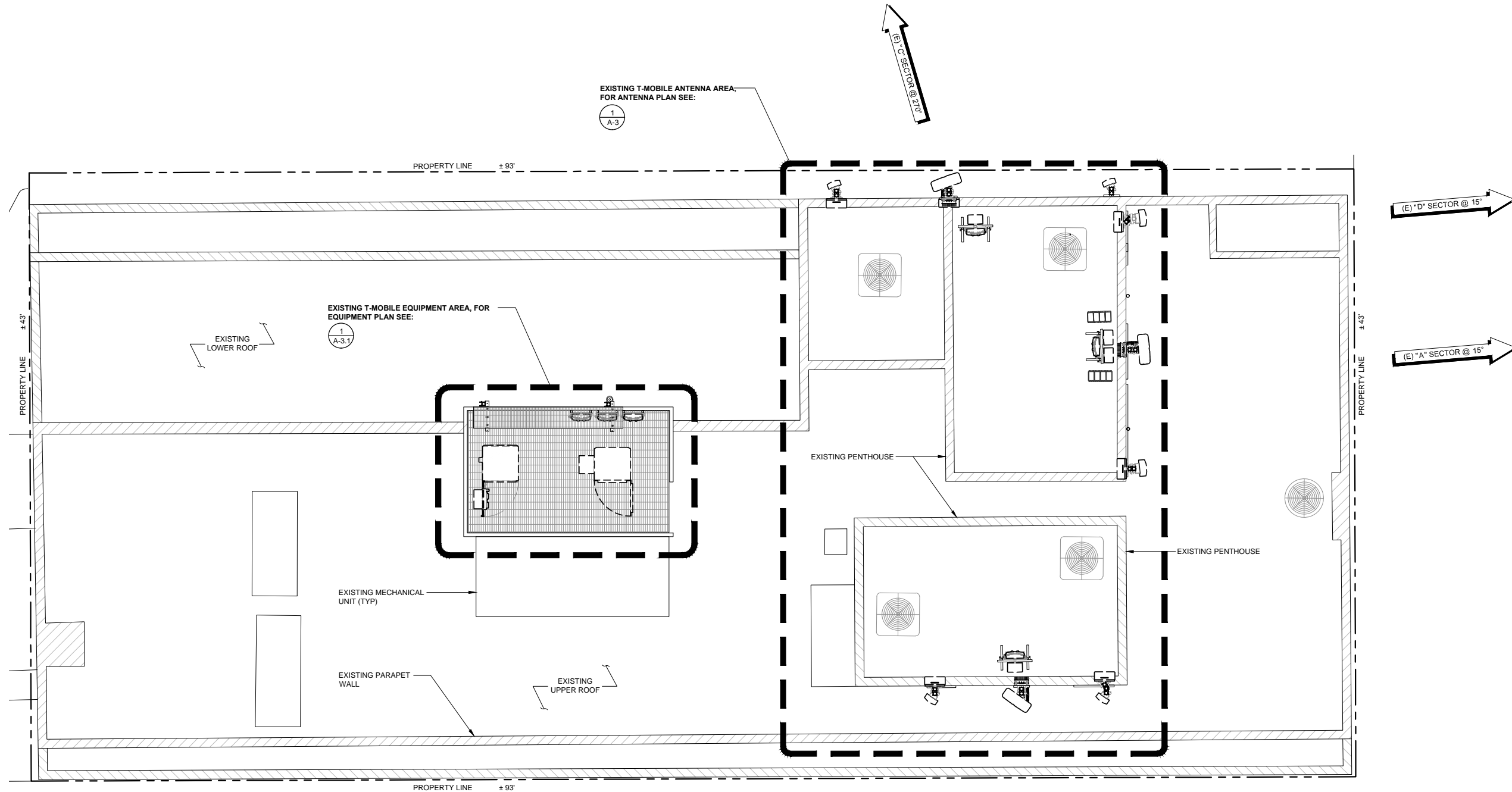
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 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
A-2



ENLARGED SITE PLAN

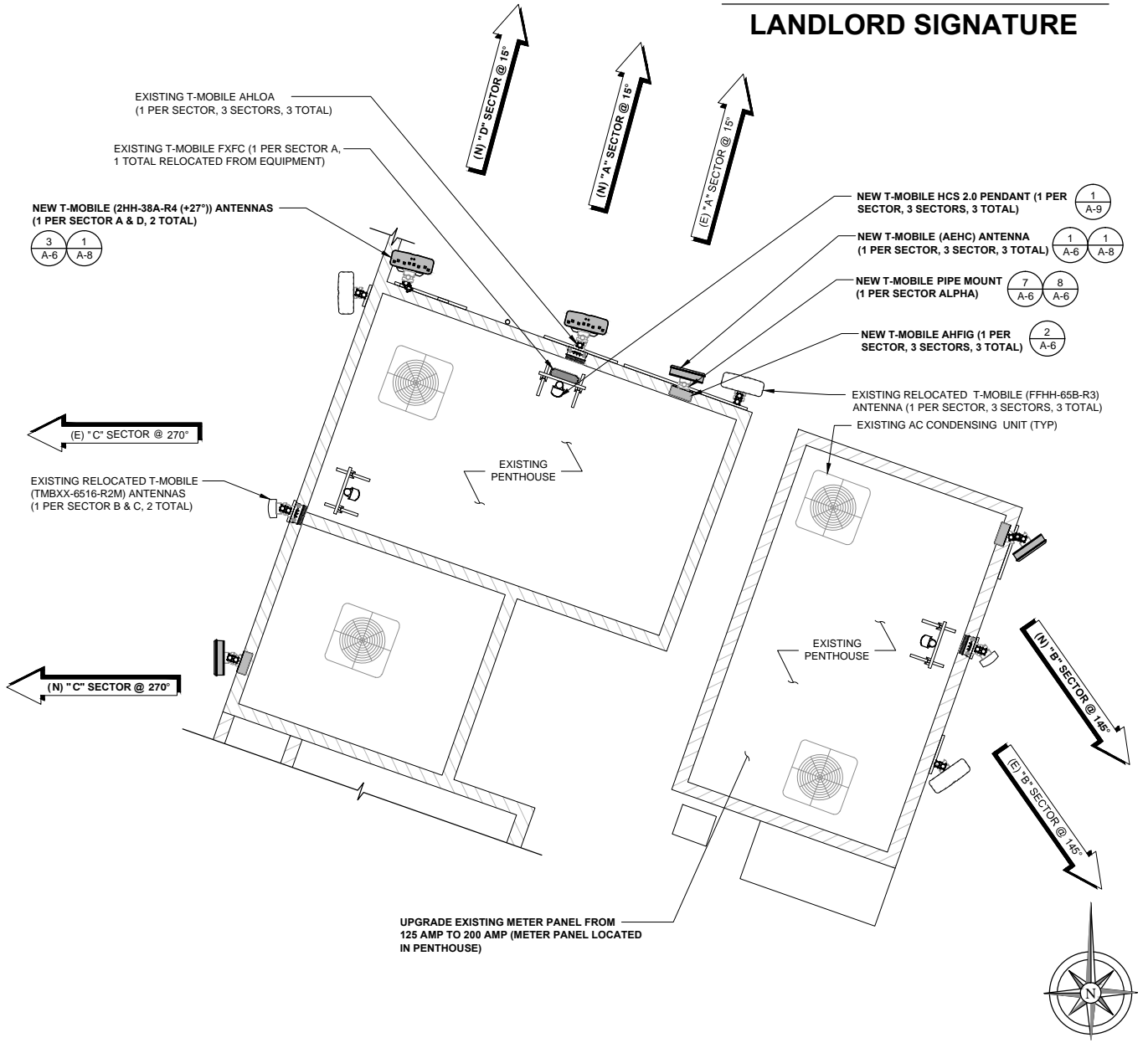
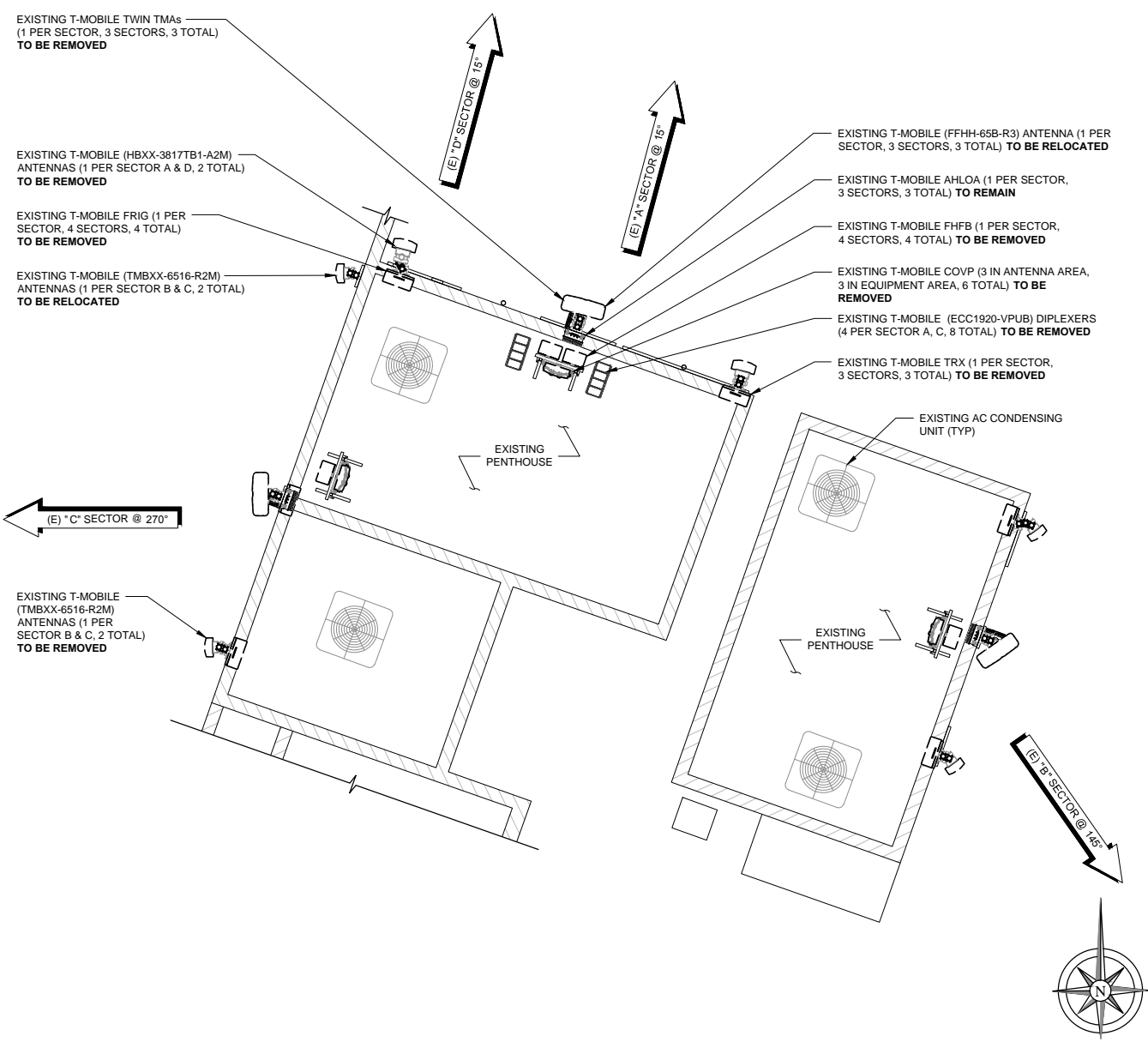
0 1' 2' 4' SCALE: 1/4" = 1'-0" (24x36)
 (OR) 1/8" = 1'-0" (11x17)

1

TOWER: EXISTING EQUIPMENT INVENTORY						
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)
EXISTING TO BE RELOCATED	(3)	ANTENNA	COMMSCOPE	FFHH-65B-R3	72" x 25.2" x 9.3"	101.4
EXISTING TO BE RELOCATED	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
EXISTING TO REMAIN	(3)	RRU	NOKIA	AHLOA	22.05" x 12.13" x 7.44"	83.78
REMOVE EXISTING	(3)	COVP	RAYCAP	RNSNDC-7771-PF-48	20.22" x 18.86" x 7"	20
REMOVE EXISTING	(2)	ANTENNA	ANDREW	HBXX-3817TB1-VTM	54.7" x 11.9" x 7.21"	36.4
REMOVE EXISTING	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
REMOVE EXISTING	(4)	RRU	NOKIA	FRIG	23.81" x 17.24" x 7.60"	57.10
REMOVE EXISTING	(4)	RRU	NOKIA	FHFB	23.0" x 12.6" x 7.8"	48.5
REMOVE EXISTING	(3)	TRX	-	-	-	-
REMOVE EXISTING	(8)	DIPLEXER	COMMSCOPE	ECC1920-VPUB	7.6" x 7.3" x 2.6"	7.9
REMOVE EXISTING	(3)	TMA	COMMSCOPE	TMAT1921B78-21A	9.1" x 8.7" x 4.1"	17.6

TOWER: FINAL EQUIPMENT INVENTORY						
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)
EXISTING RELOCATED	(3)	ANTENNA	COMMSCOPE	FFHH-65B-R3	72" x 25.2" x 9.3"	101.4
EXISTING RELOCATED	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
EXISTING TO REMAIN	(3)	RRU	NOKIA	AHLOA	22.05" x 12.13" x 7.44"	83.78
ADD NEW	(3)	PENDANT	COMMSCOPE	PENDANT BREAKOUT	6.7" x 16.9" x 4.7"	0.970 LB/FT
ADD NEW	(3)	ANTENNA	NOKIA	AEHC	38.2" x 21.5" x 5.9"	108.0
ADD NEW	(2)	ANTENNA	COMMSCOPE	2HH-38A-R4 (+27")	53.1" x 25.2" x 9.3"	68.8
ADD NEW	(3)	RRU	NOKIA	AHFIG	27.6" x 5.6" x 13.4"	79.4
RELOCATED FROM EQUIPMENT	(1)	RRU	NOKIA	FXFC	5.2" x 19.4" x 22.1"	55.1

NOTE:
 1. ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS, MOUNTING HARDWARE, AND RF DESIGN.
 2. REFER TO FINAL CONFIGURATION ANTENNA SCHEDULE ON SHEET RF-1.



LANDLORD SIGNATURE

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

ANTENNA PLAN (EXISTING)

0 1' 2' 4' SCALE: 1/4" = 1'-0" (24x36)
 (OR) 1/8" = 1'-0" (11x17) 1

ANTENNA PLAN (FINAL)

0 1' 2' 4' SCALE: 1/4" = 1'-0" (24x36)
 (OR) 1/8" = 1'-0" (11x17) 2

REGISTERED PROFESSIONAL ENGINEER
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 OREGON
 EMILIO MARIO VALERIO-HERNANDEZ
 MAY 14, 2018
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 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

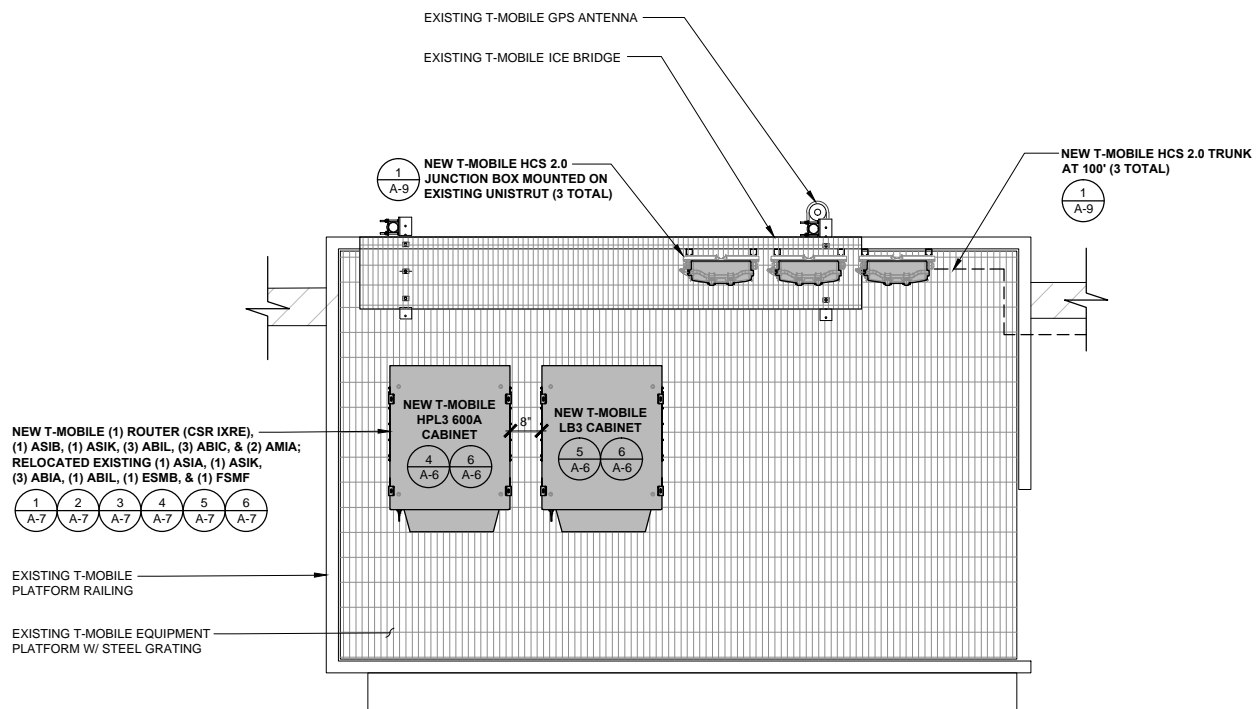
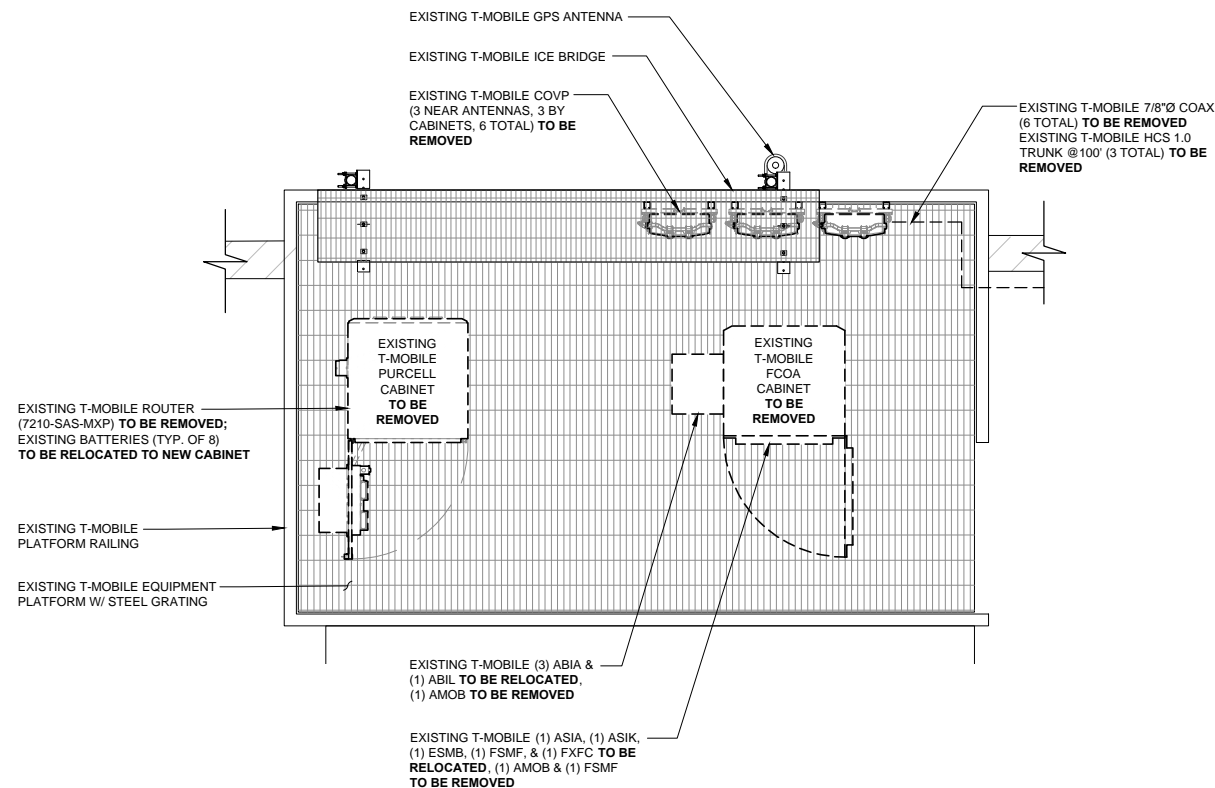
SHEET TITLE
 ANTENNA PLANS

SHEET NUMBER
A-3

GROUND: EXISTING EQUIPMENT INVENTORY								
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	EQUIPMENT MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)	CABINET TYPE (LOCATION OF EQUIPMENT)	CABINET QUANTITY
REMOVE EXISTING	(3)	COVP	RAYCAP	RNSDC-7771-PF-48	20.22" x 18.86" x 7"	20	ON RAILING	-
REMOVE EXISTING	(1)	CABINET	NOKIA	FCOA	61" x 30.3" x 30.3"	807	ON PLATFORM	1
REMOVE EXISTING	(1)	CABINET	PURCELL	SFX31	57.75" x 32.89" x 38.23"	3124	ON PLATFORM	1
REMOVE EXISTING	(1)	ROUTER	NOKIA	7210 SAS-MXP	2.64" x 17.17" x 9.96"	-	PURCELL	1
REMOVE EXISTING	(6)	CABLE	-	COAX	7/8"Ø	-	-	-
REMOVE EXISTING	(3)	CABLE	-	HCS 1.0 TRUNK	1.5"Ø AT 100'	-	-	-
REMOVE EXISTING	(2)	BASEBAND	NOKIA	AMOB	13.94" x 19.17" x 23.82"	50.71	FCOA	1
REMOVE EXISTING	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIA	14.2" x 8.6" x 1.7"	6.61	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIK	-	-	FCOA	1
EXISTING TO BE RELOCATED	(3)	BASEBAND	NOKIA	ABIA	14.2" x 8.6" x 1.1"	4.41	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ABIL	-	-	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ESMB	5.25" x 18.9" x 18.28"	24.28	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	FCOA	1
EXISTING TO BE RELOCATED	(1)	RRU	NOKIA	FXFC	5.2"x17.6"x16.6"	55.1	FCOA	1

GROUND: FINAL EQUIPMENT INVENTORY								
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	EQUIPMENT MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)	CABINET TYPE (LOCATION OF EQUIPMENT)	CABINET QUANTITY
ADD NEW	(1)	CABINET	DELTA	ESOF015-ECV03 LB3 BATTERY	72" x 30" x 41"	509	ON PLATFORM	1
ADD NEW	(1)	CABINET	DELTA	ESOA600-HCU01 600A SSC	72" x 30" x 41"	551	ON PLATFORM	1
ADD NEW	(1)	ROUTER	NOKIA	7250 IXR-e	1.75" x 17.25" x 10.0"	8.5	HPL3 600A	1
ADD NEW	(1)	BASEBAND	NOKIA	ASIB	1.8" x 8.6" x 14.8"	6.61	HPL3 600A	1
ADD NEW	(1)	BASEBAND	NOKIA	ASIK	-	-	HPL3 600A	1
ADD NEW	(3)	BASEBAND	NOKIA	ABIL	-	-	HPL3 600A	1
ADD NEW	(3)	BASEBAND	NOKIA	ABIC	0.98" x 8.62" x 14.33"	5.84	HPL3 600A	1
ADD NEW	(2)	BASEBAND	NOKIA	AMIA	5.1" x 15.7" x 17.6"	11.2	HPL3 600A	1
ADD NEW	(3)	JUNCTION BOX	COMMSCOPE	FE-16148-OVP-B12	8.0" x 16.0" x 14.0"	15.21	ON RAILING	-
ADD NEW	(3)	CABLE	-	HCS 2.0 TRUNK	1.5"Ø AT 100'	-	-	-
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIA	14.2" x 8.6" x 1.7"	6.61	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIK	-	-	HPL3 600A	1
EXISTING TO BE RELOCATED	(3)	BASEBAND	NOKIA	ABIA	14.2" x 8.6" x 1.1"	4.41	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ABIL	-	-	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ESMB	5.25" x 18.9" x 18.28"	24.28	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	HPL3 600A	1

LANDLORD SIGNATURE



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REGISTERED PROFESSIONAL ENGINEER
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 OREGON
 EMILIO MARIO VALERIO-HERNANDEZ
 MAY 14, 2019
 07/30/2020
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A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
 SALEM DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
 ROOFTOP

JURISDICTION APPROVAL STAMP
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 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
EQUIPMENT PLANS

SHEET NUMBER
A-3.1

EQUIPMENT PLAN (EXISTING)

SCALE: 1/2" = 1'-0" (24x36)
 (OR) 1/4" = 1'-0" (11x17)

1

EQUIPMENT PLAN (FINAL)

SCALE: 1/2" = 1'-0" (24x36)
 (OR) 1/4" = 1'-0" (11x17)

2

DISCLAIMER:
TOP OF ROOFTOP, PARAPET, PENTHOUSE,
T-MOBILE ANTENNAS AND WHIP ANTENNA
IS BASED ON 1A SURVEY DATED 5/18/2018
PROVIDED BY SWLS.

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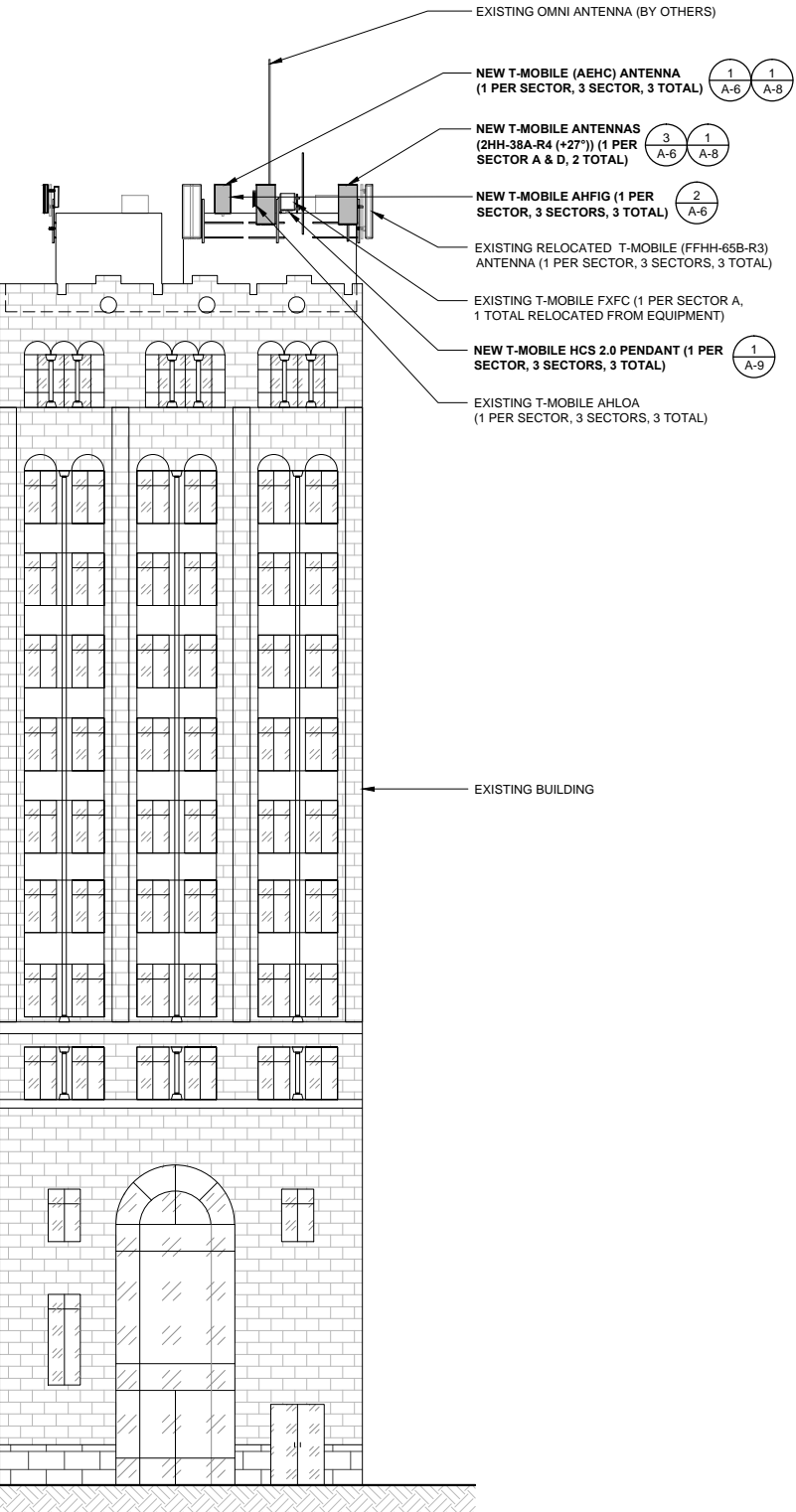
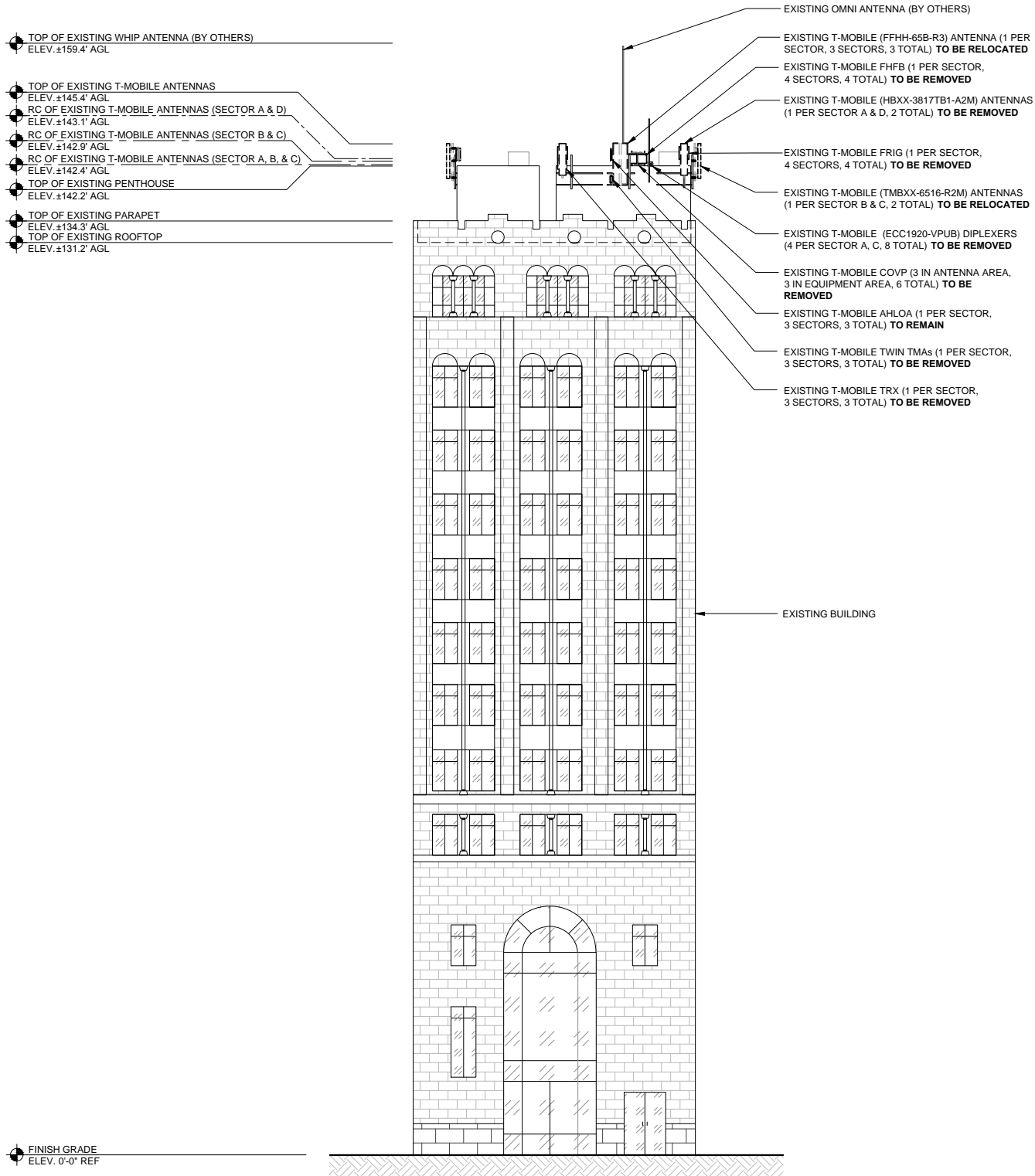
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SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4



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NORTHEAST ELEVATION (EXISTING)

0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

1 NORTHEAST ELEVATION (FINAL)

0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

2

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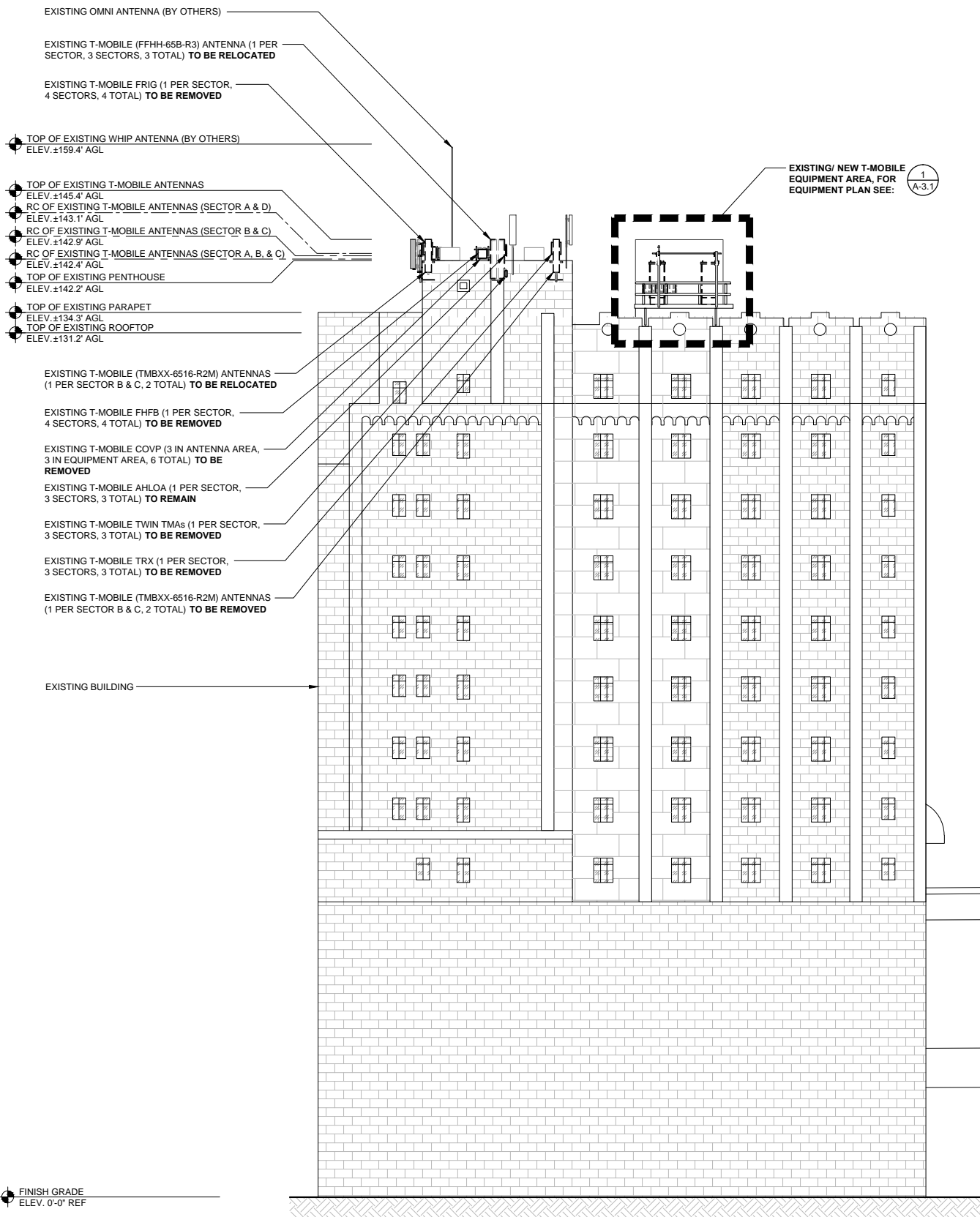
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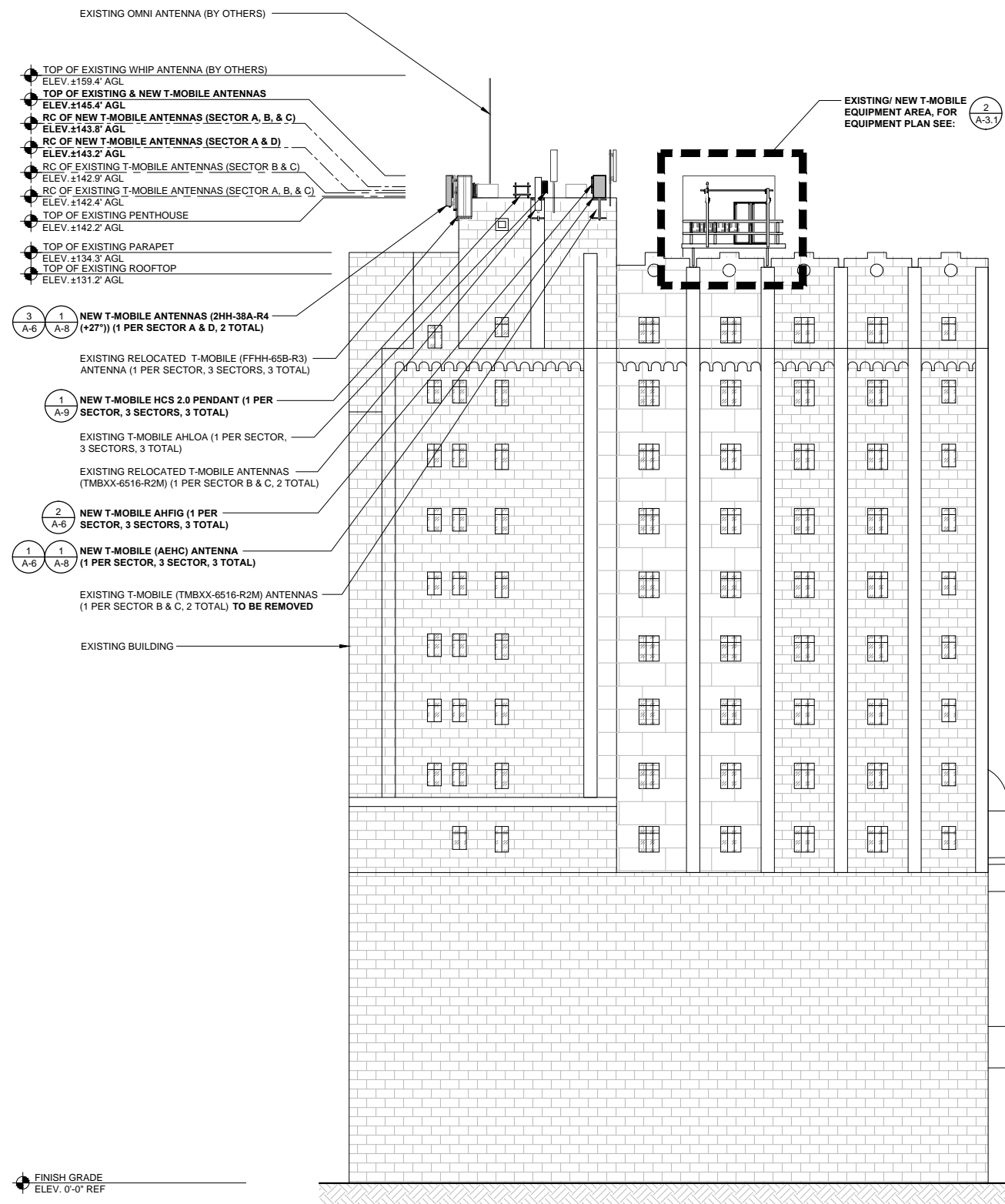
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DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-5



- EXISTING OMNI ANTENNA (BY OTHERS)
- EXISTING T-MOBILE (FFHH-65B-R3) ANTENNA (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO BE RELOCATED
- EXISTING T-MOBILE FRIG (1 PER SECTOR, 4 SECTORS, 4 TOTAL) TO BE REMOVED
- TOP OF EXISTING WHIP ANTENNA (BY OTHERS) ELEV. ±159.4' AGL
- TOP OF EXISTING T-MOBILE ANTENNAS ELEV. ±145.4' AGL
- RC OF EXISTING T-MOBILE ANTENNAS (SECTOR A & D) ELEV. ±143.1' AGL
- RC OF EXISTING T-MOBILE ANTENNAS (SECTOR B & C) ELEV. ±142.9' AGL
- RC OF EXISTING T-MOBILE ANTENNAS (SECTOR A, B, & C) ELEV. ±142.4' AGL
- TOP OF EXISTING PENTHOUSE ELEV. ±142.2' AGL
- TOP OF EXISTING PARAPET ELEV. ±134.3' AGL
- TOP OF EXISTING ROOFTOP ELEV. ±131.2' AGL
- EXISTING T-MOBILE (TMBXX-6516-R2M) ANTENNAS (1 PER SECTOR B & C, 2 TOTAL) TO BE RELOCATED
- EXISTING T-MOBILE FHFB (1 PER SECTOR, 4 SECTORS, 4 TOTAL) TO BE REMOVED
- EXISTING T-MOBILE COVP (3 IN ANTENNA AREA, 3 IN EQUIPMENT AREA, 6 TOTAL) TO BE REMOVED
- EXISTING T-MOBILE AHLOA (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO REMAIN
- EXISTING T-MOBILE TWIN TMAs (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO BE REMOVED
- EXISTING T-MOBILE TRX (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO BE REMOVED
- EXISTING T-MOBILE (TMBXX-6516-R2M) ANTENNAS (1 PER SECTOR B & C, 2 TOTAL) TO BE REMOVED
- EXISTING BUILDING
- FINISH GRADE ELEV. 0'-0" REF



- EXISTING OMNI ANTENNA (BY OTHERS)
- TOP OF EXISTING WHIP ANTENNA (BY OTHERS) ELEV. ±159.4' AGL
- TOP OF EXISTING & NEW T-MOBILE ANTENNAS ELEV. ±145.4' AGL
- RC OF NEW T-MOBILE ANTENNAS (SECTOR A, B, & C) ELEV. ±143.8' AGL
- RC OF NEW T-MOBILE ANTENNAS (SECTOR A & D) ELEV. ±143.2' AGL
- RC OF EXISTING T-MOBILE ANTENNAS (SECTOR B & C) ELEV. ±142.9' AGL
- RC OF EXISTING T-MOBILE ANTENNAS (SECTOR A, B, & C) ELEV. ±142.4' AGL
- TOP OF EXISTING PENTHOUSE ELEV. ±142.2' AGL
- TOP OF EXISTING PARAPET ELEV. ±134.3' AGL
- TOP OF EXISTING ROOFTOP ELEV. ±131.2' AGL
- NEW T-MOBILE ANTENNAS (2HH-38A-R4 (+277)) (1 PER SECTOR A & D, 2 TOTAL)
- EXISTING RELOCATED T-MOBILE (FFHH-65B-R3) ANTENNA (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
- NEW T-MOBILE HCS 2.0 PENDANT (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
- EXISTING T-MOBILE AHLOA (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
- EXISTING RELOCATED T-MOBILE ANTENNAS (TMBXX-6516-R2M) (1 PER SECTOR B & C, 2 TOTAL)
- NEW T-MOBILE AHFIG (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
- NEW T-MOBILE (AEHC) ANTENNA (1 PER SECTOR, 3 SECTOR, 3 TOTAL)
- EXISTING T-MOBILE (TMBXX-6516-R2M) ANTENNAS (1 PER SECTOR B & C, 2 TOTAL) TO BE REMOVED
- EXISTING BUILDING
- FINISH GRADE ELEV. 0'-0" REF

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

NORTHWEST ELEVATION (EXISTING)

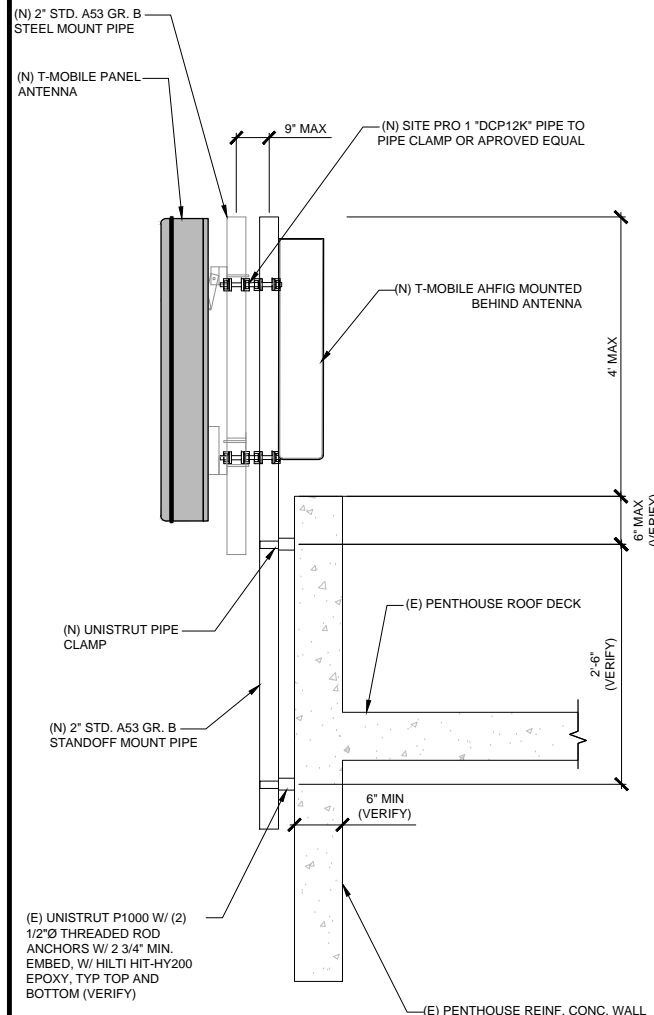
0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
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1

NORTHWEST ELEVATION (FINAL)

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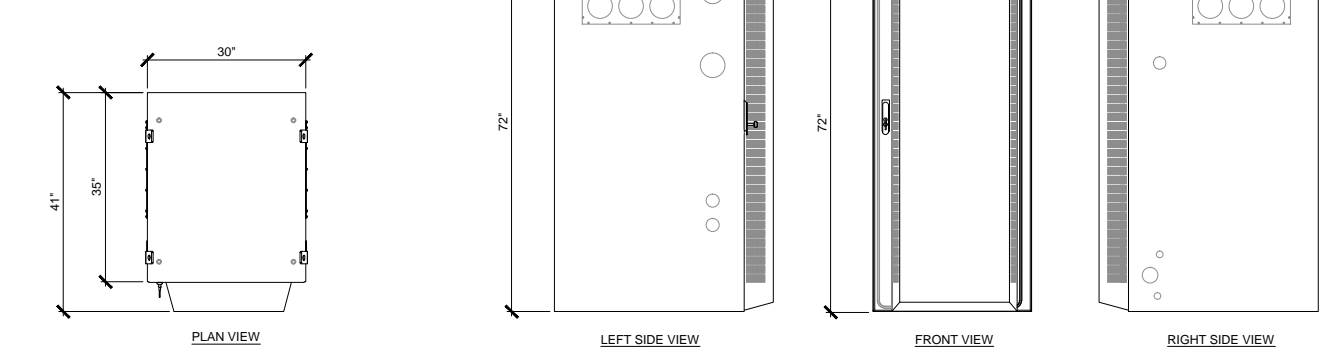
2



PIPE MOUNT DETAIL SCALE N.T.S. 8

DELTA (ESOA600-HCU01) POWER/EQUIPMENT CABINET

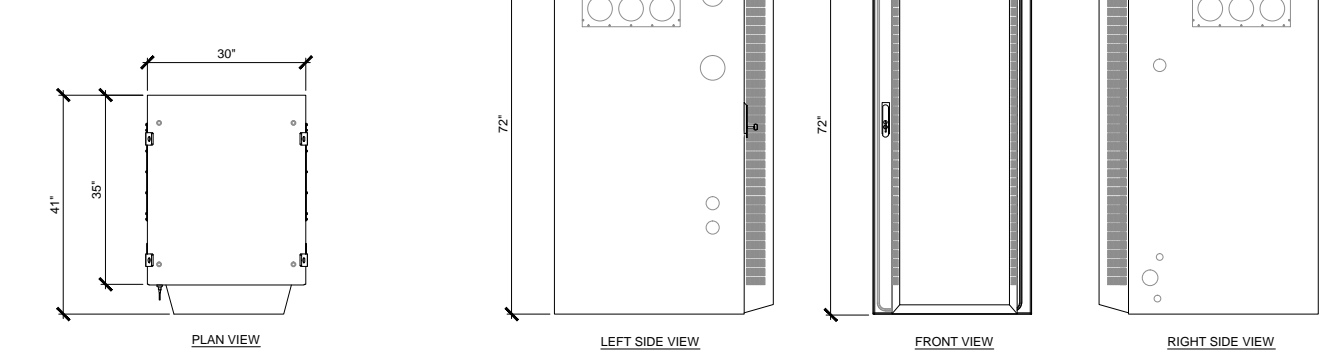
OUTDOOR CABINET
 DIMENSIONS, HxWxD: (72"x30"x41")
 WEIGHT: 551lbs (CABINET ONLY)
 ACOUSTICS: 5° C DELTA T: 70 dBA @6000W, 65dBA @5000W HEAT LOAD
 OPERATING TEMP: -40°F TO +122°F
 COOLING: DIRECT AIR COOLING 6000W, 5°C DELTA T



CABINET SPECIFICATIONS SCALE N.T.S. 4

DELTA (ESOF015-ECV03) DELTA LB3 BATTERY CABINET

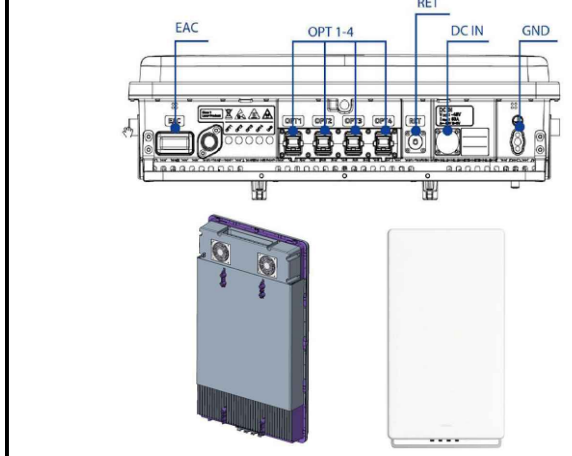
OUTDOOR CABINET
 DIMENSIONS, HxWxD: (72"x30"x41")
 WEIGHT: 509lbs (CABINET ONLY)
 ACOUSTICS: EQUIPMENT: 65 dBA
 OPERATING TEMP: -40°F TO +122°F
 COOLING: DIRECT AIR COOLING (4) AXIAL FANS, G3 FILTER



CABINET SPECIFICATIONS SCALE N.T.S. 5

NOKIA: MASSIVE MIMO ADAPTIVE ANTENNA (AEHC)

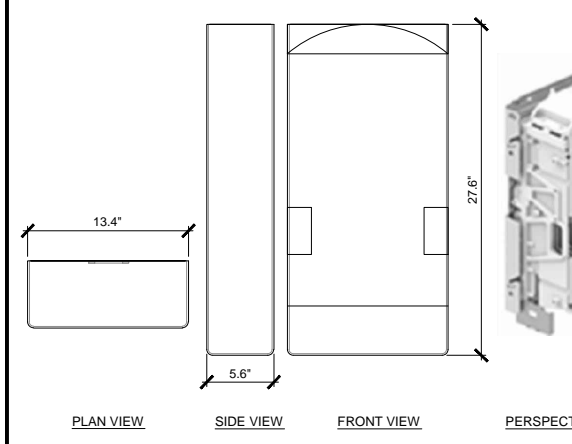
OUTPUT POWER: 5 W / TRX (320 W total, 2 W/MHz up to 160 MHz)
 FREQUENCY RANGE: 2496 MHz - 2690 MHz 3GPP B41
 DIMENSIONS: 38.2"x 5.9"x21.5" (WITH FRONT COVERS)
 WEIGHT: 108.0 LBS



ANTENNA SPECIFICATIONS SCALE N.T.S. 1

NOKIA: AIRSCALE 4T4R DUAL MID-BAND RADIO

FEATURES: 4T4R DUAL MID-BAND RADIO
 LTE + 5G
 DIMENSIONS: 27.6" x 13.4" x 5.6" (HxWxD)
 WEIGHT: 79.4 LBS



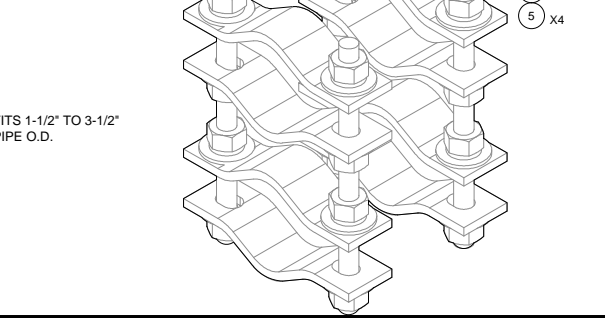
AHFIG SCALE N.T.S. 2

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	DCP	CLAMP HALF, 1/2" THICK, 8-3/8"		2.42	19.36
2	B	C	5/8" THREADED ROD	D	E	F
3	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
4	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
5	16	G58FW	5/8" HDG USS FLATWASHER		0.07	1.13

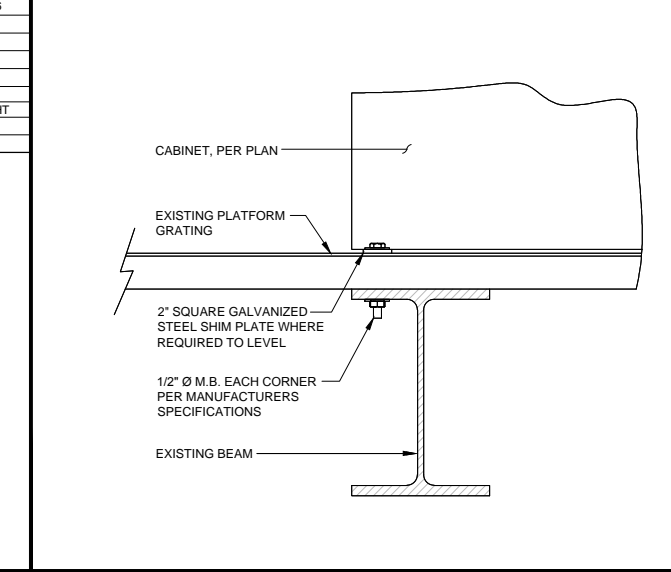
VARIABLE PARTS TABLE

ASSEMBLY "A"	QTY "B"	PART "C"	LENGTH "D"	UNIT WT. "E"	NET WT. "F"	TOTAL WEIGHT
DCP12K	4	G58R-12	12"	1.05	4.18	27.01
DCP18K	4	G58R-18	18"	1.57	6.27	29.10



PIPE TO PIPE MOUNT SCALE N.T.S. 7

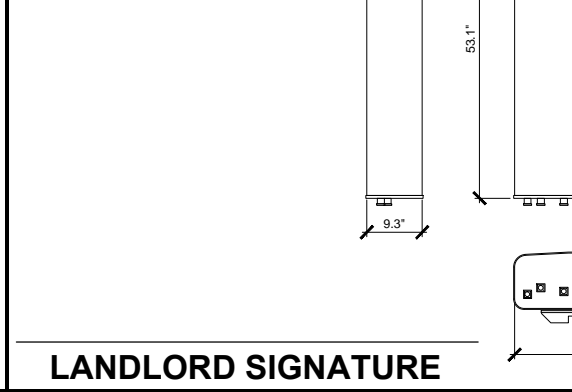
CABINET ANCHOR DETAIL



CABINET ANCHOR DETAIL SCALE N.T.S. 6

COMMSCOPE: 2HH-38A-R4 (+27°) (MULTI-BEAM)

RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD: 53.1" x 25.2" x 9.3" (1350 x 640 x 235 mm)
 NET WEIGHT: 68.8 lb (31.2 kg)
 CONNECTOR: 4.3-10 DIN FEMALE



ANTENNA SPECIFICATIONS SCALE N.T.S. 3



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A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
SALEM DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
 ROOFTOP



SHEET TITLE
DETAILS

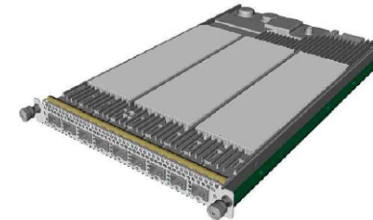
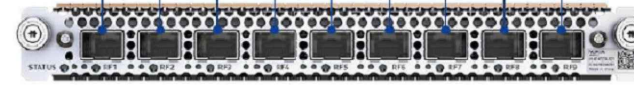
SHEET NUMBER
A-6

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

LANDLORD SIGNATURE

NOKIA: AIRSCALE CAPACITY BASEBAND MODULE (ABIC)

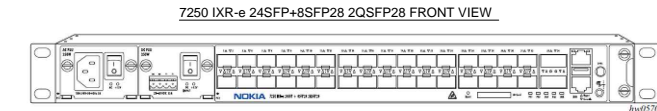
DIMENSIONS: 0.98"x8.62"x14.33"
 WEIGHT: 5.84 lbs.
 PRODUCT CODE: 474723A
 FUNCTIONS: ENHANCED INDOOR CAPACITY
 EXTENSION PLUG IN UNIT.



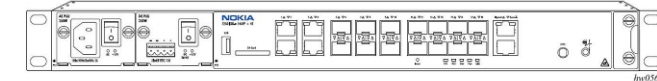
PERSPECTIVE VIEW

NOKIA: 7250 IXR-e

PARAMETER DESCRIPTION
 DIMENSIONS (HXWXD): 1.75"x17.25"x10.0"
 CHASSIS WEIGHT (UNPOPULATED): 7250 IXR-E 24SFP+ 8SFP28 2QSFP28: 8.5 LBS
 7250 IXR-E 14SFP+ 4T: 8.0 LBS
 PSU SLOT: 2
 MOUNTING: MOUNT IN A RECOMMENDED 19-INCH EQUIPMENT RACK. THE CHASSIS HAS FACTORY-INSTALLED MOUNTING FLANGES FOR FLUSH-MOUNTING, FACING FORWARDS, IN A 19-INCH RACK.



7250 IXR-e 24SFP+8SFP28 2QSFP28 FRONT VIEW



7250 IXR-e 14SFP+4T FRONT VIEW



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A	07/07/2020	ANCHOR FOR 90% CD	RKS

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JURISDICTION APPROVAL STAMP
 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
DETAILS

SHEET NUMBER
A-7

NOT USED SCALE N.T.S. 10

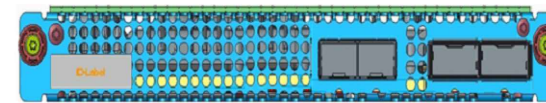
NOT USED SCALE N.T.S. 7

ABIC SCALE N.T.S. 4

INTERCONNECT ROUTER SCALE N.T.S. 1

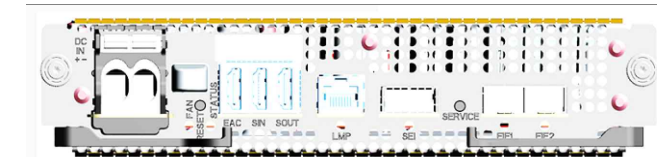
NOKIA: AIRSCALE BASEBAND 5G ONLY CARDS (ABIL)

FEATURES: INITIAL AIRSCALE BASEBAND 5G ONLY CARDS



NOKIA: AIRSCALE CAPACITY BASEBAND MODULE (ASIB)

DIMENSIONS: 1.8"x8.6"x14.8"
 WEIGHT: 6.61 lbs.
 PRODUCT CODE: LTE3178
 FUNCTIONS: INDOOR COMMON PLUG IN UNIT.
 INCLUDES TRANSPORT AND CENTRALIZED CONTROL FUNCTIONS FOR SUPPORTED RADIO ACCESS TECHNOLOGIES.



PERSPECTIVE VIEW

NOT USED SCALE N.T.S. 11

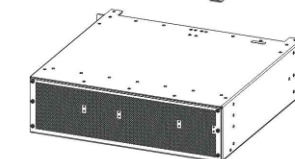
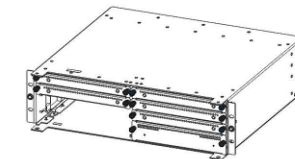
NOT USED SCALE N.T.S. 8

ABIL SCALE N.T.S. 5

ASIB SCALE N.T.S. 2

NOKIA: AIRSCALE SUBRACK INDOOR (AMIA)

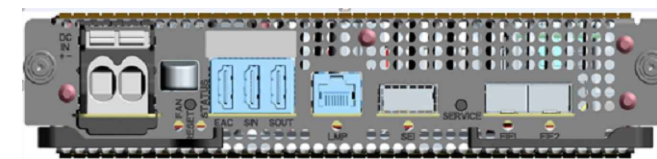
DIMENSIONS: 5.1" x 15.7" x 17.6"
 WEIGHT: 11.2 lbs. (AMIA ENCLOSURE)
 INGRESS PROTECTION: IP20
 OPERATING TEMPERATURE: -5°C UP TO +55°C OR 60°C (INDOOR)
 INSTALLATION TEMPERATURE:
 MAIN PROPERTIES: IT SUPPORTS UP TO 2 AIRSCALE COMMON PLUG-IN UNITS. IT SUPPORTS UP TO 6 AIRSCALE CAPACITY PLUG-IN UNITS. IT CAN BE INSTALLED INSIDE A 19" WIDE RACK OR CABINET. IT INCLUDES A SUBRACK FRAME, A BACKPLANE FOR HIGH BANDWIDTH INTERCONNECT BETWEEN AIRSCALE COMMON AND AIRSCALE CAPACITY PLUG-IN UNITS. HAS FANS WITH CHANGEABLE AIRFLOW DIRECTION, AND HAS BLIND-UNITS TO PREVENT COOLING AIRFLOW LEAKAGE.



FRONT AND REAR VIEWS

NOKIA: AIRSCALE BASEBAND 5G ONLY CARDS (ASIK)

FEATURES: INITIAL AIRSCALE BASEBAND 5G ONLY CARDS



PERSPECTIVE VIEW

NOT USED SCALE N.T.S. 12

NOT USED SCALE N.T.S. 9

AMIA SCALE N.T.S. 6

ASIK SCALE N.T.S. 3

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

Installation Instructions



Mounting Kits For Wide Panel Antennas

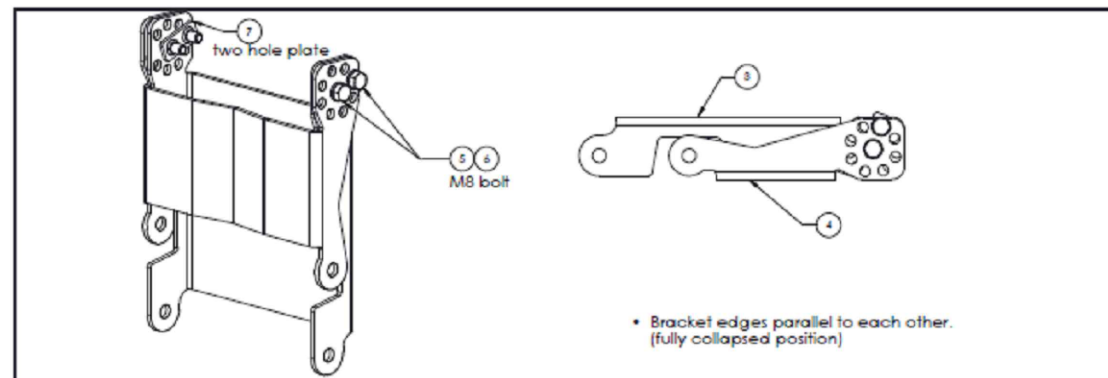
BSAMNT Series: Mounting systems for cylindrical pipe installations (60-115mm pipe diameter) for heavy duty applications

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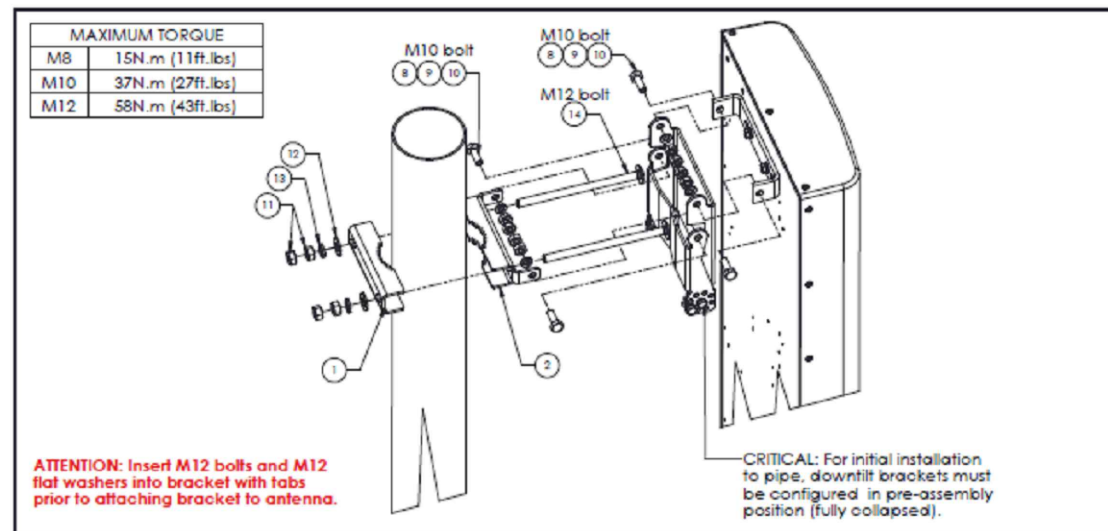
Andrew Institute offers installation training.

ITEM NO.	DESCRIPTION	QTY	U/M
1	PIPECLAMP BRACKET, NO FLANGE	2	EA
2	PIPECLAMP BRACKET, SHORT FLANGES	2	EA
3	NOTCHED BRACKET	1	EA
4	BRACKET	1	EA
5	SCR, HH, HEX, M8X25, SST, PASS	4	EA
6	WSHR, LK, SPLT, M8, STL, GALV	4	EA
7	TWO HOLE PLATE, 8mm X 1.25 PITCH	2	EA
8	NUT, HEX, M10, STL, GALV	12	EA
9	WSHR, LK, SPLT, M10, STL, GALV	6	EA
10	SCR, HCS, HEX, M10X40, STL, GALV	6	EA
11	NUT, HEX, M12, STL, GALV	8	EA
12	WSHR, FLT, M12, 13X28X2.5, STL, GALV	4	EA
13	WSHR, LK, SPLT, M12, STL, GALV	4	EA
14	BOLT, CARRIAGE, M12 X 200, STL, GALV	4	EA

Part Lists



Pre-assembly of Downtilt Brackets



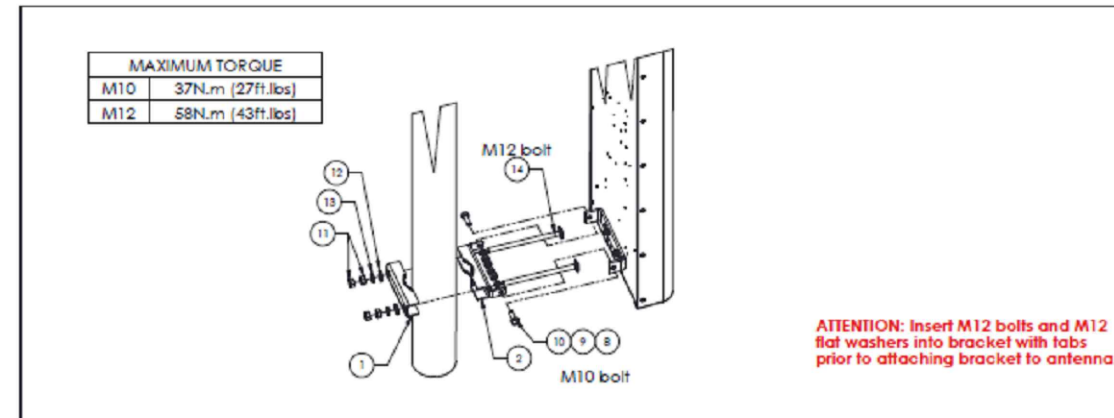
Top / Middle Mount Installations

BSAMNT Mounting Kit

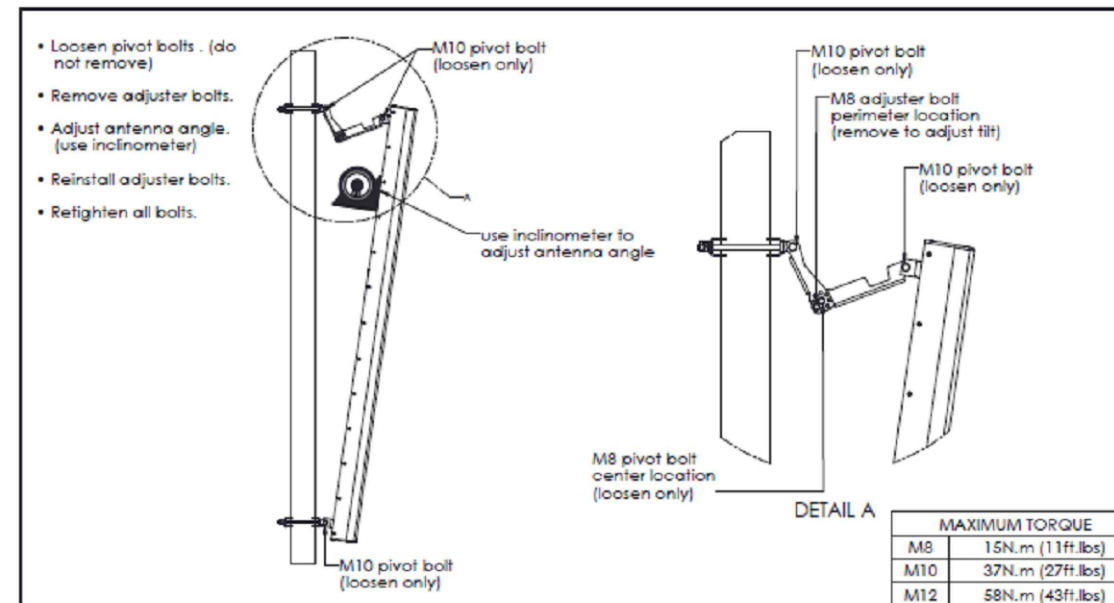
CommScope

(Continued from page 1)

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Bottom Mount Installation



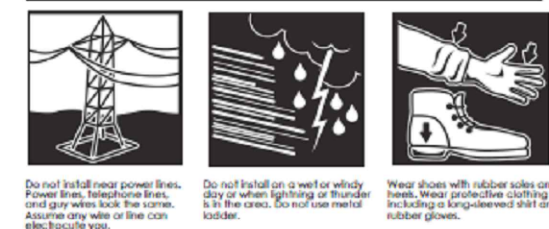
Adjusting Antenna Tilt

SAFETY NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. CommScope installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

CommScope disclaims any liability or responsibility for the results of improper or unsafe installation practices.

It is recommended that transmit power be turned off when the field installation is performed. Follow all applicable safety precautions as shown on this page.



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Customer Support Center
North America: +1-800-255-1479, Option 1
International: +1-779-435-6500, Option 1
Email: BSASupport@CommScope.com

www.commscope.com/andrew
Visit our Web site at www.commscope.com or contact your local sales representative for more information.
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A	07/07/2020	ANCHOR FOR 90% CD	RKS

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SALEM
DOWNTOWN
388 STATE ST
SALEM, OR 97301
ROOFTOP

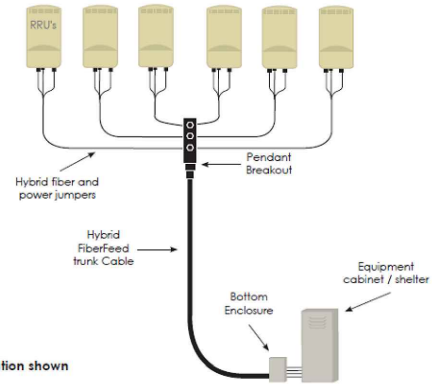


SHEET TITLE
ANTENNA
MOUNTING
SPECIFICATIONS

SHEET NUMBER
A-8

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

Section 1: HELIAX® FiberFeed® Pendant Connect



Accessories

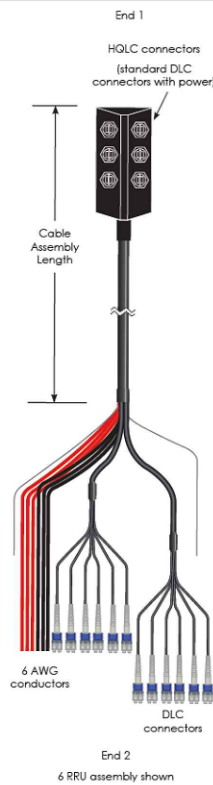
Part Number	Description
Enclosure	
FE-16148-OVP-B12	Fiber and power cable connection enclosure. Weatherproof to IP67
Hanger	
252115	Snap-In Hanger for FD2606-Series trunk cable, kit of 10
FA-3540-STH	Snap-In Hanger for FD1206-Series trunk cable, kit of 10
SSH-78	Snap-Stat® Hanger for Hybrid jumper cable (grammet required), kit of 10
HG-15MWA-78	Hanger Grammet for SSH-78, kit of 10
SSH-12	Snap-Stat® Hanger for fiber (only jumper cable (grammet required), kit of 10
HG-4X6MWA-12	Hanger Grammet for SSH-12, kit of 10
Other	
19256-BC	Hoisting grip for FD2606-series
UG12158-158-41	Universal grounding kit
FCCH	DLC & iC Interface cleaner
252130	Angle Adapters

Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 2: General Specifications

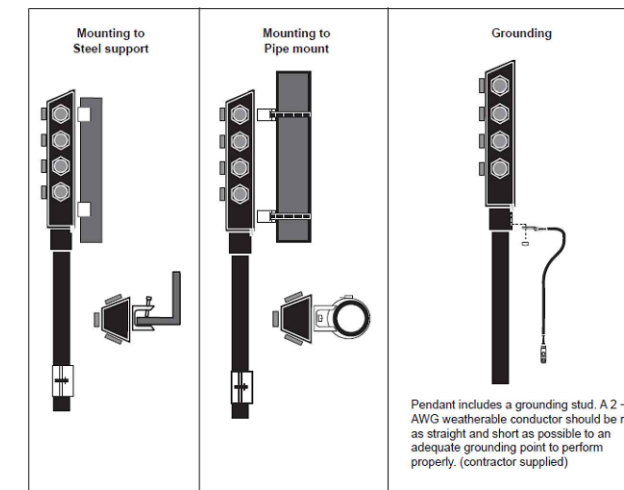
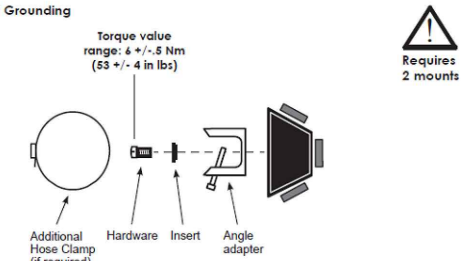
Cable Type	FD2606-24555-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	6
Total Fiber Quantity	24
Shielding Type	Conjugated aluminum
Fiber Type	Bend insensitive single mode fiber (G.657.A2)
Construction Type	Direct Breakout
Dimensions	
Cable Weight	1450.0 kg/km 970.0 lb/kft
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
Breakout Length, Power, end 2	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	3557 N 800 lbf

Cable Type	FD21206-48555-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	12
Total Fiber Quantity	48
Shielding Type	Conjugated 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
Breakout Length, Power, end 2	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



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Section 4: Mounting / Grounding



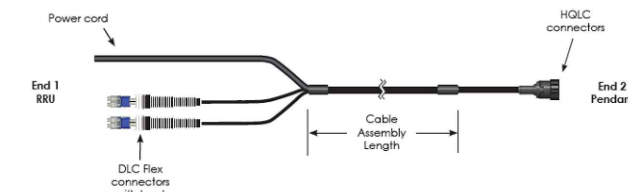
Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 5: General Specifications Pendant to RRU Tails

- In general this cable will handle similarly to coaxial cable.
- The terminated fiber ends however are fragile and must be protected during installation. Leave the packaging around the fiber ends in place until ready to make final connection of the jumper at the RRU or BBU.
- DO NOT BEND THE FIBER ENDS TIGHTER THAN 30 mm (1.2 in) BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- Attach the main cable securely to the structure or equipment using mount to prevent strain on connections from movement in wind or snow/ice conditions.
- Ensure the DLC fiber connector is seated firmly in RRU.
- HQLC connectors have indicator markings for proper alignment.
- HQLC outdoor connector is a 1/4 turn, tighten until the shell hits a positive stop.
- Ensure the weatherproof boots for both fiber and power connections are seated firmly in the RRU.
- Installation temperature range is -30 °C to 70 °C (-22 °F to 158 °F).
- All tails are individually serialized, for immediate access to test results visit www.commscope.com/webtrak

General Specifications

	HFT410-43NOK3-xx HELIAX® FiberFeed®	HFT410-43NOK3-xx (for FAS8) HELIAX® FiberFeed®
Cable Type	HFT410-43NOK3-xx	HFT410-43NOK3-xx (for FAS8)
Brand	HELIAX® FiberFeed®	HELIAX® FiberFeed®
Total Fiber Quantity	4	4
Fiber Type	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)
Jacket Color	Black	Black
Dimensions		
Cable Weight	456.1 kg/km 306.5 lb/kft	456.1 kg/km 306.5 lb/kft
Breakout Length, Fiber, end 1	815 mm 32 in	1540 mm 61 in
Breakout Length, Power, end 1	895 mm 35 in	457 mm 18 in
Breakout Length, Fiber, end 2	600 mm 24 in	1831 mm 0.72 in
Diameter Over Jacket	1831 mm 0.72 in	1831 mm 0.72 in
Physical Specifications		
Minimum Bend Radius, loaded	365.8 mm 14.4 in	365.8 mm 14.4 in
Minimum Bend Radius, unloaded	221.0 mm 8.7 in	221.0 mm 8.7 in
Tensile Load, long term, maximum	801 N 180 lbf	801 N 180 lbf
Tensile Load, short term, maximum	2669 N 600 lbf	2669 N 600 lbf



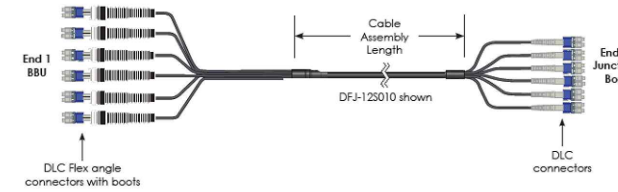
Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 7: General Specifications Bottom Enclosure to BBU Direct breakout Trunk

- In general cables will handle similarly to a coaxial cable.
- The terminated fiber ends however are fragile and must be protected during installation. Leave the packaging around the fiber ends in place until ready to make final connect of the jumper at the RRU or BBU.
- DO NOT BEND THE FIBER ENDS TIGHTER THAN 30 mm (1.2 in) BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- Attach the cable securely to the structure or equipment rack using tie wraps or velcro to prevent strain on the cables.
- Ensure the DLC fiber connector is seated firmly in Enclosure and BBU.
- Installation temperature range is -30 °C to 70 °C (-22 °F to 158 °F).
- All tails are individually serialized, for immediate access to test results visit www.commscope.com/webtrak

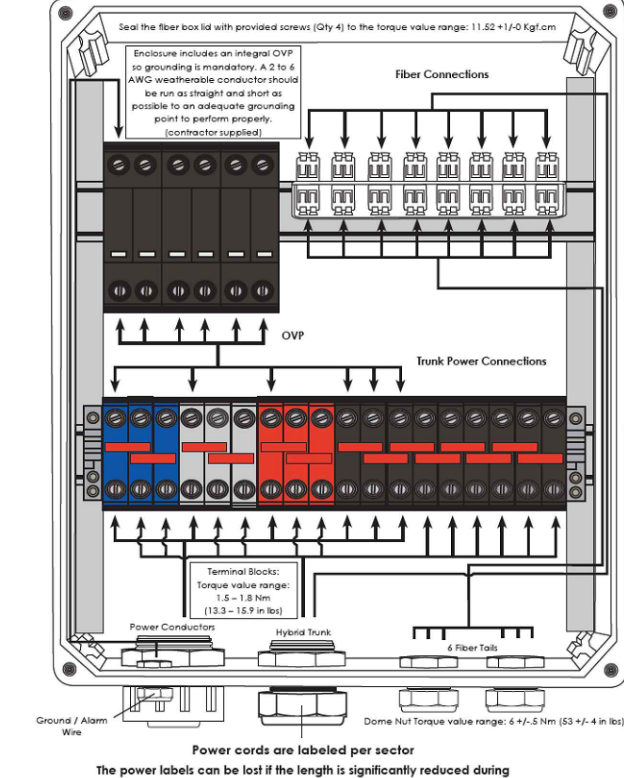
General Specifications

	DFJ-45010-xx HELIAX® FiberFeed®	DFJ-12010-xx HELIAX® FiberFeed®	DFJ-45025-xx HELIAX® FiberFeed®	DFJ-12025-xx HELIAX® FiberFeed®
Cable Type	DFJ-45010-xx	DFJ-12010-xx	DFJ-45025-xx	DFJ-12025-xx
Brand	HELIAX® FiberFeed®	HELIAX® FiberFeed®	HELIAX® FiberFeed®	HELIAX® FiberFeed®
Total Fiber Quantity	6	12	6	12
Fiber Type	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)
Jacket Color	Black	Black	Black	Black
Dimensions				
Cable Weight	69 kg/km 46 lb/kft	69 kg/km 46 lb/kft	69 kg/km 46 lb/kft	69 kg/km 46 lb/kft
Breakout Length, Fiber, end 1	762 mm 30 in	815 mm 32 in	762 mm 30 in	762 mm 30 in
Breakout Length, Fiber, end 2	1047 mm 42 in	1047 mm 42 in	1047 mm 42 in	1047 mm 42 in
Diameter Over Jacket	8 mm 0.31 in	8 mm 0.31 in	8 mm 0.31 in	8 mm 0.31 in
Physical Specifications				
Minimum Bend Radius, loaded	12 cm 4.7 in	12 cm 4.7 in	12 cm 4.7 in	12 cm 4.7 in
Minimum Bend Radius, unloaded	8.0 cm 3.1 in	8.0 cm 3.1 in	8.0 cm 3.1 in	8.0 cm 3.1 in
Tensile Load, long term, maximum	400 N 90 lbf	400 N 90 lbf	400 N 90 lbf	400 N 90 lbf
Tensile Load, short term, maximum	1334 N 300 lbf	1334 N 300 lbf	1334 N 300 lbf	1334 N 300 lbf



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Section 9: FE-16148-OVP-B12 Junction Box Wiring Diagram



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REGISTERED PROFESSIONAL
ENGINEER
94765 PE
EMILIO MARIO VALERIO-HERNANDEZ
MAY 14, 2018
07/30/2020
EXPIRES: 06/30/2022
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Technology Associates
PNW MARKET OFFICE
7117 SW BEVELAND STREET, SUITE 101
TIGARD, OR 98006

Technology Associates
ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
SALEM
DOWNTOWN
388 STATE ST
SALEM, OR 97301
ROOFTOP

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
HELIAX FIBER FEED
PENDANT CONNECT

SHEET NUMBER
A-9

SCALE
N.T.S. **1**

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

ELECTRICAL GROUNDING SPECIFICATIONS

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE CURRENTLY IN EFFECT FOR THE AUTHORITY HAVING JURISDICTION.
- ALL GROUNDING DEVICES SHALL BE U.L. LISTED FOR THEIR INTENDED USE.
- GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
- CONNECTIONS OF ALL GROUND WIRES TO THE GROUND RING SHALL BE EXOTHERMIC (CAD-WELDED), UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND T-MOBILE WIRELESS BROADBAND STANDARDS.
- GROUNDING CONDUCTORS SHALL BE ROUTED ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. WHEN REQUIRED, GROUND LEADS SHALL BE BENT TO A MINIMUM OF 8" RADIUS.
- WHERE GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO THE GROUND RING, INSTALL WIRE IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM CONNECTION POINT TO 5" BELOW GRADE AND SEAL THE TOP WITH SILICONE SEALANT.
- ALL GROUND BARS SHALL BE TINNED, 1/4" COPPER, SECTOR BARS 2", COLLECTOR AND MGB BARS 4", OF SUFFICIENT LENGTH TO ACCOMMODATE ALL REQUIRED CONNECTIONS WITHOUT DOUBLING LUGS, AND EACH INSTALLED WITH ISOLATORS. WHEN CONNECTING GROUND BARS (WITHIN 10 FEET OF GRADE) DIRECTLY TO THE GROUND RING, 2 EA. #2 SOLID DOWNLEADS SHALL BE CAD-WELDED TO THE GROUND BAR, 1 AT EACH OPPOSITE BOTTOM CORNER, AND EACH SHALL RUN IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM GROUND BAR DOWN TO THE GROUND RING. WHEN CONNECTING SECTOR GROUND BARS, DAISY-CHAIN THE GROUND BARS AND RUN 1 EA. #2 AWG STRANDED COPPER WIRE WITH THWN INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND RING AND CAD-WELD TO THE RING.
- WHEN ATTACHING STRANDED GROUND LEADS TO THE GROUND BARS, 2 HOLE COMPRESSION LUGS SHALL BE USED, PROTECT WITH WEATHERPROOF HEAT SHRINK, AND WITH A THIN COAT OF "KOPR SHIELD" OR EQUIVALENT PROPERLY APPLIED AND ATTACHED ONLY WITH STAINLESS STEEL HARDWARE.
- WHEN GROUNDING EQUIPMENT ENCLOSURES, PANELS, FRAMES, AND OTHER METAL APPARATUS, A #6 AWG STRANDED COPPER WIRE WITH THWN INSULATION SHALL BE ATTACHED UTILIZING A 2 HOLE COMPRESSION TYPE LUG, PROTECTED WITH WEATHERPROOF HEAT A CLEAN AND CORROSION FREE METALLIC SURFACE UTILIZING STAINLESS STEEL SELF-TAPPING SCREWS AS NOTED IN NOTE 10 BELOW.
- PREPARE ALL BONDING SURFACES FOR GROUND CONNECTIONS BY REMOVING ANY AND ALL PAINT AND CORROSION TO SHINY METAL. FOLLOWING CAD-WELDED CONNECTIONS TO NON-COPPER SURFACES, APPLY ONE COAT OF ANY ANTI-OXIDIZING PAINT, "COLD GALV" OR EQUIVALENT.
- GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8"x10', SPACED NO LESS THAN 10' ON CENTER.
- ALL GROUND SYSTEM CONDUCTORS AND CONDUITS SHALL BE SECURED UTILIZING ONLY NONMETALLIC, NON-CONDUCTIVE, UV RATED CLAMPS, BRACKET, AND OR SUPPORTS.
- WHEN REQUIRED, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT TESTING FIRM TO VERIFY, UTILIZING A MEGGER TEST, THAT THE RESISTANCE TO EARTH OF THE NEW GROUND SYSTEM IS EQUAL TO OR LESS THAN 5 (OHMS). A COPY OF THE COMPLETE TESTING REPORT SHALL BE PROVIDED TO THE T-MOBILE REPRESENTATIVE.
- ALL MATERIALS AND HARDWARE SHALL BE INSTALLED IN A WORKMAN-LIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND DEFINED IN NFPA-90 AND APPROVED BY A,H,I.

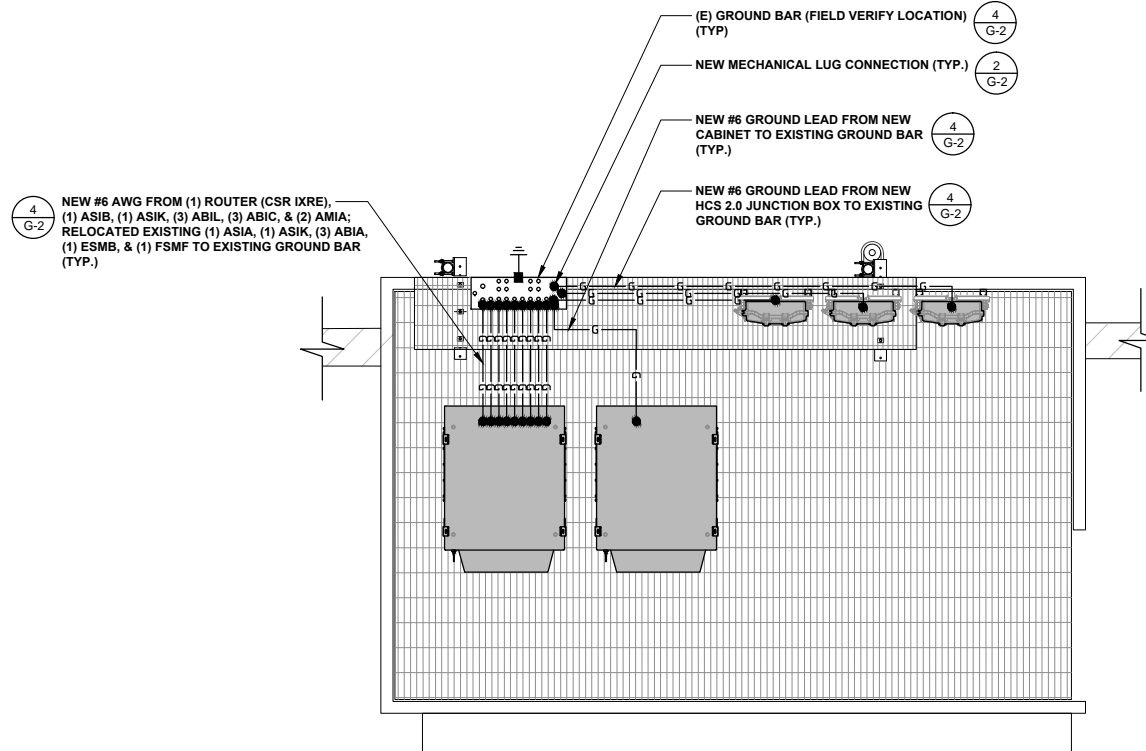
LEGEND	
■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▬	EQUIPMENT GROUND BAR
▬	ANTENNA GROUND BAR (AS REQUIRED)
	#2 AWG GROUND LEAD (AS REQUIRED)

NOTE:

- CONTRACTOR TO REPLACE ALL MISSING GROUND BARS AND GROUNDING CONNECTIONS AS REQUIRED.

EQUIPMENT GROUNDING

SCALE
N.T.S. 2



LANDLORD SIGNATURE



EXPIRES: 06/30/2022

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



REV	DATE	DESCRIPTION	BY
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A	07/07/2020	ANCHOR FOR 90% CD	RKS

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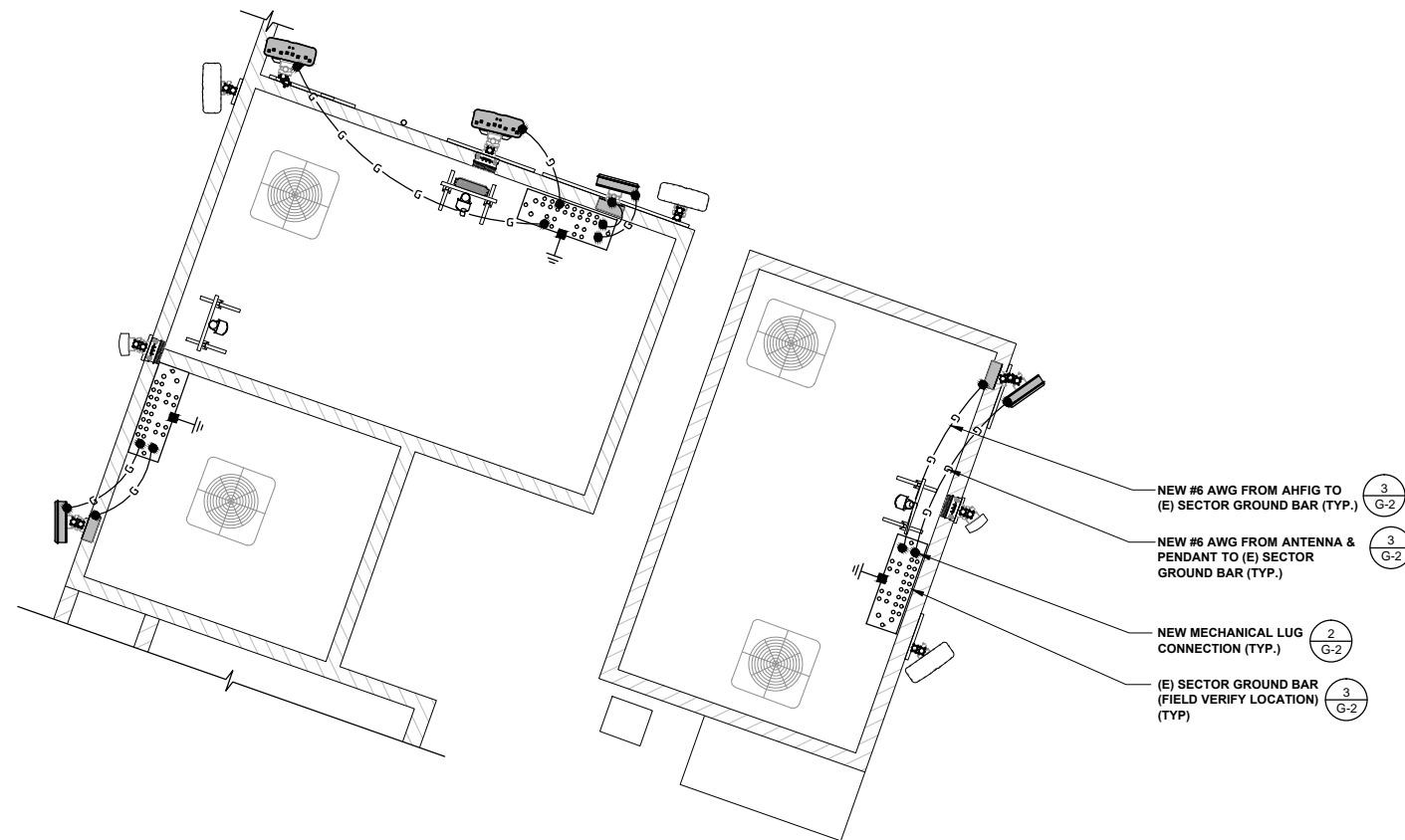
JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
GROUNDING PLANS

SHEET NUMBER
G-1

ANTENNA GROUNDING

SCALE
N.T.S. 3

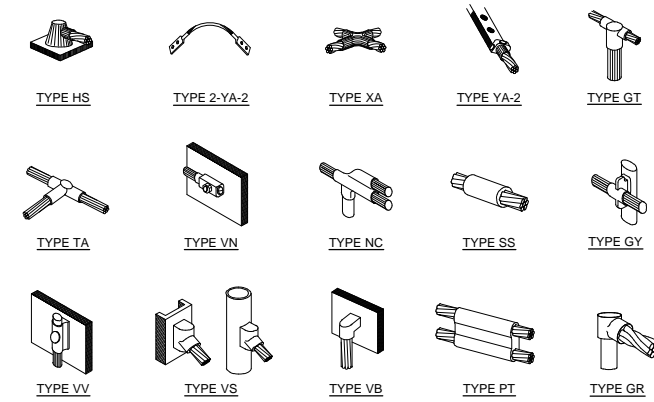
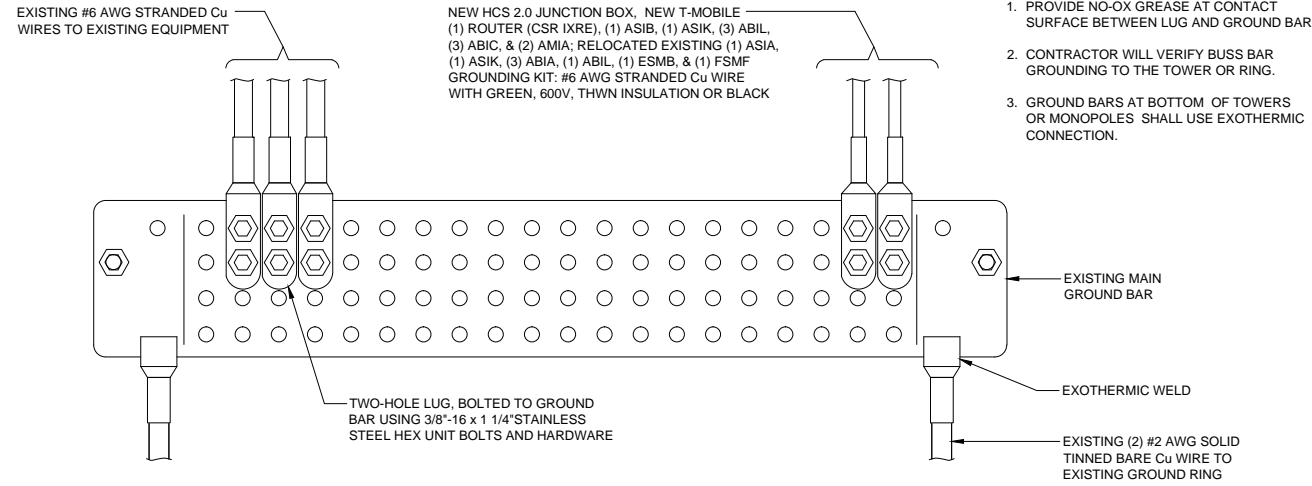


NOTES & LEGEND

SCALE
N.T.S. 1

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.

LANDLORD SIGNATURE



NOTE: ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

REGISTERED PROFESSIONAL ENGINEER
94765 PE
EMILIO MARIO VALERIO-HERNANDEZ
MAY 14, 2018
07/30/2020
EXPIRES: 06/30/2022
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DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

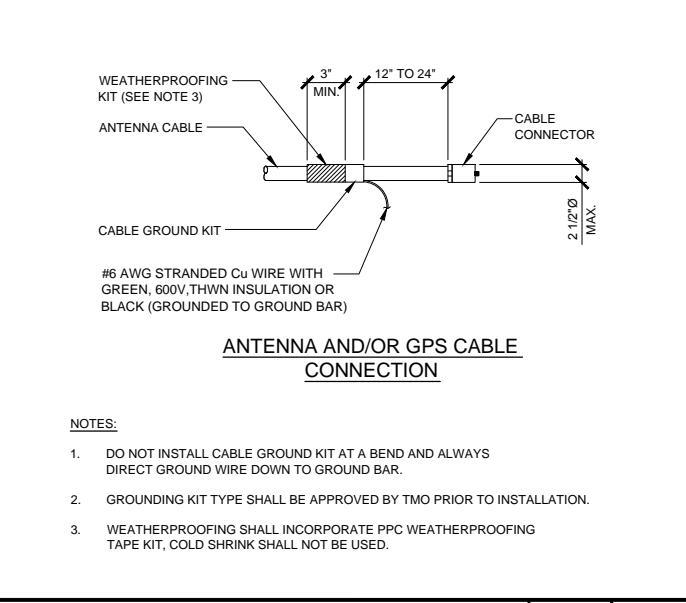
NOT USED SCALE N.T.S. 10

MAIN GROUND BAR SCALE N.T.S. 4

EXOTHERMIC WELDING SCALE N.T.S. 1

NOT USED SCALE N.T.S. 11

NOT USED SCALE N.T.S. 8



WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT

NOTES:

1. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER, LOCK WASHER AND NUT.
2. COPPER SHIELD, ANTI-OX, OR NO-OX OR EQUIVALENT SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
3. ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
4. ALL LUGS MUST HAVE INSPECTION WINDOWS.

HEAT SHRINK (CLEAR HEAT SHRINK INDOOR & BLACK HEAT SHRINK OUTDOOR)

BURNDY GROUND LUG (SEE TABLE FOR SIZE AND MODEL)

NUT (TYP.)

LOCK WASHER (TYP.)

FLAT WASHER (TYP.)

GROUND BAR

FLAT WASHER (TYP.)

BOLT (TYP.)

GROUNDING CONDUCTOR

BURNDY GROUND LUG (SEE TABLE FOR SIZE AND MODEL)

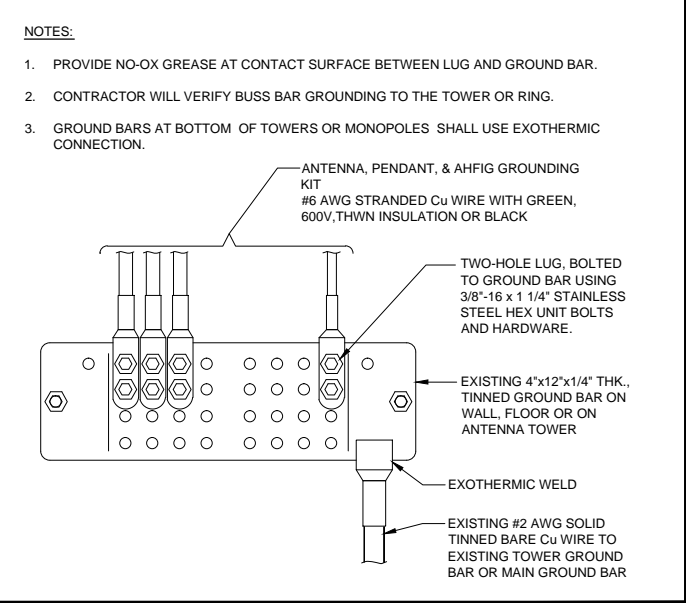
BARE WIRE TO BE NO-OX AT BOTH ENDS

MECHANICAL LUG SCALE N.T.S. 2

NOT USED SCALE N.T.S. 12

NOT USED SCALE N.T.S. 9

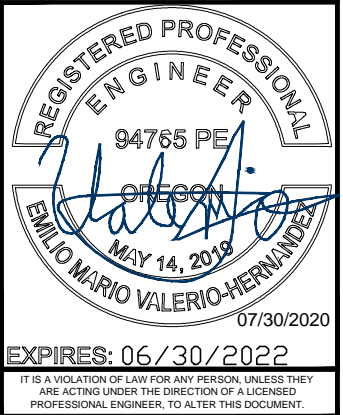
NOT USED SCALE N.T.S. 6



SECTOR GROUND BAR SCALE N.T.S. 3

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LANDLORD SIGNATURE

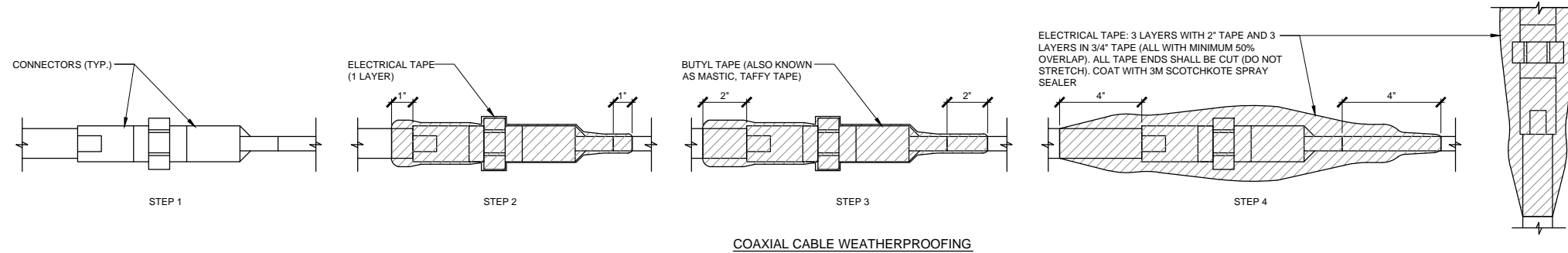


ANTENNA SCHEDULE-FINAL CONFIGURATION													
SECTOR (COLOR)	POSITION	EXISTING/NEW	MANUFACTURER	ANTENNA MODEL	PORT	ANTENNA AZIMUTH	RAD CENTER	DIMENSIONS (LxWxD)	WEIGHT (LBS)	TRANSMISSION CABLE			
										QTY.	LENGTH	SIZE	TYPE
ALPHA (RED)	(A1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	15°	142.4'	95" x 25.2" x 9.3"	127.6				
	(A2)	NEW	COMMSCOPE	2HH-38A-R4 (+27°)	MULTI BEAM	15°	143.2'	53.1" x 25.2" x 9.3"	68.8	(2)	15'	1/2"Ø	FIBER JUMPER
	(A3)	NEW	NOKIA	AEHC	MIMO	15°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
BETA (GREEN)	(B1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	145°	142.4'	95" x 25.2" x 9.3"	127.6				
	(B2)	EXISTING	ANDREW	TMBXX-6516-A2M	QUAD	145°	142.9'	60.1" x 6.6" x 3.3"	34.6	(2)	15'	1/2"Ø	FIBER JUMPER
	(B3)	NEW	NOKIA	AEHC	MIMO	145°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
GAMMA (BLUE)	(C1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	270°	142.4'	95" x 25.2" x 9.3"	127.6				
	(C2)	EXISTING	ANDREW	TMBXX-6516-A2M	QUAD	270°	142.9'	60.1" x 6.6" x 3.3"	34.6	(2)	15'	1/2"Ø	FIBER JUMPER
	(C3)	NEW	NOKIA	AEHC	MIMO	270°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
DELTA (YELLOW)	(D1)	NEW	COMMSCOPE	2HH-38A-R4 (+27°)	MULTI BEAM	15°	143.2'	53.1" x 25.2" x 9.3"	68.8	(2)	15'	1/2"Ø	FIBER JUMPER

ANTENNA AND COAX GENERAL NOTES:

- ALL ANTENNA AND COAXIAL ANTENNA CABLE TO BE FURNISHED BY T-MOBILE AND INSTALLED BY CONTRACTOR.
- COAX COLOR CODING: ANTENNAS TO BE NUMBERED IN A CLOCKWISE MANNER FROM TRUE NORTH AND COLOR CODED AS FOLLOWS.
- THE ABOVE COAX COLOR CODING APPLIES TO SECTORIZED SITES. FOR OMNI SITES, USE THE ATO, BT0, & GT0 COLOR CODES ONLY.
- COAX SHALL BE TAGGED WITH COLOR CODING AT (2) PLACES USING 1" WIDE WEATHER PROOF COLORED VINYL TAPE AT THE FOLLOWING LOCATIONS:
 - #1 - AT ANTENNA CONNECTION
 - #2 - AT ENTRY TO EQUIPMENT CABINET
- RUN COAXIAL CABLE WITH MINIMUM 12" SLACK & 12" FROM EDGE OF EQUIPMENT CABINETS, ACROSS WAVE GUIDE BRIDGE (IF APPLICABLE), UP TO TOWER LEG (IF APPLICABLE), & DISTRIBUTE TO EACH ANTENNA DEVICE. FURNISH AND INSTALL A MINIMUM OF (3) GROUND KITS PER COAXIAL CABLE ACCORDING TO ELECTRICAL DRAWINGS. VERIFY NUMBER OF ANTENNAS, CABLE, & CABLE DIAMETER WITH PROJECT MANAGER.
- ALL COAXIAL CABLE CONNECTIONS TO BE WEATHER PROOFED.
- CONTRACTOR TO DIP CABLES AND JUMPERS WHERE NECESSARY.
- TAGGING:
 - ALL COAXIAL CABLES TO BE MARKED WITH COLOR CODED TAPE TO INDICATE THE ANTENNA SECTOR.
 - COLORLED ELECTRICAL TAPE SHALL MARK EACH END OF CABLE AND EACH END OF JUMPERS AS CLOSE TO EACH END AS POSSIBLE. (NOT TO INTERFERE WITH WEATHERPROOFING.)
- COAXIAL CABLE SPECIFICATIONS REQUIRE CABLE SUPPORT EVERY 3'-0" ON CENTER. CONTRACTOR SHALL SUPPLY SUPPORTS AS REQUIRED TO MEET THIS REQUIREMENT.
- VERTICAL CONNECTIONS SHALL BE TAPED FROM THE BOTTOM UP SO OVERLAP MOVES WATER AWAY FROM CONNECTION (STEP 9).
- PROVIDE HEAT SHRINK IN PLACE OF TAPE FOR QUAD POLES AND TMA'S. HEAT SHRINK SHALL BE "CANUSA" WITH ADHESIVE.

NOTE:
 1. ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS, MOUNTING HARDWARE, AND RF DESIGN.
 2. CD IS BASED ON RFDS VERSION: 8 DATED: 06/26/2020.



REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

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 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
 RF DETAILS

SHEET NUMBER
 RF-1

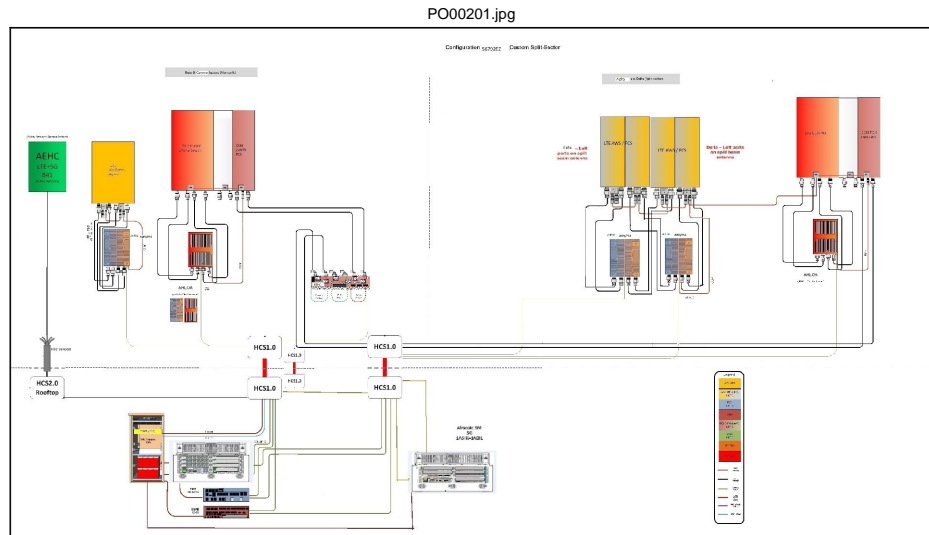
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NOTE:
1. CD IS BASED ON RFDS VERSION: 8 DATED: 06/26/2020.

6/26/2020

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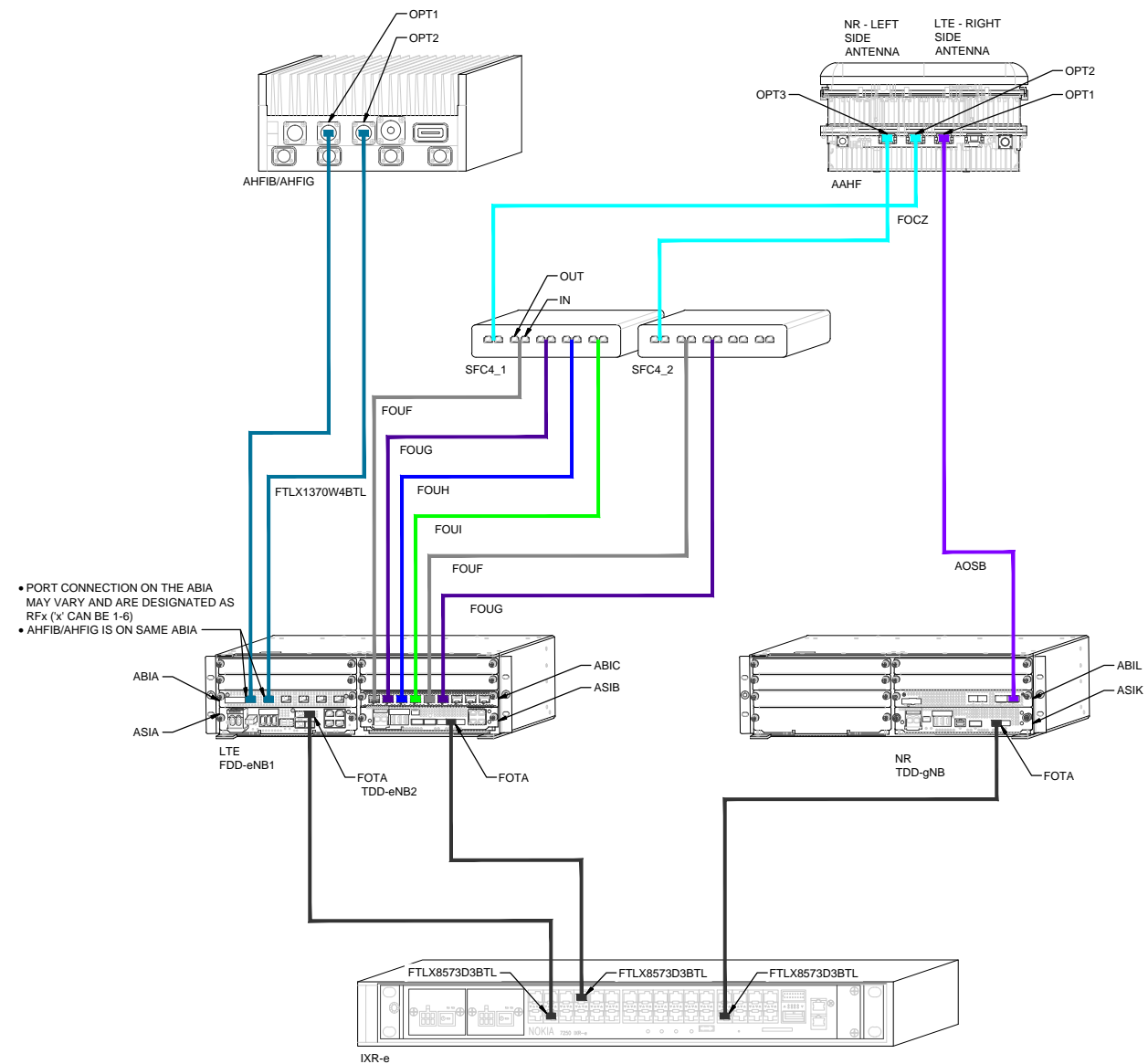
Section 3 - Proposed Template Images



Notes:

NOKIA ITEM CODE/SECTOR	PRODUCT NAME
474335A	x 2 FOCZ QSFP+ 4x10 km SM
474385A	x 2 FOUF SFP+ 10GBASE-LR 1271 nm CWDM 10 km SM
474386A	x 2 FOUH SFP+ 10GBASE-LR 1291 nm CWDM 10 km SM
474387A	x 1 FOUH SFP+ 10GBASE-LR 1311 nm CWDM 10 km SM
474388A	x 1 FOUI SFP+ 10GBASE-LR 1331 nm CWDM 10 km SM
474829A	x 2 AOSB QSFP28 SM 10 km LC
FTLX1370W4BTL	x 4 SM SFP 1310 nm CPRI 9.8G 1.4km (CPRI)
473471A	x 3 FOTA Optical SFP+ 10GBase-SR 850nm MM
FTLX8573D3BTL	x 3 10Gb/s 850nm Multimode SFP+ Datacom Transceiver

NOTE:
JDSU AND EXFO GEAR CAN BE USED TO READ WAVELENGTH ON THE SFPs.



- PORT CONNECTION ON THE ABIA MAY VARY AND ARE DESIGNATED AS RFx (x CAN BE 1-6)
- AHFIB/AHFIG IS ON SAME ABIA

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LANDLORD SIGNATURE

REGISTERED PROFESSIONAL ENGINEER
94765 PE
EMILIO MARIO VALERIO-HERNANDEZ
MAY 14, 2018
07/30/2020
EXPIRES: 06/30/2022
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DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
RF DIAGRAM

SHEET NUMBER
RF-2

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OREGON STATE CODE COMPLIANCE:

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

- 2019 OREGON STRUCTURAL SPECIALTY CODE
- 2019 OREGON MECHANICAL SPECIALTY CODE
- 2017 OREGON RESIDENTIAL SPECIALTY CODE
- 2019 OREGON FIRE CODE
- 2019 OREGON ZERO ENERGY READY COMMERCIAL CODE
- ENERGY CONSERVATION CODE 2018 OF OREGON
- 2017 OREGON ELECTRICAL SPECIALTY CODE
- 2017 OREGON PLUMBING SPECIALTY CODE
- 2010 OREGON MANUFACTURED DWELLING INSTALLATION SPECIALTY CODE
- 2002 OREGON MANUFACTURED DWELLING AND PARK SPECIALTY CODE
- LOCAL CODES AND AMENDMENTS

FCC NOTE:

THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

CODE COMPLIANCE

APPLICANT:
T-MOBILE USA INC.
830 NE HOLLADAY STREET
PORTLAND, OR 97232

PROPERTY OWNER:
QA INVESTMENT LLC
189 LIBERTY ST NE #203A
SALEM, OR 97301

LATITUDE AND LONGITUDE:
N 44° 56' 23.59", W 123° 02' 21.22"
(RAD SECTOR A)
(BASED ON 1A SURVEY DATED 05/18/2018)

N 44° 56' 23.42", W 123° 02' 21.91"
(RAD SECTOR B)
(BASED ON 1A SURVEY DATED 05/18/2018)

N 44° 56' 23.51", W 123° 02' 21.46"
(RAD SECTOR C)
(BASED ON 1A SURVEY DATED 05/18/2018)

HANDICAP REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS REQUIREMENT(S) DO NOT APPLY

SITE ADDRESS:
388 STATE ST
SALEM, OR 97301

TOTAL LEASE AREA:
± 150 sq. ft.

NEW/EXISTING USE:
UNMANNED TELECOMMUNICATIONS FACILITY

COUNTY:
MARION COUNTY

JURISDICTION:
CITY OF SALEM

ZONING:
CB - COMMERCIAL BUSINESS

SITE PARCEL NUMBER:
73W27AB 07200

LEGAL DESCRIPTION:
SALEM, BLOCK 34, LOT FR 1,2

SITE INFORMATION

- BASED ON RFDS VERSION 8 DATED: 06/26/2020**
- RELOCATE (3) EXISTING ANTENNAS (FFHH-65B-R3)
 - REMOVE (2) EXISTING ANTENNAS (TMBXX-6516-A2M)
 - REMOVE (2) EXISTING ANTENNA (HBXX-3817B1-A2M)
 - REMOVE (4) EXISTING FRIG AT ANTENNAS
 - REMOVE (4) EXISTING FHFB AT ANTENNAS
 - REMOVE (8) EXISTING DIPLEXERS AT ANTENNAS
 - REMOVE (3) EXISTING TMAS AT ANTENNAS
 - REMOVE (3) EXISTING TRX AT ANTENNAS
 - REMOVE (3) EXISTING NSM LOW CAP HCS (100)
 - REMOVE (3) EXISTING FIBER JUMPERS 15'
 - REMOVE (6) EXISTING COAX CABLES 75'
 - REMOVE (2) EXISTING CABINETS
 - REMOVE (1) EXISTING ROUTER IN CABINET
 - REMOVE (2) EXISTING AMOB IN CABINET
 - REMOVE (1) EXISTING FSMF IN CABINET
 - REMOVE (6) EXISTING COVPS (3 AT EQUIPMENT, 3 AT CABINETS)
 - RELOCATE (1) EXISTING ASIA IN CABINET
 - RELOCATE (1) EXISTING ASIK TO NEW CABINET
 - RELOCATE (3) EXISTING ABIA TO NEW CABINET
 - RELOCATE (1) EXISTING ABIL TO NEW CABINET
 - RELOCATE (1) EXISTING ESMB TO NEW CABINET
 - RELOCATE (1) EXISTING FSMF TO NEW CABINET
 - RELOCATE (1) EXISTING FXFC TO ANTENNAS
 - INSTALL (3) NEW ANTENNAS (AEHC)
 - INSTALL (2) NEW ANTENNAS (2HH-38A-R4-V2)
 - INSTALL (3) NEW AHFIG AT ANTENNAS
 - INSTALL (3) NEW HCS 2.0 TRUNKS (100')
 - INSTALL (3) NEW HCS 2.0 JUMPERS 15'
 - INSTALL (3) NEW HCS 2.0 PENDANTS
 - INSTALL (3) NEW HCS 2.0 JUNCTION BOXES
 - INSTALL (2) NEW EQUIPMENT CABINETS
 - INSTALL (1) NEW ROUTER IN NEW CABINET
 - INSTALL (1) NEW ASIB IN NEW CABINET
 - INSTALL (1) NEW ASIK IN NEW CABINET
 - INSTALL (3) NEW ABIL IN NEW CABINET
 - INSTALL (3) NEW ABIC IN NEW CABINET
 - INSTALL (2) NEW AMIA IN NEW CABINET
 - UPGRADE EXISTING METER PANEL FROM 125 AMP TO 200 AMP

PROJECT DESCRIPTION

PROJECT MANAGEMENT:
T-MOBILE USA INC.
830 NE HOLLADAY STREET
PORTLAND, OR 97232
CONTACT: KEELY WILLIAMS
OFFICE: (406) 546-8073
EMAIL: keely.williams316@t-mobile.com

ZONING & PERMITTING:
TECHNOLOGY ASSOCIATES EC, INC
7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: HANNAH KAMPH
OFFICE: (503) 422-9965
EMAIL: hannah.kamph@taec.net

SITE ACQUISITION:
TECHNOLOGY ASSOCIATES EC, INC
7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: HANNAH KAMPH
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CONSTRUCTION MANAGER:
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7117 SW BEVELAND STREET SUITE 101
TIGARD, OR 97223
CONTACT: JEREMY JONES
PHONE: (503) 949-0759
EMAIL: jeremy.jones@taec.net

ARCHITECTURE:
TECHNOLOGY ASSOCIATES EC, INC
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108
CONTACT: EMILIO VALERIO-HERNANDEZ, PE
OFFICE: (858) 300-2346
EMAIL: emilio.valerio-herandez@taec.net

ENGINEER:
TECHNOLOGY ASSOCIATES EC, INC
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108
CONTACT: EMILIO VALERIO-HERNANDEZ, PE
OFFICE: (858) 300-2346
EMAIL: emilio.valerio-herandez@taec.net

CONTACT INFORMATION

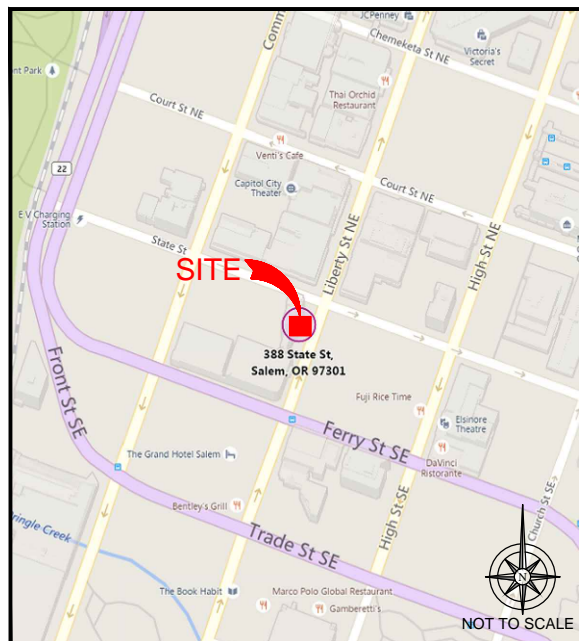


SITE NAME:
SALEM DOWNTOWN

SITE NUMBER:
PO00201A

PO00201A_SALEM DOWNTOWN_ANCHOR_FCD_TAEC_07-30-2020

388 STATE ST, SALEM, OR 97301



VICINITY MAP



LOCAL MAP

STARTING FROM 830 NE HOLLADAY STREET, PORTLAND, OR 97232:

1. HEAD EAST ON NE HOLLADAY ST TOWARD NE 9TH AVE
 2. TURN LEFT AT THE 1ST CROSS STREET ONTO NE 9TH AVE
 3. TURN LEFT ONTO NE BROADWAY
 4. TURN LEFT ONTO N VANCOUVER AVE
 5. CONTINUE ONTO NE WHEELER AVE
 6. TURN SLIGHT LEFT ONTO THE INTERSTATE 5 S RAMP TO INTERSTATE 84 E
 7. MERGE ONTO I-5 S
 8. KEEP RIGHT TO STAY ON I-5 S, FOLLOW SIGNS FOR INTERSTATE 5 S/SALEM
 9. TAKE EXIT 260A FOR OR-99E BUS TOWARD SALEM PKWY
 10. CONTINUE ONTO OR-99EBUS S/SALEM PKWY
 11. CONTINUE TO FOLLOW OR-99EBUS S
 12. CONTINUE ONTO COMMERCIAL ST NE
 13. TURN LEFT ONTO STATE ST
- DESTINATION WILL BE ON THE RIGHT

DRIVING DIRECTIONS

APPROVAL	SIGNATURE	DATE
PROJECT MANAGER		
T-MOBILE RF ENGINEER		
SITE ACQUISITION		
CONSTRUCTION MANAGER		
SITE OWNER		
T-MOBILE DEVELOPMENT MANAGER		
T-MOBILE CONSTRUCTION MANAGER		
T-MOBILE OPS MANAGER		
T-MOBILE REGULATORY REVIEW		
T-MOBILE PROJECT MANAGER		
T-MOBILE PERMITTING		

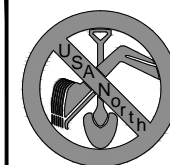
APPROVALS

SHEET	DESCRIPTION
T-1	TITLE SHEET
T-2	NOTES & LEGEND
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN
A-3	ANTENNA PLAN
A-3.1	EQUIPMENT PLAN
A-4	ELEVATIONS
A-5	ELEVATIONS
A-6	DETAILS
A-7	DETAILS
A-8	ANTENNA MOUNTING SPECIFICATIONS
A-9	HELIX FIBER FEED PENDANT CONNECT
G-1	GROUNDING PLANS
G-2	GROUNDING DETAILS
RF-1	RF DETAILS
RF-2	RF DIAGRAM

SHEET INDEX

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING LOCATIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



Know what's below.
CALL before you dig.

CALL AT LEAST TWO WORKING
DAYS BEFORE YOU DIG

DIG ALERT



EXPIRES: 06/30/2022

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PNW MARKET OFFICE
7117 SW BEVELAND STREET, SUITE 101
TIGARD, OR 98006



ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A

SALEM DOWNTOWN

**388 STATE ST
SALEM, OR 97301
ROOFTOP**

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL NOTES

- THIS FACILITY IS EXEMPT FROM HANDICAP REQUIREMENTS PER 2019 OREGON STRUCTURAL SPECIALTY CODE SECTION 1103.2.9. THIS FACILITY IS NON-OCCUPIABLE SPACE AND ENTERED ONLY BY SERVICE PERSONNEL. THIS SPACE IS NOT FOR HUMAN OCCUPANCY.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING ANY WORK.
- THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES AS THEY MAY BE DISCOVERED IN THE PLANS, SPECIFICATIONS, & NOTES PRIOR TO STARTING CONSTRUCTION. INCLUDING BUT NOT LIMITED BY DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERRORS, OMISSION, OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION. THE METHOD OF CORRECTION SHALL BE APPROVED BY THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR HAS THE RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR OR SUBCONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGE TO THE UTILITIES CAUSED DURING THE EXECUTION OF THE WORK. CONTACT USA DIG ALERT @ 800-227-2600
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO PROPOSED OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGED AREAS.
- A COPY OF THE APPROVED PLANS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY. AND BY LAW SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS AT THE SITE FOR THE PURPOSE OF DOCUMENTING ALL AS-BUILT CHANGES, REVISIONS, ADDENDA, OR CHANGE ORDERS. THE CONTRACTOR SHALL FORWARD THE AS-BUILT/HIRED DRAWINGS TO THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT AT THE CONCLUSION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY POWER, WATER, AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER OR GOVERNING AGENCY.
- ALL CONSTRUCTION THROUGH THE PROJECT SHALL CONFORM TO THE LATEST OREGON BUILDING CODES AND ALL OTHER GOVERNING CODES, THE MOST RESTRICTIVE CODE SHALL GOVERN.
- THE CONTRACTOR AND SUBCONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS INCLUDING ALL OSHA REQUIREMENTS.
- WHEN REQUIRED STORAGE OF MATERIALS OCCURS, THEY SHALL BE EVENLY DISTRIBUTED OVER THE FLOOR OR ROOF SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE THE STRUCTURE OR SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT.
- THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. HE IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCING AND COORDINATING ALL PORTIONS OF THE WORK UNDER THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR AUTHORIZED AGENT. CONTRACTOR SHALL OBTAIN THE PERMIT AND MAKE FINAL PAYMENT OF SAID DOCUMENT.
- ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE. DRAWINGS ARE NOT TO BE SCALED UNDER ANY CIRCUMSTANCES.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR SUPPORTS FOR INSTALLATION OF ITEMS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE THE FIRE MARSHALL OR U.L APPROVED MATERIALS TO FILL/SEAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
- PROPOSED CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL AND PAINT COLOR EXCEPT AS NOTED IN THE PLANS.
- THE CONTRACTOR IS TO PROVIDE PORTABLE FIRE EXTINGUISHERS HAVING A MINIMUM 2A-10-B:C RATING WITHIN 75FT. OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA. (2019 OREGON FIRE CODE SECTION 906.1.1 & 906.1.7 AND SECTION 906.3.1)
- MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AVAILABLE AS REQUIRED BY THE LOCAL GOVERNING AGENCY RESPONSIBLE FOR APPROVING THE RESULTS.
- ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE.
- ALL DEBRIS AND REFUSE IS TO BE REMOVED FROM THE PROJECT. PREMISES SHALL BE LEFT IN A CLEAN BROOM FINISHED CONDITION AT ALL TIMES.
- BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GRADING AND CONSTRUCTION EFFORT AS MANDATED BY THE GOVERNING AGENCY.
- ALL SYMBOLS AND ABBREVIATIONS ARE CONSIDERED CONSTRUCTION INDUSTRY STANDARDS. IF A CONTRACTOR HAS A QUESTION REGARDING THEIR EXACT MEANING THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT SHALL BE NOTIFIED FOR CLARIFICATIONS.
- SITE CONTRACTOR TO CALL DIG ALERT (1-800-227-2600) TO LOCATE ANY AND ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- ALL FACILITIES TO BE INSTALLED ARE UNMANNED. NO (E) PARKING SPACES WILL BE USED OR REMOVED BY THIS PROJECT.
- PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS, THE APPLICANT SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH THE CITY'S MUNICIPAL CODES INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS.
- PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS, THE APPLICANT SHALL SUBMIT A WATER POLLUTION CONTROL PLAN (WPCP). THE WPCP SHALL BE PREPARED IN ACCORDANCE WITH THE GUIDELINES IN APPENDIX E OF THE CITY'S STORM WATER STANDARDS.
- THIS PROJECT PROPOSES NO DEVELOPMENT IMPROVEMENTS OUTSIDE THE EXISTING BUILDING FOOTPRINT FOR THIS DISCRETIONARY REVIEW AND THEREFORE DOES NOT REQUIRE ANY PERMANENT STORM WATER BEST MANAGEMENT PRACTICES.
- THIS IS ROOFTOP INSTALLATION ON AN EXISTING FACILITY AND NO GROUND DISTURBANCE OR TRENCHING IS PROPOSED BY THIS PROJECT.
- THIS PROJECT PROPOSES NO WORK WITHIN THE PUBLIC RIGHT-OF-WAY.

STORM WATER QUALITY NOTES CONSTRUCTION BMPs:

- THIS PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE PERMIT.
- NOTES 1-6 BELOW REPRESENT KEY MINIMUM REQUIREMENTS FOR CONSTRUCTION BMPs.
- SUFFICIENT BMPs MUST BE INSTALLED TO PREVENT SILT, MUD OR OTHER CONSTRUCTION DEBRIS FROM BEING TRACKED INTO THE ADJACENT STREET(S) OR STORM WATER CONVEYANCE SYSTEMS DUE TO CONSTRUCTION VEHICLES OR ANY OTHER CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY SUCH DEBRIS THAT MAY BE IN THE STREET AT THE END OF EACH WORK DAY OR AFTER A STORM EVENT THAT CAUSES A BREACH IN THE INSTALLED CONSTRUCTION BMPs.
 - ALL STOCK PILES OF UN-COMPACTED SOIL AND/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT UNPROTECTED FOR A PERIOD GREATER THAN SEVEN CALENDAR DAYS ARE TO BE PROVIDED WITH EROSION AND SEDIMENT CONTROLS. SUCH SOIL MUST BE PROTECTED EACH DAY WHEN THE PROBABILITY OF RAIN IS 40% OR GREATER.
 - A CONCRETE WASHOUT SHALL BE PROVIDED ON ALL PROJECTS WHICH PROPOSE THE CONSTRUCTION OF ANY CONCRETE IMPROVEMENTS THAT ARE TO BE POURED IN PLACE ON THE SITE.
 - ALL EROSION/SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN WORKING ORDER AT ALL TIMES.
 - ALL SLOPES THAT ARE CREATED OR DISTURBED BY CONSTRUCTION ACTIVITY MUST BE PROTECTED AGAINST EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.
 - THE STORAGE OF ALL CONSTRUCTION MATERIALS AND EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.

GENERAL FIRE NOTES:

- BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL BE IN ACCORDANCE WITH 2019 OREGON FIRE CODE AND ALL GOVERNING CODES.
- ADDRESS SHALL BE PROVIDED FOR ALL PROPOSED AND EXISTING BUILDINGS IN A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. (2019 OREGON FIRE CODE SECTION 505.1)
- DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION. (2019 OREGON FIRE CODE SECTION 806.1)
- PORTABLE FIRE EXTINGUISHERS: AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2-A-10B:C SHALL BE PROVIDED WITHIN 75 FEET MAXIMUM TRAVEL DISTANCE FOR EACH 3,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR. (2019 OREGON FIRE CODE SECTION 906.1.1 AND SECTION 906.3.1)

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A.B.	ANCHOR BOLT	EQ.	EQUAL	P/C	PRECAST CONCRETE
ABV.	ABOVE	EXP.	EXPANSION	PCS	PERSONAL COMMUNICATION SERVICES
ACCA	ANTENNA CABLE COVER ASSEMBLY	EXST.(E)	EXISTING	PLY.	PLYWOOD
ADD'L	ADDITIONAL	EXT.	EXTERIOR	PPC	POWER PROTECTION CABINET
A.F.F.	ABOVE FINISHED FLOOR	FAB.	FABRICATION(OR)	PRC	PRIMARY RADIO CABINET
A.F.G.	ABOVE FINISHED GRADE	F.F.	FINISH FLOOR	P.S.F.	POUNDS PER SQUARE FOOT
ALUM.	ALUMINUM	F.G.	FINISH GRADE	P.S.I.	POUNDS PER SQUARE INCH
ALT.	ALTERNATE	FIN.	FINISH(ED)	P.T.	PRESSURE TREATED
ANT.	ANTENNA	FLR.	FLOOR	PWR.	POWER (CABINET)
APPRX.	APPROXIMATE(LY)	FDN.	FOUNDATION	QTY.	QUANTITY
ARCH.	FACE OF CONCRETE	F.O.C.	FACE OF CONCRETE	RAD.(R)	RADIUS
AWG.	AMERICAN WIRE GAUGE	F.O.M.	FACE OF MASONRY	REF.	REFERENCE
BLDG.	BUILDING	F.O.S.	FACE OF STUD	REINF.	REINFORCEMENT(ING)
BLK.	BLOCK	F.O.W.	FACE OF WALL	REQD.	REQUIRED
BLKG.	BLOCKING	F.S.	FINISH SURFACE	RGS.	RIGID GALVANIZED STEEL
BM.	BEAM	FT.(')	FOOT(FEET)	RRU.	RADIO REMOTE UNIT
B.N.	BOUNDARY NAILING	FTG.	FOOTING	SCH.	SCHEDULE
BT.CW.	BARE TINNED COPPER WIRE	G.	GROWTH (CABINET)	SHT.	SHEET
B.O.F.	BOTTOM OF FOOTING	GA.	GAUGE	SIM.	SIMILAR
B/U	BACK-UP CABINET	GI.	GALVANIZE(D)	SPEC.	SPECIFICATION(S)
CAB.	CABINET	G.F.I.	GROUND FAULT CIRCUIT INTERRUPTER	SQ.	SQUARE
CANT.	CANTILEVER(ED)	GLB.(GLU-LAM)	GLUE LAMINATED BEAM	S.S.	STAINLESS STEEL
C.I.P.	CAST IN PLACE	GPS	GLOBAL POSITIONING SYSTEM	STD.	STANDARD
C.S.	CEILING	GRND.	GROUND	STL.	STEEL
CLR.	CLEAR	HDR.	HEADER	STRUC.	STRUCTURAL
COL.	COLUMN	HGR.	HANGER	TEMP.	TEMPORARY
CONC.	CONCRETE	HT.	HEIGHT	THK.	THICK(NESS)
CONN.	CONNECTION(OR)	IGGB.	ISOLATED COPPER GROUND BUS	TMA	TOWER MOUNTED AMPLIFIER
CONST.	CONSTRUCTION	IN.(')	INCHES	T.N.	TOE NAIL
CONT.	CONTINUOUS	INT.	INTERIOR	T.O.A.	TOP OF ANTENNA
d	PENNY (NAILS)	LB.(#)	POUND(S)	T.O.C.	TOP OF CURB
DBL	DOUBLE	L.B.	LAG BOLTS	T.O.F.	TOP OF FOUNDATION
DEPT.	DEPARTMENT	L.F.	LINEAR FEET (FOOT)	T.O.P.	TOP OF PLATE (PARAPET)
D.F.	DOUGLAS FIR	L.	LONG(TUDINAL)	T.O.S.	TOP OF STEEL
DIA.	DIAMETER	MAS.	MASONRY	T.O.W.	TOP OF WALL
DIAG.	DIAGONAL	MAX.	MAXIMUM	TYP.	TYPICAL
DIM.	DIMENSION	M.B.	MACHINE BOLT	U.G.	UNDER GROUND
DWG.	DRAWING(S)	MECH.	MECHANICAL	U.L.	UNDERWRITERS LABORATORY
DWL.	DOWEL(S)	MFR.	MANUFACTURER	U.N.O.	UNLESS NOTED OTHERWISE
EA.	EACH	MIN.	MINIMUM	V.I.F.	VERIFY IN FIELD
EL.	ELEVATION	MISC.	MISCELLANEOUS	W	WIDE(WIDTH)
ELEC.	ELECTRICAL	MTL.	METAL	W	WOOD
ELEV.	ELEVATOR	(N)	NEW	WD.	WEATHERPROOF
EMT.	ELECTRICAL METALLIC TUBING	NO.(#)	NUMBER	W.P.	WEIGHT
E.N.	EDGE NAIL	N.T.S.	NOT TO SCALE	WT.	WEIGHT
ENG.	ENGINEER	O.C.	ON CENTER	W	WIDE(WIDTH)
		OPNG.	OPENING	R	PLATE

ABBREVIATIONS

	NEW ANTENNA		GRID REFERENCE
	EXISTING ANTENNA		DETAIL REFERENCE
	GROUND ROD		ELEVATION REFERENCE
	GROUND BUS BAR		SECTION REFERENCE
	MECHANICAL GRND. CONN.		GROUT OR PLASTER
	CADWELD		(E) BRICK
	GROUND ACCESS WELL		(E) MASONRY
	ELECTRIC BOX		CONCRETE
	TELEPHONE BOX		EARTH
	LIGHT POLE		GRAVEL
	FND. MONUMENT		PLYWOOD
	SPOT ELEVATION		SAND
	SET POINT		WOOD CONT.
	REVISION		WOOD BLOCKING
	CENTERLINE		STEEL
	PROPERTY/LEASE LINE		OVERHEAD SERVICE CONDUCTORS
	MATCH LINE		COAXIAL CABLE
	WORK POINT		FIBER
	GROUND CONDUCTOR		POWER AND FIBER
	TELEPHONE CONDUIT		CHAIN LINK FENCING
	ELECTRICAL CONDUIT (POWER)		WOOD FENCE
			OVERHEAD POWER LINE
			BURIED POWER LINE
			OVERHEAD TELEPHONE LINE
			BURIED TELEPHONE LINE
			BURIED WATER LINE
			BURIED SANITARY SEWER
			BURIED STORM DRAIN

LANDLORD SIGNATURE

1

REGISTERED PROFESSIONAL ENGINEER
 94765 PE
 EMILIO MARIO VALERIO-HERNANDEZ
 MAY 14, 2019
 07/30/2020
EXPIRES: 06/30/2022
 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

T-Mobile
 830 HOLLADAY STREET
 PORTLAND, OR 97232

Technology Associates
 PNW MARKET OFFICE
 7117 SW BEVELAND STREET, SUITE 101
 TIGARD, OR 98006

Technology Associates
 ARCHITECTURE & ENGINEERING
 2667 CAMINO DEL RIO SOUTH, STE. 205
 SAN DIEGO, CA 92108

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0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
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 388 STATE ST
 SALEM, OR 97301
 ROOFTOP

JURISDICTION APPROVAL STAMP
 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
NOTES & LEGEND

SHEET NUMBER
T-2

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL NOTES

4

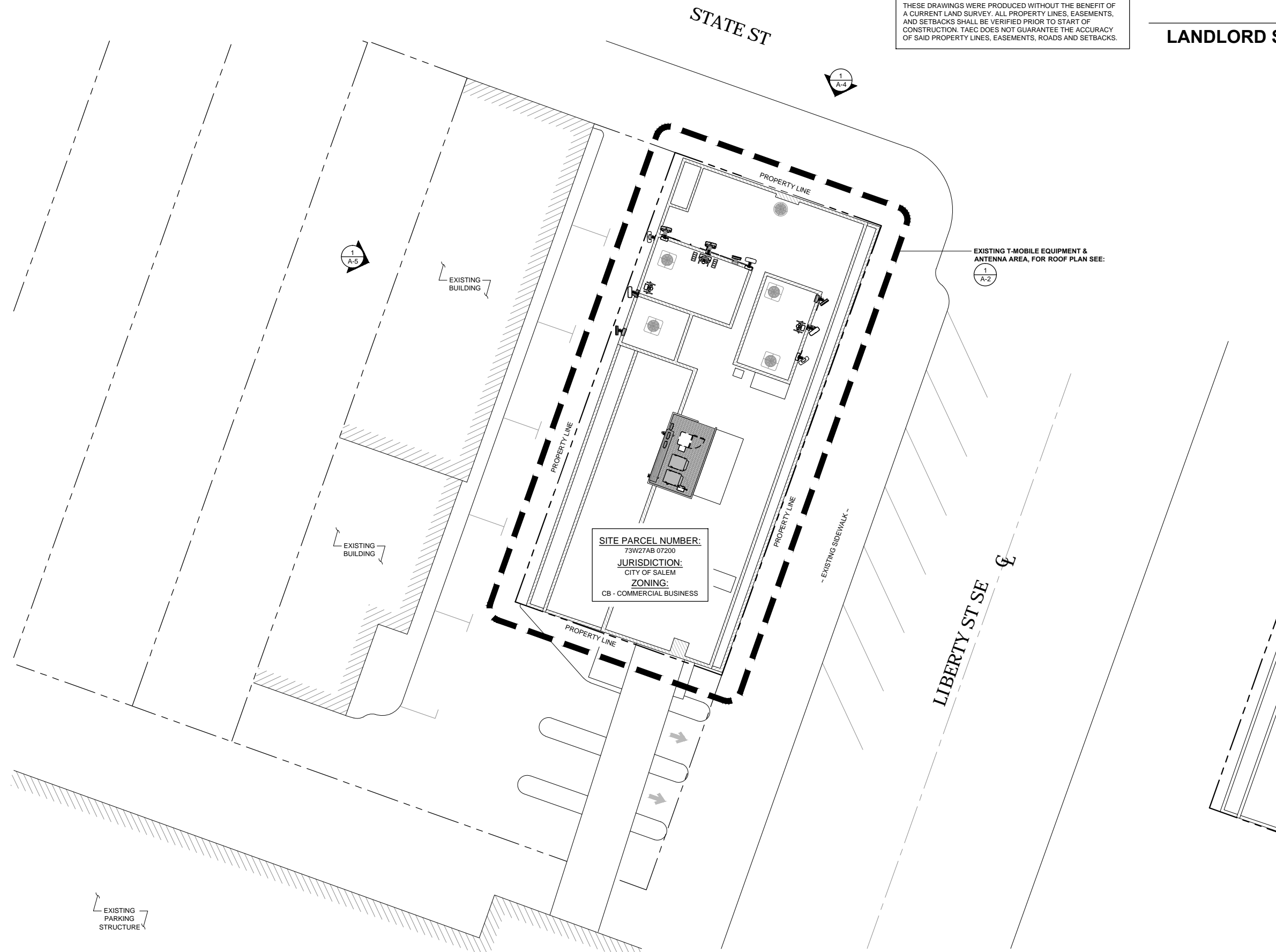
LEGEND

3

NOT USED

2

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SHEET TITLE
 SITE PLAN

SHEET NUMBER
A-1

SITE PLAN

10' 0' 5' 10' SCALE: 1" = 10'-0" (24x36)
 (OR) 1/2" = 10'-0" (11x17)



1

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LANDLORD SIGNATURE

REGISTERED PROFESSIONAL ENGINEER
 94765 PE
 OREGON
Emilio Mario Valerio-Hernandez
 MAY 14, 2018
 EMILIO MARIO VALERIO-HERNANDEZ
 07/30/2020
 EXPIRES: 06/30/2022
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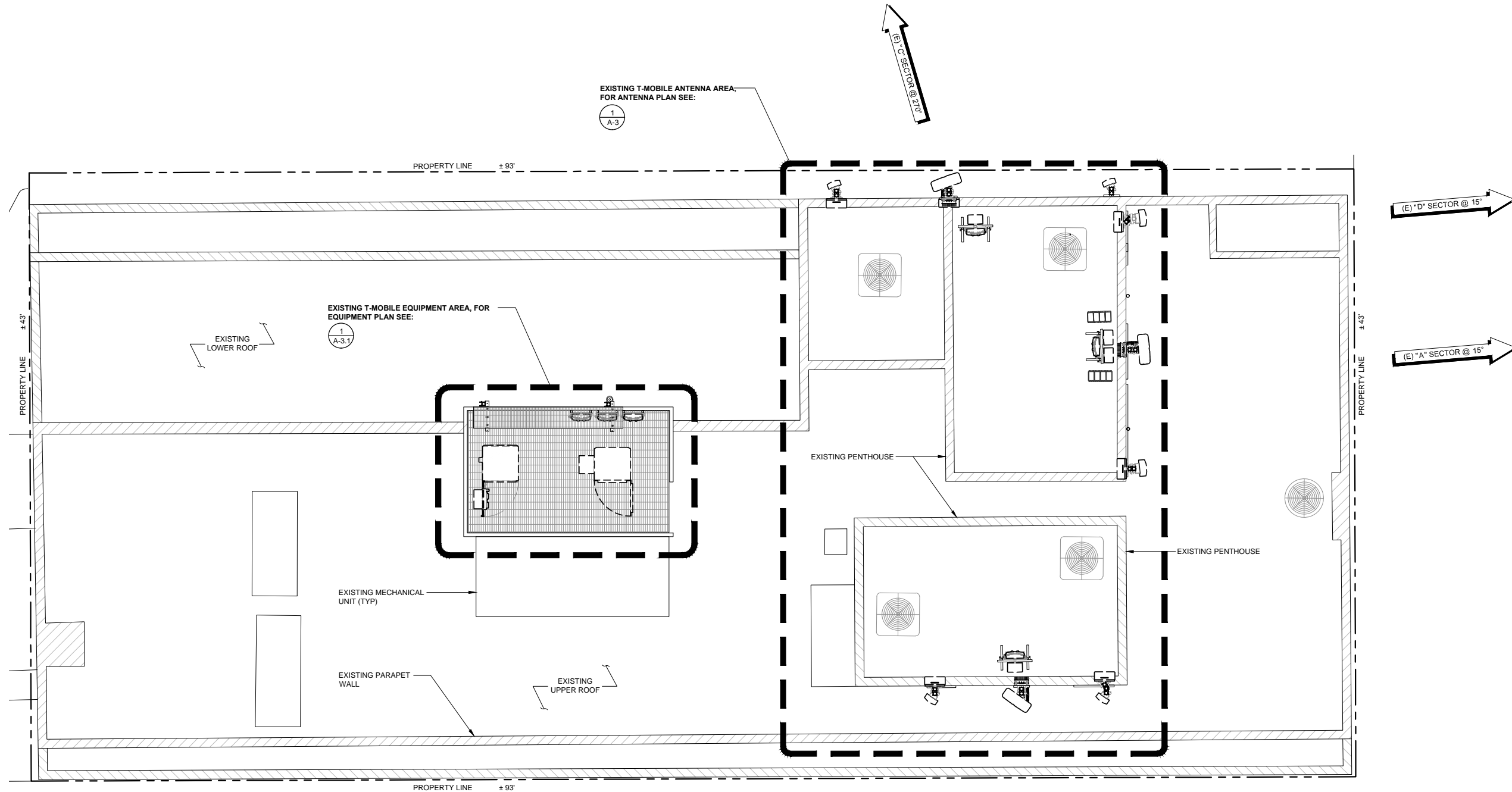
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 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
**ENLARGED
 SITE PLAN**

SHEET NUMBER
A-2



0 1' 2' 4' SCALE: 1/4" = 1'-0" (24x36)
 (OR) 1/8" = 1'-0" (11x17)

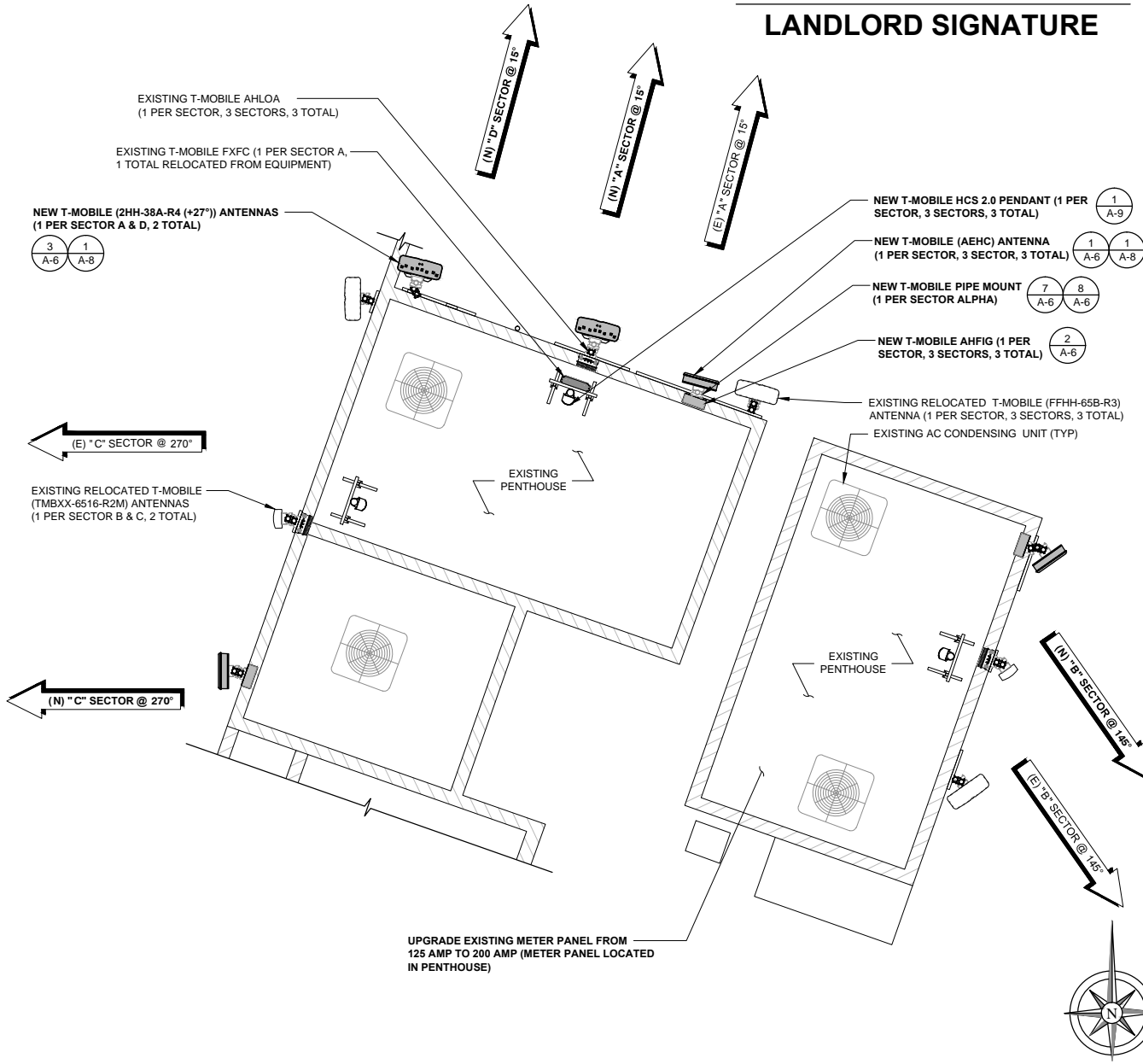
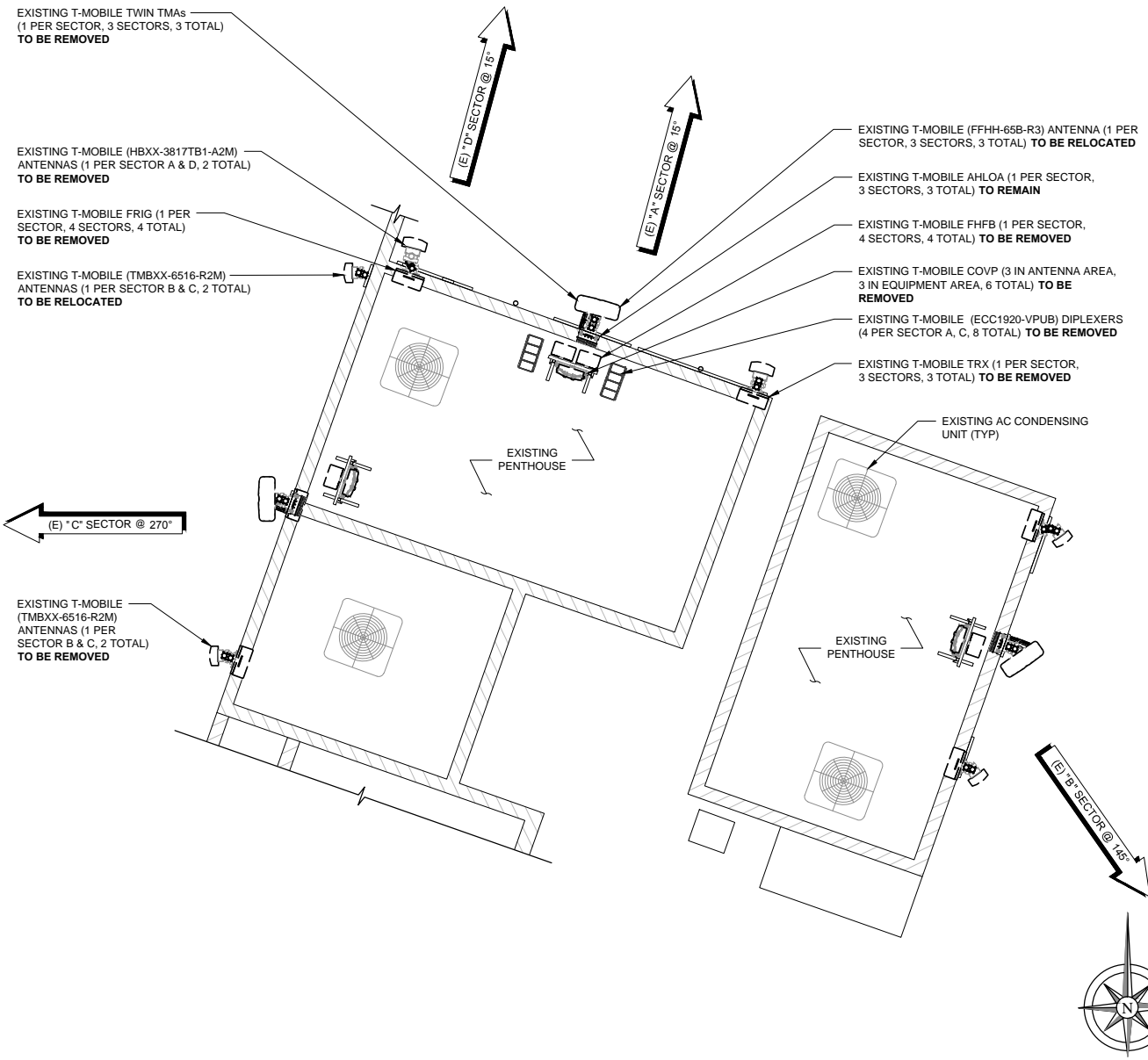
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ENLARGED SITE PLAN

TOWER: EXISTING EQUIPMENT INVENTORY						
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)
EXISTING TO BE RELOCATED	(3)	ANTENNA	COMMSCOPE	FFHH-65B-R3	72" x 25.2" x 9.3"	101.4
EXISTING TO BE RELOCATED	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
EXISTING TO REMAIN	(3)	RRU	NOKIA	AHLOA	22.05" x 12.13" x 7.44"	83.78
REMOVE EXISTING	(3)	COVP	RAYCAP	RNSNDC-7771-PF-48	20.22" x 18.86" x 7"	20
REMOVE EXISTING	(2)	ANTENNA	ANDREW	HBXX-3817TB1-VTM	54.7" x 11.9" x 7.21"	36.4
REMOVE EXISTING	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
REMOVE EXISTING	(4)	RRU	NOKIA	FRIG	23.81" x 17.24" x 7.60"	57.10
REMOVE EXISTING	(4)	RRU	NOKIA	FHFB	23.0" x 12.6" x 7.8"	48.5
REMOVE EXISTING	(3)	TRX	-	-	-	-
REMOVE EXISTING	(8)	DIPLEXER	COMMSCOPE	ECC1920-VPUB	7.6" x 7.3" x 2.6"	7.9
REMOVE EXISTING	(3)	TMA	COMMSCOPE	TMAT1921B78-21A	9.1" x 8.7" x 4.1"	17.6

TOWER: FINAL EQUIPMENT INVENTORY						
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)
EXISTING RELOCATED	(3)	ANTENNA	COMMSCOPE	FFHH-65B-R3	72" x 25.2" x 9.3"	101.4
EXISTING RELOCATED	(2)	ANTENNA	ANDREW	TMBXX-6516-A2M	60.1" x 6.6" x 3.3"	34.6
EXISTING TO REMAIN	(3)	RRU	NOKIA	AHLOA	22.05" x 12.13" x 7.44"	83.78
ADD NEW	(3)	PENDANT	COMMSCOPE	PENDANT BREAKOUT	6.7" x 16.9" x 4.7"	0.970 LB/FT
ADD NEW	(3)	ANTENNA	NOKIA	AEHC	38.2" x 21.5" x 5.9"	108.0
ADD NEW	(2)	ANTENNA	COMMSCOPE	2HH-38A-R4 (+27")	53.1" x 25.2" x 9.3"	68.8
ADD NEW	(3)	RRU	NOKIA	AHFIG	27.6" x 5.6" x 13.4"	79.4
RELOCATED FROM EQUIPMENT	(1)	RRU	NOKIA	FXFC	5.2" x 19.4" x 22.1"	55.1

NOTE:
 1. ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS, MOUNTING HARDWARE, AND RF DESIGN.
 2. REFER TO FINAL CONFIGURATION ANTENNA SCHEDULE ON SHEET RF-1.



LANDLORD SIGNATURE

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

REGISTERED PROFESSIONAL ENGINEER
 94765 PE
 OREGON
 EMILIO MARIO VALERIO-HERNANDEZ
 MAY 14, 2018
 07/30/2020
 EXPIRES: 06/30/2022
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 ARCHITECTURE & ENGINEERING
 2667 CAMINO DEL RIO SOUTH, STE. 205
 SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
 SALEM DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
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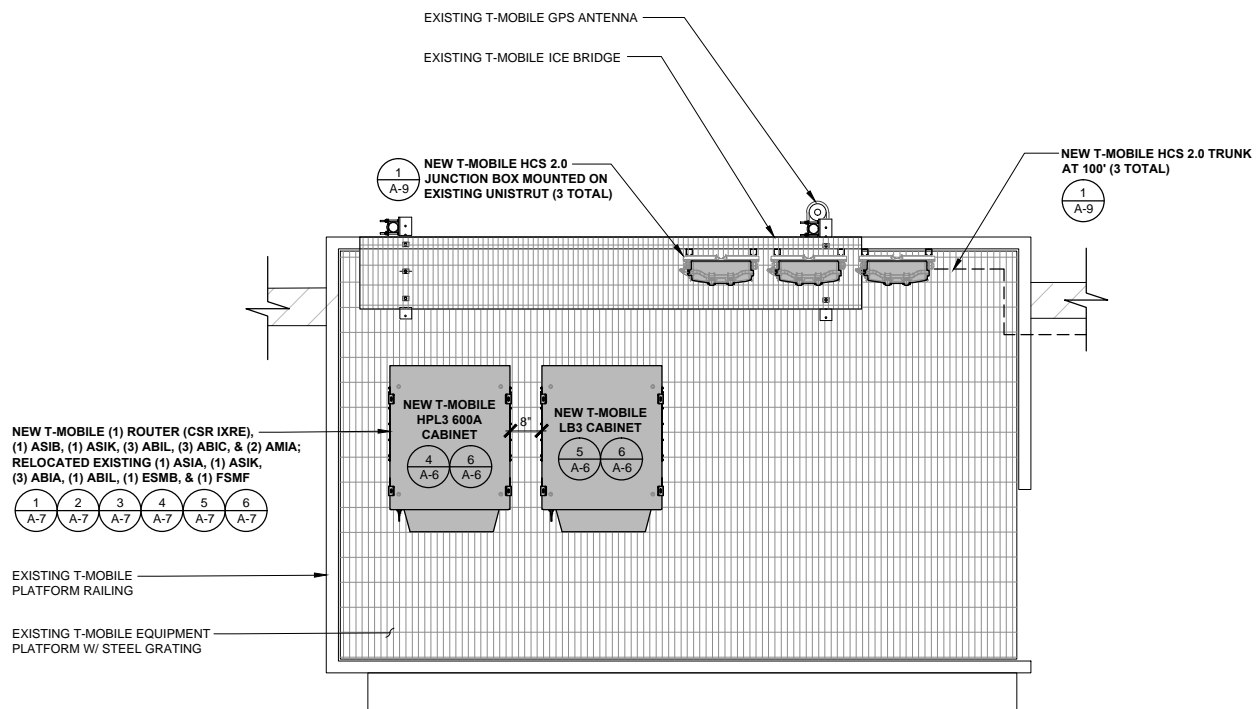
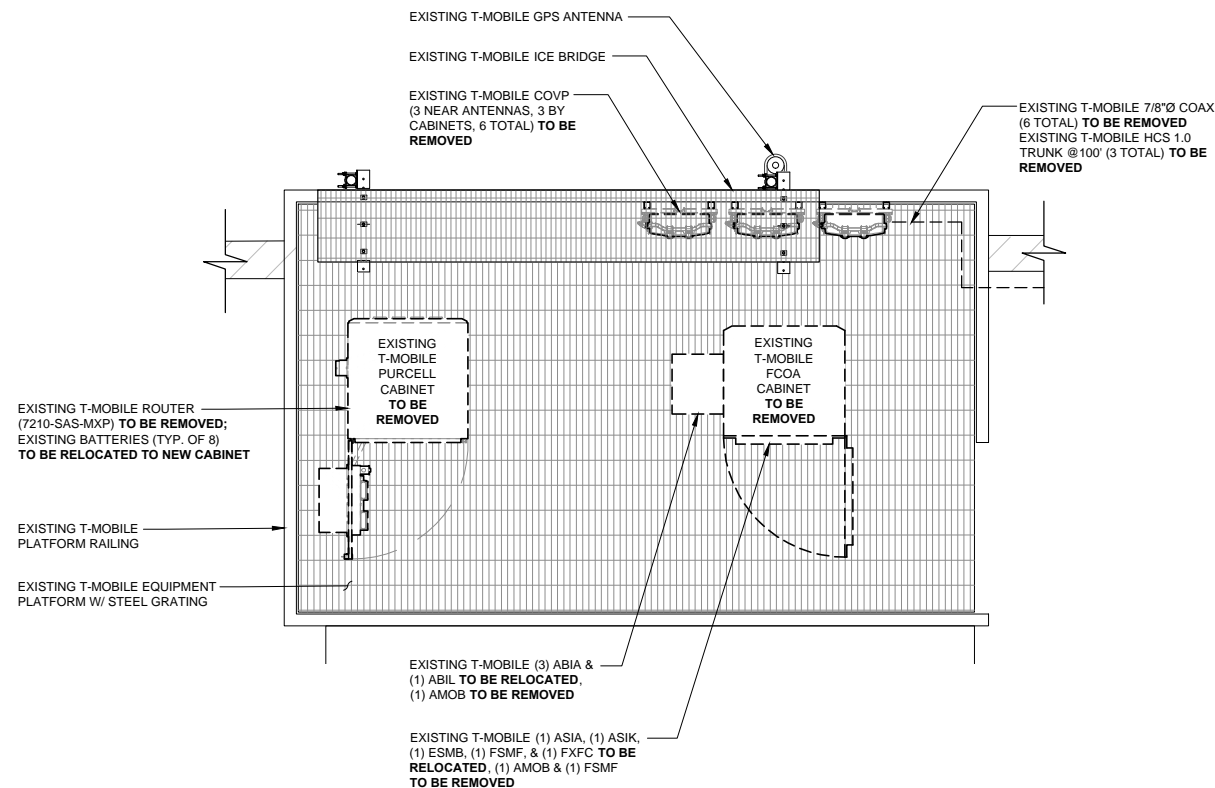
SHEET TITLE
 ANTENNA PLANS

SHEET NUMBER
 A-3

GROUND: EXISTING EQUIPMENT INVENTORY								
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	EQUIPMENT MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)	CABINET TYPE (LOCATION OF EQUIPMENT)	CABINET QUANTITY
REMOVE EXISTING	(3)	COVP	RAYCAP	RNSDC-7771-PF-48	20.22" x 18.86" x 7"	20	ON RAILING	-
REMOVE EXISTING	(1)	CABINET	NOKIA	FCOA	61" x 30.3" x 30.3"	807	ON PLATFORM	1
REMOVE EXISTING	(1)	CABINET	PURCELL	SFX31	57.75" x 32.89" x 38.23"	3124	ON PLATFORM	1
REMOVE EXISTING	(1)	ROUTER	NOKIA	7210 SAS-MXP	2.64" x 17.17" x 9.96"	-	PURCELL	1
REMOVE EXISTING	(6)	CABLE	-	COAX	7/8"Ø	-	-	-
REMOVE EXISTING	(3)	CABLE	-	HCS 1.0 TRUNK	1.5"Ø AT 100'	-	-	-
REMOVE EXISTING	(2)	BASEBAND	NOKIA	AMOB	13.94" x 19.17" x 23.82"	50.71	FCOA	1
REMOVE EXISTING	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIA	14.2" x 8.6" x 1.7"	6.61	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIK	-	-	FCOA	1
EXISTING TO BE RELOCATED	(3)	BASEBAND	NOKIA	ABIA	14.2" x 8.6" x 1.1"	4.41	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ABIL	-	-	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ESMB	5.25" x 18.9" x 18.28"	24.28	FCOA	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	FCOA	1
EXISTING TO BE RELOCATED	(1)	RRU	NOKIA	FXFC	5.2"x17.6"x16.6"	55.1	FCOA	1

GROUND: FINAL EQUIPMENT INVENTORY								
SCOPE OF WORK	QUANTITY	TECHNOLOGY	MANUFACTURER	EQUIPMENT MODEL	DIMENSIONS (LxWxD)	WEIGHT (LBS)	CABINET TYPE (LOCATION OF EQUIPMENT)	CABINET QUANTITY
ADD NEW	(1)	CABINET	DELTA	ESOF015-ECV03 LB3 BATTERY	72" x 30" x 41"	509	ON PLATFORM	1
ADD NEW	(1)	CABINET	DELTA	ESOA600-HCU01 600A SSC	72" x 30" x 41"	551	ON PLATFORM	1
ADD NEW	(1)	ROUTER	NOKIA	7250 IXR-e	1.75" x 17.25" x 10.0"	8.5	HPL3 600A	1
ADD NEW	(1)	BASEBAND	NOKIA	ASIB	1.8" x 8.6" x 14.8"	6.61	HPL3 600A	1
ADD NEW	(1)	BASEBAND	NOKIA	ASIK	-	-	HPL3 600A	1
ADD NEW	(3)	BASEBAND	NOKIA	ABIL	-	-	HPL3 600A	1
ADD NEW	(3)	BASEBAND	NOKIA	ABIC	0.98" x 8.62" x 14.33"	5.84	HPL3 600A	1
ADD NEW	(2)	BASEBAND	NOKIA	AMIA	5.1" x 15.7" x 17.6"	11.2	HPL3 600A	1
ADD NEW	(3)	JUNCTION BOX	COMMSCOPE	FE-16148-OVP-B12	8.0" x 16.0" x 14.0"	15.21	ON RAILING	-
ADD NEW	(3)	CABLE	-	HCS 2.0 TRUNK	1.5"Ø AT 100'	-	-	-
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIA	14.2" x 8.6" x 1.7"	6.61	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ASIK	-	-	HPL3 600A	1
EXISTING TO BE RELOCATED	(3)	BASEBAND	NOKIA	ABIA	14.2" x 8.6" x 1.1"	4.41	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ABIL	-	-	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	ESMB	5.25" x 18.9" x 18.28"	24.28	HPL3 600A	1
EXISTING TO BE RELOCATED	(1)	BASEBAND	NOKIA	FSMF	5.2" x 11.76" x 16.6"	41.9	HPL3 600A	1

LANDLORD SIGNATURE



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 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
EQUIPMENT PLANS

SHEET NUMBER
A-3.1

EQUIPMENT PLAN (EXISTING)

SCALE: 1/2" = 1'-0" (24x36)
 (OR) 1/4" = 1'-0" (11x17)

1

EQUIPMENT PLAN (FINAL)

SCALE: 1/2" = 1'-0" (24x36)
 (OR) 1/4" = 1'-0" (11x17)

2

DISCLAIMER:
TOP OF ROOFTOP, PARAPET, PENTHOUSE,
T-MOBILE ANTENNAS AND WHIP ANTENNA
IS BASED ON 1A SURVEY DATED 5/18/2018
PROVIDED BY SWLS.

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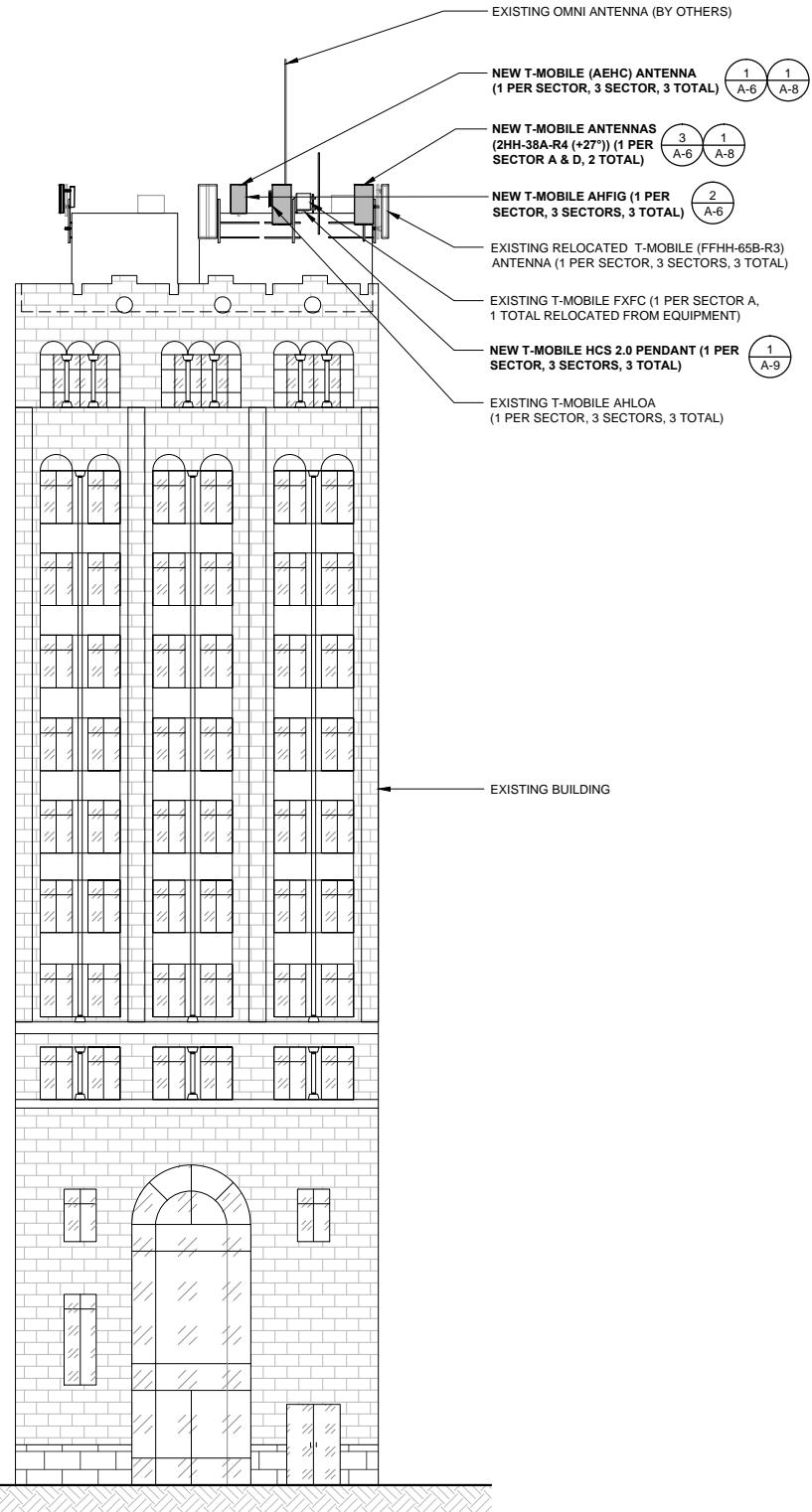
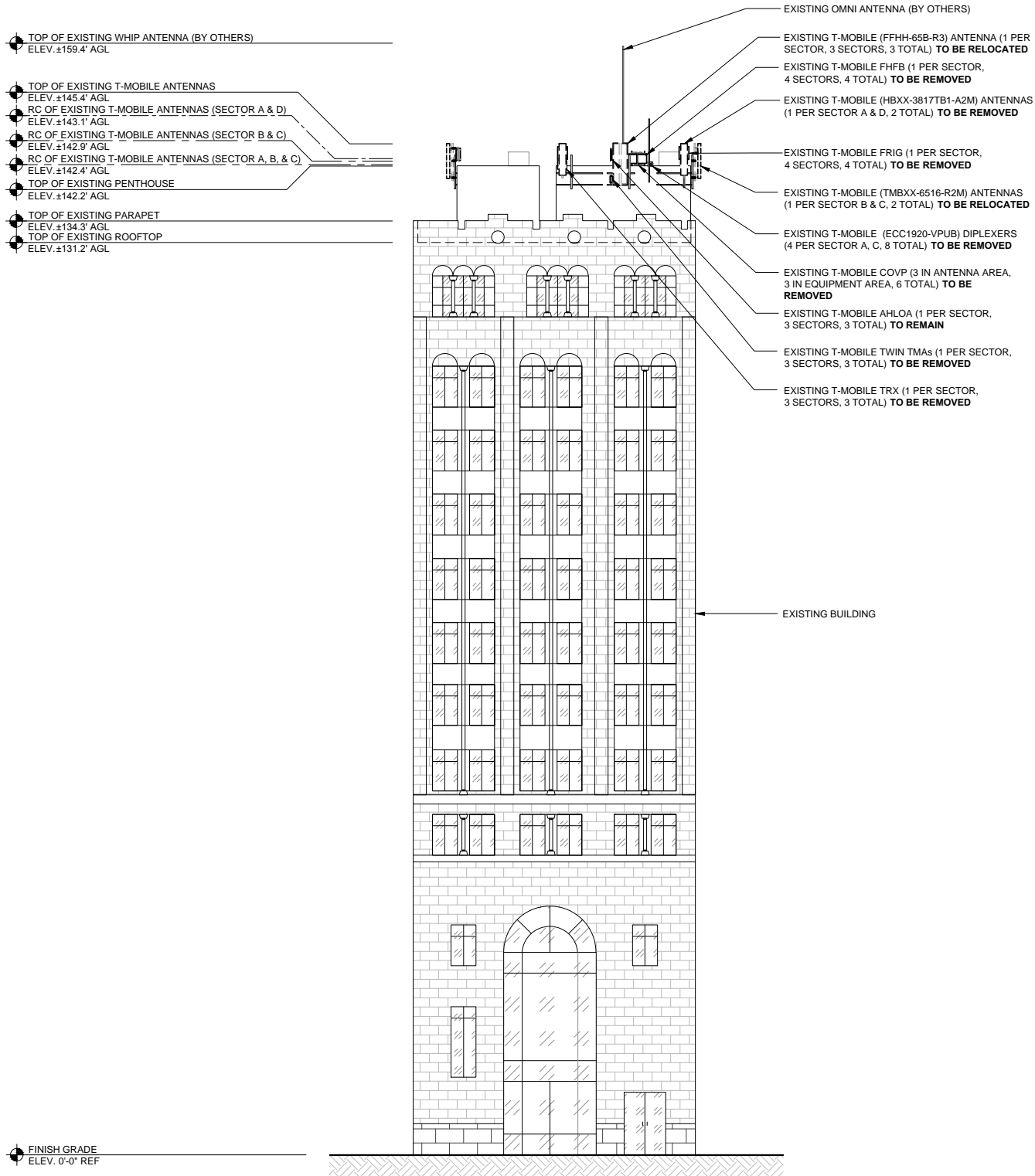
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SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4



NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

NORTHEAST ELEVATION (EXISTING)

0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

1 NORTHEAST ELEVATION (FINAL)

0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

2

DISCLAIMER:
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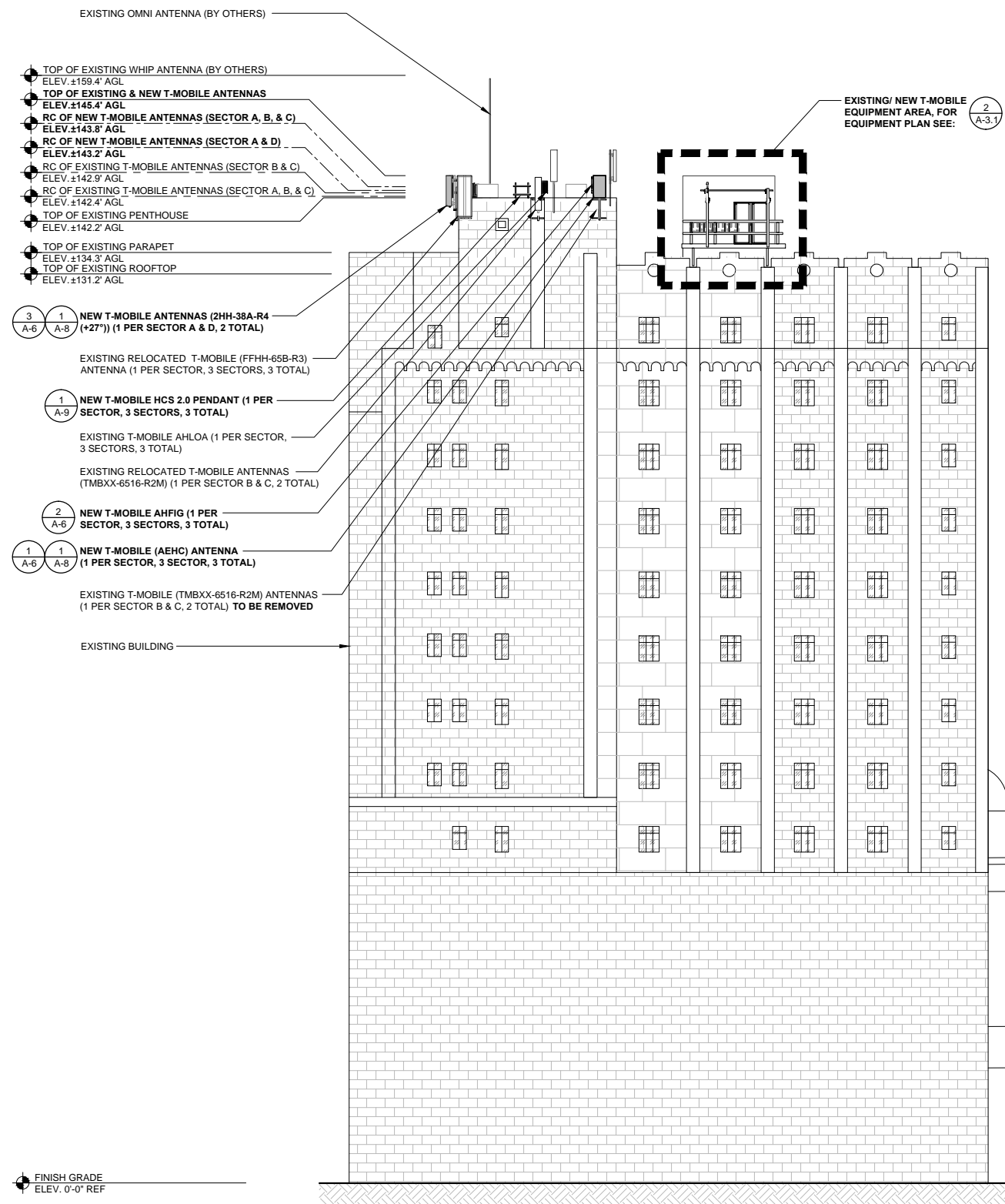
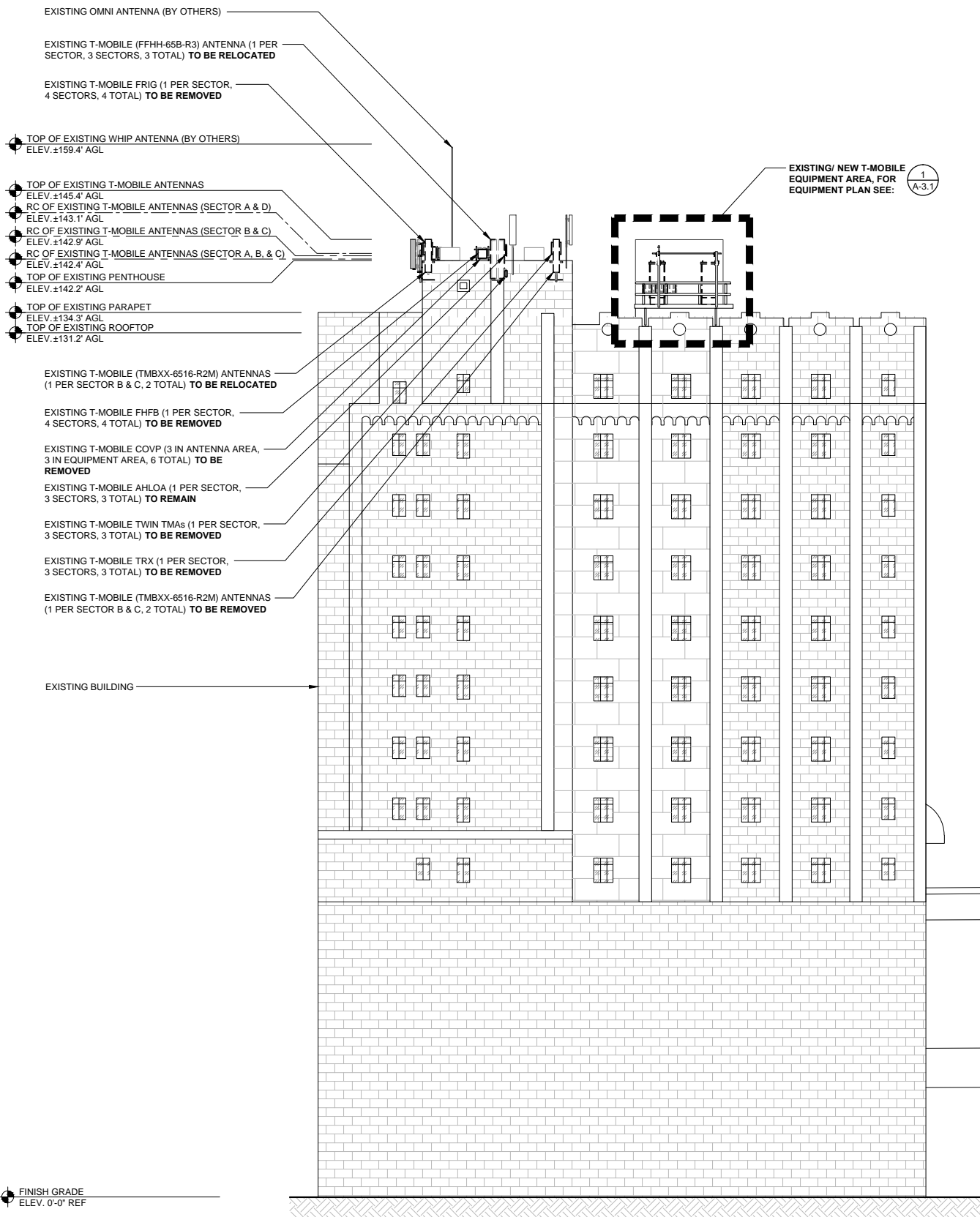
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A	07/07/2020	ANCHOR FOR 90% CD	RKS

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SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-5



NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

NORTHWEST ELEVATION (EXISTING)

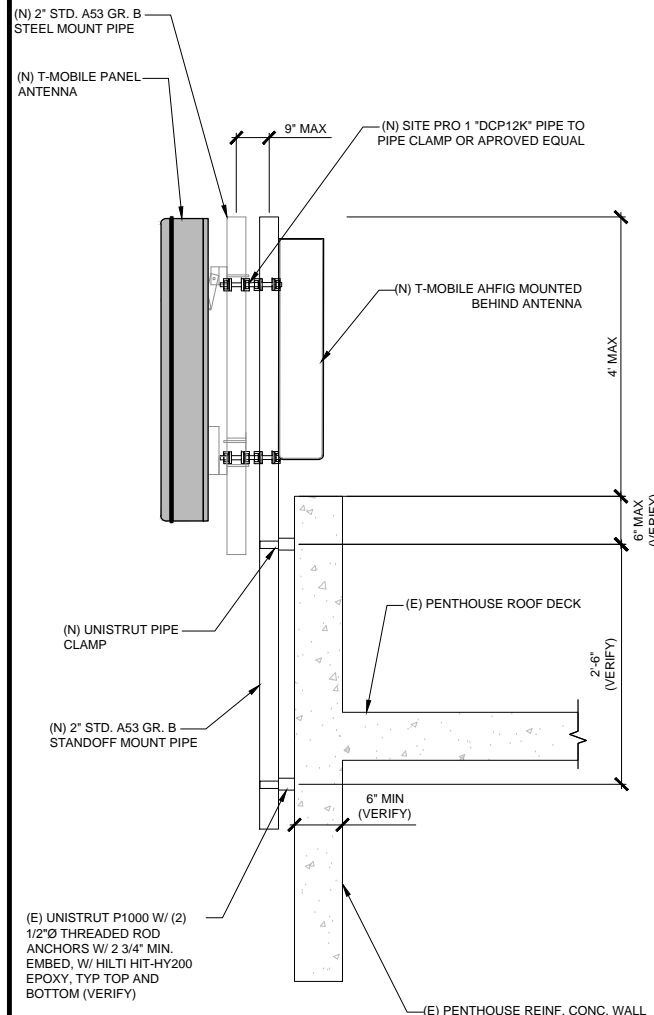
0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

1

NORTHWEST ELEVATION (FINAL)

0 3' 6" 11" SCALE: 3/32" = 1'-0" (24x36)
(OR) 3/64" = 1'-0" (11x17)

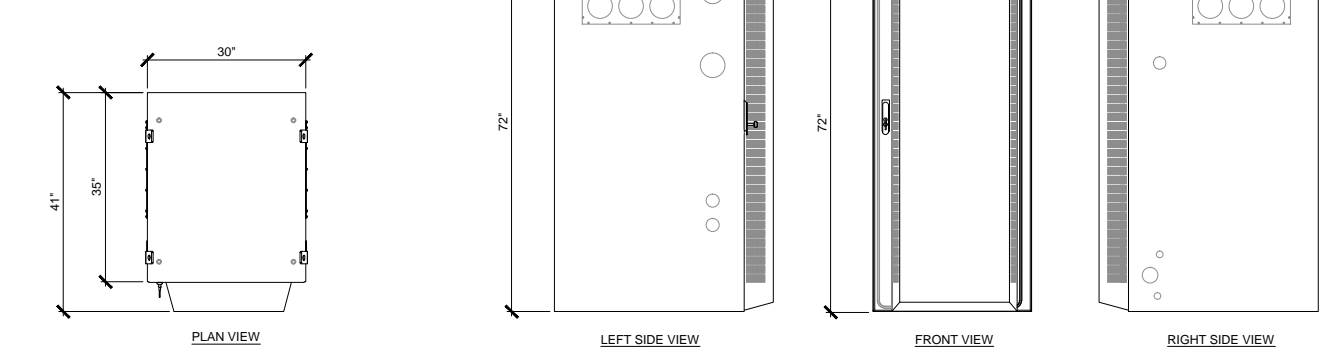
2



PIPE MOUNT DETAIL SCALE N.T.S. 8

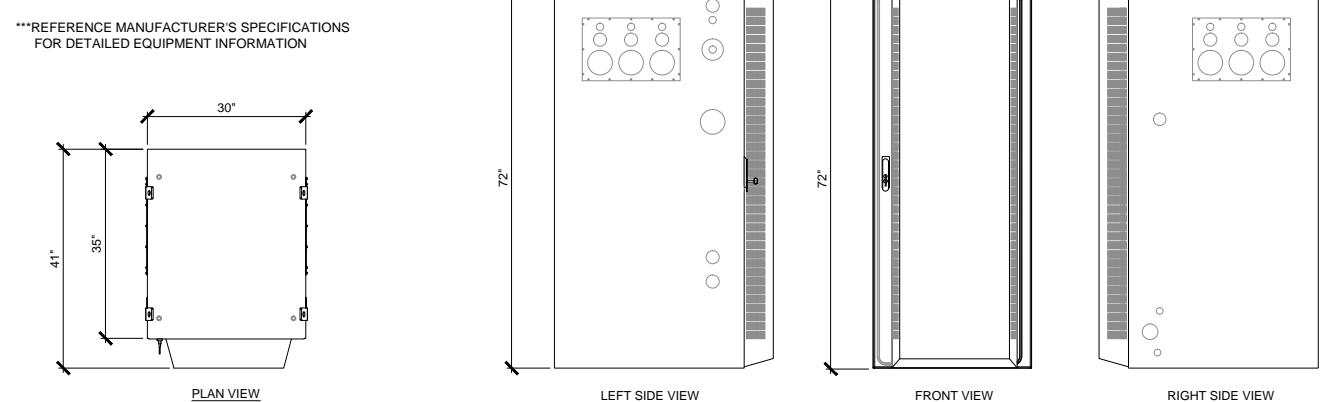
DELTA (ESOA600-HCU01) POWER/EQUIPMENT CABINET

OUTDOOR CABINET
 DIMENSIONS, HxWxD: (72"x30"x41")
 WEIGHT: 551lbs (CABINET ONLY)
 ACOUSTICS: 5° C DELTA T: 70 dBA @6000W, 65dBA @5000W HEAT LOAD
 OPERATING TEMP: -40°F TO +122°F
 COOLING: DIRECT AIR COOLING 6000W, 5°C DELTA T



DELTA (ESOF015-ECV03) DELTA LB3 BATTERY CABINET

OUTDOOR CABINET
 DIMENSIONS, HxWxD: (72"x30"x41")
 WEIGHT: 509lbs (CABINET ONLY)
 ACOUSTICS: EQUIPMENT: 65 dBA
 OPERATING TEMP: -40°F TO +122°F
 COOLING: DIRECT AIR COOLING (4) AXIAL FANS, G3 FILTER



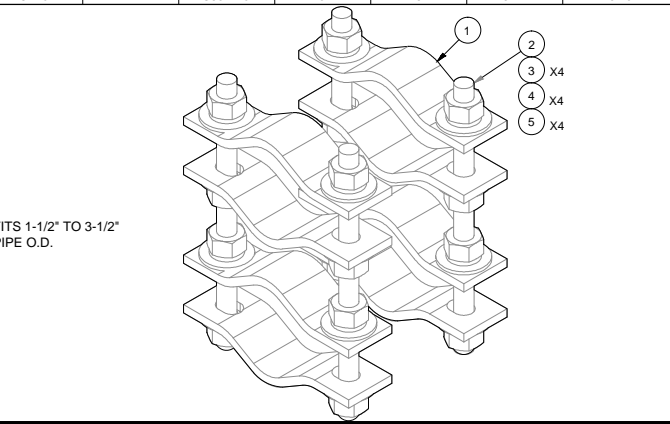
CABINET SPECIFICATIONS SCALE N.T.S. 5

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	DCP	CLAMP HALF, 1/2" THICK, 8-3/8"		2.42	19.36
2	B	C	5/8" THREADED ROD	D	E	F
3	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
4	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
5	16	G58FW	5/8" HDG USS FLATWASHER		0.07	1.13

VARIABLE PARTS TABLE

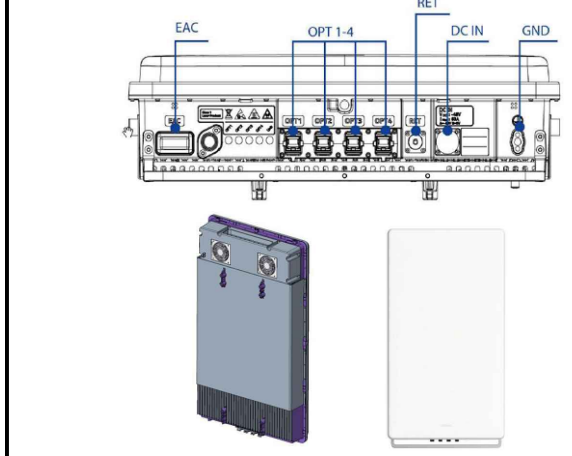
ASSEMBLY "A"	QTY "B"	PART "C"	LENGTH "D"	UNIT WT. "E"	NET WT. "F"	TOTAL WEIGHT
DCP12K	4	G58R-12	12"	1.05	4.18	27.01
DCP18K	4	G58R-18	18"	1.57	6.27	29.10



PIPE TO PIPE MOUNT SCALE N.T.S. 7

NOKIA: MASSIVE MIMO ADAPTIVE ANTENNA (AEHC)

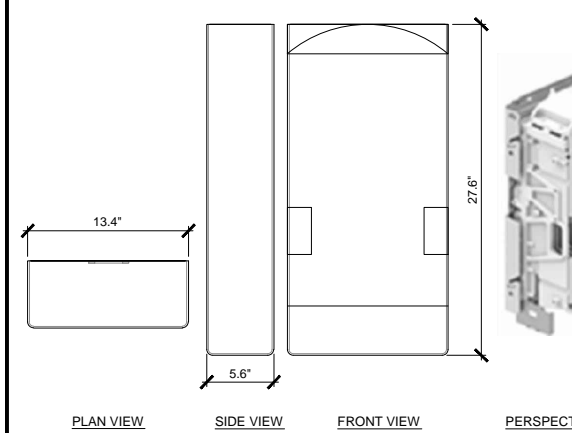
OUTPUT POWER: 5 W / TRX (320 W total, 2 W/MHz up to 160 MHz)
 FREQUENCY RANGE: 2496 MHz - 2690 MHz 3GPP B41
 DIMENSIONS: 38.2"x 5.9"x21.5" (WITH FRONT COVERS)
 WEIGHT: 108.0 LBS



ANTENNA SPECIFICATIONS SCALE N.T.S. 1

NOKIA: AIRSCALE 4T4R DUAL MID-BAND RADIO

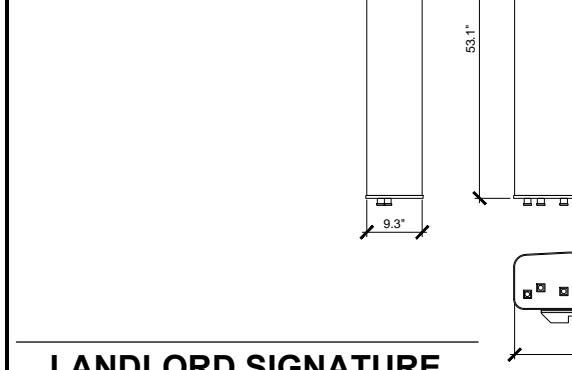
FEATURES: 4T4R DUAL MID-BAND RADIO
 LTE + 5G
 DIMENSIONS: 27.6" x 13.4" x 5.6" (HxWxD)
 WEIGHT: 79.4 LBS



AHFIG SCALE N.T.S. 2

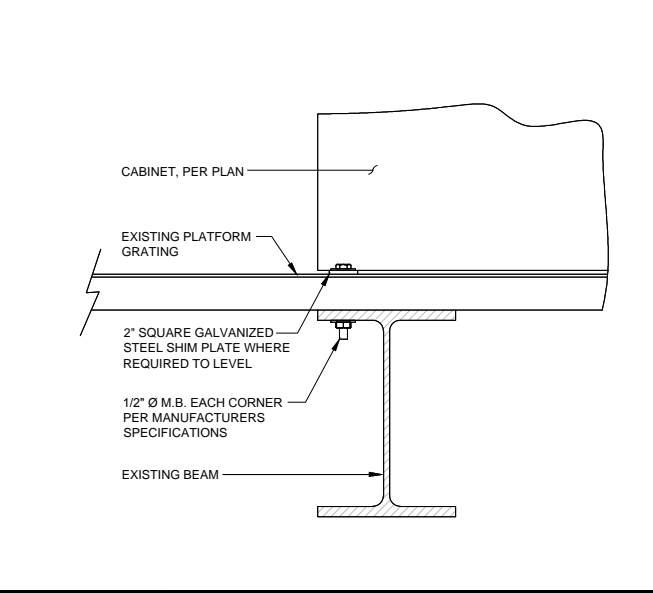
COMMSCOPE: 2HH-38A-R4 (+27°) (MULTI-BEAM)

RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD: 53.1" x 25.2" x 9.3" (1350 x 640 x 235 mm)
 NET WEIGHT: 68.8 lb (31.2 kg)
 CONNECTOR: 4.3-10 DIN FEMALE



ANTENNA SPECIFICATIONS SCALE N.T.S. 3

CABINET ANCHOR DETAIL SCALE N.T.S. 6



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 DETAILS

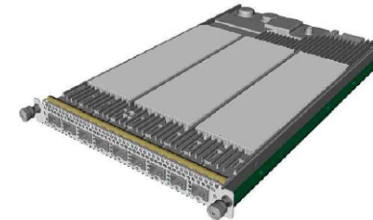
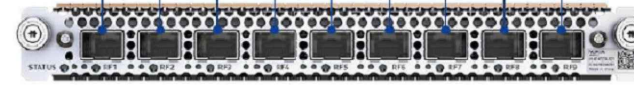
SHEET NUMBER
A-6

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LANDLORD SIGNATURE

NOKIA: AIRSCALE CAPACITY BASEBAND MODULE (ABIC)

DIMENSIONS: 0.98"x8.62"x14.33"
 WEIGHT: 5.84 lbs.
 PRODUCT CODE: 474723A
 FUNCTIONS: ENHANCED INDOOR CAPACITY
 EXTENSION PLUG IN UNIT.

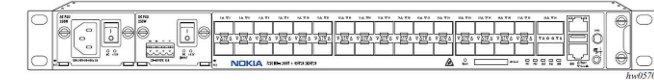


PERSPECTIVE VIEW

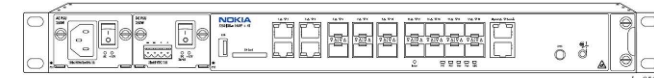
NOKIA: 7250 IXR-e

PARAMETER DESCRIPTION
 DIMENSIONS (HXWXD): 1.75"x17.25"x10.0"
 CHASSIS WEIGHT (UNPOPULATED): 7250 IXR-E 24SFP+ 8SFP28 2QSFP28: 8.5 LBS
 7250 IXR-E 14SFP+ 4T: 8.0 LBS
 PSU SLOT: 2
 MOUNTING: MOUNT IN A RECOMMENDED 19-INCH EQUIPMENT RACK. THE CHASSIS HAS FACTORY-INSTALLED MOUNTING FLANGES FOR FLUSH-MOUNTING, FACING FORWARDS, IN A 19-INCH RACK.

7250 IXR-e 24SFP+8SFP28 2QSFP28 FRONT VIEW



7250 IXR-e 14SFP+4T FRONT VIEW



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DETAILS

SHEET NUMBER
A-7

NOT USED SCALE N.T.S. 10

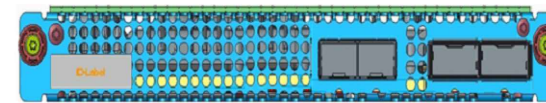
NOT USED SCALE N.T.S. 7

ABIC SCALE N.T.S. 4

INTERCONNECT ROUTER SCALE N.T.S. 1

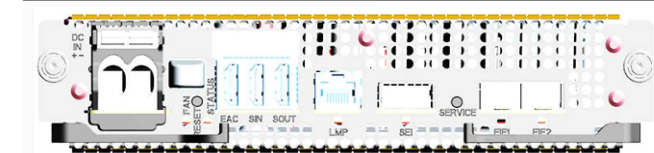
NOKIA: AIRSCALE BASEBAND 5G ONLY CARDS (ABIL)

FEATURES: INITIAL AIRSCALE BASEBAND 5G ONLY CARDS



NOKIA: AIRSCALE CAPACITY BASEBAND MODULE (ASIB)

DIMENSIONS: 1.8"x8.6"x14.8"
 WEIGHT: 6.61 lbs.
 PRODUCT CODE: LTE3178
 FUNCTIONS: INDOOR COMMON PLUG IN UNIT.
 INCLUDES TRANSPORT AND
 CENTRALIZED CONTROL FUNCTIONS
 FOR SUPPORTED RADIO ACCESS
 TECHNOLOGIES.



PERSPECTIVE VIEW

NOT USED SCALE N.T.S. 11

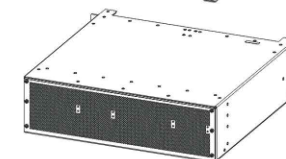
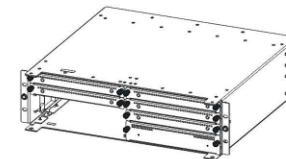
NOT USED SCALE N.T.S. 8

ABIL SCALE N.T.S. 5

ASIB SCALE N.T.S. 2

NOKIA: AIRSCALE SUBRACK INDOOR (AMIA)

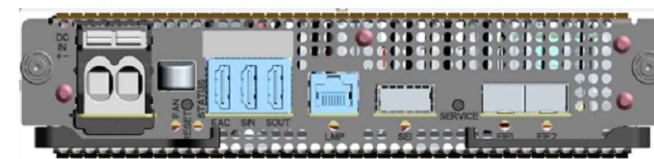
DIMENSIONS: 5.1" x 15.7" x 17.6"
 WEIGHT: 11.2 lbs. (AMIA ENCLOSURE)
 INGRESS PROTECTION: IP20
 OPERATING TEMPERATURE: -5°C UP TO +55°C OR 60°C (INDOOR)
 INSTALLATION TEMPERATURE:
 MAIN PROPERTIES:
 IT SUPPORTS UP TO 2 AIRSCALE COMMON PLUG-IN UNITS. IT SUPPORTS UP TO 6 AIRSCALE CAPACITY PLUG-IN UNITS. IT CAN BE INSTALLED INSIDE A 19" WIDE RACK OR CABINET. IT INCLUDES A SUBRACK FRAME, A BACKPLANE FOR HIGH BANDWIDTH INTERCONNECT BETWEEN AIRSCALE COMMON AND AIRSCALE CAPACITY PLUG-IN UNITS. HAS FANS WITH CHANGEABLE AIRFLOW DIRECTION, AND HAS BLIND-UNITS TO PREVENT COOLING AIRFLOW LEAKAGE.



FRONT AND REAR VIEWS

NOKIA: AIRSCALE BASEBAND 5G ONLY CARDS (ASIK)

FEATURES: INITIAL AIRSCALE BASEBAND 5G ONLY CARDS



PERSPECTIVE VIEW

NOT USED SCALE N.T.S. 12

NOT USED SCALE N.T.S. 9

AMIA SCALE N.T.S. 6

ASIK SCALE N.T.S. 3

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

Installation Instructions



Mounting Kits For Wide Panel Antennas

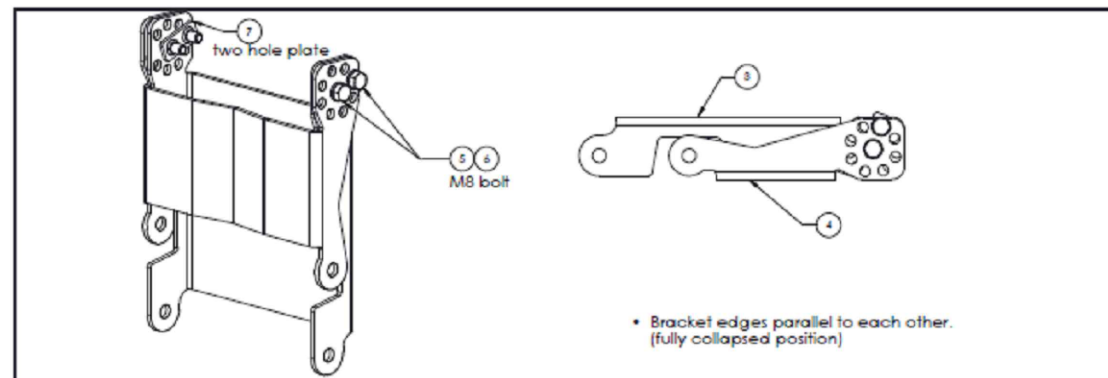
BSAMNT Series: Mounting systems for cylindrical pipe installations (60-115mm pipe diameter) for heavy duty applications

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Page 1 of 2

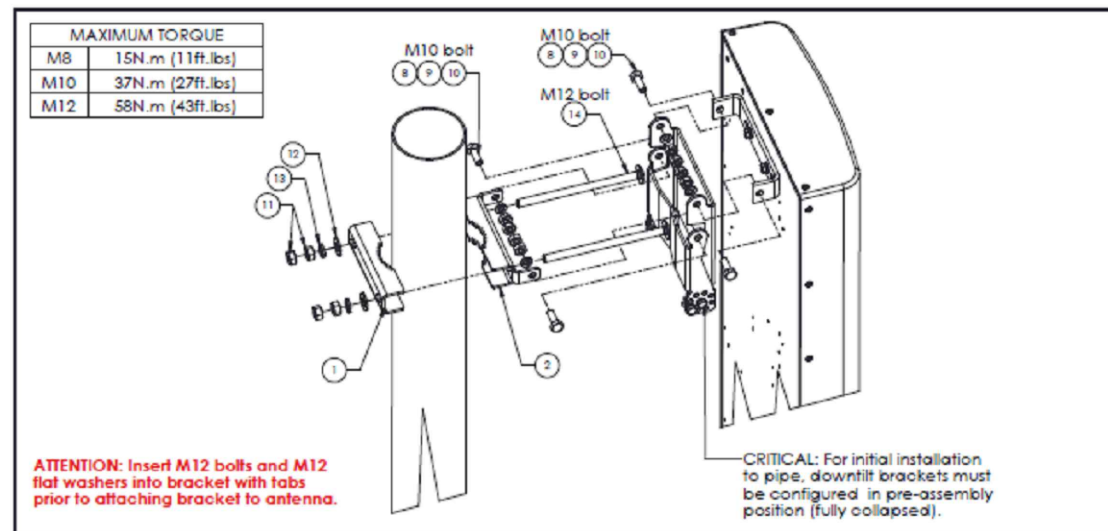
Andrew Institute offers installation training.

ITEM NO.	DESCRIPTION	QTY	U/M
1	PIPECLAMP BRACKET, NO FLANGE	2	EA
2	PIPECLAMP BRACKET, SHORT FLANGES	2	EA
3	NOTCHED BRACKET	1	EA
4	BRACKET	1	EA
5	SCR,HH,HEX,M8X25,SST,PASS	4	EA
6	WSHR,LK,SPLT,M8,STL,GALV	4	EA
7	TWO HOLE PLATE, 8mm X 1.25 PITCH	2	EA
8	NUT,HEX,M10,STL,GALV	12	EA
9	WSHR,LK,SPLT,M10,STL,GALV	6	EA
10	SCR,HCS,HEX,M10X40,STL,GALV	6	EA
11	NUT,HEX,M12,STL,GALV	8	EA
12	WSHR,FLT,M12,13X28X2.5,STL,GALV	4	EA
13	WSHR,LK,SPLT,M12,STL,GALV	4	EA
14	BOLT,CARRIAGE,M12 X 200,STL,GALV	4	EA

Part Lists



Pre-assembly of Downtilt Brackets



Top / Middle Mount Installations

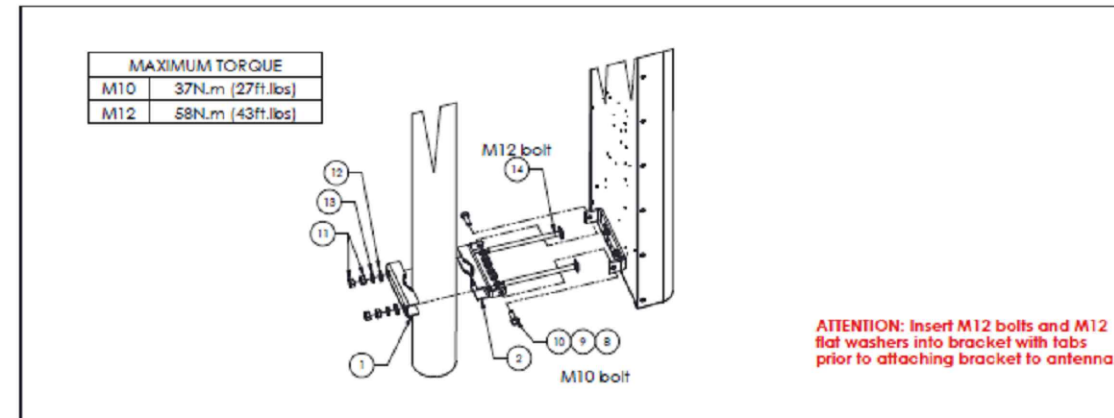
ATTENTION: Insert M12 bolts and M12 flat washers into bracket with tabs prior to attaching bracket to antenna.

BSAMNT Mounting Kit

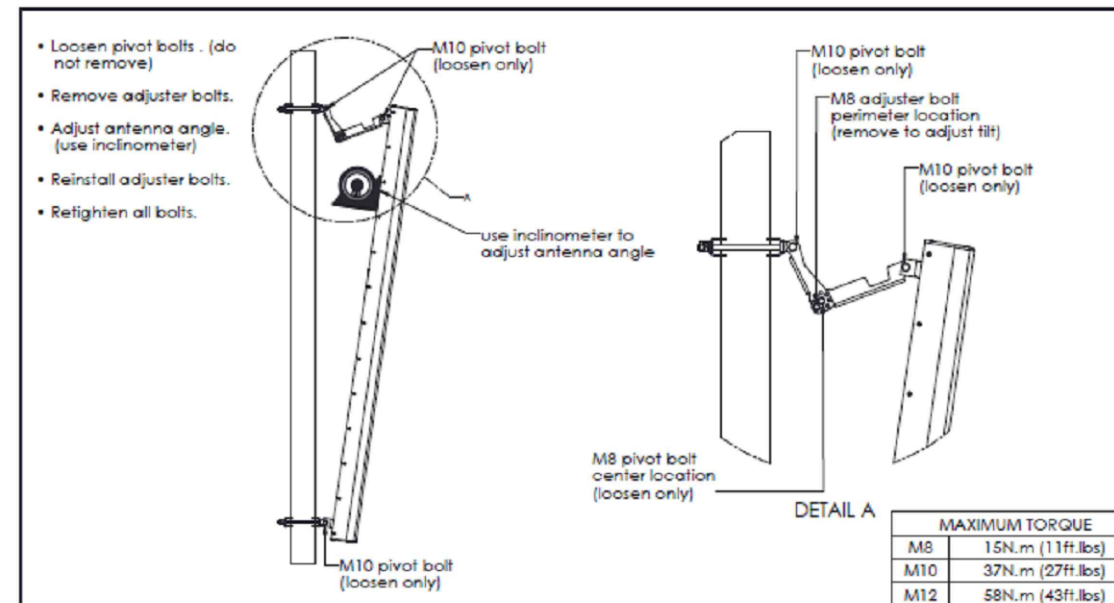
CommScope

(Continued from page 1)

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Bottom Mount Installation



Adjusting Antenna Tilt

SAFETY NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. CommScope installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

CommScope disclaims any liability or responsibility for the results of improper or unsafe installation practices.

It is recommended that transmit power be turned off when the field installation is performed. Follow all applicable safety precautions as shown on this page.



Do not install near power lines. Power lines, telephone lines, and guy wires look the same. Assume any wire or line can electrify you.



Do not install on a wet or windy day or when lightning or thunder is in the area. Do not use metal ladder.



Wear shoes with rubber soles and heels. Wear protective clothing including a long-sleeved shirt and rubber gloves.

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www.commscope.com/andrew
Visit our Web site at www.commscope.com or contact your local sales representative for more information.
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REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
SALEM
DOWNTOWN

388 STATE ST
SALEM, OR 97301
ROOFTOP

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
ANTENNA
MOUNTING
SPECIFICATIONS

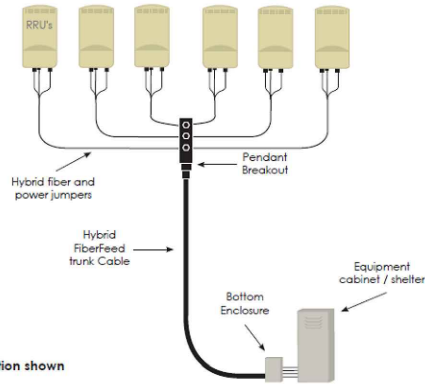
SHEET NUMBER

A-8

SCALE
N.T.S. 1

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

Section 1: HELIAX® FiberFeed® Pendant Connect



Accessories

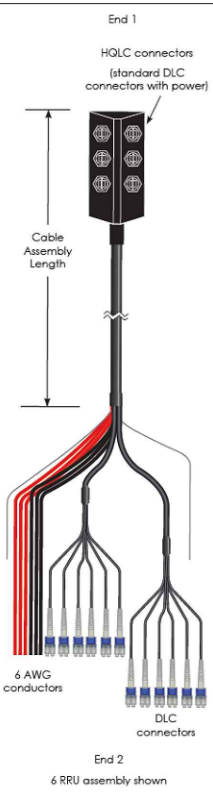
Part Number	Description
Enclosure	
FE-16148-OVP-B12	Fiber and power cable connection enclosure. Weatherproof to IP67
Hanger	
252115	Snap-In Hanger for FD2606-Series trunk cable, kit of 10
FA-3540-STH	Snap-In Hanger for FD1206-Series trunk cable, kit of 10
SSH-78	Snap-Stat® Hanger for Hybrid jumper cable (grammet required), kit of 10
HG-15MWA-78	Hanger Grammet for SSH-78, kit of 10
SSH-12	Snap-Stat® Hanger for fiber (only jumper cable (grammet required), kit of 10
HG-4X6MWA-12	Hanger Grammet for SSH-12, kit of 10
Other	
19256-BC	Hoisting grip for FD2606-series
UG12158-15841	Universal grounding kit
FCCH	DLC & iC interface cleaner
252130	Angle Adapters

Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 2: General Specifications

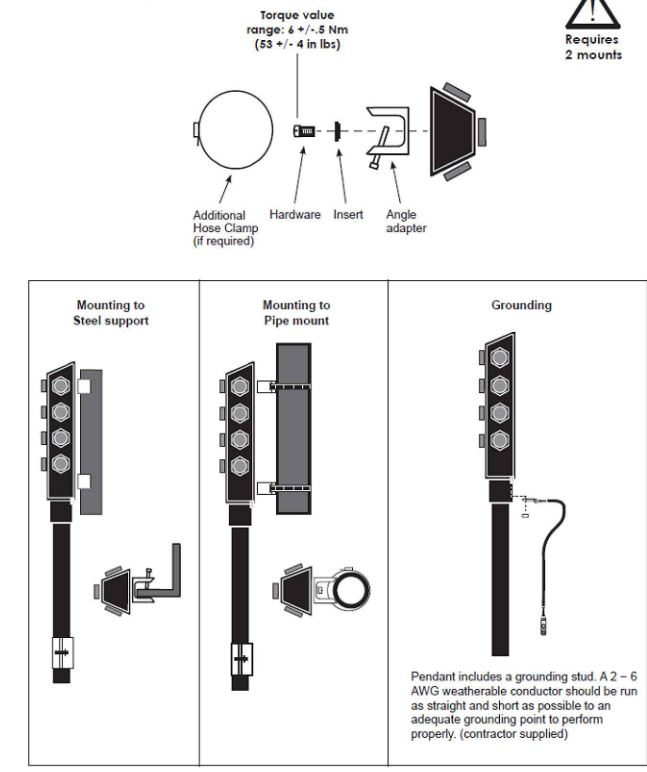
Cable Type	FD2606-24555-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	6
Total Fiber Quantity	24
Shielding Type	Conjugated aluminum
Fiber Type	Bend insensitive single mode fiber (G.657.A2)
Construction Type	Direct Breakout
Dimensions	
Cable Weight	1450.0 kg/km 970.0 lb/ft
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
Breakout Length, Power, end 2	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	3557 N 800 lbf

Cable Type	FD21206-48555-XXX
Brand	HELIAX® FiberFeed®
Center Conductor Gauge	6 AWG
Conductors, quantity	12
Total Fiber Quantity	48
Shielding Type	Conjugated 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/ft
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
Breakout Length, Power, end 2	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

Section 4: Mounting / Grounding



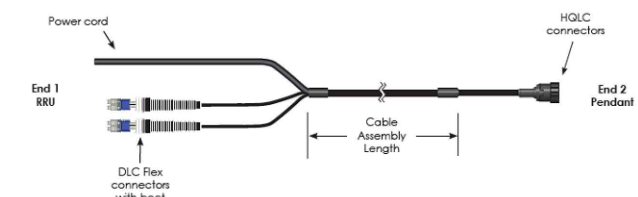
Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 5: General Specifications Pendant to RRU Tails

- In general this cable will handle similarly to coaxial cable.
- The terminated fiber ends however are fragile and must be protected during installation. Leave the packaging around the fiber ends in place until ready to make final connection of the jumper at the RRU or BBU.
- DO NOT BEND THE FIBER ENDS TIGHTER THAN 30 mm (1.2 in) BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- Attach the main cable securely to the structure or equipment using mount to prevent strain on connections from movement in wind or snow/ice conditions.
- Ensure the DLC fiber connector is seated firmly in RRU.
- HQLC connectors have indicator markings for proper alignment.
- HQLC outdoor connector is a 1/4 turn, tighten until the shell hits a positive stop.
- Ensure the weatherproof boots for both fiber and power connections are seated firmly in the RRU.
- Installation temperature range is -30 °C to 70 °C (-22 °F to 158 °F).
- All tails are individually serialized, for immediate access to test results visit www.commscope.com/webtrak

General Specifications

Cable Type	HFT410-43NOK3-xx	HFT410-43NOK3-xx (for FAS8)
Brand	HELIAX® FiberFeed®	HELIAX® FiberFeed®
Total Fiber Quantity	4	4
Fiber Type	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)
Jacket Color	Black	Black
Dimensions		
Cable Weight	456.1 kg/km 306.5 lb/ft	456.1 kg/km 306.5 lb/ft
Breakout Length, Fiber, end 1	815 mm 32 in	1540 mm 61 in
Breakout Length, Power, end 1	895 mm 35 in	457 mm 18 in
Breakout Length, Fiber, end 2	600 mm 24 in	1831 mm 0.72 in
Diameter Over Jacket	1831 mm 0.72 in	1831 mm 0.72 in
Physical Specifications		
Minimum Bend Radius, loaded	365.8 mm 14.4 in	365.8 mm 14.4 in
Minimum Bend Radius, unloaded	221.0 mm 8.7 in	221.0 mm 8.7 in
Tensile Load, long term, maximum	801 N 180 lbf	801 N 180 lbf
Tensile Load, short term, maximum	2669 N 600 lbf	2669 N 600 lbf



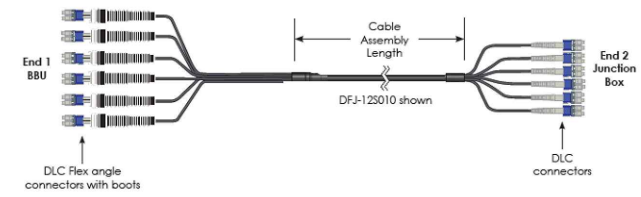
Visit www.commscope.com for complete specifications on all the products listed. Bulletin # 7727406 Rev. C

Section 7: General Specifications Bottom Enclosure to BBU Direct breakout Trunk

- In general cables will handle similarly to a coaxial cable.
- The terminated fiber ends however are fragile and must be protected during installation. Leave the packaging around the fiber ends in place until ready to make final connect of the jumper at the RRU or BBU.
- DO NOT BEND THE FIBER ENDS TIGHTER THAN 30 mm (1.2 in) BEND RADIUS ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- Attach the cable securely to the structure or equipment rack using tie wraps or velcro to prevent strain on the cables.
- Ensure the DLC fiber connector is seated firmly in Enclosure and BBU.
- Installation temperature range is -30 °C to 70 °C (-22 °F to 158 °F).
- All tails are individually serialized, for immediate access to test results visit www.commscope.com/webtrak

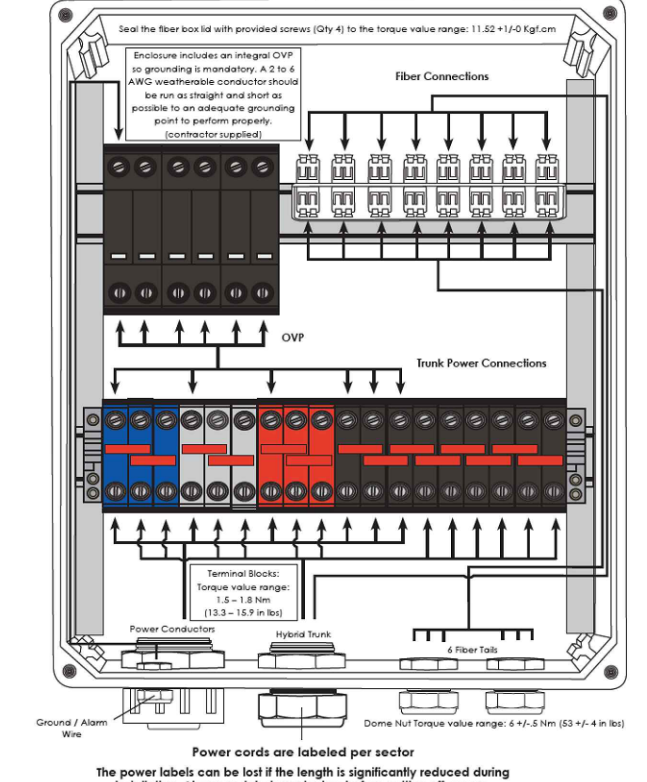
General Specifications

Cable Type	DFJ-45010-xx	DFJ-12010-xx	DFJ-45025-xx	DFJ-12025-xx
Brand	HELIAX® FiberFeed®	HELIAX® FiberFeed®	HELIAX® FiberFeed®	HELIAX® FiberFeed®
Total Fiber Quantity	6	12	6	12
Fiber Type	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)	Bend insensitive single mode fiber (G.657.A2)
Jacket Color	Black	Black	Black	Black
Dimensions				
Cable Weight	69 kg/km 46 lb/ft	69 kg/km 46 lb/ft	69 kg/km 46 lb/ft	69 kg/km 46 lb/ft
Breakout Length, Fiber, end 1	762 mm 30 in	815 mm 32 in	762 mm 30 in	762 mm 30 in
Breakout Length, Fiber, end 2	1047 mm 42 in	1047 mm 42 in	1047 mm 42 in	1047 mm 42 in
Diameter Over Jacket	8 mm 0.31 in	8 mm 0.31 in	8 mm 0.31 in	8 mm 0.31 in
Physical Specifications				
Minimum Bend Radius, loaded	12 cm 4.7 in	12 cm 4.7 in	12 cm 4.7 in	12 cm 4.7 in
Minimum Bend Radius, unloaded	8.0 cm 3.1 in	8.0 cm 3.1 in	8.0 cm 3.1 in	8.0 cm 3.1 in
Tensile Load, long term, maximum	400 N 90 lbf	400 N 90 lbf	400 N 90 lbf	400 N 90 lbf
Tensile Load, short term, maximum	1334 N 300 lbf	1334 N 300 lbf	1334 N 300 lbf	1334 N 300 lbf



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Section 9: FE-16148-OVP-B12 Junction Box Wiring Diagram



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REGISTERED PROFESSIONAL ENGINEER
94765 PE
EMILIO MARIO VALERIO-HERNANDEZ
MAY 14, 2018
07/30/2020
EXPIRES: 06/30/2022
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PORTLAND, OR 97232

Technology Associates
PNW MARKET OFFICE
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TIGARD, OR 98006

Technology Associates
ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
SALEM DOWNTOWN
388 STATE ST
SALEM, OR 97301
ROOFTOP

JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
HELIAX FIBER FEED
PENDANT CONNECT

SHEET NUMBER
A-9

SCALE
N.T.S. **1**

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

ELECTRICAL GROUNDING SPECIFICATIONS

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE CURRENTLY IN EFFECT FOR THE AUTHORITY HAVING JURISDICTION.
- ALL GROUNDING DEVICES SHALL BE U.L. LISTED FOR THEIR INTENDED USE.
- GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
- CONNECTIONS OF ALL GROUND WIRES TO THE GROUND RING SHALL BE EXOTHERMIC (CAD-WELDED), UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND T-MOBILE WIRELESS BROADBAND STANDARDS.
- GROUNDING CONDUCTORS SHALL BE ROUTED ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. WHEN REQUIRED, GROUND LEADS SHALL BE BENT TO A MINIMUM OF 8" RADIUS.
- WHERE GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO THE GROUND RING, INSTALL WIRE IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM CONNECTION POINT TO 5" BELOW GRADE AND SEAL THE TOP WITH SILICONE SEALANT.
- ALL GROUND BARS SHALL BE TINNED, 1/4" COPPER, SECTOR BARS 2", COLLECTOR AND MGB BARS 4", OF SUFFICIENT LENGTH TO ACCOMMODATE ALL REQUIRED CONNECTIONS WITHOUT DOUBLING LUGS, AND EACH INSTALLED WITH ISOLATORS. WHEN CONNECTING GROUND BARS (WITHIN 10 FEET OF GRADE) DIRECTLY TO THE GROUND RING, 2 EA. #2 SOLID DOWNLEADS SHALL BE CAD-WELDED TO THE GROUND BAR, 1 AT EACH OPPOSITE BOTTOM CORNER, AND EACH SHALL RUN IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM GROUND BAR DOWN TO THE GROUND RING. WHEN CONNECTING SECTOR GROUND BARS, DAISY-CHAIN THE GROUND BARS AND RUN 1 EA. #2 AWG STRANDED COPPER WIRE WITH THWN INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND RING AND CAD-WELD TO THE RING.
- WHEN ATTACHING STRANDED GROUND LEADS TO THE GROUND BARS, 2 HOLE COMPRESSION LUGS SHALL BE USED, PROTECT WITH WEATHERPROOF HEAT SHRINK, AND WITH A THIN COAT OF "KOPR SHIELD" OR EQUIVALENT PROPERLY APPLIED AND ATTACHED ONLY WITH STAINLESS STEEL HARDWARE.
- WHEN GROUNDING EQUIPMENT ENCLOSURES, PANELS, FRAMES, AND OTHER METAL APPARATUS, A #6 AWG STRANDED COPPER WIRE WITH THWN INSULATION SHALL BE ATTACHED UTILIZING A 2 HOLE COMPRESSION TYPE LUG, PROTECTED WITH WEATHERPROOF HEAT A CLEAN AND CORROSION FREE METALLIC SURFACE UTILIZING STAINLESS STEEL SELF-TAPPING SCREWS AS NOTED IN NOTE 10 BELOW.
- PREPARE ALL BONDING SURFACES FOR GROUND CONNECTIONS BY REMOVING ANY AND ALL PAINT AND CORROSION TO SHINY METAL. FOLLOWING CAD-WELDED CONNECTIONS TO NON-COPPER SURFACES, APPLY ONE COAT OF ANY ANTI-OXIDIZING PAINT, "COLD GALV" OR EQUIVALENT.
- GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8"x10', SPACED NO LESS THAN 10' ON CENTER.
- ALL GROUND SYSTEM CONDUCTORS AND CONDUITS SHALL BE SECURED UTILIZING ONLY NONMETALLIC, NON-CONDUCTIVE, UV RATED CLAMPS, BRACKET, AND OR SUPPORTS.
- WHEN REQUIRED, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT TESTING FIRM TO VERIFY, UTILIZING A MEGGER TEST, THAT THE RESISTANCE TO EARTH OF THE NEW GROUND SYSTEM IS EQUAL TO OR LESS THAN 5 (OHMS). A COPY OF THE COMPLETE TESTING REPORT SHALL BE PROVIDED TO THE T-MOBILE REPRESENTATIVE.
- ALL MATERIALS AND HARDWARE SHALL BE INSTALLED IN A WORKMAN-LIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND DEFINED IN NFPA-90 AND APPROVED BY A,H,I.

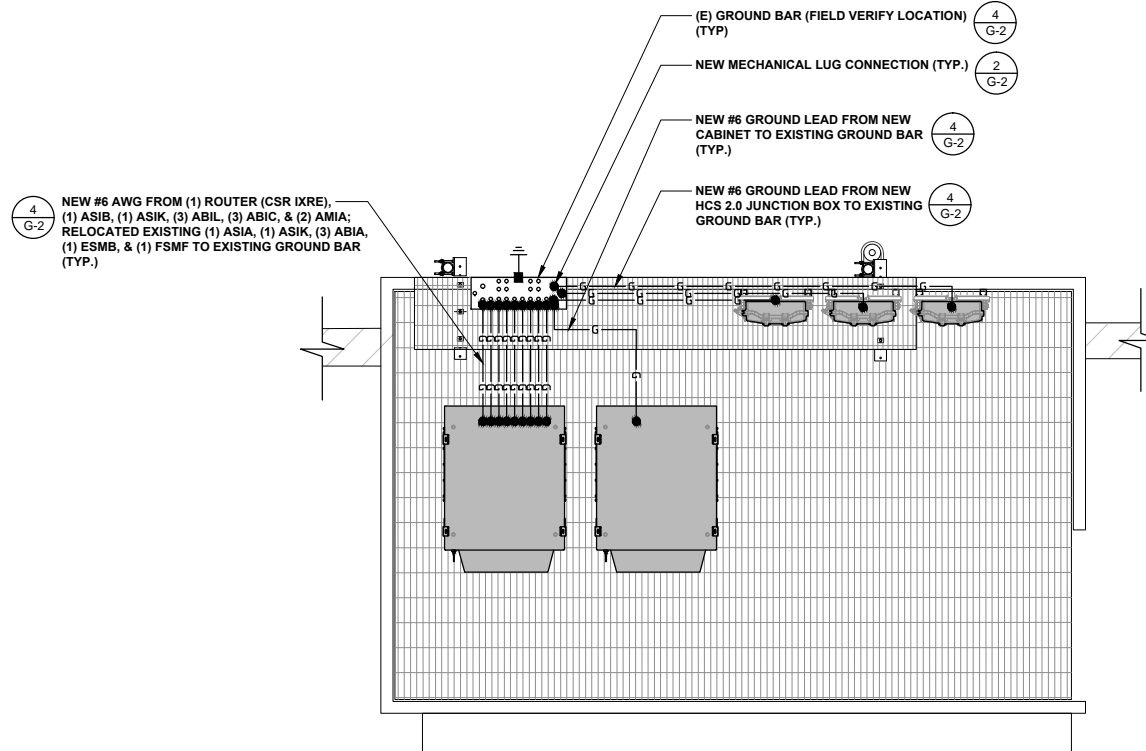
LEGEND	
■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▬	EQUIPMENT GROUND BAR
▬	ANTENNA GROUND BAR (AS REQUIRED)
—	#2 AWG GROUND LEAD (AS REQUIRED)

NOTE:

- CONTRACTOR TO REPLACE ALL MISSING GROUND BARS AND GROUNDING CONNECTIONS AS REQUIRED.

EQUIPMENT GROUNDING

SCALE
N.T.S. 2



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0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
SALEM
DOWNTOWN
388 STATE ST
SALEM, OR 97301
ROOFTOP

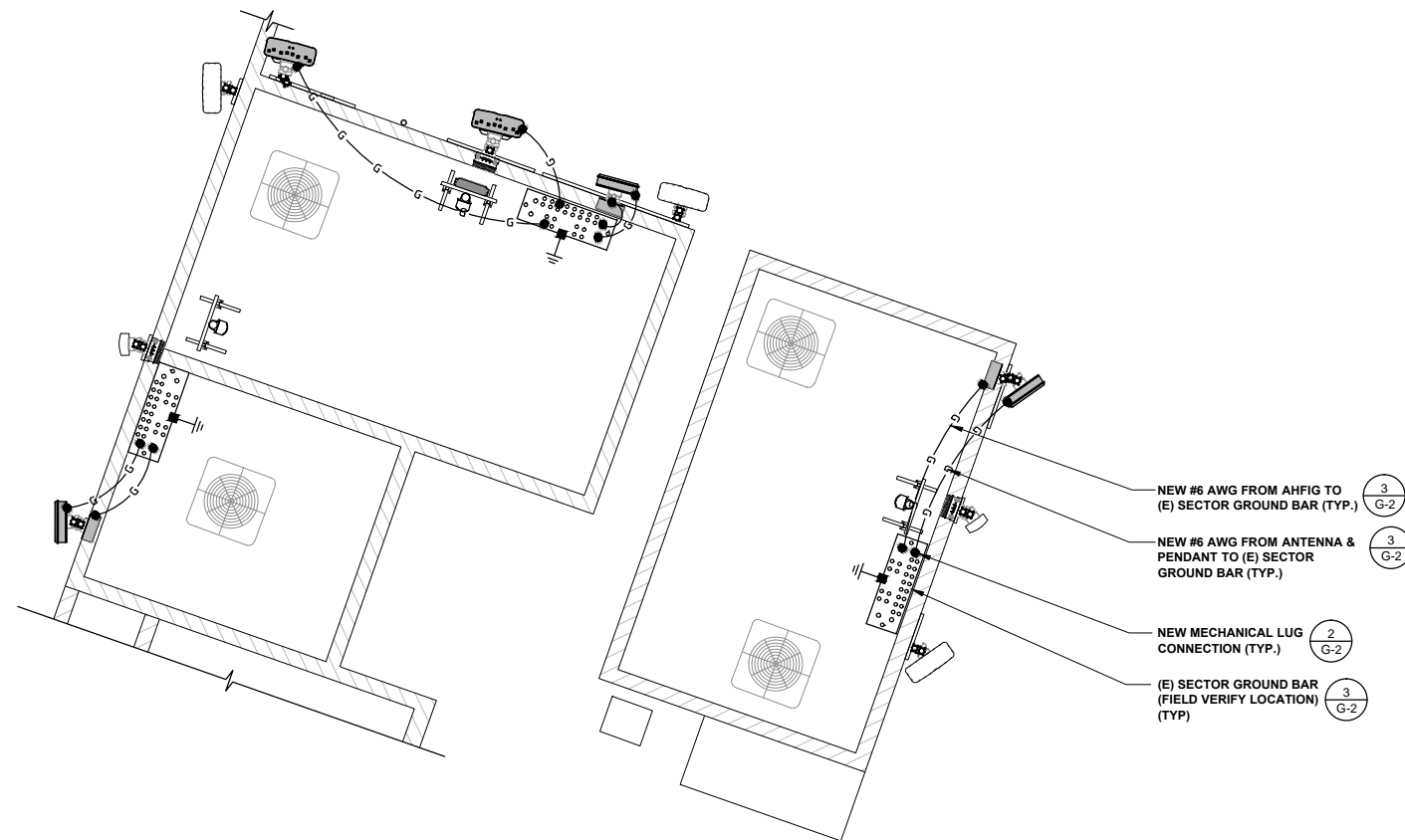
JURISDICTION APPROVAL STAMP
DEPARTMENT FOR LAND USE
DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
GROUNDING PLANS

SHEET NUMBER
G-1

ANTENNA GROUNDING

SCALE
N.T.S. 3

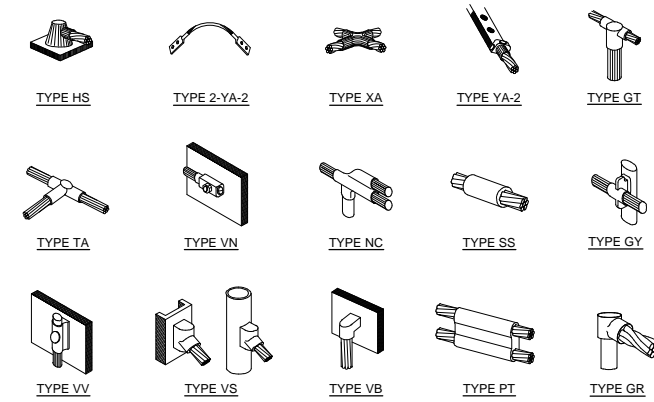
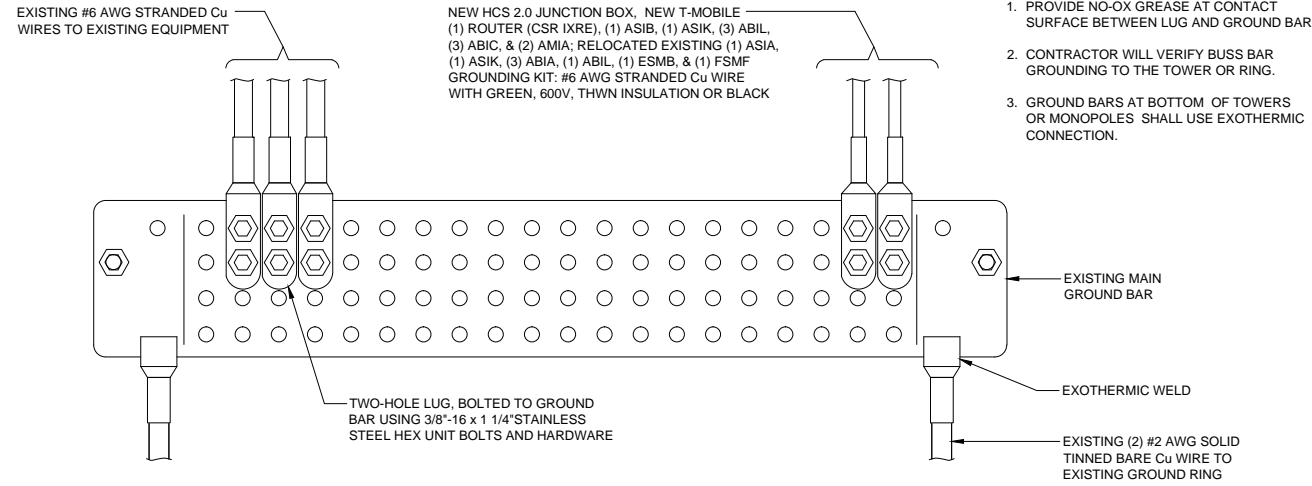


NOTES & LEGEND

SCALE
N.T.S. 1

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.

LANDLORD SIGNATURE



NOTE: ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

REGISTERED PROFESSIONAL ENGINEER
 94765 PE
 OREGON
 EMILIO MARIO VALERIO-HERNANDEZ
 MAY 14, 2018
 07/30/2020
 EXPIRES: 06/30/2022
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T-Mobile
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 2667 CAMINO DEL RIO SOUTH, STE. 205
 SAN DIEGO, CA 92108

REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

PO00201A
 SALEM DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
 ROOFTOP

JURISDICTION APPROVAL STAMP
 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

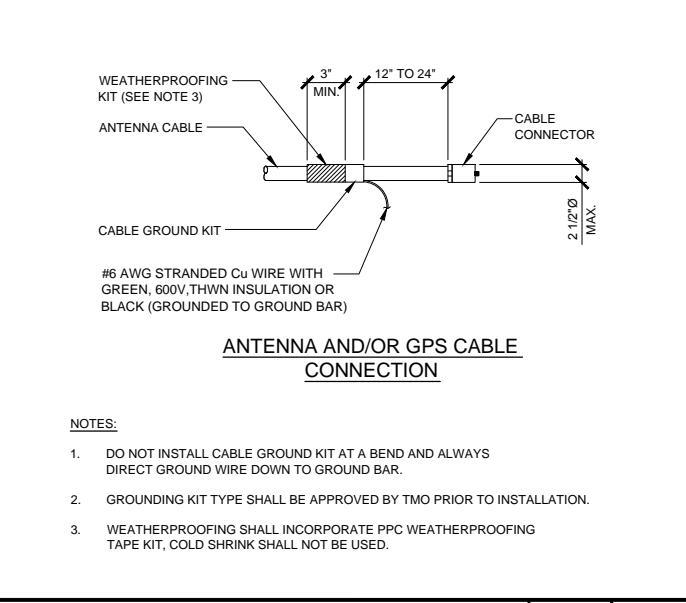
NOT USED SCALE N.T.S. 10

MAIN GROUND BAR SCALE N.T.S. 4

EXOTHERMIC WELDING SCALE N.T.S. 1

NOT USED SCALE N.T.S. 11

NOT USED SCALE N.T.S. 8



WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT

NOTES:

1. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER, LOCK WASHER AND NUT.
2. COPPER SHIELD, ANTI-OX, OR NO-OX OR EQUIVALENT SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
3. ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
4. ALL LUGS MUST HAVE INSPECTION WINDOWS.

HEAT SHRINK (CLEAR HEAT SHRINK INDOOR & BLACK HEAT SHRINK OUTDOOR)

BURNDY GROUND LUG (SEE TABLE FOR SIZE AND MODEL)

NUT (TYP.)

LOCK WASHER (TYP.)

FLAT WASHER (TYP.)

GROUND BAR

FLAT WASHER (TYP.)

BOLT (TYP.)

GROUNDING CONDUCTOR

BURNDY GROUND LUG (SEE TABLE FOR SIZE AND MODEL)

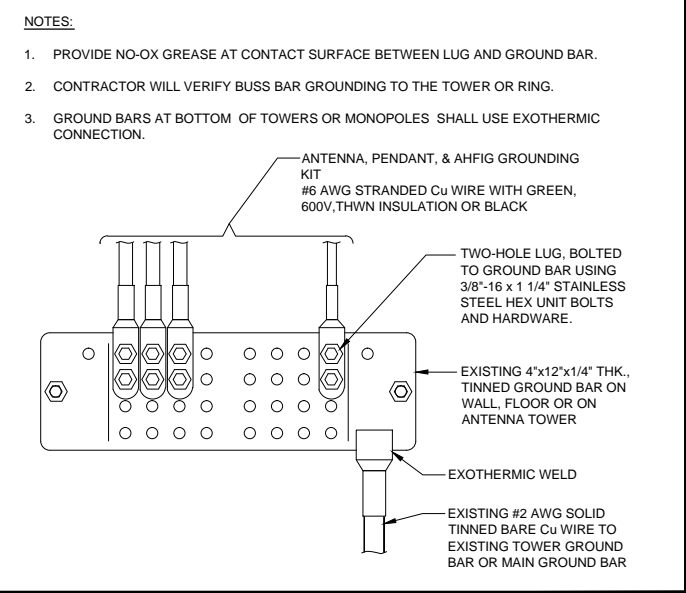
BARE WIRE TO BE NO-OX AT BOTH ENDS

MECHANICAL LUG SCALE N.T.S. 2

NOT USED SCALE N.T.S. 12

NOT USED SCALE N.T.S. 9

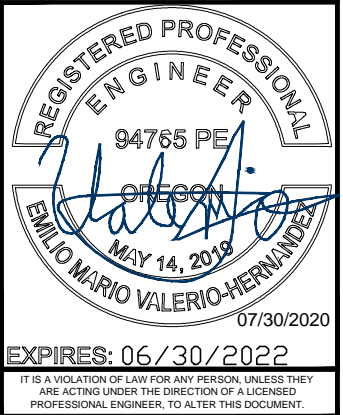
NOT USED SCALE N.T.S. 6



SECTOR GROUND BAR SCALE N.T.S. 3

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

LANDLORD SIGNATURE

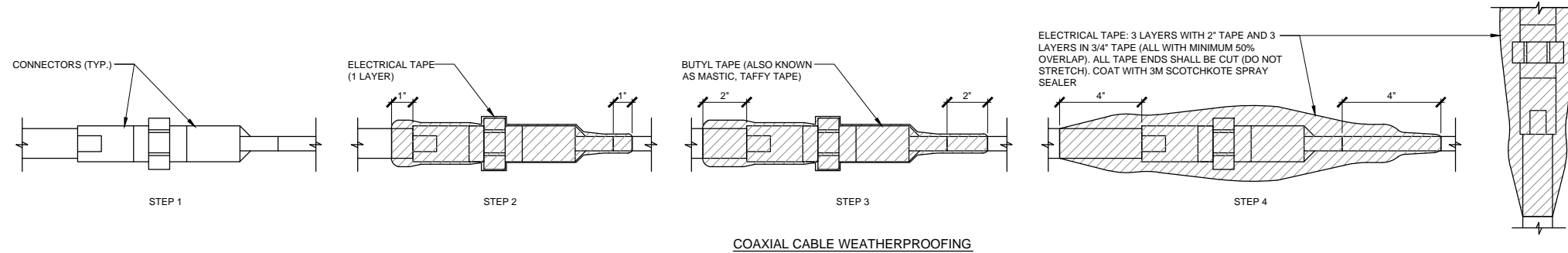


ANTENNA SCHEDULE-FINAL CONFIGURATION													
SECTOR (COLOR)	POSITION	EXISTING/NEW	MANUFACTURER	ANTENNA MODEL	PORT	ANTENNA AZIMUTH	RAD CENTER	DIMENSIONS (LxWxD)	WEIGHT (LBS)	TRANSMISSION CABLE			
										QTY.	LENGTH	SIZE	TYPE
ALPHA (RED)	(A1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	15°	142.4'	95" x 25.2" x 9.3"	127.6				
	(A2)	NEW	COMMSCOPE	2HH-38A-R4 (+27°)	MULTI BEAM	15°	143.2'	53.1" x 25.2" x 9.3"	68.8	(2)	15'	1/2"Ø	FIBER JUMPER
	(A3)	NEW	NOKIA	AEHC	MIMO	15°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
BETA (GREEN)	(B1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	145°	142.4'	95" x 25.2" x 9.3"	127.6				
	(B2)	EXISTING	ANDREW	TMBXX-6516-A2M	QUAD	145°	142.9'	60.1" x 6.6" x 3.3"	34.6	(2)	15'	1/2"Ø	FIBER JUMPER
	(B3)	NEW	NOKIA	AEHC	MIMO	145°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
GAMMA (BLUE)	(C1)	EXISTING	COMMSCOPE	FFHH-65C-R3	OCTA	270°	142.4'	95" x 25.2" x 9.3"	127.6				
	(C2)	EXISTING	ANDREW	TMBXX-6516-A2M	QUAD	270°	142.9'	60.1" x 6.6" x 3.3"	34.6	(2)	15'	1/2"Ø	FIBER JUMPER
	(C3)	NEW	NOKIA	AEHC	MIMO	270°	143.8'	38.2" x 21.5" x 5.9"	108.0	(1)	100'	1.5"Ø	NSN HIGH CAP HCS
DELTA (YELLOW)	(D1)	NEW	COMMSCOPE	2HH-38A-R4 (+27°)	MULTI BEAM	15°	143.2'	53.1" x 25.2" x 9.3"	68.8	(2)	15'	1/2"Ø	FIBER JUMPER

ANTENNA AND COAX GENERAL NOTES:

- ALL ANTENNA AND COAXIAL ANTENNA CABLE TO BE FURNISHED BY T-MOBILE AND INSTALLED BY CONTRACTOR.
- COAX COLOR CODING: ANTENNAS TO BE NUMBERED IN A CLOCKWISE MANNER FROM TRUE NORTH AND COLOR CODED AS FOLLOWS.
- THE ABOVE COAX COLOR CODING APPLIES TO SECTORIZED SITES. FOR OMNI SITES, USE THE ATO, BT0, & GT0 COLOR CODES ONLY.
- COAX SHALL BE TAGGED WITH COLOR CODING AT (2) PLACES USING 1" WIDE WEATHER PROOF COLORED VINYL TAPE AT THE FOLLOWING LOCATIONS:
 - #1 - AT ANTENNA CONNECTION
 - #2 - AT ENTRY TO EQUIPMENT CABINET
- RUN COAXIAL CABLE WITH MINIMUM 12" SLACK & 12" FROM EDGE OF EQUIPMENT CABINETS, ACROSS WAVE GUIDE BRIDGE (IF APPLICABLE), UP TO TOWER LEG (IF APPLICABLE), & DISTRIBUTE TO EACH ANTENNA DEVICE. FURNISH AND INSTALL A MINIMUM OF (3) GROUND KITS PER COAXIAL CABLE ACCORDING TO ELECTRICAL DRAWINGS. VERIFY NUMBER OF ANTENNAS, CABLE, & CABLE DIAMETER WITH PROJECT MANAGER.
- ALL COAXIAL CABLE CONNECTIONS TO BE WEATHER PROOFED.
- CONTRACTOR TO DIP CABLES AND JUMPERS WHERE NECESSARY.
- TAGGING:
 - ALL COAXIAL CABLES TO BE MARKED WITH COLOR CODED TAPE TO INDICATE THE ANTENNA SECTOR.
 - COLORLED ELECTRICAL TAPE SHALL MARK EACH END OF CABLE AND EACH END OF JUMPERS AS CLOSE TO EACH END AS POSSIBLE. (NOT TO INTERFERE WITH WEATHERPROOFING.)
- COAXIAL CABLE SPECIFICATIONS REQUIRE CABLE SUPPORT EVERY 3'-0" ON CENTER. CONTRACTOR SHALL SUPPLY SUPPORTS AS REQUIRED TO MEET THIS REQUIREMENT.
- VERTICAL CONNECTIONS SHALL BE TAPED FROM THE BOTTOM UP SO OVERLAP MOVES WATER AWAY FROM CONNECTION (STEP 9).
- PROVIDE HEAT SHRINK IN PLACE OF TAPE FOR QUAD POLES AND TMA'S. HEAT SHRINK SHALL BE "CANUSA" WITH ADHESIVE.

NOTE:
 1. ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS, MOUNTING HARDWARE, AND RF DESIGN.
 2. CD IS BASED ON RFDS VERSION: 8 DATED: 06/26/2020.



COAXIAL CABLE WEATHERPROOFING



REV	DATE	DESCRIPTION	BY
0	07/30/2020	ANCHOR FOR 100% CD	MGM
A	07/07/2020	ANCHOR FOR 90% CD	RKS

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 SALEM
 DOWNTOWN
 388 STATE ST
 SALEM, OR 97301
 ROOFTOP

JURISDICTION APPROVAL STAMP
 DEPARTMENT FOR LAND USE
 DEPARTMENT FOR BUILDING & CONSTRUCTION

SHEET TITLE
 RF DETAILS

SHEET NUMBER
 RF-1

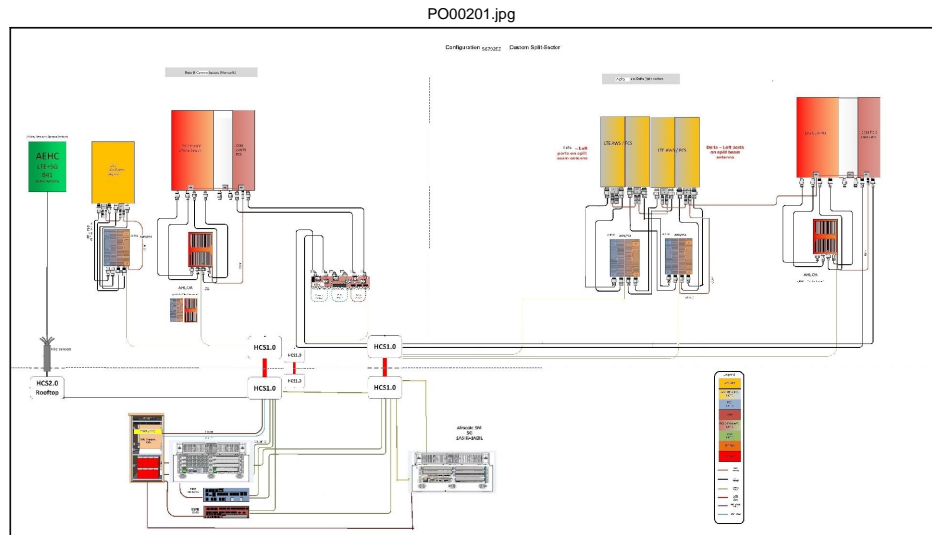
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NOTE:
1. CD IS BASED ON RFDS VERSION: 8 DATED: 06/26/2020.

6/26/2020

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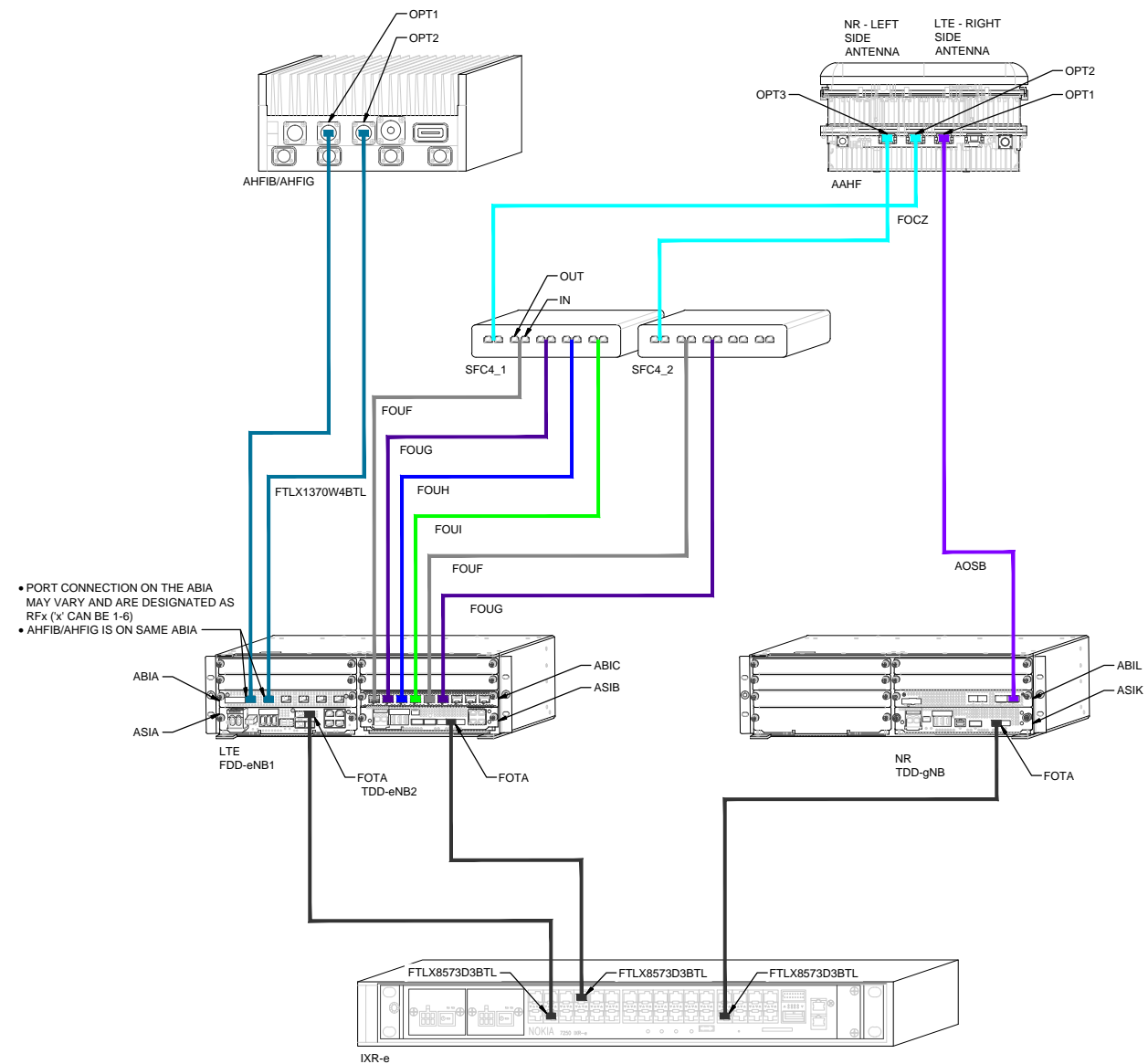
Section 3 - Proposed Template Images



Notes:

NOKIA ITEM CODE/SECTOR	PRODUCT NAME
474335A	x 2 FOCZ QSFP+ 4x10 km SM
474385A	x 2 FOUF SFP+ 10GBASE-LR 1271 nm CWDM 10 km SM
474386A	x 2 FOUH SFP+ 10GBASE-LR 1291 nm CWDM 10 km SM
474387A	x 1 FOUH SFP+ 10GBASE-LR 1311 nm CWDM 10 km SM
474388A	x 1 FOUI SFP+ 10GBASE-LR 1331 nm CWDM 10 km SM
474829A	x 2 AOSB QSFP28 SM 10 km LC
FTLX1370W4BTL	x 4 SM SFP 1310 nm CPRI 9.8G 1.4km (CPRI)
473471A	x 3 FOTA Optical SFP+ 10GBase-SR 850nm MM
FTLX8573D3BTL	x 3 10Gb/s 850nm Multimode SFP+ Datacom Transceiver

NOTE:
JDSU AND EXFO GEAR CAN BE USED TO READ WAVELENGTH ON THE SFPs.



- PORT CONNECTION ON THE ABIA MAY VARY AND ARE DESIGNATED AS RFx (x CAN BE 1-6)
- AHFIB/AHFIG IS ON SAME ABIA

LANDLORD SIGNATURE

REGISTERED PROFESSIONAL ENGINEER
94765 PE
EMILIO MARIO VALERIO-HERNANDEZ
MAY 14, 2018
07/30/2020
EXPIRES: 06/30/2022
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

T-Mobile
830 HOLLADAY STREET
PORTLAND, OR 97232

Technology Associates
PNW MARKET OFFICE
7117 SW BEVELAND STREET, SUITE 101
TIGARD, OR 98006

Technology Associates
ARCHITECTURE & ENGINEERING
2667 CAMINO DEL RIO SOUTH, STE. 205
SAN DIEGO, CA 92108

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A	07/07/2020	ANCHOR FOR 90% CD	RKS

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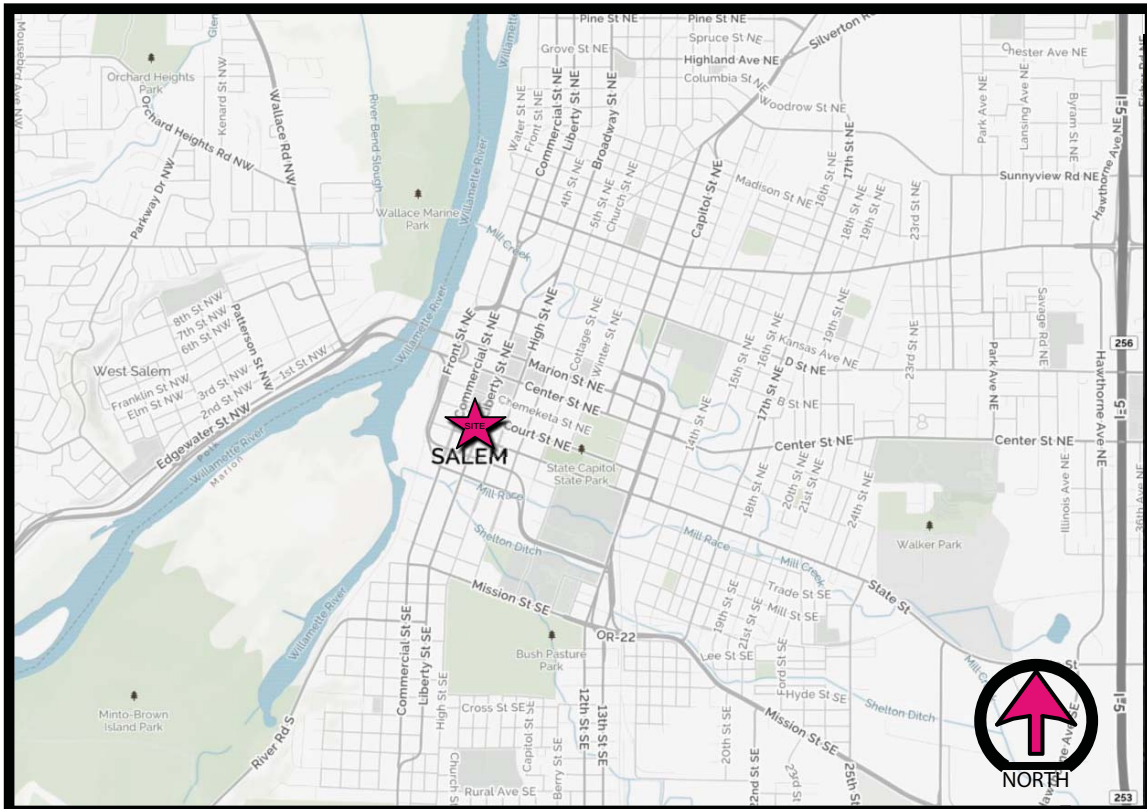
SHEET TITLE
RF DIAGRAM

SHEET NUMBER
RF-2

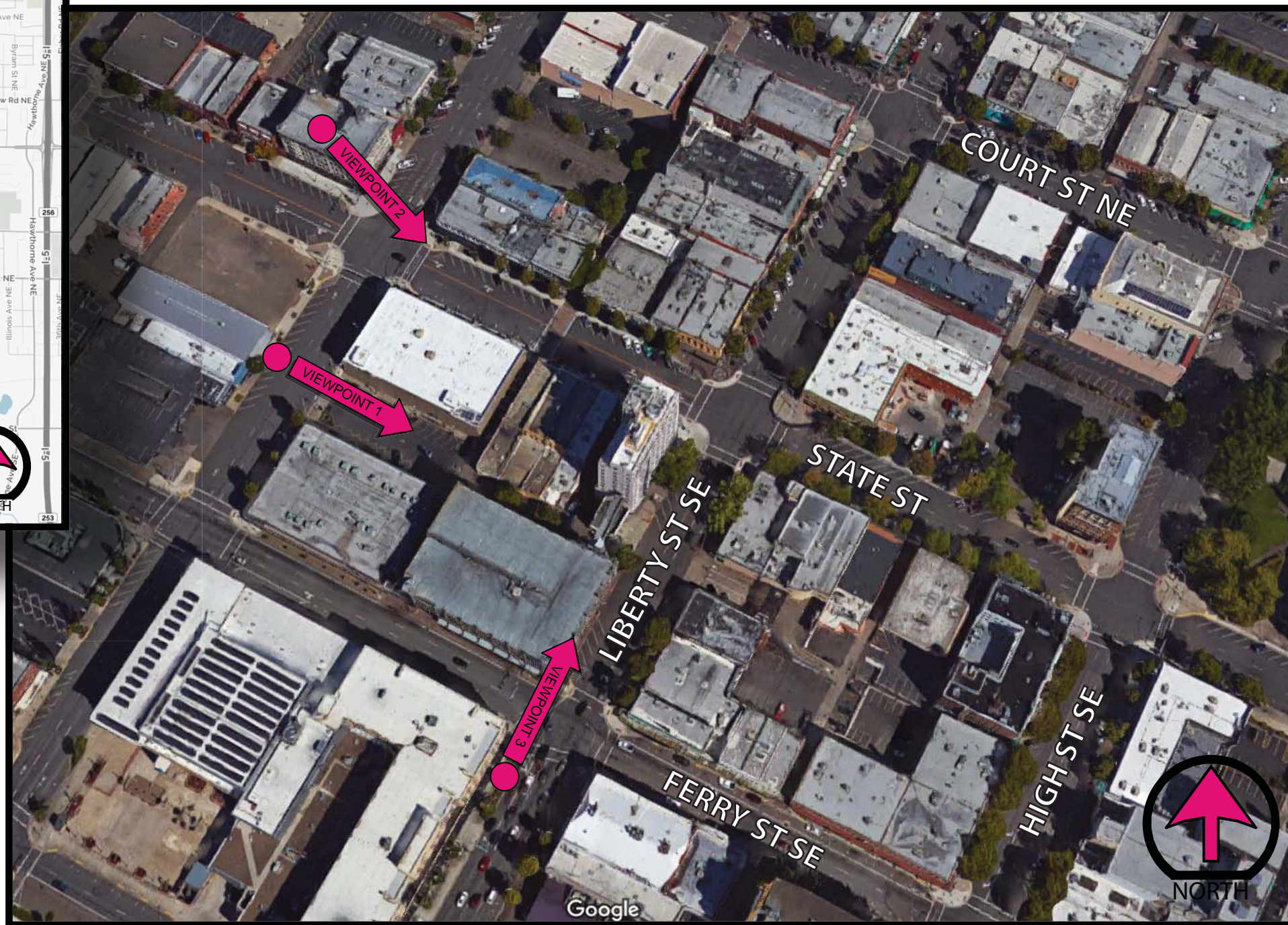
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VICINITY MAP



AERIAL MAP



