City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

# T-Mobile

APPROVED PLAN
CITY OF PUYALLUP
PLANNING DIVISION

APPROVED BY: RNBrown

DATE: 01/06/2022

CASE NO.: PRCTI20210038

CONDITIONS: Increase in antenna height approved as an eligible facilities modification Per PMC 20.59A

**T-MOBILE SITE NUMBER:** SE05437A
**T-MOBILE SITE NAME:** SOUTH HILL/BRADLEY LAKE - CROWN - SE03XC331
**T-MOBILE PROJECT:** SPRINT RETAIN

**BUSINESS UNIT #:** 880329
**SITE ADDRESS:** 3150 S. MERIDIAN, PUYALLUP, WA 98373
**COUNTY:** PIERCE
**SITE TYPE:** MONOPOLE
**TOWER HEIGHT:** 120'-0"

## SITE INFORMATION

| | |
|---|---|
| CROWN CASTLE USA INC. SITE NAME: | SOUTH HILL MALL |
| SITE ADDRESS: | 3150 S. MERIDIAN, PUYALLUP, WA 98371 |
| COUNTY: | PIERCE |
| MAP/PARCEL #: | 0419044084 |
| AREA OF CONSTRUCTION: | EXISTING |
| LATITUDE: | 47° 9' 43.4592" |
| LONGITUDE: | -122° 17' 40.0374" |
| LAT/LONG TYPE: | NAD83 |
| GROUND ELEVATION: | 437 |
| CURRENT ZONING: | TBD |
| JURISDICTION: | CITY OF PUYALLUP |
| OCCUPANCY CLASSIFICATION: | U |
| TYPE OF CONSTRUCTION: | II-C |
| A.D.A. COMPLIANCE: | FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION |
| PROPERTY OWNER: | WASHINGTON STATE DEPT. OF TRANSPORTATION PO BOX 47338 OLYMPIA, WA 98504 |
| TOWER OWNER: | CROWN CASTLE 1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109 |
| CARRIER/APPLICANT: | T-MOBILE 12920 SE 38TH STREET BELLEVUE, WA 98006 |
| ELECTRIC PROVIDER: | PSE |
| TELCO PROVIDER: | TBD |

## DRAWING INDEX

| SHEET # | SHEET DESCRIPTION |
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| T-1 | TITLE SHEET |
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| C-1.2 | ENLARGED SITE PLAN |
| C-1.3 | EXISTING & FINAL EQUIPMENT PLANS |
| C-2 | ANTENNA PLANS |
| C-3.1 | TOWER ELEVATIONS |
| C-3.2 | TOWER ELEVATIONS |
| C-3.3 | TOWER ELEVATIONS |
| C-3.4 | TOWER ELEVATIONS |
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| G-1 | GROUNDING DETAILS |

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

## LOCATION MAP


NO SCALE

## PROJECT TEAM

| | |
|---|---|
| A&E FIRM: | TOWER ENGINEERING PROFESSIONALS<br>4710 ELWOOD ST, STE 9<br>PHOENIX, AZ 85040 |
| CROWN CASTLE USA INC. DISTRICT CONTACTS: | 1505 WESTLAKE AVENUE NORTH, SUITE 800<br>SEATTLE, WA 98109 |
| | MORDECAI FAYAS - PROJECT MANAGER<br>(949) 259-3206 |
| | JASON OFFENBECHER - CONSTRUCTION MANAGER<br>(909) 331-9041 |
| | SARAH KIM - A&E SPECIALIST<br>SARAH.KIM.CONTRACTOR@CROWNCASTLE.COM |

## PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (3) ANTENNAS
- REMOVE (3) RRUs
- ADD (3) COMMSCOPE - FFVV-65C-R3-V1 ANTENNAS, (1) PER SECTOR
- ADD (3) NOKIA - AEHC ANTENNAS, (1) PER SECTOR
- ADD (2) NOKIA / HCS 2.0 PART 3
- ADD (3) NOKIA- AHFIG, (1) PER SECTOR
- ADD (3) NOKIA - AHLOA, (1) PER SECTOR
- ADD COMMSCOPE PENDANTS

GROUND SCOPE OF WORK:
- REMOVE (1) POWER PANEL
- REMOVE (E) ICE BRIDGE
- ADD (1) AC PANEL
- ADD (N) ICE BRIDGE
- ADD (1) WORK LIGHT
- ADD (2) ASIBs, (2) ASIKs, (3) ABIAs, (6) ABILs, (3) ABICs, (2) AMIAs
- ADD (1) VOLTAGE BOOSTER
- ADD (1) EXTRA BOOSTER AMPLIFIER
- ADD (2) HCS 2.0 JUNCTION BOXES
- ADD (1) PURCELL HPL3 EQUIPMENT CABINET
- ADD (1) PURCELL LB3 BATTERY CABINET
- ADD (1) CSR IXRE V2 (GEN2)
- ADD (1) FSMF

THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION

## APPLICABLE CODES/REFERENCE DOCUMENTS

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

| CODE TYPE | CODE |
|---|---|
| BUILDING | 2018 IBC |
| MECHANICAL | 2018 IMC |
| ELECTRICAL | 2020 NEC |

12/22/2021

APPROVED JM

REFERENCE DOCUMENTS:

| | |
|---|---|
| STRUCTURAL ANALYSIS: | TOWER ENGINEERING PROFESSIONALS |
| DATED: | 04/02/2021 |
| MOUNT ANALYSIS: | GPD GROUP |
| DATED: | 08/23/2021 |
| RFDS REVISION: | 1 |
| DATED: | 10/22/2021 |
| ORDER ID: | 574014 |
| REVISION: | 0 |

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

CALL WASHINGTON ONE CALL
(800) 424-5555
CALL 3 WORKING DAYS
BEFORE YOU DIG!
811


T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036
www.tepgroup.net


T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
| B | 09/29/20 | JLB | PRELIMINARY | HMM |
| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |

PAUL D. TIBBOT
STATE OF WASHINGTON
47255
PROFESSIONAL ENGINEER
11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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.


**SHEET NUMBER:** T-1
**REVISION:** 1

## CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE, PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

## GENERAL NOTES:

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

## CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

## GREENFIELD GROUNDING NOTES:

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

## ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 20,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING OR INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
24. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
25. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
28. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
29. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

| CONDUCTOR COLOR CODE | | |
|---|---|---|
| SYSTEM | CONDUCTOR | COLOR |
| 120/240V, 1Ø | A PHASE | BLACK |
| | B PHASE | RED |
| | NEUTRAL | WHITE |
| | GROUND | GREEN |
| 120/208V, 3Ø | A PHASE | BLACK |
| | B PHASE | RED |
| | C PHASE | BLUE |
| | NEUTRAL | WHITE |
| | GROUND | GREEN |
| 277/480V, 3Ø | A PHASE | BROWN |
| | B PHASE | ORANGE OR PURPLE |
| | C PHASE | YELLOW |
| | NEUTRAL | GREY |
| | GROUND | GREEN |
| DC VOLTAGE | POS (+) | RED** |
| | NEG (–) | BLACK** |

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

PRCTI20210038 CITY OF PUYALLUP

City of Puyallup
Development & Permitting Services
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Building | Planning | Engineering | Public Works | Fire | Traffic

## ABBREVIATIONS:

| | |
|---|---|
| ANT | ANTENNA |
| (E) | EXISTING |
| FIF | FACILITY INTERFACE FRAME |
| GEN | GENER

SITE PLAN DISCLAIMER:

PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET

FLOODPLAIN NOTE:

THE TOWER IS LOCATED IN ZONE "X." AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #53053C0341E, DATED MARCH 7, 2017.

**City of Puyallup**
**Development Engineering**
**APPROVED**

See permit for additional requirements.

LindaL
12/29/2021
1:41:53 PM

Refer to the City standard details 02.03.02 & 05.02.01 for typical erosion and sedimentation control methods.

Prior to starting site work, request an erosion and sediment inspection through the CityView portal.

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
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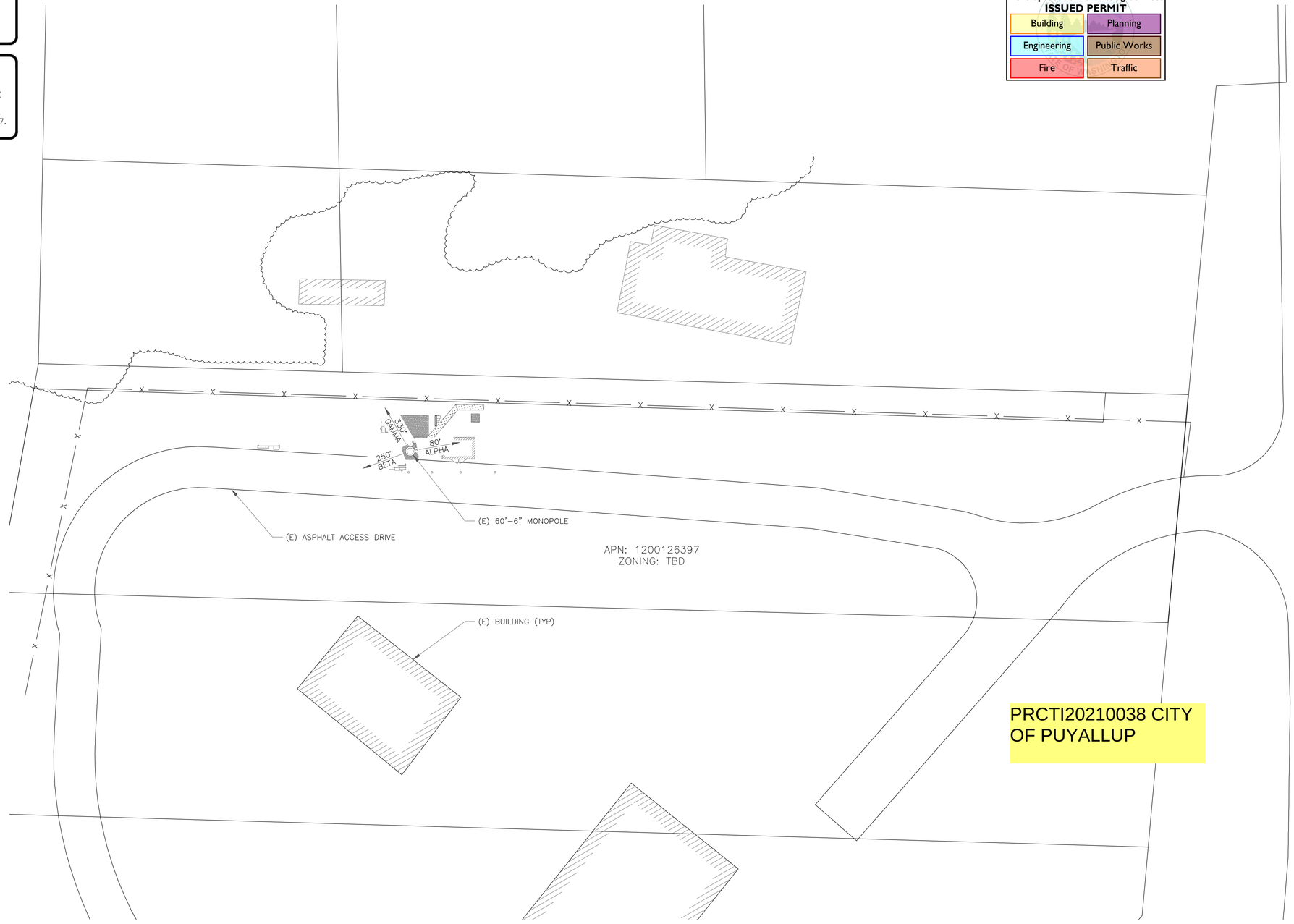


PRCTI20210038 CITY OF PUYALLUP

1 OVERALL SITE PLAN
SCALE: 20' 10' 0 20' 1"=20'-0" (FULL SIZE) 1"=40'-0" (11x17)

N


T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036
www.tepgroup.net


T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
| B | 09/29/20 | JLB | PRELIMINARY | HMM |
| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |

PAUL DAVID TIBBOT
STATE OF WASHINGTON
47255
PROFESSIONAL ENGINEER

11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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**SHEET NUMBER:** C-1.1

**REVISION:** 1

SITE PLAN DIRECTIONS

PROPERTY LINE INFORMATION SHOWN HEREON HAS BEEN DIGITIZED FROM RECORD SURVEY PLAN SETS OR TAX ASSESSORS MAPS. CROWN CASTLE USA INC. HAS NOT PERFORMED A COMPLETE ABOVE SURFACE SURVEY AND THEREFORE MAKES NO GUARANTEE TO THE ACCURACY OF THE INFORMATION DEPICTED ON THIS SHEET.

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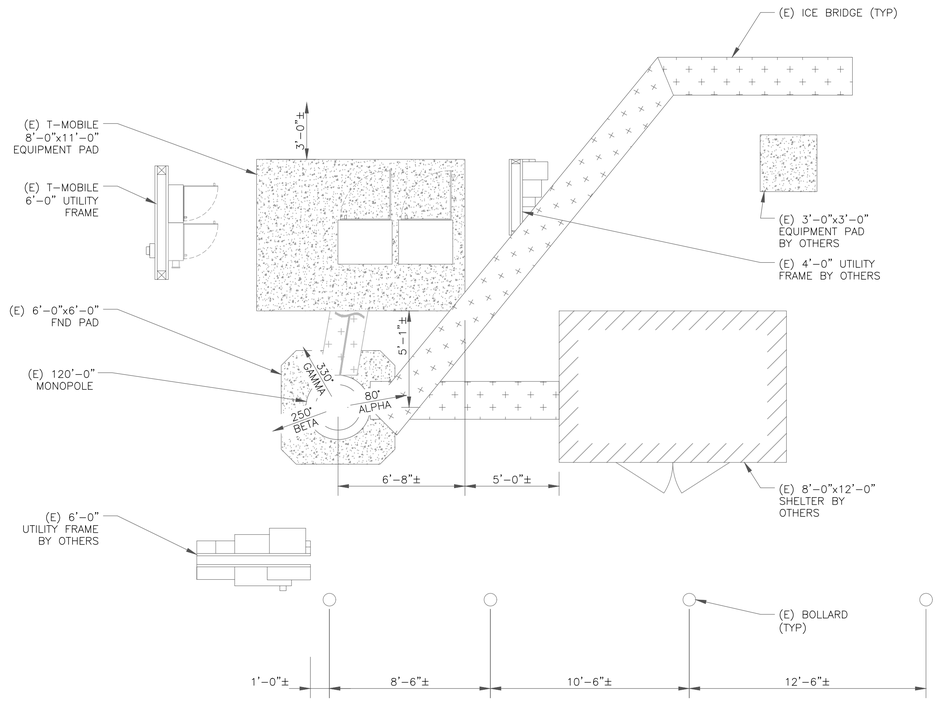
Fire | Traffic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Fire | Traffic

PRCTI20210038 CITY OF PUYALLUP

1 ENLARGED SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

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**SHEET NUMBER:** C-1.2
**REVISION:** 1

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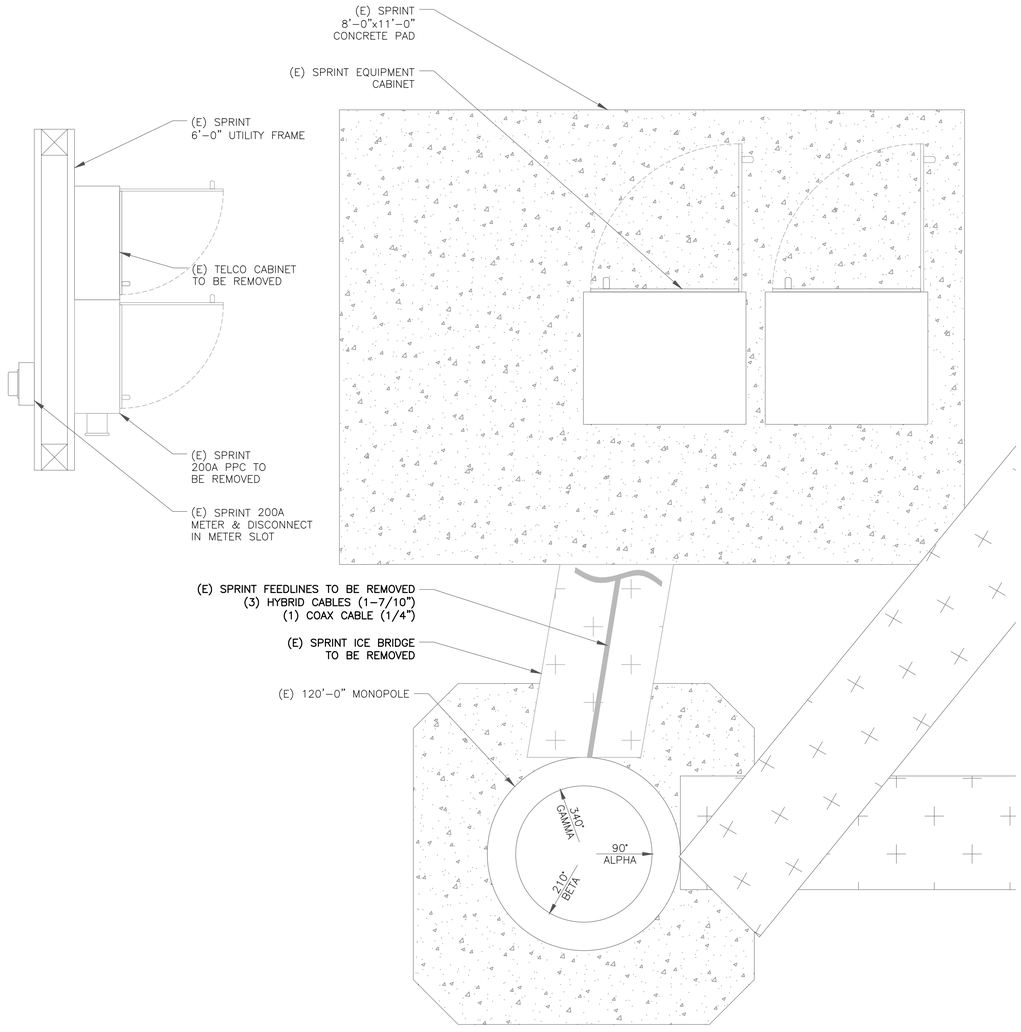
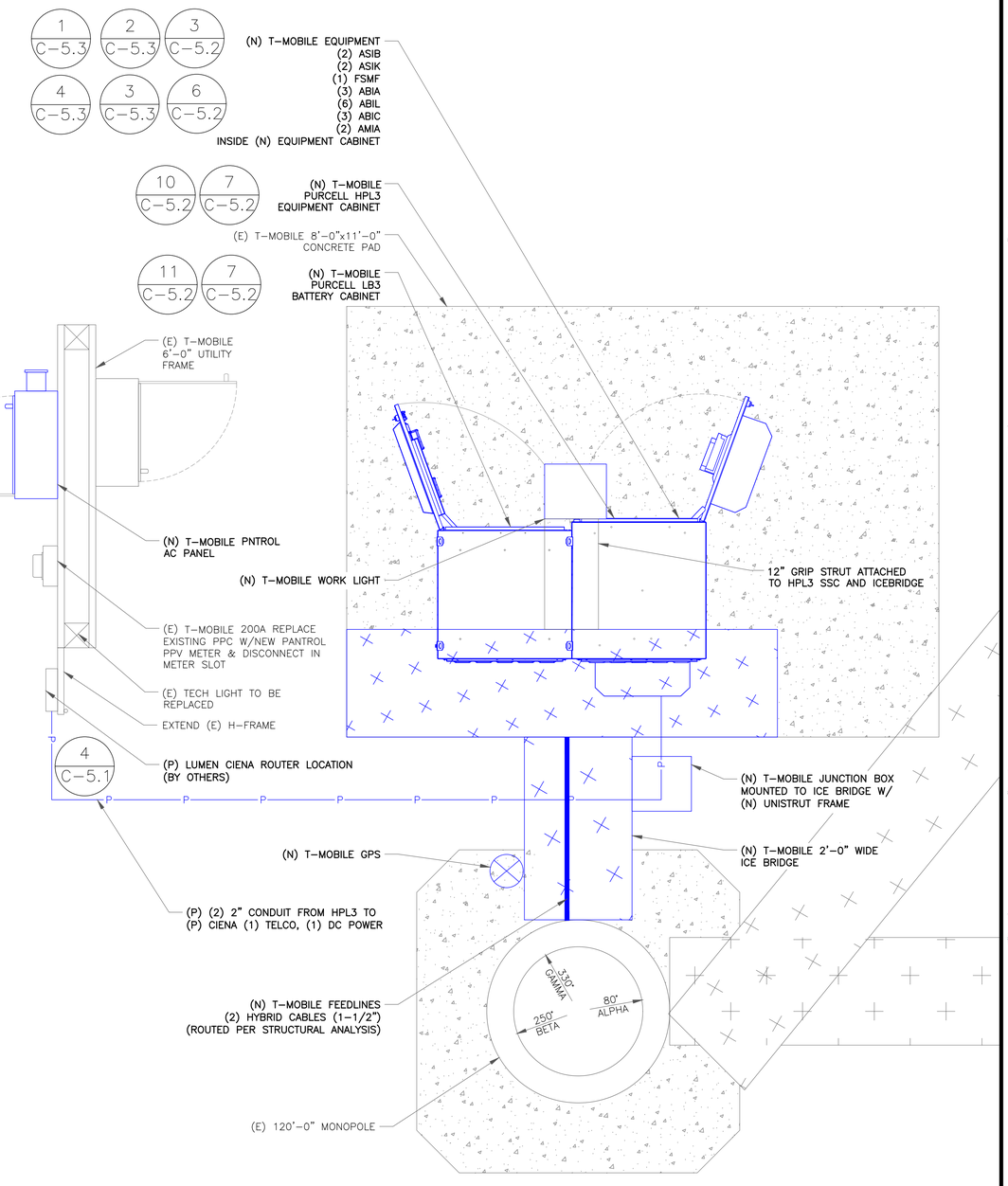
| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 EXISTING EQUIPMENT PLAN
SCALE: 1' 6" 0 1' 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)

N




2 FINAL EQUIPMENT PLAN
SCALE: 1' 6" 0 1' 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)

N

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**SHEET NUMBER:** C-1.3

**REVISION:** 1

City of Puyallup
Development & Permitting Services
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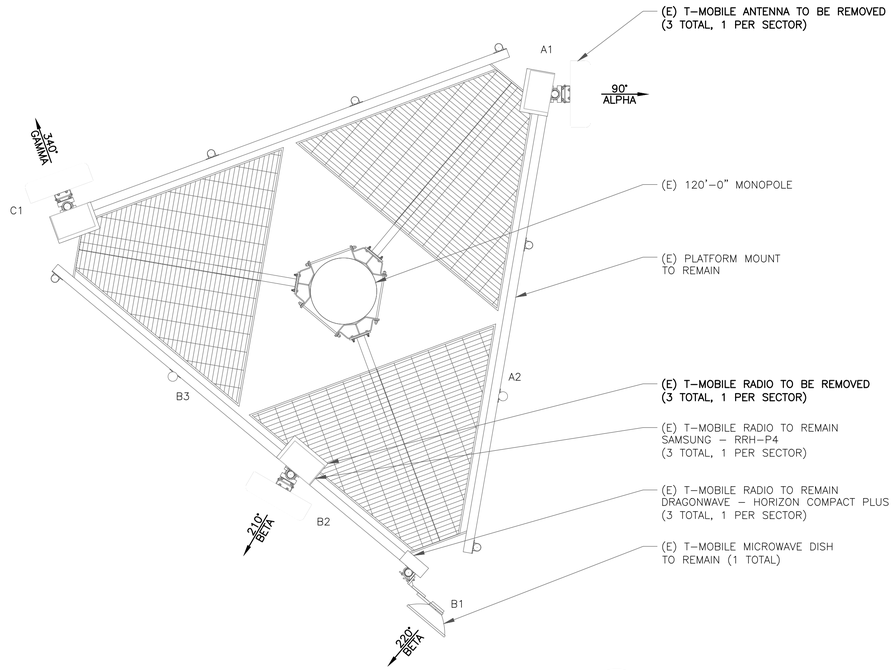
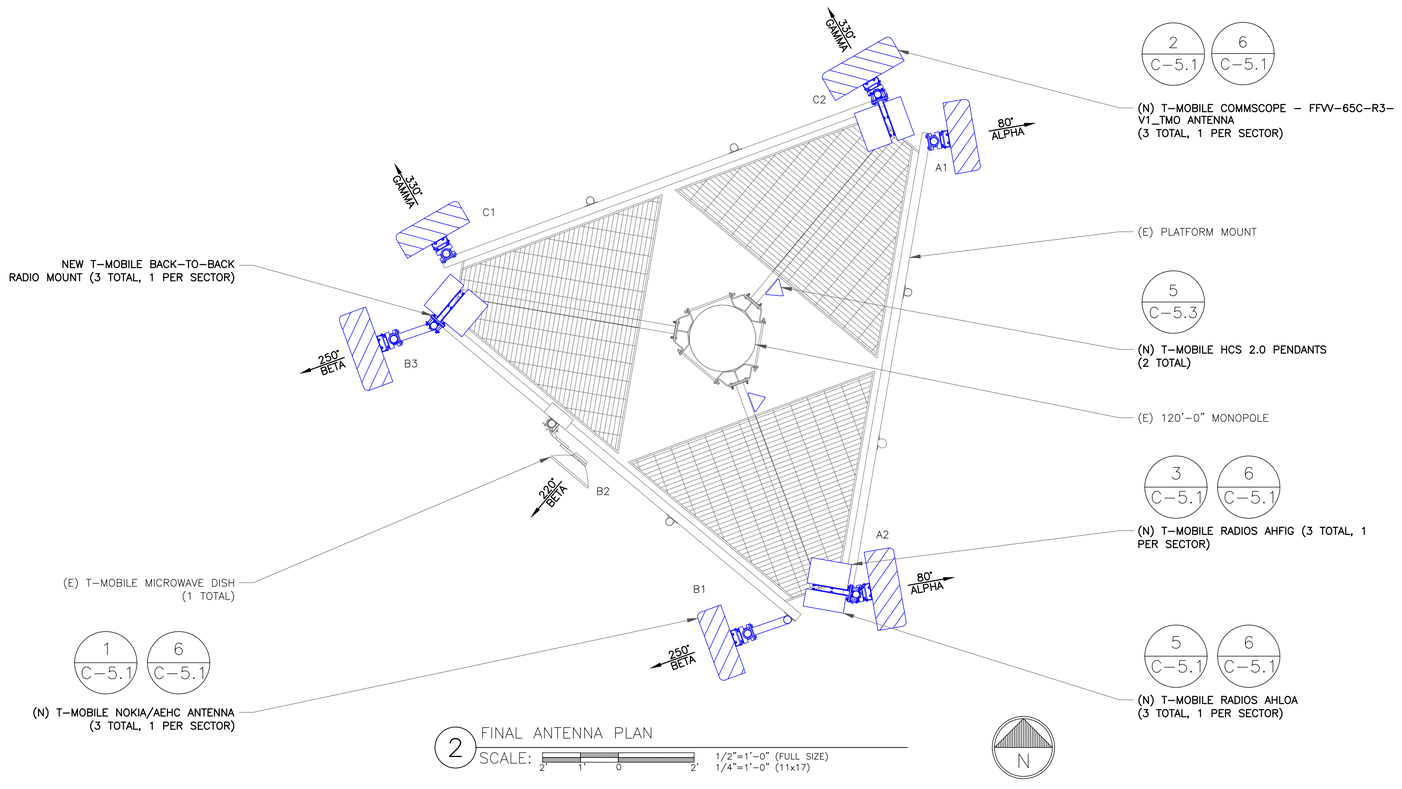
| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 EXISTING ANTENNA PLAN
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)




2 FINAL ANTENNA PLAN
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

"LOOK UP" - CROWN CASTLE USA INC.
SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING Z:\A&E\INSERTS\BLOCKS\ELOBOS\Lookup\FinalEjpg BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

NOTES:

1. REFERENCE C-4 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-5.1, C-5.2 & C-5.3 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
4. TOWER DOES NOT HAVE CLIMBING FACILITIES - MANLIFT REQUIRED FOR ELEVATED WORK.

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

PRCTI20210038 CITY OF PUYALLUP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EXISTING 120'-0" MONOPOLE

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11/29/21

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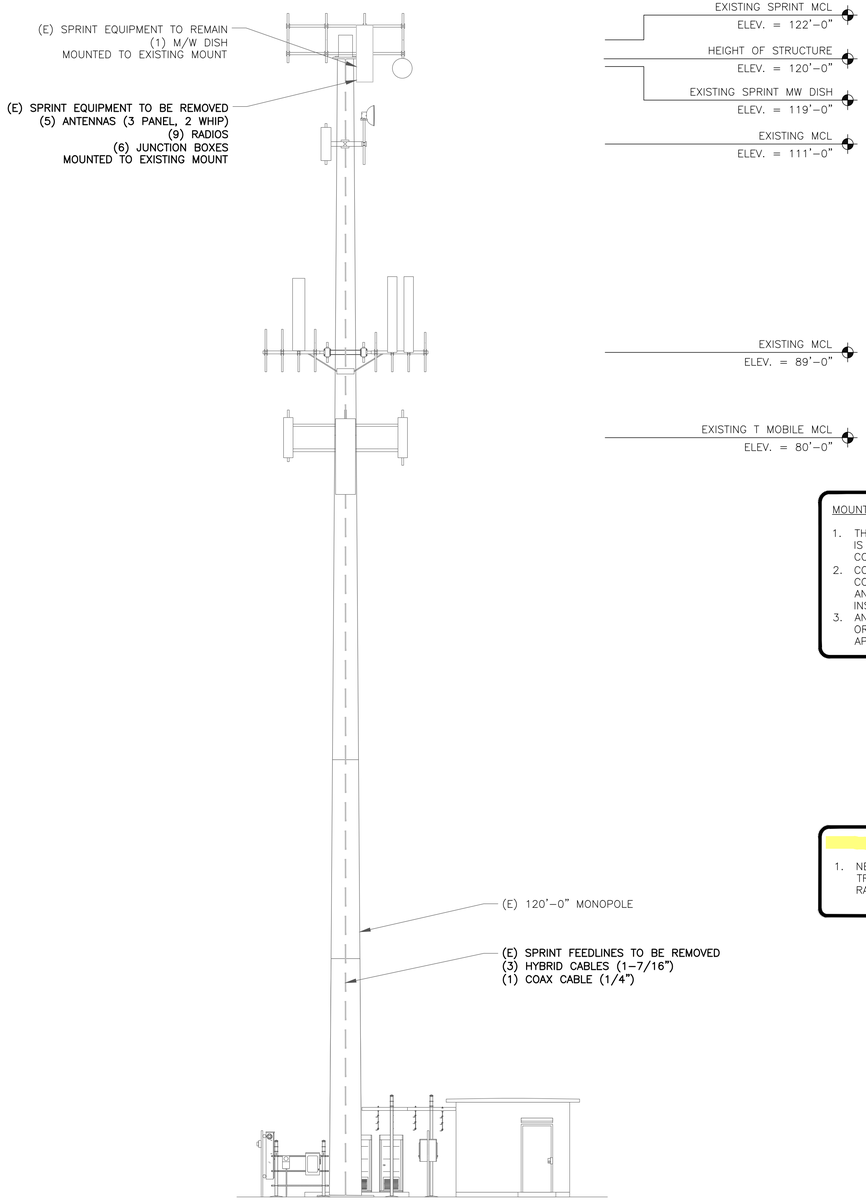
**SHEET NUMBER:** C-2

**REVISION:** 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

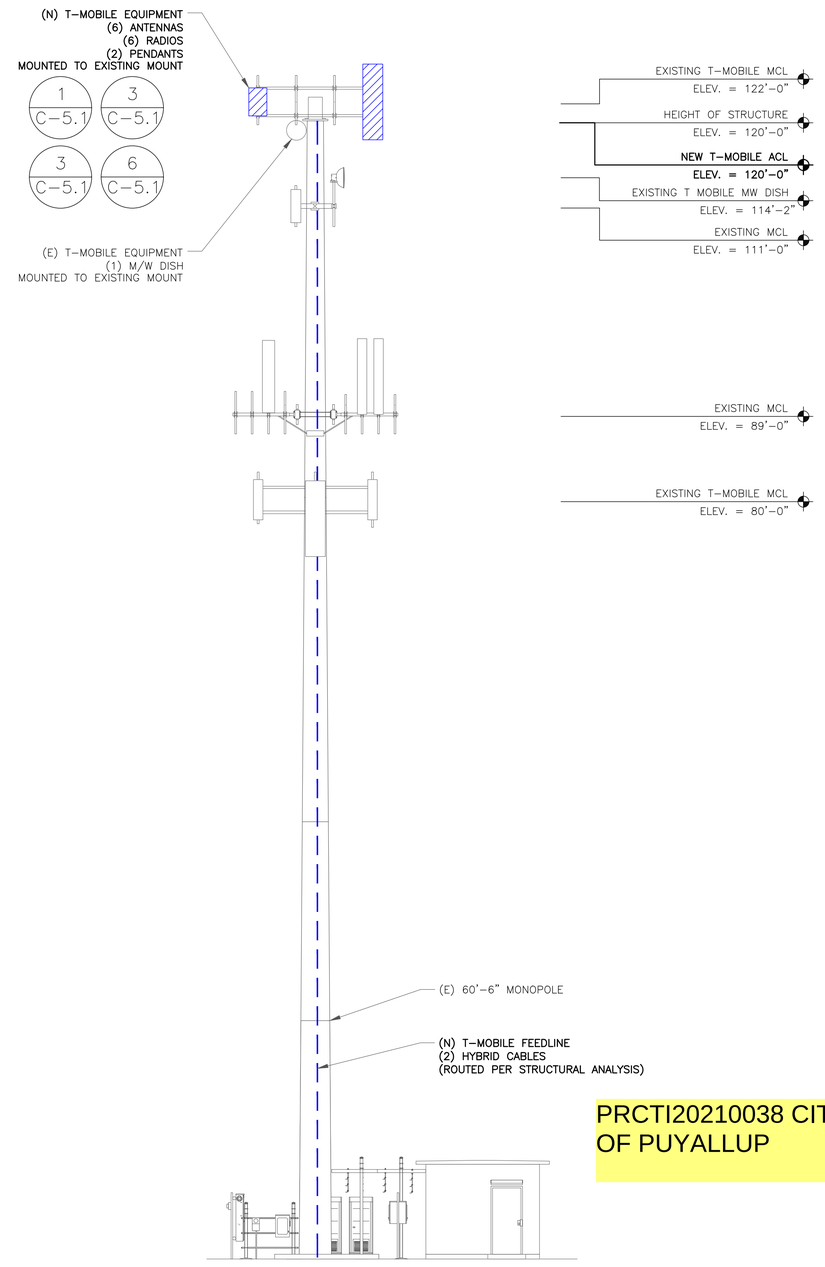



1 EXISTING SOUTH ELEVATION
SCALE: 8" 6" 4" 2" 0 8" 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

1. NEW EQUIPMENT TO BE PAINTED WITH RF TRANSPARENT, UV RESISTANT, OUTDOOR RATED PAINT TO MATCH EXISTING.




2 FINAL SOUTH ELEVATION
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PRCTI20210038 CITY OF PUYALLUP

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EXISTING 120'-0" MONOPOLE

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| | | | | |

PAUL DAVID TIBBOT
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11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255

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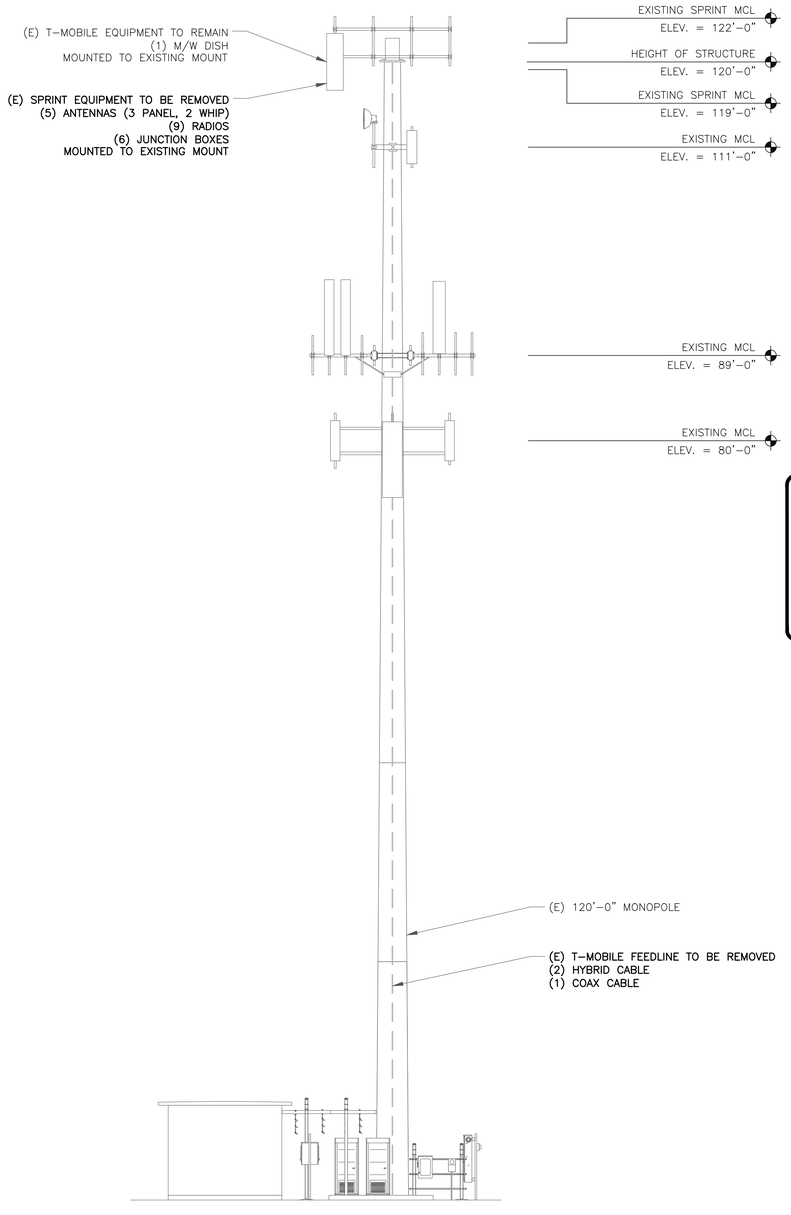
**SHEET NUMBER:** C-3.1
**REVISION:** 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

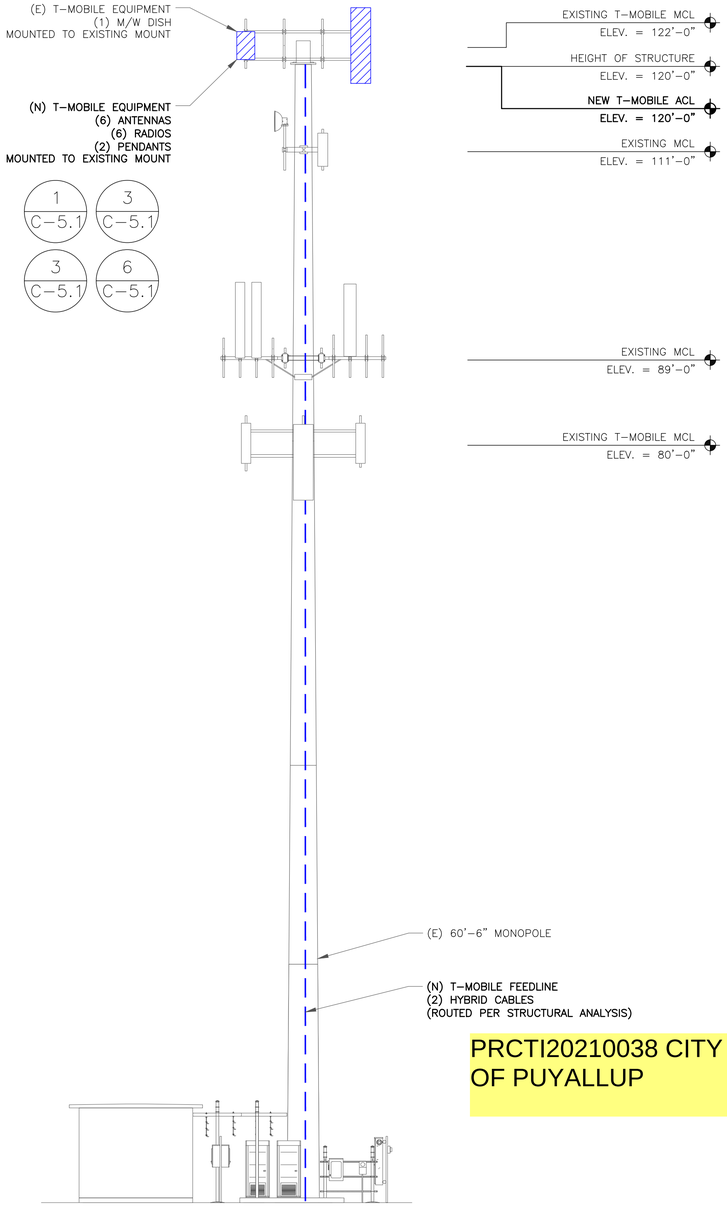



MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

1 EXISTING NORTH ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)

G




PRCTI20210038 CITY OF PUYALLUP

2 NEW NORTH ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036
www.tepgroup.net

T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
| B | 09/29/20 | JLB | PRELIMINARY | HMM |
| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |

PAUL DAVID TIBBOT
STATE OF WASHINGTON
47255
PROFESSIONAL ENGINEER
11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255

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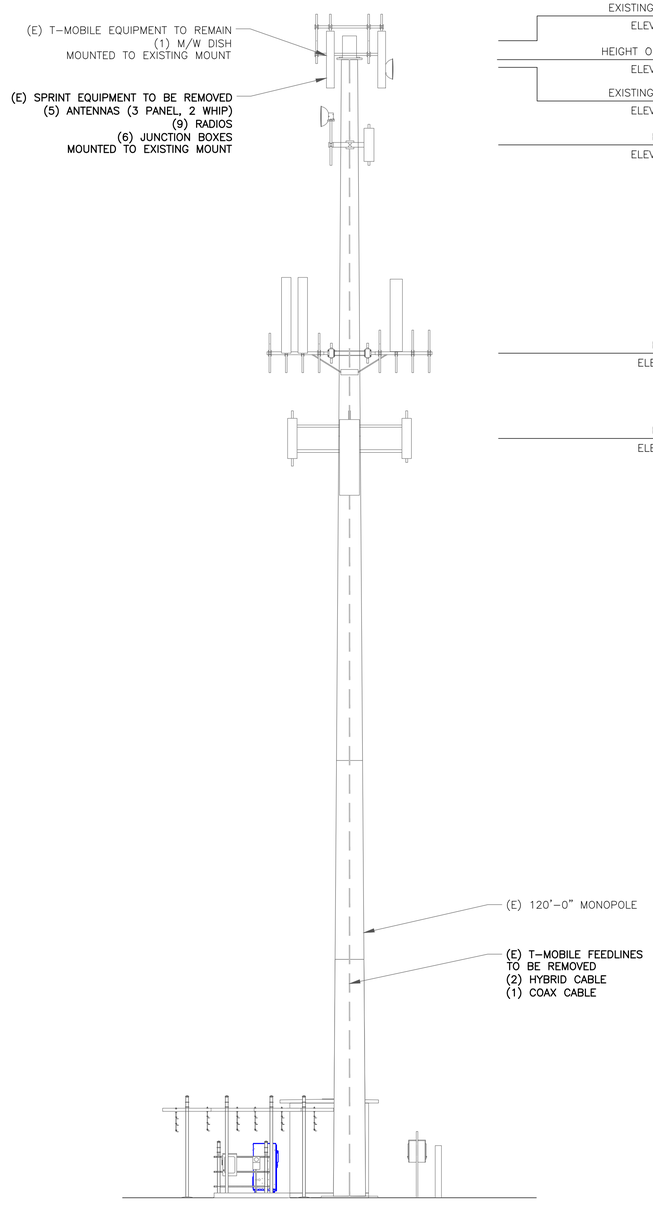
**SHEET NUMBER:** C-3.2
**REVISION:** 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 EXISTING WEST ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'–0" (FULL SIZE) 1/16"=1'–0" (11x17)

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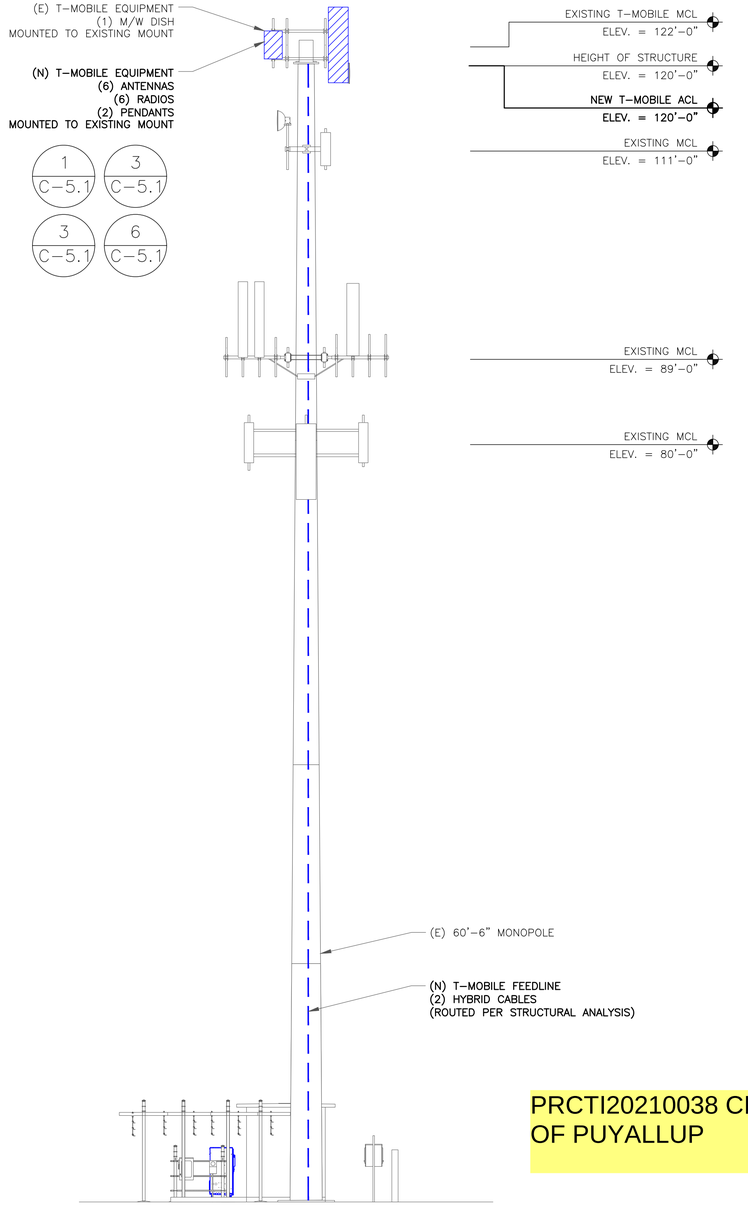


2 NEW WEST ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'–0" (FULL SIZE) 1/16"=1'–0" (11x17)

PRCTI20210038 CITY OF PUYALLUP


T-Mobile
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T-MOBILE SITE NUMBER:
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BU #: **880329**
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EXISTING 120'-0" MONOPOLE

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| | | | | |

PAUL DAVID TIBBOT — STATE OF WASHINGTON — 47255 — PROFESSIONAL ENGINEER

11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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**SHEET NUMBER:** C-3.3

**REVISION:** 1

City of Puyallup
Development & Permitting Services
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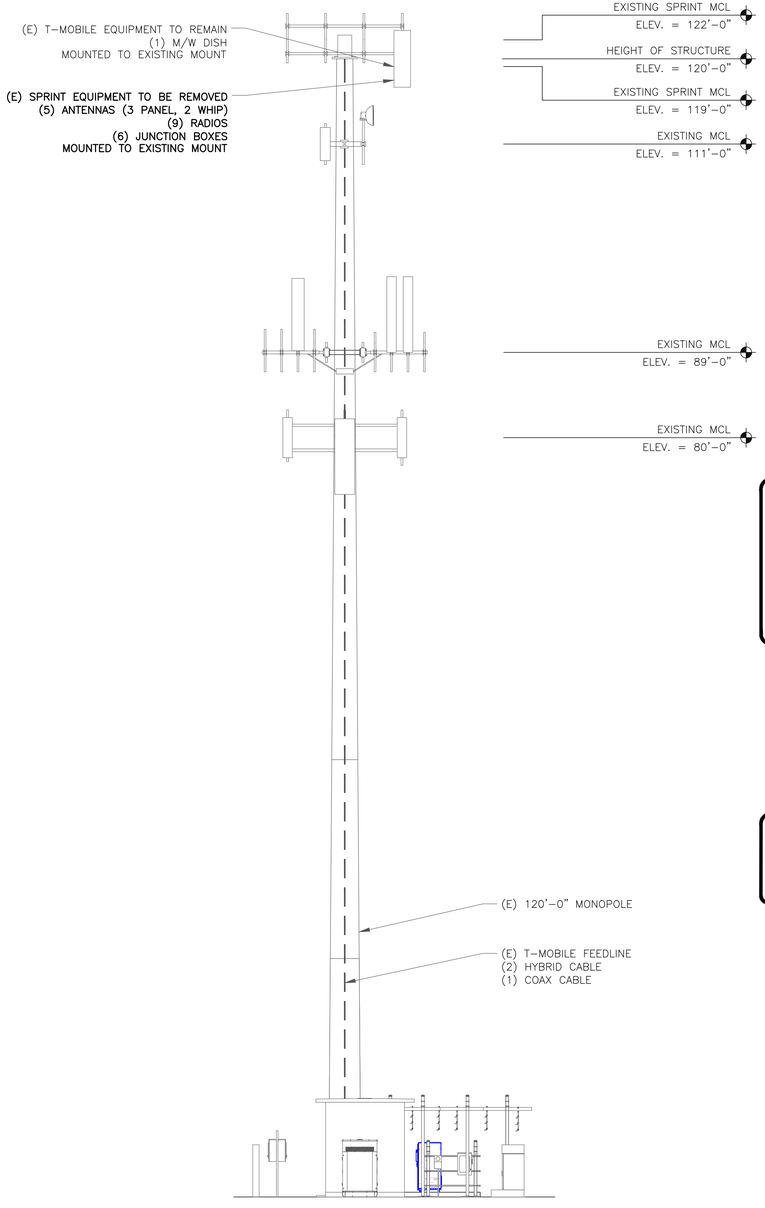
| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 EXISTING EAST ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'–0" (FULL SIZE) 1/16"=1'–0" (11x17)

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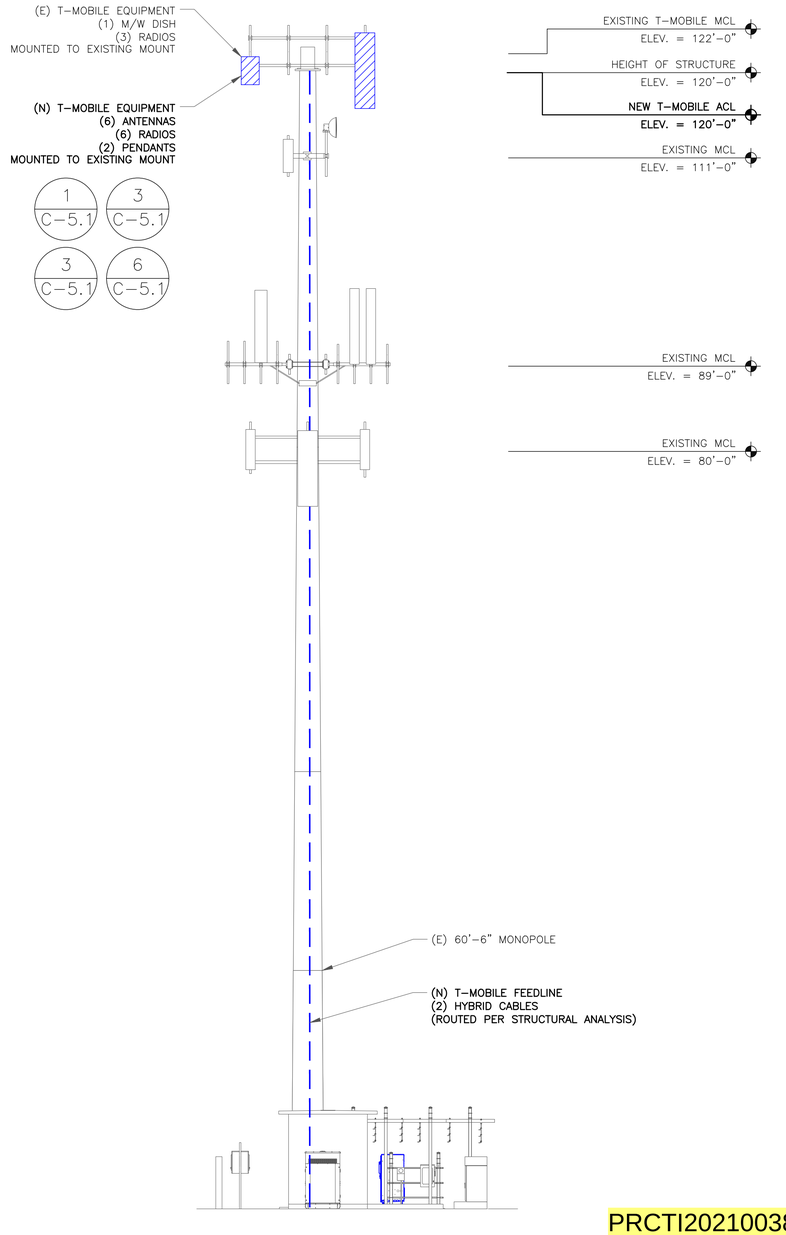
INSTALLER NOTE:

1. NEW EQUIPMENT TO BE PAINTED WITH RF TRANSPARENT, UV RESISTANT, OUTDOOR RATED PAINT TO MATCH EXISTING.




2 NEW EAST ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'–0" (FULL SIZE) 1/16"=1'–0" (11x17)

PRCTI20210038 CITY OF PUYALLUP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BU #: **880329**
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3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

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| | | | | |

PAUL DAVID TIBBOT — STATE OF WASHINGTON — 47255 — PROFESSIONAL ENGINEER
11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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**SHEET NUMBER:** C-3.4
**REVISION:** 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

# FINAL EQUIPMENT SCHEDULE
## (VERIFY WITH CURRENT RFDS)

| POSITION | ANTENNA | | | | RADIO | | | DIPLEXER | | | TMA | | SURGE PROTECTION | | CABLES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TECH. | STATUS/MANUFACTURER MODEL | AZIMUTH | RAD CENTER | QTY. | STATUS/MODEL | LOCATION | QTY. | STATUS | LOCATION | QTY. | STATUS | QTY. | STATUS/MODEL | QTY. | STATUS/TYPE | SIZE | LENGTH |
| ALPHA | | | | | | | | | | | | | | | | | | |
| A1 | L2100<br>L1900<br>G1900 | COMMSCOPE<br>FFVV-65C-R3-V1_TMO | 80° | 120' | 1<br>1 | (N) AHLOA<br>(N) AHFIG | TOWER<br>TOWER | – | – | – | – | – | 1 | (N) HCS 2.0 PART 1 | 1 | (N) HYBRID | 1-1/2" | 173'-0" |
| A2 | L2500<br>N2500 | (N) NOKIA<br>AEHC | 80° | 120' | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| BETA | | | | | | | | | | | | | | | | | | |
| B1 | L2100<br>L1900<br>G1900 | COMMSCOPE<br>FFVV-65C-R3-V1_TMO | 250° | 120' | 1<br>1 | (N) AHLOA<br>(N) AHFIG | TOWER<br>TOWER | – | – | – | – | – | 1 | (N) HCS 2.0 PART 1 | 2 | HYBRID<br>TRUNK | 1-1/2" | 173'-0" |
| B2 | – | ANDREW<br>VHLP1-23 | 220° | 119' | – | – | – | – | – | – | – | – | – | 15' HCS 2.0 | 9 | JUMPERS | – | – |
| B4 | L2500<br>N2500 | (N) NOKIA<br>AEHC | 250° | 120' | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| GAMMA | | | | | | | | | | | | | | | | | | |
| C1 | L2100<br>L1900<br>G1900 | COMMSCOPE<br>FFVV-65C-R3-V1_TMO | 330° | 120' | 1<br>1 | (N) AHLOA<br>(N) AHFIG | TOWER<br>TOWER | – | – | – | – | – | – | – | – | – | – | – |
| C2 | L2500<br>N2500 | (N) NOKIA<br>AEHC | 330° | 120' | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE:
(E) – EXISTING
(N) – NEW

PRCTI20210038 CITY OF PUYALLUP

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE


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T-MOBILE SITE NUMBER:
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BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
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EXISTING 120'-0" MONOPOLE

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| | | | | |

PAUL DAVID TIBBOT
STATE OF WASHINGTON
47255
PROFESSIONAL ENGINEER

11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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**SHEET NUMBER:** C-4
**REVISION:** 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
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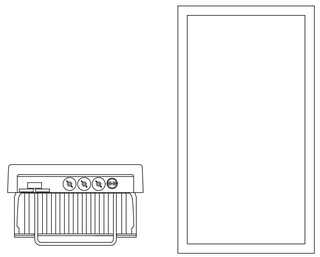
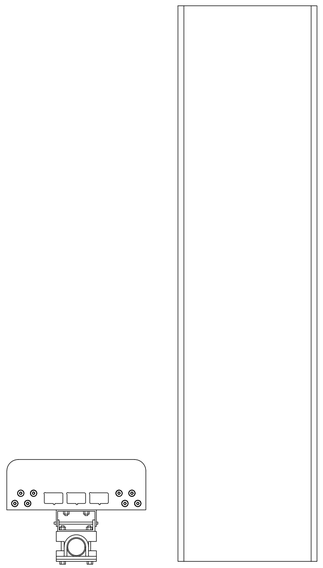


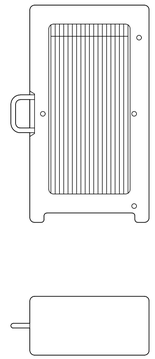
ERICSSON – NOKIA – AEHC
WEIGHT: 99.20 LBS
SIZE (HxWxD): 35.43x22.83x8.26 IN.
WEIGHT W/ BRACKETS: 99.20 LBS

1 NOKIA – AEHC
SCALE: NOT TO SCALE



COMMSCOPE – FFVV-65C-R3-V1
WEIGHT (WITHOUT MOUNTING HARDWARE): 124.60 LBS
SIZE (HxWxD): 95.90x25.20x9.30 IN.
WEIGHT W/ BRACKETS: 124.60 LBS

2 COMMSCOPE – FFVV-65C-R3-V1
SCALE: NOT TO SCALE

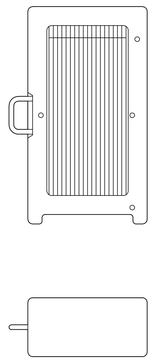


NOKIA – AHFIG
WEIGHT (FULLY EQUIPPED): 70.55 LBS
SIZE (HxWxD): 28.74x12.87x5.59 IN.
CONNECTOR TYPE: 4.3-1 FEMALE

3 NOKIA – AHFIG
SCALE: NOT TO SCALE

PRCTI20210038 CITY OF PUYALLUP

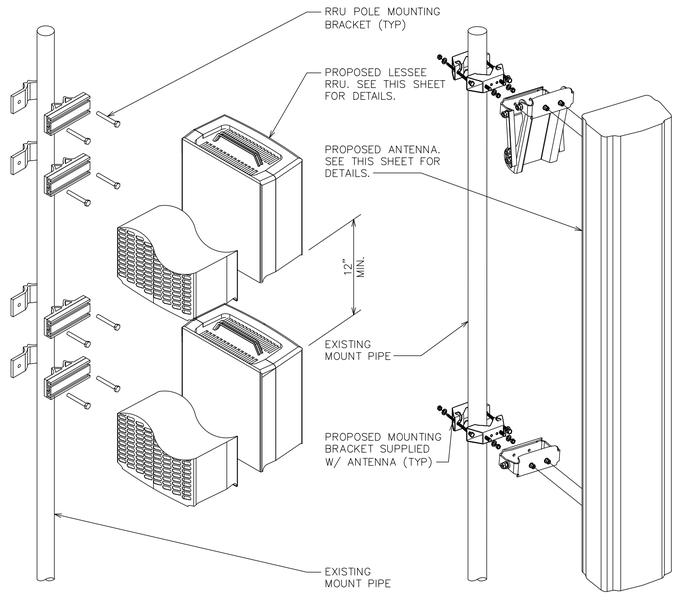
4 NOT USED
SCALE: NOT TO SCALE



NOKIA – AHLOA
WEIGHT (FULLY EQUIPPED): 83.8 LBS
SIZE (HxWxD): 22.1x12.1x7.4 IN.
CONNECTOR TYPE: 4.3-1 FEMALE

5 NOKIA – AHLOA
SCALE: NOT TO SCALE

**RRU** **ANTENNA**




6 RADIO & ANTENNA MOUNTING
SCALE: NOT TO SCALE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STATE OF WASHINGTON · PAUL DAVID TIBBOT · 47255 · PROFESSIONAL ENGINEER

11/29/21

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City of Puyallup
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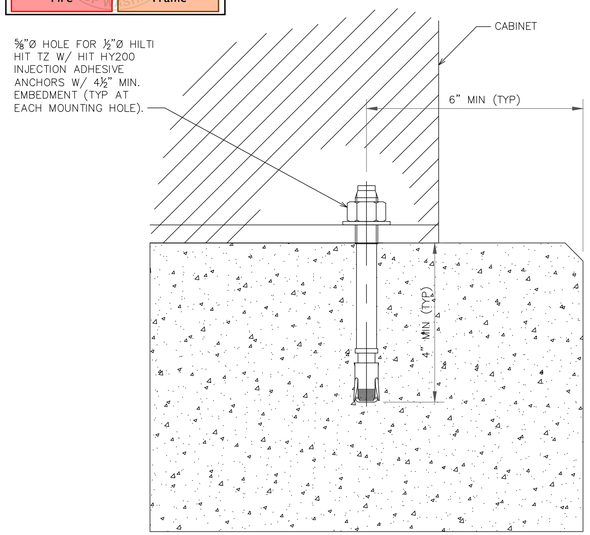



1 CABINET ANCHORAGE DETAIL
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

NOKIA

LTE Product Introduction

**Product Introduction Notification**
**ASIB**
**Airscale Baseband Core**

PURPOSE

The Nokia AirScale Baseband Common card ASIB is featured in release SRAN19 is successor of common plug-in unit ASIA for Airscale, is enhanced capacity plug-in unit for next generation of highly integrated AirScale System Modules. The ASIB common plug-in unit is mechanically and functionally compatible with the Airscale Subrack Indoor AMIA (LTE2262) and outdoor subrack AMOB (LTE3359). It is also compatible with the Airscale Capacity Extension plug-in units ABIA (LTE2261) and ABIC (LTE4032). In comparison to ASIA, ASIB provides extended Transport and control capacity. ASIB connectivity to backplane is prepared for next generation capacity extension card (e.g. ABIC) and evolution to 5G.

ASIB Limitations

- Limited to LTE TDD with ASIB+ABIC only and LTE FDD/SRAN with ASIB+ABIA.

ASIB Usage Guidelines

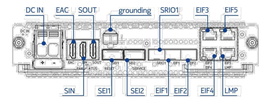
- ASIB will be replacing ASIA in all **B41 LTETDD configurations only**, with combination of ASIB+ABIC utilization in Anchor designs with AAHI/AEHC radio.
- Currently T-Mobile is not designing/deploying ASIB with any other designs (i.e LTE FDD).

TIMELINES

- ASIB is available with current GA software, SRAN19A.

PRODUCT DESCRIPTION

| Property | ASIB |
|---|---|
| Nokia product code | 473764A |
| Ingress protection class | IP 20 |
| Weight (without packaging) | 2.9 kg (6.4 lb) |
| Introduced by feature | LTE3178: *AirScale Common ASIB and SR002002: AirScale Common ASIB PIU SBTS support* |




| Item No. | AirScale Common Card ASIB | SKU | Description |
|---|---|---|---|
| 1 | Airscale Baseband ASIB Core Card | 34106 | AirScale Common Card ASIB |

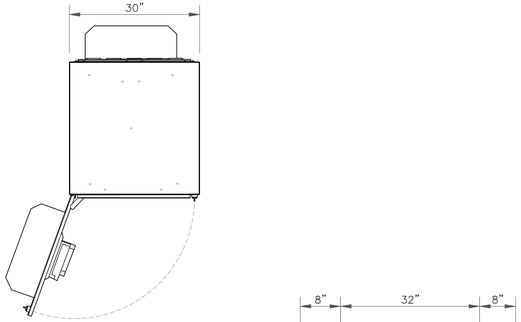
LINKS

Design: ASIB Design Document
Playbook: Nokia TM/UI Playbook (2020)

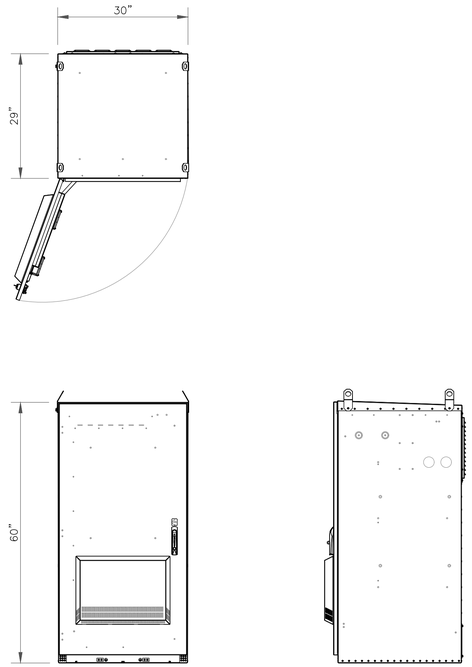
CONTACTS

| | | |
|---|---|---|
| Sasha D Kanwal | Senior Engineer, RAN Architecture | 404-883-9013 |
| Shruti Kulkarni | Senior Engineer, RAN Architecture | 972-655-9248 |
| Mike Corcoran | Principal Engineer, RAN Architecture | 425-383-5724 |
| Matthieu Marescaux | MTS, RAN Architecture | 425-383-2386 |

3 ASIB DETAIL
SCALE: NOT TO SCALE




4 PURCELL – HPL3 600A LARGE SSC
SCALE: NOT TO SCALE




5 PURCELL – Purcell LB3 BATTERY CABINET
SCALE: NOT TO SCALE

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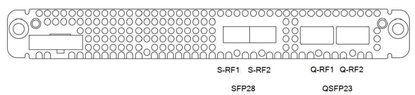


| SIGNAL | #OF INTERFACES | CONNECTOR | DESCRIPTION |
|---|---|---|---|
| Q-RFN | 2 | QSFP28 | 4 X 25/10 GBPS PER EACH CONNECTOR, SUPPORTS 10GE AND 25 GE ETHERNET PROTOCOLS |
| S-RFN | 2 | SFP28 | 1 X 25/10 GBPS PER EACH CONNECTOR, SUPPORTS 10GE AND 25 GE ETHERNET PROTOCOLS |
| LEDS | 5 | | VISUAL INDICATION OF STATUS |

6 ASIK DETAIL
SCALE: NOT TO SCALE


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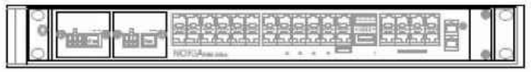
City of Puyallup
Development & Permitting Services
ISSUED PERMIT

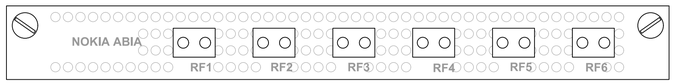
| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

MANUFACTURER: NOKIA
MODEL: IXR-e
DIMENSIONS: 17.25"x10.0"x1.75"
WEIGHT: TBD

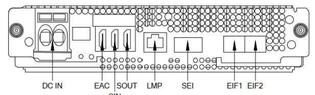


2 CSR iXRE DETAIL
SCALE N.T.S.

1 CSR – IXRE V2
SCALE: NOT TO SCALE




2 ABIA DETAIL
SCALE: NOT TO SCALE




| SIGNAL | #OF INTERFACES | CONNECTOR | DESCRIPTION |
|---|---|---|---|
| DC IN | 1 | DC TERMINAL | -48V DC INPUT |
| EAC | 1 | HDMI | EXTERNAL ALARM & CONTROL, 6 ALARMS, 6 ALARMS/CTRLS |
| SIN | 1 | HDMI | SYNCHRONIZATION INPUT, GNSS INTERFACE |
| SOUT | 1 | HDMI | SYNCHRONIZATION OUTPUT |
| LMP | 1 | RJ45 | LOCAL MANAGEMENT PORT, 1G ETHERNET |
| EIF | 2 | SFP28 | BACKHAUL/HIGHER LAYER FRONTHAUL INTERFACE, UP TO 25GE PER PORT. SUPPORT FOR SYNCE IEEE1588. |
| SEI | 1 | QSFP+ | SYSTEM EXTENSION INTERSFACE, 4 X 10GE. |
| RESET | 1 | | PLUG IN RESET |
| SERVICE | 1 | | SERVICE BUTTON, RECOVERY RESET |
| LEDS | 7 | | VISUAL INDICATION OF STATUS |

3 ABIL DETAIL
SCALE: NOT TO SCALE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OFFICE: (480) 285-0036
www.tepgroup.net


T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE



Figure: *AMIA AirScale Subrack (factory default)*

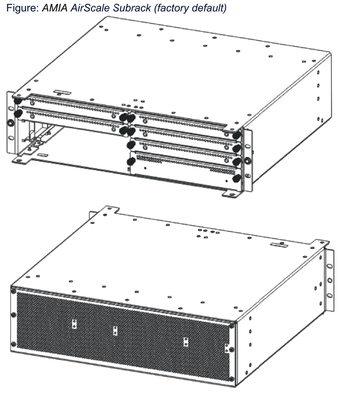
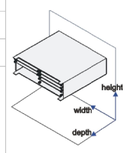


Table: *AMIA dimensions and weight*

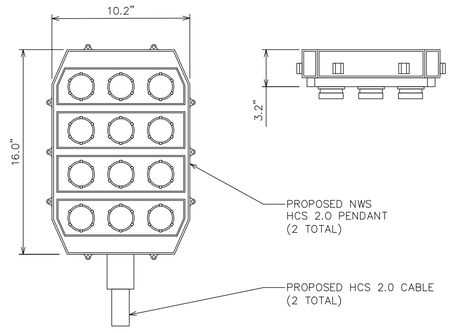
| Property | Value | Dimensions orientation |
|---|---|---|
| Height | 128.5 mm (5.1 in.) |  |
| Depth | 400 mm (15.7 in.) | |
| Width | 447 mm (17.6 in.) | |





4 AMIA DETAILS
SCALE: NOT TO SCALE

**FRONT** **TOP**




## NOKIA HCS 2.0 JUNCTION BOX

| | |
|---|---|
| COVP MAKE: | NOKIA |
| COVP MODEL: | HCS 2.0 PART 1 |
| DIMENSIONS, HxWxD: | 16.0"x10.2"x3.2" |
| WEIGHT: | 1.61 lbs/ft |

5 NOKIA HCS 2.0 DETAIL
SCALE: NOT TO SCALE

PRCTI20210038 CITY OF PUYALLUP


| Attribute | Value |
|---|---|
| Min Input Voltage | -38 VDC |
| Output Voltage | 3x -58 V DC ports |
| CB rating | 30A/40A/50A |
| Efficiency | 96% |
| Total output power | 6000 Watts (2000 W/port) |
| Operating Temp | -40°C to +60°C |
| Alarms | Output fault, DC SPD failure |
| Mechanical | 1 U 19", 13" depth |
| Certification | IEC 62368-1, UL 62368-1 |
| MTBF | 143 Years |
| Air Flow | Front to Back |

6 PSU 4813
SCALE: NOT TO SCALE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
| B | 09/29/20 | JLB | PRELIMINARY | HMM |
| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |


11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255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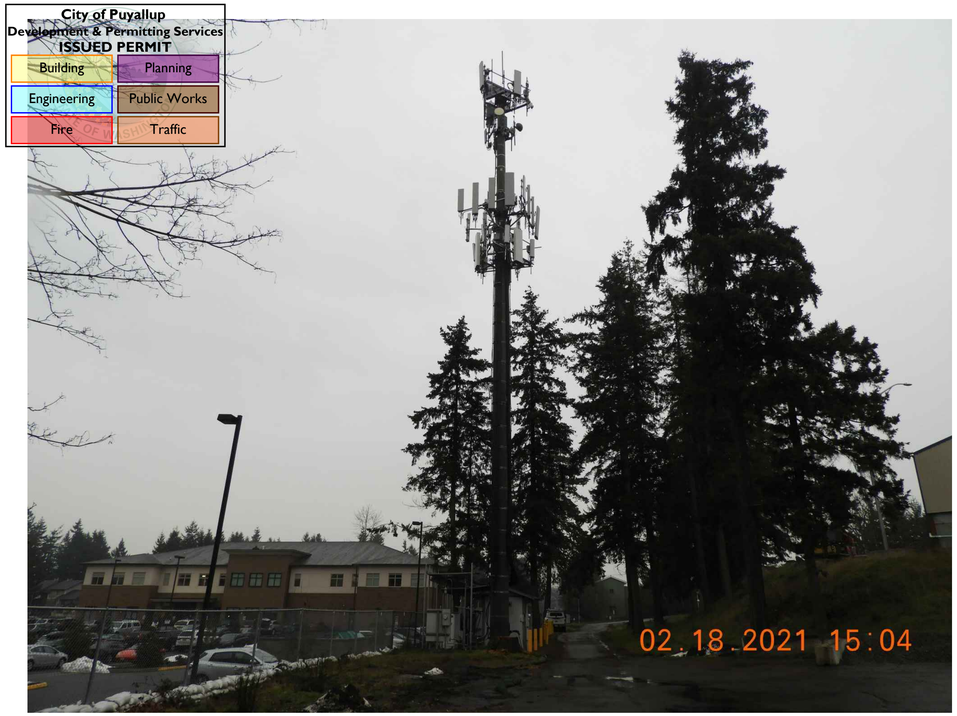
SHEET NUMBER: C-5.3
REVISION: 1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 TOWER PHOTO
SCALE: NOT TO SCALE


2 MOUNT PHOTO
SCALE: NOT TO SCALE


3 COMPOUND PHOTO
SCALE: NOT TO SCALE


4 T-MOBILE GROUND EQUIPMENT PHOTO
SCALE: NOT TO SCALE

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www.tepgroup.net

T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
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| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |

PRCTI20210038 CITY OF PUYALLUP

PAUL DAVID TIBBOT · STATE OF WASHINGTON · 47255 · PROFESSIONAL ENGINEER

11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255

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**SHEET NUMBER:** C-6

**REVISION:** 1

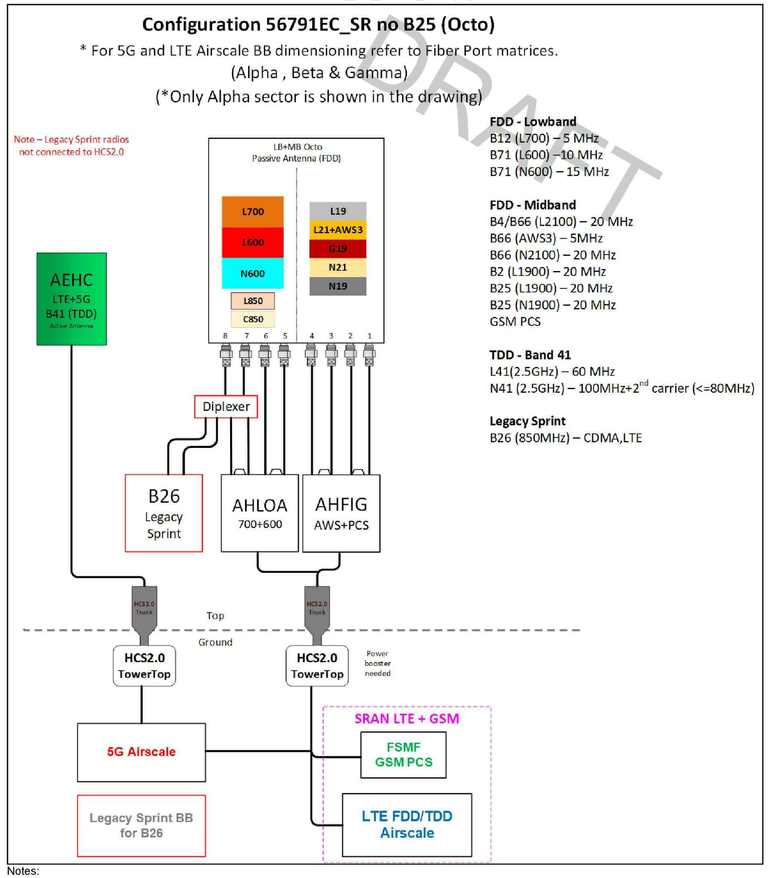
City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |



## Section 3 - Proposed Template Images

56791EC_SR_no B25_Octo.png




Notes:

56791EC_SR_no B25_Octo_Hex.jpg



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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**SOUTH HILL MALL**

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PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

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| | | | | |

PRCTI20210038 CITY OF PUYALLUP

PAUL DAVID TIBBOT
STATE OF WASHINGTON
47255
PROFESSIONAL ENGINEER
11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255

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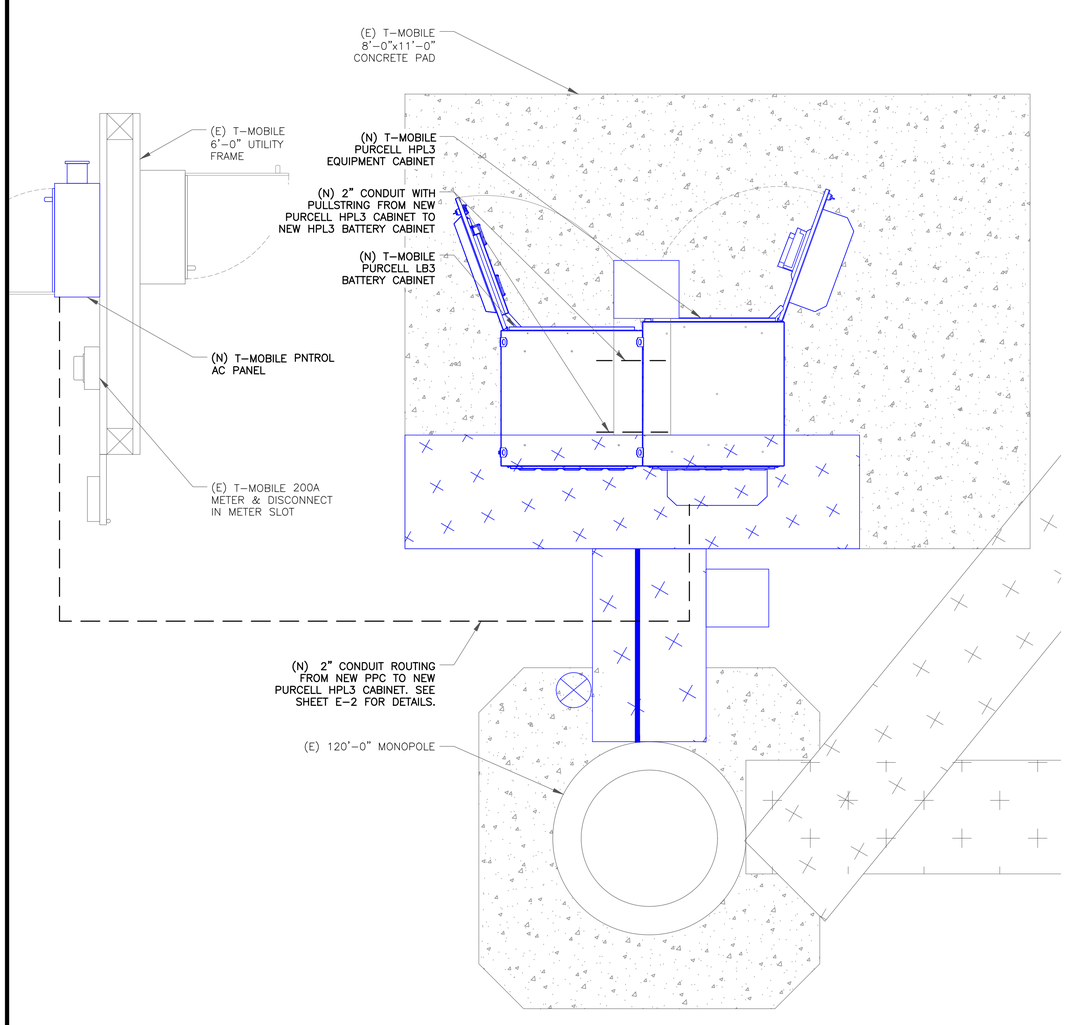
**SHEET NUMBER:** RF-1
**REVISION:** 1

ELECTRICAL DETAILS NOTES:

1. EXISTING EQUIPMENT LAYOUT WAS MADE USING INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
3. CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |




1 ELECTRICAL ROUTING PLAN
SCALE: 4' 3' 2' 1' 0 4' — 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

ELECTRICAL DETAILS NOTES:

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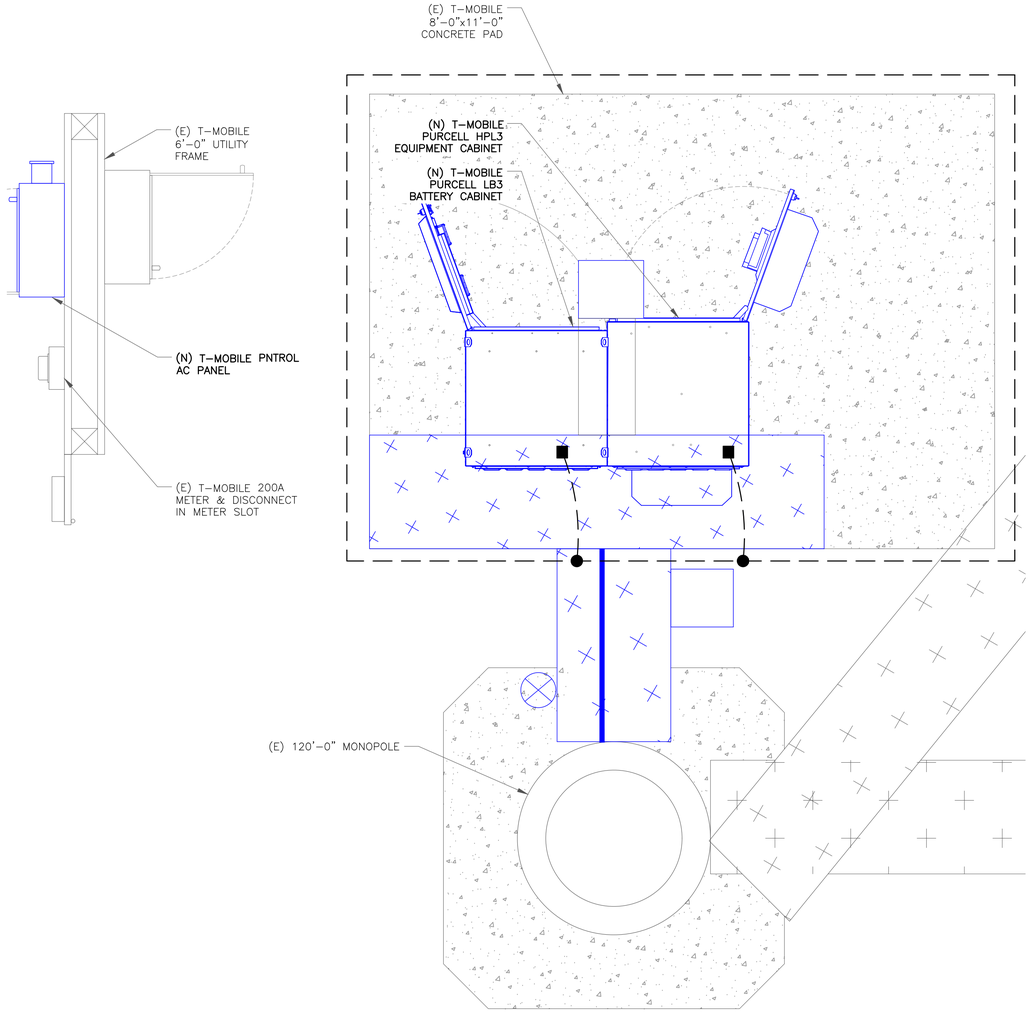
2. CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
3. CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26
4. CONTRACTOR TO VERIFY CONDITION AND LOCATION OF ALL EXISTING GROUNDING EQUIPMENT PRIOR TO CONSTRUCTION. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, GROUND RINGS, GROUND RODS, AND GROUND BARS.




| LEGEND | |
|---|---|
| ■ | MECHANICAL CONNECTION |
| ● | EXOTHERMIC CONNECTION |
| ▭ | ANTENNA GROUND BAR |
| MGB | MASTER GROUND BAR |

2 EQUIPMENT GROUNDING PLAN
SCALE: 4' 3' 2' 1' 0 4' — 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N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| | | | | |

PRCTI20210038 CITY OF PUYALLUP

PAUL DAVID TIBBOT — STATE OF WASHINGTON — 47255 — PROFESSIONAL ENGINEER

11/29/21

Paul D. Tibbot, P.E.
Professional Engineer License: #47255


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**SHEET NUMBER:** E-1

**REVISION:** 1

NEW

## ELECTRICAL PANEL SCHEDULE

PANEL: PPC — 65/10KAIC SERIES RATED

VOLTAGE: 240 / 120 V 1ø,3W
MAINS: 200 A MCB
BUS: 200 A CU

LOCATION: PPC CABINET
MOUNTING: SURFACE
NEMA RATING:3R

| LOAD DESCRIPTION | EMT COND | CU GRND | PHASE NEUT | CKT BRKR | CIR NO. | LOAD AMPS PHASE A | LOAD AMPS PHASE B | CIR NO. | CKT BRKR | PHASE NEUT | CU GRND | EMT COND | LOAD DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MISC | 2" | 6 | 3/0 | 200 | 1 | 40.0 | | | 60 | 6 | 10 | 1" | MISC |
| (N) PURCELL HPL3 | | | | | | 0.0 | | 7 | | | | | (E) SURGE |
| MISC | | | 3/0 | | 2 | | 40.0 | | | 6 | | | MISC |
| Cont. | | | | | | | 0.0 | 8 | 2 | | | | Cont. |
| MISC | | | 3/0 | | 3 | 40.0 | | | 100 | 3 | 8 | 1" | MISC |
| Cont. | | | | | | 0.0 | | 9 | | | | | (RL) SPARE / OFF |
| MISC | | | 3/0 | | 4 | | 40.0 | | | 3 | | | MISC |
| Cont. | | | | 4 | | | 0.0 | 10 | 2 | | | | Cont. |
| MISC | 3/4" | 10 | 10 | 20 | 5 | 16.0 | | | 20 | 10 | 10 | 3/4" | LIGHTING |
| (E) SPARE | | | | 1 | | 2.5 | | 11 | 1 | | | | (E) LIGHTS |
| RECEPTACLES | 3/4" | 10 | 10 | 20 | 6 | | 6.0 | | 20 | 10 | 10 | 3/4" | MISC |
| (E) OUTLET | | | | 1 | | | 0.0 | 12 | 1 | | | | (RL) SPARE / OFF |
| AMPS PER PHASE (CODE LOAD) | | | | | | 98.5 | 86.0 | | | | | | |

CONTRACTOR TO INSTALL APPROVED HANDLE TIE ON ALL SHARED NEUTRAL CIRCUITS.

| 1 PHASE DEMAND (VA) | |
|---|---|
| LIGHTING | 300 |
| 25% OF LIGHTING | 75 |
| RECEPTACLES | 720 |
| | |
| | |
| MISCELLANEOUS | 21120 |
| 25% OF MISCELLANEOUS | 5280 |
| | |
| | |
| | |
| | |
| TOTAL VA | 27495 |
| 27.49 KVA ● 240 V 1ø | |
| 114.56 A ● 240 V 1ø | |

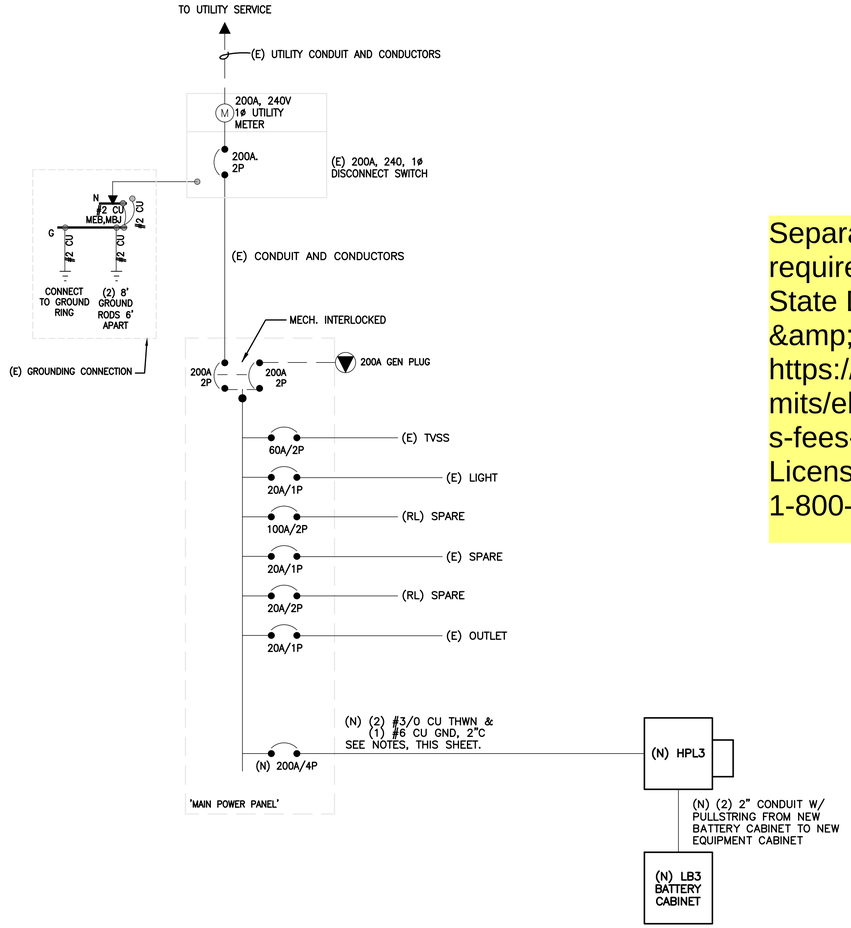
SYMBOL LIST

LEGEND:
(E) – EXISTING
(RL) – RELABELED
(N) – NEW

## DC -48V FEEDER CABLING CHART

CALCULATIONS ARE BASE ON WORST CASE FULL LOAD AMPS AT 104A –48VDC, NOT EXCEEDING 3% VOLTAGE DROP. IF FIELD CONDITIONS ARE DIFFERENT THAN INDICATED, CONTACT ENGINEER FOR REVISED CALCULATIONS.

| DISTANCE FROM FUEL CELL TO EQUIP. CABINET. | –48V, DC SINGLE CABLE | –48V, DC PARALLEL CABLE | CONDUIT SIZE |
|---|---|---|---|
| 1'–70' | 1–#1/0 CU. AWG | | 1–1/4" |
| 71'–90' | 1–#2/0 CU. AWG | | 1–1/2" |
| 91'–110' | 1–#3/0 CU. AWG | | 1–1/2" |
| 111'–140' | 1–#4/0 CU. AWG | | 2" |
| 141'–175' | | 2–#2/0 CU. AWG | 2" |
| | | | |




1 ELECTRICAL ONE–LINE DIAGRAM
SCALE: NOT TO SCALE

NOTE:
#6 COPPER WIRE AND GREATER SHALL BE (COPPER) THWN WIRE OR (COPPER) XHHW.

NOTE:
PRIOR TO RUNNING CONDUIT ROUTE – CONTRACTOR SHALL CONTACT THE T–MOBILE PROJECT MANAGER AND VERIFY THE EQUIPMENT CABINET LAYOUT CONFIGURATION AND ROUTE CONDUITS ACCORDINGLY.

NOTE:
PRE–CONSTRUCTION MEETING AND ELECTRICAL EASEMENT REQUIRED.

NOTE:
CONTRACTOR SHALL TAG EACH CIRCUIT CONDUCTOR AT EACH J–BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUITS IDENTIFICATION.

NOTE:
CONTRACTOR SHALL TAG EACH CIRCUIT CONDUCTOR AT EACH J–BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUITS IDENTIFICATION.

NOTE:
PROPOSED CONDUCTORS FROM PPC TO SSC CABINET EXCLUDE NEUTRAL CONDUCTOR AT THE DIRECTION OF T–MOBILE.

NOTE:
ALL EQUIPMENT SHOWN IN THE ONE–LINE DIAGRAM AND PANEL SCHEDULE IN THESE DRAWINGS IS EXISTING UNLESS NOTED OTHERWISE. ONLY NEW CONDUIT AND CONDUCTORS ARE SHOWN ON ONE–LINE DIAGRAM FOR CLARITY.

Separate electrical permit is required with Washington State Department of Labor & Industries. https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections or Licensing information: Call 1-800-647-0982

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
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PAUL DAVID TIBBOT — STATE OF WASHINGTON — 47255 — PROFESSIONAL ENGINEER
11/29/21

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Professional Engineer License: #47255


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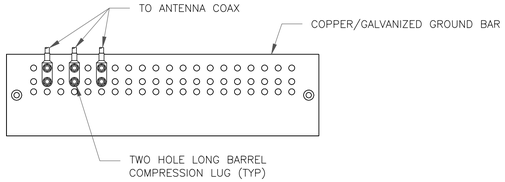
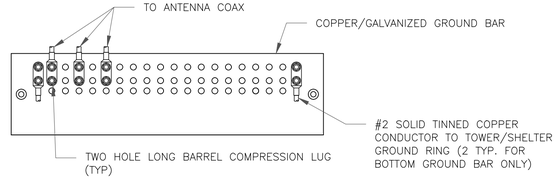
**SHEET NUMBER:** E-2
**REVISION:** 1




NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.

1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE

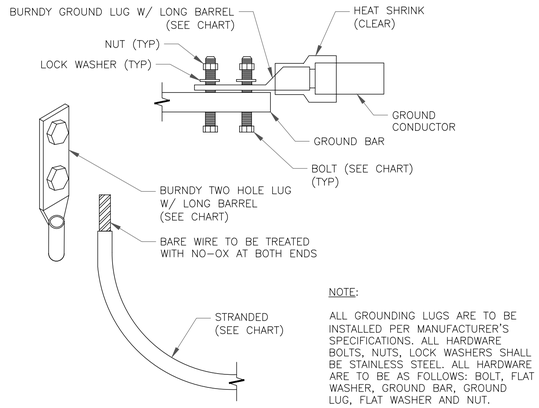



NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

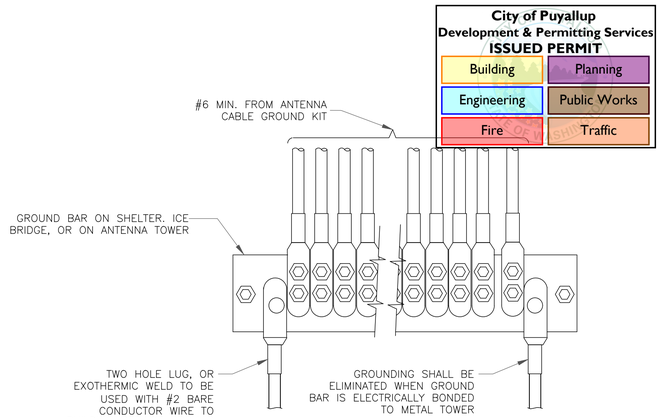
| WIRE SIZE | BURNDY LUG | BOLT SIZE |
|---|---|---|
| #6 GREEN INSULATED | YA6C-2TC38 | 3/8" - 16 NC SS 2 BOLT |
| #2 SOLID TINNED | YA3C-2TC38 | 3/8" - 16 NC SS 2 BOLT |
| #2 STRANDED | YA2C-2TC38 | 3/8" - 16 NC SS 2 BOLT |
| #2/0 STRANDED | YA26-2TC38 | 3/8" - 16 NC SS 2 BOLT |
| #4/0 STRANDED | YA28-2N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



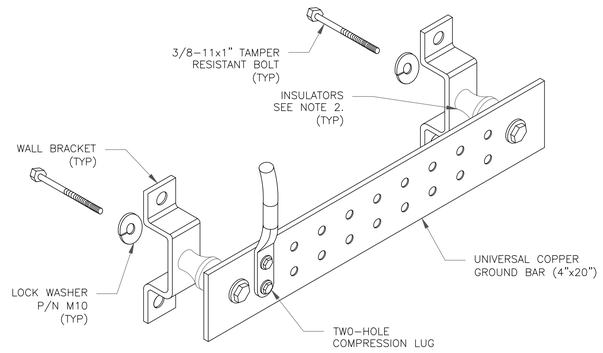

NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. 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 AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE




4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

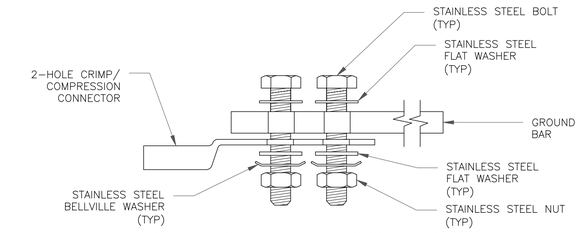



NOTES:

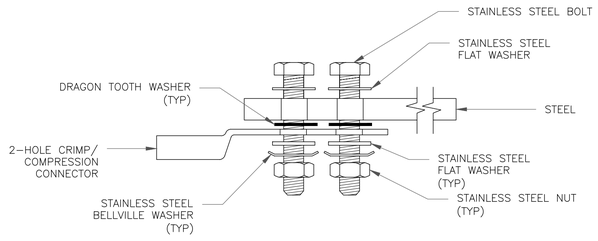
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

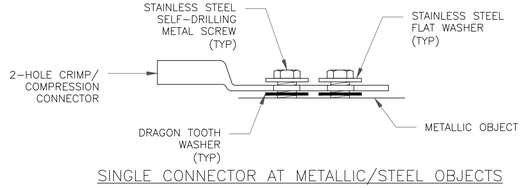
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE




SINGLE CONNECTOR AT GROUND BARS

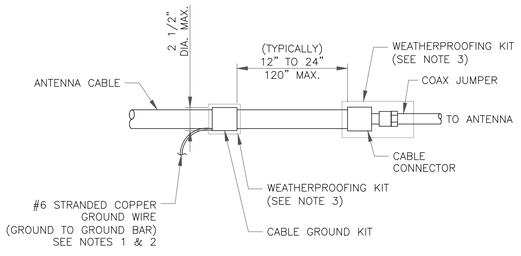



SINGLE CONNECTOR AT STEEL OBJECTS




SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

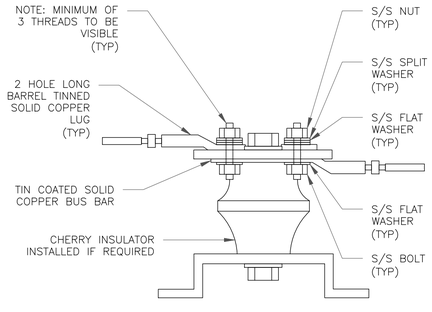
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE




NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE




7 LUG DETAIL
SCALE: NOT TO SCALE

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036
www.tepgroup.net

T-MOBILE SITE NUMBER:
**SE05437A**

BU #: **880329**
**SOUTH HILL MALL**

3150 S. MERIDAN
PUYALLUP, WA 98373

EXISTING 120'-0" MONOPOLE

**ISSUED FOR:**

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|---|---|---|---|---|
| A | 09/09/20 | SBC | PRELIMINARY | HMM |
| B | 09/29/20 | JLB | PRELIMINARY | HMM |
| 0 | 11/03/21 | GBP | CONSTRUCTION | HMM |
| 1 | 11/29/21 | PK | CONSTRUCTION | HMM |
| | | | | |

PRCTI20210038 CITY OF PUYALLUP


Paul D. Tibbot, P.E.
Professional Engineer License: #47255

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.

**SHEET NUMBER:** G-1

**REVISION:** 1