



# City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 • 503-823-7300 • www.portlandoregon.gov/bds



## Permit Revision Application and Submittal Requirements

A Permit Revision is required when there are proposed changes to the project after the permit has been issued. This may arise due to discrepancies between the city-approved permit drawings and actual field conditions, or the customer has changed their mind about an aspect of the project. In all cases, a revision to the existing permit must be submitted, reviewed and approved.

### Applicants will provide:

- A copy of this application
- Three (3) sets of plans that clearly reflect the proposed change(s).  
Drawings and calculations must be stamped and signed by the Architect and/or the Engineer of Record, if applicable.

- One (1) copy of the original city approved permit drawings. (NOTE: If your project has an assigned process manager please contact them regarding submittal of the revision).
- Two (2) sets of calculations, if applicable
- Inspector's correction notice, if revision is due to an inspection correction
- Revision fee (paid at time of submittal)

### Contact Information:

Contact name Zach Phillips

Address 1001 SE Water Ave., ste 180

City Portland State OR Zip Code 97214

Phone 503.708.9200 Email zphillips@ptswa.com

Value of proposed revision \_\_\_\_\_ Issued permit # 11-180157 CO

Description of revision Revised attachment to rooftop

### Fees:

The Permit Revisions are subject to fees associated with plan review, processing and any increase in project value. Additional fees may apply if adding plumbing fixtures.

The Bureau of Development Services fee schedule is available under the fees tab on the BDS web site at: [www.portlandoregon.gov/bds](http://www.portlandoregon.gov/bds). Fees are updated annually on July 1st.

### Helpful Information:

**Bureau of Development Services**  
 City of Portland, Oregon  
 1900 SW 4th Avenue, Portland, OR 97201  
[www.portlandoregon.gov/bds](http://www.portlandoregon.gov/bds)

**Submit your plans in person to:**  
 Development Services Center (DSC), First Floor,  
 Tuesday - Friday:  
 7:30 am - 12:00 pm  
 Closed Mondays

### Important Telephone Numbers:

BDS main number .....503-823-7300  
 DSC automated information line .....503-823-7310  
 Building code information .....503-823-1456  
 BDS 24 hour inspection request line .....503-823-7000  
 Residential information for  
 one and two family dwelling .....503-823-7388  
 General Permit Processing and  
 Fee Estimate info .....503-823-7357  
 City of Portland TTY .....503-823-6868

11-180157 REVO1 CO



## CITY COMMENTS LETTER

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**Bureau of Development Services  
City of Portland  
1900 SW Fourth Avenue  
Suite 5000  
Portland, OR 97201**

**Application #: 11-180157-REV-01-CO**

**Project: AT&T PR46 PSU Site  
1705 Southwest 11<sup>th</sup> Avenue  
Portland, OR 97201**

Attn: Mr. Miklos Ugrai

This letter is an itemized response to your submittal review comments for the above referenced project, dated July 27, 2012.

Our comments are itemized as follows:

**Item**

- 1.0 Detail 3/S-4 is referenced in the enlarged plans in details 1, 2, & 3 on Sheet S-2 and in the elevation view in detail 1/S-3. The Hilti HIT-HY 20 Anchors used in detail 3/S-4 are specifically designed to resist uplift and for fastening into materials containing voids and holes such as the hollow concrete panels. Please see the attached calcs for uplift on the anchor bolts on detail 3/S-4.

We trust this addresses your concerns. Please feel free to contact us if there are any other questions or concerns.

Prepared By: Chris Simpliciano, E.I.T.  
Dated: August 1, 2012

Section X' 8' 2'

16' Sleeper Face

Bolts

Hollow core Panels 4' wide

(C) = 10.51 K @ 16'  
 (T) = 6.884 K

0.66 K/ft  
 0.43 K/ft

2.63 K  
 1.72 K

16' Sleeper Side

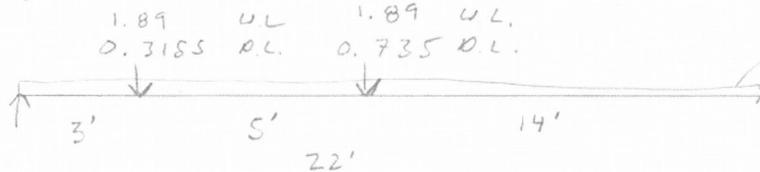
$\frac{2.11 (7.5)}{16} = 0.99 \text{ K} \Rightarrow 0.495 \text{ K/sleeper}$

$\frac{2.11 (7.5)}{16} + 0.6 (3.98) (8) = 0.704 \Rightarrow 0.102 \text{ K per sleeper (C)}$   
 Empty weight  
 No tension on side lead.

8" x 4" hollow core panel 62 psl allowable super imposed load  
 10 psl min. d.l.  
 25 psl min. s.l.

$M_{max} \text{ super imposed} = \frac{62 (22)^2 (4)}{8} = 15004 \text{ lb-ft}$

Face OTM

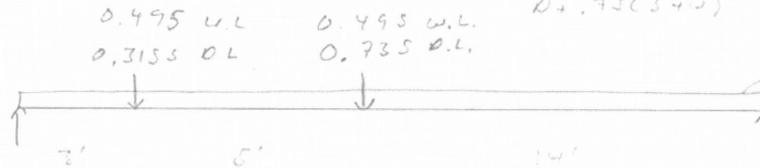


S.L. = 100 psl  
 D.L. = 40 psl

$M = 15,275 \text{ K-ft}$   
 $D = 73 (540)$

2% over ok

Side OTM



S.L. = 100 psl  
 D.L. = 40 psl

$M = 13.4 \text{ K-ft}$

ok

Hilti HY 20 Uplift Calc

Not adequate

Bolts:  $V_{total} = 2518 \text{ 16's}$  (1 sleeper)  
 $T = 6884 \text{ 16's}$  (1 sleeper)

$\Rightarrow e = 72" \text{ o.c.} \Rightarrow 160 \text{ 16 V}$   
 $458 \text{ 16 T}$

$\frac{1}{2}" \phi$  Hilti Hy 20 (15) @ 12" o.c.  $T_{max} = 525 \text{ 16}$   
 $V_{req} = 1230 \text{ 16}$

$\frac{458}{525} + \frac{168}{1230} = 1.01 \text{ OK}$

### 4.2.8 HIT-HY 20 for Masonry Anchoring System

HIT HY 20 Allowable Loads for Threaded HIT-A Rods in Hollow Concrete Block, Lightweight Concrete Block, Brick with Holes, Clay Tile<sup>1, 2</sup>

Anchor Type	Anchor Diameter in. (mm)	HIT-A Short 2" (51mm) Embedment		HIT-A Standard 3-3/8" (86mm) Embedment			
		L/W or N/W Hollow Concrete Block		Brick with Holes		Clay Tile	
		Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)
HIT-A Rod Anchor	1/4 <sup>3</sup> (6.4) <sup>3</sup>	255 (1.1)	340 (1.5)	365 (1.6)	305 (1.4)	130 (0.6)	100 (0.4)
	5/16 (7.9)	370 (1.6)	505 (2.2)	565 (2.5)	530 (2.4)	150 (0.7)	220 (1.0)
	3/8 (9.5)	525 (2.3)	790 (3.5)	775 (3.4)	930 (4.1)	150 (0.7)	220 (2.2)
	1/2 (12.7)	525 (2.3)	1230 (5.5)	775 (3.4)	1375 (6.1)	150 (0.7)	500 (2.2)

- 1 Based on using a safety factor of 6 for tension and 4 for shear.
- 2 Due to wide strength variations encountered in masonry, these values should be considered as guide values.
- 3 1/4" anchor diameter installed at 2" embedment in brick with holes and clay tile.

HIT HY 20 Allowable Loads for Threaded HIT-I Inserts in Hollow Concrete Block, Lightweight Concrete Block, Brick with Holes, Clay Tile<sup>1, 2</sup>

Anchor Type	Anchor Diameter in. (mm)	HIT Short 2" (51mm) Embedment		HIT Standard 3-3/8" (86mm) Embedment			
		L/W or N/W Hollow Concrete Block		Brick with Holes		Clay Tile	
		Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)
HIT-I Insert Anchor	No 14 screw w/ insert <sup>3</sup> (6.4)	240 (1.1)	510 (2.3)	300 (1.3)	530 (2.4)	85 (0.4)	150 (0.7)
	5/16 (7.9)	400 (1.8)	780 (3.5)	585 (2.6)	750 (3.3)	175 (0.8)	220 (1.0)
	3/8 (9.5)	400 (1.8)	1425 (6.3)	1160 (5.2)	1380 (6.1)	185 (0.8)	435 (1.9)
	1/2 (12.7)	400 (1.8)	1800 (8.0)	1160 (5.2)	1635 (7.3)	185 (0.8)	500 (2.2)

- 1 Based on using a safety factor of 6 for tension and 4 for shear.
- 2 Due to wide strength variations encountered in masonry, these values should be considered as guide values.
- 3 1/4" anchor installed at 2" embedment in brick with holes and clay tile.

#### Anchor Spacing and Edge Distance Guidelines

##### Brick with Holes & Multi-Wythe Brick Walls

Spacing:

$$s_{cr} = s_{min} = \text{Two (2) complete bricks in any direction}$$

Edge Distance:

$$c_{cr} = c_{min} = \text{Two (2) complete bricks, or 16" (406 mm) in any direction (whichever is less.)}$$

##### Clay Tile

Spacing:

$$s_{cr} = s_{min} = \text{One (1) anchor per tile cell}$$

Edge Distance:

$$c_{cr} = c_{min} = 12" (305 \text{ mm}) \text{ from free edge}$$

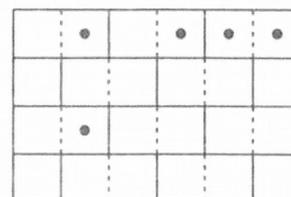
##### Hollow, Normal Weight & Lightweight Concrete Block

Spacing:

$$s_{cr} = s_{min} = \text{One (1) anchor per block cell}$$

Edge Distance:

$$c_{cr} = c_{min} = 12" (305 \text{ mm}) \text{ min. from free edge}$$



Wall Elevation





**at&t**  
Your world. Delivered.

**PSU  
PR46**

1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

**PROPRIETARY INFORMATION**

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



**PTS**  
PACIFIC TELECOM SERVICES, LLC

REVISED FINAL  
CONSTRUCTION DRAWINGS

05-07-12



EXPIRATION DATE OF THE LICENSE: 06/30/12

**PSU  
PR46**

1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

**PROJECT INFORMATION**

**PROJECT DESCRIPTION:**

AT&T PROPOSES TO MODIFY AN EXISTING UNSTAFFED TELECOMMUNICATIONS FACILITY BY ADDING (3) LTE PANEL ANTENNAS (1 PER SECTOR), (6) RRH UNITS (2 PER SECTOR), (3) SURGE SUPPRESSION BOXES (1 PER SECTOR); ALL CONCEALED WITHIN (3) NEW SHROUD ASSEMBLIES ON THE ROOF OF AN EXISTING BUILDING; ALONG WITH THE ADDITION OF LTE EQUIPMENT INSTALLED WITHIN A NEW 19" TELCO RACK WITHIN AN EXISTING ROOF TOP EQUIPMENT SHELTER; PLUS (1) ADDITIONAL GPS ANTENNA MOUNTED NEAR AN EXISTING GPS ANTENNA.

**APPLICANT:**

AT&T MOBILITY  
RTC BUILDING 3  
16221 NE 72ND WAY  
REDMOND, WA 98052

**PROPERTY OWNER:**

OREGON STATE BOARD OF HIGHER EDUCATION  
PO BOX 3175  
EUGENE, OR 97403  
CONTACT: TBD  
PH: TBD

**CODE INFORMATION:**

ZONING CLASSIFICATION: RxD  
BUILDING CODE: OREGON AMMENDMENT TO THE 2009 IBC  
CONSTRUCTION TYPE: IIA, IIB  
OCCUPANCY: R-2, S-2  
JURISDICTION: CITY OF PORTLAND  
CURRENT USE: ROOFTOP TELECOM BUILDING  
PROPOSED USE: TELECOMMUNICATIONS FACILITY

**TEAM LEAD:**

VELOCITEL  
4004 KRUSE WAY PLACE, SUITE 200  
LAKE OSWEGO, OR 97035  
CONTACT: VANESSA MEYER  
PH: TBD

**SITE ACQUISITION:**

PACIFIC TELECOM SERVICES, LLC  
1001 SE WATER AVENUE, SUITE 180  
PORTLAND, OR 97214  
CONTACT: ZACH PHILLIPS  
PH: (503) 708-9200

**PERMITTING:**

PACIFIC TELECOM SERVICES, LLC  
1001 SE WATER AVENUE, SUITE 180  
PORTLAND, OR 97214  
CONTACT: ZACH PHILLIPS  
PH: (503) 708-9200

**CONSTRUCTION MANAGER:**

VELOCITEL  
4004 KRUSE WAY PLACE, SUITE 200  
LAKE OSWEGO, OR 97035  
CONTACT: JASON CAPONETTE  
PH: (360) 209-4140

**RF ENGINEER:**

AT&T MOBILITY  
CONTACT: KUNG-LIANG LIN  
PH: (425) 698-7825

**SITE LOCATION: (BASED ON NAD 83):**

LATITUDE: 45° 30' 50.00" N  
LONGITUDE: 122° 41' 9.99" W  
TOP OF STRUCTURE AGL: 101'-0"  
BASE OF STRUCTURE AMSL: 157'-0"

**PARCEL NUMBER(S):**

151E04D 8800

**LAND USE:**

CONFORMS TO: LU 06-163956 DZ

**GENERAL INFORMATION:**

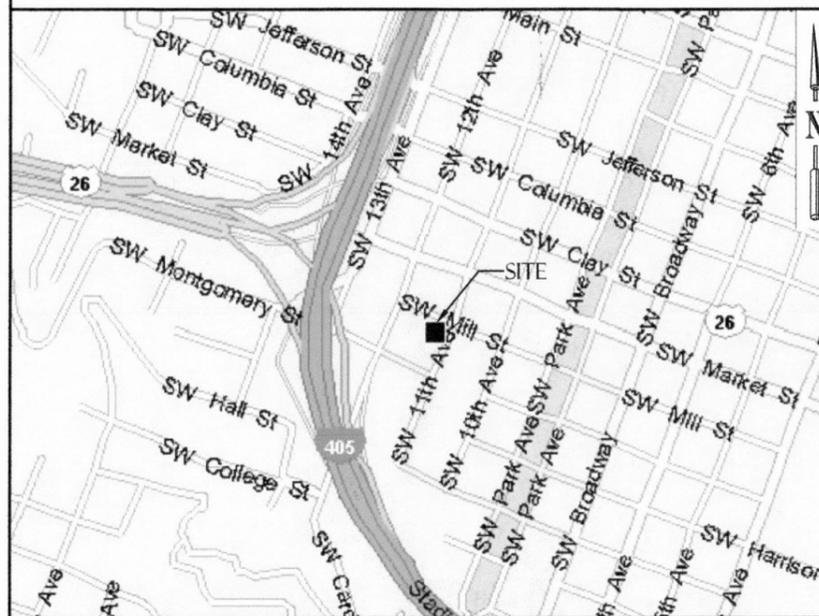
1. PARKING REQUIREMENTS ARE UNCHANGED.
2. TRAFFIC IS UNAFFECTED.

**PROJECT TEAM**

**PROJECT ARCHITECT**

RICHARD B. HALL, AIA  
PACIFIC TELECOM SERVICES, LLC  
111 SOUTH JACKSON #200  
SEATTLE, WA 98104  
CONTACT: PAUL DANNEBERG  
PH: (206) 464-4413  
EMAIL: PDANNEBERG@PTS.WA.COM

**VICINITY MAP**



**DRAWING INDEX**

**SHEET DESCRIPTION**

T-1	TITLE SHEET
G-1	GENERAL NOTES
G-2	GENERAL NOTES & SYMBOLS
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A-3	PROPOSED ANTENNA LAYOUTS
A-4	EXISTING & PROPOSED EQUIPMENT LAYOUT
A-5	EXISTING & PROPOSED SOUTH ELEVATION
A-6	EXISTING & PROPOSED WEST ELEVATION
A-7	EXISTING & PROPOSED NORTH ELEVATION
A-8	EXISTING & PROPOSED EAST ELEVATION
A-9	CONSTRUCTION DETAILS
A-10	CONSTRUCTION DETAILS
RF-1	EXISTING ANTENNA CONFIGURATION
RF-2	PROPOSED ANTENNA CONFIGURATION
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S-3	STRUCTURAL DETAILS
S-4	STRUCTURAL DETAILS

**LEGAL DESCRIPTION**

A PARCEL OF LAND LOCATED IN THE N.E. ONE-QUARTER OF SECTION 13, TOWNSHIP 1 SOUTH, RANGE 2 WEST, OF THE WILLAMETTE MERIDIAN, COUNTY OF WASHINGTON, STATE OF OREGON; MORE PARTICULARLY AS FOLLOWS:  
LOTS 129, 130, 131, BEAVERTON-REEDSVILLE, WASHINGTON COUNTY, OREGON, EXCEPT THE SOUTH 25 FEET OF LOT 131, THAT WAS CONVEYED TO W.A. SHAW BY DEED BOOK PAGE 81.

City of Portland  
REVIEWED FOR CODE COMPLIANCE

AUG 10 2012

Permit Number

**DRIVING DIRECTIONS**

**FROM REGIONAL OFFICE (REDMOND):**

HEAD EAST ON NE 73RD WAY TOWARD 163RD PL NE, TURN LEFT AT 163RD PL NE, TURN LEFT AT NE 74TH ST, TURN RIGHT AT BEAR CREEK PKWY, TAKE THE 1ST LEFT ONTO LEARY WAY NE, TAKE THE RAMP ONTO WA-520 W, TAKE THE EXIT ONTO I-405 S TOWARD RENTON, TAKE THE EXIT ONTO I-5 S TOWARD PORTLAND; ENTERING OREGON, CONTINUE ONTO I-405 N (SIGNS FOR US-26/CITY CENTER/BEAVERTON), TAKE EXIT 1D TOWARD 12TH AVE, MERGE ONTO SW 12TH AVE, TURN RIGHT AT SW MILL ST, TURN RIGHT AT SW 11TH AVE.

**FROM PORTLAND INTERNATIONAL AIRPORT:**

HEAD SOUTHWEST ON NE AIRPORT WAY TOWARD NE AIR CARGO RD, TAKE THE RAMP ONTO I-205 S, TAKE EXIT 21B TO MERGE ONTO I-84 W/US-30 W TOWARD PORTLAND, TAKE THE EXIT ON THE LEFT ONTO I-5 S TOWARD BEAVERTON/SALEM, CONTINUE ONTO I-405 N (SIGNS FOR US-26/CITY CENTER/BEAVERTON), TAKE EXIT 1D TOWARD 12TH AVE, MERGE ONTO SW 12TH AVE, TURN RIGHT AT SW MILL ST, TURN RIGHT AT SW 11TH AVE.

APPROVAL	DATE	SIGNATURE	APPROVAL	DATE	SIGNATURE
RF ENGINEER:			LANDLORD:		
RF MANAGER:			SITE ACQUISITION:		
OPPS MANAGER:			ZONING AGENT:		
CONSTR MANAGER:			PROJECT MANAGER:		
NSB MANAGER:			CONSTR MANAGER:		
TRANSPORT:					
EQUIP ENGINEER:					
COMPLIANCE:					

REVIEWERS SHALL CLEARLY PLACE INITIALS ADJACENT TO EACH REDLINE NOTE AS DRAWINGS ARE BEING REVIEWED

**ABBREVIATIONS**

A/C	AIR CONDITIONING	GC	GENERAL CONTRACTOR	PLYWD	PLYWOOD
AGL	ABOVE GROUND LEVEL	GPS	GLOBAL POSITIONING SYSTEM	PROJ	PROJECT
APPROX	APPROXIMATELY	GRND	GROUND	PROP	PROPERTY
				PT	PRESSURE TREATED
BLDG	BUILDING	HORZ	HORIZONTAL	REQ	REQUIRED
BLK	BLOCKING	HR	HOUR	RF	RADIO FREQUENCY
		HT	HEIGHT	RM	ROOM
CLG	CEILING	HVAC	HEATING VENTILATION AIR CONDITIONING	RO	ROUGH OPENING
CLR	CLEAR			RRH	REMOTE RADIO HEAD
COAX	COAXIAL CABLE			RRU	REMOTE RADIO UNIT
CONC	CONCRETE	ID	INSIDE DIAMETER		
CONST	CONSTRUCTION	IN	INCH	SHT	SHEET
CONT	CONTINUOUS	INFO	INFORMATION	SIM	SIMILAR
		INSUL	INSULATION	SPEC	SPECIFICATION
DBL	DOUBLE	INT	INTERIOR	SF	SQUARE FOOT
DIA	DIAMETER	IBC	INTERNATIONAL BUILDING CODE	SS	STAINLESS STEEL
DIAG	DIAGONAL			STL	STEEL
DN	DOWN	LBS	POUNDS	STRUCT	STRUCTURAL
DET	DETAIL	LMU	LOCATION MEASUREMENT UNIT	STD	STUD
DWG	DRAWING	LTE	LONG TERM EVOLUTION	SUSP	SUSPENDED
EA	EACH	MAX	MAXIMUM	THRU	THROUGH
ELEV	ELEVATION	MECH	MECHANICAL	TNNG	TINNED
ELEC	ELECTRICAL	MTL	METAL	TYP	TYPICAL
EQ	EQUAL	MFR	MANUFACTURE		
EQUIP	EQUIPMENT	MGR	MANAGER	UNO	UNLESS NOTED OTHERWISE
EXT	EXTERIOR	MIN	MINIMUM	VERT	VERTICAL
		MISC	MISCELLANEOUS	VIF	VERIFY IN FIELD
FIN	FINISH				
FLUOR	FLUORESCENT	NA	NOT APPLICABLE	W/	WITH
FLR	FLOOR	NIC	NOT IN CONTRACT	W/O	WITHOUT
FT	FOOT	NTS	NOT TO SCALE	WP	WATER PROOF
FRP	FIBER-REINFORCED POLYMER				
		OC	ON CENTER		
GA	GAUGE	OD	OUTSIDE DIAMETER		
GALV	GALVANIZED				

**REVISIONS**

NO.	DATE	DESCRIPTION	INITIAL
A	02/17/11	ISSUED FOR PCD REVIEW	WJR
0	04/04/11	ISSUED FOR FINAL CONSTRUCTION	WJR
1	08/15/11	ISSUED FOR REVISED FINAL CONSTRUCTION	NL
2	08/15/11	ISSUED FOR REVISED FINAL CONSTRUCTION	NL
3	09/26/11	ISSUED FOR REVISED FINAL CONSTRUCTION	AF
4	10/18/11	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR
5	04/26/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR
6	05/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

SHEET TITLE  
TITLE SHEET

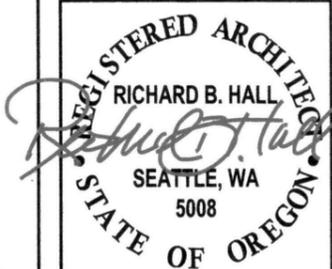
SHEET NUMBER

**T-1**

150157201000

**GENERAL NOTES:**

1. THE CONTRACTOR SHALL NOTIFY NETWORK CARRIER OF ANY ERRORS, OMISSIONS, OR INCONSISTENCIES AS THEY MAY BE DISCOVERED IN PLANS, DOCUMENTS, NOTES, OR SPECIFICATIONS, PRIOR TO STARTING CONSTRUCTION INCLUDING, BUT NOT LIMITED BY, DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERROR, OMISSION, OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF NETWORK CARRIER CONSTRUCTION PROJECT MANAGER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION, THE MEANS OF CORRECTING ANY ERROR SHALL FIRST BE APPROVED BY NETWORK CARRIER CONSTRUCTION PROJECT MANAGER.
2. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND THE CONTRACTOR HAVING BEEN AWARDED THIS PROJECT SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION/CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
3. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE NETWORK CARRIER PROJECT SCOPE AND THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
4. 11X17 COPIES OF DRAWINGS ARE NOT TO BE SCALED DUE TO DISTORTIONS RESULTING FROM MULTIPLE REPROGRAPHIC COPIES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALES SHOWN ON PLANS.
5. OWNER, CONTRACTOR, AND NETWORK CARRIER REPRESENTATIVE SHALL REVIEW AND CONFIRM THAT PROJECT SCOPE, DESIGN INTENT AND UTILITY COORDINATION ITEMS ARE INCLUDED IN THE DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION.
6. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION FROM NETWORK CARRIER REPRESENTATIVE TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS OR TENANTS.
8. THE CONTRACTOR SHALL PROVIDE NETWORK CARRIER PROPER INSURANCE CERTIFICATES NAMING NETWORK CARRIER AS ADDITIONAL INSURED, AND PROVIDE NETWORK CARRIER PROOF OF LICENSE(S) INCLUDING PE & PD INSURANCE.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
11. ALL WORK PERFORMED ON THE PROJECT ALONG WITH ALL MATERIALS INSTALLED, SHALL COMPLY IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL LIKEWISE ISSUE NOTICE TO ALL SUB-CONTRACTORS THAT THEY SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPALITY, UTILITY COMPANY AND LOCAL/STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
12. A COPY OF THE GOVERNING AGENCY ISSUED AND APPROVED PLANS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY, AND BY LAW, SHALL BE AVAILABLE AT THE JOB SITE FOR INSPECTION AT ALL TIMES. THE ORIGINAL PERMIT SET PLANS ARE NOT TO BE USED BY THE WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION AS GOVERNING AGENCY APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS, IN GOOD CONDITION, COMPLETE WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES UNDER THE DIRECT CARE OF THE SUPERINTENDENT. THE CONTRACTOR SHALL SUPPLY THE NETWORK CARRIER CONSTRUCTION PROJECT MANAGER WITH A COPY OF ALL REVISIONS, ADDENDA, AND/OR CHANGE ORDERS AT THE CONCLUSION OF THE WORK AS A PART OF THE AS-BUILT DRAWING RECORDS.
13. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
14. THE CONTRACTOR SHALL STUDY THE STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING PLANS AND CROSS CHECK THEIR DETAILS, NOTES, DIMENSIONS, AND ALL REQUIREMENTS PRIOR TO THE START OF ANY WORK.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE JOB SITE WHILE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE.
16. THE CONTRACTOR HAS THE RESPONSIBILITY OF LOCATING ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THE PLANS, ALONG WITH PROTECTING THEM FROM DAMAGE. THE CONTRACTOR AND SUBCONTRACTOR SHALL BEAR THE EXPENSES OF REPAIR AND/OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGE RESULTING FROM OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK.
17. ALL EXISTING CONSTRUCTION, EQUIPMENT, AND FINISHES NOTED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL
18. BE REMOVED FROM THE SITE WITH THE FOLLOWING EXCEPTIONS:
  - A. PROPERTY NOTED TO BE RETURNED TO THE OWNER.
  - B. PROPERTY NOTED TO BE REMOVED BY THE OWNER.
19. THE GOVERNING AGENCIES, CODE AUTHORITIES, AND BUILDING INSPECTORS SHALL PROVIDE MINIMUM STANDARDS FOR CONSTRUCTION TECHNIQUES, MATERIALS, AND FINISHES USED THROUGHOUT THE PROJECT. TRADE STANDARDS AND/OR PUBLISHED MANUFACTURERS SPECIFICATIONS MEETING OR EXCEEDING DESIGN REQUIREMENTS SHALL BE USED FOR INSTALLATION.
20. WHEN ROOF TOP OR TOP FLOOR DECK TEMPORARY STAGING OF IS REQUIRED, MATERIALS SHALL BE EVENLY DISTRIBUTED OVER ROUGH FRAMED FLOORS OR ROOFS SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING AND/OR BRACING IS TO BE PROVIDED WHERE THE STRUCTURE DOESN'T HAVE THE DESIGN STRENGTH FOR ADDITIONAL LOADING.
21. SEAL ALL PENETRATIONS WITHIN FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THE SUBJECT FACILITY AND OR PROJECT SITE.
22. BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GROUND DISTURBANCE, CONSTRUCTION, AND ANY OTHER PROJECT EFFORT AS MANDATED BY THE GOVERNING AGENCY.
23. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
24. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ADJACENT TO THE PROPERTY.
25. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION DISPOSING OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
26. NEW CONSTRUCTION INSTALLED ADJACENT EXISTING BUILDINGS OR CONSTRUCTION SHALL ARCHITECTURALLY MATCH THE EXISTING IN TERMS OF COLOR, TEXTURE, FINISH MATERIALS, ETC., EXCEPT AS NOTED IN THE PLANS AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BACKING, BLOCKING, AND/OR OTHER ANCHORAGE DEVICES REQUIRED FOR THE INSTALLATION OF FIXTURES, MECHANICAL EQUIPMENT, PLUMBING, HARDWARE, AND FINISH ITEMS TO INSURE A PROPER AND CODE COMPLIANT INSTALLATION.
28. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING INSTALLATIONS THAT ARE CONSTRUCTED LEVEL, ERECT, EVENLY ALIGNED, PLUMB AND TRUE BASED ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL COMPARE EXISTING CONDITIONS WITH THE PROPOSED DESIGN PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES OR INCONSISTENCIES TO THE NETWORK CARRIER'S REPRESENTATIVE AND FURTHER TO THE A&E SUCH THAT THE NEW INSTALLATION WILL LIKEWISE BE LEVEL, ERECT, EVENLY ALIGNED, PLUMB AND TRUE. NETWORK CARRIER SHALL BE NOTIFIED OF ANY ERRORS, OMISSIONS, OR INCONSISTENCIES PRIOR TO ANY CONSTRUCTION.
29. THE CONTRACTOR IS TO PROVIDE PROTECTION FOR ADJOINING PROPERTIES FROM PHYSICAL HARM, NOISE, DUST, DIRT, AND FIRE AS REQUIRED BY THE GOVERNING AGENCIES.
30. WHERE SPECIFIED, MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AND/OR REVISIONS AVAILABLE AS REQUIRED BY THE GOVERNING AGENCY RESPONSIBLE FOR RECORDING THE RESULTS.
31. THE CONTRACTOR IS RESPONSIBLE FOR THE STORAGE OF ALL MATERIALS AND SHALL NOT STORE OR STAGE MATERIALS ON PUBLIC PROPERTY WITHOUT A PERMIT TO DO SO FROM THE GOVERNING AGENCIES FOR THIS PURPOSE.
32. GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN ALL CONDITIONS UNLESS ILLUSTRATED AND NOTED OTHERWISE.
33. TRADES INVOLVED IN THE PROJECT SHALL BE RESPONSIBLE FOR THEIR OWN CUTTING, FITTING, PATCHING, ETC., SO AS TO BE PREPARED PROPERLY BY THE WORK OF OTHER TRADES.
34. ALL DEBRIS AND REFUSE SHALL BE REMOVED FROM THE PROJECT PREMISES AND LEFT IN A CLEAN SWEEP CONDITION AT ALL TIMES BY EACH TRADE AS THEY PERFORM THEIR OWN PORTION OF THE WORK.
35. NETWORK CARRIER DOES NOT GUARANTEE ANY PRODUCTS, FIXTURES, AND/OR ANY EQUIPMENT NAMED BY A TRADE OR MANUFACTURER. GUARANTEE OR WARRANTY THAT MAY BE IN EFFECT IS DONE THROUGH THE COMPANY OR MANUFACTURER PROVIDING THE PRODUCT, FIXTURE, AND/OR EQUIPMENT UNLESS SPECIFIC RESPONSIBILITY IS ALSO PROVIDED BY THE CONTRACTOR/SUBCONTRACTOR IN WRITTEN FORM.
36. CAUTION! CALL BEFORE YOU DIG! BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
37. WHEN APPLICABLE, CONTRACTOR IS RESPONSIBLE TO CALL, COORDINATE AND MAKE ARRANGEMENTS FOR R.O.W. AND/OR PRIVATE PROPERTY LOCATES BASED ON SPECIFIC SITE REQUIREMENTS.
38. SEE CIVIL DRAWINGS FOR ADDITIONAL SITE INFORMATION.
39. CONTRACTORS TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND SUBMIT TO NETWORK CARRIER'S REPRESENTATIVE ALONG WITH REDLINED CONSTRUCTION SET.
40. CONTRACTOR SHALL DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP (REDLINING) THE APPROVED CONSTRUCTION SET AND SUBMITTING THE REDLINED ALONG WITH PHOTOGRAPHS PER NETWORK CARRIER REQUIREMENTS.
41. GENERAL CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL OF ALL POWER DRAW, INSTALLATION AND/OR MODIFICATIONS WITH POWER COMPANY, OWNER AND JURISDICTION AS REQUIRED. CONTRACTOR SHALL REPORT POWER INSTALLATION SOLUTION(S) TO NETWORK CARRIER REPRESENTATIVE, PROJECT CONSTRUCTION MANAGER AND ARCHITECT.
42. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY NETWORK CARRIER CONSTRUCTION MANAGER.
43. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REMEDY ALL FAULTY, INFERIOR, AND/OR IMPROPER MATERIALS, DAMAGED GOODS, AND/OR FAULTY WORKMANSHIP FOR ONE (1) YEAR AFTER THE PROJECT IS COMPLETE ACCEPTING UNDER THIS CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR. EXCEPTION: THE ROOFING SUBCONTRACTOR SHALL FURNISH A MAINTENANCE AGREEMENT FOR ALL WORK DONE, COSIGNED BY THE GENERAL CONTRACTOR, TO MAINTAIN THE ROOFING IN A WATERTIGHT CONDITION FOR A PERIOD OF TWO (2) YEARS STARTING AFTER THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT, UNLESS OTHERWISE WRITTEN IN THE CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR.
44. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION FOR THE SAFETY OF THE OWNER'S EMPLOYEES, WORKMEN, AND ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT.
45. THE CONTRACTOR SHALL BE REQUIRED TO PAY FOR ALL NECESSARY PERMITS AND/OR FEES WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR HIS REPRESENTATIVE. CONTRACTOR SHALL OBTAIN PERMIT (UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE) AND MAKE FINAL PAYMENT FOR SAID DOCUMENT(S).
46. NETWORK CARRIER'S REPRESENTATIVE SHALL REVIEW AND APPROVE SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH DESIGN CONCEPT. NETWORK CARRIER'S REPRESENTATIVE PROJECT APPROVAL OF A SEPARATE ITEM SHALL NOT INCLUDE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM FUNCTIONS.
47. ALL ANTENNAS MOUNTED ON ROOF SUPPORT FRAMES TO BE PROVIDED BY NETWORK CARRIER.
48. CONTRACTOR SHALL PROVIDE HEAVY STEEL PLATES AT OPEN TRENCHES FOR SAFETY AND TO PROTECT EXISTING GROUND SURFACES FROM HEAVY EQUIPMENT UTILIZED DURING CONSTRUCTION.
49. CONTRACTOR SHALL PATCH AND REPAIR ALL GROUND SURFACES WITHIN THE CONSTRUCTION AREA AS NECESSARY TO PROVIDE A UNIFORM SURFACE AND MAINTAIN EXISTING SURFACE DRAINAGE SLOPES.
50. CONTRACTOR SHALL REPLACE EXISTING LANDSCAPE VEGETATION DAMAGED DUE TO CONSTRUCTION ACTIVITIES, AND REPAIR, RESTORE AND MODIFY EXISTING IRRIGATION LINES IF NECESSARY TO OPERATING CONDITION, PROVIDING FULL COVERAGE TO IMPACTED AREAS.
51. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE PENETRATION OF EXISTING ROOFING MATERIALS OCCUR, GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER TO OBTAIN CONTACT INFORMATION AND UTILIZE THE EXISTING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVING THE WORK GUARANTEED UNDER THE ROOFING CONTRACTOR'S EXISTING WARRANTY ENSURING 100% MOISTURE PROTECTION.
52. IN THE CASE OF ROOFTOP SOLUTIONS WITH THE INSTALLATION OF ANTENNAS WITHIN CONCEALED (SHROUDED) SUPPORT FRAMES OR TRIPODS, GENERAL CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE THAT THE FINAL FRP SHROUD IS SIMULATING (IN APPEARANCE) EXISTING EXTERIOR BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSUNK OR FLATHEAD FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTOSIMULATIONS ARE PROVIDED, THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS INDICATED IN PHOTOSIMULATION. SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.
53. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE ANCHORING TO AN EXISTING CONCRETE ROOF SLAB IS REQUIRED, CONTRACTORS SHALL CONFIRM (PRIOR TO SUBMITTING BID) WITH CONSULTING CONSTRUCTION COORDINATOR AND ARCHITECT THE PRESENCE OF POST TENSION TENDONS WITHIN THE ROOF SLAB RESULTING FROM AN UNDOCUMENTED DESIGN CHANGE IN THE EXISTING BUILDING "AS-BUILT DRAWING SET" HAVING INDICATED AN ORIGINAL DESIGN SOLUTION OF REINFORCED CONCRETE W/ EMBEDDED STEEL REBAR. IN THE EVENT POST TENSION SLAB SOLUTION IS PRESENT, CONTRACTOR SHALL INCLUDE PROVISIONS FOR X-RAY PROCEDURES (INCLUDED IN BID) FOR ALL PENETRATION AREAS WHERE ANCHORING OCCURS.
54. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIES FOR ALL CABLING TIE DOWNS AND ALL OTHER GENERAL TIE DOWNS (WHERE APPLICABLE). PLASTIC ZIP TIES SHALL NOT BE PERMITTED FOR USE ON TOWER NETWORK CARRIER PROJECTS. RECOMMENDED MANUFACTURE SHALL BE: PANDUIT CORP. METAL LOCKING TIES MODEL NO. MLT4S-CP UNDER SERIES-304 (OR EQUAL). PANDUIT PRODUCT DISTRIBUTED BY TRIARC.
55. GENERAL CONTRACTOR SHALL OBTAIN, REVIEW AND EXECUTE ALL NETWORK CARRIER CONSTRUCTION STANDARDS (MOST RECENT REVISION) AS A PART OF THIS BID AND CONSTRUCTION PROJECT.
56. GENERAL CONTRACTOR SHALL OBTAIN, REVIEW AND EXECUTE ALL NETWORK CARRIER CONSTRUCTION STANDARDS (MOST RECENT REVISION) AS A PART OF THIS BID AND CONSTRUCTION PROJECT.
57. CONTRACTOR SHALL BE RESPONSIBLE TO SET ELECTRONIC TILTS FOR NEWLY INSTALLED ANTENNAS UNDER THE CONDITION THAT THE GC OBTAIN THE MOST RECENT COPY OF THE RF TILT INFORMATION SUCH THAT THE ACCURATE CONTROLLER CAN BE ORDERED AND INSTALLED.
58. A STRUCTURAL ANALYSIS SHALL BE COMPLETED AND SUBMITTED TO THE NETWORK CARRIER REPRESENTATIVE AND GC DEMONSTRATING CAPACITY AT THE EXACT LOCATION OF EXISTING CONDITIONS TO SUSTAIN ADDITIONAL HEAVY BATTERY CABINETS OR OTHER OUT OF SCOPE EQUIPMENT.
59. THE GC SHALL PROVIDE MATERIALS LIST (BOM) TO THE NETWORK CARRIER REPRESENTATIVE PRIOR TO CONSTRUCTION.



EXPIRATION DATE OF THE LICENSE: 06/30/12

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PORTLAND, OR 97201

City of Portland  
REVIEWED FOR CODE COMPLIANCE  
AUG 10 2012  
Permit Number

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SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**G-1**

**DESIGN CRITERIA:**

1. THE STRUCTURAL DESIGN OF THIS PROJECT IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2009 WITH OREGON STATE BUILDING CODE AMENDMENTS (2009 IBC)

**STRUCTURAL STEEL NOTES:**

1. STRUCTURAL STEEL DESIGN FABRICATION & ERECTION SHALL BE BASED ON EITHER AISC-LRFD, AISC 355, OR AISC-HSS AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.
  - A. EITHER AISC-LRFD, AISC-355, OR AISC-HSS & SECTION 2205.2 OF THE INT'L BUILDING CODE.
  - B. MARCH 7, 2000 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES, AMENDED AS NOTED IN THE CONTRACT DOCUMENTS AND BY THE DELETION OF PARAGRAPH 4.4.1.
  - C. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, Fy=50KSI. OTHER ROLLED SHAPES INCLUDING PLATES, SHALL CONFORM TO ASTM A36, Fy=36KSI. STEEL PIPE SHALL CONFORM TO ASTM A-53, TYPE E OR S, GRADE B, Fy=35KSI. STRUCTURAL TUBING SHALL CONFORM TO A500, GRADE B, Fy=46KSI. CONNECTION BOLTS SHALL CONFORM TO ASTM A325.
3. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED USING E70 XX ELECTRODES, ONLY PRE QUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED, ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

**BUILDING NOTES:**

1. VERIFICATION THAT THE EXISTING APPLICABLE BUILDING, TOWER, POLE OR WATER TANK CAN SUPPORT THE PROPOSED ANTENNA LOADING SHALL BE PERFORMED BY A REGISTERED STRUCTURAL ENGINEER.
2. PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

**ABBREVIATED ROOF TOP SAFETY PROCEDURES (WHEN APPLICABLE):**

(AS PER "ACCIDENT PREVENTION PROGRAM" - BY PERMISSION OF WREN CONSTRUCTION, INC. - 03/01/99)

**FALL PROTECTION METHODS AND EQUIPMENT ROOF TOP INSTALLATIONS**

1. FOR WORK IS BEING PERFORMED WITHIN 25' OF AN UNPROTECTED ROOF EDGE, THE CONSTRUCTION SUPERVISOR SHALL DESIGNATE A TRAINED SAFETY MONITOR TO OBSERVE THE MOVEMENTS AND ACTIVITIES OF THE CONSTRUCTION WORKERS.
2. SAFETY MONITOR SHALL WARN CONSTRUCTION WORKERS OF HAZARDS (I.E., BACKING UP TOWARD A ROOF EDGE, ETC.) OR UNSAFE ACTIVITIES. THE SAFETY MONITOR MUST BE ON THE SAME ROOF AND WITHIN VISUAL AND VERBAL DISTANCE OF THE CONSTRUCTION WORKERS.
3. CONSTRUCTION INVOLVING WORKERS TO APPROACH WITHIN 6' OR LESS OF AN UNPROTECTED ROOF EDGE, REQUIRES WORKERS TO USE SAFETY LINE.
4. SAFETY LINE SHALL BE MINIMUM 1/2" DIAMETER NYLON, WITH A NOMINAL TENSILE STRENGTH OF 5400 LBS.
5. SAFETY LINE SHALL BE ATTACHED TO A SUBSTANTIAL MEMBER OF THE STRUCTURE.
6. SAFETY LINE LENGTH SHALL BE SET ALLOWING CONSTRUCTION WORKER TO REACH EDGE OF ROOF, BUT NOT BEYOND.
7. SAFETY BELTS SHALL BE WORN BY ALL CONSTRUCTION WORKERS.
8. MONTHLY SAFETY INSPECTION AND MAINTENANCE OF THE FALL PROTECTION EQUIPMENT SHALL OCCUR BY THE SAFETY COMMITTEE REPRESENTATIVES, INCLUDING:

INSPECTION OF CONSTRUCTION AREA FOR HAZARDS  
 USE OF AN INSPECTION CHECKLIST  
 INTERVIEWING COWORKERS REGARDING SAFETY CONCERNS  
 REPORTING AND DOCUMENTING ANY HAZARDS  
 REPORTING HAZARDS TO THE SAFETY COMMITTEE FOR CONSIDERATION  
 POSTING RESULTS OF INSPECTION AND ANY ACTION TAKEN  
 RECEIVING AN UNBIASED REVIEW OF ONE'S OWN WORK AREA BY ANOTHER COWORKER SAFETY REPRESENTATIVE

REFER TO ROOFTOP WORK AREA SAFETY PROTOCOL  
 NATIONAL ASSOCIATION OF TOWER ERECTORS 2000 PUBLICATION

REFERENCED OSHA REGULATION/STANDARDS SHALL BE REVIEWED BY TOWER ERECTORS, EQUIPMENT INSTALLERS, AND TOWER/ROOF TOP CONTRACTORS/SUBCONTRACTORS  
 29 CFR 1926.500 - SCOPE, APPLICATION, AND DEFINITIONS  
 29 CFR 1926.501 - DUTY TO HAVE FALL PROTECTION  
 19 CFR 1926.502 - FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

**SPECIAL INSPECTIONS REQUIRED:**

SOILS COMPLIANCE PRIOR TO FOUNDATION INSPECTION  
 CONCRETE OVER 2400 PSI (5/8 SACK MIX) AT 28 DAYS  
 CONCRETE PLACEMENT AT SLAB ON GRADE  
 WRITTEN CERTIFICATION FOR PROPER PLACEMENT OF REINFORCEMENTS AT SLAB ON GRADE

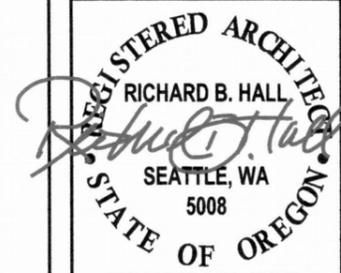
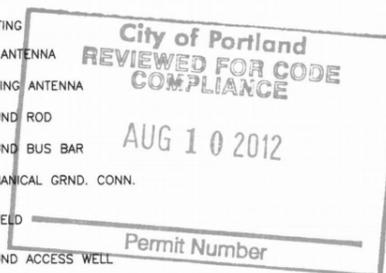
FOUNDATION EXCAVATION AND FILL INCLUDING UTILITY TRENCHES  
 CERTIFICATION OF BUILDING PAD, FOUNDATION AND FILL BY THE GEOTECHNICAL ENGINEER OF THE RECORD

- VERIFICATIONS OF MILL REPORT
- IDENTIFICATION OF STEEL AND AT JOB SITE
- ADHESIVE BOLTS IN CONCRETE OR MASONRY
- ANCHOR BOLTS INSTALLATION AND PLACEMENT IN CONCRETE
- HIGH STRENGTH BOLTING
- SPRAYED -ON- FIREPROOFING
- STRUCTURAL MASONRY
- PRESTRESSED CONCRETE
- ALL FIELD WELDING
- REINFORCING PLACEMENT
- DESIGNER SPECIFIED (SEE SHEET#...)
- OTHER \_\_\_\_\_

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED AND SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

**SYMBOLS:**

- GRID REFERENCE
- DETAIL REFERENCE
- ELEVATION REFERENCE
- SECTION REFERENCE
- CENTERLINE
- PROPERTY/LEASE LINE
- MATCH LINE
- WORK POINT
- GROUND CONDUCTOR
- TELEPHONE CONDUIT
- ELECTRICAL CONDUIT
- COAXIAL CABLE
- OVERHEAD SERVICE CONDUCTORS
- GROUT OR PLASTER
- (E) BRICK
- (E) MASONRY
- CONCRETE
- EARTH
- GRAVEL
- PLYWOOD
- SAND
- WOOD CONTINUOUS
- WOOD BLOCKING
- STEEL
- (N) NEW
- (E) EXISTING
- NEW ANTENNA
- EXISTING ANTENNA
- GROUND ROD
- GROUND BUS BAR
- MECHANICAL GRND. CONN.
- CADWELD
- GROUND ACCESS WELL
- ELECTRIC BOX
- TELEPHONE BOX
- LIGHT POLE
- FND. MONUMENT
- SPOT ELEVATION
- SET POINT
- REVISION



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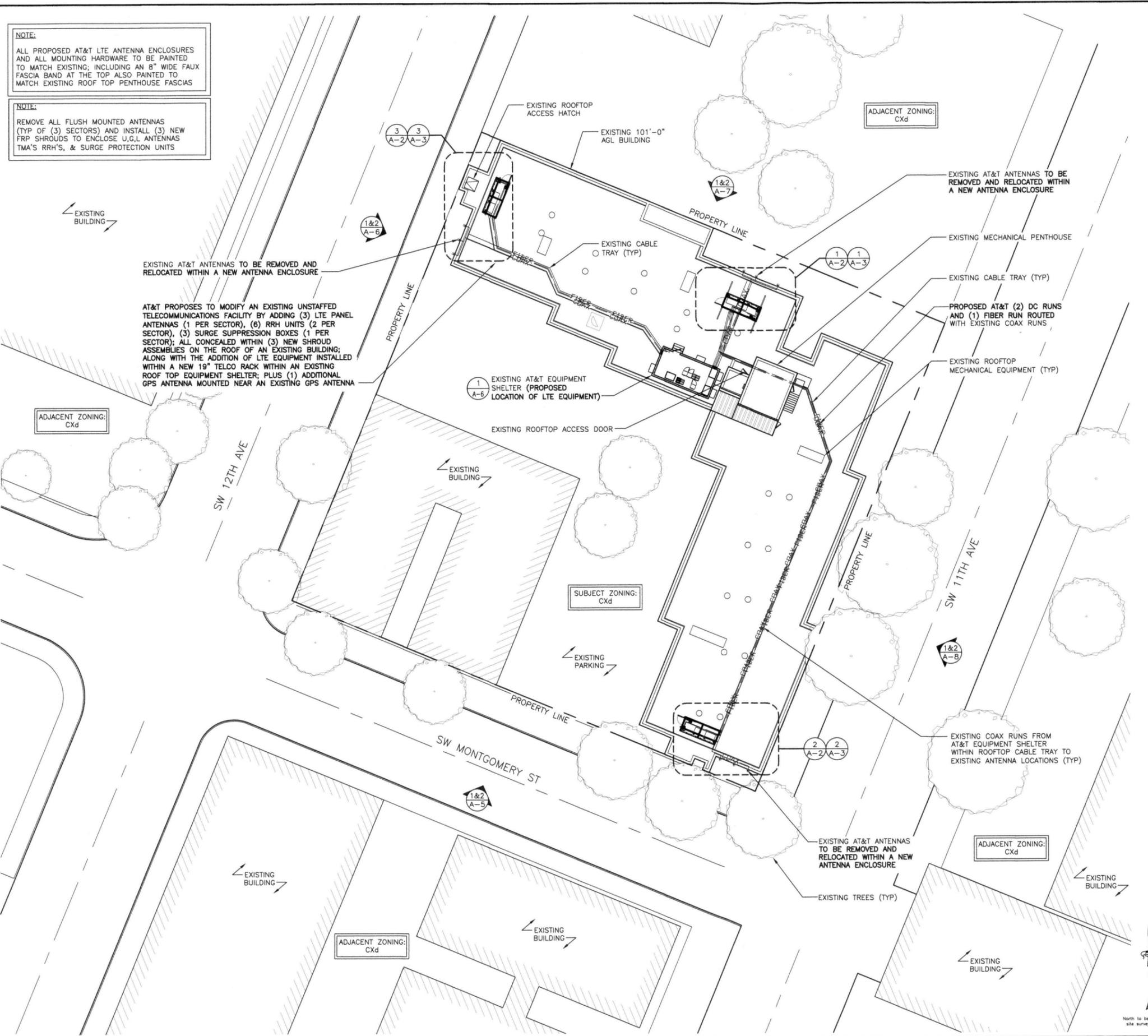
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SHEET TITLE  
 GENERAL NOTES & SYMBOLS

SHEET NUMBER  
**G-2**

**NOTE:**  
ALL PROPOSED AT&T LTE ANTENNA ENCLOSURES AND ALL MOUNTING HARDWARE TO BE PAINTED TO MATCH EXISTING; INCLUDING AN 8" WIDE FAUX FASCIA BAND AT THE TOP ALSO PAINTED TO MATCH EXISTING ROOF TOP PENTHOUSE FASCIAS

**NOTE:**  
REMOVE ALL FLUSH MOUNTED ANTENNAS (TYP OF (3) SECTORS) AND INSTALL (3) NEW FRP SHROUDS TO ENCLOSE U.G.L ANTENNAS TMA'S RRH'S, & SURGE PROTECTION UNITS



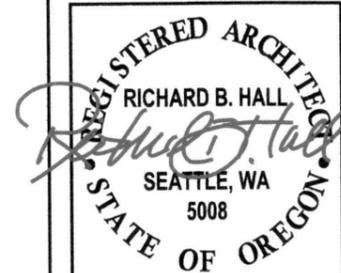
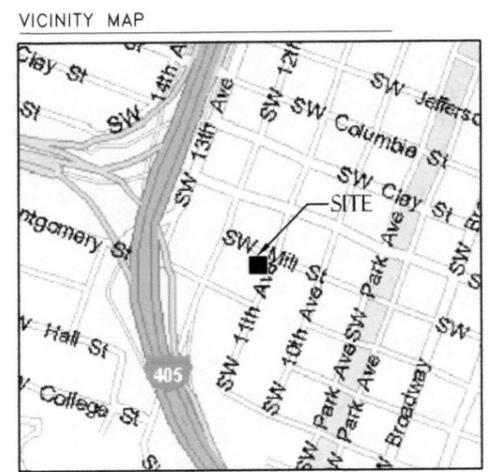
**LEGEND**

---	SUBJECT BOUNDARY LINE	---	RIGHT-OF-WAY CENTERLINE
---	RIGHT-OF-WAY LINE	---	ADJACENT BOUNDARY LINE
---	SECTIONAL BREAKDOWN LINE	---	SECTIONAL BREAKDOWN LINE
---	SECTIONAL BREAKDOWN LINE	---	SECTIONAL BREAKDOWN LINE
---	OVERHEAD POWER LINE	---	BURIED POWER LINE
---	BURIED GAS LINE	---	OVERHEAD TELEPHONE LINE
---	BURIED TELEPHONE LINE	---	BURIED WATER LINE
---	BURIED SANITARY SEWER	---	BURIED STORM DRAIN
---	DITCH LINE/FLOW LINE	---	ROCK RETAINING WALL
---	VEGETATION LINE	---	CHAIN LINK FENCE
---	WOOD FENCE	---	BARBED WIRE/WIRE FENCE

⊠	TRANSFORMER	⊙	FIRE HYDRANT
⊗	LIGHT STANDARD	⊗	GATE VALVE
⊠	POWER VAULT	⊠	WATER METER
⊠	UTILITY BOX	⊠	FIRE STAND PIPE
⊠	UTILITY POLE	⊠	CATCH BASIN, TYPE I
⊠	POLE GUY WIRE	⊠	CATCH BASIN, TYPE II
⊠	GAS VALVE	⊠	SIGN
⊠	GAS METER	⊠	BOLLARD
⊠	TELEPHONE VAULT	⊠	MAIL BOX
⊠	TELEPHONE-RISER	⊠	234.21 SPOT ELEVATION

**LEGAL DESCRIPTION:**  
A PARCEL OF LAND LOCATED IN THE N.E. ONE-QUARTER OF SECTION 13, TOWNSHIP 1 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN, COUNTY OF WASHINGTON, STATE OF OREGON; MORE PARTICULARLY AS FOLLOWS:  
LOTS 129, 130, 131, BEAVERTON-REEDSVILLE ACREAGE, WASHINGTON COUNTY, OREGON, EXCEPT THE SOUTH 25 FEET OF LOT 131, THAT WAS CONVEYED TO W.A. SHAW BY DEED BOOK PAGE 81.  
PARCEL #:  
1S1E04AD 8800



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4	10/18/11	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR
5	04/26/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR
6	06/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR

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SHEET TITLE  
SITE PLAN

SHEET NUMBER  
**A-1**

24"x36" SCALE: 1" = 20'-0"  
11"x17" SCALE: 1" = 40'-0"  
0 10 20

SITE PLAN | 1

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



PACIFIC TELECOM SERVICES, LLC



EXPIRATION DATE OF THE LICENSE: 06/30/12

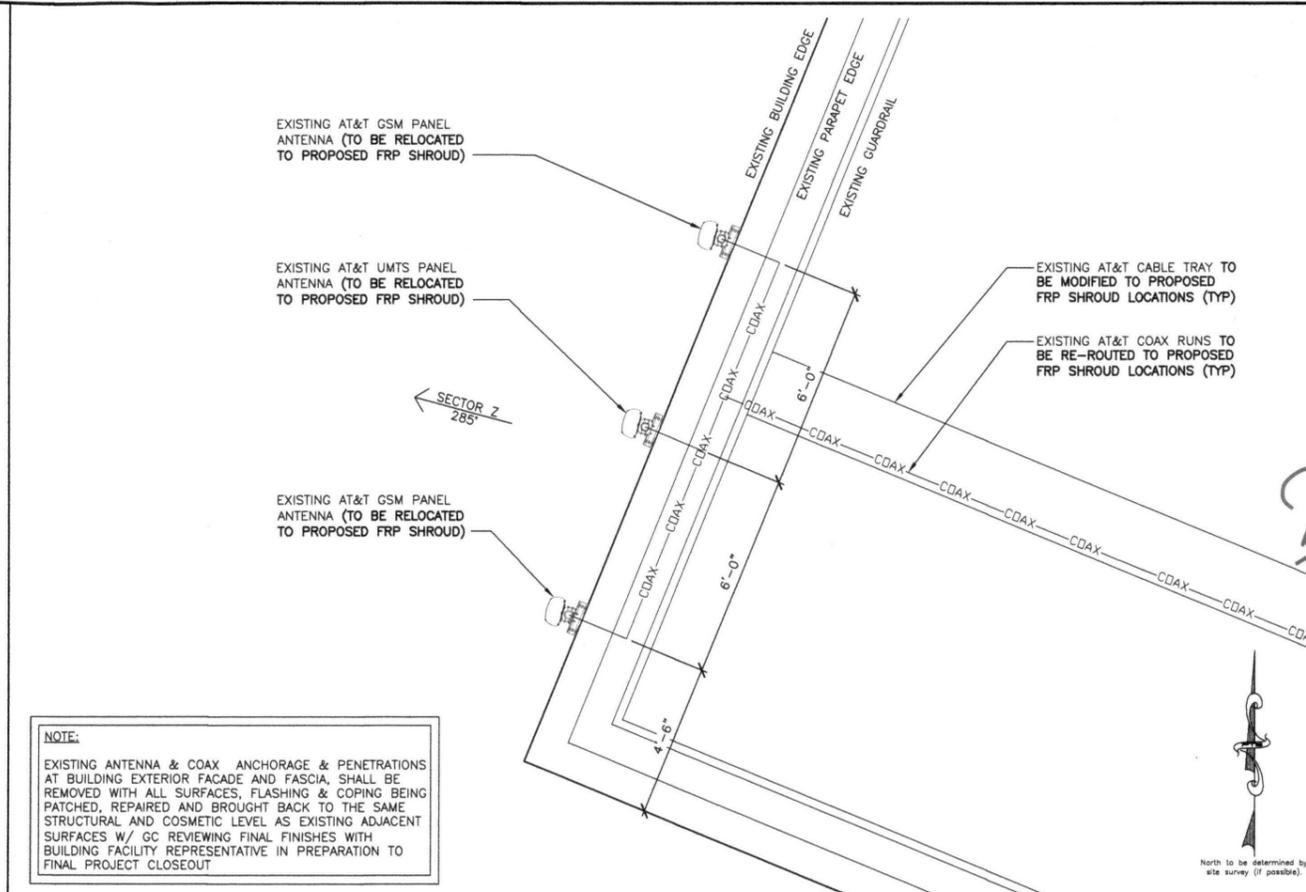
PSU PR46  
1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

EXISTING ANTENNA LAYOUT 3

24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

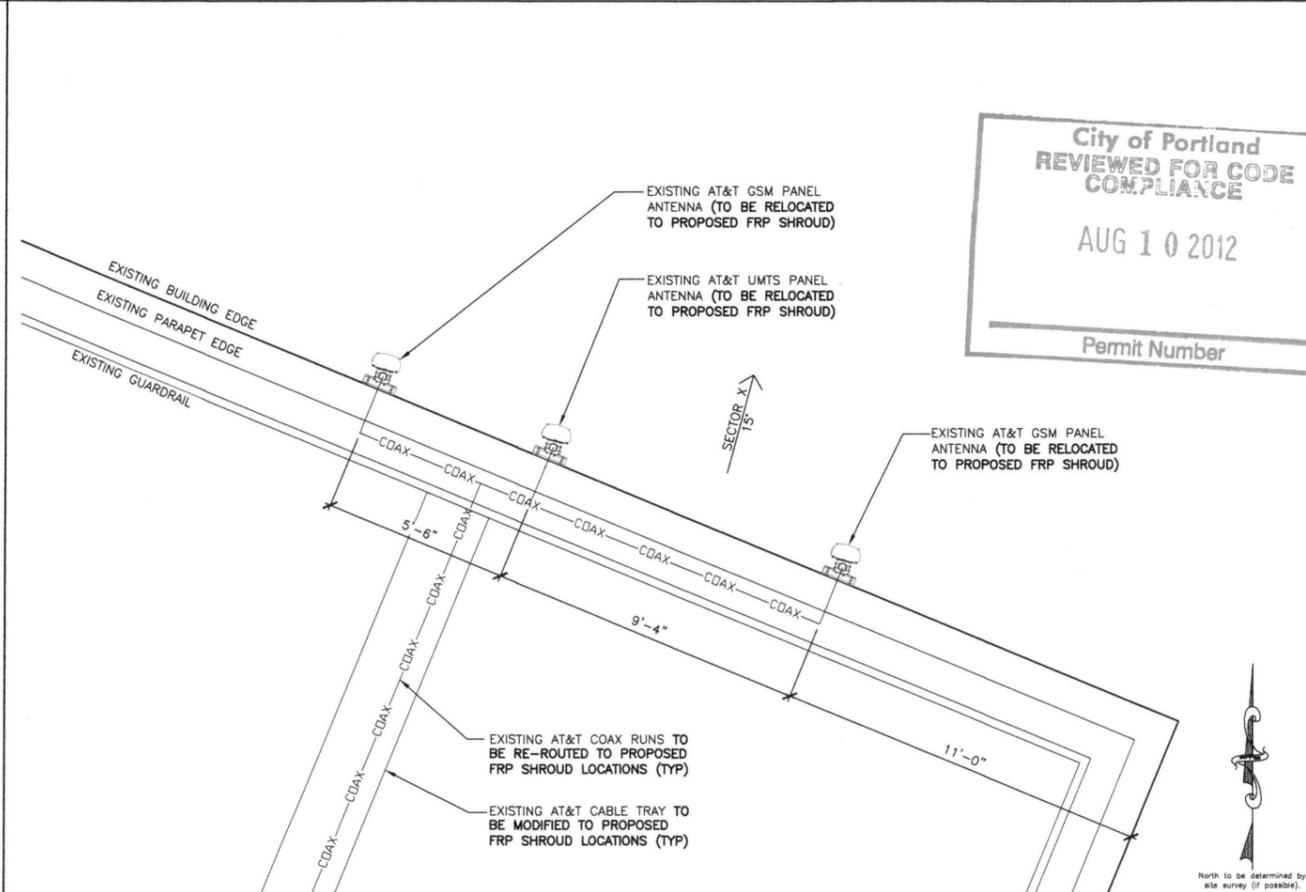
NOT USED 4

24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



**NOTE:**  
EXISTING ANTENNA & COAX ANCHORAGE & PENETRATIONS AT BUILDING EXTERIOR FACADE AND FASCIA, SHALL BE REMOVED WITH ALL SURFACES, FLASHING & COPING BEING PATCHED, REPAIRED AND BROUGHT BACK TO THE SAME STRUCTURAL AND COSMETIC LEVEL AS EXISTING ADJACENT SURFACES W/ GC REVIEWING FINAL FINISHES WITH BUILDING FACILITY REPRESENTATIVE IN PREPARATION TO FINAL PROJECT CLOSEOUT

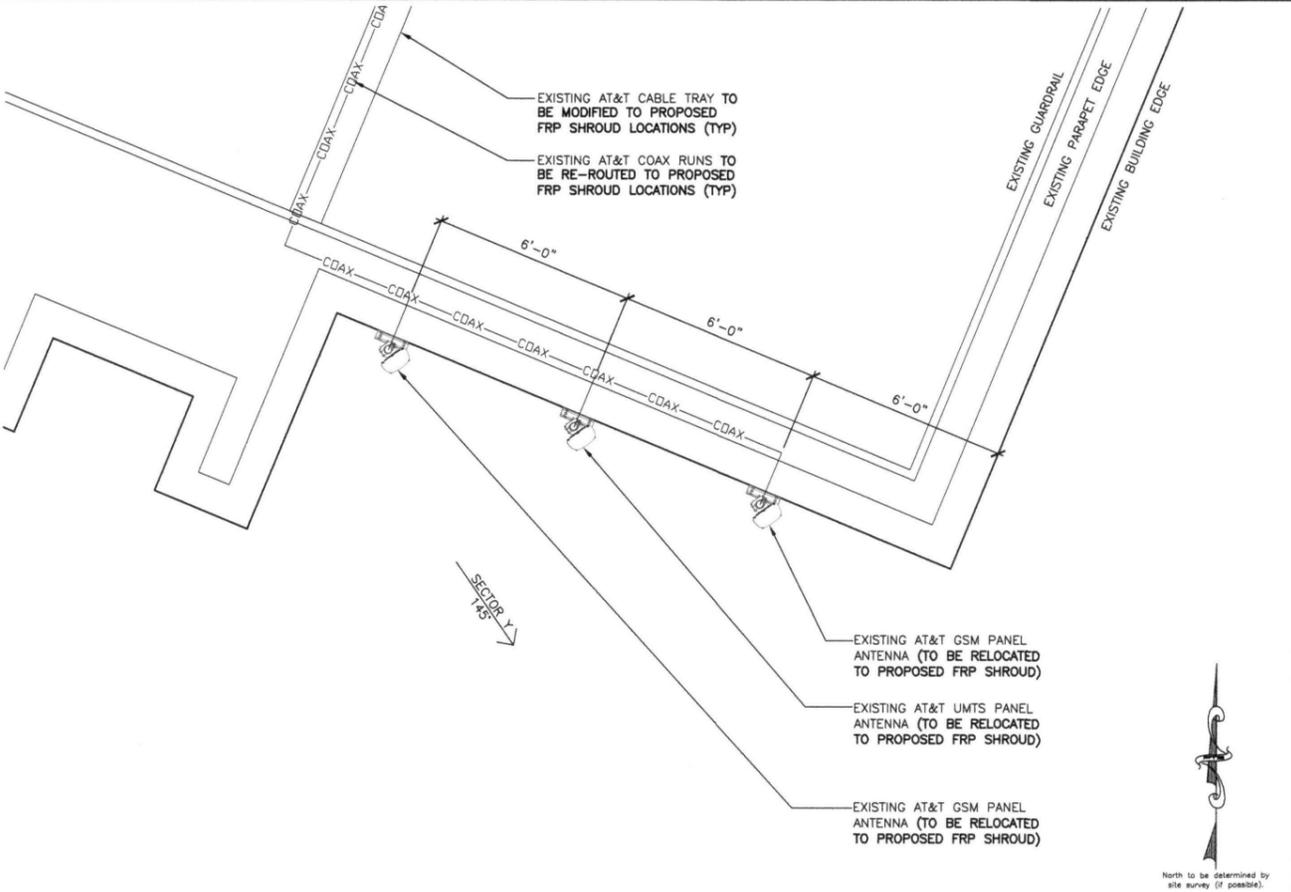
EXISTING ANTENNA LAYOUT 1



24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

EXISTING ANTENNA LAYOUT 2

24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"



EXISTING ANTENNA LAYOUT 1

City of Portland  
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SHEET TITLE  
EXISTING ANTENNA LAYOUTS

SHEET NUMBER  
**A-2**





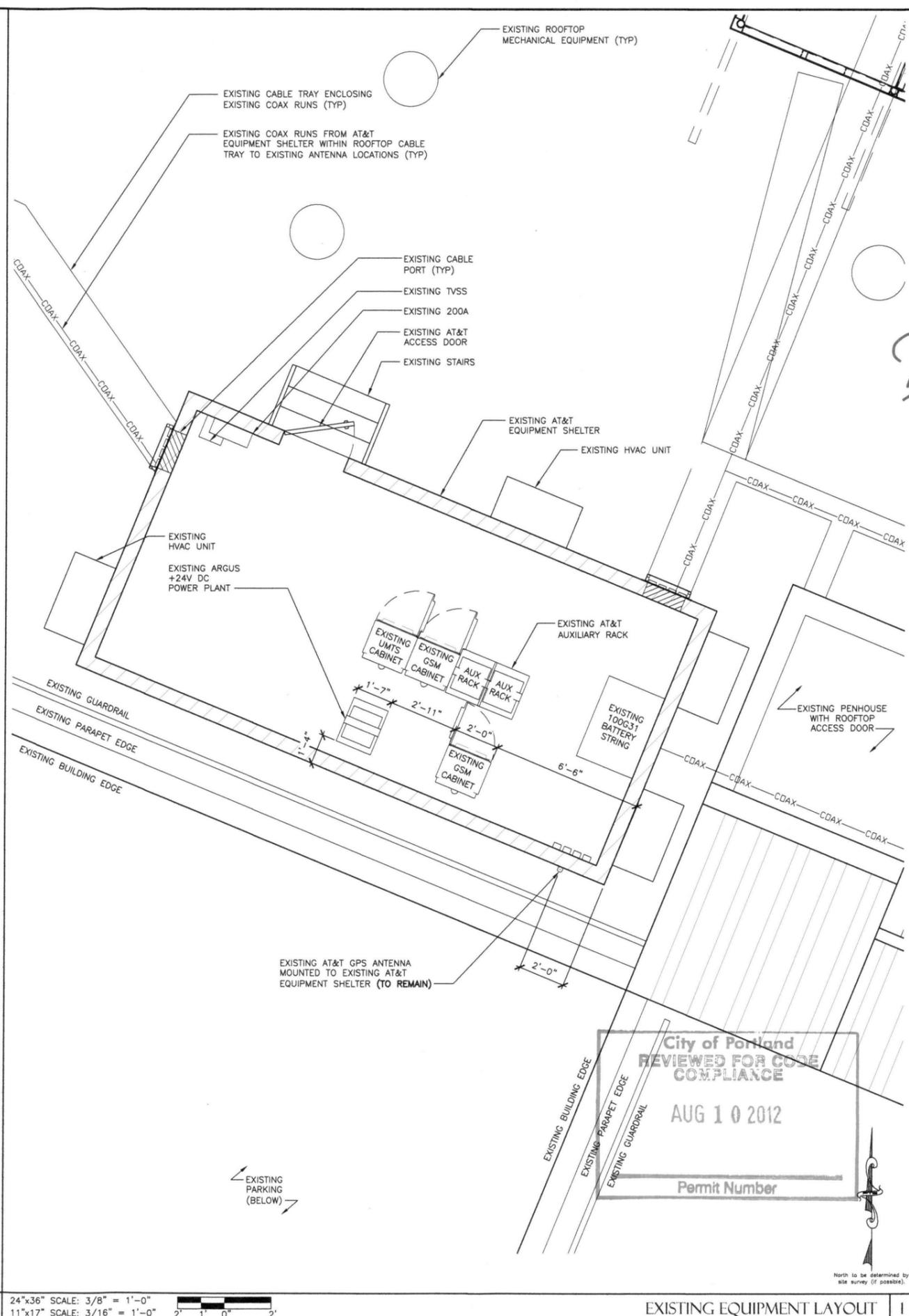
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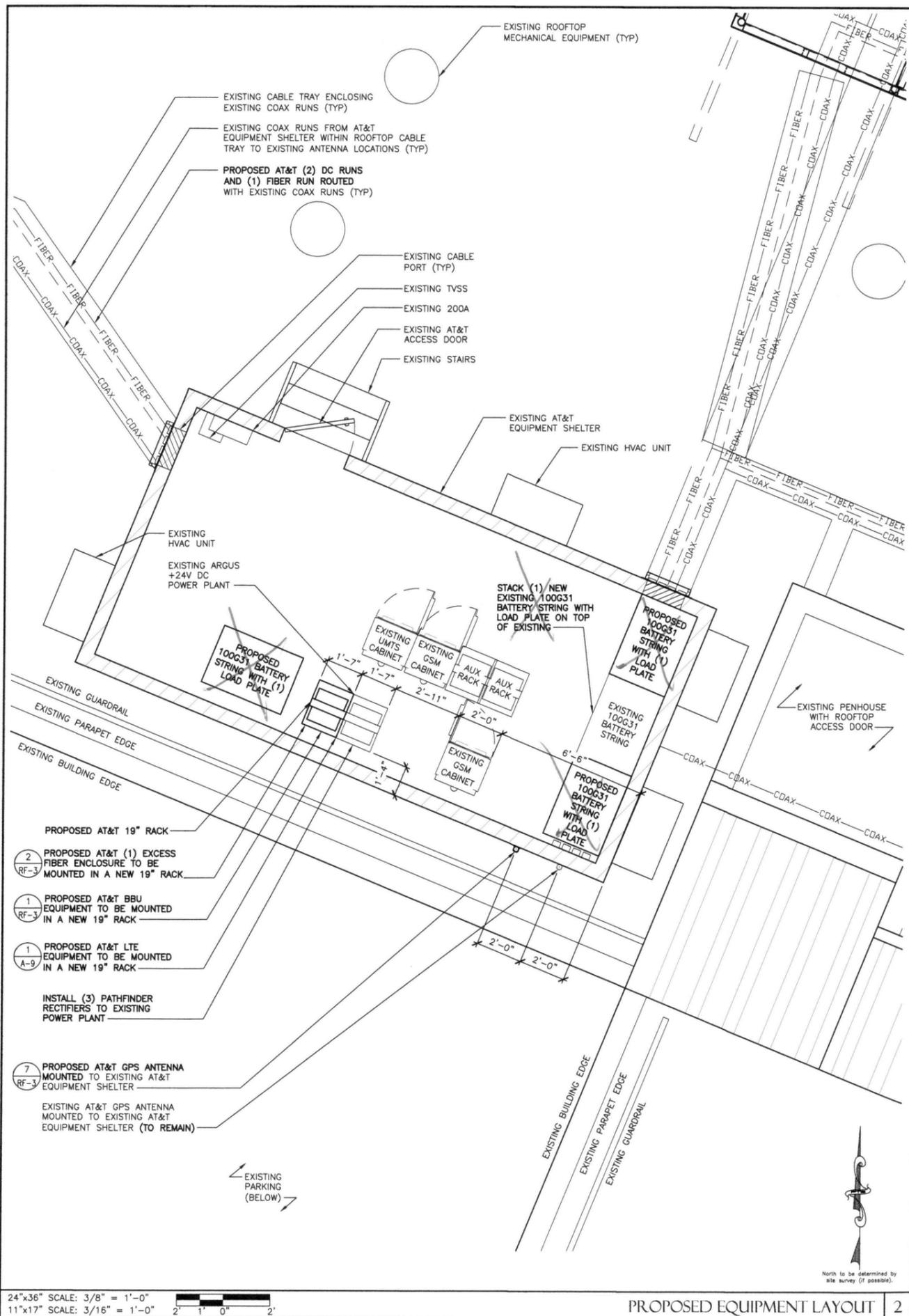
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SHEET TITLE  
EXISTING & PROPOSED EQUIPMENT LAYOUTS

SHEET NUMBER  
**A-4**



City of Portland  
REVIEWED FOR CODE COMPLIANCE  
AUG 10 2012  
Permit Number



- PROPOSED AT&T 19" RACK
- 2 RF-3 PROPOSED AT&T (1) EXCESS FIBER ENCLOSURE TO BE MOUNTED IN A NEW 19" RACK
- 1 RF-3 PROPOSED AT&T BBU EQUIPMENT TO BE MOUNTED IN A NEW 19" RACK
- 1 A-9 PROPOSED AT&T LTE EQUIPMENT TO BE MOUNTED IN A NEW 19" RACK
- INSTALL (3) PATHFINDER RECTIFIERS TO EXISTING POWER PLANT
- 7 RF-3 PROPOSED AT&T GPS ANTENNA MOUNTED TO EXISTING AT&T EQUIPMENT SHELTER
- EXISTING AT&T GPS ANTENNA MOUNTED TO EXISTING AT&T EQUIPMENT SHELTER (TO REMAIN)

24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

PROPOSED EQUIPMENT LAYOUT 2

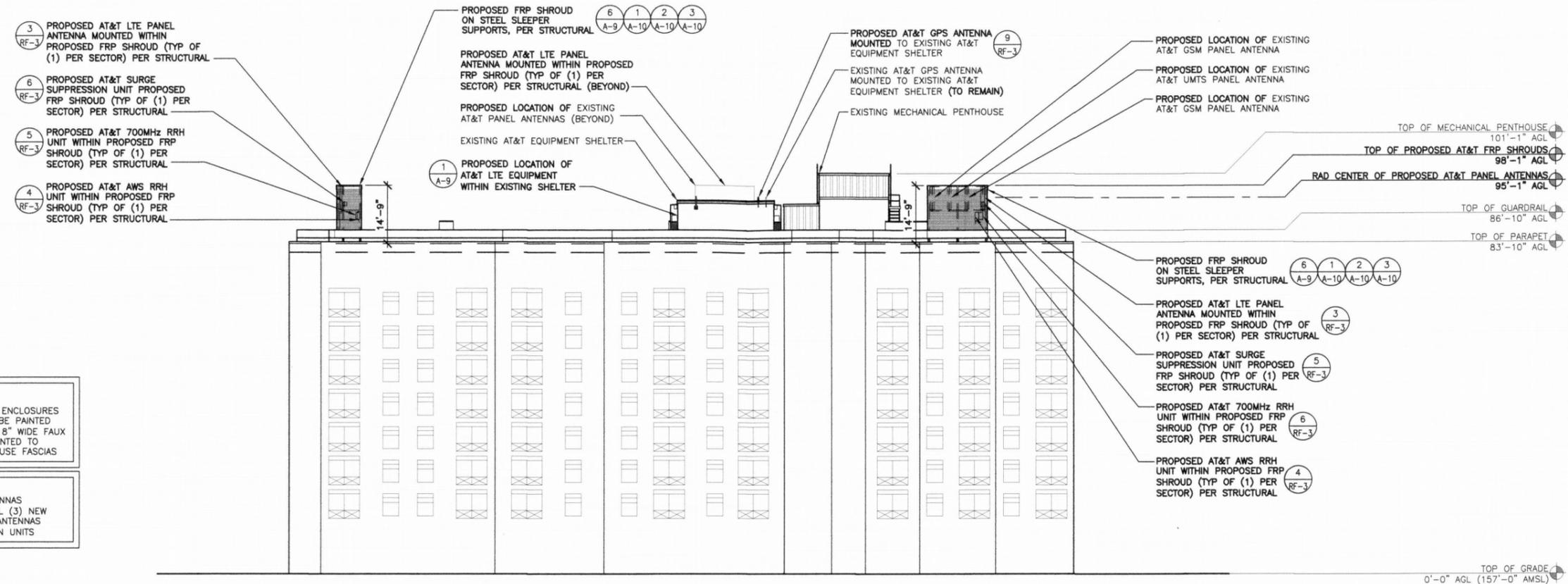
24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

EXISTING EQUIPMENT LAYOUT 1

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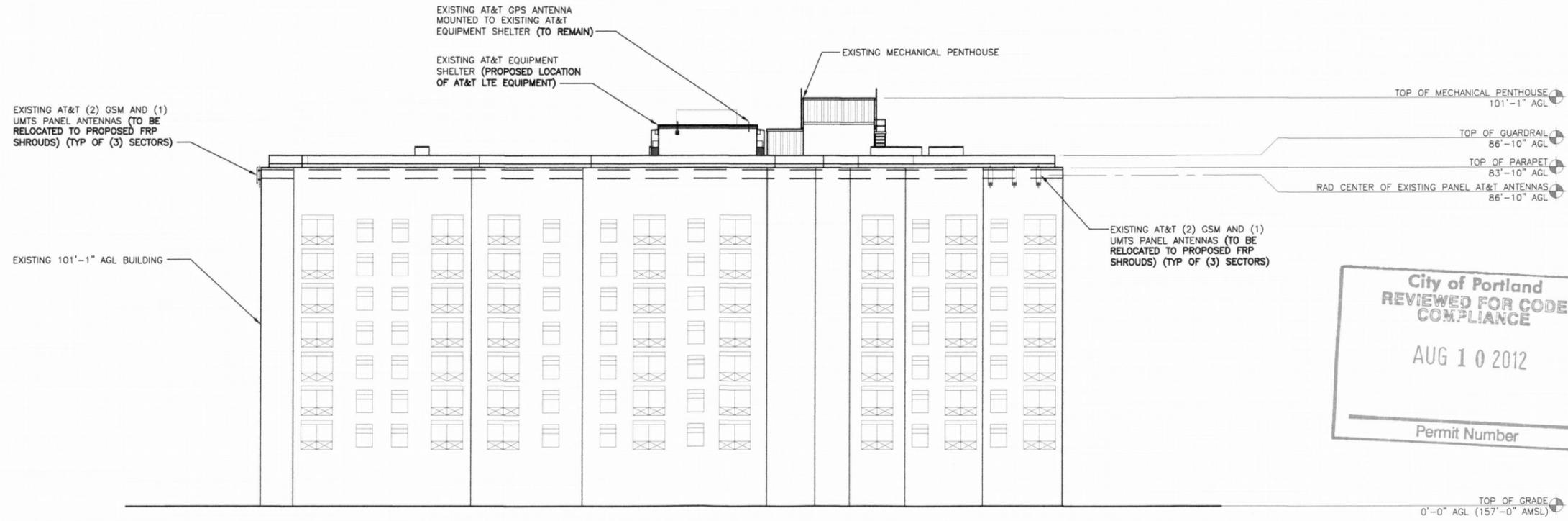


NOTE:  
ALL PROPOSED AT&T LTE ANTENNA ENCLOSURES AND ALL MOUNTING HARDWARE TO BE PAINTED TO MATCH EXISTING; INCLUDING AN 8" WIDE FAUX FASCIA BAND AT THE TOP ALSO PAINTED TO MATCH EXISTING ROOF TOP PENTHOUSE FASCIAS

NOTE:  
REMOVE ALL FLUSH MOUNTED ANTENNAS (TYP OF (3) SECTORS) AND INSTALL (3) NEW FRP SHROUDS TO ENCLOSE U,G,L ANTENNAS TMA'S RRH'S, & SURGE PROTECTION UNITS

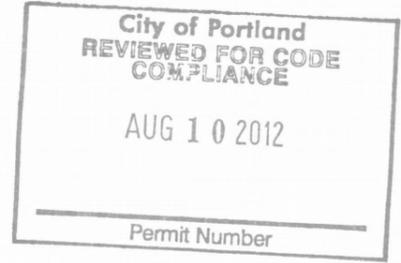
24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"

PROPOSED SOUTH ELEVATION 2



24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"

EXISTING SOUTH ELEVATION 1

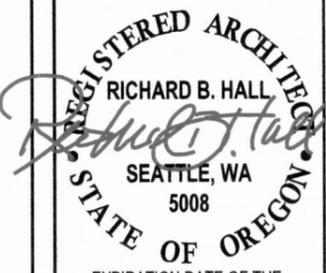


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SHEET TITLE  
EXISTING & PROPOSED SOUTH ELEVATION

SHEET NUMBER  
**A-5**



EXPIRATION DATE OF THE LICENSE: 06/30/12

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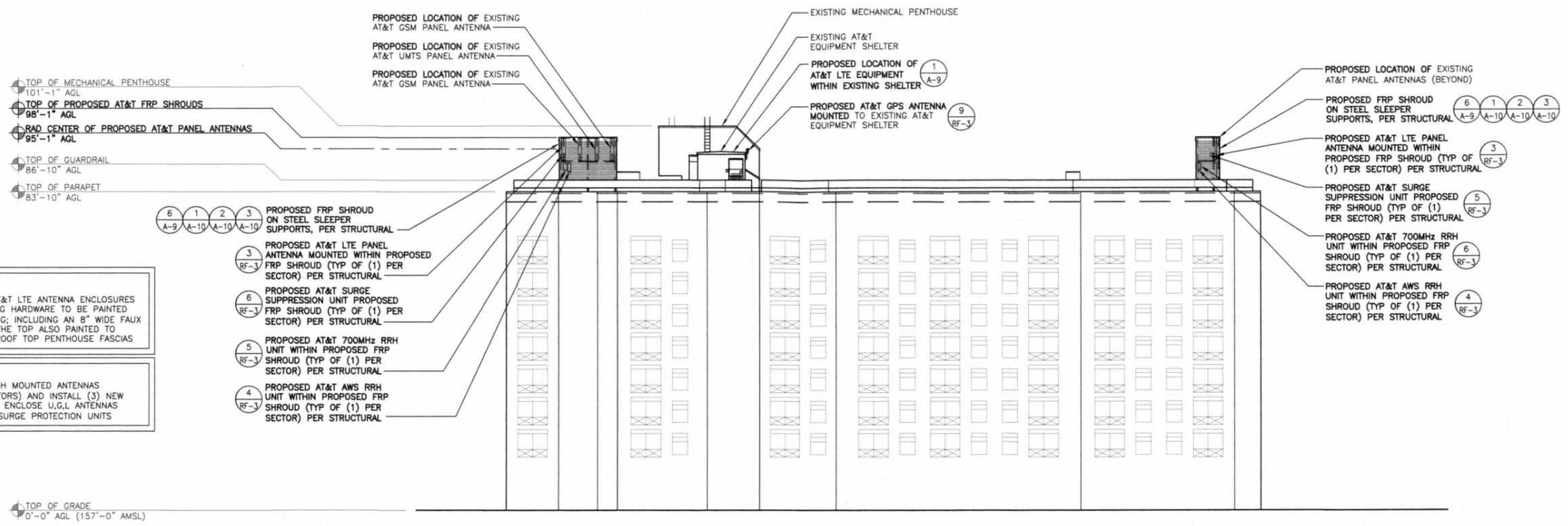
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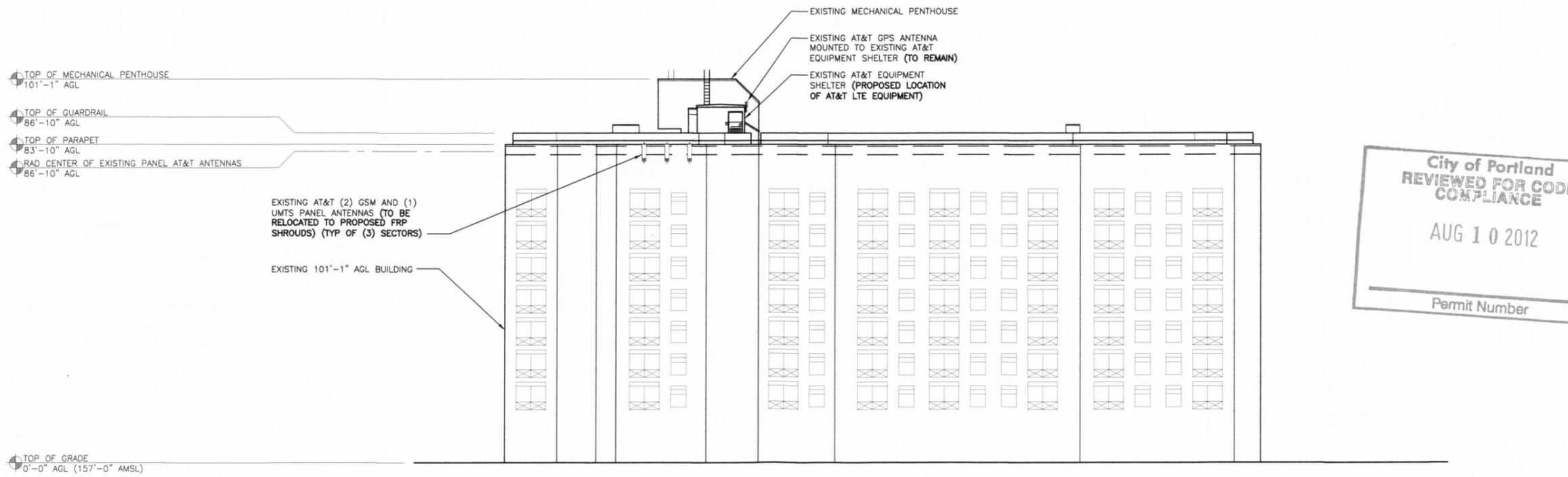
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SHEET TITLE  
EXISTING & PROPOSED WEST ELEVATION

SHEET NUMBER  
**A-6**



PROPOSED WEST ELEVATION 2



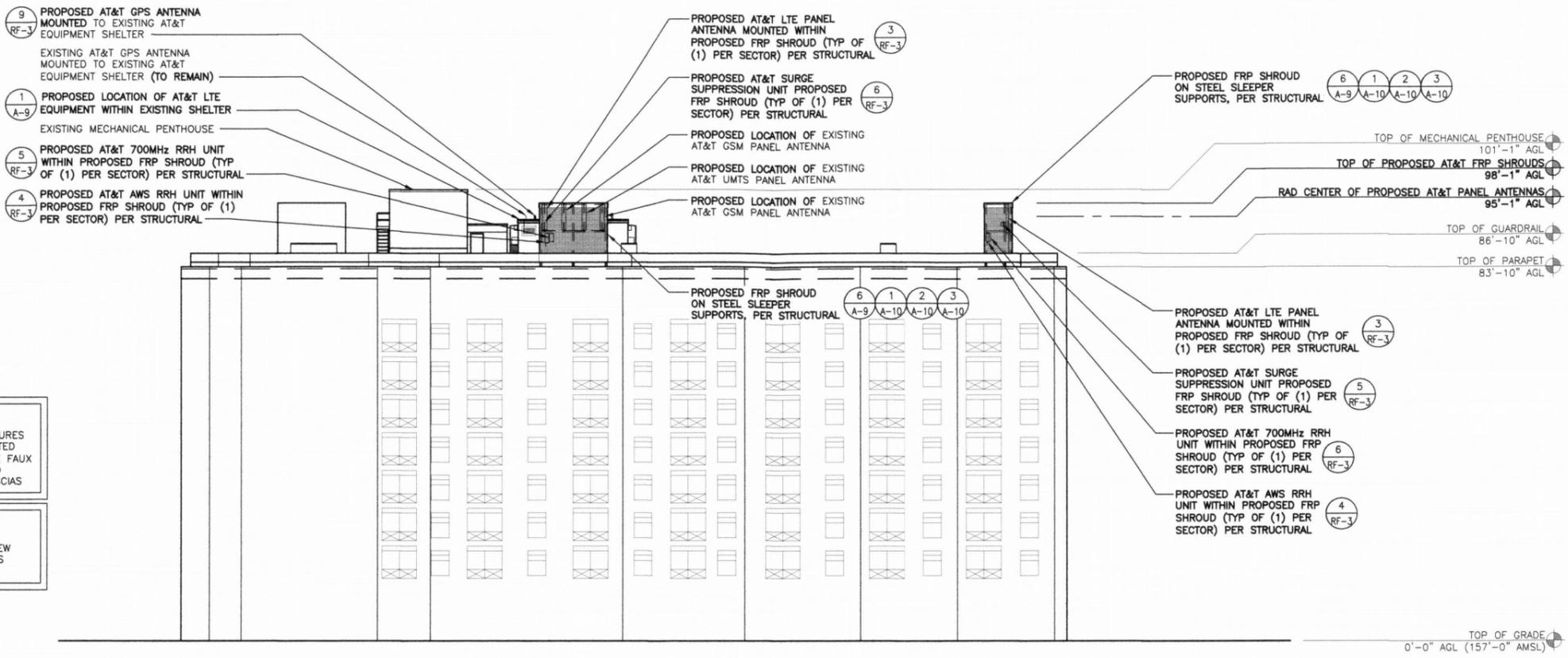
EXISTING WEST ELEVATION 1

24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"

24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"



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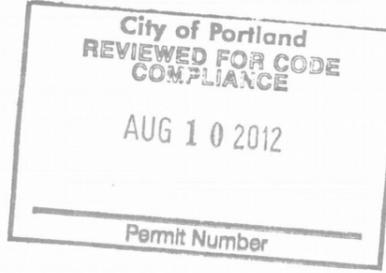
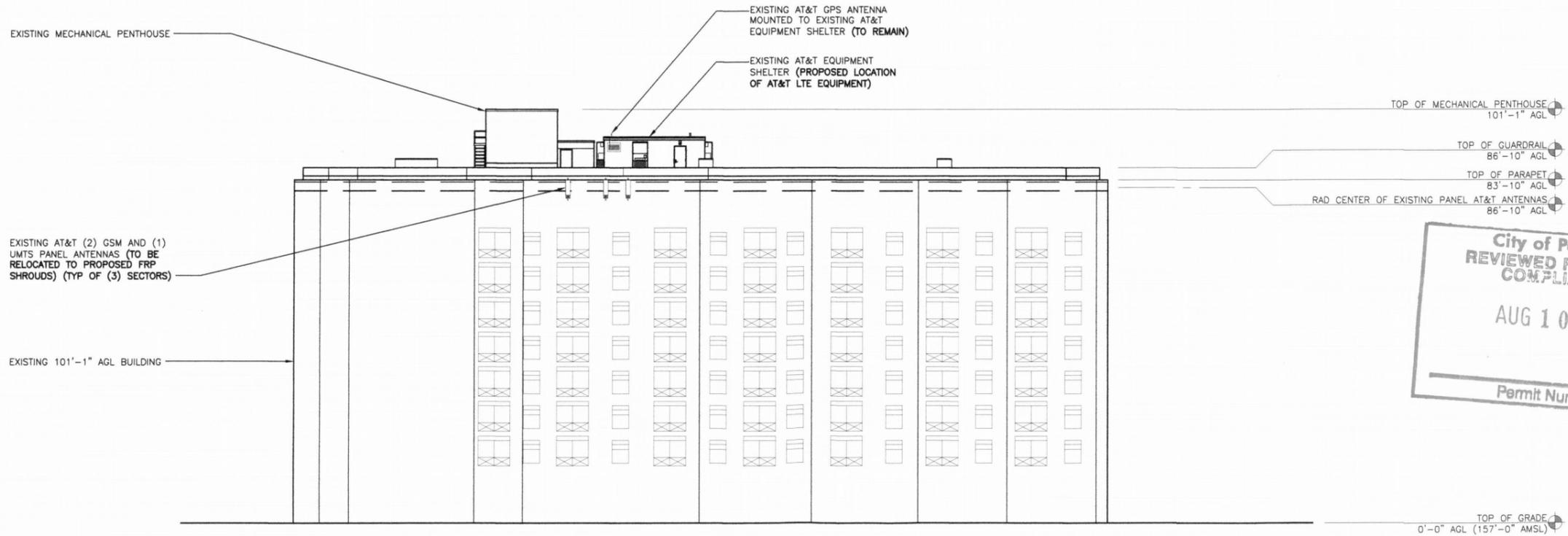


NOTE:  
ALL PROPOSED AT&T LTE ANTENNA ENCLOSURES AND ALL MOUNTING HARDWARE TO BE PAINTED TO MATCH EXISTING; INCLUDING AN 8" WIDE FAUX FASCIA BAND AT THE TOP ALSO PAINTED TO MATCH EXISTING ROOF TOP PENTHOUSE FASCIAS

NOTE:  
REMOVE ALL FLUSH MOUNTED ANTENNAS (TYP OF (3) SECTORS) AND INSTALL (3) NEW FRP SHROUDS TO ENCLOSE U,G,L ANTENNAS TMA'S RRH'S, & SURGE PROTECTION UNITS

24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"

PROPOSED NORTH ELEVATION 2



24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"

EXISTING NORTH ELEVATION 1

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SHEET TITLE  
EXISTING & PROPOSED  
NORTH ELEVATION

SHEET NUMBER  
**A-7**

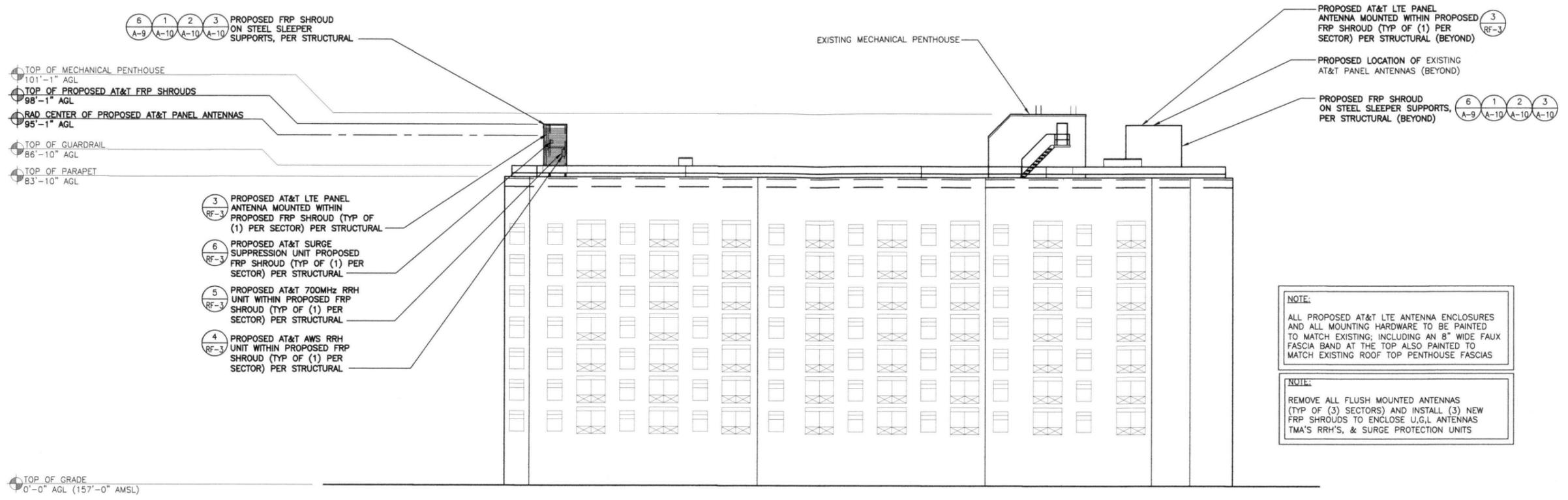


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6	05/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR

SHEET TITLE  
EXISTING & PROPOSED  
EAST ELEVATION

SHEET NUMBER  
**A-8**

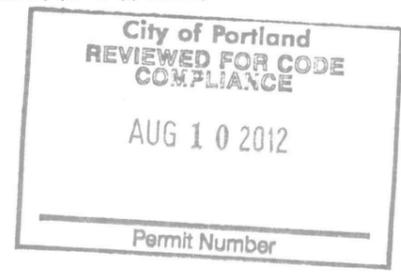
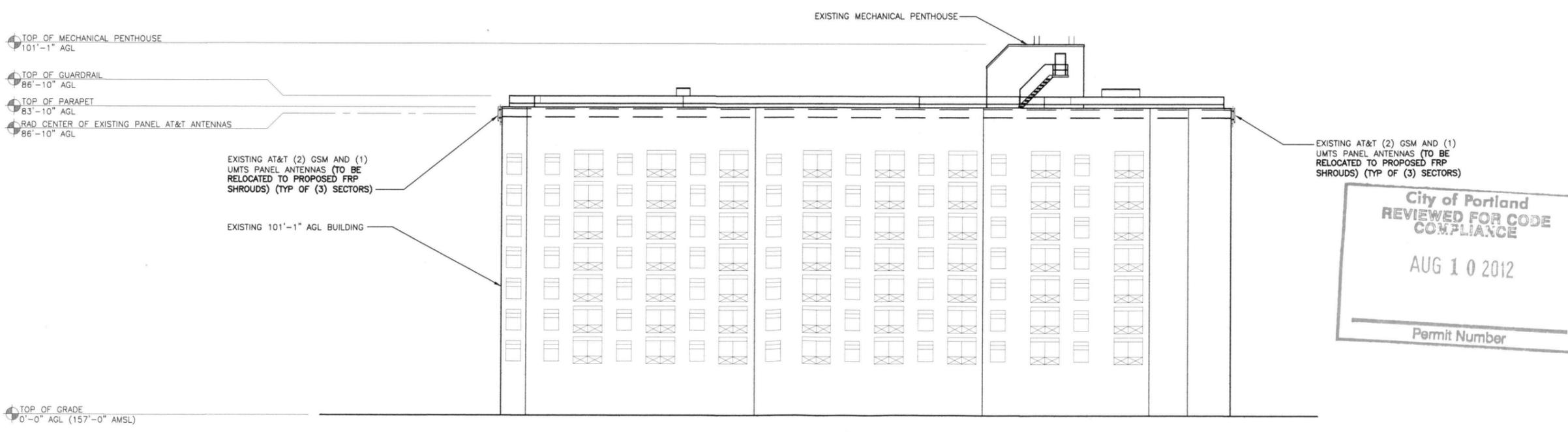


**NOTE:**  
ALL PROPOSED AT&T LTE ANTENNA ENCLOSURES AND ALL MOUNTING HARDWARE TO BE PAINTED TO MATCH EXISTING; INCLUDING AN 8" WIDE FAUX FASCIA BAND AT THE TOP ALSO PAINTED TO MATCH EXISTING ROOF TOP PENTHOUSE FASCIAS

**NOTE:**  
REMOVE ALL FLUSH MOUNTED ANTENNAS (TYP OF (3) SECTORS) AND INSTALL (3) NEW FRP SHROUDS TO ENCLOSE U.G.L ANTENNAS TMA'S RRH'S, & SURGE PROTECTION UNITS

PROPOSED EAST ELEVATION | 2

24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"  
16' 12' 8' 4' 0" 16'

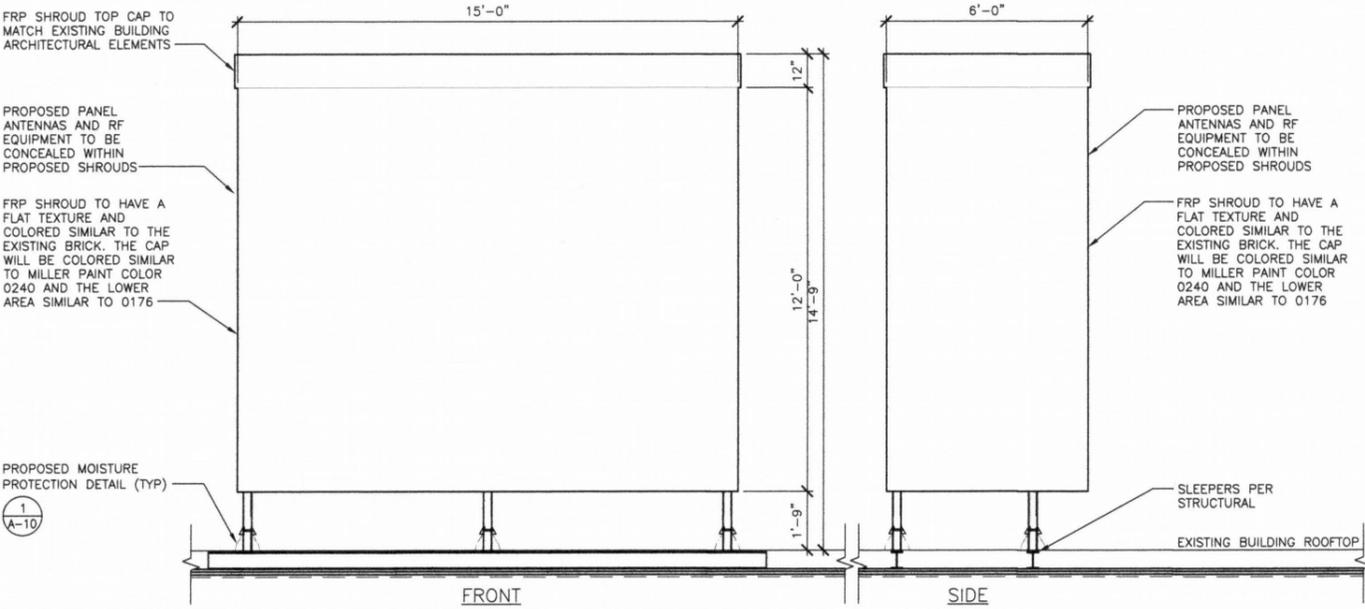


EXISTING EAST ELEVATION | 1

24"x36" SCALE: 1/16" = 1'-0"  
11"x17" SCALE: 1/32" = 1'-0"  
16' 12' 8' 4' 0" 16'

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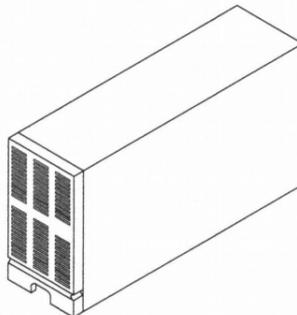
NOTE:  
FINAL COLOR, TEXTURE, AND  
PATTERN TO BE APPROVED BY  
LANDLORD PRIOR TO INSTALLATION.



**ENLARGED ANTENNA SCREEN WALL ENCLOSURE**

24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

6

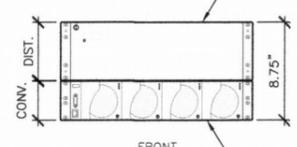
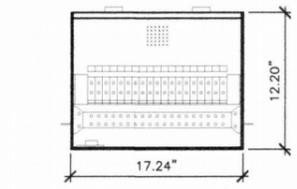


MAKE: ARGUS  
MODEL: 48 VDC CORDEX  
HEIGHT: 6.3"  
WIDTH: 3.4"  
DEPTH: 11.8"  
WEIGHT: 10 LBS

**48 VDC RECTIFIER**

24"x36" SCALE: NOT USED  
11"x17" SCALE: NOT USED

3

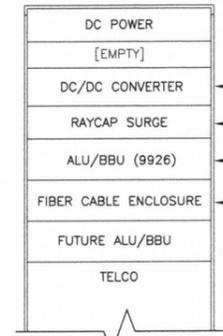
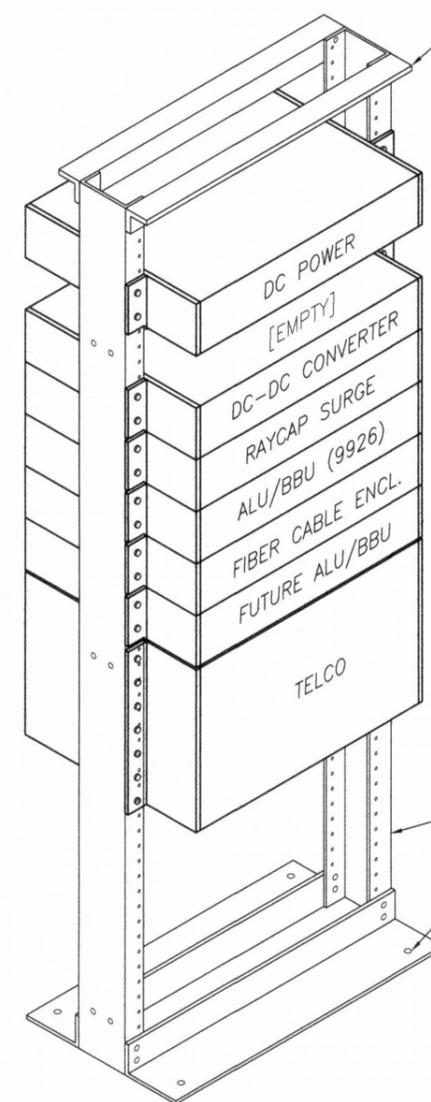


MANUFACTURER: ALPHA TECHNOLOGIES  
MODEL: 24V/48V DC-DC CONVERTER  
ARGUSE P/N: 053-996-20-000  
HEIGHT: 8.75"; 5RU (Rack Units)  
WIDTH: 17.24"; 19"/23" RACK MOUNTS  
DEPTH: 12.20"  
WEIGHT: 45 LBS

**DC-DC CONVERTER**

24"x36" SCALE: NOT USED  
11"x17" SCALE: NOT USED

2



SEE DETAIL 2, THIS SHEET

RAYCAP DC-48-60-RM

SEE DETAIL 1, SHEET RF-3

SEE DETAIL 2, SHEET RF-3

MAKE: MID ATLANTIC PRODUCTS INC.  
MODEL: RL10-45  
HEIGHT: 84.00"  
TOP WIDTH: 5.50"  
FRONT WIDTH: EXTERIOR 19.62"  
INTERIOR 17.79"  
SIDE WIDTH: 3.00"  
LEG WIDTH: 6.00" EA. SIDE  
WEIGHT: 40 LBS  
MAX CAPACITY: 1600 LBS

TOP CONNECTION IS NOT REQUIRED WHERE TOTAL EQUIPMENT WEIGHT IS LESS THAN 800 LBS

STANDARD 19"/23" INDOOR RACK (VERIFY)

1/2" DIA HILTI KWIK BOLT TZ W/ 2" MIN. EMBED INTO CONCRETE ROOF/FLOOR. USE 1/2" DIA X 8" LONG LAG CREWS INTO WOOD ROOF/FLOOR MEMBERS/BLOCKING

**TYPICAL INDOOR RACK CONFIGURATION**

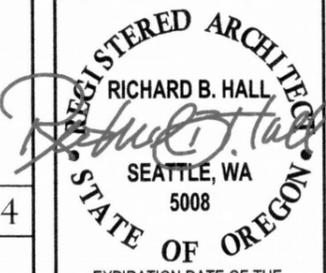
24"x36" SCALE: NOT USED  
11"x17" SCALE: NOT USED

1

City of Portland  
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NOT USED 5  
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11"x17" SCALE: NOT TO SCALE

NOT USED 4  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



EXPIRATION DATE OF THE LICENSE: 06/30/12

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SHEET TITLE  
CONSTRUCTION DETAILS

SHEET NUMBER

A-9



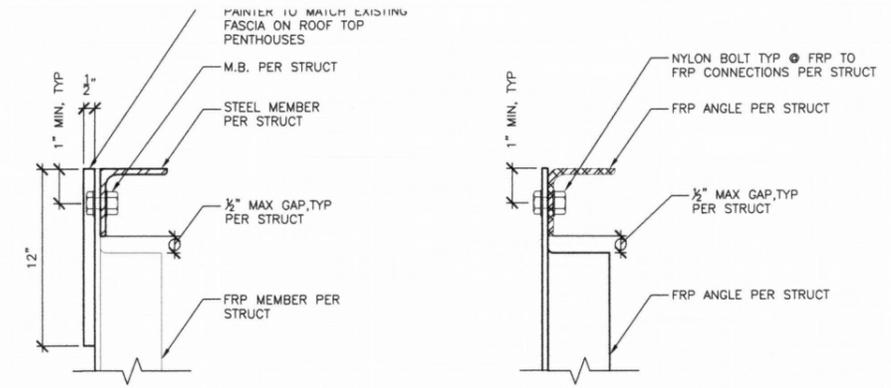
**PTS**

PACIFIC TELECOM SERVICES, LLC



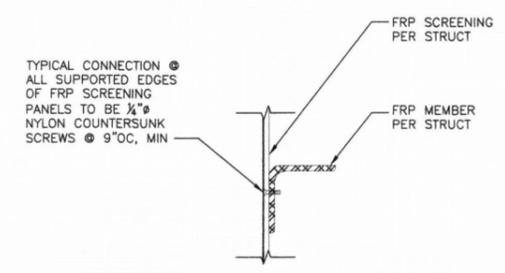
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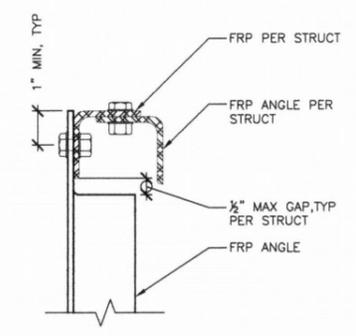


STEEL TO FRP ELEVATION

FRP TO FRP SECTION



FRP TO FRP SCREEN PLAN VIEW



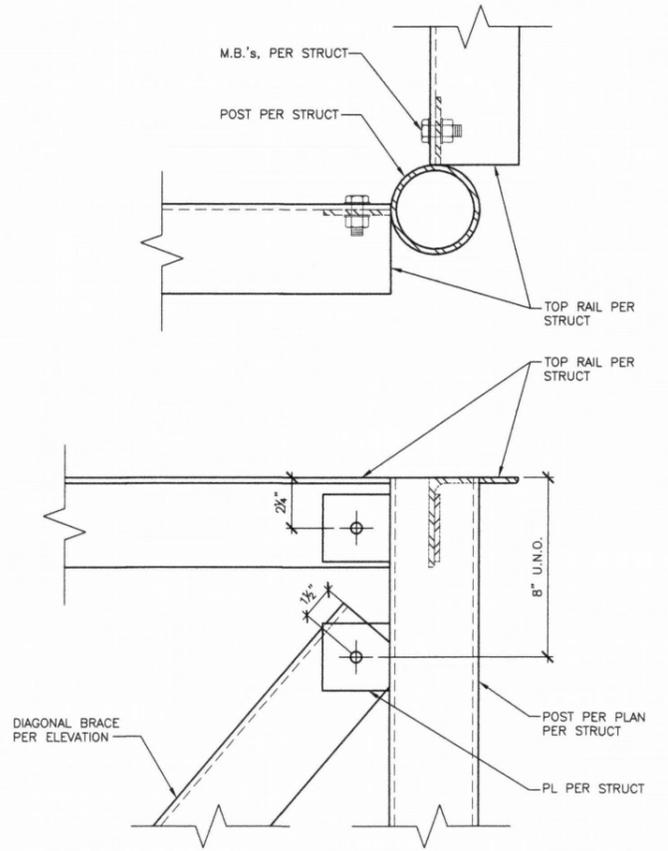
FRP TO FRP SECTION

TYPICAL CONNECTION @ ALL SUPPORTED EDGES OF FRP SCREENING PANELS TO BE 1/4" NYLON COUNTERSUNK SCREWS @ 9"OC, MIN

**FRP ANCHORAGE PER STRUCT**

**NOT USED**  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

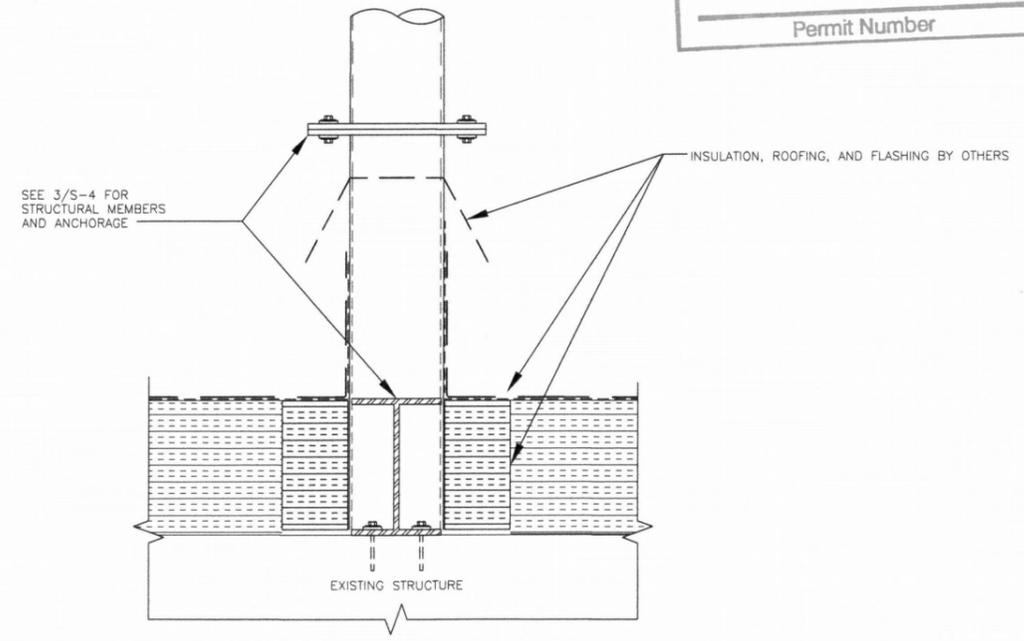
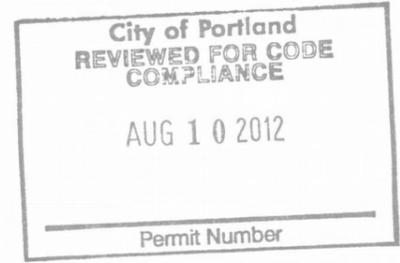
24"x36" SCALE: 3" = 1'-0"  
11"x17" SCALE: 1-1/2" = 1'-0"



**STEEL ASSEMBLY**

24"x36" SCALE: 3" = 1'-0"  
11"x17" SCALE: 1-1/2" = 1'-0"

FABRICATION & INSTALLATION NOTE:  
ALL VENT HOLES IN STEEL PIPES (I.E., HOLES IN PIPE SUPPORTS THAT ARE DRILLED FOR HOT-DIP GALVANIZING AND VENDING DURING WELDING MUST BE MADE WATERTIGHT AFTER FABRICATING - VIA WELDED PLUGS AND COLD GALVANIZING



**FRP SLEEPER WATERPROOFING DETAIL**

24"x36" SCALE: 3" = 1'-0"  
11"x17" SCALE: 1-1/2" = 1'-0"

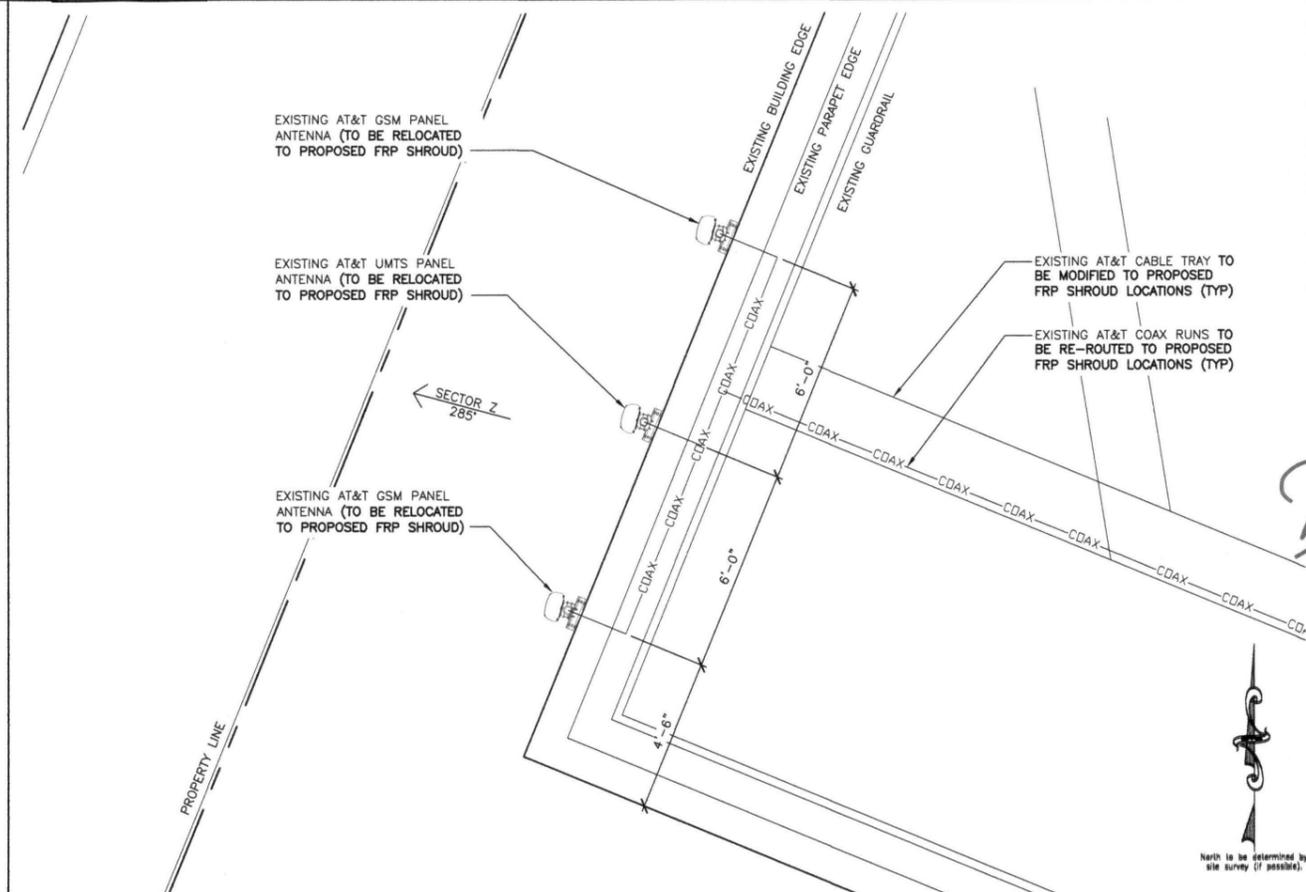
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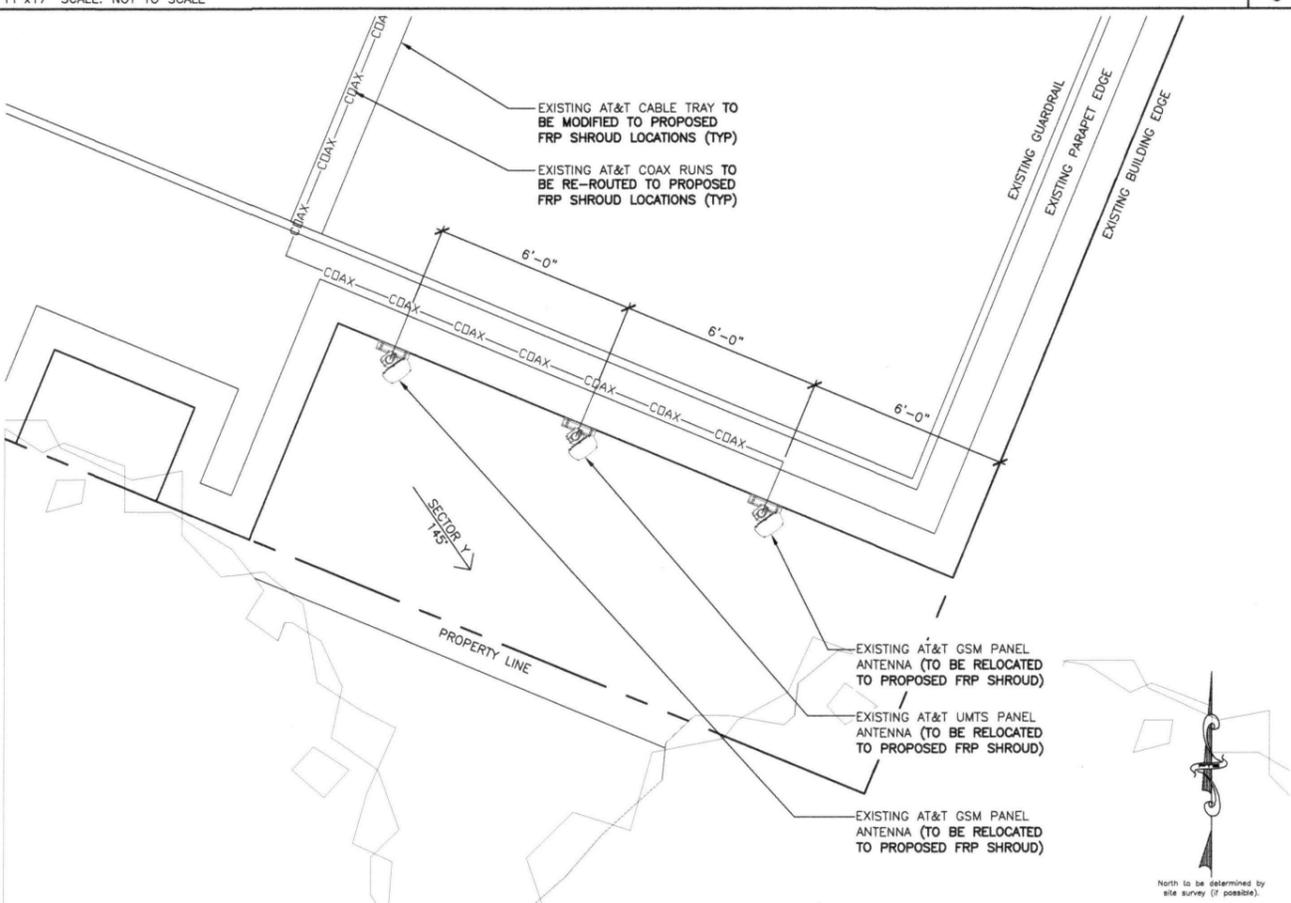
SHEET NUMBER  
**A-10**

EXISTING ANTENNA CONFIGURATION AND SCHEDULE													
SECTOR X	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	15°	79'-0"	1	KATHREIN	742-264	6'	0'	YES	NONE	2	7/8"	60'-0"	NO
GSM 1900	15°	79'-0"	1	KATHREIN	742-264	4'	0'	YES	(2) LPG21403	2	1-5/8"	60'-0"	NO
UMTS 850						8'		YES	NONE				YES (UB U9)
UMTS 1900	15°	79'-0"	1	KATHREIN	742-264	4'	0'	YES	(2) LPG21401	2	1-5/8"	60'-0"	NO
SECTOR Y	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	145°	79'-0"	1	KATHREIN	742-264	4'	0'	YES	NONE	2	7/8"	220'-0"	NO
GSM 1900	145°	79'-0"	1	KATHREIN	742-264	4'	0'	YES	(2) LPG21403	2	1-5/8"	220'-0"	NO
UMTS 850						5'		YES	NONE				YES (UB U9)
UMTS 1900	145°	79'-0"	1	KATHREIN	742-264	2'	0'	YES	(2) LPG21401	2	1-5/8"	220'-0"	NO
SECTOR Z	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	285°	79'-0"	1	KATHREIN	742-264	2'	0'	YES	NONE	2	7/8"	120'-0"	NO
GSM 1900	285°	79'-0"	1	KATHREIN	742-264	2'	0'	YES	(2) LPG21403	2	1-5/8"	120'-0"	NO
UMTS 850						2'		YES	NONE				YES (UB U9)
UMTS 1900	285°	79'-0"	1	KATHREIN	742-264	4'	0'	YES	(2) LPG21401	2	1-5/8"	120'-0"	NO

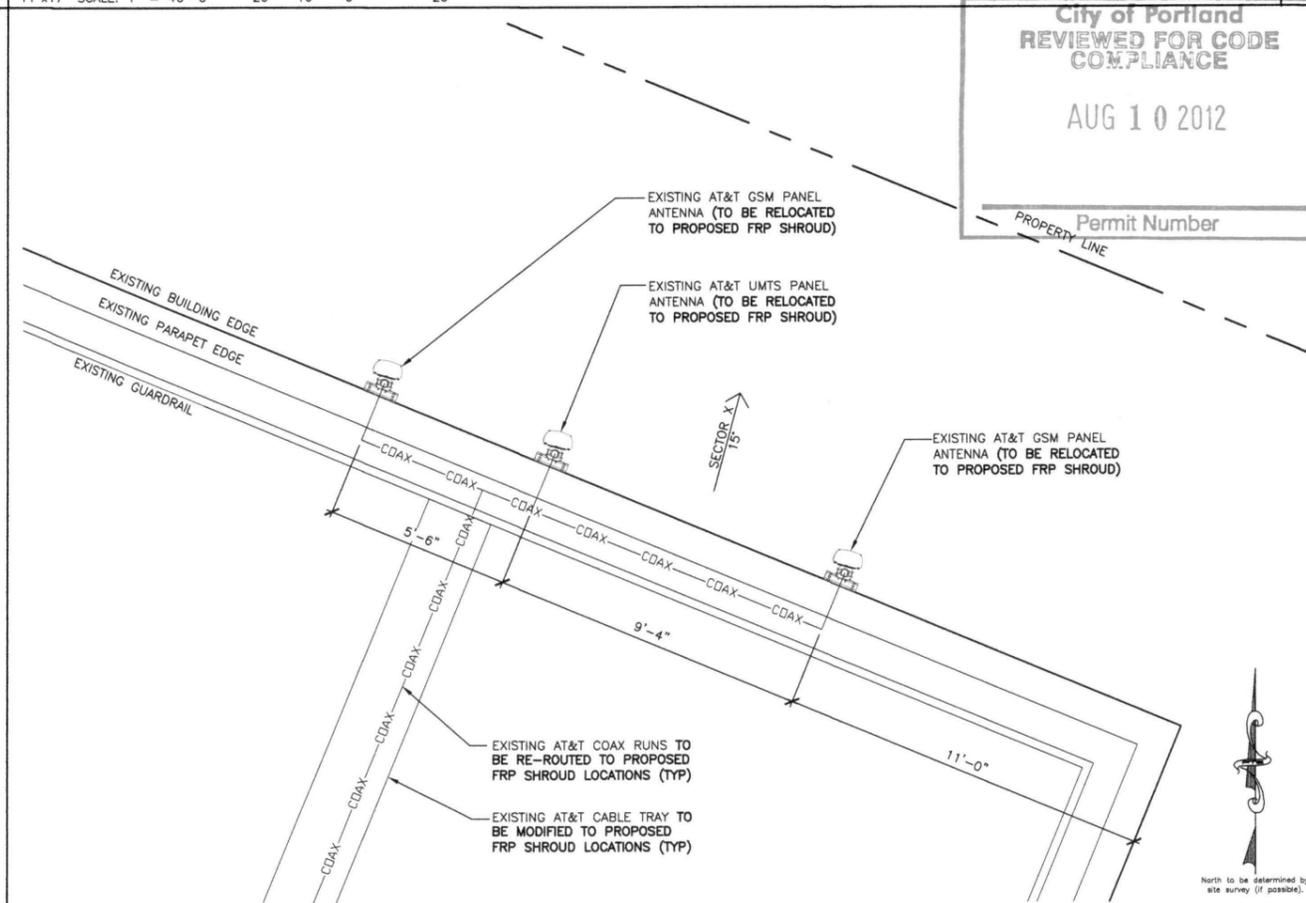


24"x36" SCALE: 1" = 20'-0"  
11"x17" SCALE: 1" = 40'-0"  
ANTENNA SCHEDULE 4

24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"  
EXISTING ANTENNA LAYOUT 2



24"x36" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"  
EXISTING ANTENNA LAYOUT 1



City of Portland  
REVIEWED FOR CODE COMPLIANCE  
AUG 10 2012  
Permit Number

PSU PR46  
1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

REVISIONS				
NO.	DATE	DESCRIPTION	INITIAL	
A	02/17/11	ISSUED FOR PCD REVIEW	WJR	
0	04/04/11	ISSUED FOR FINAL CONSTRUCTION	WJR	
1	08/15/11	ISSUED FOR REVISED FINAL CONSTRUCTION	NL	
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NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

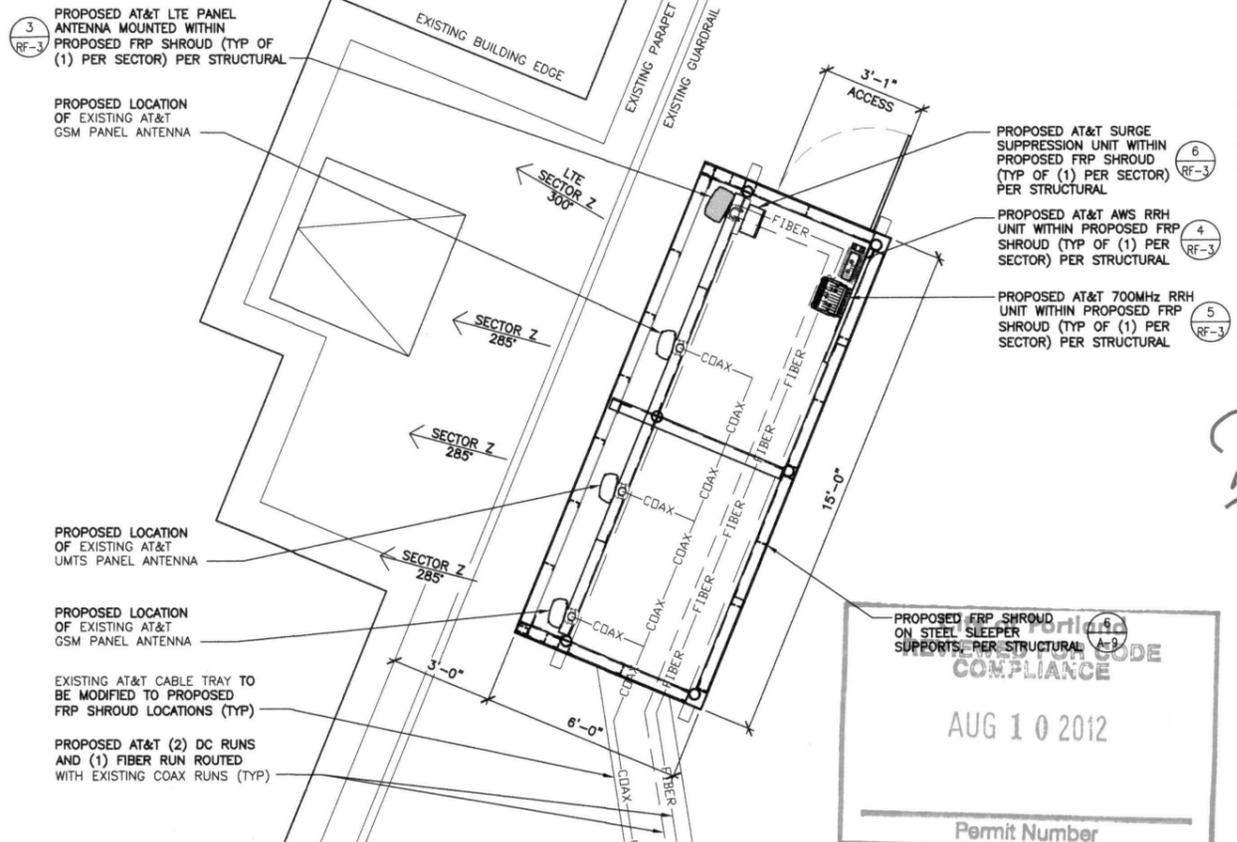
SHEET TITLE  
EXISTING ANTENNA CONFIGURATIONS

SHEET NUMBER  
**RF-1**

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

EXISTING ANTENNA CONFIGURATION AND SCHEDULE													
SECTOR X	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	15°	79'-0"	1	KATHREIN	742-264	6°	0°	YES	NONE	2	7/8"	60'-0"	NO
GSM 1900	15°	79'-0"	1	KATHREIN	742-264	4°	0°	YES	(2) LPG21403	2	1-5/8"	60'-0"	NO
UMTS 850	15°	79'-0"	1	KATHREIN	742-264	8°	0°	YES	NONE	2	1-5/8"	60'-0"	YES (UB U9)
UMTS 1900	15°	79'-0"	1	KATHREIN	742-264	4°	0°	YES	(2) LPG21401	2	1-5/8"	60'-0"	YES (UB U9)
LTE	30°	79'-0"	1	KMW	AM-X-CD-16-65-00T	13°	2°	YES	-	0	FIBER	60'-0"	NO
SECTOR Y	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	145°	79'-0"	1	KATHREIN	742-264	4°	0°	YES	NONE	2	7/8"	220'-0"	NO
GSM 1900	145°	79'-0"	1	KATHREIN	742-264	4°	0°	YES	(2) LPG21403	2	1-5/8"	220'-0"	NO
UMTS 850	145°	79'-0"	1	KATHREIN	742-264	5°	0°	YES	NONE	2	1-5/8"	220'-0"	YES (UB U9)
UMTS 1900	145°	79'-0"	1	KATHREIN	742-264	2°	0°	YES	(2) LPG21401	2	1-5/8"	220'-0"	YES (UB U9)
LTE	160°	79'-0"	1	KMW	AM-X-CD-16-65-00T	2°	0°	YES	-	0	FIBER	220'-0"	NO
SECTOR Z	AZIMUTH	RADCENTER	NUMBER OF ANTENNAS	VENDOR	MODEL	ELEC. TILT	MECH. TILT	RET	TMA	NUMBER OF COAX	COAX #	COAX LENGTH	DIPLEXED
GSM 850	285°	79'-0"	1	KATHREIN	742-264	2°	0°	YES	NONE	2	7/8"	120'-0"	NO
GSM 1900	285°	79'-0"	1	KATHREIN	742-264	2°	0°	YES	(2) LPG21403	2	1-5/8"	120'-0"	NO
UMTS 850	285°	79'-0"	1	KATHREIN	742-264	2°	0°	YES	NONE	2	1-5/8"	120'-0"	YES (UB U9)
UMTS 1900	285°	79'-0"	1	KATHREIN	742-264	4°	0°	YES	(2) LPG21401	2	1-5/8"	120'-0"	YES (UB U9)
LTE	300°	79'-0"	1	KMW	AM-X-CD-16-65-00T	12°	0°	YES	-	0	FIBER	120'-0"	NO

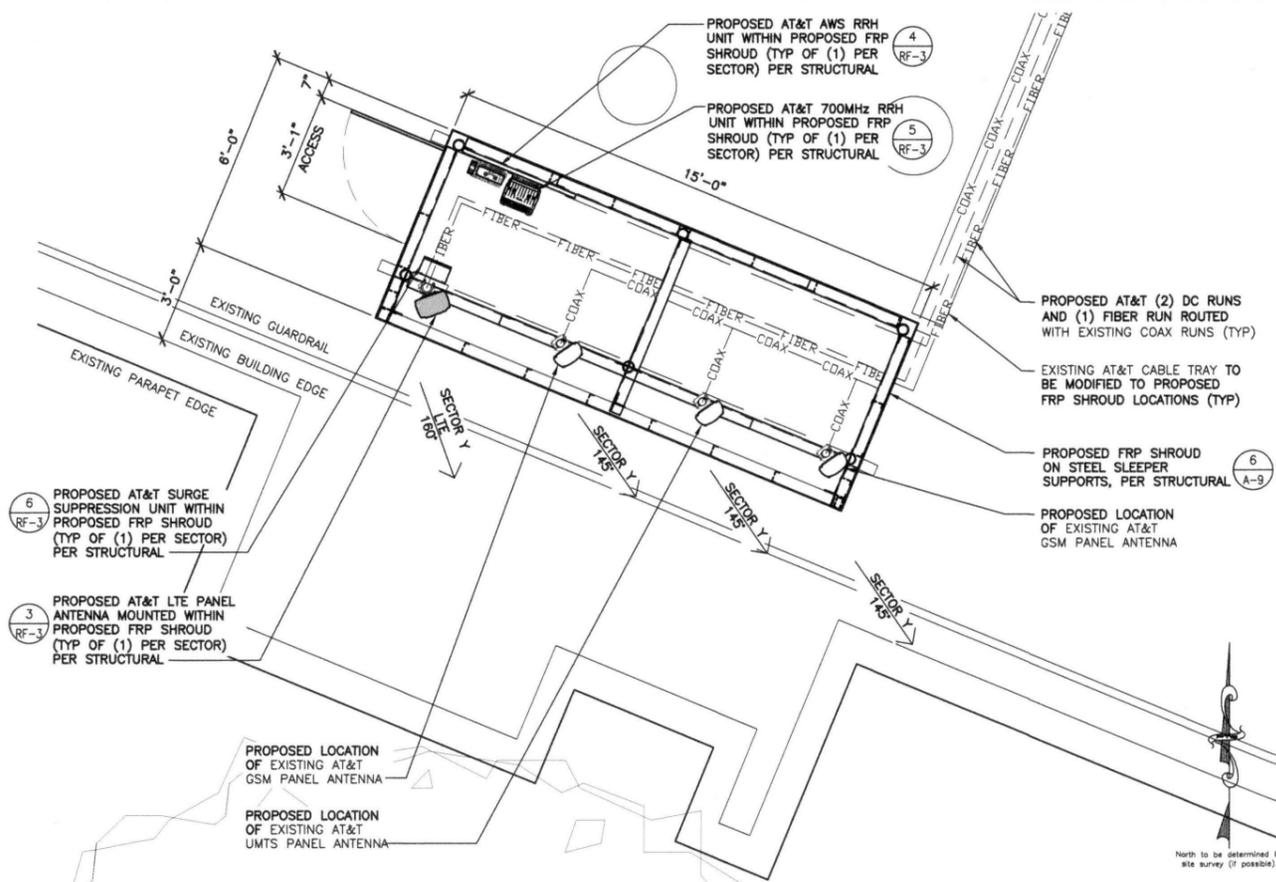
NOTES:  
 • DO NOT USE COAX LENGTHS FOR CUT LENGTHS: ESTIMATES ONLY  
 • CONFIRM THAT GENERAL CONTRACTOR IS USING LATEST VERSION OF RFDS.



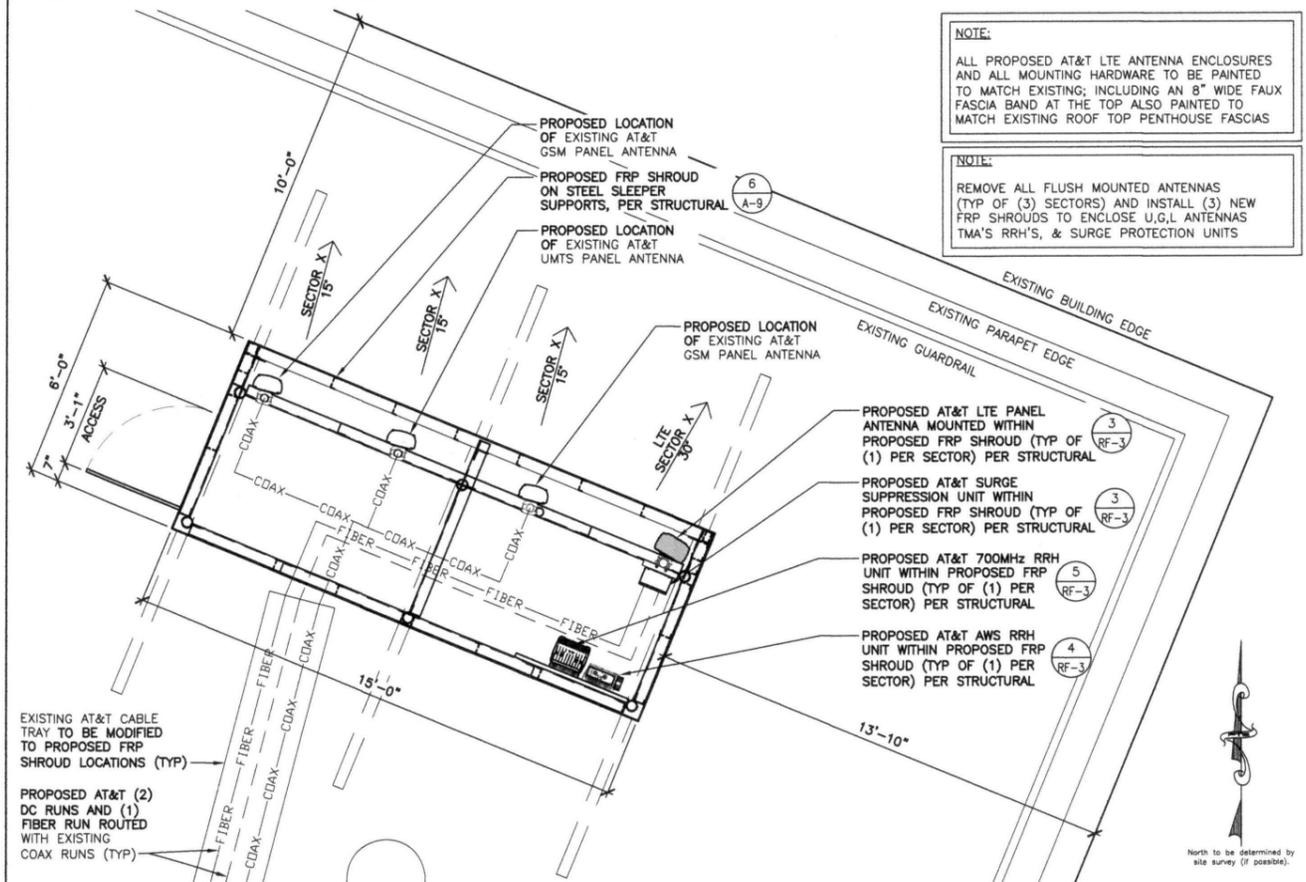
Permit Number  
 AUG 10 2012  
 COMPLIANCE

ANTENNA SCHEDULE 4

PROPOSED ANTENNA LAYOUT 3



PROPOSED ANTENNA LAYOUT 2



PROPOSED ANTENNA LAYOUT 1



PSU  
 PR46

1705 SOUTHWEST 11TH AVE  
 PORTLAND, OR 97201

REVISIONS				
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6	05/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR	

SHEET TITLE  
 PROPOSED ANTENNA CONFIGURATION

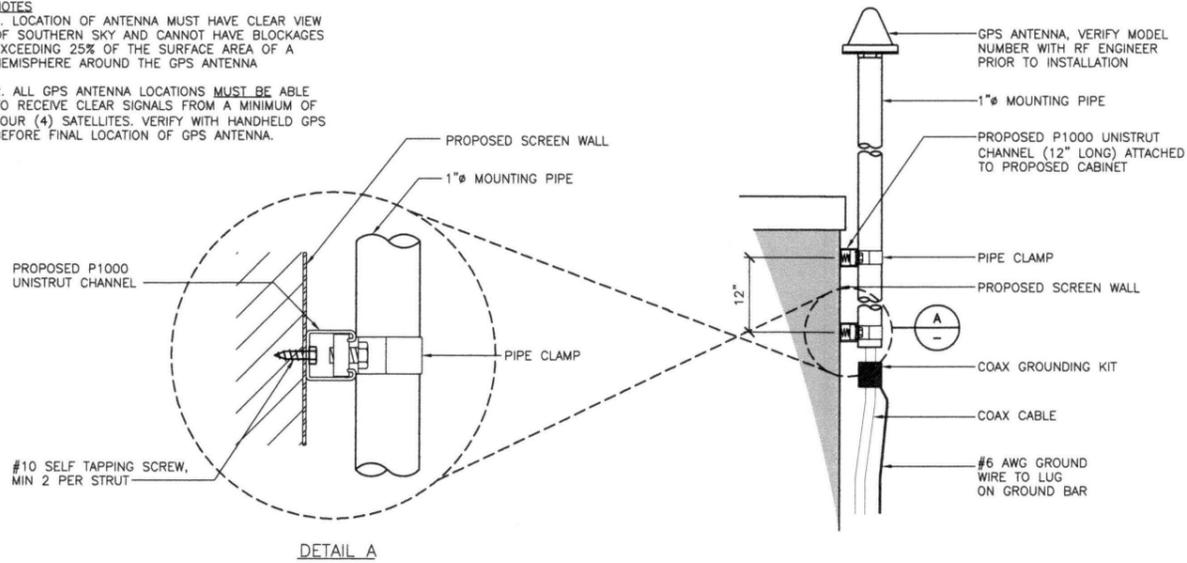
SHEET NUMBER  
**RF-2**

City of Portland  
REVIEWED FOR CODE COMPLIANCE  
AUG 10 2012  
Permit Number

REGISTERED ARCHITECT  
RICHARD B. HALL  
SEATTLE, WA 5008  
STATE OF OREGON  
EXPIRATION DATE OF THE LICENSE: 06/30/12

PSU PR46  
1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

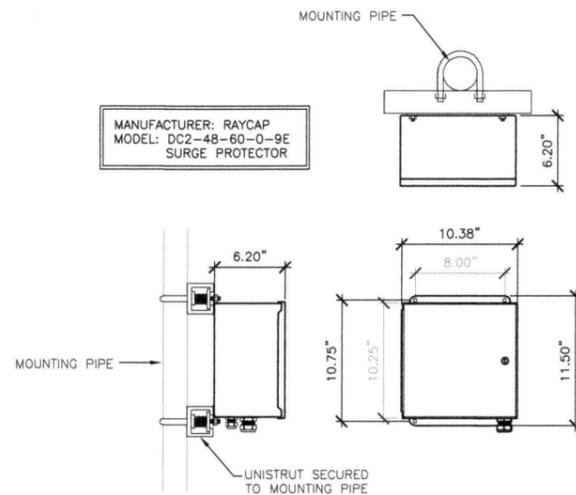
**NOTES**  
1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA  
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.



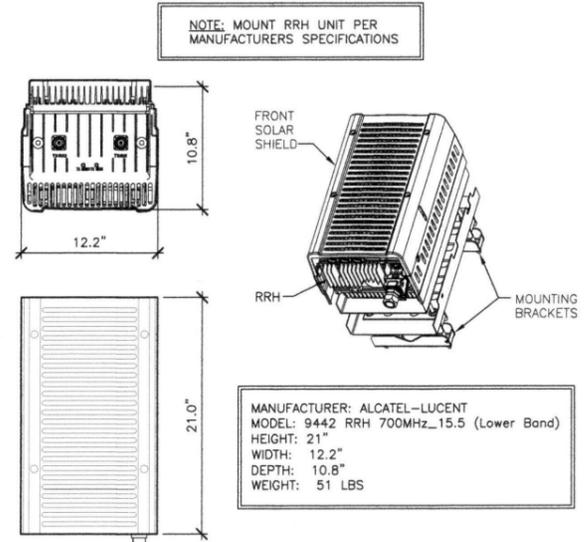
**GPS MOUNTING DETAIL**  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

**NOT USED**  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

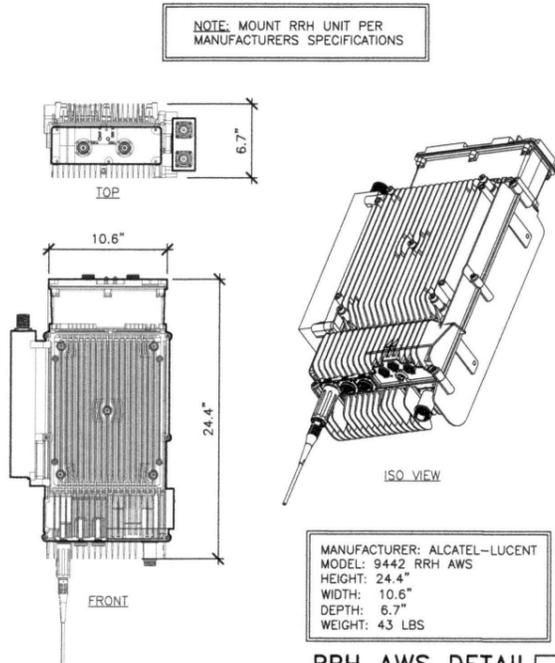
**NOT USED**  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



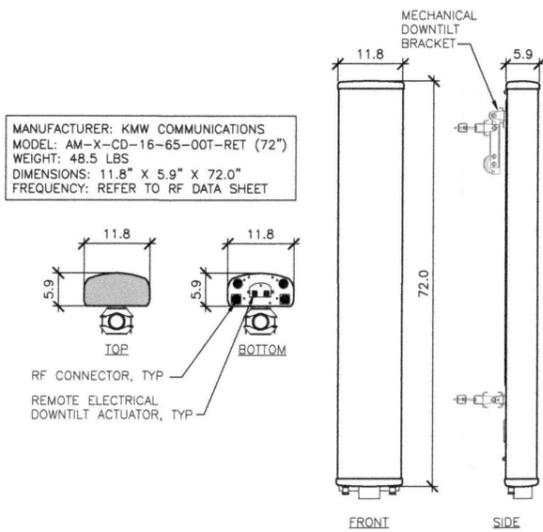
**SURGE SUPPRESSION BOX**  
24"x36" SCALE: 1 1/2"=1'-0"  
11"x17" SCALE: 3/4"=1'-0"



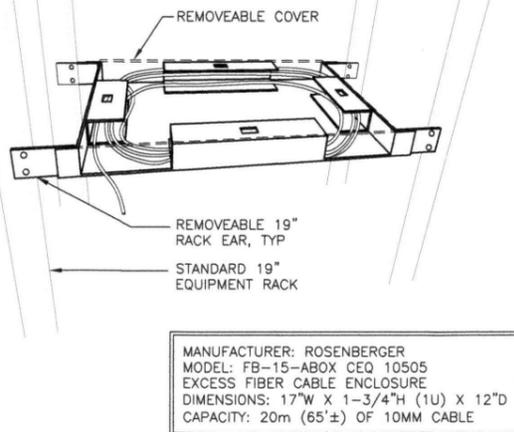
**RRH 700MHZ DETAIL**  
24"x36" SCALE: 1 1/2"=1'-0"  
11"x17" SCALE: 3/4"=1'-0"



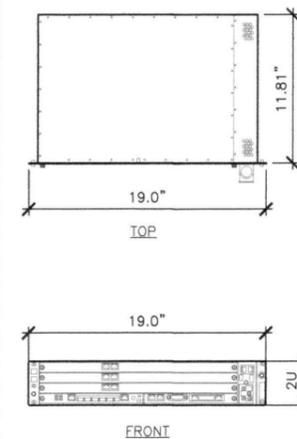
**RRH AWS DETAIL**  
24"x36" SCALE: 1 1/2"=1'-0"  
11"x17" SCALE: 3/4"=1'-0"



**ANTENNA SPECIFICATIONS**  
24"x36" SCALE: 3/4"=1'-0"  
11"x17" SCALE: 3/8"=1'-0"



**EXCESS FIBER CABLE ENCLOSURE**  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

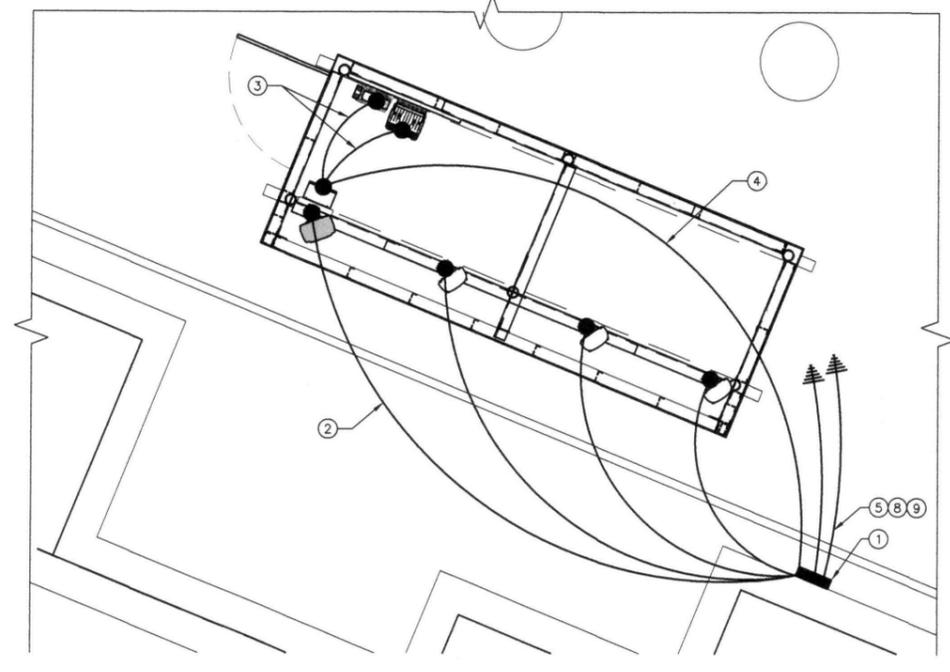
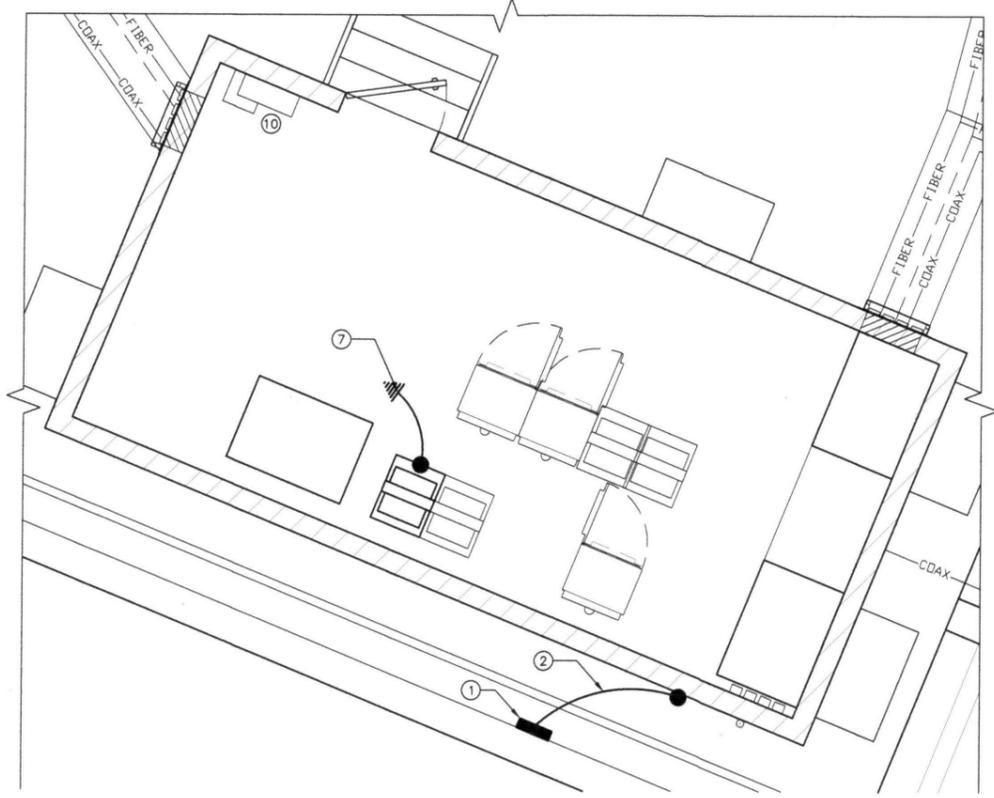
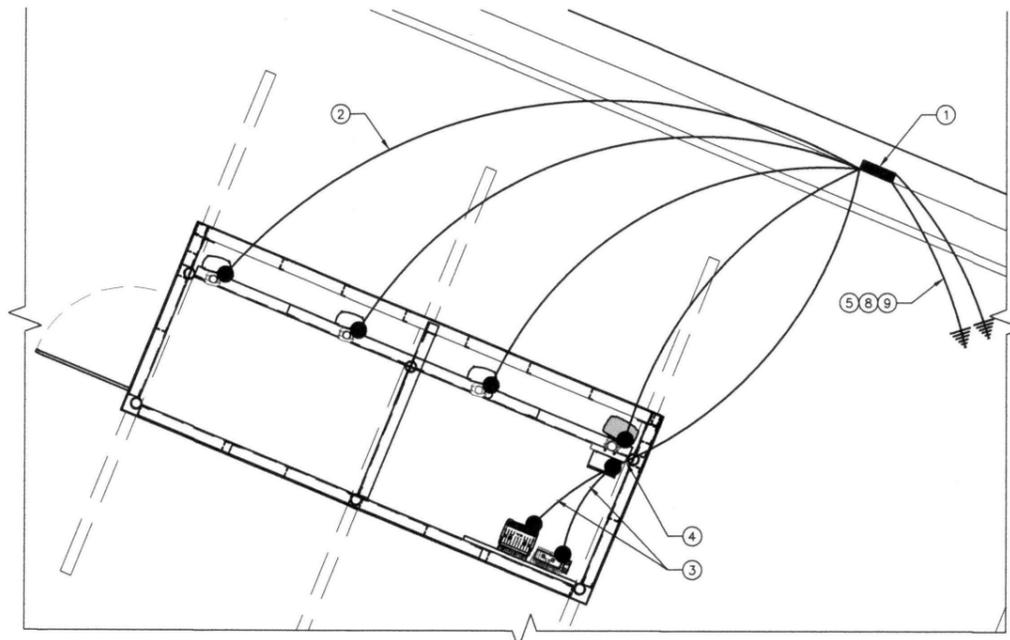
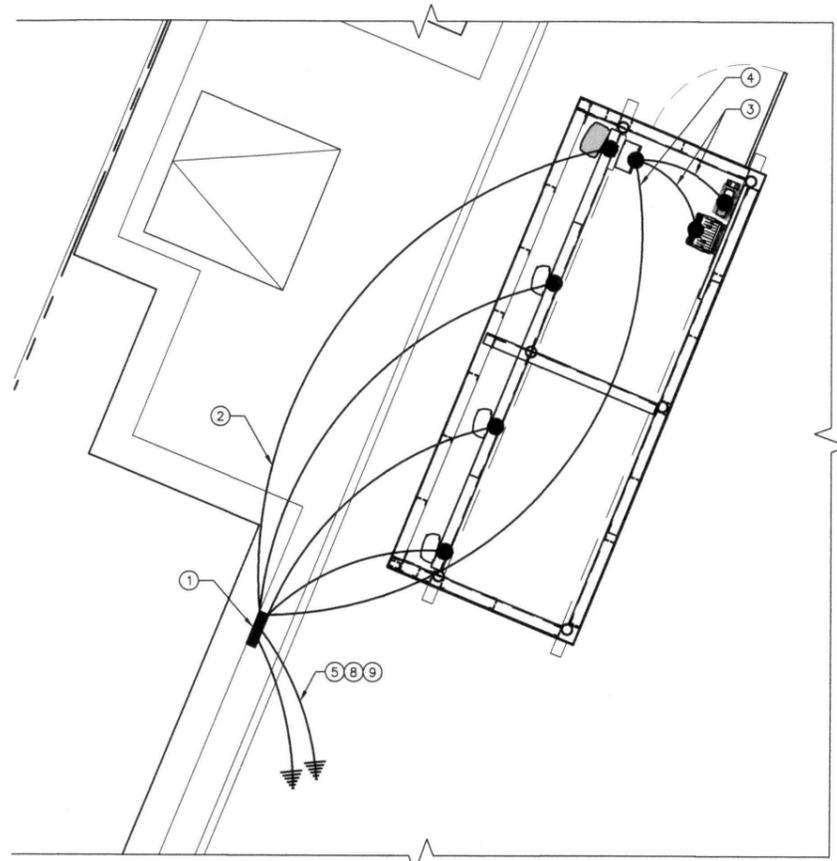


**RACK MOUNTED BBU DETAIL**  
24"x36" SCALE: 1 1/2"=1'-0"  
11"x17" SCALE: 3/4"=1'-0"

REVISIONS				
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6	05/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR	

SHEET TITLE  
RF DETAILS

SHEET NUMBER  
**RF-3**



- GROUNDING KEYED NOTES:**
- ① ANTENNA GROUND BUS BAR AT BUILDING PARAPET WITH COAX GROUND KIT. SEE DETAIL 9/E-5 FOR GROUND BAR CONSTRUCTION, SEE DETAIL 7/E-5 FOR GROUND WIRE CONNECTIONS, AND SEE DETAIL 6/E-5 FOR COAX GROUNDING.
  - ② #6 AWG ANTENNA MOUNT GROUND TO ANTENNA GROUND BUSS BAR (TYP OF 12)
  - ③ #6 AWG GROUND FROM RRH UNITS TO SURGE SUPPRESSION BOX.
  - ④ #6 AWG GROUND FROM SURGE SUPPRESSION BOX TO TIE INTO ANTENNA GROUND BUS BAR.
  - ⑤ #6 AWG GROUND FROM ANTENNA GROUND BUS BAR TO TIE INTO EXISTING ROOF GROUNDING SYSTEM (TYP OF (2) PLACES)
  - ⑥ CAD WELD (TYP).
  - ⑦ #6 AWG FROM NEW EQUIPMENT RACK TO TIE INTO EXISTING SYSTEM GROUND RING.
- ROOF TOP GROUNDING NOTES:**
- ⑧ GC SHALL VERIFY THAT (2) #2 AWG THHN GROUND LEADS FROM EACH OF SEVERAL REMOTE INDIVIDUAL BUSES TO BE COLLECTED AT ONE MAIN MGB AND FURTHER ROUTED TO BUILDING STEEL OR OTHER DESIGNATED BUILDING GROUNDING SYSTEM (FINAL DESIGNATED POINT OF GROUNDING TO BE COORDINATED WITH BUILDING OWNER).
  - ⑨ ALL ROOF TOP GROUND LEADS SHALL BE THERMOPLASTIC HIGH HEAT-RESISTANT NYLON-COATED (THHN).
  - ⑩ WHERE APPLICABLE, GC'S ELECTRICAL SUBCONTRACTOR SHALL COORDINATE WITH CM AND BUILDING OWNER ON TYING INTO EXISTING BUILDING GROUNDING SYSTEM FOR NEW ELECTRICAL AND TELCO PANEL(S) AT SAME LOCATION AS EXISTING ELECTRICAL & TELCO SERVICE.

**GROUNDING NOTES & LEGEND**

- GENERAL GROUNDING NOTES**
1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
  2. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING GROUND WIRES AND CONNECT TO SURFACE MOUNTED BUS BARS. FOLLOW ANTENNA AND BTS MANUFACTURERS PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS AND EXIT FROM TOWER OR POLE USING MFR'S PRACTICES.
  3. ALL GROUND CONNECTIONS SHALL BE CADWELDED. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE GREEN INSULATED WIRE ABOVE GROUND.
  4. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE. GROUNDING AND OTHER OPERATIONAL TESTING WILL BE WITNESSED BY AT&T WIRELESS, LLC. REPRESENTATIVE.
  5. REFER TO DIVISION 16 GENERAL ELECTRIC; GENERAL ELECTRICAL PROVISION AND COMPLY WITH ALL REQUIREMENTS OF GROUNDING STANDARDS.
  6. ELECTRICAL CONTRACTOR TO PROVIDE DETAILED DESIGN OF GROUNDING SYSTEM, AND RECEIVE APPROVAL OF DESIGN BY AUTHORIZED AT&T MOBILITY REPRESENTATIVE, PRIOR TO INSTALLATION OF GROUNDING SYSTEM. PHOTO DOCUMENT ALL CADWELDS AND GROUND RING
  7. NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.

**GROUNDING ROD NOTES**  
(WHERE APPLICABLE)

ELECTRICAL CONTRACTOR SHALL ORDER GROUND RESISTANCE TESTING ONCE THE GROUND SYSTEM HAS BEEN INSTALLED; A QUALIFIED INDIVIDUAL, UTILIZING THE FALL OF POTENTIAL METHOD, SHOULD PERFORM THE TEST. THE REPORT WILL SHOW THE LOCATION OF THE TEST AND CONTAIN NO LESS THAN 9 TEST POINTS ALONG THE TESTING LINE, GRAPHED OUT TO SHOW THE PLATEAU.

2 POINT GROUND TEST OR 3 POINT 62% TESTS WILL NOT BE ACCEPTED AS ALTERNATIVES TO THE AFORE MENTIONED GROUND TESTS. TEST SHALL BE PERFORMED WHILE THE COUNTERPOISE IS ISOLATED FROM THE A/C SYSTEM GRIDS AND EXISTING COMMUNICATIONS FACILITY.

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⊗	COPPER GROUND ROD	⊗	TEST WELL
●	CADWELD CONNECTION	■	GROUND BAR
■	SIDE SPLICE CADWELD	—	FIELD VERIFY & TIE INTO EXISTING GROUNDING SYSTEM



REGISTERED ARCHITECT  
**RICHARD B. HALL**  
*Richard B. Hall*  
 SEATTLE, WA  
 5008  
 STATE OF OREGON  
 EXPIRATION DATE OF THE  
 LICENSE: 06/30/12

**PSU**  
**PR46**  
 1705 SOUTHWEST 11TH AVE  
 PORTLAND, OR 97201

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6	05/07/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR

NOT FOR CONSTRUCTION UNLESS  
 LABELED AS CONSTRUCTION SET

SHEET TITLE  
 SCHEMATIC GROUNDING PLAN

SHEET NUMBER  
**E-1**



PACIFIC TELECOM SERVICES, LLC



PSU PR46

1705 SOUTHWEST 11TH AVE PORTLAND, OR 97201

NOT USED 15  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

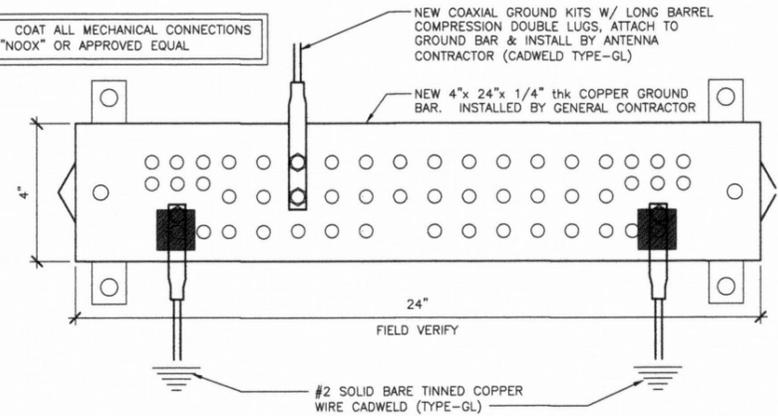
NOT USED 14  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

NOT USED 13  
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11"x17" SCALE: NOT TO SCALE

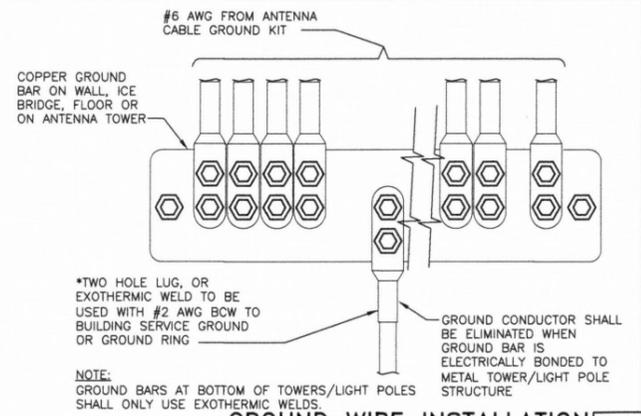
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NOT USED 11  
24"x36" SCALE: NOT TO SCALE  
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NOT USED 10  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

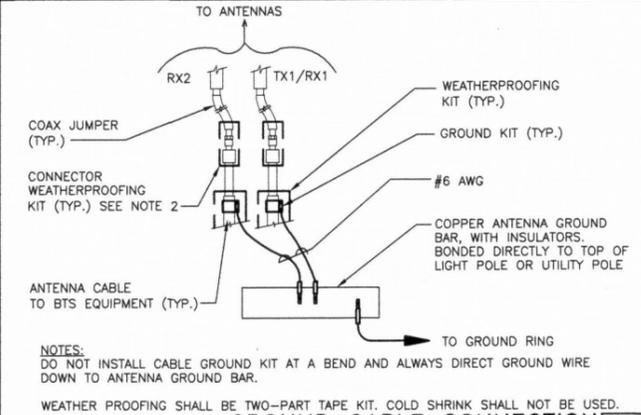


GROUND BAR 9  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



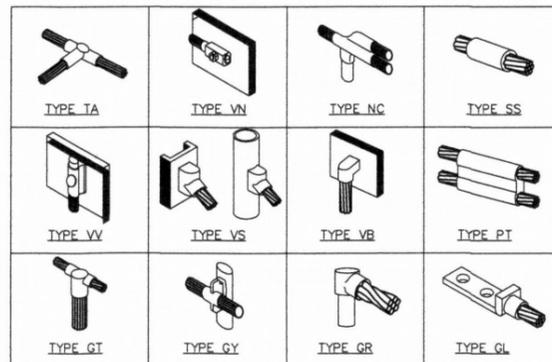
GROUND WIRE INSTALLATION 7  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

NOT USED 8  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

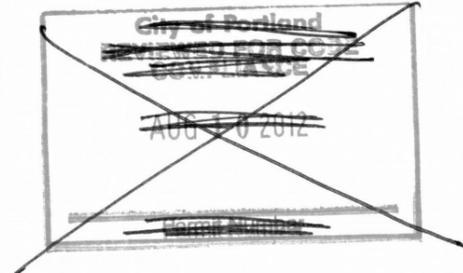


GROUND CABLE CONNECTION 5  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

NOT USED 6  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



CADWELD GROUNDING CONNECTIONS 2  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE



NOT USED 1  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

NOT USED 4  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

NOT USED 3  
24"x36" SCALE: NOT TO SCALE  
11"x17" SCALE: NOT TO SCALE

REVISIONS			
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6	05/01/12	ISSUED FOR REVISED FINAL CONSTRUCTION	WJR

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
E-2

**GENERAL STRUCTURAL NOTES**

(The following apply unless shown otherwise on the plans)

**CRITERIA:**

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, THE 2010 OREGON STRUCTURAL SPECIALTY CODE

**DESIGN LOADING CRITERIA:**

- a. ROOF SNOW LOAD (PF) 25 PSF
- b. BASIC WIND SPEED (V3S) 95 MPH (EXP. B)
  - 1. Kzt 1.0
  - 2. WIND IMPORTANCE FACTOR (Iw) 1.0
- c. SEISMIC DESIGN CATEGORY D
  - 1. SDS 0.727g
  - 2. RESPONSE MODIFICATION FACTOR (R) 2.5
  - 3. AMPLIFICATION FACTOR (Cd) 1.0
  - 4. SEISMIC IMPORTANCE FACTOR (Ie) 1.0

**OVERALL NOTES:**

- a. PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
- b. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- c. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE & STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
- d. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS & THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
- e. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT & STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
- f. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.
- g. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
- h. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PROVIDE SHORING AND BRACING AS MAY BE REQUIRED DURING CONSTRUCTION TO ACHIEVE THE FINAL COMPLETED STRUCTURE.
- i. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE SHORING AND BRACING ELEMENTS.

**STRUCTURAL STEEL:**

- a. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL 13th EDITION AND "CODE OF STANDARD PRACTICE", 2005.
- b. STRUCTURAL STEEL HAS BEEN DESIGN INCORPORATING THE LOAD RESISTANCE FACTOR DESIGN METHOD (LRFD).
- c. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
  - PLATES & ANGLES ASTM A36
  - STEEL PIPE ASTM A53 GR. B
  - U-BOLTS ASTM A307
- d. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PRE QUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

**CORROSION CONTROL:**

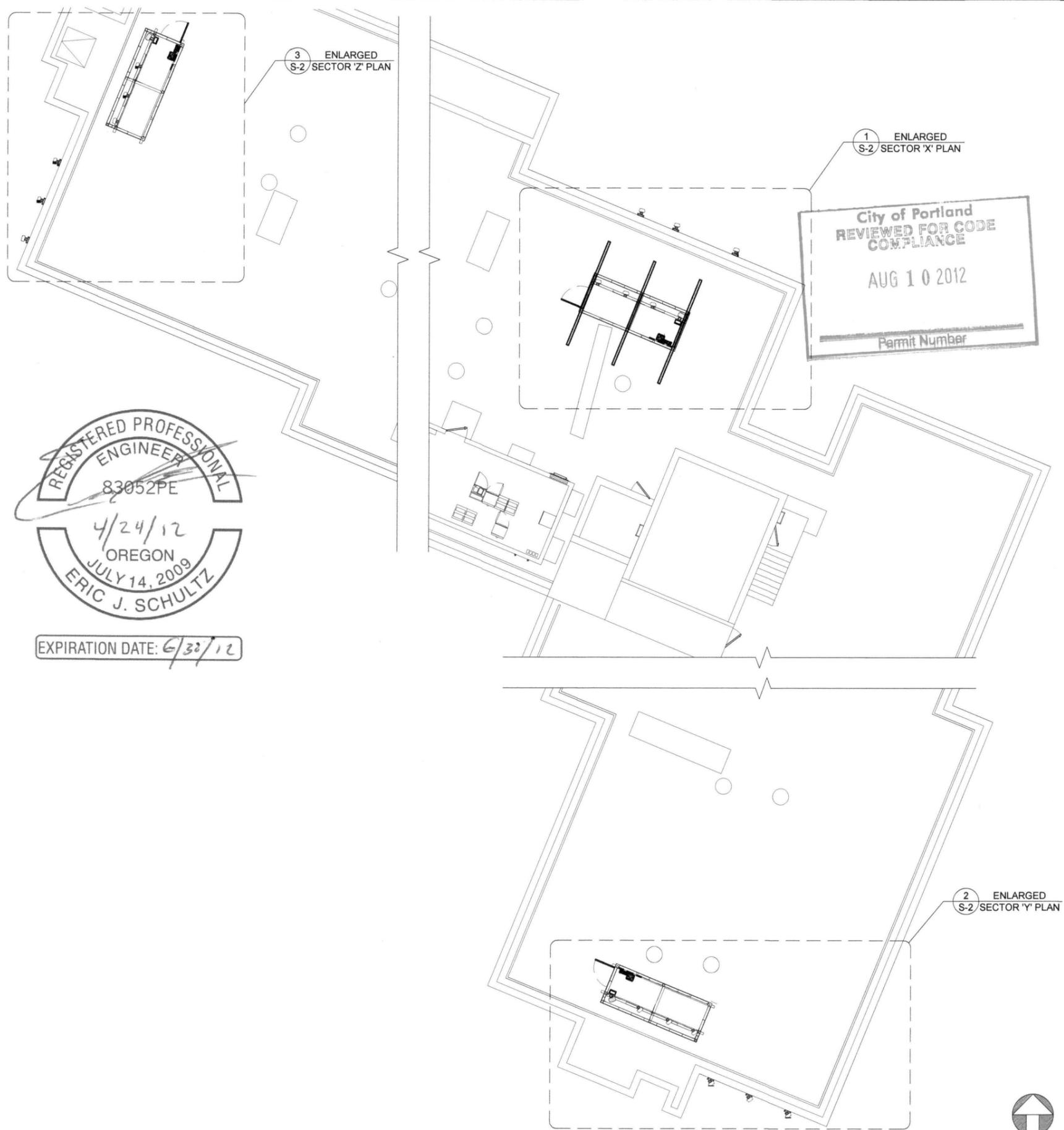
- a. ALL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123
- b. FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR ASTM B695 CLASS 50 (A490 BOLTS SHALL NOT BE HOT DIPPED GALVANIZED)
- c. ALL REPAIRS SHALL BE PROTECTED IN ACCORDANCE WITH ASTM A780
- d. ALL FIELD CUT SURFACES SHALL BE REPAIRED WITH (2) COATS OF A 95% ZINC RICH PAINT PER ASTM A780 (ZRC PREFERRED)
- e. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH (2) COATS OF ZINC RICH PAINT (ZRC PREFERRED).

**BOLTS:**

- a. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED HIGH STRENGTH ASTM A307 BOLTS.
- b. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES.
- c. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG FIT UNTIL THE SECTION IS FULLY COMPACTED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT", TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
- d. BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG FIT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1/2 TURN BEYOND SNUG FIT.
- e. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.

**FIBER REINFORCED POLYMER (FRP):**

- a. ALL FRP STRUCTURAL PRODUCTS (DYNAFORM SHAPES) WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS UNLESS NOTED OTHERWISE.
- b. PLATES AND SHAPES SHALL CONFORM TO ASTM D-638, 695, 790, F<sub>y</sub> = 30 KSI. UNLESS NOTED OTHERWISE.
- c. IN FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
- d. FRP BOLTS AND NUTS SHALL CONFORM TO ASTM D-638, 695, 790, UNLESS NOTED OTHERWISE. BOLTED CONNECTIONS SHALL USE BEARING TYPE BOLTS AND SHALL HAVE A MINIMUM OF ONE BOLT UNLESS NOTED OTHERWISE. FRP BOLT ASSEMBLIES TO BE LOCKED USING VINYL SEALER MIX APPLIED TO FULL COVER THREADS. TIGHTEN FRP NUTS HAND TIGHT PLUS 1/4 TURN. ALL EXPOSED THREAD TO BE SEALED



24"x36" SCALE: 1/8" = 1'-0"  
11"x17" SCALE: 1/16" = 1'-0"

PARTIAL ROOF PLAN | 1



THIS SET OF DRAWINGS PREPARED BASED ON THE STRUCTURAL ANALYSIS REPORT PERFORMED BY PTS ENGINEERING, DATED SEPTEMBER 21, 2011. SEALED BY ERIC SCHULTZ, P.E.

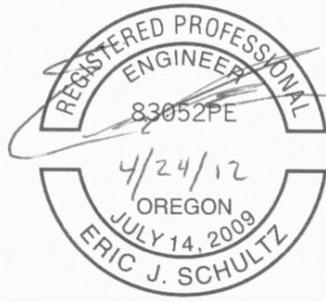
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PR-46  
1705 SOUTHWEST 11TH AVE  
PORTLAND, OR 97201

REVISIONS				
NO.	DATE	DESCRIPTION	INITIAL	
1	09-21-11	PERMIT	MBK	
2	04-24-12	REVISION 1	EZ	

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

SHEET TITLE  
STRUCTURAL PLAN & NOTES

SHEET NUMBER  
**S-1**



EXPIRATION DATE: 6/30/12

PROPOSED ANTENNA PER ARCH

(E) RELOCATED ANTENNAS (3 PER SECTOR)

(E) ANTENNAS TO BE RELOCATED (3 PER SECTOR)

8" CORE FLOOR PLANK w/  
2" CONCRETE TOPPING

City of Portland  
REVIEWED FOR CODE  
COMPLIANCE

AUG 10 2012

Permit Number

(N) W6x12 x 16'-0" SLEEPERS (TYP OF 2) LOCATE PERPENDICULAR TO HOLLOW CORE FLOOR PLANK SPAN. SEE DETAIL 3/S-4

CMU BEARING WALL BELOW, TYP

FACE ELEVATION

SIDE ELEVATION

22'-6"  
24'-0" TO OUTSIDE OF PARAPET



24"x36" SCALE: NTS  
11"x17" SCALE: NTS

NOT USED 4

24"x36" SCALE: 1/4" = 1'-0"  
11"x17" SCALE: 1/8" = 1'-0"

ENLARGED SECTOR 'Z' PLAN 3

SIDE ELEVATION

FACE ELEVATION

22'-2" TO OUTSIDE OF PARAPET

22'-0"

CMU BEARING WALL BELOW, TYP  
(CONTRACTOR TO FIELD VERIFY LOCATION)

8" CORE FLOOR PLANK w/ 2" CONCRETE TOPPING (CONTRACTOR TO FIELD VERIFY SPAN DIRECTION)

(N) W6x12 x 16'-0" SLEEPERS (TYP OF 2) LOCATE PERPENDICULAR TO HOLLOW CORE FLOOR PLANK SPAN. SEE DETAIL 3/S-4

(E) RELOCATED ANTENNAS (3 PER SECTOR)

PROPOSED ANTENNA PER ARCH

(E) RELOCATED ANTENNAS (3 PER SECTOR)



24"x36" SCALE: 1/4" = 1'-0"  
11"x17" SCALE: 1/8" = 1'-0"

ENLARGED SECTOR 'Y' PLAN 2

24"x36" SCALE: 1/4" = 1'-0"  
11"x17" SCALE: 1/8" = 1'-0"

ENLARGED SECTOR 'X' PLAN 1



PACIFIC TELECOM SERVICES, LLC

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REVISIONS

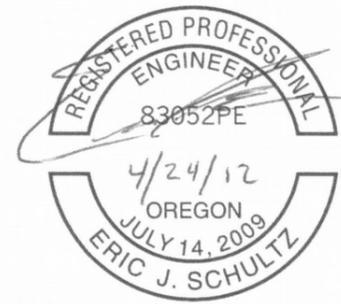
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1	09-21-11	PERMIT	MBK
2	04-24-12	REVISION 1	EZ

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

SHEET TITLE  
STRUCTURAL DETAILS

SHEET NUMBER

S-2



EXPIRATION DATE: 6/30/12

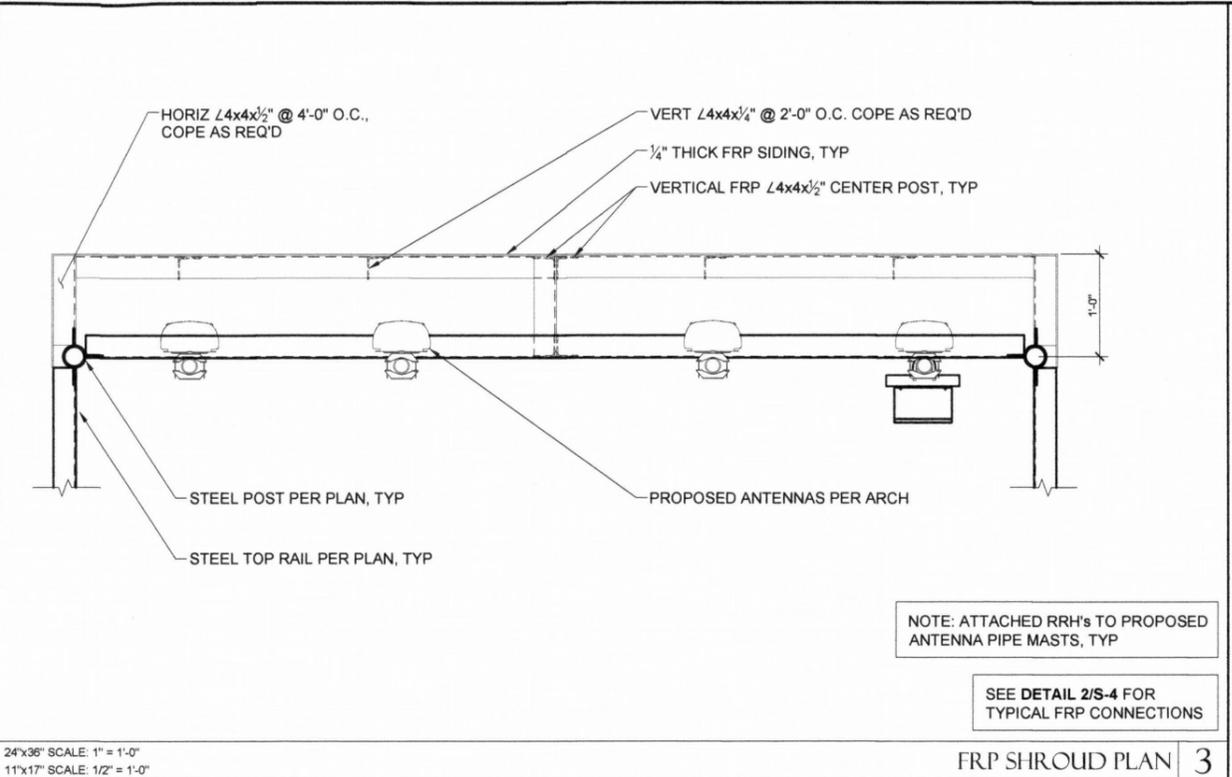
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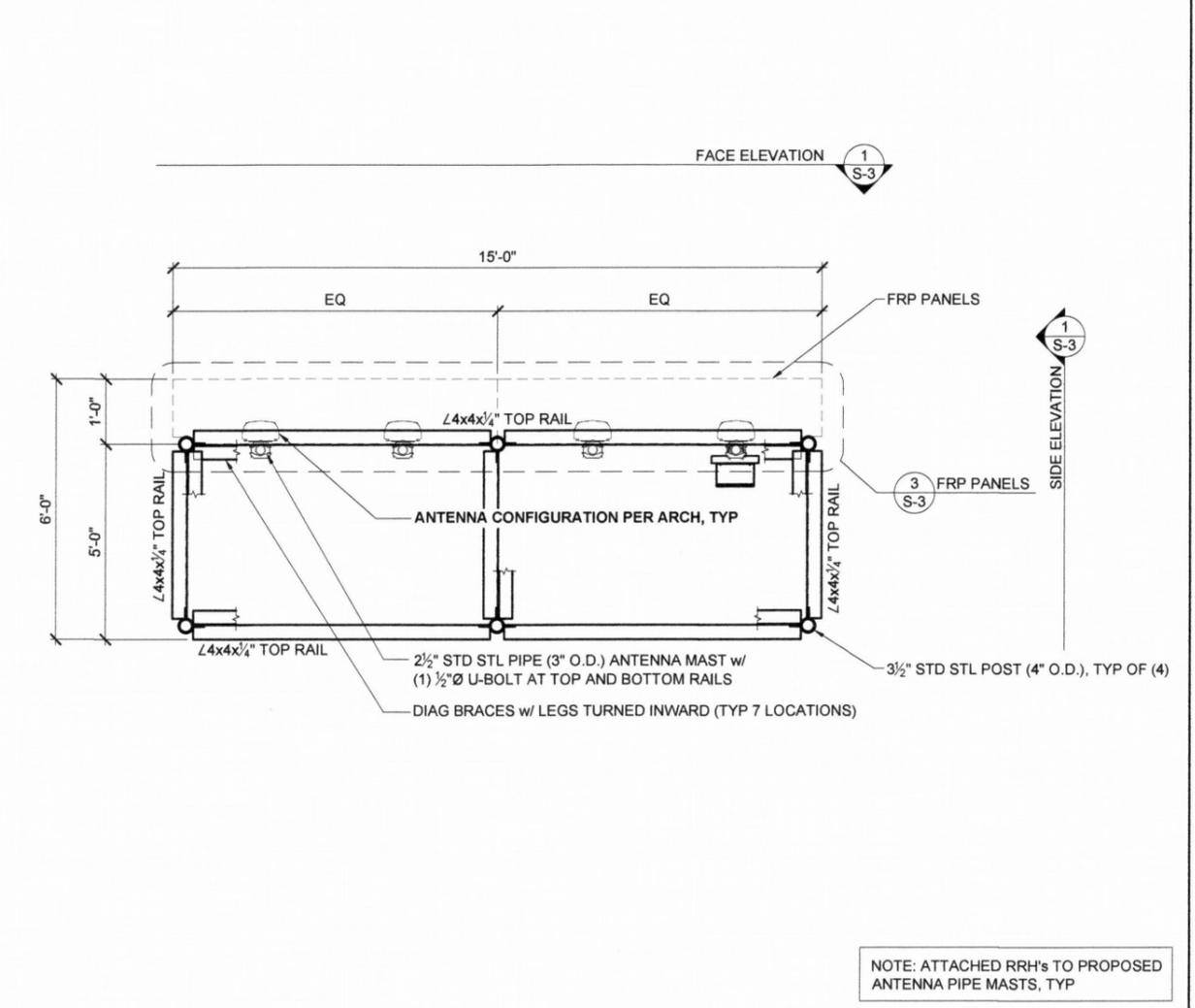
REVISIONS			
NO.	DATE	DESCRIPTION	INITIAL
1	09-21-11	PERMIT	MBK
2	04-24-12	REVISION 1	EZ

SHEET TITLE  
STRUCTURAL DETAILS

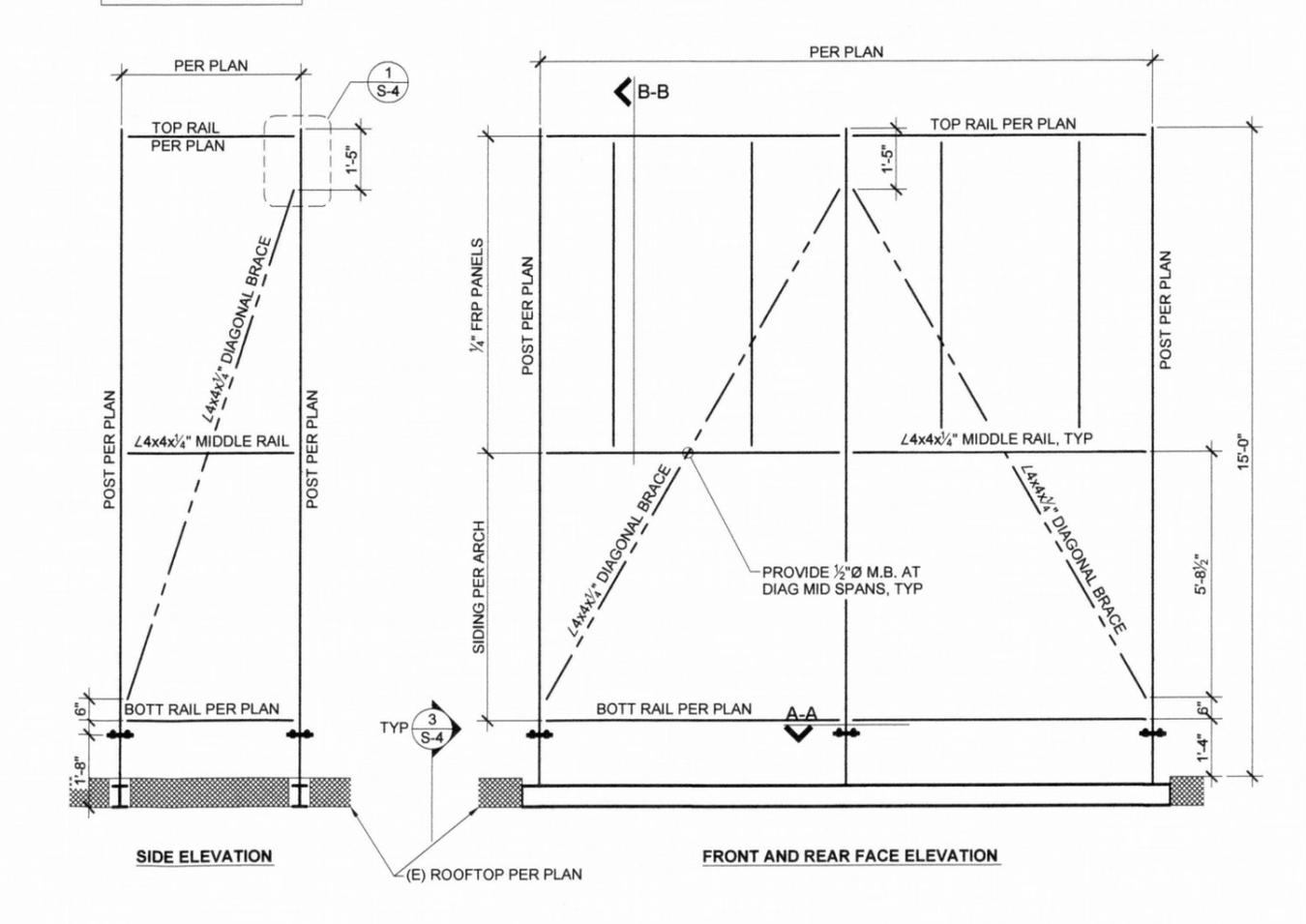
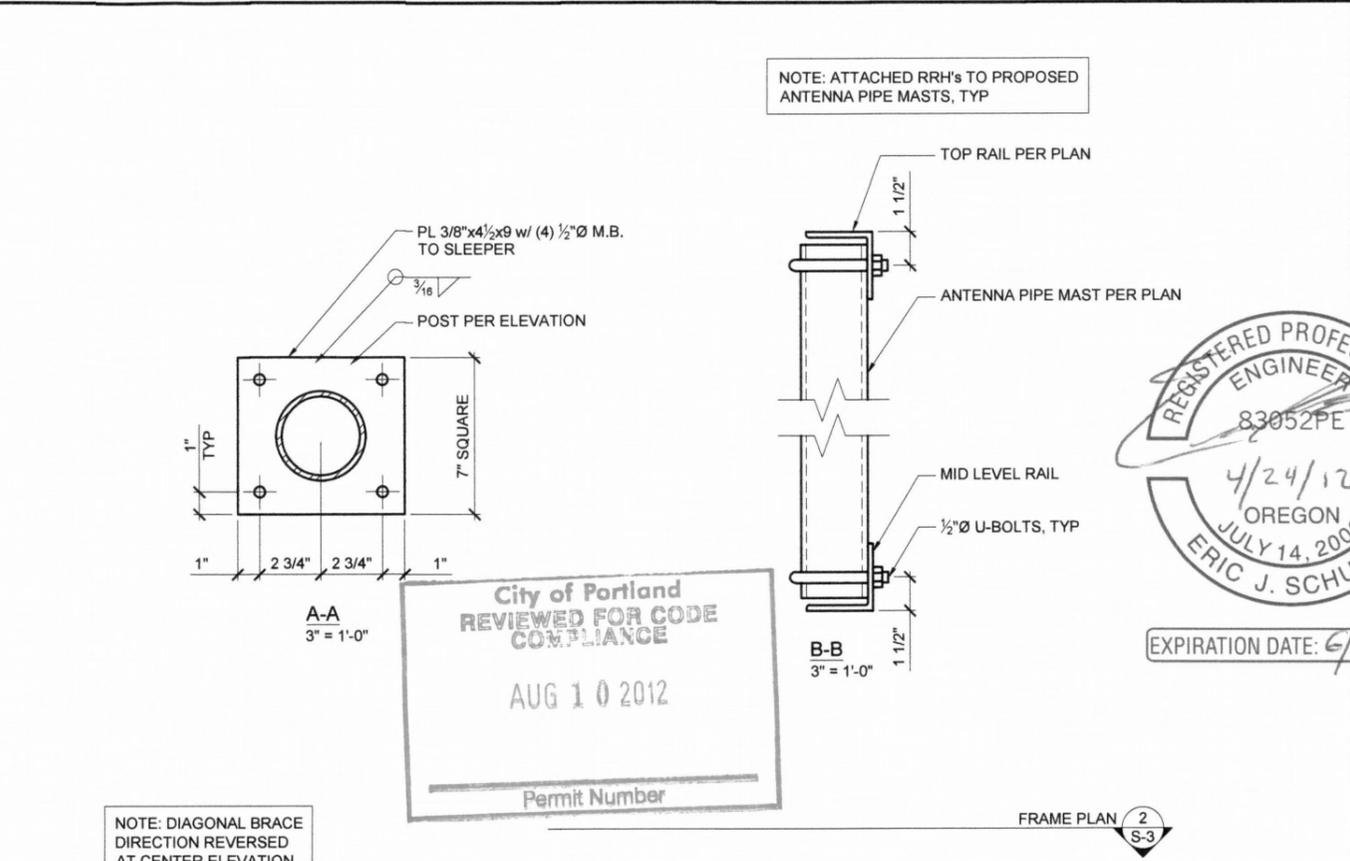
SHEET NUMBER  
**S-3**



FRP SHROUD PLAN 3



STEEL FRAME PLAN 2

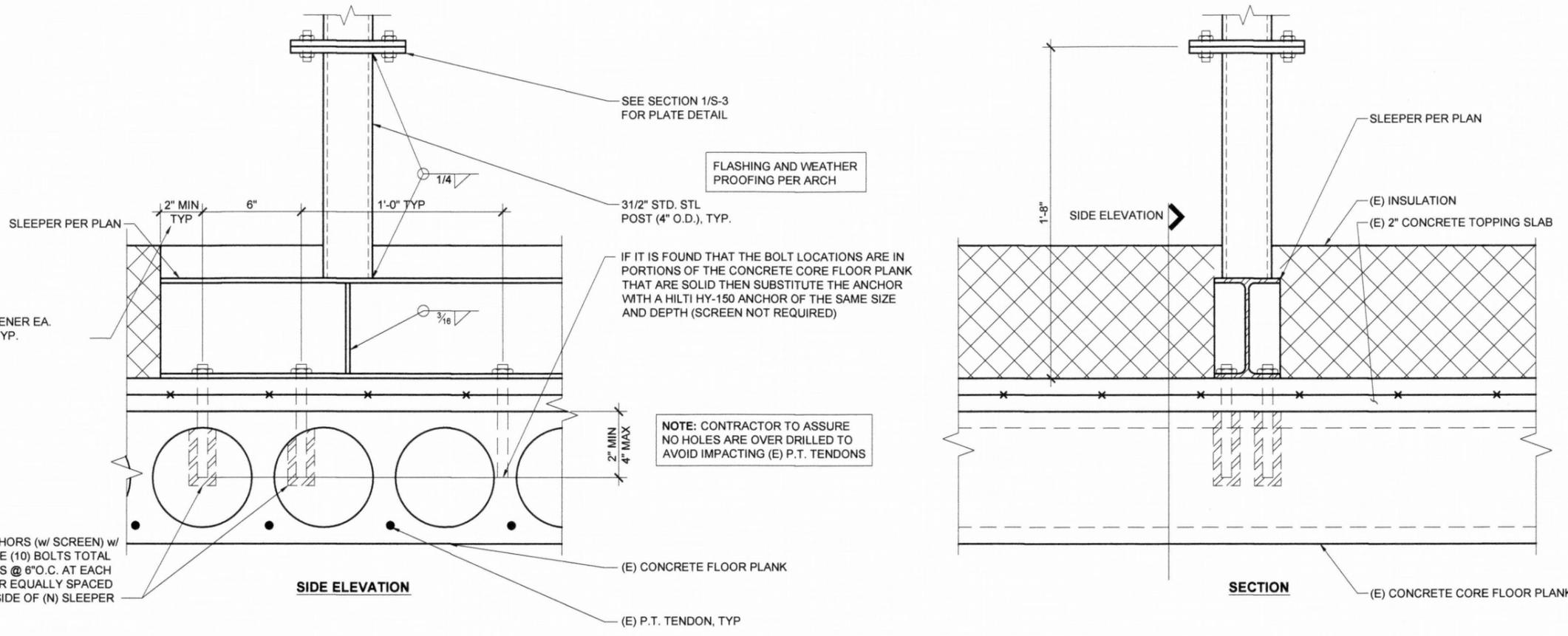


FACE ELEVATION 1

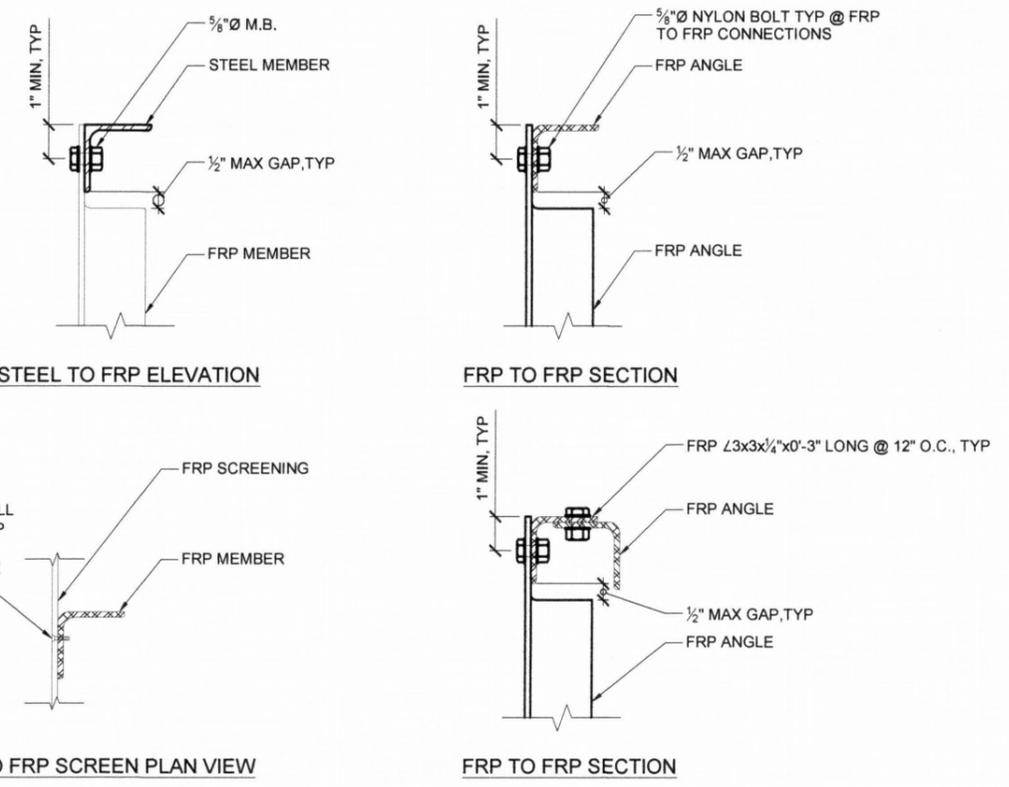


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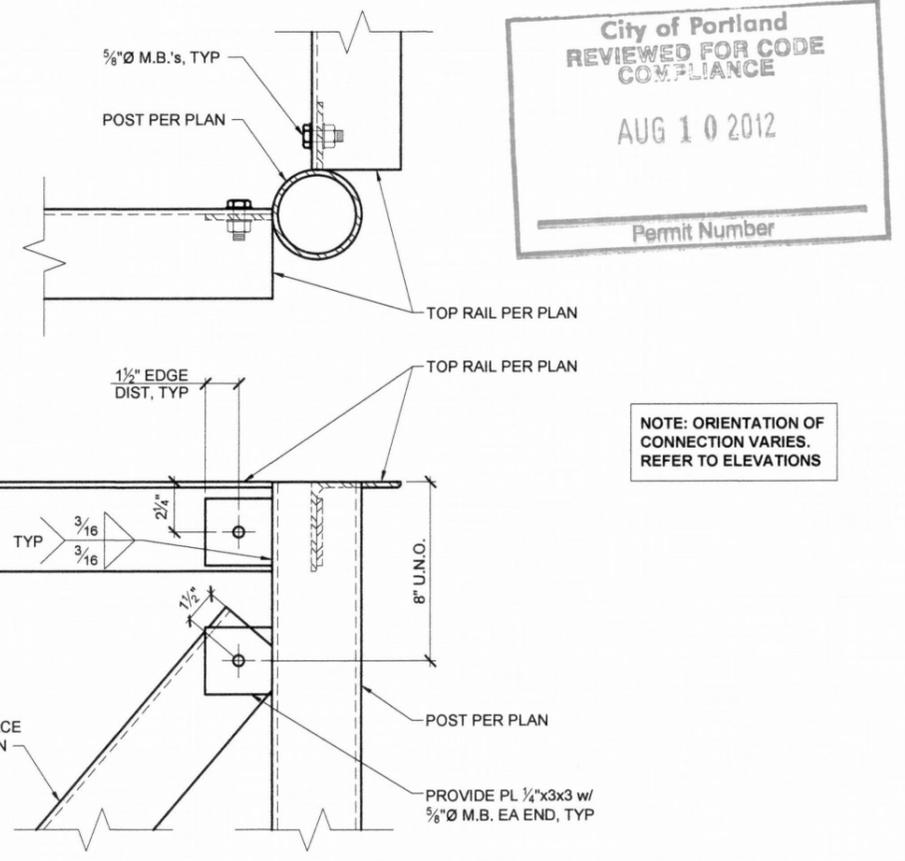
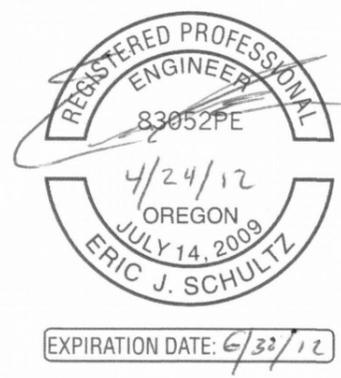
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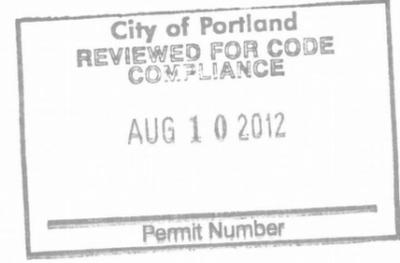
24"x36" SCALE: 3" = 1'-0"  
11"x17" SCALE: 1 1/2" = 1'-0"  
SLEEPER CONNECTION 3



24"x36" SCALE: NTS  
11"x17" SCALE: NTS  
TYP FRP CONNECTION 2



24"x36" SCALE: 3" = 1'-0"  
11"x17" SCALE: 1 1/2" = 1'-0"  
TYP STEEL FRAME CORNER CONN 1



NOTE: ORIENTATION OF CONNECTION VARIES. REFER TO ELEVATIONS

REVISIONS			
NO.	DATE	DESCRIPTION	INITIAL
1	08-21-11	PERMIT	MBK
2	04-24-12	REVISION 1	EZ

SHEET TITLE  
STRUCTURAL DETAILS

SHEET NUMBER  
**S-4**