DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
11511 MAIN ST., P.O. BOX 90012
BELLEVUE, WA 98009-9012

DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: Sprint Spectrum LC

LOCATION OF PROPOSAL: 10515 Main Street

DESCRIPTION OF PROPOSAL:
Request for ACU approval to modify and expand an existing Wireless Communications Facility (WCF). Work includes removing six antennas and replacing them with two antennas on an existing support structure and adding a new free-standing antenna mount and antenna. Upgraded ancillary equipment will be placed within the existing equipment enclosure at the base of the building.

FILE NUMBERS: 13-104682-LA

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Development Services Department. This information is available to the public on request.

☐ There is no comment period for this DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's office by 5:00 p.m. on _____.

☒ This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's Office by 5 p.m. on May 2, 2013 .

☐ This DNS is issued under WAC 197-11-340(2) and is subject to a 14-day comment period from the date below. Comments must be submitted by 5 p.m. on _____. This DNS is also subject to appeal. A written appeal must be filed in the City Clerk's Office by 5 p.m. on _____.

This DNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information indicating, or on, a proposals probable significant adverse environmental impacts (unless a non-exempt license has been issued if the proposal is a private project): or if the DNS was procured by misrepresentation or lack of material disclosure.

Carol V Helland
Environmental Coordinator

4/18/2013
Date

OTHERS TO RECEIVE THIS DOCUMENT:
State Department of Fish and Wildlife
State Department of Ecology,
Army Corps of Engineers
Attorney General
Muckleshoot Indian Tribe

City of Bellevue
Development Services Department
Land Use Division Staff Report

Proposal Name:	Sprint Network Vision – SE03XC016 Larsen Lake
Proposal Address:	10515 Main Street
Proposal Description:	Request for ACU approval to modify and expand an existing Wireless Communications Facility (WCF). Work includes removing six antennas and replacing them with two antennas on an existing support structure and adding a new free-standing antenna mount and antenna. Upgraded ancillary equipment will be placed within the existing equipment enclosure at the base of the building.
File Number:	13-104682-LA, Administrative Conditional Use
Planner:	Sally Nichols, Associate Planner
Applicant:	Sprint Spectrum, LP Kelly Lester, Vinculums
Decisions Included:	Administrative Conditional Use Approval (Process II, Land Use Code 20.30E)
State Environmental Policy Act Threshold Determination:	**Determination of Non-Significance (DNS)** Carol V. Helland Carol V. Helland, Environmental Coordinator Development Services Department
Director's Decision:	**Approval with Conditions** Mike Brennan, Director Development Services Department By: Carol V. Helland Carol V. Helland, Land Use Director

Notice of Application:	February 21, 2013
14-day Comment Period:	March 7, 2013
Decision Publication Date:	April 18, 2013
Appeal Deadline:	May 2, 2013

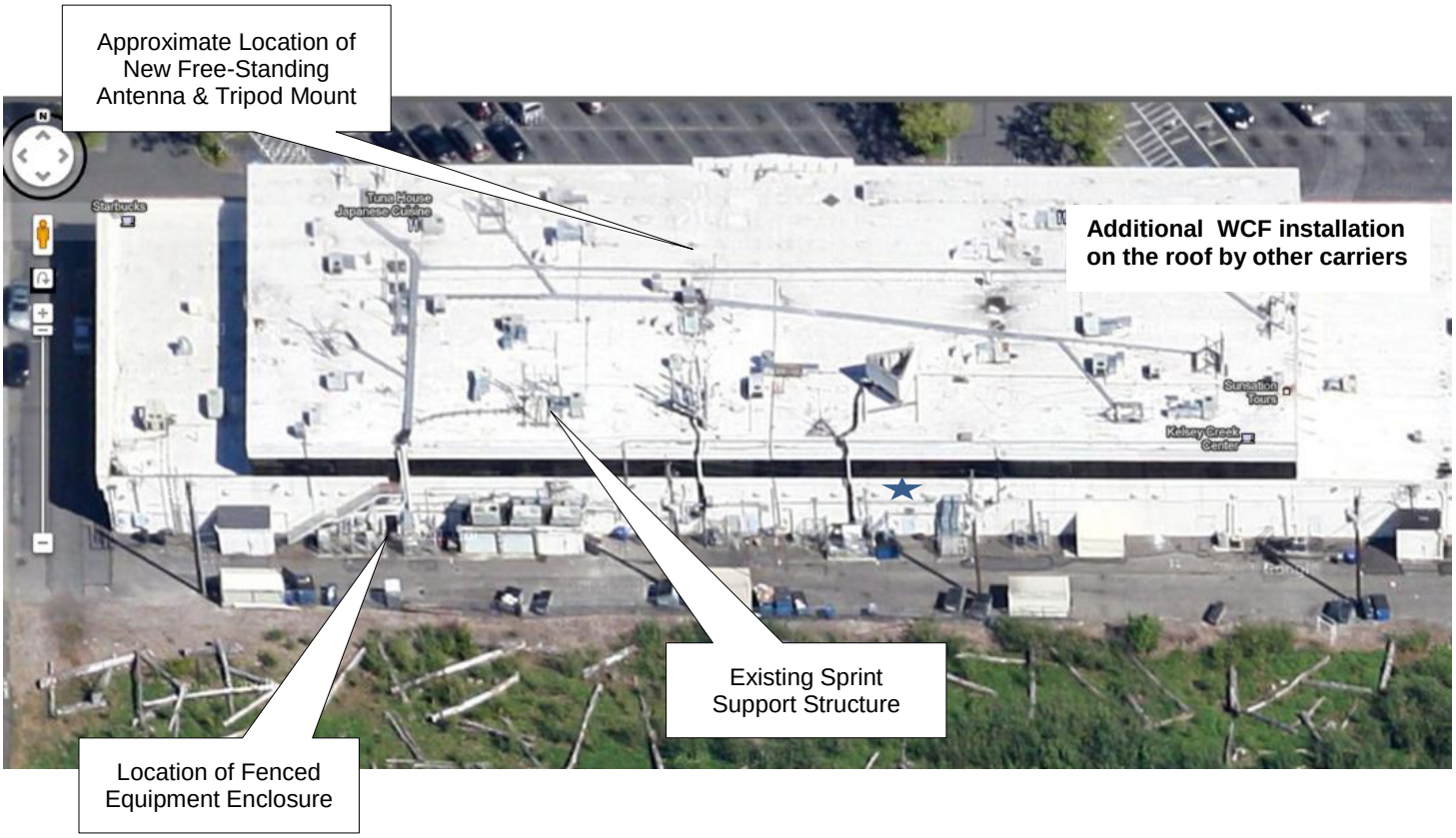
For information on how to appeal the project, visit the Permit Center at City Hall or call (425) 452-6864. Appeal of the decision must be received in the City Clerk's office by 5 p.m. on the date noted for the appeal deadline.

I. Request/Proposal Description

A. Request

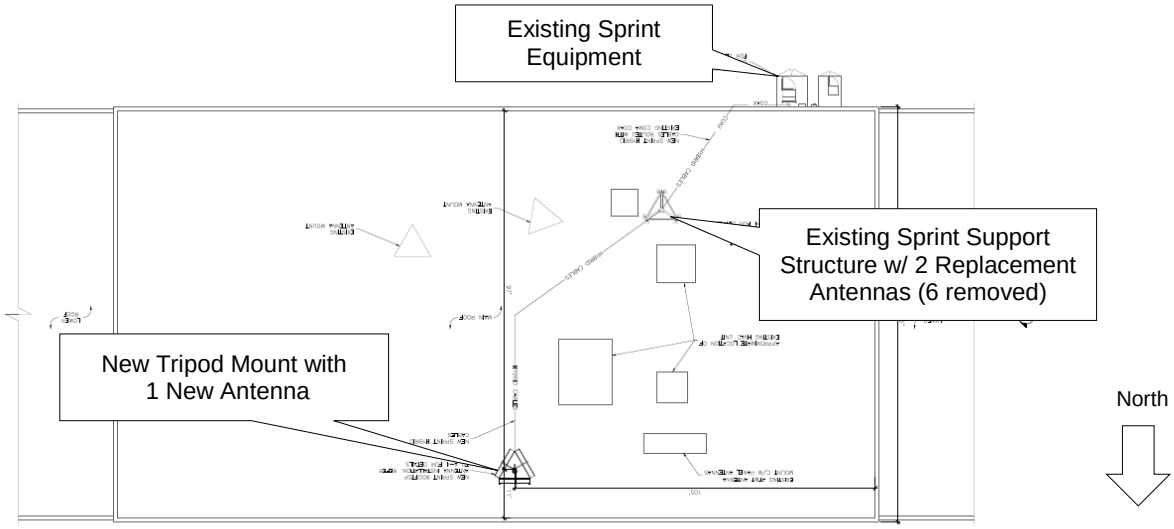
The applicant (Sprint Spectrum) is requesting administrative conditional use approval to modify and expand an existing wireless communications facility (WCF). Work proposed includes 1) removing six existing antennas from an existing antenna support frame and replacing them with two upgraded antennas, and 2) adding one new, free-standing antenna and tripod mount. This WCF upgrade will not expand the existing coverage area, but will allow the applicant to expand its high speed data networks to meet the needs of residents in the Sammamish/East Lake Hills neighborhood.

Aerial View of Existing Building Rooftop
(as seen from rear of building)



The proposed new tripod mount and Sprint's existing support structure are located on top of a mixed use commercial building that is part of the Kelsey Creek Center. The required equipment will be housed in an existing equipment enclosure at the base of the building.

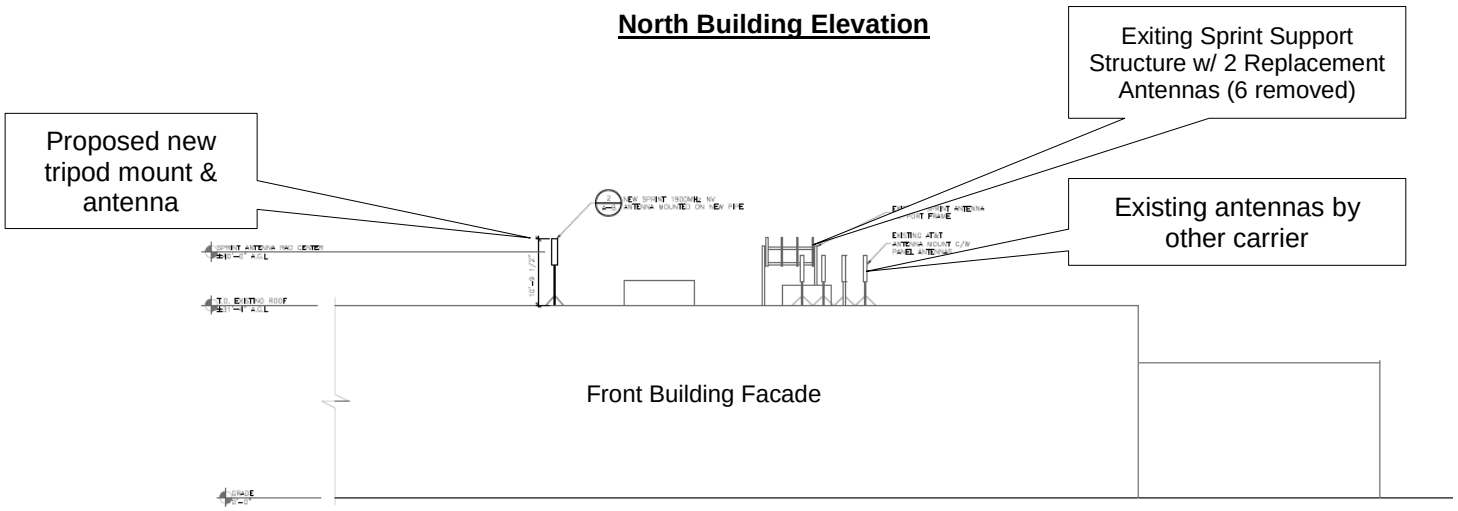
Proposal Site Plan



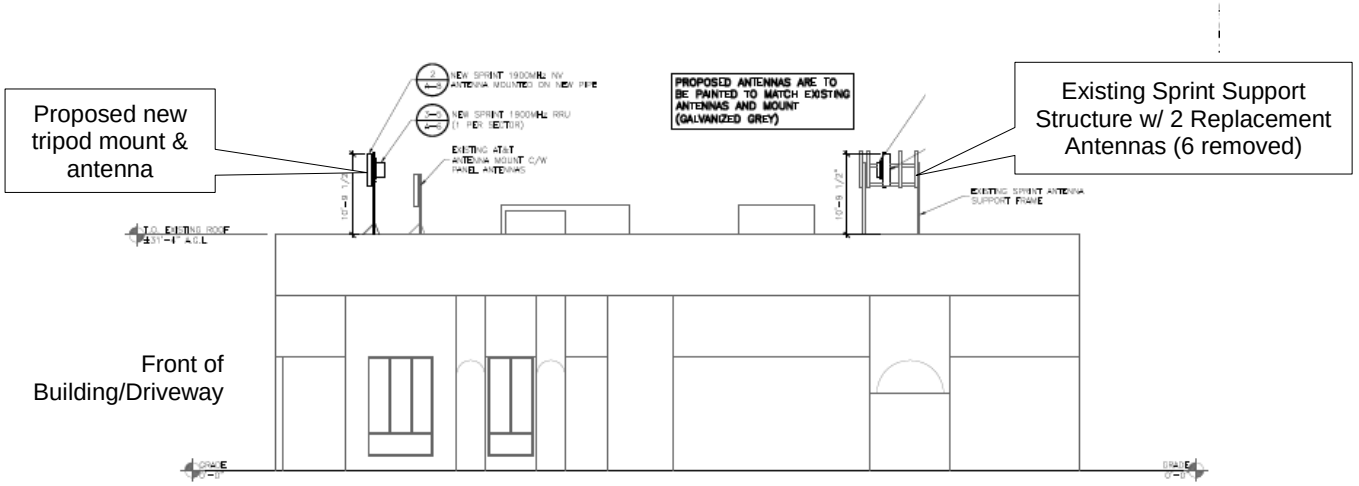
Front of Building/Driveway

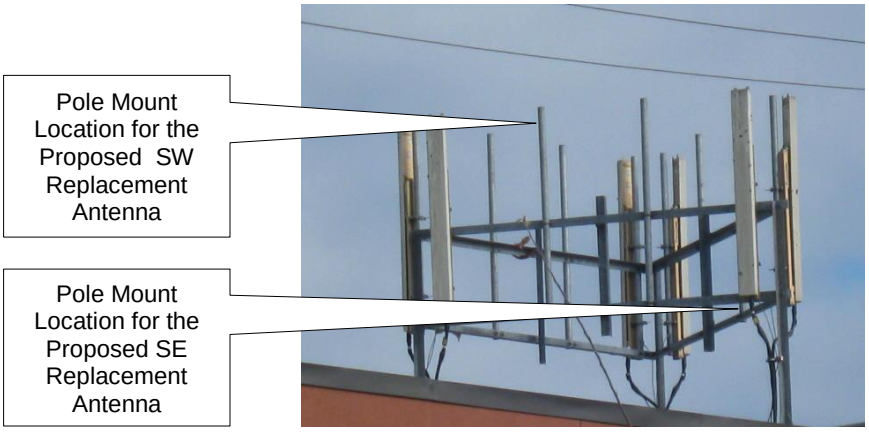
Sprint's existing antenna support structure lies near the rear of the building roof along the southern façade. It is constructed of galvanized metal pipe with six existing panel antennas – two per side (see photo on following page). This proposal will remove all six of the antennas and replace them with two new panel antennas, thereby reducing the overall visual impact of this installation. The two replacement antennas will be the same height as the existing antennas – 10'-9 ½" above the roof.

North Building Elevation



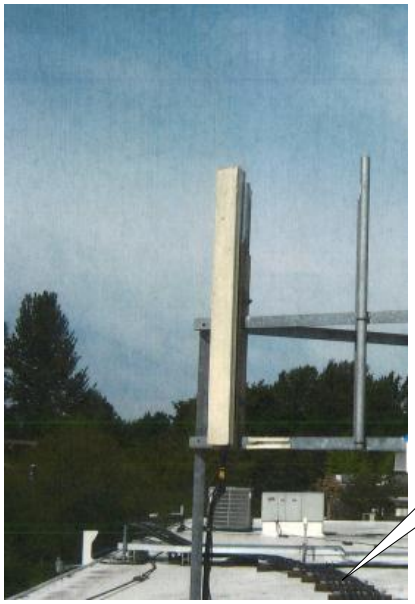
West Building Elevation facing 148th Avenue SE





Existing Support Structure – All Antennas Shown to be Removed & Replaced with 2 New Antennas

The new tripod mount and antenna will be located near the front edge of the building roof, along the northern façade. There are currently multiple antennas along this frontage by other carriers with similar configurations. The height of the new antennas will be the same as the six existing antennas (and two replacement antennas) on the existing Sprint support structure – 10'-9 ½" above the roof. Sprint has confirmed that that is the minimum height, distance from the building edge, and distance from adjacent existing antennas by other carriers necessary to meet their coverage objectives.



Existing Support Structure, Antennas & Roof Plane

The new Sprint hybrid cables will be routed adjacent to the existing coax runs on the roof surface and through the existing coax chase along the building wall to Sprint's existing, fenced equipment enclosure at the base of the building along the southern (rear) façade. New equipment will be placed and screened within this enclosure. If it is determined that a larger chase will be required, the applicant must paint it to match the existing chase – which is the same color as the building siding, fascia, and windows. **Refer to Condition of Approval regarding the new coax chase (if needed) in Section VII of this report.**

B. Process:

The existing WCF was approved through a previous Administrative Conditional Use (ACU). Land Use review is required for the proposed work because the new antenna and tripod mount constitute a new/expanded WCF that does not meet the exemption criteria in LUC 20.20.195.B.2.e. Therefore, per LUC 20.20.195.C, the proposal will require review as a new ACU. SEPA review will also be required.

The ACU approval and SEPA Threshold Determination are Process II decisions made by the Director of the Development Services Department. Both include public noticing with a minimum 14-day comment period. The Director's decision shall be written in a staff report to indicate whether the application has been approved, approved with conditions, or denied. The decision will be publically noticed with a mandatory 14-day appeal period. Process II decisions may be appealed and the appeal shall be heard at a public hearing before the City Hearing Examiner.

II. Site Description and Zoning

A. Site Description:

The proposed rooftop WCF is on the roof of an existing mixed use (office and retail) commercial building, which is part of the Kelsey Creek Center. The roof is flat and there is no parapet. Sprint is only one of many WCF carriers with

Northern Façade of Building

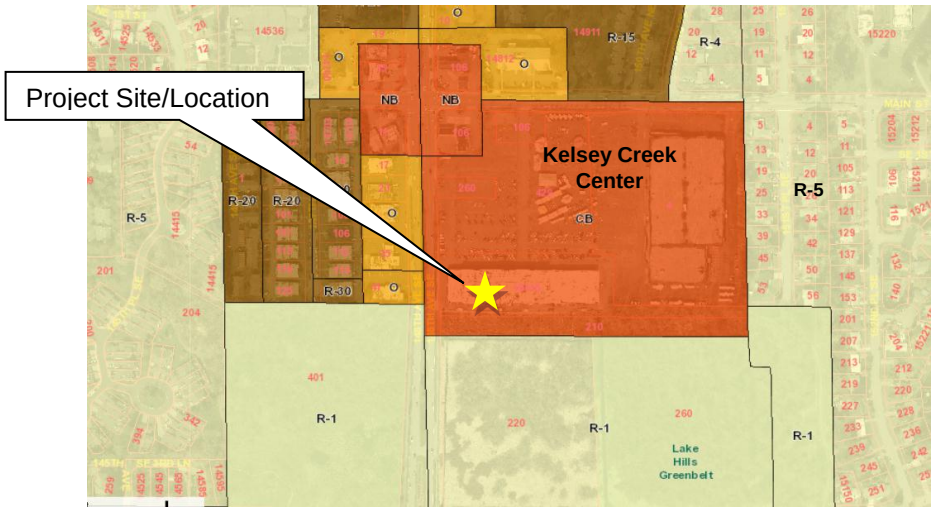
existing installations on the roof. Each WCF has been designed specifically to meet the needs of the individual carriers and there are many different designs, including antennas attached to support structures that hold multiple antennas, single antenna mounts, whip antennas, and antennas screened with solid panels. In addition, there are numerous exposed mechanical equipment installations related to the building's HVAC system.

<u>Aerial Photograph/Site Context</u>

B. Zoning and Context

The proposed WCF is located within the CB, Community Business land use district – within the Kelsey Creek Center – a mixed use retail and office complex. The Center is generally surrounded by multi-family and single-family land use districts.

Zoning Map



Adjacent uses include the following:

North: The building lies on the southern edge of the Kelsey Creek Center. The northern boundary of the Center is along Main Street. Across Main Street to the north are the following land use districts:

- **NB** (Neighborhood Business): a vacant lot on the Kelsey Creek Center of Main Street and a gas station to the north,
- **O** (Office) – Hopelink social services offices and food distribution center,
- **R-15** (Multi-Family Residential) – a multi-family apartment complex, and
- **R-4** (Single-Family Residential) – single-family homes
-

South: **R-1** (Single-Family Residential) – the buildings directly abuts wetlands that are part of the Lake Hills Greenbelt public open space system.

East: **R-5** (Single-Family Residential) – single-family homes.

West: O (Office) – one-story office complex on the west side of 148th Avenue SE, a major north-south arterial through Bellevue.

III. Environmental Impacts of the Proposal

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The Environmental

Checklist adequately discloses expected environmental impacts associated with the project. The Checklist is available for public viewing in the project file in the Record's Office at Bellevue City Hall. The City codes and requirements, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, Building Code and other construction codes adequately mitigate expected environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

IV. Public Comments

The City initially notified the public of this proposal on February 21, 2013 with mailed notice and publication in the *Weekly Permit Bulletin. Two* public information signs were installed on the site on the same day. No comments have been received at the time of this writing.

V. Applicable Decision Criteria / Findings and Conclusions

Compliance with the decision criteria of Land Use Code Section 20.30E.140 (Administrative Conditional Use Permit) is discussed below.

A. The administrative conditional use is consistent with the Comprehensive Plan.

As conditioned, the proposal is consistent with the City of Bellevue's Comprehensive Plan regarding wireless communications facilities. The Comprehensive Plan Utilities Policies listed below are especially relevant to the City's decision on this application:

Policy UT-43: Encourages consolidation on existing facilities where reasonably feasible and where such consolidation leads to fewer impacts than would construction of separate facilities.

Finding: The proposal involves modifications to a WCF that is located adjacent to multiple WCF installations by other carriers on the same rooftop. As a result of this proposal, there will be a net loss of three antennas, thereby reducing the overall visual impact of this WCF.

Policy UT-60: Minimize visual impact of personal wireless communication facilities by encouraging deployment in land use districts in the following preferred and descending order when possible, considering the provider's coverage needs: 1) Non-residential land use districts, except Transition Areas; 2) Transition Areas; 3) Multifamily (R-20 and R-30) districts; and 4) and Park site and Residential districts.

Finding: This WCF is being proposed on a building in the second most desirable land use district – non-residential land use district (GC) in a Transition Area. The primary coverage area for the existing Sprint installation consists of surrounding residential properties and the

coverage area will not change with this proposal. The high speed data network for the existing coverage area is being upgraded.

Policy UT-61: Minimize visual impact of personal wireless communication facilities by encouraging system designs in the following preferred and descending order: 1) attached to public facility structures, building mounted, or integrated with utility poles, light standards, and signal supports; 2) co-located on utility poles, light standards, signal supports; and 3) free standing towers.

Finding: This proposal will be located on an existing building rooftop with one existing and one new free-standing support structure.

B. The design is compatible with and responds to the existing or intended character, appearance, quality of development and physical characteristics of the subject property and immediate vicinity;

Finding: To ensure that the facility is compatible with property in the immediate vicinity, the proposal incorporates the following measures:

1) The height of the new tripod mount and antenna will be the same as the top of the existing Sprint antennas and mounting structure.
2) The two new panel antennas on the existing Sprint mount will be painted grey to match the galvanized metal material of the mount. This color will also recede against the sky. A sample of the color proposed can be found in the project file and will be included as a note on all construction permit documents.
3) The new free-standing antenna and mount shall be painted to match the adjacent free-standing antennas that belong to other carriers to create consistency along the front of the building.
4) The mechanical equipment will be located in an existing, fenced equipment enclosure at the base of the building. All cabling running on the face of the building will be painted to match the building.
5) All cabling shall be pulled tight.

Refer to Condition of Approval regarding new antenna mounting, antenna and structure color, and cabling in Section VII of this report.

C. The administrative conditional use will be served by adequate public facilities including streets, fire protection, and utilities.

Finding: The entire proposed facility will be located in a neighborhood that is already served by adequate public facilities, including streets, fire protection, and utilities.

The Fire Department has reviewed this application and has determined that there are no substantial concerns. **Refer to Conditions of Approval regarding existing City of Bellevue radio systems and interference in Section VII of this Staff Report.**

D. The administrative conditional use will not be materially detrimental to uses or property in the immediate vicinity of the subject property; and

Finding: The proposed addition of one new free-standing antenna and mount and the removal of six antennas and replacement with two new antennas on the existing mounting structure will result in a WCF that will not substantially change the impact of the existing WCF. The rooftop already has multiple free-standing WCF installations by other carriers. This proposal actually improves the overall condition on the rooftop by eliminating four of the existing six antennas within the Sprint facility. Thus, the project will not be materially detrimental to uses or property in the neighborhood.

In addition, the facility will be required to be removed when it ceases to be operational or falls into disrepair and is not maintained. **Refer to Condition of Approval regarding antenna and support structure color and the removal of abandoned sites in Section VII of this staff report.**

E. The administrative conditional use complies with the applicable requirements for a wireless communication facility as provided by the Land Use Code 20.20.195, including location and design preferences.

Finding: As conditioned, the proposed wireless facility complies with the location and design preferences as detailed in LUC 20.20.195. Further, the proposal meets all specific Land Use Code requirements applicable to non-exempt WCF's per LUC 20.20.195.D, as summarized below.

1. Height: The new antenna tripod mount and antenna are taller than the underlying building height requirement of 30-feet in a Transition Area. The top of the new antenna is 10'-9 ½" above the top of building. However, this is the same height as the existing Sprint antenna array. The height was approved under the previous administrative conditional use for the existing Sprint facility and Sprint has confirmed that it still is the minimum necessary for effective functioning of the WCF.

2. WCF Location and Design

a. Preferred Location (LUC 20.20.195D.2.a):
The proposal is located within a non-residential land use district with a single-family Transition Area. Therefore, the proposal falls within the second most preferred location according to the siting criteria of LUC 20.20.195.D.2.a. and the new free-standing antenna is an expansion of the previously approved WCF. Therefore, the applicant was not required to search location in a more preferred location. The coverage area will not change.

b. Preferred Facility Design (LUC 20.20.195D.2.b):
The proposed facilities includes both attaching two replacement antennas to an existing Sprint WCF support structure and attaching one new antenna to a new, freestanding WCF tripod support

structure. These are second and third in the facility design hierarchy respectively.

In addition, the applicant's Radio Frequency (RF) engineer has certified that the mechanical equipment is the minimum necessary to support operation of the facility. This certification letter can be found in the project file at the Record's Office in Bellevue City Hall.

c. Minimizing Adverse Impacts LUC 20.20.195D.2.c:
Application of the location and design hierarchies as described in Sections V.E.2.a and b above, and the conditions found in Section VII of this report, will result in a proposal that minimizes the adverse impacts of the WCF when considering the search ring as a whole. In addition, the applicant has provided a letter from the RF engineer which states that the facility complies with RF Emission Guidelines set forth by the FCC. This certification letter can be found in the project file at the Record's Office in Bellevue City Hall.

3. Dispersal Limits: This requirement does not apply since the proposed facility is not within the public right of way.

4. Development Standards: The proposal includes the following development standards to ensure that the WCF minimizes the adverse impacts, especially visual and aesthetic impacts, on the property where the facility is located and in the vicinity of the facility.

a. Color and Screening Techniques:
The two new antennas on the existing support structure will be painted to match the support structure, which is grey galvanized metal. A color sample can be found in the project file. This color will be relatively unobtrusive when viewed against the sky.

The new free-standing antenna and mount along the northern façade of the building will be required to be painted to match the two adjacent free-standing antennas that are operated by another carrier and located to the west on the roof (see photo above). This is an off-white/light grey color. By keeping visible individual antennas along the front of the building the same color, there will be design consistency along the front façade of the building. **Refer to Conditions of Approval regarding antenna and support structure color in Section VII of this report.**

Any new equipment required for the three new antennas will be located and screened within an existing, fenced equipment enclosure at the base of the building along the rear building wall. If it is determined that a new chase that runs down the building wall from the roof will be required, the applicant must paint it to match the existing chase – which is the same color as the building siding, fascia, and windows.

b. Design and configurations to minimize visual intrusion of the facility:
The proposed panel antennas will have slender, flat profiles. The antennas on the existing support structure will be painted grey to match the galvanized metal of the structure to reduce the overall visual impact. The new antenna on the new tripod mount will be painted to match the adjacent free-standing panel antennas along the northern edge of the roof.

Refer to Condition of Approval regarding antenna and support structure color in Section VII of this report.

c. Construction and site restoration techniques:
Because the WCF is on the roof, no site restoration techniques will be required. Construction noise and hours are regulated by the Bellevue City Code and the facility will not be allowed to be activated until all work in the project scope and shown on the construction documents is completed. **Refer to Conditions of Approval regarding noise and construction hours and completion of work/facility activation in Section VII of this report.**

d. WCF Equipment:
The proposal equipment will be located and screened within the existing Sprint equipment enclosure, which is fenced and gated at the base of the building along the southern (rear) facade.

e. Co-location:
Multiple carriers have co-located WCF installations on this building rooftop. However, the carriers have all chosen not share antenna support structures.

5. **Radio Frequency Emissions:** The Engineering Certification Letter submitted Sprint's Radio Frequency (RF) engineer states that the facility will comply with the radio frequency emission standards adopted by the Federal Communications Commission (FCC). This certification letter can be found in the project file at the Record's Office in Bellevue City Hall.

6. **Setback Requirements for Freestanding Wireless Communication Facilities:** The proposed antennas have met the setbacks for the underlying CB (community business) land use district.

7. **Independent Technical Review:** No such review was deemed necessary for this application.

8. **Removal of Abandoned Antennas and Towers:** The WCF must be removed within 90 days of the date it ceases to be operational. **Refer to Condition of Approval regarding abandoned sites in Section VII of this report.**

9. **Removal Upon Under-grounding:** Not applicable to this rooftop facility.

VI. DECISION

After conducting the various administrative reviews associated with this proposal, including applicable land use consistency, SEPA, and City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **APPROVE** the proposal subject to the following **CONDITIONS**:

VII. CONDITIONS OF APPROVAL:

The following conditions are imposed under authority referenced:

Compliance with Bellevue City Codes and Ordinances
The applicant shall comply with all applicable Bellevue City Codes, Standards, and Ordinances including but not limited to:

Applicable Codes, Standards & Ordinances	Contact Person
Clearing & Grading Code – BCC 23.76	Savina Uzunow, (425) 452-7860
Construction Codes – BCC Title 23	Building Division, (425) 452-6864
Fire Code – BCC 23.11	Kevin Carolan, (425) 452-7832
Land Use Code – BCC Title 20	Sally Nichols, (425) 452-2727
Noise Control – BCC 9.18	Sally Nichols, (425) 452-2727
Sign Code – BCC Title 22	Sally Nichols, (425) 452-2727
Right-of-Way Use Code 14.30	Tim Stever, (425) 452-4294
Utility Code – BCC Title 24	Mark Frazier, (425) 452-2022

1. Noise & Construction Hours
The proposal will be subject to normal construction hours of 7 a.m. to 6 p.m., Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Proximity to

existing residential uses will be given special consideration. Upon written request to the Development Services Department (DSD), work hours may be extended to 10:00 p.m. if the criteria for extension of work hours as stated in BCC 9.18 can be met and the appropriate mitigation employed.

The use of best available noise abatement technology consistent with feasibility is required during construction to mitigate construction noise impacts to surrounding uses.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: BCC 9.18.020.C & 9.18.040

2. Completion of Work/Facility Activation
The facility shall not be activated until all work included in the project scope and shown on the plans and specifications is completed.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.40.425

3. New Antenna Mounting
The new free-standing antenna and the two replacement antennas on the existing support structure shall be attached such that no portion of the antenna extends above the height of the existing Sprint antennas (10'-9 ½" above the top of roof).

REVIEWER: Sally Nichols, Land Use
AUTHORITY**:** LUC 20.20.195.B.1.a.v

4. Antenna and Support Structure Color
a) The two new replacement antennas on the existing Sprint support structure shall be painted grey to match the galvanized metal support structure.
b) The proposed new free-standing antenna and mount along the northern edge of the building shall be painted to match the two adjacent free-standing antennas (by other carriers) to the west along the same building edge (see photo in Section V.E.4 of this report).
c) Notes regarding the color of the antennas shall be included on all applicable the WCF permit documents.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.195.D.4.a

5. New Coax Chase (if needed)
If the existing coax chase is determined to be too small for this installation, the new chase shall be painted to match the buiding siding colors.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.195.B.1.a.iii

6. Existing Radio System & Interference

If this telecommunications system causes interference problems with any of the existing radio systems for the City of Bellevue, this system will be required to immediately shut down until the interference can be removed or corrected.

REVIEWER: Adrian Jones, Fire Department
AUTHORITY: FCC 90.672

7. Removal of Abandoned Sites

The owner of this facility shall provide the Director with copies of any notice of intent to cease operations that is provided to the Federal Communications Commission (FCC). All WCFs and the associated equipment shall be removed by the facility owner within 90 days of the date it ceases to be operational, or if the facility falls into disrepair and is not maintained. Disrepair includes structural features, paint, or general lack of maintenance, which could result in safety *and/or* visual impacts.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.195.D.8

Attachments

Project Plans
SEPA Checklist

Call Before you Dig
1-800-424-5555
Northwest Utility Notification Center
www.washington811.com

THIS IS AN EXISTING SPRINT WIRELESS TELECOMMUNICATION FACILITY NETWORK VISION EQUIPMENT UPGRADE

NETWORK VISION MMBS LAUNCH
LARSON LAKE
SE03XC016

15015 MAIN STREET
BELLEVUE, WA. 98007
KING COUNTY
LATITUDE: 47.608079° / 47° 36' 29.0838" (NAD 83) (2C)
LONGITUDE: -122.142335° / -122° 08' 32.406" (NAD 83) (2C)
ROOFTOP
SEATTLE MARKET

WASHINGTON STATE CODE COMPLIANCE:

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

- 2009 IBC, STANDARDS AND AMENDMENTS–WAC 51–50;
- 2009 IMC, STANDARDS AND AMENDMENTS–WAC 51–52;
- 2009 IFC, STANDARDS AND AMENDMENTS–WAC 51–54;
- 2009 IPC, STANDARDS AND AMENDMENTS–WAC 51–56; 51–57

ACCESSIBILITY REQUIREMENTS:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2009 IBC BUILDING CODE.

CODE BLOCK

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY

- REMOVE (6) EXISTING PANEL ANTENNAS (2 PER SECTOR)
- INSTALL (3) NEW PANEL ANTENNAS (1 PER SECTOR)
- REMOVE (1) RECTIFIER CABINET
- REMOVE (1) MODCELL CABINET
- INSTALL (1) NEW MMBS CABINET
- INSTALL (1) NEW BBU CABINET
- INSTALL (1) NEW FIBER JUNCTION BOX
- REMOVE ALL EXISTING SPRINT ANTENNA COAXIAL CABLES
- INSTALL (3) NEW HYBRID FIBER OPTIC CABLES USING EXISTING COAX ROUTE (1 PER SECTOR)
- INSTALL (3) NEW RRU'S

PROJECT DESCRIPTION

APPROVAL	SIGNATURE	DATE
SITE ACQUISITION MANAGER		
CONSTRUCTION MANAGER		
A&E MANAGER		
PLANNING CONSULTANT		
RF MANAGER		
RF ENGINEER		
PROPERTY OWNER		
SPRINT REPRESENTATIVE		
AAV MANAGER		

SIGNATURE BLOCK

AREA MAP

VICINITY MAP

FROM SPRINT OFFICE IN: BELLEVUE, WASHINGTON
TO SITE

- HEAD SOUTH ON 124TH AVE NE TOWARD NE 10TH PL 0.1 MI
- TAKE THE 2ND LEFT ONTO NE 8TH ST 1.5 MI
- TURN RIGHT ONTO 148TH AVE NE 0.5 MI
- TURN LEFT ONTO MAIN ST 0.1 MI
- TURN RIGHT AT 150TH AVE NE
- DESTINATION WILL BE ON THE LEFT

DRIVING DIRECTIONS

SHEET	DESCRIPTION
T–1	TITLE SHEET
N–1	GENERAL NOTES
N–2	GENERAL NOTES
A–1	OVERALL SITE PLAN
A–2	ENLARGED SITE PLAN
A–3	ENLARGED EQUIPMENT PLANS
A–4	ANTENNA PLANS AND SCHEDULES
A–5	NEW SOUTH & EAST ELEVATIONS
A–6	EQUIPMENT DETAILS
A–7	EQUIPMENT DETAILS (OUTDOOR SPECIFICATIONS)
A–8	EQUIPMENT DETAILS
A–9	EQUIPMENT DETAILS
RF–1	ANTENNA AND CABLE COLOR CODING DETAILS
E–1	ONE–LINE DIAGRAM & POWER PANEL SCHEDULE
E–2	DC POWER ONE–LINE DIAGRAM
E–3	ELECTRICAL DETAILS (OUTDOOR SPECIFICATIONS)
E–4	CONDUIT ROUTING
E–5	GROUNDING PLAN
E–6	GROUNDING DETAILS
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SHEET INDEX

APPLICANT:

SPRINT SPECTRUM LLC
6200 OVERLAND PARKWAY
KANSAS CITY, MO 66251
CONTACT: TODD WALTON
PHONE: (206) 334–4116

PROPERTY INFORMATION:

PROPERTY OWNER: FRANKLIN WEST L.P.
ADDRESS: 15015 MAIN ST, STE 203
BELLEVUE, WA 98007
CONTACT: NAT FRANKLIN
PH: (XXX) XXX–XXXX
TOWER OWNER: N/A
SITE ID: N/A

ZONING CLASSIFICATION: O (OFFICE)
CONSTRUCTION TYPE: UNKNOWN
OCCUPANCY: U
JURISDICTION: CITY OF BELLEVUE
CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY
NEW USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

PARCEL NUMBER(S):

405–530–0010

LEASE AREA:

110 SQ FT

PROJECT SUMMARY

ARCHITECT & STRUCTURAL ENGINEER:

TRK ENGINEERING LTD.
#201 – 17688 66TH AVE
SURREY, BC V3S 7X1, CANADA
CONTACT: RANDY MARKS
PH: (604) 574–6432
EMAIL: rmarks@trkeng.com

ELECTRICAL ENGINEER:

UNKNOWN
UNKNOWN
UNKNOWN
CONTACT: UNKNOWN
PH: UNKNOWN
EMAIL: UNKNOWN

SITE ACQ. PROJECT MANAGER:

GD WIRELESS SERVICES
8880 SW NIMBUS AVE SUITE B
BEAVERTON, OR 97008
CONTACT: SANDRA WALDEN
PHONE: (503) 207–7585
EMAIL: sandra.walden@gdit.com

CONSTRUCTION MANAGER:

GD WIRELESS SERVICES
1000 124TH AVENUE NE, SUITE 200
BELLEVUE, WA 98005
CONTACT: ED MARQUEZ
PHONE: (415) 736–4991
EMAIL: edward.marquez1@gdit.com

BUILDING DEPARTMENT:

CITY OF BELLEVUE
2901 115TH AVE NE,
BELLEVUE, WA 98004
PHONE: (425) 452–6800

ELECTRICAL COMPANY:

PSE
PHONE: (888) 225–5773

TELCO COMPANY:

QWEST
PHONE: (206) 346–9803

AAV MANAGER:

GD WIRELESS SERVICES
1000 124TH AVENUE NE, SUITE 200
BELLEVUE, WA 98005
CONTACT: STEVE LEUPOLD
PHONE: (425) 623–5782
EMAIL: steven.leupold@gdit.com

RF MANAGER:

SAMSUNG
CONTACT: MIKE LEE
PHONE: (425) 201–3751
EMAIL: mike2.lee@sta.samsung.com

PROJECT TEAM

Sprint
SAMSUNG
GENERAL DYNAMICS
WIRELESS SERVICES
TRK ENGINEERING

PROJECT INFORMATION:
NETWORK VISION MMBS LAUNCH
LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA
KING COUNTY

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER
MAR 14 2013

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1
REVISION: 1
1253–054

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
2. CONTRACTOR SHALL CONSTRUCT SITE IN ACCORDANCE WITH THESE DRAWINGS AND SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES (LATEST REVISION). THE SPECIFICATION IS THE RULING DOCUMENT AND ANY DISECIFRANCIES BETWEEN THE SPECIFICATION AND THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OF FIELD CONDITIONS.
4. THESE DRAWINGS SHOW THE COMPLETED PROJECT ONLY AND DO NOT INCLUDE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY.
5. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY TRK ENGINEERING LTD.
7. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS TO CONFIRM LENGTHS OF CABLE TRAYS, ELECTRICAL LINES, AND ANTENNA CABLES.
8. ROUTING OF ALL CONDUITS, CABLES, CABLE TRAY, ETC. IS INDICATED AS PROPOSED LOCATIONS ONLY. CONFIRM THE EXACT ROUTING WITH THE ON-SITE CONSTRUCTION MANAGER PRIOR TO THE START OF WORK
9. THE GENERAL CONTRACTOR SHALL ENSURE THE STABILITY OF THE STRUCTURAL COMPONENTS AND THE STRUCTURE AS A WHOLE DURING ALL STAGES BY TEMPORARILY SUPPORTING AND BRACING AS NECESSARY UNTIL COMPLETION OF THE PROJECT.
10. THE USE OF THESE DRAWINGS IS STRICTLY LIMITED TO THE INSTRUCTION NOTED IN THE REVISION BLOCK OF THESE DRAWINGS AND SHALL BE USED FOR CONSTRUCTION **ONLY** WHEN THE DRAWING HAS BEEN "ISSUED FOR CONSTRUCTION".
11. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
12. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
13. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
15. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE SUPERINTENDENT OF BUILDINGS & GROUNDS AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
17. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
18. MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
19. WHEN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS NOTED OTHERWISE). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT.
20. ALL DAMAGE OR OPENING UP OF THE EXISTING STRUCTURE MUST BE MADE GOOD TO THE PRE-CONSTRUCTION CONDITION OR BETTER.
21. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
22. KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
23. MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.
24. 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 THE ENGINEER.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION SHALL BE IN CONFORMANCE WITH JURISDICTIONAL OR STATE AND LOCAL GUIDELINES FOR EROSTION AND SEDIMENT CONTROL AND COORDINATED WITH LOCAL REGULATORY AUTHORITIES.
26. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND/OR WIRING CERTIFICATES REQUIRED FOR THE ELECTRICAL SERVICE UPGRADE. IN ADDITION, CONTRACTOR SHALL PROVIDE ALL NECESSARY COORDINATION AND SCHEDULING WITH THE SERVING ELECTRICAL UTILITY AND LOCAL INSPECTION AUTHORITIES.
27. OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTIONS REQUIRED FOR COMPLETION OF WORK AND ACCEPTANCE. PROVIDE CERTIFICATES TO THE CONSTRUCTION MANAGER VERIFYING THAT THE WORK CONFORMS TO THE REQUIREMENTS OF ALL CODES AND AUTHORITIES HAVING JURISDICTION.
28. NO DEVIATIONS FROM DESIGN SHOWN ON THESE DRAWINGS IS ALLOWED, WITHOUT WRITTEN APPROVAL FROM TRK ENGINEERING LTD. FAILURE TO OBSERVE THIS RULE MAY RESULT IN CONTRACTOR CORRECTING THE INSTALLATION AT THEIR EXPENSE.
29. **ALL ITEMS NOT LISTED AS "EXISTING" OR "PROVIDED BY OTHERS" ARE TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR**

SITE WORK NOTES:

1. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
2. DO NOT SCALE BUILDING DIMENSIONS FROM DRAWING.
3. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-BUILT DRAWINGS BY GENERAL CONTRACTOR AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
4. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NOT RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
5. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE.
6. CONTRACTOR SHALL CALL LOCAL DIGGER HOT LINE FOR UTILITY LOCATIONS 48 HOURS PRIOR TO START OF CONSTRUCTION.
7. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
8. GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO EXISTING GRADES AT THE GRADING LIMITS.
9. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
10. STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY.
11. NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
12. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
13. ANY FILLS PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE EXISTING SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
14. CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SUCH THAT NO PAPERS, THRASH, WEEDS, BRUSH OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE BY THE GENERAL CONTRACTOR.
15. ALL TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFILICT WITH THE IMPROVEMENTS SHALL BE PROTECTED BY THE GENERAL CONTRACTOR.
16. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY GENERAL CONTRACTOR WITH LOCAL UTILITY COMPANY, TELEPHONE COMPAY, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.

ANTENNA & COAX NOTES:

1. VERIFY EACH COAXIAL HYBRID CABLE LENGTH, DIAMETER, ROUTING, COLOR CODING AND ALL APPURTENANCES WITH SAMSUNG.
2. THE MAXIMUM COAXIAL CABLE LENGTH AND CORRESPONDING COAXIAL CABLE DIAMETER HAS BEEN ESTIMATED ON SHEET A-4. THIS CABLE LENGTH IS TO BE USED FOR FABRICATION OR CONSTRUCTION. ACTUAL ANTENNA CABLE LENGTH(S) MUST BE VERIFIED. COAXIAL CABLE SHALL BE PROVIDED BY SAMSUNG.
3. ALL MAIN CABLES SHALL UTILIZE GROUND KITS, GROUNDED AS FOLLOWS:
   A. NEAR ANTENNA RAD CENTER ELEVATION,
   B. MIDDLE OF TOWER (MID-HEIGH OF ANTENNA), IF CABLE RUN IS OVER 200',
   C. BOTTOM OF TOWER,
   D. AT MASTER GROUND BAR 3'-0" FROM MMBS-BBU CABINET
4. ALL TOP JUMPERS SHALL BE LENGTHS AS SHOWN AND INSTALLED BY CONTRACTOR.
5. ALL MAIN CABLES SHALL BE COLOR CODED AS SHOWN ON SHEET RF-1 AND IN ACCORDANCE WITH SPRINT SPECIFICATIONS.
6. BANDING SHALL BE IN ACCORDANCE WITH SHEET A-4, RF-1 AND AS FOLLOWS:
   A. MAIN LINE COLOR BANDS SHALL BE 2" WIDE. MAINTAIN 1" SPACING BETWEEN COLORS.
   B. FREQUENCY COLOR BANDS SHALL BE 2" WIDE WITH NO SPACE BETWEEN COLORS.
   C. JUMPER COLOR BANDS SHALL BE 1" WIDE WITH 1" SPACE.
   D. START COLOR BANDS 2" BEYOND WEATHERPROOFING.
   E. START SELECTOR COLOR NEXT TO END CONNECTORS.
7. FINAL COAXIAL ANTENNA CABLE SIZES SHALL BE DETERMINED BY SAMSUNG RF ENGINEER. SEE ANTENNA SCHEDULE SHEET A-4. BASED ON FINAL CABLE RUN LENGTHS DETERMINED BY GD.
8. SEE CONSTRUCTION MANAGER FOR ANTENNA SUPPORT ASSEMBLY TYPE.
9. ALL COAXIAL CABLE WILL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE AT DISTANCES NOT TO EXCEED 3' OR THE CABLE MANUFACTURES SPECIFICATIONS WHICHEVER IS LESS, WITH HARDWARE SPECIFIED IN THE COAXIAL CABLE ROUTING DETAILS OF THE SUPPLIED STRUCTURAL REPORT.
10. PROVIDE AT LEAST 6" OF SLACK IN THE MAIN COAXIAL CABLES AT THE ANTENNA MOUNTING ELEVATION TO PROVIDE FOR FUTURE CONNECTOR REPLACEMENT.

FOUNDATION, EXCAVATION AND BACKFILL NOTES:

1. ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL.
2. ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL AND FREE FROM ANY LOOSE, UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D1557.
3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL. IF INADEQUATE BEARING CAPACITY IS REACHED AT THE DESIGNED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE.
4. ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FILLING. BACK FILL SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH, LOAM SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLODS OR LARGE STONES OVER 2 1/2" MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYERS.
5. ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED MAXIMUM 6" THICK LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D1557.
6. NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HRS PRIOR TO BACK FILLING.
7. FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF 4 INCHES ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRAVEL TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.
8. NEWLY GRADED SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE: TYPAR-3401 AS MANUFACTURED BY "CONSTRUCTION MATERIAL 1-800-239-3841" OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OR ELECTRICAL GROUNDING SYSTEM PERIMETER WHICH EVER IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. I.E. FDOT TYPE No. 57 FOR FENCED COMPOUND; FDOT TYPE No. 67 FOR ACCESS DRIVE AREA.
9. IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND WITH EXISTING/PREPARED SOIL SURFACE.
10. WHEN SUB GRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION AND/OR AERATE THE SOILS AND RE-COMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OF FILLS.
11. IN AREAS WHICH EXISTING GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES.
12. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE A FULL DEPTH COMPACTED SURFACE THROUGHOUT SITE.
13. GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUB GRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUB GRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUB GRADE.
14. PROTECT EXISTING GRAVEL SURFACING AND SUB GRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE.
15. DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT.
16. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.

ENVIRONMENTAL NOTES:

1. ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER CLEAN UP FOR AREAS IN VIOLATION.
2. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF SITE.
3. CONTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROL FENCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION.
4. NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY. THE CONTRACTOR IS REPSONIBLE FOR TAKING ADEQUATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL FENCING MAY BE REQUIRED IN ANY AREAS SUBJECT TO EROSION.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES WITH SILT AND EROSION CONTROL MEASURES MAINTAINED ON THE DOWNSTREAM SIDE OF SITE DRAINAGE. ANY DAMAGE TO ADJACENT PROPERTY AS A RESULT OF EROSION WILL BE CORRECTED AT THE CONTRACTORS EXPENSE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS NECESSARY.
7. CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE HELD TO A MINIMUM. ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED.
8. SEEDING SAND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND DISTURBANCE.
9. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK DAMS.
10. RIP RAP OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES.

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER

MAR 14 2013

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: N-1

REVISION: 1

1253-054

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:

   W-SHAPES: ASTM A992, 50 KSI
   ANGLES, BARS CHANNELS: ASTM A36, 36 KSI
   HSS SECTIONS: ASTM 500, 46 KSI
   PIPE SECTIONS: ASTM A53-E, 35 KSI

2. ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.

3. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.

4. NON-STURCUTRAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8"ø ASTM A 307 BOLTS UNLESS NOTED OTHERWISE..

5. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.

STRUCTURAL CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301-05, ACI 318-05 AND THE SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH fc'=3,000 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD UNLESS NOTED OTHERWISE.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.

   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER.....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL.....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.

5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4

6. HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS.

7. USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER ICBO & MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (F'M=1,500 PS). MEDIUM WEIGHT (115 PCF).

2. MORTAR SHALL BE TYPE "S" (MINIMUM 1,800 PSI AT 28 DAYS).

3. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRNGTH OF 3,000 PSI AT 28 DAYS.

4. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.

5. ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.

6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.

7. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.

8. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.

9. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.

10. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.

11. REINFORCING BARS - SEE NOTES UNDER "STRUCTURAL CONCRETE NOTES" FOR REQUIREMENTS.

12. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.

13. LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.

14. HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104.6.1 OF U.B.C.

15. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTEED IN THE DRAWINGS OR SPECIFICATIONS.

16. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORCING STEEL.

17. REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTER AND JOINT TYPE.

18. SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKAU OR ORGANIC MATERIAL.

19. BRICK SHALL CONFORM TO ASTM C-62 AND SHALL BE GRADE MW OR BETTER.

WEATHERPROOFING NOTES:

STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES

3.6 WEATHERPROOFING CONNECTORS AND GROUND KITS:

A. ALL CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED USING BUTYL RUBBER WEATHERPROOFING AND TAPE. THIS INSTALLATION MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION OR AS SHOWN ON THE CONSTRUCTION DRAWINGS (WHICHEVER IS GREATER). IF NO DIRECTION IS PROVIDED, WEATHERPROOFING MUST BE DONE PER THE FOLLOWING INSTRUCTIONS.

1. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE ENCOMPASSED INTO COLD SHRINK AND COMPLETELY WRAPPED WITH 2 INCH WIDE ELECTRICAL TAPE OVERLAPPING EACH ROW BY APPROXIMATELY ½" AND EXTENDING PAST THE CONNECTION BY TWO INCHES AS DISCUSSED BELOW; OR

2. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH LAYERS OF ELECTRICAL/BUTYL RUBBER/ELECTRICAL TAPE AS DISCUSSED BELOW; OR

3. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH TWO LAYERS OF 1.5 INCH WIDE SELF-AMALGAMATING TAPE COVERED WITH TWO LAYERS OF ELECTRICAL TAPE AS DISCUSSED BELOW.

B. COLD SHRINK INSTALLATION PROCEDURE:

1. REQUIRED MATERIAL: COLD SHRINK TUBE, SPACERS AS NEEDED, BLACK ELECTRICAL TAPE-2 INCHES WIDE.

2. REQUIRED TOOLS: KNIFE AND TAPE MEASURE

STEP 1: THOROUGHLY CLEAN AND DRY THE SURFACE OF COAXIAL CABLE AND CONNECTOR TO REMOVE ALL GREASE AND DIRT. MARK THE MAIN FEED (LARGER DIAMETER) COAXIAL CABLE AT LEAST TWO INCHES ABOVE THE CONNECTION AS THE SPECIFIED START DIMENSION FOR THE COLD SHRINK.

STEP 2: SLIDE THE COLD SHRINK TUBE OVER THE PRE-CONNECTORIZED END OF THE LARGER DIAMETER COAXIAL CABLE PRIOR TO MATING CONNECTOR INTERFACES. MAKE THE CONNECTION.

STEP 3: REMOVE WAX PAPER FROM A SPACER HALF AND PRESS ONTO COAXIAL CABLE DIRECTLY BEHIND THE CONNECTOR. REMOVE THE WAX PAPER FROM THE OTHER SPACER HALF AND ALIGN THE TWO SPACER HALVES WITH ADHESIVE PORTIONS FACING EACH OTHER. PRESS THE SPACER HALVES TOGETHER. THE SPACER WILL BE PLACED NEXT TO THE CONNECTOR ON THE SMALLER DIAMETER COAXIAL CABLE SIDE.

STEP 4: SLIDE THE COLD SHRINK TUBE OVER THE CONNECTION TO THE SPECIFIED START DIMENSION MARK. HOLD THE COLD SHRINK TUBE AND COAXIAL CABLE IN ONE HAND SO THAT THE EDGE OF COLD SHRINK TUBE IS IN LINE WITH THE MARK.

STEP 5: WITH YOUR FREE HAND, BEGIN REMOVING COLD SHRINK TUBE CORE. THE CORE WILL BE REMOVED BY UNWINDING IN A COUNTERCLOCKWISE DIRECTION WHILE LIGHTLY PULLING THE ATTACHED CORD AWAY FROM THE TUBE.

STEP 6: USE BOTH HANDS TO CONTINUE THE UNWINDING PROCESS AS THE COLD SHRINK TUBE BEGINS TO COLLAPSE INTO POSITION. CONTINUE THE UNWINDING PROCESS UNTIL THE CORE IS COMPLETELY REMOVED AND THE COLD SHRINK TUBE IS INSTALLED.

STEP 7: EXCESS COLD SHRINK TUBE EXTENDING TWO INCHES BEYOND THE SPACER HALVES CAN BE REMOVED OR LEFT IN PLACE. EXCESS COLD SHRINK TUBE CAN BE CAREFULLY CUT OFF WITH A KNIFE.

STEP 8: WRAP OVER THE COLD SHRINK TUBE WITH ONE LAYER OF BLACK ELECTRICAL TAPE 2 INCH WIDTH OVERLAPPING EACH ROW BY 1/2 INCH. THIS TOP LAYER MUST BE WRAPPED USING A SHINGLED EFFECT. THE LAYER SHALL BE WRAPPED SO THAT THE ENDS ARE IN THE UPWARD DIRECTION CREATING A SHINGLED EFFECT WITH THE TAPE SO WATER WILL BE REPELLED AND NOT ALLOWED TO COLLECT AND POOL. THIS TOP LAYER OF ELECTRICAL TAPE MUST EXTEND TWO INCHES (THE TAPE WIDTH) PAST THE COLD SHRINK TUBE ONTO THE UNDERLYING CABLE. TAPE SHALL BE WRAPPED SO THAT NO VOIDS OR AIR PACKETS ARE PRESENT. TAPE SHALL BE CUT WITH A SHARP KNIFE.

C. BUTYL RUBBER TAPE INSTALLATION PROCEDURE:

1. REQUIRED MATERIAL: BLACK ELECTRICAL TAPE-2 INCH WIDE AND BUTYL RUBBER TAPE 2 TO 3 INCHES WIDE.

2. REQUIRED TOOLS: KNIFE OR SCISSORS.

STEP 1: THOROUGHLY CLEAN AND DRY THE SURFACE OF COAXIAL CABLE AND CONNECTOR TO REMOVE ALL GREASE AND DIRT. WRAP CONNECTOR/GROUND KIT WITH TWO LAYERS OF BLACK ELECTRICAL TAPE-2 INCH WIDTH OVERLAPPING EACH ROW BY APPROXIMATELY 1/2 INCH. THESE LAYERS OF TAPE MUST BE WRAPPED TIGHT ENOUGH SO THAT NO VOIDS OR AIR PACKETS ARE PRESENT AND MUST EXTEND ONE INCH PAST THE CONNECTOR/GROUND KIT ON EACH SIDE. TWO ROWS SHALL BE APPLIED, ONE IN EACH DIRECTION, WITH THE TOP ROW SHINGLED TO PROMOTE WATER RUNOFF.

STEP 2: WRAP CONNECTOR/GROUND KIT WITH ONE LAYER OF BUTYL RUBBER TAPE (2 TO 3 INCHES WIDTH) OVER THE BLACK ELECTRICAL TAPE OVERLAPPING EACH ROW BY APPROXIMATELY 1/2 INCH. THE BUTYL RUBBER TAPE MUST EXTEND 2 TO 3 INCHES (THE TAPE WIDTH) PAST THE ELECTRICAL TAPE AND COME IN GOOD CONTACT WITH THE UNDERLYING CABLE. ON CONNECTORS, WHEN WEATHERPROOFING FROM THE MAIN LINE TO THE JUMPER, BUILD UP THIS AREA WITH EXTRA BUTYL RUBBER TAPE TO INSURE A SMOOTH TRANSITION FREE OF VOIDS AND AIR PACKETS DOWN TO THE SMALLER DIAMETER CABLE.

STEP 3: WRAP CONNECTOR/GROUND KIT WITH TWO LAYERS OF BLACK ELECTRICAL TAPE 2 INCH WIDTH OVERLAPPING EACH ROW BY 1 INCH. THESE LAST TWO LAYERS MUST BE WRAPPED USING A SHINGLED EFFECT. THE TOP LAYER SHALL BE WRAPPED SO THAT THE ENDS ARE IN THE UPWARD DIRECTION CREATING A SHINGLED EFFECT WITH THE TAPE SO WATER WILL BE REPELLED AND NOT ALLOWED TO COLLECT AND POOL. THESE TOP LAYERS OF ELECTRICAL TAPE MUST EXTEND TWO INCHES (THE TAPE WIDTH) PAST THE BUTYL RUBBER TAPE ONTO THE UNDERLYING CABLE.

ALL LAYERS OF TAPE SHALL BE WRAPPED SO THAT NO VOIDS OR AIR PACKETS ARE PRESENT. THE LAST WRAP OF TAPE SHALL NOT BE PULLED OR STRETCHED. ALL TAPE SHALL BE CUT WITH A SHARP KNIFE OR SCISSORS.

D. SELF-AMALGAMATING TAPE INSTALLATION PROCEDURE:

1. REQUIRED MATERIAL: SELF-AMALGAMATING TAPE -1.5 INCHES WIDE AND BLACK ELECTRICAL TAPE - 2 INCHES WIDE.

2. REQUIRED TOOLS: KNIFE OR SCISSORS.

STEP 1: THOROUGHLY CLEAN AND DRY THE SURFACE OF COAXIAL CABLE AND CONNECTOR TO REMOVE ALL GREASE AND DIRT.

STEP 2: START WRAPPING SELF-AMALGAMATING TAPE ON THE CABLE AT LEAST 2 INCHES FROM THE CONNECTOR/GROUND KIT. MAKE SURE TAPE IS STRETCHED TIGHT DURING THIS APPLICATION.

STEP 3: WHILE STRETCHING TAPE, MAKE ONE WRAP OF THE TAPE AROUND THE CABLE, MAKING SURE THE TAPE IS WRAPPED ONTO ITSELF. THE TAPE WILL ONLY ADHERE TO ITSELF.

STEP 4: CONTINUE WRAPPING THE CABLE AND CONNECTOR/GROUND KIT USING HALF OVERLAP (0.75 INCH WIDE) LAYERS.

STEP 5: WRAP OVER AND PAST THE CONNECTOR/GROUND KIT AT LEAST 2 INCHES.

STEP 6: TO TERMINATE THE SELF-AMALGAMATING TAPE, WRAP THE TAPE AT LEAST ONE FULL ROUND OVER THE CABLE STRETCHING THE TAPE TIGHT. CUT THE TAPE USING KNIFE OR SCISSORS AND APPLY THE LOOSE END TO THE UNDERLYING SELF-AMALGAMATING TAPE USING THUMB PRESSURE.

STEP 7: TWO ROWS OF SELF-AMALGAMATING TAPE SHALL BE APPLIED IN THIS MANNER, IN ALTERNATING DIRECTIONS. THE TOP LAYER SHALL BE WRAPPED SO THAT THE ENDS ARE IN AN UPWARD DIRECTION CREATING A SHINGLED EFFECT WITH THE TAPE SO WATER WILL BE REPELLED.

STEP 8: WRAP OVER SELF-AMALGAMATING TAPE WITH TWO LAYERS OF BLACK ELECTRICAL TAPE- 2 INCH WIDTH OVERLAPPING EACH ROW BY 1 INCH. THESE TOP TWO LAYERS MUST ALSO BE WRAPPED USING A SHINGLED EFFECT. THE LAYERS SHALL BE WRAPPED SO THAT THE ENDS ARE IN THE UPWARD DIRECTION CREATING A SHINGLED EFFECT WITH THE TAPE SO WATER WILL BE REPELLED AND NOT ALLOWED TO COLLECT AND POOL. THESE TOP LAYERS OF ELECTRICAL TAPE MUST EXTEND TWO INCHES (THE TAPE WIDTH) PAST THE SELF-AMALGAMATING TAPE ONTO THE UNDERLYING CABLE. ALL LAYERS OF TAPE SHALL BE WRAPPED SO THAT NO VOIDS OR AIR PACKETS ARE PRESENT. THE LAST WRAP OF TAPE SHALL NOT BE PULLED OR STRETCHED. ALL TAPE SHALL BE CUT WITH A SHARP KNIFE OR SCISSORS.

ELECTRICAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE W/DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.

2. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.

3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDED BUT NOT BE LIMITED TO:

   A. UL -- UNDERWRITERS LABORATORIES
   B. NEC -- NATIONAL ELECTRICAL CODE
   C. NEMA -- NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
   D. OSHA -- OCCUPATIONAL SAFETY AND HEALTH ACT
   E. IBC -- INTERNATIONAL BUILDING CODE
   F. NFPA -- NATIONAL FIRE CODES

4. DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND AND LOCATIONS WHEN NEEDED.

5. EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.

6. CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING EQUIPMENT.

7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.

8. CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.

9. MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION.

10. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.

11. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.

12. ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATION, SET FORTH BY SPRINT.

13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULL OPERATIVE AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.

14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS OR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.

16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OF THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.

17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.

18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.

19. DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS, EXCAVATION, AND BACKFILLING.

20. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEEE.

21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.

23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.

25. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.

26. REACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD CALV'.

27. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.

28. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.

29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.

30. SERVICE: 240/120V, SINGLE PHASE, 3 WIRE CONNECTIONS AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.

31. TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.

32. ELECTRICAL AND TELCO RACEWAYS TO BE BURIED A MINIMUM OF 2' DEPTH.

33. CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOM".

34. ALL BOLTS SHALL BE STAINLESS STEEL.

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE

SE03XC016

15015 MAIN STREET

BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER

MAR 14 2013

SHEET TITLE:

GENERAL NOTES

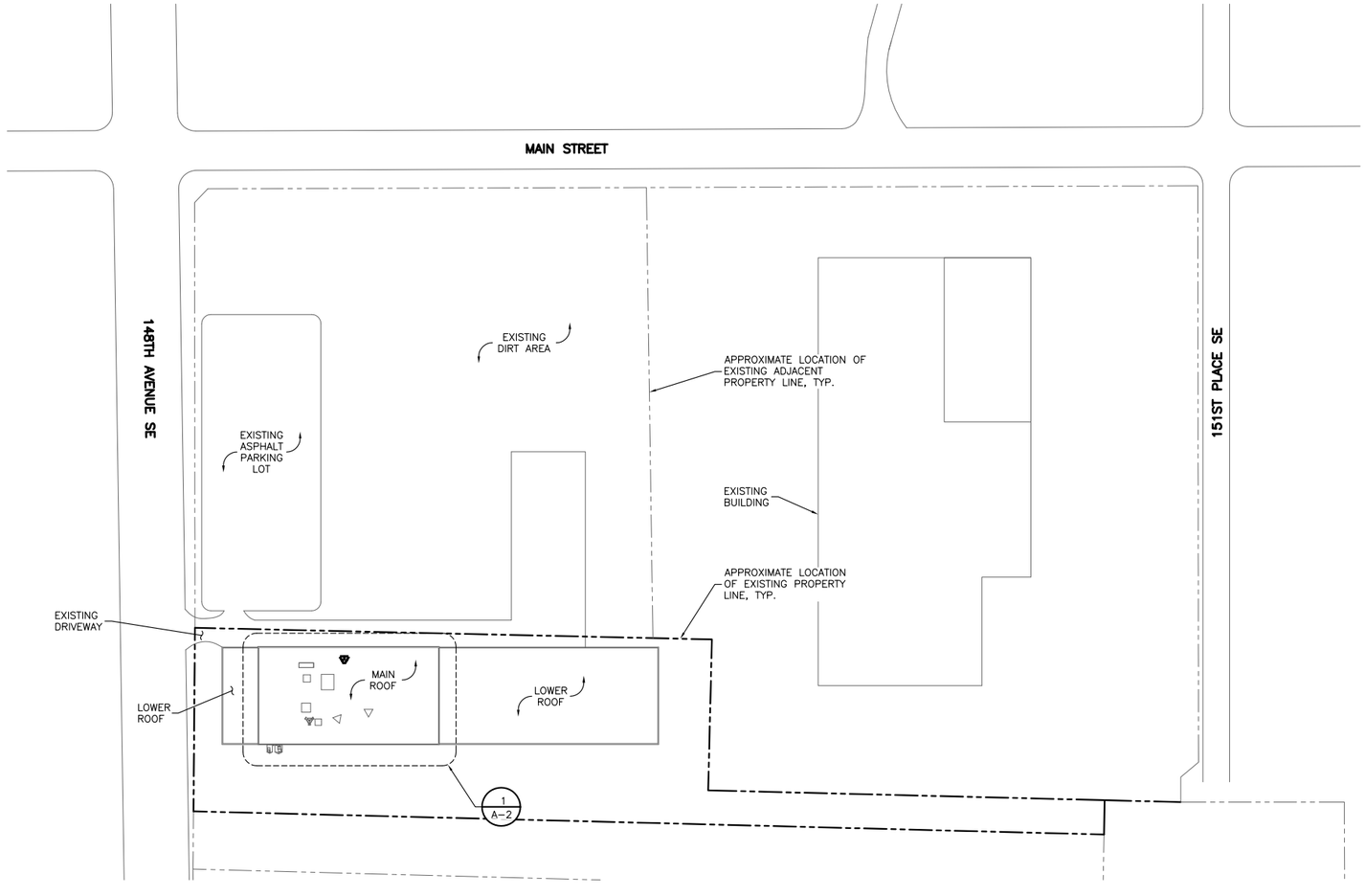
SHEET NUMBER: N-2

REVISION: 1

1253-054

GENERAL NOTES

THIS IS NOT A SITE SURVEY:
ALL PROPERTY BOUNDARIES, ORIENTATION OF TRUE NORTH AND STREET HALF-WIDTHS HAVE BEEN OBTAINED FROM A TAX PARCEL MAP AND ARE APPROXIMATE.



22"x34" SCALE: 1" = 80'-0"
11"x17" SCALE: 1" = 160'-0"
80' 40' 0" 80'

OVERALL SITE PLAN | 1

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

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1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED PROFESSIONAL ENGINEER

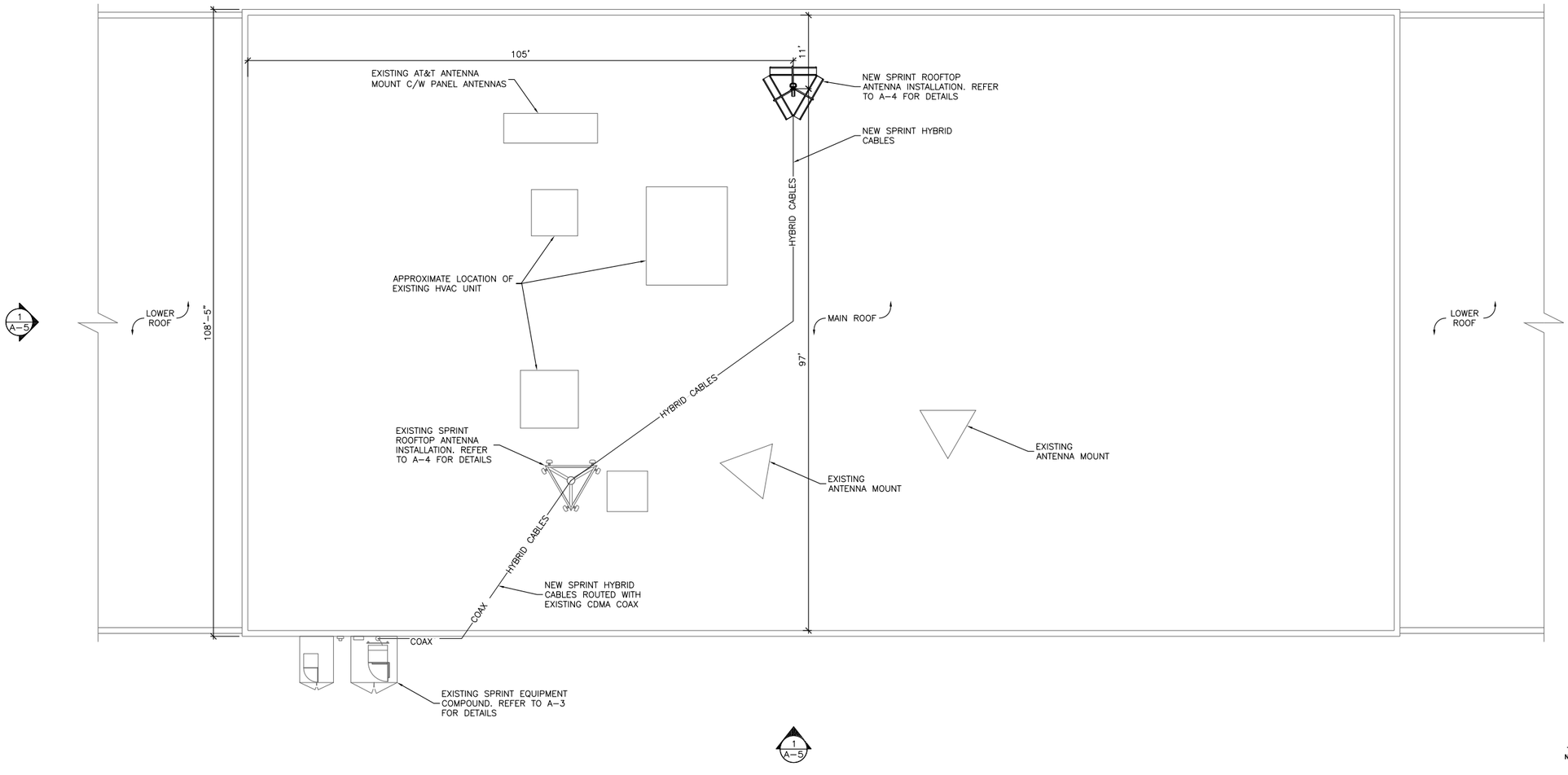
MAR 14 2013

SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER: A-1

REVISION: 1

1253-054



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11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

ENLARGED SITE PLAN | 1

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE

SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

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NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

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MAR 14 2013

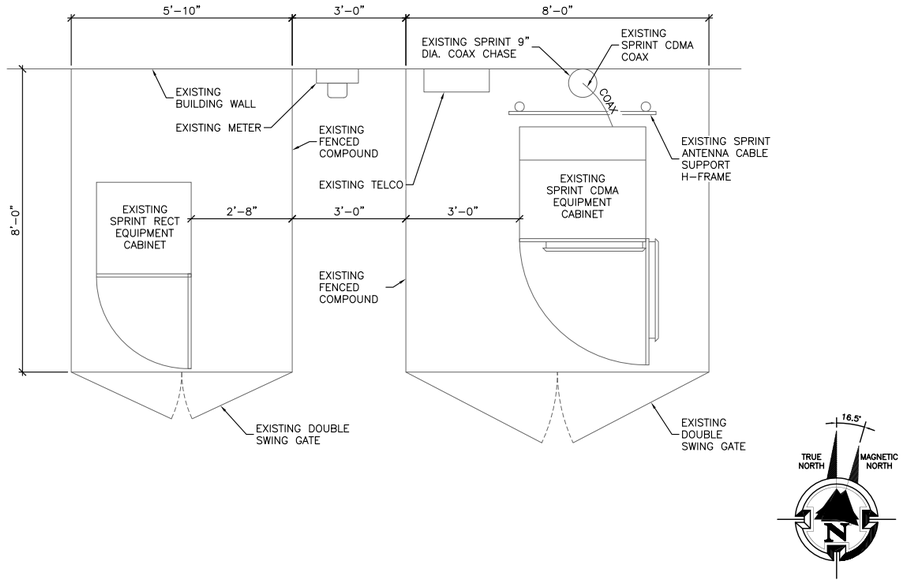
SHEET TITLE:

ENLARGED SITE PLAN

SHEET NUMBER: A-2

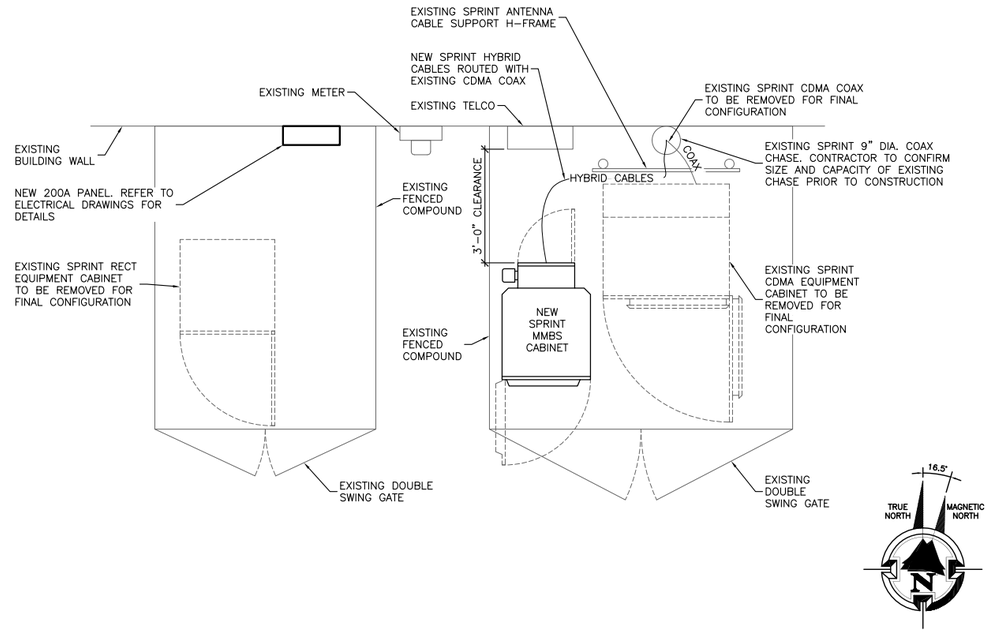
REVISION: 1

1253-054



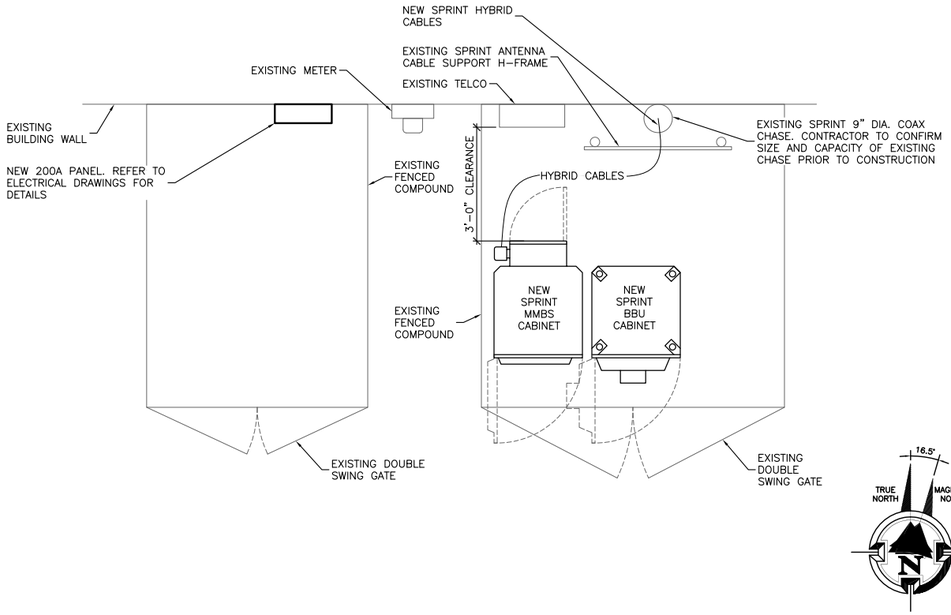
22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

EXISTING EQUIPMENT PLAN | 1



22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

NEW TEMP. EQUIPMENT PLAN (INTERIM) | 2



22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

NEW EQUIPMENT PLAN (FINAL) | 3

NOT USED | 4

NOTE:
STRUCTURAL ANALYSIS MUST BE PREFORMED ON ALL ROOFTOPS, FLAGPOLES AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, NEW RRUS, & NEW CABINETS/TEMPORARY PLATFORM. STRUCTURAL ANALYSIS TO BE PROVIDED BY GENERAL DYNAMICS.

EXISTING ITEMS TO BE REMOVED	
CDMA CABINET	1
RECT CABINET	1
CDMA ANTENNA	(6 TOTAL, 2 PER SECTOR)
COAX CABLE	(6 TOTAL, 2 PER SECTOR)

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LIC

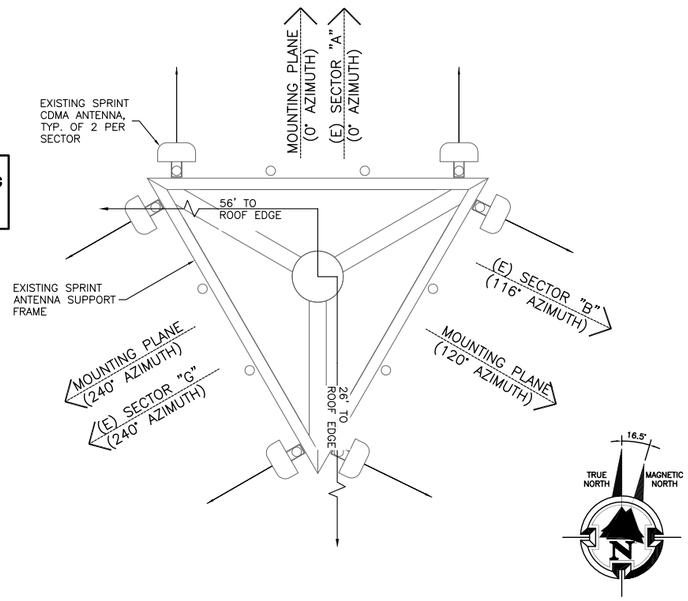
SHEET TITLE:
EQUIPMENT PLANS

SHEET NUMBER: A-3

REVISION: 1

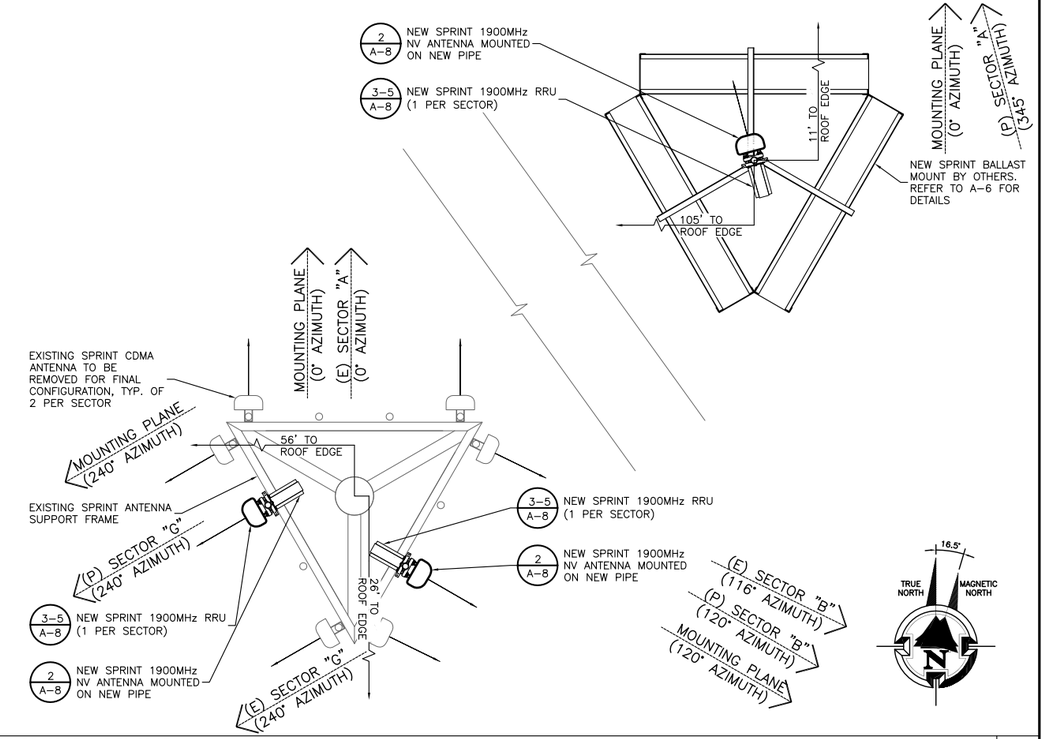
1253-054

PROPOSED ANTENNAS ARE TO BE PAINTED TO MATCH EXISTING ANTENNAS AND MOUNT (GALVANIZED GREY)



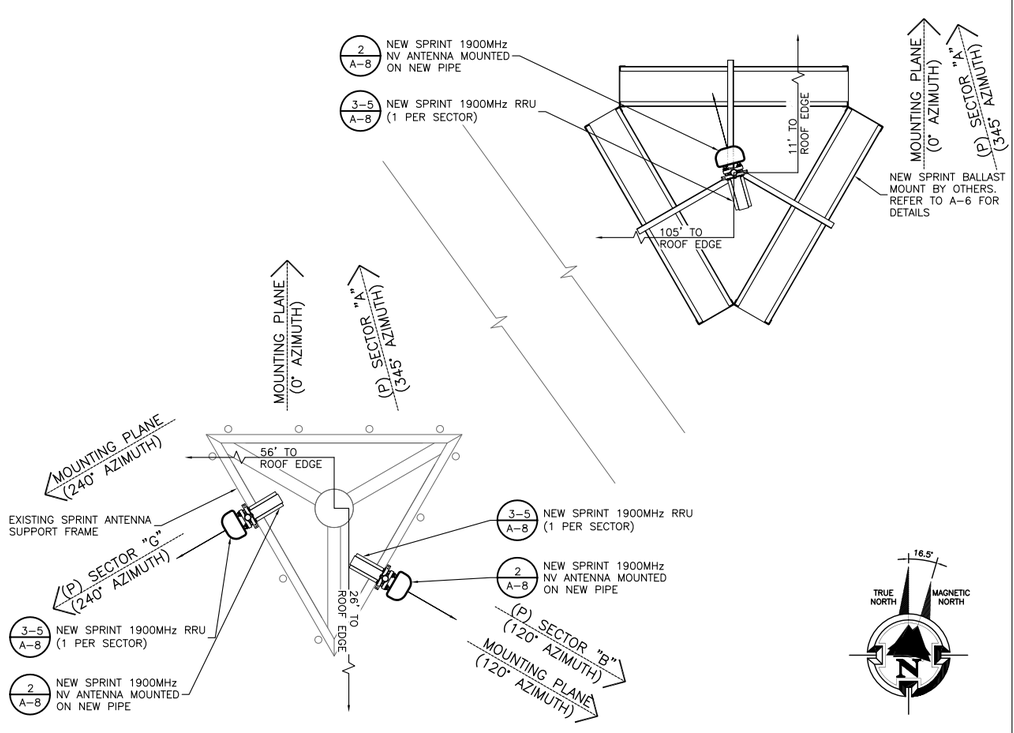
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

EXISTING ANTENNA PLAN | 1



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NEW TEMP. ANTENNA PLAN (INTERIM) | 2



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NEW ANTENNA PLAN (FINAL) | 3

NOTE:
STRUCTURAL ANALYSIS MUST BE PREFORMED ON ALL ROOFTOPS, FLAGPOLES AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, NEW RRUS, & NEW CABINETS/TEMPORARY PLATFORM. STRUCTURAL ANALYSIS TO BE PROVIDED BY GENERAL DYNAMICS.

NOTE:
EXISTING ANTENNAS ARE CDMA UNLESS NOTED OTHERWISE.

NEW SPRINT ANTENNAS INCLUDE RESPECTIVE RRU'S WHICH SHALL BE MOUNTED ON THE PIPE BEHIND THE ANTENNA SIMILAR TO THAT SHOWN ON DETAIL 1, SHEET A-6.

FIELD VERIFY EXISTING AZIMUTH BEFORE RELOCATING THE ANTENNA, IF REQUIRED. PRIOR APPROVAL FROM SPRINT TO BE GRANTED BEFORE RELOCATION OF ANTENNAS.

NOTES:
ALL AZIMUTHS ARE TO BE ESTABLISHED CLOCKWISE FROM THE TRUE NORTH HEADING. CONTRACTOR SHALL VERIFY NEW ANTENNA RAD CENTER AND ORIENTATIONS WITH SPRINT PCS PRIOR TO INSTALLATION OF ANTENNAS. PRIOR TO ATTACHING ANTENNAS AND MOUNTING SECTIONS, EXISTING TOWER AND TOWER FOUNDATION MUST BE ANALYZED BY A LICENSED STRUCTURAL ENGINEER TO VERIFY TOWER IS CAPABLE OF SUPPORTING THE NEW LOADS. REFER TO STRUCTURAL ANALYSIS BY OTHERS. CONTRACTOR SHALL REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OF MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

1900 EQUIPMENT

RRU / HYBRID CABLE SCHEDULE

SECTOR	RRU MODEL	RRU FREQUENCY	HYBRID CABLE LENGTH	HYBRID CABLE DIAMETER	JUMPER SIZE	JUMPER LENGTH	RET LENGTH	RET CABLE MANUFACTURER	RET CABLE MODEL NUMBER
ALPHA	RRH-P4	(1)1900MHz	230'	N/A	1/2"	6'	9.8'	COMMSCOPE	iRET AISGv2.0
BETA	RRH-P4	(1)1900MHz	130'	N/A	1/2"	6'	9.8'	COMMSCOPE	iRET AISGv2.0
GAMMA	RRH-P4	(1)1900MHz	130'	N/A	1/2"	6'	9.8'	COMMSCOPE	iRET AISGv2.0

ANTENNA SCHEDULE

SECTOR	ANTENNA FREQUENCY	ANTENNA MFR.	ANTENNA MODEL	ANTENNA QUANTITY	AZIMUTH	RAD CENTER	ANT. SIZE	ELECT TILT	MECH TILT
ALPHA	1900 MHz	ANDREW	HBXX-9014DS-A2M	1 (PER SECTOR)	345°	40'-0"	4'-3"	-1°	0°
BETA	1900 MHz	ANDREW	HBXX-9014DS-A2M	1 (PER SECTOR)	120°	40'-0"	4'-3"	0°	0°
GAMMA	1900 MHz	ANDREW	HBXX-9014DS-A2M	1 (PER SECTOR)	240°	40'-0"	4'-3"	-3°	0°

NOTES & ANTENNA SCHEDULE | 4

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

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LIC

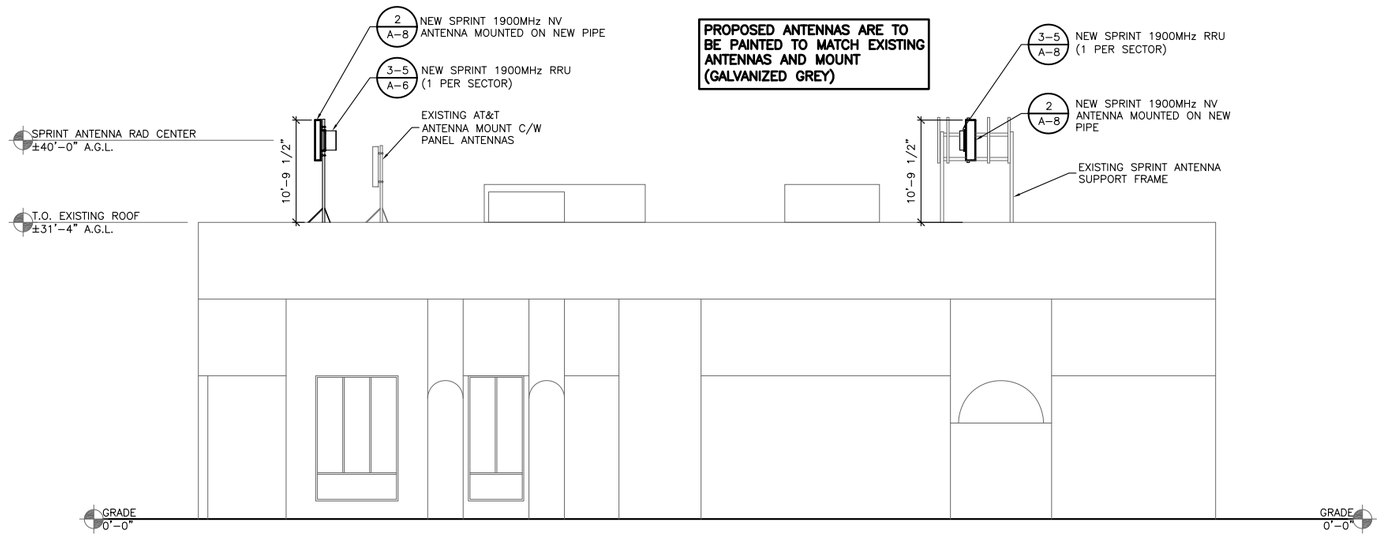
SHEET TITLE:
ANTENNA PLANS AND SCHEDULES

SHEET NUMBER: A-4

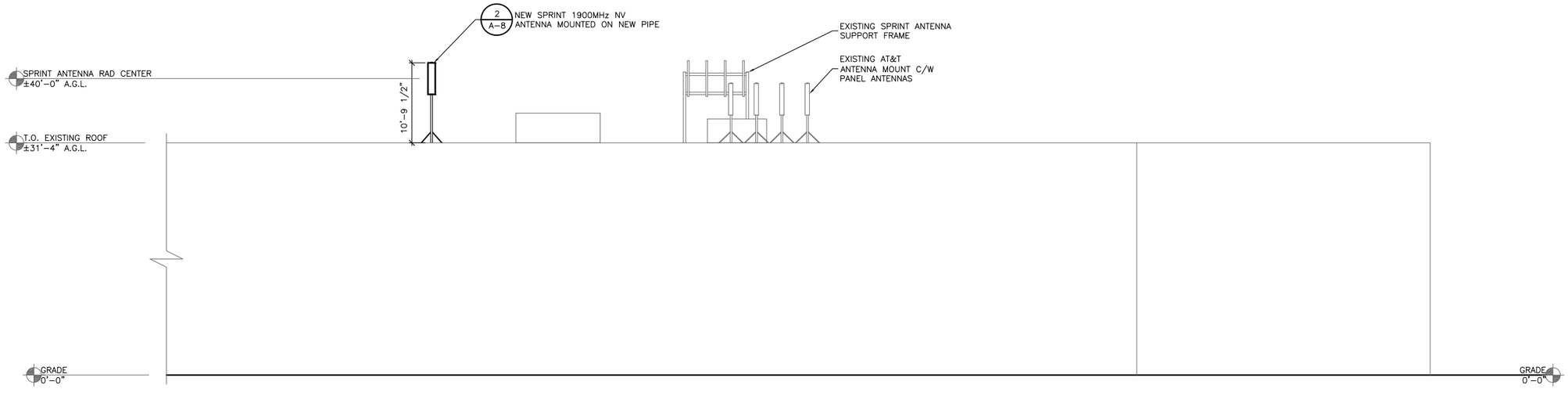
REVISION: 1

1253-054

NOTE:
STRUCTURAL ANALYSIS MUST BE PREFORMED ON ALL ROOFTOPS, FLAGPOLES AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, NEW RRUS, & NEW CABINETS/TEMPORARY PLATFORM. STRUCTURAL ANALYSIS TO BE PROVIDED BY GENERAL DYNAMICS.



WEST ELEVATION



NORTH ELEVATION

22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0" 8' 6' 4' 2' 0" 8'

NEW WEST & NORTH ELEVATION | 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.

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

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LARSON LAKE
SE03XC016
15015 MAIN STREET
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LIC

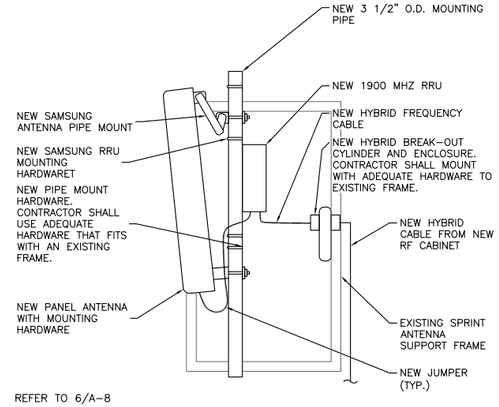
PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER
MAR 14 2013

SHEET TITLE:
ELEVATIONS

SHEET NUMBER: A-5

REVISION: 1

1253-054

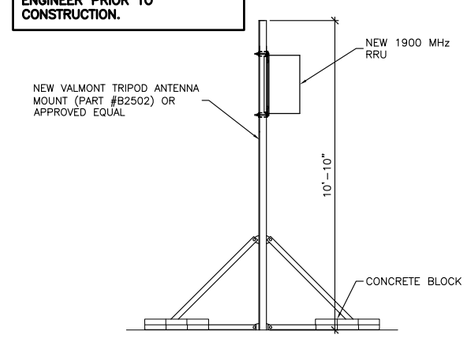


REFER TO 6/A-8

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

ANTENNA & HYBRID CABLE | 1

BALLAST WEIGHT FOR THE PROPOSED BALLAST MOUNT TO BE PROVIDED BY PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

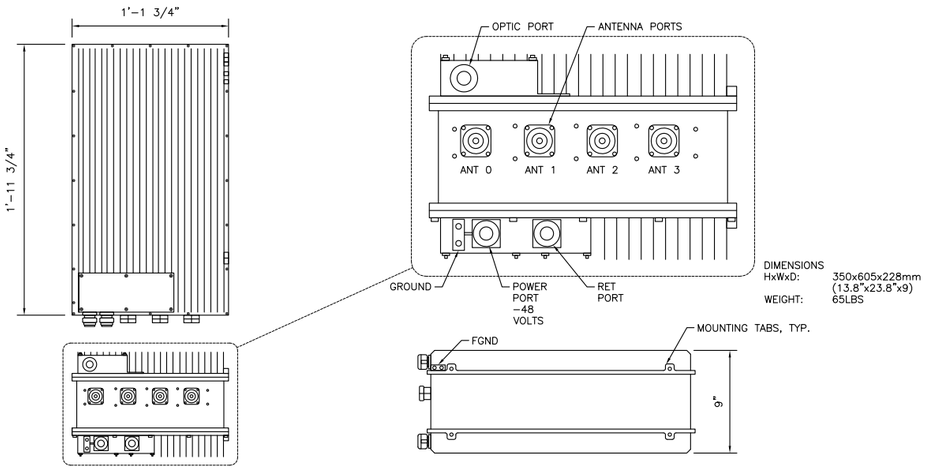
ANTENNA MOUNT DETAIL | 2

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 3

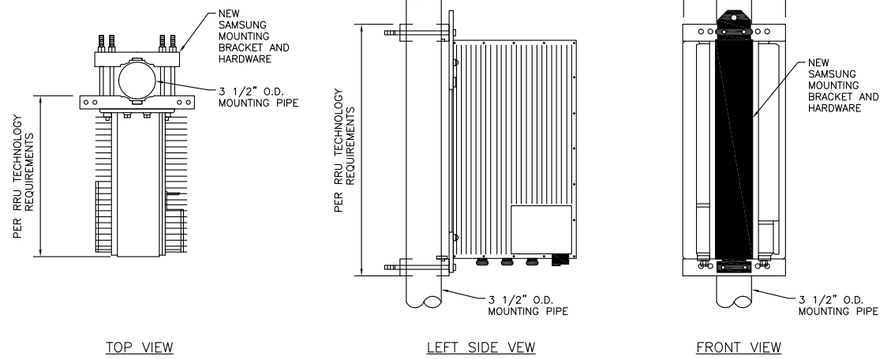
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 4



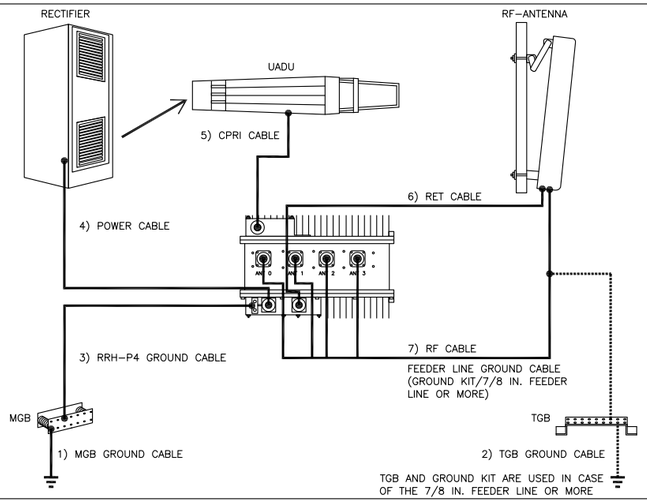
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

1900 MHZ RRH-P4 MECHANICAL SPECIFICATIONS | 5



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

R.R.U. POLE INSTALLATION DETAIL | 6



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

SAMSUNG MMBS WIRING DIAGRAM | 7

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 8

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE

SE03XC016

15015 MAIN STREET

BELLEVUE, WA

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LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER

MAR 14 2013

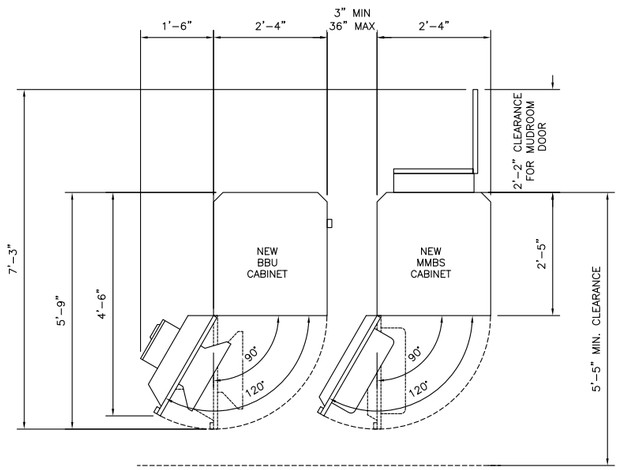
SHEET TITLE:

EQUIPMENT DETAILS

SHEET NUMBER: A-6

REVISION: 1

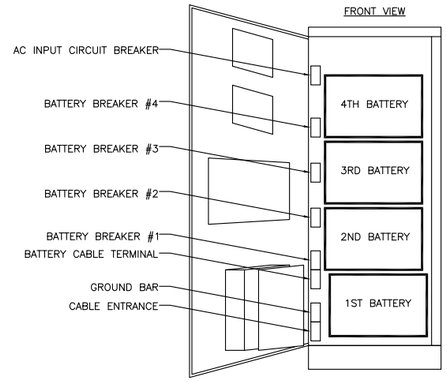
1253-054



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

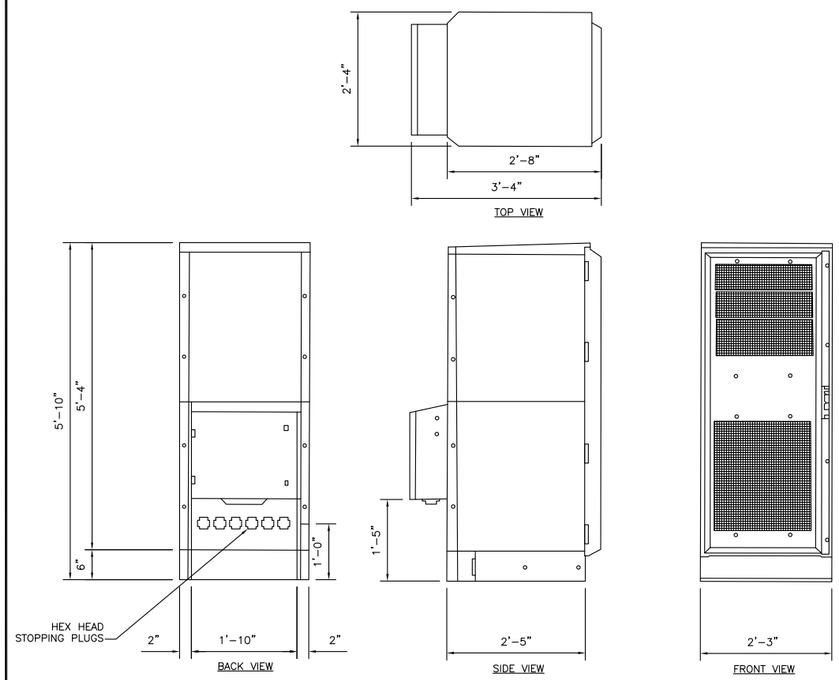
MMBS & BBU TYPICAL LAYOUT | 1

ITEM	SPECIFICATIONS
CAPACITY	MAX. 4 BATTERY STRINGS
COOLING	AIR-CONDITIONER/COOLING WITH FAN FOR EMERGENCY MODE (MCLEAN T20 HVAC)
SOUND LEVEL	65BA @1.5m
SIZE	71(H) x 41.25(D) x 27.6(W) INCH 1800(H) x 1048(D) x 700(W) mm
CABINET WEIGHT	370 LBS
PER BATTERY STRING WEIGHT	529 LBS
BATTERY	NARADA 190AH (12NDT190) AGM TYPE (VRLA)
AC POWER	220VAC, 3.5AMP TYP. 14.4AMP STARTING
DC POWER	10A MAX @48DVC



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

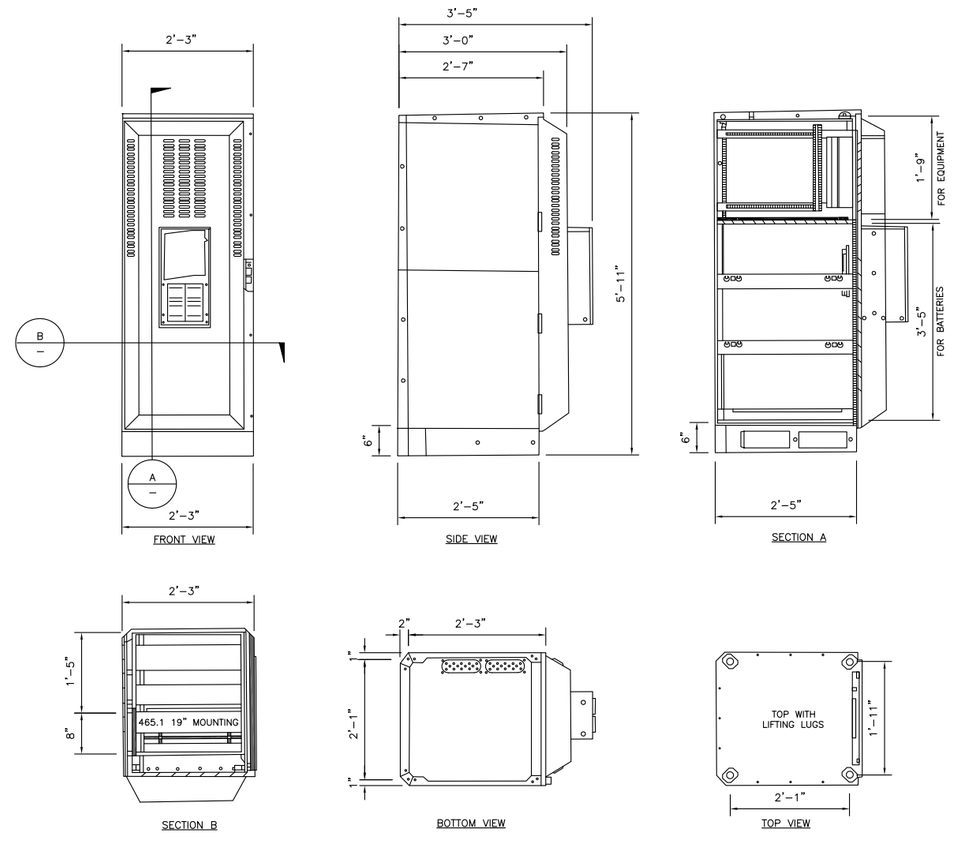
BBU CABINET | 2



MMBS EQUIPMENT WEIGHT & DIMENSIONS		
MMBS CABINET	1800x700x1018(820)mm/70.8in x 29.5in x 40.1(37.0)in	
MMBS CABINET	251kg (553lbs) W/O DU SHELF	300kg W/4 DU SHELF

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

MMBS MECHANICAL SPECIFICATIONS | 4



BBU EQUIPMENT WEIGHT & DIMENSIONS		
BBU CABINET	1800x700x1018(820)mm/70.8in x	29.5in x 40.1(37.0)in
BBU CABINET	168kg (370lbs) W/O BATTERY	1136kg WITH BATTERY

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

BBU MECHANICAL SPECIFICATIONS | 5

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
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LIC

SHEET TITLE:
EQUIPMENT DETAILS
(OUTDOOR SPECIFICATIONS)

SHEET NUMBER: A-7

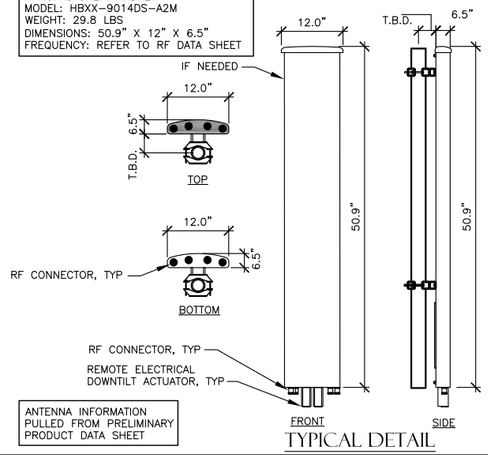
REVISION: 1

1253-054

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 1

MANUFACTURER: ANDREW
MODEL: HBXX-9014DS-A2M
WEIGHT: 29.8 LBS
DIMENSIONS: 50.9" X 12" X 6.5"
FREQUENCY: REFER TO RF DATA SHEET



ANTENNA INFORMATION PULLED FROM PRELIMINARY PRODUCT DATA SHEET

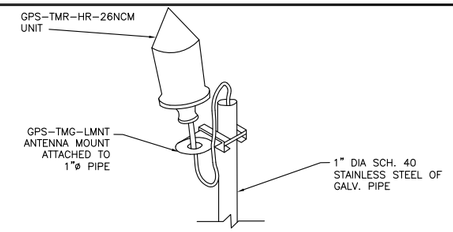
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

800/1900 ANTENNA DETAIL | 2

TYPICAL DETAIL

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GPS UNIT MOUNT PIPE | 3



NOTES
1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"ø, SCH. 40, GALVANIZED STEEL OF STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END.
THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MIN. OF 18", 8'-0" IF MOUNTING TO NEW MMBS-BBU) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED.

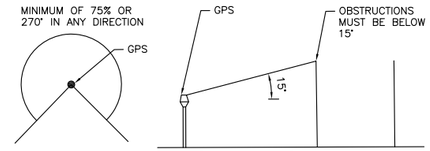
2. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2° OF LEVEL.

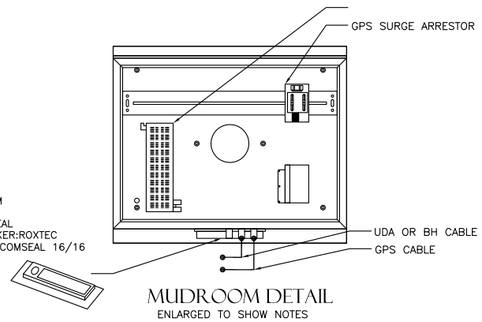
3. DO NOT SWEEP TEST GPS ANTENNA

4. ATTACH GPS MOUNTING PIPE TO NEW MMBS-BBU USING (4) 8MMx15MM SS BOLTS AND (4) 1" PIPE STRAPS. GPS TO BE MOUNTED A MIN. OF 2'-0" ABOVE MMBS-BBU CABINET.

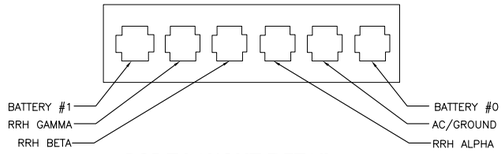
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GPS REQUIREMENTS | 4

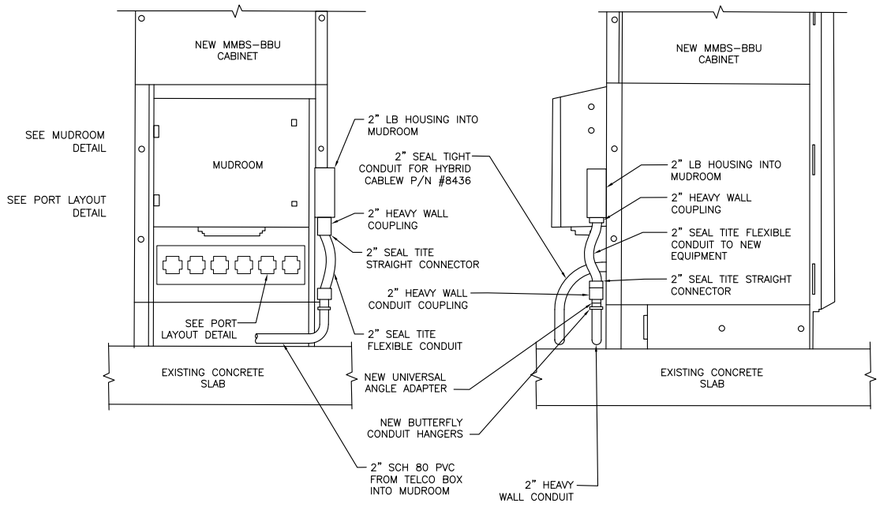




MUDROOM DETAIL
ENLARGED TO SHOW NOTES



PORT LAYOUT DETAIL
ENLARGED TO SHOW NOTES

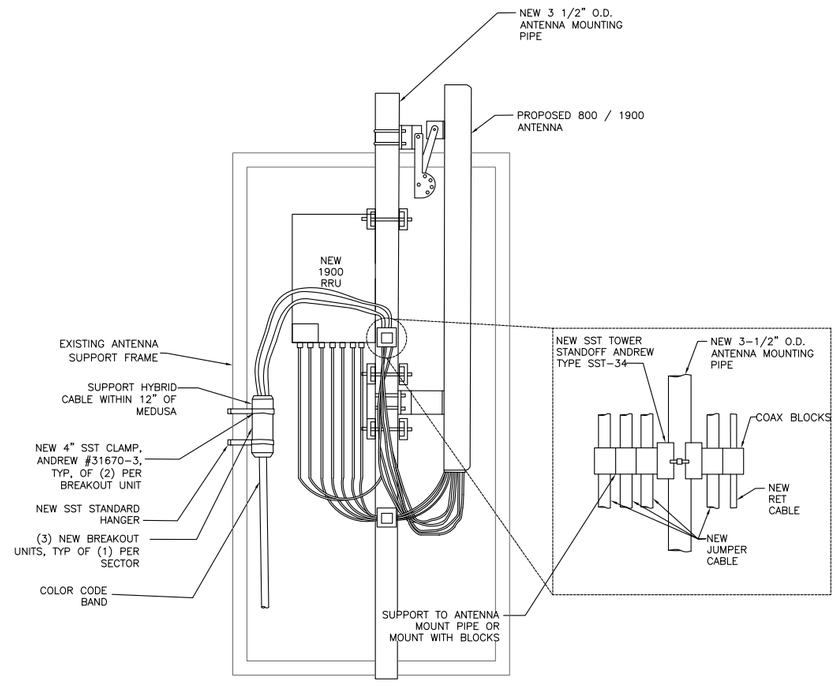


REAR VIEW

SIDE VIEW

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

HYBRID AND TELCO LINE SUPPORT DETAIL | 5



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11"x17" SCALE: NOT TO SCALE

TYPICAL BOOM & STAND-OFF DETAIL 800/1900 ANTENNA DETAIL | 6

Sprint

SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

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NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
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LIC

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER: A-8

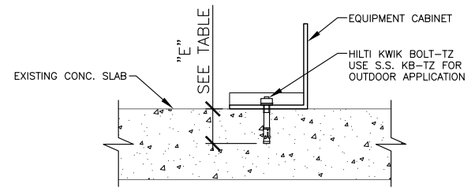
REVISION: 1

1253-054

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 1

ANCHOR SCHEDULE		
BOLT DIA.	HOLE DIA.	"E" EMBEDMENT
3/8"	3/8"	2"
1/2"	1/2"	3"
5/8"	5/8"	3 1/8"
3/4"	3/4"	3 3/4"



NOTES:
1. THE CONTRACTOR SHALL ACCURATELY LOCATE ALL EXISTING REINFORCING BY X-RAY OR EQUIVALENT METHODS. NO REBAR OR TENDONS SHALL BE CUT. ALL EXPENSES RELATED TO REPAIR OR CUT REBAR OR TENDONS SHALL BE ENTIRELY AT THE EXPENSE OF THE CONTRACTOR.
2. SPECIAL INSPECTION IS REQUIRED FOR (HILTI KWIK BOLT-TZ PER ESR-1917) CONCRETE EXPANSION ANCHORS AGAINST SEISMIC.
3. INSTALLATION OF WEDGE ANCHORS IN MASONRY IS NOT ALLOWED.
4. VERIFY WITH CABINET MANUFACTURER FOR MOUNTING HOLE LOCATIONS.

CABINET ANCHOR DETAIL | 2

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 3

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 4

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SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

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LABELED AS CONSTRUCTION SET

LIC

PAUL JAMES LACIURA
STATE OF WASHINGTON
49809
REGISTERED
PROFESSIONAL ENGINEER

MAR 14 2013

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER: A-9

REVISION: 1

1253-054

TYPICAL HYBRID CABLE COLOR CODE			
SECTOR	FIRST RING	SECOND RING	THIRD RING
A	GREEN	NO TAPE	NO TAPE
B	GREEN	GREEN	NO TAPE
G	GREEN	GREEN	GREEN

FREQUENCY COLOR CODE FOR PAIRS AND FIBER CABLES OF HYBRID CABLE		
FREQUENCY COLOR CODE	FIRST RING	SECOND RING
800 MHz	YELLOW	GREEN
1900 MHz	YELLOW	RED

TYPICAL JUMPER CABLE COLOR CODE			
FREQUENCY	ANTENNA PORT	RRU PORT	CABLE COLOR
800 MHz	RET	RET	N/A
	800 MHz +45°	ANT 1	WHITE
	800 MHz −45°	ANT 0	BLUE
1900 MHz	PCS1 −45°	ANT 0	BLUE
	PCS1 +45°	ANT 1	WHITE
	PCS2 −45°	ANT 2	GREEN
	PCS2 +45°	ANT 3	BROWN
	RET	RET	RED

NOTES:
ON HIGH CAPACITY SITES OR ON FOUR−SECTOR SITES NEEDING AN ADDITIONAL LINE AND RRU CONTACT GDIT SITE SUPERVISOR FOR COLOR CODE INFORMATION ON ADDITIONAL LINES.

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11"x17" SCALE: NOT TO SCALE
HYBRID AND JUMPER CABLES COLOR CODING | 1

SUPPLIER	SAMSUNG FIBEROPTICS				ASIA TAI			
TYPE	LENGTH	TOTAL WEIGHT		WEIGHT/LF		TOTAL WEIGHT		WEIGHT/LF	
	(FT)	(KG)	(LBS)	(KG)	(LBS)	(KG)	(LBS)	(KG)	(LBS)
TYPE 1	60	13	28	0.2	0.5	19	41	0.3	0.7
	75	16	35	0.2	0.5	22	49	0.3	0.7
	90	19	42	0.2	0.5	26	57	0.3	0.7
TYPE 2	105	30	66	0.3	0.6	29	65	0.3	0.7
	120	34	75	0.3	0.6	33	73	0.3	0.7
	135	38	85	0.3	0.6	46	101	0.3	0.7
	150	43	94	0.3	0.6	51	112	0.3	0.7
	165	47	104	0.3	0.6	55	122	0.3	0.7
TYPE 3	180	69	151	0.4	0.8	72	160	0.3	0.7
	195	75	164	0.4	0.8	78	173	0.3	0.7
	210	80	177	0.4	0.8	85	187	0.3	0.7
TYPE 4	225	89	196	0.4	0.9	102	224	0.3	0.7
	240	95	209	0.4	0.9	109	239	0.3	0.7
	255	101	222	0.4	0.9	115	254	0.3	0.7
TYPE 5	270	133	293	0.5	1.1	122	270	0.3	0.7
	285	141	310	0.5	1.1	152	335	0.3	0.7
	300	148	326	0.5	1.1	160	353	0.3	0.7
	315	155	342	0.5	1.1	168	371	0.3	0.7
	330	163	359	0.5	1.1	176	388	0.3	0.7

	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7
TOTAL LENGTH	~114'−9.95"	~180'−5.35"	~213'−3.05"	~262'−5.60"	~328'−1"	~420'−0"	~550'−0"
HYBRID POWER CABLE CONFIGURATION	AWG 10 1 PAIR, AWG 12 3 PAIR	AWG 8 1 PAIR, AWG 10 3 PAIR	AWG 6 1 PAIR, AWG 8 1 PAIR, AWG 10 2 PAIR	AWG 6 1 PAIR, AWG 8 3 PAIR	AWG 4 1 PAIR, AWG 6 1 PAIR, AWG 8 2 PAIR	AWG 4 1 PAIR, AWG 6 3 PAIR	AWG 2 1 PAIR, AWG 4 3 PAIR
CABLE DIAMETER	0.98"	1.06"	1.18"	1.18"/1.25"	1.25"	1.56"	1.69"
BENDING RADIUS	11.81"	12.99"	15.35"	17.71"	17.71"	18.00"/30.00"	21.00"/35.00"
OPTIC CABLE	LC/PC−to−LC/PC, SINGLE MODE						
DU CABINET (POWER CABLE TERMINAL MAX SIZE AWG 4)	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE						
RRU POWER CABLE SPEC	AWG 8, 0.57"~0.60" AWG 10, 0.45"~0.48"					8 AWG CABLES 4 PAIRS	
NON USE POWER AND OPTIC CABLE PROTECTION	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE		2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE

SUPPLIER	TESSCO		
TYPE	LENGTH	TOTAL WEIGHT	
	(FT)	(KG)	(LBS)
TYPE 6	1	0.73	1.6
	1000	732	1613
	420	402	887
TYPE 7	1	1	2.2
	1000	1006	2218
	550	553	1220

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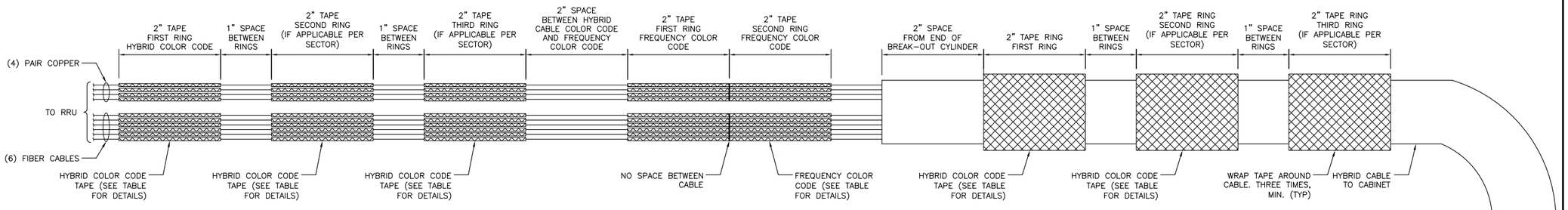
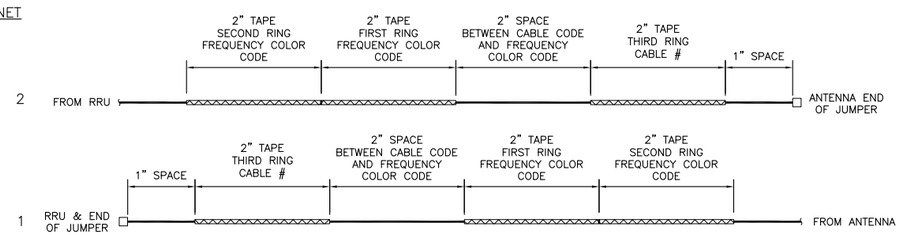
HYBRID CABLE TYPES | 2



HYBRID CABLE CONNECTION AT CABINET

NOTE:

1. ALL CABLES SHALL BE MARKED AT THE TOP AND BOTTOM WITH 2" COLORED TAPE OR STENCIL TAG. COLOR TAPE SHALL BE OBTAINED FROM GRAYBAR ELECTRIC.
2. THE FIRST RING SHALL E CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM AN END CONNECTOR, WEATHERPROOFING, OR BREAK−OUT CYLINDER, WITH 1" SPACE BETWEEN EACH RING.
3. THE HYBRID CABLE COLOR SHALL BE APPLIED IN ACCORDANCE WITH THE "TYPICAL HYBRID CABLE COLOR CODE" TABLE ABOVE FOR THE RESPECTIVE SECTOR.
4. INDIVIDUAL POWER PAIRS AND FIBER CABLES SHALL BE LABELED WITH BOTH THE HYBRID CABLE COLOR FOR THE RESPECTIVE SECTOR AND A FREQUENCY COLOR CODE IN ACCORDANCE WITH THE "FREQUENCY COLOR CODE FOR PAIRS AND FIBER CABLES OF HYBRID CABLE" TABLE ABOVE.
5. A 2" GAP SHALL SEPARATE THE HYBRID CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE.
6. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
7. THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE HYBRID CABLE OR INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
8. COLOR BAND ON JUMPERS SHALL BE 2" WIDE WITH A 2" SPACE.



JUMPER CABLE CONNECTION AT RRU AND ANTENNA

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE
HYBRID CABLE COLOR SCHEME DETAIL | 3

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TRK ENGINEERING

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NETWORK VISION MMBS LAUNCH

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LICENSURE:

SHEET TITLE:
ANTENNA AND CABLE COLOR CODING DETAILS

SHEET NUMBER: RF-1

REVISION: 1

1253−054

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL LOCAL AND STATE CODE, LAWS. AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
2. CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY FOR REQUIREMENTS OF POWER SERVICE LINE TO THE METER BASE, WHEN REQUIRED. POWER SERVICE REQUIREMENT IS COMMERCIAL. AC NOMINAL 120/208 VOLT OR 120/240 VOLT, SINGLE PHASE WITH 200 AMP RATING.
3. CONTRACTOR SHALL COORDINATE WITH LOCAL TELEPHONE COMPANY FOR SERVICE LINE REQUIREMENTS TO TERMINATE AT THE PPC CABINET.
4. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC METER BASE AND 200A DISCONNECT SWITCH PER SITE PLAN DETAIL DRAWINGS AND PER LOCAL UTILITY COMPANIES SPECIFICATION, WHEN REQUIRED. THE METER BASE SHOULD BE LOCATED IN A MANNER ACCESSIBLE BY THE LOCAL POWER COMPANY.
5. LOCAL POWER COMPANY SHALL PROVIDE 200 AMP ELECTRIC METER. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER WITH LOCAL POWER COMPANY.
6. UNDERGROUND POWER AND TELCO SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND CONDUIT EXPOSED ABOVE GROUND SHALL BE GALVANIZED RIGID STEEL TUBING UNLESS OTHERWISE INDICATED.
7. ALL TELCO CONDUIT LINES SHALL BE 4" SCH. 40 PVC CONDUIT UNLESS OTHERWISE INDICATED. THE TELCO CONDUIT FROM THE PPC SHALL BE ROUTED AND TERMINATED AT DESIGNATED TELCO DEMARCATION OR 2-FEET OUTSIDE FENCED AREA, NEAR UTILITY POLE (IN FENCED AREA), OR END CAP OFF AND PROVIDE MARKER STAKE PAINTED BRIGHT ORANGE WITH DESIGNATION FOR TELCO SERVICE.
8. CONDUITS INSTALLED AT PCS EQUIPMENT ENDS PRIOR TO THE EQUIPMENT INSTALLATION SHALL BE STUBBED AND CAPPED AT 6" ABOVE GRADE OR PLATFORM. IF SERVICE LINES CAN'T BE INSTALLED INITIALLY, PROVIDE NYLON PULL CORD IN CONDUITS.
9. THE SPRINT CABINET, INCLUDING 200 AMP LOAD PANEL AND TELCO PANEL, SHALL BE PROVIDED BY OWNER AND INSTALLED BY THE CONTRACTOR. CONTRACTOR IS TO INSTALL BREAKER(S) NOT PROVIDED BY MANUFACTURER. SEE PANEL SCHEDULE ON THIS SHEET FOR BREAKER REQUIREMENTS.
10. LOCATION OF ELECTRIC METER AND DISCONNECT SWITCH TO BE PROVIDED BY GENERAL CONTRACTOR.
11. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS. THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
12. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
13. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
14. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.

ELECTRICAL NOTES (CON'T)

15. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
16. ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
17. ALL WIRE SHALL BE "TYPE THWN, SOLID. ANNEALED COPPER UP TO SIZE 1/10 AWG (18 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY. MINIMUM #12.
18. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES. J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
19. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
20. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
21. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
22. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES. PULLBOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
23. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS. DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
24. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.) PROVIDE SAMPLE FOR CONSTRUCTION MANAGER'S APPROVAL.
25. ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
26. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
27. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN Of CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMA110N AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS).
28. LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

ELECTRICAL NOTES | 1

NEW:

SITE NUMBER:	SE03XC016	MODEL NUMBER:	TBD				
VOLTAGE:	240V/120	PHASE:	1	WIRE:	TBD		
MAIN BREAKER:	200 AMP	BUSS RATING:	200 AMPS	A/C:	TBD		
MOUNT:	SURFACE	NEUTRAL BAR:	TBD	GROUND BAR:	TBD		
ENCLOSURE TYPE:	TBD	N to GROUND BOND:	TBD				
PANEL STATUS:	EXISTING	INTERNAL TVSS:	TBD				

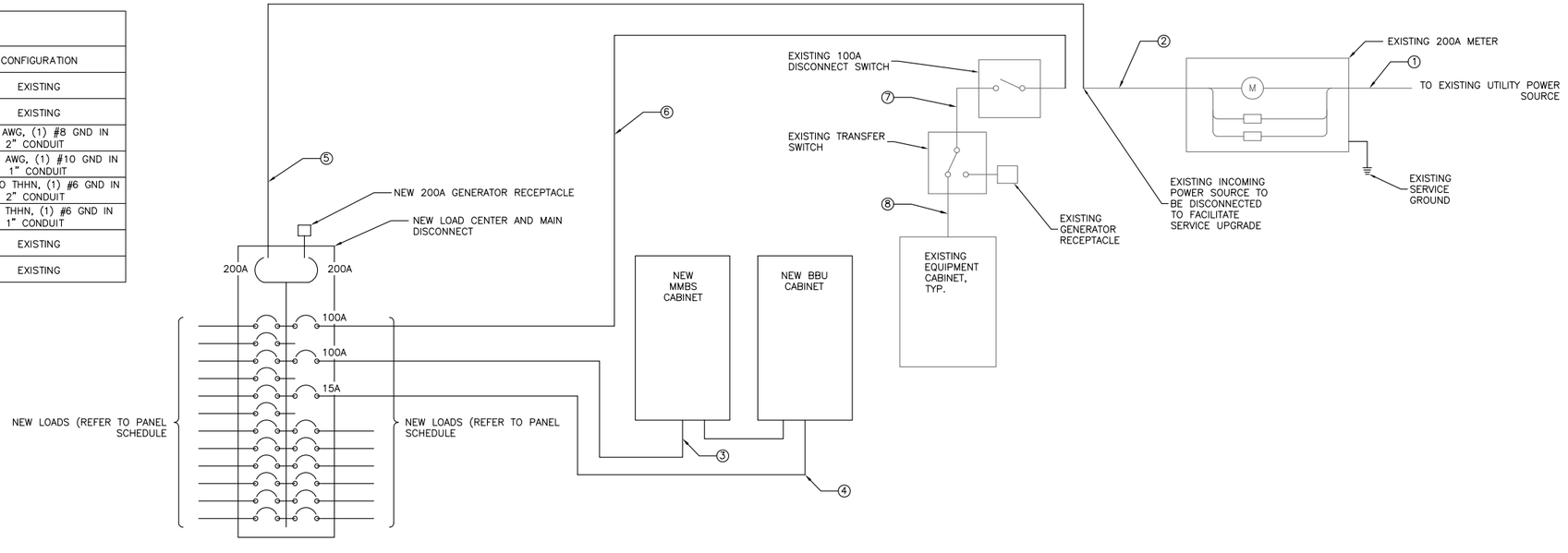
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	SAMSUNG MMBS CABINET	100	2	NEW	N/A	N/A	N/A	BLANK	2
3	--	--	--	--	N/A	N/A	N/A	BLANK	4
5	SAMSUNG BBU CABINET	15	2	NEW	N/A	N/A	N/A	BLANK	6
7	--	--	--	--	N/A	N/A	N/A	BLANK	8
9	BLANK	N/A	N/A	N/A	N/A	N/A	N/A	BLANK	10
11	BLANK	N/A	N/A	N/A	N/A	N/A	N/A	BLANK	12

NOTES

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ELECTRICAL PERMIT IF REQUIRED AND ENSURE FINAL INSPECTION OF INSTALLATION IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION OVER THE WORK UNDERTAKEN.

ELECTRICAL PANEL SCHEDULE | 2

CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
①	SOURCE	METER CENTER	EXISTING
②	METER/DSC	100A DISCONNECT SWITCH	EXISTING
③	TRANSFER & LOAD CENTER	NEW MMBS CABINET	(3) #2 AWG, (1) #8 GND IN 2" CONDUIT
④	TRANSFER & LOAD CENTER	NEW BBU CABINET	(3) #10 AWG, (1) #10 GND IN 1" CONDUIT
⑤	METER	TRANSFER & LOAD CENTER	(3) #3/0 THHN, (1) #6 GND IN 2" CONDUIT
⑥	TRANSFER & LOAD CENTER	100A DISCONNECT SWITCH	(3) #3 THHN, (1) #6 GND IN 1" CONDUIT
⑦	100A DISCONNECT SWITCH	TRANSFER SWITCH	EXISTING
⑧	TRANSFER SWITCH	EXISTING EQUIPMENT	EXISTING



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ELECTRICAL ONE-LINE DIAGRAM | 3

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NETWORK VISION MMBS LAUNCH

LARSON LAKE
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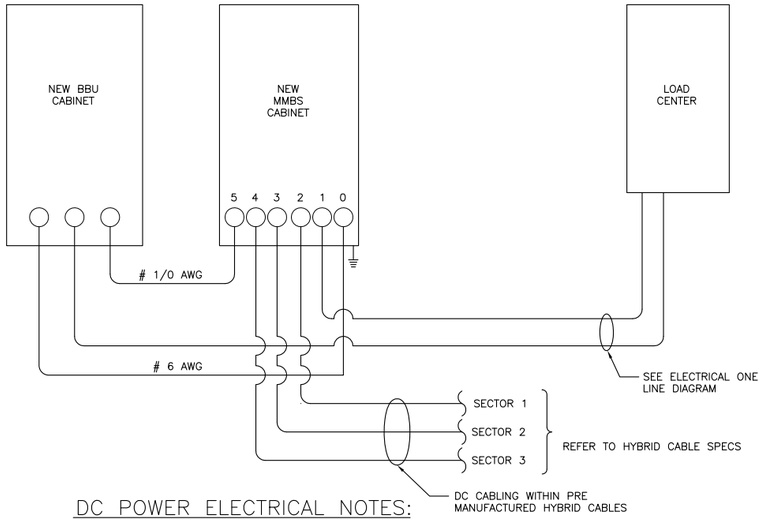
LICENSURE:

SHEET TITLE:
ONE-LINE DIAGRAM AND SPECIFICATION

SHEET NUMBER: E-1

REVISION: 1

1253-054



MMBS PORT LAYOUT	
CONDUIT NO.	USAGE
0	BATTERY
1	AC/GROUND
2	RRU SECTOR 1
3	RRU SECTOR 2
4	RRU SECTOR 3
5	BATTERY

DC POWER ELECTRICAL NOTES:

1. MINIMUM CABLE LENGTH BETWEEN THE OU AND BATTERY IS 70MM (2.75 in)
2. MAXIMUM CABLE LENGTH DISTANCE IS 900mm (35.43 in). WEATHER PROOFING SHALL INCORPORATE PPC WEATHERPROOFING TAPE KIT, COLD SHRINK SHALL NOT BE USED.
3. ROUTE DC CONDUCTORS IN CONDUITS TO NEW MMBS CABINET 48VDC POWER DISTRIBUTION PANEL TO AND FROM NEW BBU CABINET.
4. −48 VDC CABLES BETWEEN NEW MMBS CABINET & RRU'S ARE FACTORY ASSEMBLED AND EQUIPED WITH ONE PRE−TERMINATED END.
5. ALL FIELD INSTALLED OC CABLING SHALL BE TYPE RHH/RHW AND SHALL BE UL THERMOSET INSULATED.

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DC POWER DIAGRAM | 1

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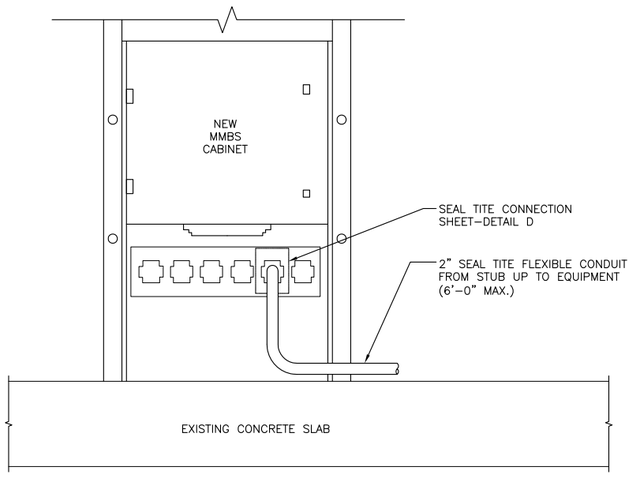
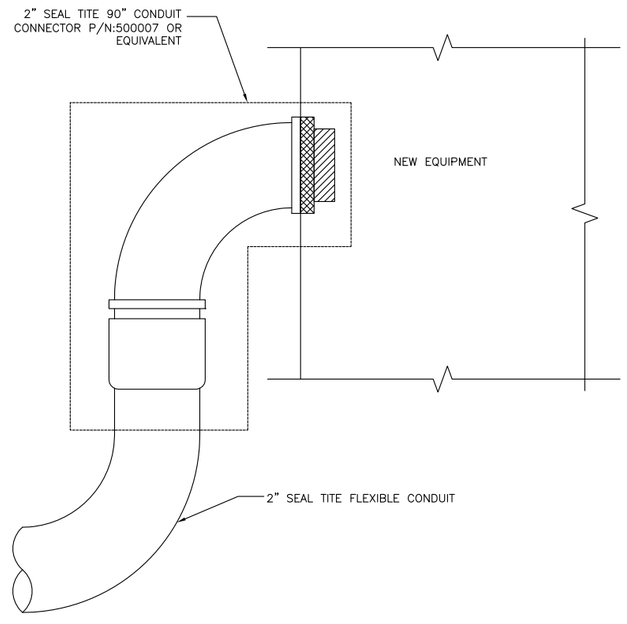
11"x17" SCALE: NOT TO SCALE
NOT USED | 2



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE
EQUIP. POWER CONDUIT CONNECTIONS | 3



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11"x17" SCALE: NOT TO SCALE
SEAL TITE POWER CONDUIT CONNECTION | 4

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE
NOT USED | 5

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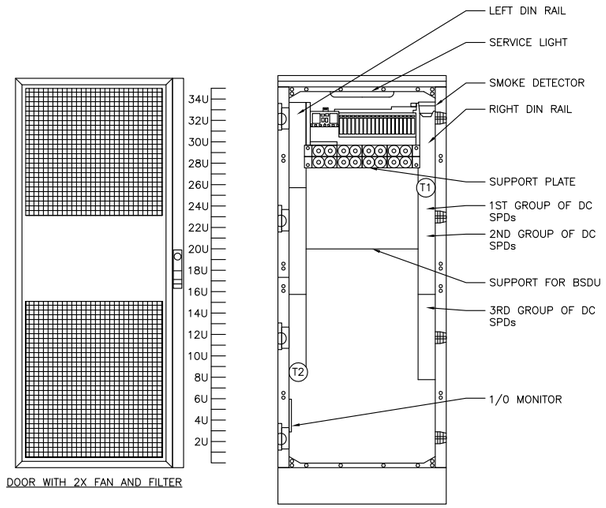
LICENSURE:

SHEET TITLE:
DC POWER ONE−LINE DIAGRAM

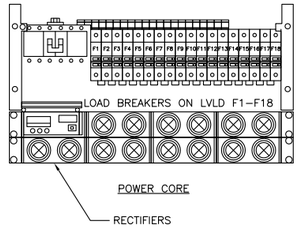
SHEET NUMBER: E-2

REVISION: 1

1253−054



DOOR WITH 2X FAN AND FILTER



HXDXW: 1800x823x700MM
INCLUDING MUDROOM:
1800x823x905MM

CABINET HEIGHT
W/O PLINTH:
1650MM

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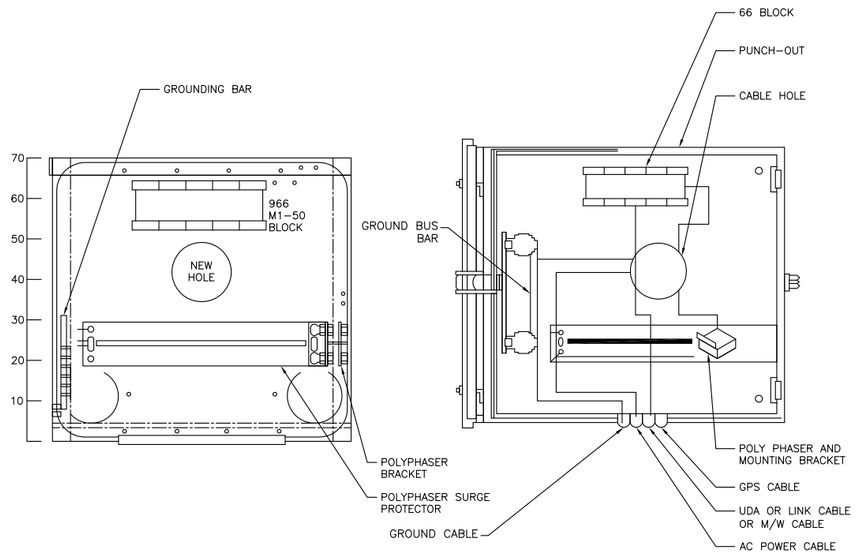
11"x17" SCALE: NOT TO SCALE

MMBS-BBU ELECTRICAL DETAILS | 1



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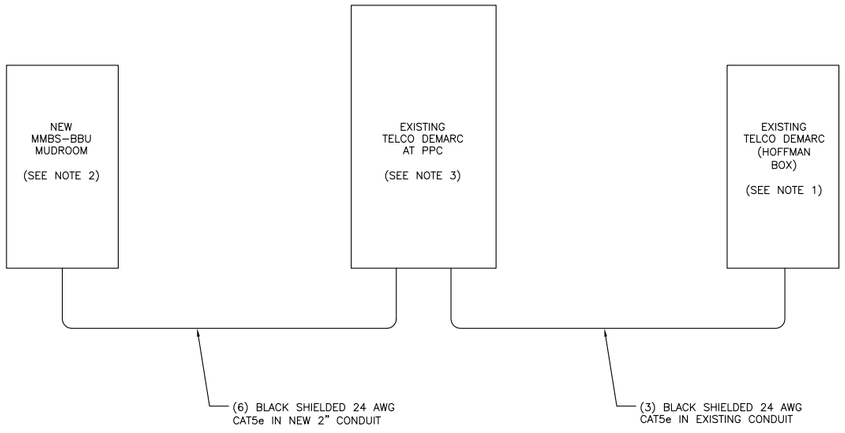
MUDROOM ELECTRICAL DETAILS | 2



NOTES:

1. CONTRACTOR TO INSTALL NEW 66 BLOCK IN EXISTING HOFFMAN BOX AT SITES MAIN TELCO DEMARC.
2. CONTRACTOR SHALL INSTALL RJ-45 ENDS ON ALL (6) RUNS OF CAT5e INTO MMBS-BBU MUDROOM.
3. CONTRACTOR TO INSTALL NEW 66 BLOCK IN EXISTING GELCO BOX NEXT TO EXISTING PPC CABINET.

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TELCO RISER DETAIL | 3

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NOT USED | 4

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SAMSUNG

GENERAL DYNAMICS
WIRELESS SERVICES

TRK ENGINEERING

PROJECT INFORMATION:

NETWORK VISION MMBS LAUNCH

LARSON LAKE
SE03XC016
15015 MAIN STREET
BELLEVUE, WA

ISSUE DATE: 08/01/12

ISSUED FOR: CONSTRUCTION

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	08/01/12	90% CD'S	S.A.
0	08/31/12	100% CD'S	T.H.
1	03/13/13	GENERAL REVISIONS	T.H.

NOT FOR CONSTRUCTION UNLESS
LABELED AS CONSTRUCTION SET

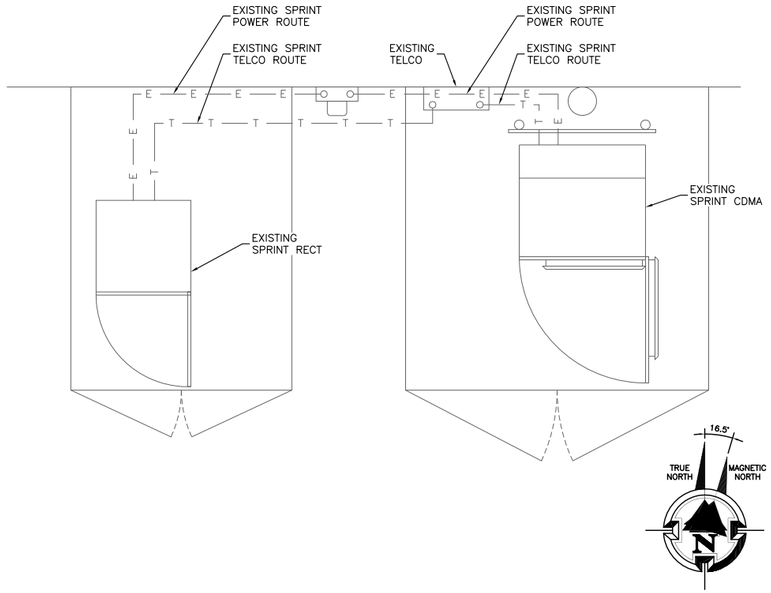
LICENSURE:

SHEET TITLE:
ELECTRICAL DETAILS
(OUTDOOR SPECIFICATIONS)

SHEET NUMBER: E-3

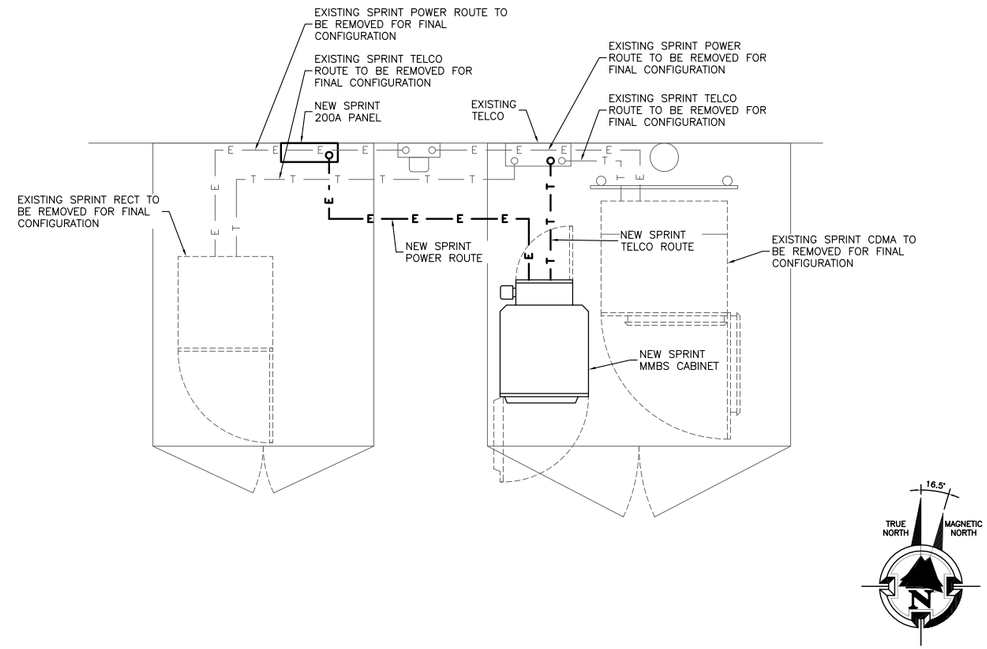
REVISION: 1

1253-054



22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

EXISTING ROUTING PLAN | 1



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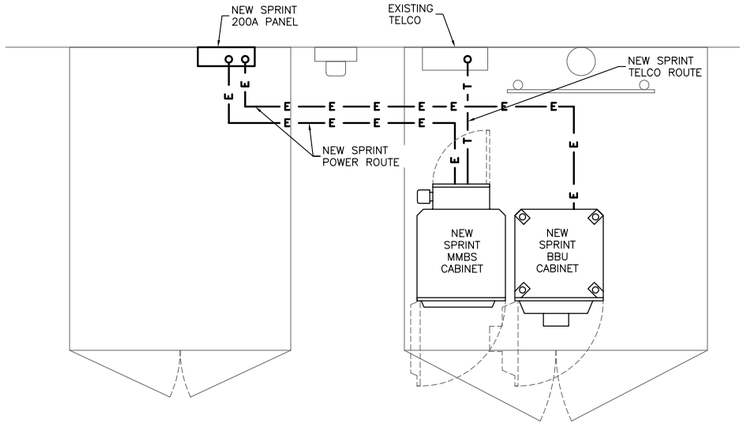
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

NEW TEMP. ROUTING PLAN (INTERIM) | 2

NOTE:
STRUCTURAL ANALYSIS MUST BE PREFORMED ON ALL ROOFTOPS, FLAGPOLES AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, NEW RRUS, & NEW CABINETS/TEMPORARY PLATFORM. STRUCTURAL ANALYSIS TO BE PROVIDED BY GENERAL DYNAMICS.



22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

NEW ROUTING PLAN (FINAL) | 3

NOT USED | 4

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LICENSURE:

SHEET TITLE:
CONDUIT ROUTING

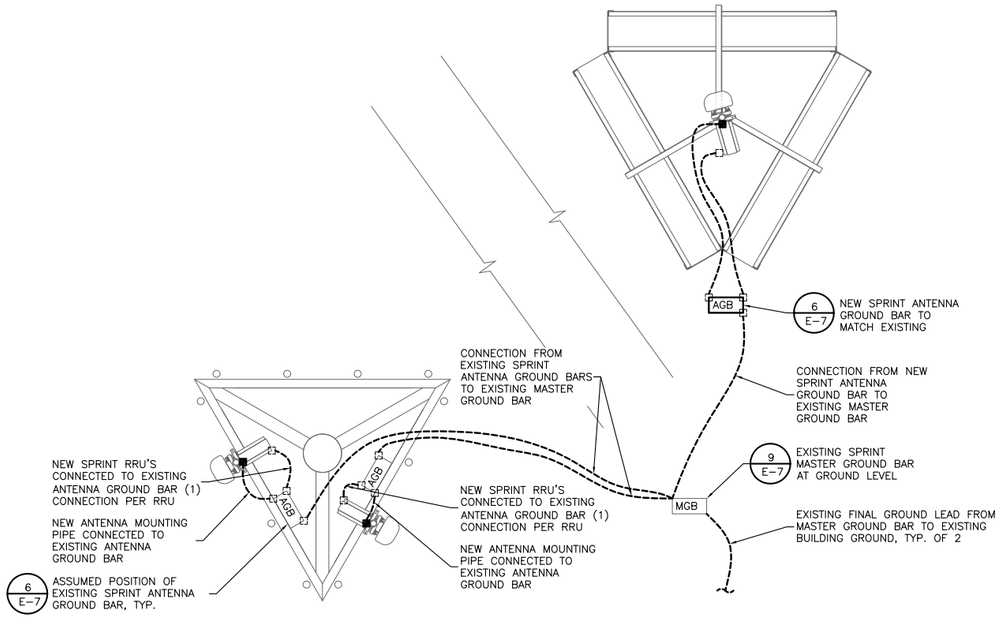
SHEET NUMBER: E-4

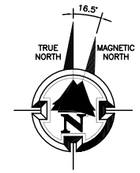
REVISION: 1

1253-054

LEGEND

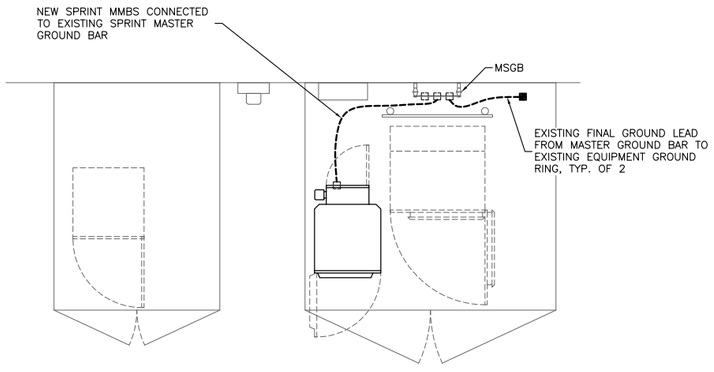
■	EXOTHERMIC CONNECTION
□	MECHANICAL CONNECTION
o	COMPRESSION CONNECTION
CGB	COLLECTOR GROUND BAR
MGB	EXTERNAL GROUND BAR





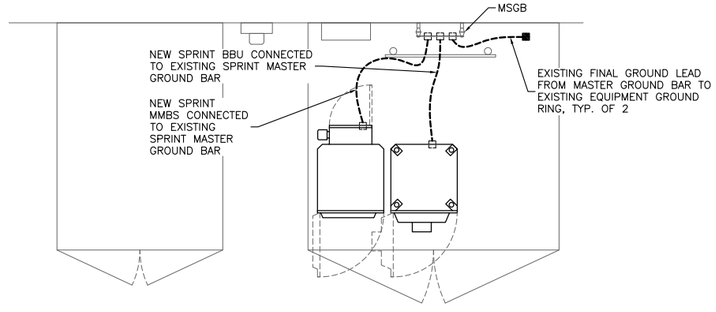
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

TYPICAL ANTENNA GROUNDING PLAN | 1



22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0"
2' 1' 0" 2'

EQUIPMENT GROUNDING PLAN (INTERM) | 2



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11"x17" SCALE: 3/16" = 1'-0"
2' 1' 0" 2'

EQUIPMENT GROUNDING PLAN (FINAL) | 3

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 EXOTHERMIC. 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 SPRINT 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 PER SPRINT STANDARD GROUNDING METHOD, AND RECEIVE APPROVAL OF DESIGN BY AUTHORIZED SPRINT MOBILITY REPRESENTATIVE, PRIOR TO INSTALLATION OF GROUNDING SYSTEM. PHOTO DOCUMENT ALL EXOTHERMIC AND GROUND RING
7. NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
8. ALL EXISTING GROUND BARS, WIRES & CONNECTIONS SHALL BE FIELD VERIFIED. ANY DEFICIENT ITEMS SHALL BE REPLACED AS REQUIRED TO ACHIEVE ADEQUATE GROUNDING REQUIRED BY SPRINT.

GENERAL GROUNDING NOTES

GROUNDING NOTES

1. EXOTHERMIC WELDS (2). 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
3. ALL HARDWARE 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
6. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
7. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
8. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
9. SUPPLIED AND INSTALLED BY CONTRACTOR.
10. WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.
11. EXTEND TWO (2) 2 AWG TINNED CU CONDUCTOR FROM BURIED GROUNDING RING AND CONNECT TO THE NEW TOWER. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR GROUNDING CONNECTIONS TO THE TOWER. (APPLICABLE TO NEW TOWERS ONLY.)
12. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUNDING BARS AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.
13. EXPOSED GROUND WIRES TO BE NON METALLIC LIQUID TIGHT.

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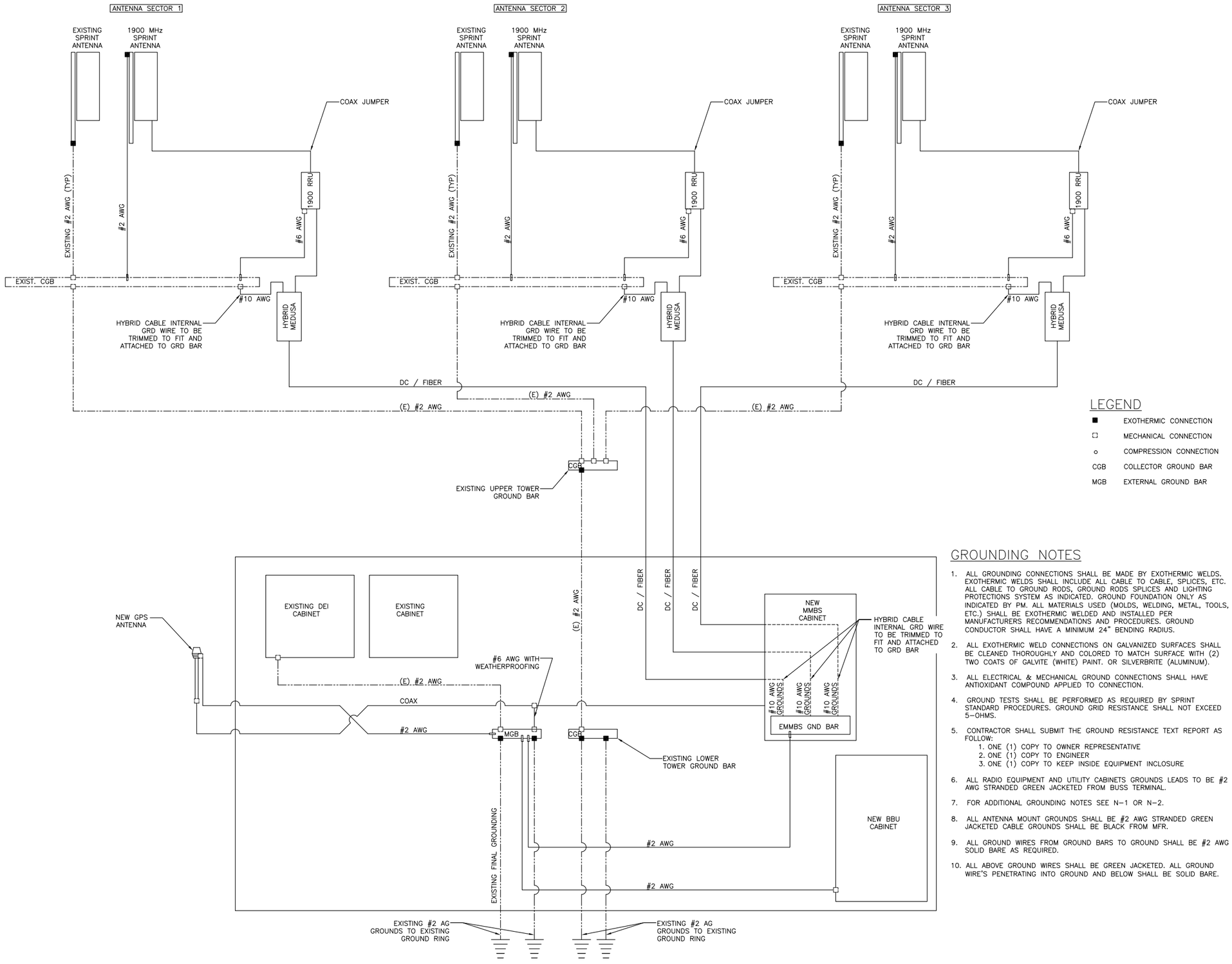
LICENSURE:

SHEET TITLE:
GROUNDING PLAN

SHEET NUMBER: E-5

REVISION: 1

1253-054



GROUNDING NOTES

1. ALL GROUNDING CONNECTIONS SHALL BE MADE BY EXOTHERMIC WELDS. EXOTHERMIC WELDS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS SPLICES AND LIGHTING PROTECTIONS SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL, TOOLS, ETC.) SHALL BE EXOTHERMIC WELDED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS.
2. ALL EXOTHERMIC WELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF GALVITE (WHITE) PAINT. OR SILVERBRITE (ALUMINUM).
3. ALL ELECTRICAL & MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTIOXIDANT COMPOUND APPLIED TO CONNECTION.
4. GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY SPRINT STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5-OHMS.
5. CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEXT REPORT AS FOLLOW:
   1. ONE (1) COPY TO OWNER REPRESENTATIVE
   2. ONE (1) COPY TO ENGINEER
   3. ONE (1) COPY TO KEEP INSIDE EQUIPMENT INCLOSURE
6. ALL RADIO EQUIPMENT AND UTILITY CABINETS GROUNDS LEADS TO BE #2 AWG STRANDED GREEN JACKETED FROM BUSS TERMINAL.
7. FOR ADDITIONAL GROUNDING NOTES SEE N-1 OR N-2.
8. ALL ANTENNA MOUNT GROUNDS SHALL BE #2 AWG STRANDED GREEN JACKETED CABLE GROUNDS SHALL BE BLACK FROM MFR.
9. ALL GROUND WIRES FROM GROUND BARS TO GROUND SHALL BE #2 AWG SOLID BARE AS REQUIRED.
10. ALL ABOVE GROUND WIRES SHALL BE GREEN JACKETED. ALL GROUND WIRE'S PENETRATING INTO GROUND AND BELOW SHALL BE SOLID BARE.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GROUNDING RISER DIAGRAM | 1

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LICENSURE:

SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER: E-6

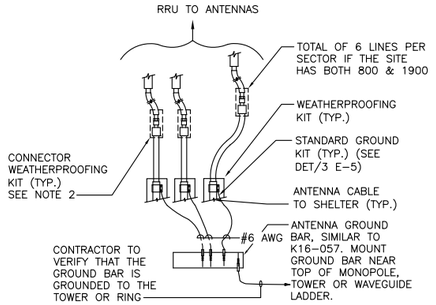
REVISION: 1

1253-054

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NOT USED | 1

NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE ANDREWS. (TYPE & PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.)



TYPICAL COAX GROUNDING TO ANTENNA GROUND BAR | 2

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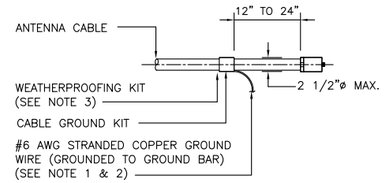
11"x17" SCALE: NOT TO SCALE

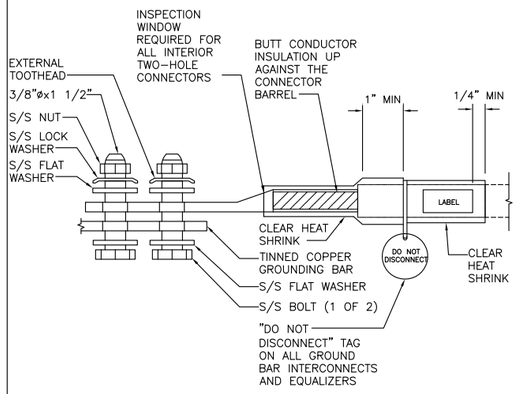


CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

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 ANDREW SUREGROUND TYPE KIT WITH TWO-HOLE LUG.
3. WEATHER PROOFING SHALL INCORPORATE PPC WEATHERPROOFING TAPE KIT, COLD SHRINK SHALL NOT BE USED.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

CABLE GROUNDING | 3



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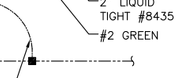
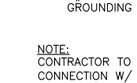
11"x17" SCALE: NOT TO SCALE

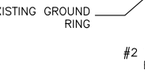
TWO HOLE LUG | 4


TYPE TA


TYPE GT


TYPE GR

TYPE VB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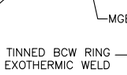
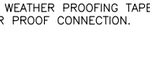

TYPE HS

TYPE HA


TYPE VS


TYPE GL LUG

TYPE PG

TYPICAL EXOTHERMIC WELD CONNECTIONS | 5

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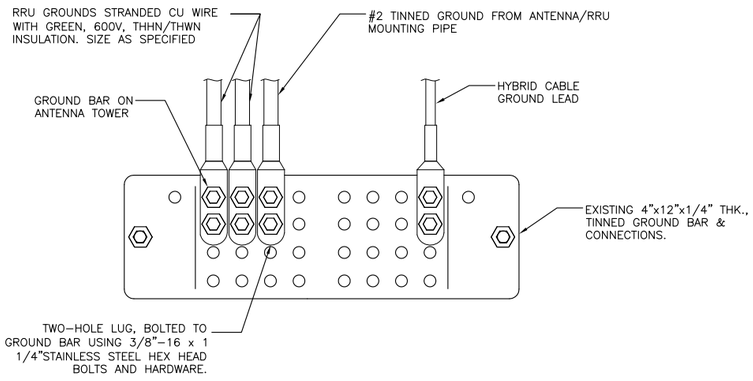

NOTE:
*PROVIDE NO-OX GREASE AT CONTACT SURFACE BETWEEN LUG AND GROUND BAR

*CONTRACTOR WILL VERIFY BUSS BAR GROUNDING TO THE TOWER OR RING.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

SECTOR GROUND BAR CONNECTIONS | 6

DIAGRAMMATIC LAYOUT ONLY. MAY VARY.

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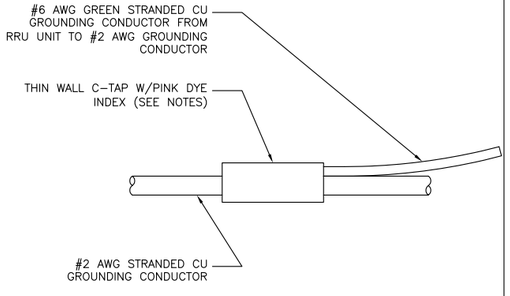
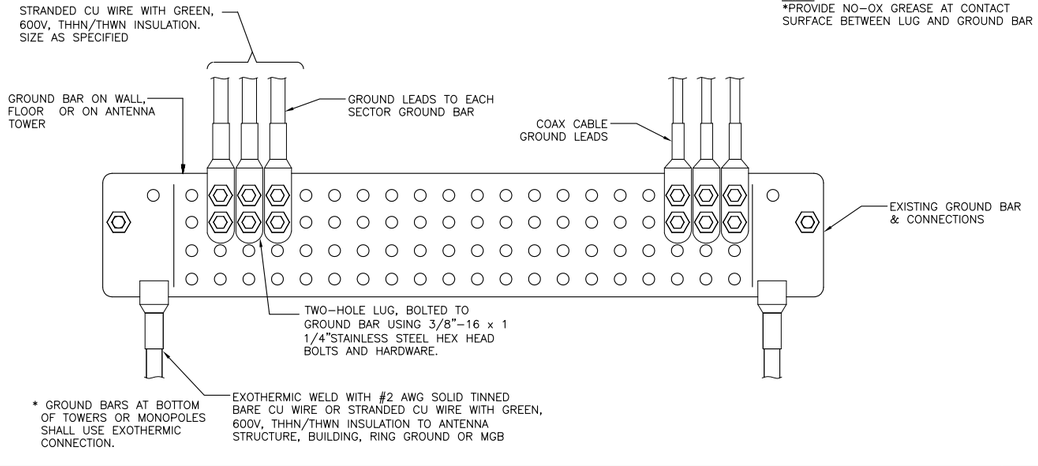
CABINET GND SCHEMATIC | 7



NOTE:
CONTRACTOR TO SURROUND COMPLETED CONNECTION W/ WEATHER PROOFING TAPE TO ENSURE WEATHER PROOF CONNECTION.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

C-TAP CONNECTION | 8



NOTE:
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MASTER GROUND BAR CONNECTIONS | 9

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LICENSURE:

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GROUNDING DETAILS

SHEET NUMBER: E-7

REVISION: 1

1253-054

Kelly Nichols

City of Bellevue Submittal Requirements | 27a

ENVIRONMENTAL CHECKLIST

4/18/02

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

BACKGROUND INFORMATION

Property Owner: Franklin West LLC ✓

Proponent: Sprint Spectrum LC ✓

Contact Person: ~~Susan Baer~~ KELLY LESTER for Vinculums (Representing Sprint) ✓
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: 3301 Burke Avenue North Suite 100, Seattle, WA 98002 ✓

Phone: 206.213.9932 Ex 228 ✓

Proposal Title:

Proposal Location: 10515 Main Street, Bellevue ✓ (Main St. and 105th)
(Street address and nearest cross street or intersection) Provide a legal description if available.

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature: ✓

1. General description: Remove 6 existing panel antennas (2 per sector); install 3 new panel antennas (1 per sector); remove 1 rectifier cabinet; remove 1 Modcell cabinet; install 1 new MMBS cabinet; install 1 new BBU cabinet; install 1 new Fiber Junction box; remove all existing Sprint antenna coaxial cables; Install 3 new Hybrid Fiber Optic cables using existing coax route (1 per sector); install 3 new RRU's
2. Acreage of site: 133,115 ✓
3. Number of dwelling units/buildings to be demolished: None ✓
4. Number of dwelling units/buildings to be constructed: None ✓
5. Square footage of buildings to be demolished: None ✓
6. Square footage of buildings to be constructed: None ✓
7. Quantity of earth movement (in cubic yards): None ✓
8. Proposed land use: No change ✓
9. Design features, including building height, number of stories and proposed exterior materials: ✓
   No change - Replacing cellular equipment
10. Other

exist. installation on building rooftop adjacent to WCF's by other carriers

Received
JAN 22 2013
Permit Processing

SN

Estimated date of completion of the proposal or timing of phasing:

4-6 weeks from permit issuance

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Not at this time.

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Administrative Conditional Use

LA – Land Use approval

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

Building Permit 12-124437 CD

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

☐ Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☒ Building Permit (or Design Review)
Site plan
Clearing & grading plan

☐ Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. **Earth**

a. General description of the site: ☒ Flat ☐ Rolling ☐ Hilly ☐ Steep slopes ☐ Mountains ☐ Other

b. What is the steepest slope on the site (approximate percent slope)?

1-2%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

asphalt

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

None

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

N/A

on building

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

NA

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

All work will be done in accordance with issued permits.

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

N/A

any dust from construc. equipment

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

Safety rules and regulations will be followed at all times.

construction Dust suppression (if needed) per BCC 23.76

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If

appropriate, state what stream or river it flows into.

No

yes - wetlands of Kelsey Creek Greenbelt - but not touched by this project - on exist bldg.

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

No.

yes - but on roof of exist bldg. will not impact stream or wetland

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No. NA

rooftop

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

No.

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

No.

(2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Safety and rules will be followed at all times.

4. Plants

a. Check or circle types of vegetation found on the site:

- ☐ deciduous tree: alder, maple, aspen, other
- ☐ evergreen tree: fir, cedar, pine, other
- ☐ shrubs
- ☐ grass
- ☐ pasture
- ☐ crop or grain
- ☐ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

NA - on rooftop adjacent, however, to wetland. But project will not touch and/or have any affect on critical area.

(no)

b. What kind and amount of vegetation will be removed or altered?

None.

NA

c. List threatened or endangered species known to be on or near the site.

No.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

No.

no landscaping required due to location on rooftop

SN

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- ☐ Birds: hawk, heron, eagle, songbirds, other:
- ☐ Mammals: deer, bear, elk, beaver, other:
- ☐ Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

None

c. Is the site part of a migration route? If so, explain.

No

d. Proposed measures to preserve or enhance wildlife, if any:

N/A

pacific flyway - entire puget sound region

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

Electrical provided by PSE

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

No.

(1) Describe special emergency services that might be required.

None.

(2) Proposed measures to reduce or control environmental health hazards, if any.

Health and Safety rules and regulations will be followed at all times.

RF engineer has certified equip min necessary & WCF meets FCC regulations. Documentation in project file.

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)? None.

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Nothing significant

(3) Proposed measures to reduce or control noise impacts, if any:

Follow City Ord, Safety and Noise regulations.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Retail

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

one-3 stories
line retail
office
storage warehouse

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

CB

f. What is the current comprehensive plan designation of the site?

Unknown

g. If applicable, what is the current shoreline master program designation of the site?

Unknown

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

I. Approximately how many people would reside or work in the completed project?

Unknown

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Obtaining appropriate permits and following health and safety rules and regulations.

Admin. Conditional Use approval 13-104682-LX

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

Safety rules and regulations will be followed at all times.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? No building being proposed.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Whatever is required by the jurisdiction.

3 Fewer antennas = less impact. paint colors to diminish visual impact.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light or glare impacts, if any:

There will be none.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

N/A

b. Would the proposed project displace any existing recreational uses? If so, describe.

N/A

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

N/A

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

N/A

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

N/A

c. Proposed measures to reduce or control impacts, if any:

N/A

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

N/A

148th Ave SE & main st.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

N/A

yes

c. How many parking spaces would be completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not Including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

N/A

none

g. Proposed measures to reduce or control transportation impacts, if any:

N/A

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

N/A

no

b. Proposed measures to reduce or control direct impacts on public services, if any.

N/A

none needed

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

~~N/A~~

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

N/A

electrical service by PSE

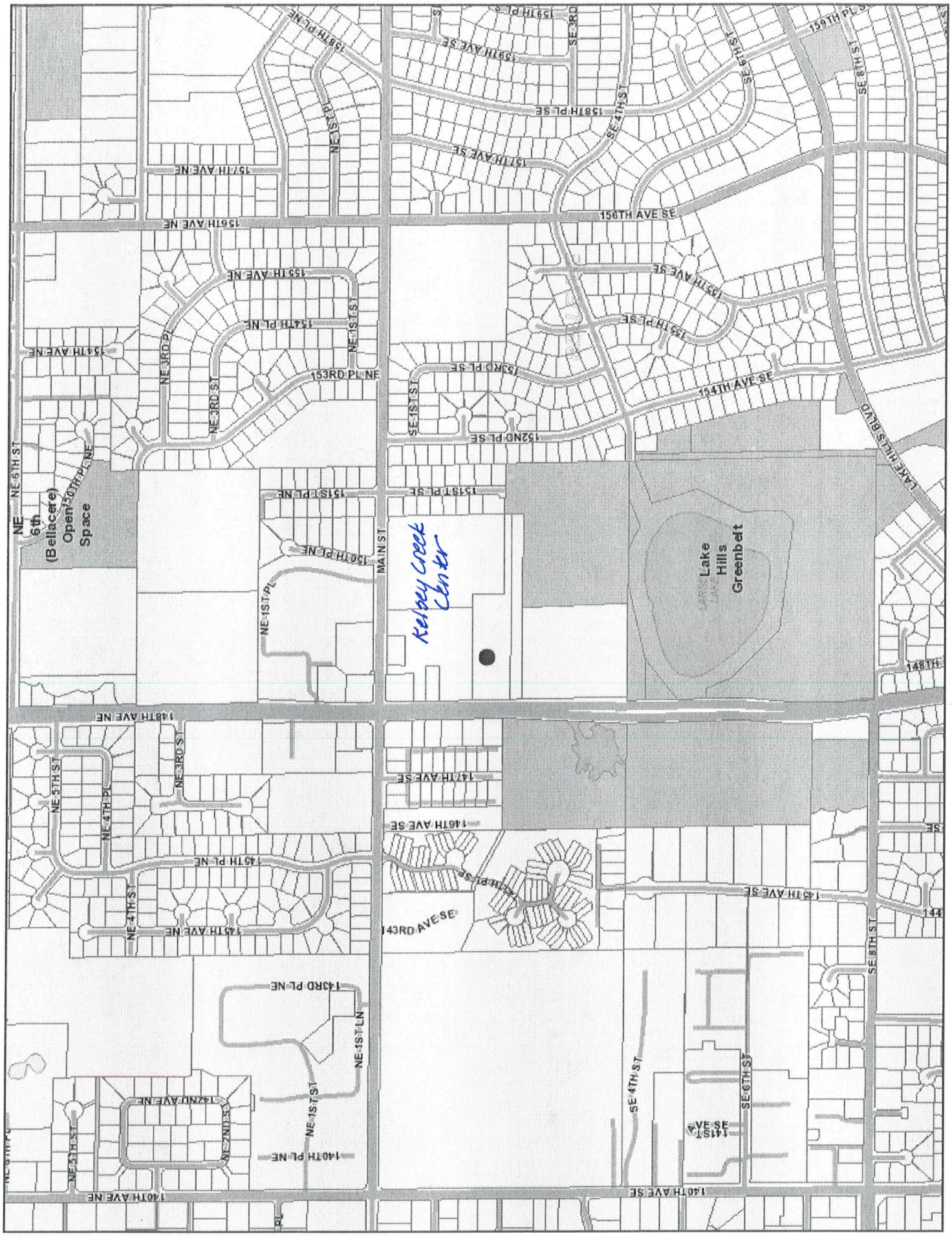
Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature..... Susan Baer .....

Date Submitted..... 1-22-2013 .....

SN


NE 6TH ST
NE 6th (Bellacere) Open Space
156TH AVE NE
157TH AVE NE
158TH PL NE
NE 1ST ST
155TH AVE NE
154TH PL NE
154TH AVE NE
NE 3RD PL
NE 3RD ST
153RD PL NE
150TH PL NE
151ST PL NE
MAIN ST
NE 1ST PL
148TH AVE NE
NE 5TH ST
NE 4TH PL
145TH PL NE
NE 4TH ST
143RD PL NE
NE 1ST LN
142ND AVE NE
142ND ST NE
NE 1ST ST
140TH PL NE
140TH AVE NE
159TH PL SE
159TH AVE SE
SE 3RD
158TH PL SE
SE 4TH ST
157TH AVE SE
SE 6TH ST
156TH AVE SE
155TH AVE SE
155TH PL SE
153RD PL SE
SE 1ST ST
152ND PL SE
154TH AVE SE
151ST PL SE
Kelsey Creek Center
Lake Hills Greenbelt
LAKE HILLS BLVD
SE 8TH ST
148TH
147TH AVE SE
146TH AVE SE
145TH PL SE
145TH AVE SE
143RD AVE SE
SE 4TH ST
141ST PL SE
SE 6TH ST
140TH AVE SE