T-Mobile®

January 7, 2004

Via Facsimile

Pamela B. Katz, Chairman and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Sharing Request by T-Mobile
Future Verizon Facility at
Lot 54 Palmer Road, Chaplin
Doc. 211

Dear Ms. Katz and Members of the Siting Council:

At this time, T-Mobile would like to withdraw its Tower Share application for the Verizon Tower located at Palmer Road in Chaplin. T-mobile will be re-filing the application in the future at the 117' height.

I am sorry for any inconvenience this may have caused.

Respectfully submitted,

Christine Farrell
T-Mobile
100 Filley St.
Bloomfield, CT 06002
(860) 6794-6427

cc: Chaplin First Selectman Rusty Lanzit

T-Mobile USA, Inc.
Office: (401) 588-5600
Fax: (401) 588-5658
50 Vision Boulevard
East Providence, RI 02914

T-Mobile

Omnipoint Holdings, Inc.
100 Filley Street, Bloomfield, CT. 06002
Telephone: (860) 692-7100 **Fax:** (860) 692-7159

Recipient (s):	Phone Number (s):	Fax Number (s):
CT Siting Council		
Mike Perone		

Date: 1/7/04 Pages: 2 (including cover sheet)

Sender: Christine Farrell Sender's Direct Dial: 860-794-6427

T-Mobile®

TS-T-MOBILE-024-040106

December 31, 2003

BY HAND

Pamela B. Katz, Chairman and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Sharing Request by T-Mobile
Future Verizon Facility at
Lot 54 Palmer Road, Chaplin
Doc. 211
Latitude: 41-47-04 / Longitude: 71-08-08

Dear Ms. Katz and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, T-Mobile USA, Inc. acting through its wholly owned subsidiary Omnipoint Communications, Inc. ("T-Mobile") hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use of a future communications tower, located at Lot 54 Palmer Road in the Town of Chaplin ("Verizon Facility"), owned by Cellco partnership d/b/a Verizon Wireless ("Verizon"). T-Mobile and Verizon have agreed to the shared use of the Verizon Facility, as detailed below. Verizon received approval to construct said Facility on November 4, 2003 and have already or will start construction shortly.

VERIZON FACILITY

The Verizon Facility consists of an approximately one hundred fifty (150) foot high monopole tower ("Tower") owned and operated by Verizon. T-Mobile will be at a mounting height of One Hundred Twenty Seven (127) feet. A chain link fence will surround the Verizon Facility. Verizon is approved to locate at the 147' level and Sprint is approved to locate at the 137' level. Sprint will be building the facility for Verizon, but Verizon will own the facility.

T-Mobile USA, Inc.
Office: (401) 588-5600
Fax: (401) 588-5658
50 Vision Boulevard
East Providence, RI 02914

T-MOBILE FACILITY

As shown on the enclosed plans prepared by All-Points Technology Corporation, P.C., including a site plan and tower elevation of the Verizon Facility, annexed hereto as Exhibit A, T-Mobile proposes a shared use of the Facility by placing antennas on the Tower and equipment needed to provide personal communications services ("PCS") within the existing fenced compound. T-Mobile will install up to nine (9) antennas at approximately the One Hundred Twenty Seven (127) foot level of the Tower. Associated unmanned equipment cabinets will be located on a concrete pad near the base of the tower within the existing compound.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1).) Further, upon approval of such shared use, it is exclusive and no local zoning or land use approvals are required C.G.S. §16-50x. Shared use of the Verizon Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

A. Technical Feasibility The existing Tower and compound were designed to accommodate multiple carriers. A structural analysis of the Tower with multiply carriers has been performed and is attached as Exhibit B. The structural analysis concludes that the existing tower can safely accommodate the proposed T-Mobile antennas. The proposed shared use of this Tower is technically feasible. Further there is sufficient room in the fenced compound for our facility, thus the site plan will not have to be altered.

B. Legal Feasibility Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the future Sprint Facility. (C.G.S. § 16-50aa (C)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit the Applicant to obtain a building permit for the proposed installation.

C. Environmental Feasibility The proposed shared use would have a minimal environmental effect, for the following reasons:

1.) The proposed installation would have a de minimis visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing facility;

2.) The proposed installation by T-Mobile would not increase the height of the tower or extend the boundaries of the Verizon Facility;

3.) The proposed installation would not increase the noise levels at the existing facility boundaries by six decibels or more;

4.) Operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. The "worst case" exposure calculated for the operation of this facility for all carriers, would be approximately 11.77 % of the standard. See Cumulative Emissions Compliance Report dated December 31, 2003, prepared by Hassan Syed, T-Mobile Radio Frequency Engineer, annexed hereto as Exhibit C;

5.) The proposed shared use of the Verizon Facility would not require any water or sanitary facilities, or generate any air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than for periodic maintenance visits.

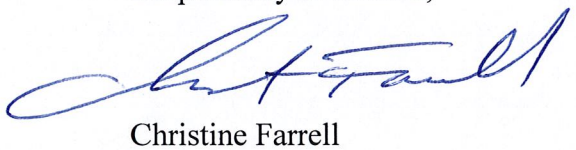
D. Economic Feasibility The Applicant and the tower owner have agreed to share use of the Sprint Facility on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety As stated above and evidenced in the Cumulative Emissions Compliance Report annexed hereto as Exhibit C, the operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. Further, the addition of T-Mobile's telecommunications service in the Chaplin area through shared use of the Verizon Facility is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area.

Conclusion

As delineated above, the proposed shared use of the Verizon Facility satisfies the criteria set forth in C.G.S. § 16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of tower in the State of Connecticut. T-Mobile therefore requests the Siting Council issue an order approving the proposed shared use of the Verizon Facility.

Respectfully submitted,



Christine Farrell
T-Mobile
100 Filley St.
Bloomfield, CT 06002
(860) 6794-6427

cc: Chaplin First Selectman Rusty Lanzit

Exhibit A

VERIZON CHAPLIN

LOT 54 PALMER ROAD

CHAPLIN, CT 06235

SITE NUMBER: CT-11-508-F

CO-LOCATION

GENERAL NOTES

1) THE CONTRACTOR SHALL GIVE ALL NOTICES & COMPLY w/ ALL LAWS, ORDINANCES, RULES, REGULATIONS & LAWFUL ORDERS of ANY PUBLIC AUTHORITY, MUNICIPAL & UTILITY COMPANY SPECIFICATIONS, & LOCAL & STATE JURISDICTIONAL CODES BEARING on THE PERFORMANCE of THE WORK. THE WORK PERFORMED on THE PROJECT & THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE w/ ALL APPLICABLE CODES, REGULATIONS, & ORDINANCES.

2) THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION & CONTRACT DOCUMENTS THE COMPLETE SCOPE of WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS or ERRORS IN THE DRAWINGS and/or SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT & IMPROVEMENTS IN ACCORDANCE w/ THE INTENT of THESE DOCUMENTS.

3) THE CONTRACTOR or BIDDER SHALL BEAR THE RESPONSIBILITY of NOTIFYING (IN WRITING) THE LESSEE/LICENSEE REPRESENTATIVE of ANY CONFLICTS, ERRORS, or OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTORS PROPOSAL or PERFORMANCE of WORK. IN THE EVENT of DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY or EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

4) THE SCOPE of WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR & ALL OTHER MATERIALS & LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT as DESCRIBED HEREIN.

5) THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION of BIDS or PERFORMING WORK TO FAMILIARIZE HIMSELF w/ THE FIELD CONDITIONS & TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED in ACCORDANCE w/ THE CONTRACT DOCUMENTS.

6) THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED w/ CONSTRUCTION PRIOR TO STARTING WORK on ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

7) THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT & MATERIALS ACCORDING TO THE MANUFACTURERS/VENDORS SPECIFICATIONS UNLESS NOTED OTHERWISE or WHERE LOCAL CODES or ORDINANCES TAKE PRECEDENCE.

8) THE CONTRACTOR SHALL PROVIDE A FULL SET of CONSTRUCTION DOCUMENTS AT THE SITE UPDATED w/ THE LATEST REVISIONS & ADDENDUMS or CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED w/ THE PROJECT.

9) THE CONTRACTOR SHALL SUPERVISE & DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES & PROCEDURES & FOR COORDINATING ALL PORTIONS of THE WORK UNDER THE CONTRACT.

10) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS & ESTABLISHING & MAINTAINING ALL LINES & GRADES REQ'D TO CONSTRUCT ALL IMPROVEMENTS as SHOWN HEREIN

11) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS & INSPECTIONS WHICH MAY BE REQ'D FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY or LOCAL GOVERNMENT AUTHORITY.

12) THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION of WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION on or ABOUT THE PROPERTY.

13) THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN & HAZARD FREE DURING CONSTRUCTION & DISPOSE of ALL DIRT, DEBRIS, RUBBISH & REMOVE EQUIPMENT NOT SPECIFIED as REMAINING on THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION & FREE FROM PAINT SPOTS, DUST, or SMUDGES of ANY NATURE.

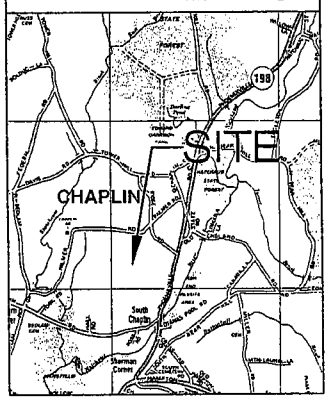
14) THE CONTRACTOR SHALL COMPLY W/ ALL OSHA REQUIREMENTS as THEY APPLY TO THIS PROJECT.

15) THE CONTRACTOR SHALL NOTIFY THE LESSEE/LICENSEE REPRESENTATIVE WHERE A CONFLICT OCCURS on ANY of THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL or CONSTRUCT ANY PORTION of THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.

16) THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. on THE JOB.

17) ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS & EXISTING PLANS of RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72hr PRIOR TO ANY EXCAVATION ACTIVITY.
DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233
CALL BEFORE YOU DIG (CT): 1-800-922-4455

VICINITY MAP NTS



SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET & INDEX	0
A-1	SITE PLAN & COMPOUND PLAN, ELEVATION & DETAILS	0
S-1	EQUIPMENT LAYOUT, STRUCTURAL NOTES & DETAILS	0
E-1	ELEC. & GROUNDING NOTES, RISER DIAGRAM & DETAILS	0

PROJECT SUMMARY

SITE NUMBER:	CT-11-508-F
SITE NAME:	VERIZON CHAPLIN
SITE ADDRESS:	LOT 54 PALMER ROAD CHAPLIN, CT 06235
ASSESSORS PARCEL NO.:	SECTION: 55, BLK: 1, LOT: 54 VOLUME: 60, PAGE: 633
CONSTRUCTION TYPE:	CO-LOCATION
PROPERTY OWNER:	DONALD A. & JANET L. BESSETTE 147 PALMER ROAD CHAPLIN, CT 06235
STRUCTURE OWNER:	CELLCO PARTNERSHIP (d/b/a VERIZON WIRELESS) 99 EAST RIVE DRIVE EAST HARTFORD, CT 06108
APPLICANT:	OMNIPOINT COMMUNICATIONS, INC. 100 FILLEY STREET BLOOMFIELD, CT 06002

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE LESSEE/LICENSEE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

OMNIPOINT COMMUNICATIONS, INC.
A WHOLLY OWNED SUBSIDIARY OF T-MOBILE, USA
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
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ALL-POINTS TECHNOLOGY CORPORATION, P.C.
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT. 06419
PHONE: (860)-663-1697
FAX: (860)-663-0935
www.allpointstech.com

STATE OF CONNECTICUT
SCOTT M. CHASE
No.19726
LICENSED PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: CT-11-508-F

DRAWN BY: GWA

CHECKED BY: SMC

SUBMITTALS

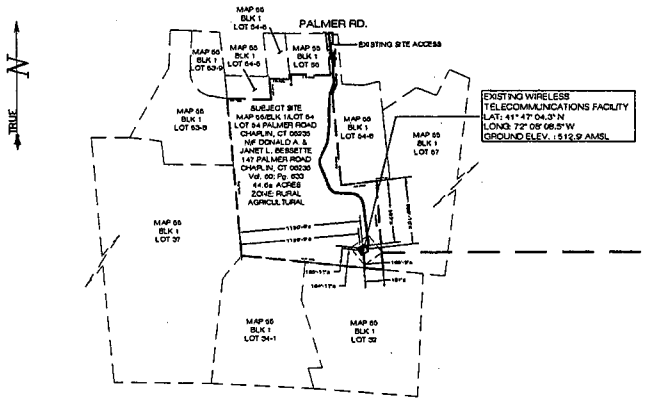
0	12/16/03	CONSTRUCTION GWA

CT-11-508-F
VERIZON CHAPLIN
LOT 54 PALMER ROAD
CHAPLIN, CT 06235

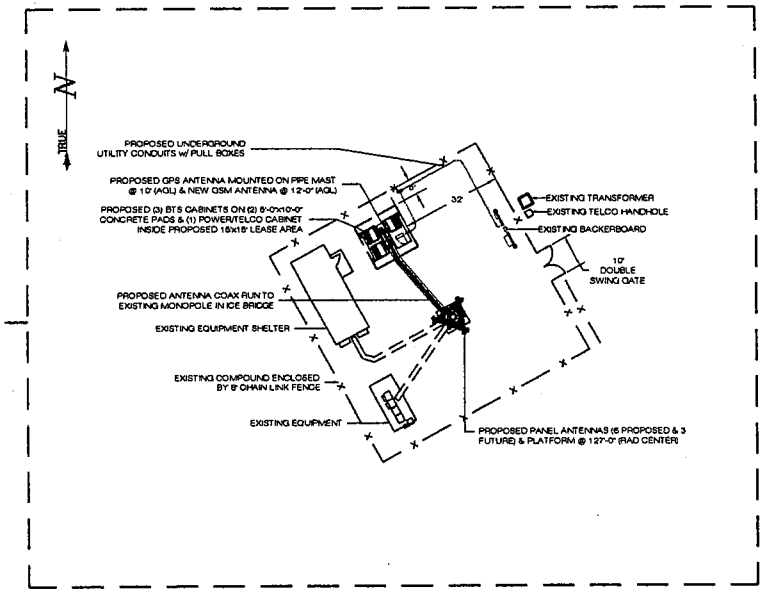
SHEET TITLE
TITLE SHEET & INDEX

SHEET NUMBER
T-1

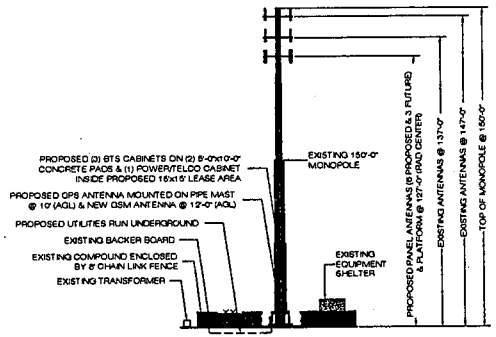
NOTE:
BASE MAPPING FROM:
1) TOWN OF CHAPLIN ASSESSOR MAPPING (MAP 55)
2) SPRINT PCS CHAPLIN COMPREHENSIVE SITE PLAN CHAPLIN LOT 54 PLAMER RD, CHAPLIN, CT 06235; PREPARED BY DEWBERRY-GOODKIND, INC. of NEW HAVEN, CT dated 06/19/03.



1 A-1 **PLOT PLAN**
SCALE: 1"= 600'-0"
0 300' 600' 1,200'

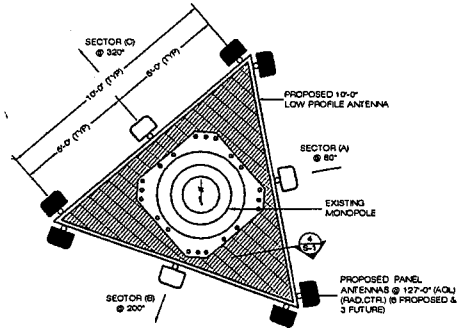


2 A-1 **ENLARGED COMPOUND PLAN**
SCALE: 1"= 20'-0"
0 10' 20' 40'



3 A-1 **NORTHERN ELEVATION**
SCALE: 1"= 30'-0"
0 15' 30' 60'

SPECIAL LESSEE/LICENSEE NOTE:
LESSEE/LICENSEE "FUTURE" PANEL ANTENNAS ARE DEPICTED FOR THE PURPOSES OF DETERMINING TOWER STRUCTURAL CAPACITY, OBTAINING ZONING APPROVALS & BUILDING PERMITS. SUBSEQUENT ENDORSEMENT or ACCEPTANCE of THIS DRAWING BY THE TOWER LESSEE/LICENSEE IS NOT TO BE CONSTRUED as PERMISSION or APPROVAL TO INSTALL "FUTURE" ANTENNAS THAT EXCEED "PROPOSED" or ACTUAL EQUIPMENT LISTED IN THE LESSEE/LICENSEE LEASE AGREEMENT.



4 A-1 **ANTENNA PLATFORM DETAIL**
SCALE: NTS

1) ALL DIMENSIONS SHOWN THUS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS WHICH EFFECTS THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS w/ LESSEE/LICENSEE PRIOR TO CONSTRUCTION.
2) NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH & INFORM CONSTRUCTION MANAGER of ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.
3) THE GENERAL CONTRACTOR and/or HIS SUB CONSULTANT SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS & INSPECTIONS WHICH MAY BE REQ'D FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTRY or LOCAL GOVERNMENT AUTHORITY.
4) ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY & ERECTION of RADIO ANTENNAS, TRANSMISSION LINES & SUPPORT STRUCTURES.
5) COAXIAL CABLE CONNECTORS & TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE LESSEE/LICENSEE & IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE of LESSEE/LICENSEE SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE ATTACHMENT K). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
6) ANY EQUIPMENT THAT IS TO BE PAINTED SHALL BE PAINTED TO MATCH EXISTING. PAINT SHALL BE SHERWIN WILLIAMS, COROTHANE II. SURFACE PREPARATION & APPLICATION SHALL BE IN ACCORDANCE w/ MANF's SPECIFICATIONS & LESSEE/LICENSEE GUIDELINES.
7) COORDINATION, LAYOUT, & FURNISHING of CONDUIT, CABLE & ALL APPURTENANCES REQ'D FOR PROPER INSTALLATION of ELECTRICAL & TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY of THE CONTRACTOR.
8) EQUIPMENT WILL BE INDEPENDENTLY POWERED w/ SEPARATE METER.
9) PRIOR TO EXCAVATION NEAR TOWER, CONTRACTOR TO CONTACT & COORDINATE w/ PROPERTY LESSEE/LICENSEE.
10) ALL ACTIVE SEWER, WATER, GAS, ELECTRIC, & OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, & WHERE REQ'D FOR THE PROPER EXECUTION of THE WORK, SHALL BE RELOCATED as DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING or PER DRILLING AROUND or NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
11) ALL INACTIVE SEWER, WATER, GAS, ELECTRIC & OTHER UTILITIES, WHICH INTERFERE w/ THE EXECUTION of THE WORK, SHALL BE REMOVED &/or CAPPED, PLUGGED or OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE w/ THE EXECUTION of THE WORK, SUBJECT TO THE APPROVAL of UTILITY COMPANY.
12) THE AREAS of THE PROPERTY DISTURBED BY THE WORK & NOT COVERED BY THE EQUIPMENT, DRIVEWAY or GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED & COVERED w/ MULCH.
13) THE CONTRACTOR SHALL ESTABLISH & MAINTAIN SOIL EROSION & SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
14) ALL UTILITY WORK SHALL BE IN ACCORDANCE w/ LOCAL UTILITY COMPANY REQUIREMENTS & SPECIFICATIONS.
15) PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE REQ'D TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT of EQUIPMENT & ANTENNAS GENERALLY DEPICTED on THIS PLAN, ATTACHED TO or MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. LESSEE/LICENSEE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO (E911) EQUIPMENT & LOCATION as TECHNOLOGY EVOLVES TO MEET REQ'D SPECIFICATION.

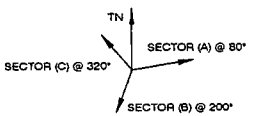
ABBREVIATIONS

SF	SQUARE FOOT	ADJ	ADJUSTABLE
APPROX	APPROXIMATE	SHT	SHEET
CONC	CONCRETE	SIM	SIMILAR
CONT	CONTINUOUS	C CONDUIT	
CJ	CONSTRUCTION JOINT	STL	STEEL
DIA	DIAMETER	TOC	TOP OF CONCRETE
DWG	DRAWING	TOM	TOP OF MASONRY
EQB	EQUIPMENT GROUND BAR	TYP	TYPICAL
		VIF	VERIFY IN FIELD
EA	EACH	UON	UNLESS OTHERWISE NOTED
ELEC	ELECTRICAL	WWF	WELDED WIRE FABRIC
EL	ELEVATION	BTS	BASE TRANSMISSION STATION
EQ	EQUAL		
EQUIP	EQUIPMENT	w/	WITH
EXT	EXTERIOR	LNA	LOW NOISE AMPLIFIER
FF	FINISHED FLOOR	PCS	PERSONAL COMM. SERVICES
FG	FINISHED GRADE	A-1	ANTENNA MARK NO.
GA	GAUGE	&	AND
GALV	GALVANIZED	@	AT
GC	GENERAL CONTRACTOR	℄	PLATE BAR
LG	LONG	MIN	MINIMUM
MAX	MAXIMUM	MTL	METAL
MECH	MECHANICAL	NIC	NOT IN CONTRACT
MFR	MANUFACTURER	NTS	NOT TO SCALE
MGB	MASTER GROUND	OC	ON CENTER
AGL	ABOVE GROUND LEVEL	OPP	OPPOSITE
ARL	ABOVE ROOF LEVEL		
AFL	ABOVE FLOOR LEVEL		

SYMBOLS AND MATERIALS

- NEW ANTENNA
- EXISTING ANTENNA
- ASPHALT
- NEW ACCESS EASEMENT
- CONCRETE
- ELECTRIC BOX
- LIGHT POLE
- FND. MONUMENT
- SPOT ELEVATION
- SET POINT
- REVISION
- GRID REFERENCE
- DETAIL REFERENCE
- ELEVATION
- GROUT or PLASTER
- BRICK
- MASONRY
- CONCRETE
- EARTH
- GRAVEL
- PLYWOOD
- SAND
- WOOD CONT.
- WOOD BLOCKING
- STEEL
- CENTERLINE
- PROPERTY LINE
- STEPPED FOOTING
- MATCH LINE
- WORK POINT
- GROUND WIRE
- COAXIAL CABLE

ANTENNA ORIENTATION KEY



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STATE OF CONNECTICUT
SCOTT M. CHASSE
No. 19725
LICENSED PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: CT-11-508-F

DRAWN BY: GWA

CHECKED BY: SMC

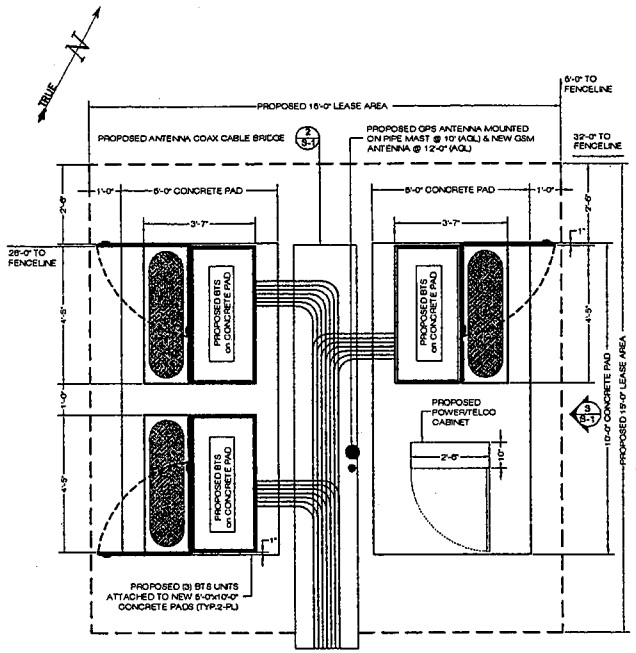
SUBMITTALS

0	12/18/03	CONSTRUCTION GWA

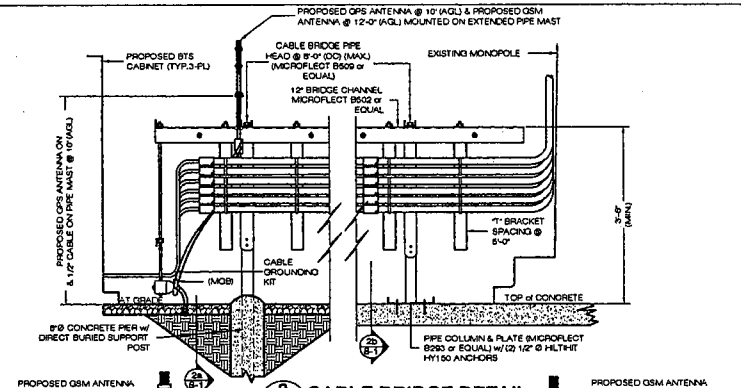
CT-11-508-F
VERIZON CHAPLIN
LOT 54 PALMER ROAD
CHAPLIN, CT 06235

SHEET TITLE
SITE & COMPOUND PLAN, ELEVATION & DETAILS

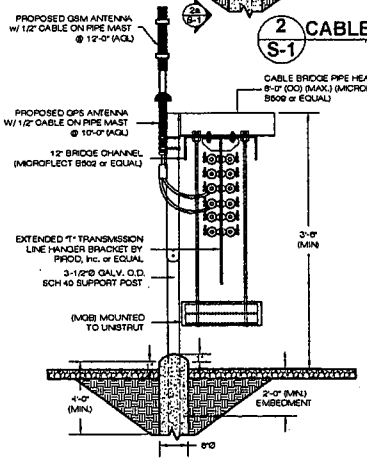
SHEET NUMBER
A-1



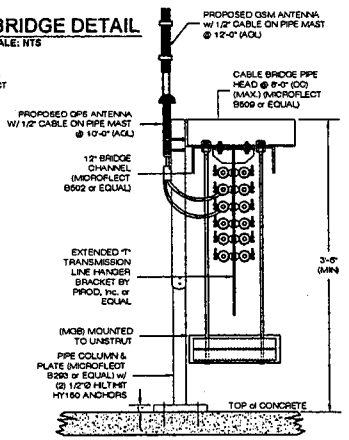
1 S-1 EQUIPMENT PAD LAYOUT
SCALE: 1/2"= 1'-0"



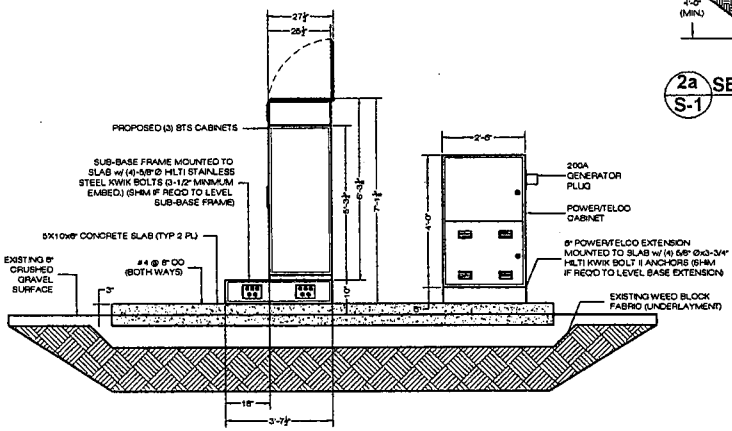
2 S-1 CABLE BRIDGE DETAIL
SCALE: NTS



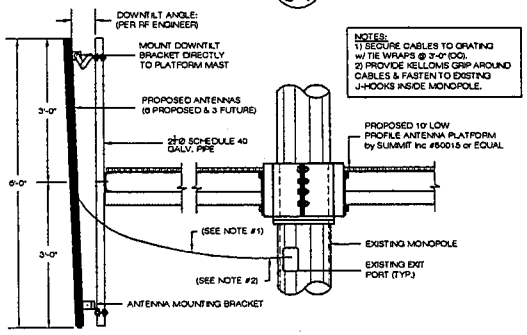
2a S-1 SECTION VIEW
SCALE: NTS



2b S-1 SECTION VIEW
SCALE: NTS



3 S-1 EQUIPMENT SLAB SECTION VIEW
SCALE: NTS



4 S-1 ANTENNA MOUNTING DETAIL
SCALE: NTS

STRUCTURAL NOTES

1) DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE & APPLICABLE SUPPLEMENTS, ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

2) CONTRACTOR SHALL VERIFY ALL DIMENSIONS & CONDITIONS IN THE FIELD PRIOR TO FABRICATION & ERECTION of ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION of THE CONSTRUCTION MANAGER.

3) DESIGN & CONSTRUCTION of STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE of STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION & ERECTION of STRUCTURAL STEEL FOR BUILDINGS".

4) STRUCTURAL & MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 STRUCT. STEEL UNLESS OTHERWISE INDICATED.

5) STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, or ASTM A53 PIPE STEEL BLACK & HOT-DIPPED ZINC-COATED WELDED & SEAMLESS TYPE E or S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.

6) STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) & CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS & PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE Ø5/8" UON.

7) ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE w/ ASTM A123 "ZINC (HOT-DIP GALVANIZED COATINGS on IRON & STEEL PRODUCTS", UNLESS OTHERWISE NOTED.

8) ALL BOLTS, ANCHORS & MISCELLANEOUS HARDWARE SHALL BE GALV. IN ACCORDANCE w/ ASTM A153 "ZINC-COATING (HOT-DIP) on IRON & STEEL HARDWARE", UNLESS OTHERWISE NOTED.

9) FIELD WELDS, DRILL HOLES, SAW CUTS & ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED w/ AN ORGANIC ZINC REPAIR PAINT COMPLYING w/ REQUIREMENTS of ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN or EQUAL. THICKNESS of APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW DRY TIME BETWEEN COATS) w/A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 or A153 as APPLICABLE.

10) CONTRACTOR SHALL COMPLY w/ AWS CODE FOR PROCEDURES, APPEARANCE & QUALITY of WELDS, & FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS & WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE w/ AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES & WELDING SHALL CONFORM TO AISC 9th Ed. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL of STEEL CONSTRUCTION", 9th EDITION.11.

11) INCORRECTLY FABRICATED, DAMAGED or OTHERWISE MISFITTING or NONCONFORMING MATERIALS or CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL or CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.

12) UNISTRUT'S SHALL BE FORMED STEEL CHANNEL STRUT FRAMING as MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1-5/8"x 1-5/8"x12GA, UNLESS OTHERWISE NOTED, & SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

13) EPOXY ANCHOR ASSEMBLY SHALL CONSIST of 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD w/ NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE & A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI HIT HY-20 and/or HY-150 SYSTEMS (as SPECIFIED AN OWCL) or ENGINEERS APPROVED EQUAL w/ 4-1/4" MIN. EMBEDMENT DEPTH.

14) EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT II or APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE w/ THE MANUFACTURERS RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE & ONE HALF (3 1/2) INCHES.

15) GRAVEL SUB BASE & CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL.

16) CONCRETE FOR FENCE & ICE BRIDGE SUPPORT SHALL BE 3000 PSI AIR ENTRAINED (4%-6%) NORMAL WEIGHT CONCRETE.

17) ALL CAST IN PLACE CONCRETE SHALL BE MIXED & PLACED IN ACCORDANCE w/ THE REQUIREMENTS OF ACI 318 & ACI 301.

18) THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCING STEEL SHALL BE as FOLLOWS UNLESS NOTED OTHERWISE:
- CONCRETE CAST AGAINST EARTH ... 3 INCHES.
- CONCRETE EXPOSED TO EARTH or WATER
  - #6 & LARGER .....2 INCHES
  - #5 & SMALLER .....1 1/2 INCHES
- ALL EXPOSED EDGES SHALL BE PROVIDED w/ A 3/4"x3/4" CHAMFER UNLESS NOTED OTHERWISE.

19) LUMBER SHALL COMPLY w/ THE REQUIREMENTS of THE AMERICAN INSTITUTE of TIMBER CONSTRUCTION & THE NATIONAL FOREST PRODUCTS ASSOCIATIONS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED & SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.

20) WHERE ROOF PENETRATIONS ARE REQ'D, THE CONTRACTOR SHALL CONTACT & COORDINATE RELATED WORK w/ THE BUILDING OWNER & THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER as TO NOT VOID THE EXISTING ROOF WARRANTY.

21) PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE REQ'D TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT of EQUIPMENT & ANTENNAS GENERALLY DEPICTED on THIS PLAN, ATTACHED TO or MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. LESSEE/LICENSEE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO (E911) EQUIPMENT & LOCATION as TECHNOLOGY EVOLVES TO MEET REQ'D SPECIFICATION.

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STATE OF CONNECTICUT — SCOTT M CHASE — No.19728 — LICENSED PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: CT-11-508-F

DRAWN BY: GWA

CHECKED BY: SMC

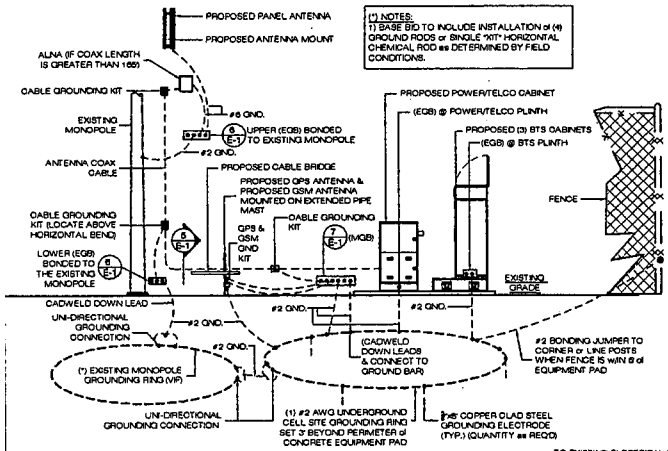
SUBMITTALS

0	12/18/03	CONSTRUCTION GWA

CT-11-508-F
VERIZON CHAPLIN
LOT 64 PALMER ROAD
CHAPLIN, CT 06235

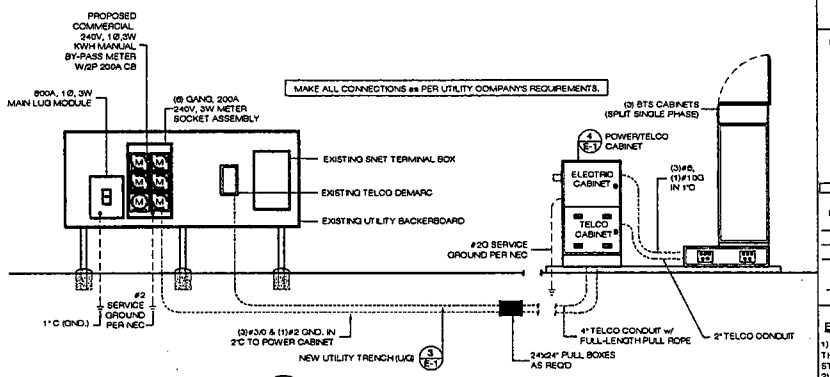
SHEET TITLE
EQUIPMENT LAYOUT, STRUCTURAL NOTES & DETAILS

SHEET NUMBER
S-1

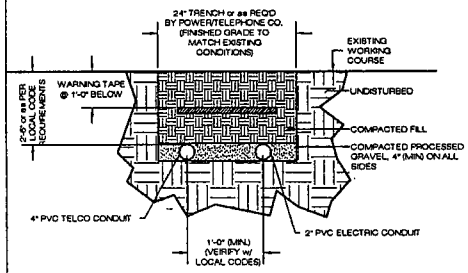


(*) NOTES:
1) BASE BID TO INCLUDE INSTALLATION of (4) GROUND RODS or SINGLE "KIT" HORIZONTAL CHEMICAL ROD as DETERMINED BY FIELD CONDITIONS.

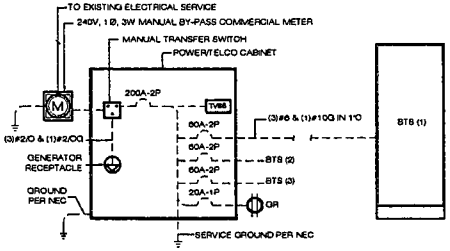
1 E-1 GROUNDING RISER DIAGRAM
SCALE: NTS



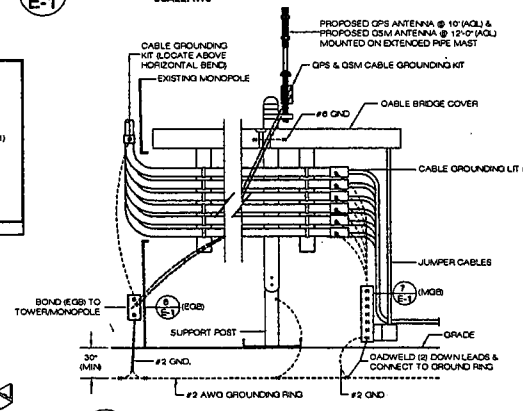
2 E-1 POWER RISER DIAGRAM
SCALE: NTS



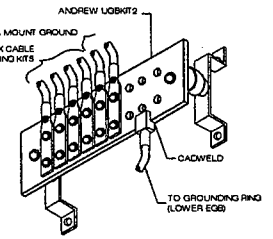
3 E-1 TRENCH DETAIL
SCALE: NTS



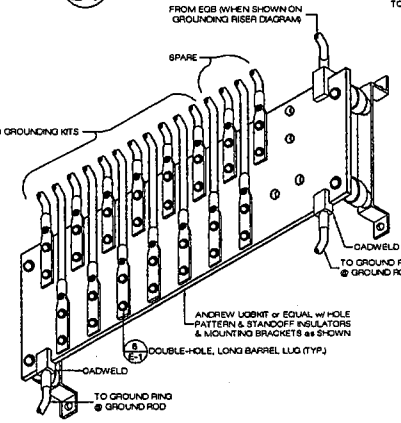
4 E-1 ONE LINE DIAGRAM
SCALE: NTS



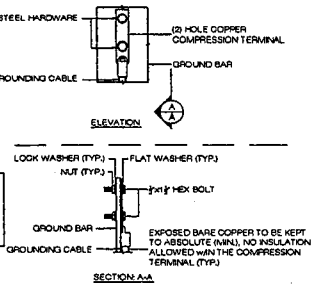
5 E-1 CABLE BRIDGE GROUNDING DETAIL
SCALE: NTS



6 E-1 EQUIPMENT GROUND BAR (EGB)
SCALE: NTS



7 E-1 MASTER GROUND BAR (MGB)
SCALE: NTS



NOTES:
1) "DOUBLING UP" or "STACKING" of CONNECTIONS IS NOT PERMITTED.
2) OXIDE INHIBITING COMPOUND TO BE USED @ ALL LOCATIONS.
3) CADWELD DOWN LEADS FROM UPPER EGB, LOWER EGB & MGB.

8 E-1 GROUND BAR CONNECTION DETAIL
SCALE: NTS

ELECTRICAL LEGEND

U.O.N. UNLESS OTHERWISE NOTED
WP WEATHERPROOF
GR GROUND FAULT INTERRUPTER
A AMPERE
V VOLT
KWH KILOWATT - HOUR
C CONDUIT
G GROUND
GROUND
MGB MASTER GROUND BAR 1/4"x4"x24' COPPER
EGB EQUIPMENT GROUND BAR 1/4"x4"x12' OR 1/4"x4"x19' COPPER
GROUND COPPER WIRE, SIZE AS NOTED
EXPOSED WIRING
COAXIAL CABLE
5/8"x8' COPPER CLAD STEEL GROUND ROD
EXOTHERMIC (CADWELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
NEW PANEL BOARD, SURFACE MOUNTED
EXISTING PANEL BOARD, SURFACE MOUNTED
DRY TYPE TRANSFORMER
METER
CIRCUIT BREAKER
NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 84" A.F.F.
FUSIBLE DISCONNECT SWITCH, MOUNTED 84" A.F.F.
TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR w/ BUILT-IN FUSES, SURFACE MOUNTED
DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 120 VOLTS, SINGLE PHASE
J JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
EXPOSED WIRING
HOME RUN, MINIMUM #10 + 1/#10G IN 3/4" CONDUIT U.O.N.
A.F.F. ABOVE FINISHED FLOOR

ELECTRICAL AND GROUNDING NOTES

1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS of THE NATIONAL ELECTRICAL CODE (NEC) as WELL as APPLICABLE STATE & LOCAL CODES.
2) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED & PRODURED PER SPECIFICATION REQUIREMENTS.
3) THE ELECTRICAL WORK INCLUDES ALL LABOR & MATERIAL DESCRIBED BY DRAWINGS & SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING & APPROVED ELECTRICAL SYSTEM.
4) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, & IS RESPONSIBLE FOR OBTAINING SAID PERMITS & COORDINATION OF INSPECTIONS.
5) ELECTRICAL & TELCO WIRING OUTSIDE A BUILDING & EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS or SCHEDULE 80 PVC (as PERMITTED BY CODE) & WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL or NONMETALLIC CONDUITS.
6) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7) ELECTRICAL WIRING SHALL BE COPPER w/ TYPE XHHW, THWN, or THHN INSULATION.
8) RUN ELECTRICAL CONDUIT or CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT & LESSEE/LICENSEE CELL SITE POWER PEDESTAL as INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION w/ UTILITY COMPANY.
9) RUN TELCO CONDUIT or CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT & LESSEE/LICENSEE CELL SITE TELCO CABINET & BTS CABINET as INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE @ EACH END.
10) WHERE CONDUIT BETWEEN BTS & LESSEE/LICENSEE CELL SITE POWER PEDESTAL & BETWEEN BTS & LESSEE/LICENSEE CELL SITE TELCO SERVICE CABINET ARE U/G USE PVC, SCH.40 CONDUIT. ABOVE THE GROUND PORTION of THESE CONDUITS SHALL BE PVC CONDUIT.
11) ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12) POWER PEDESTAL SUPPLIED BY LESSEE/LICENSEE.
13) GROUNDING SHALL COMPLY w/ NEC ART. 250.
14) GROUND COAXIAL CABLE SHIELDS MINIMUM @ BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY LESSEE/LICENSEE.
15) USE #6 COPPER STRANDED WIRE w/ GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) & #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING as INDICATED ON THE DRAWING.
16) ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS or CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT w/ GALVANIZED STEEL.
17) ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST & STRAIGHTEST PATH POSSIBLE, EXCEPT as OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT @ RIGHT ANGLE ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT @ 8" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS w/IN 7 FEET of LESSEE/LICENSEE EQUIPMENT or CABINET TO MASTER GROUND BAR.
18) CONNECTIONS TO GROUND BARS SHALL BE MADE w/ TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19) APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20) BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, & ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
21) BOND ANTENNA EGBS & MGB TO GROUND RING.
22) TEST COMPLETED GROUND SYSTEM & RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.

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STATE OF CONNECTICUT
SCOTT M. CHASSE
LICENSED
PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: CT-11-508-F

DRAWN BY: GWA

CHECKED BY: SMC

SUBMITTALS

0	12/16/08	CONSTRUCTION GWA

CT-11-508-F
VERIZON CHAPLIN
LOT 84 PALMER ROAD
CHAPLIN, CT 06235

SHEET TITLE
ELECTRICAL & GROUNDING NOTES, RISERS & DETAILS

SHEET NUMBER
E-1

Exhibit B

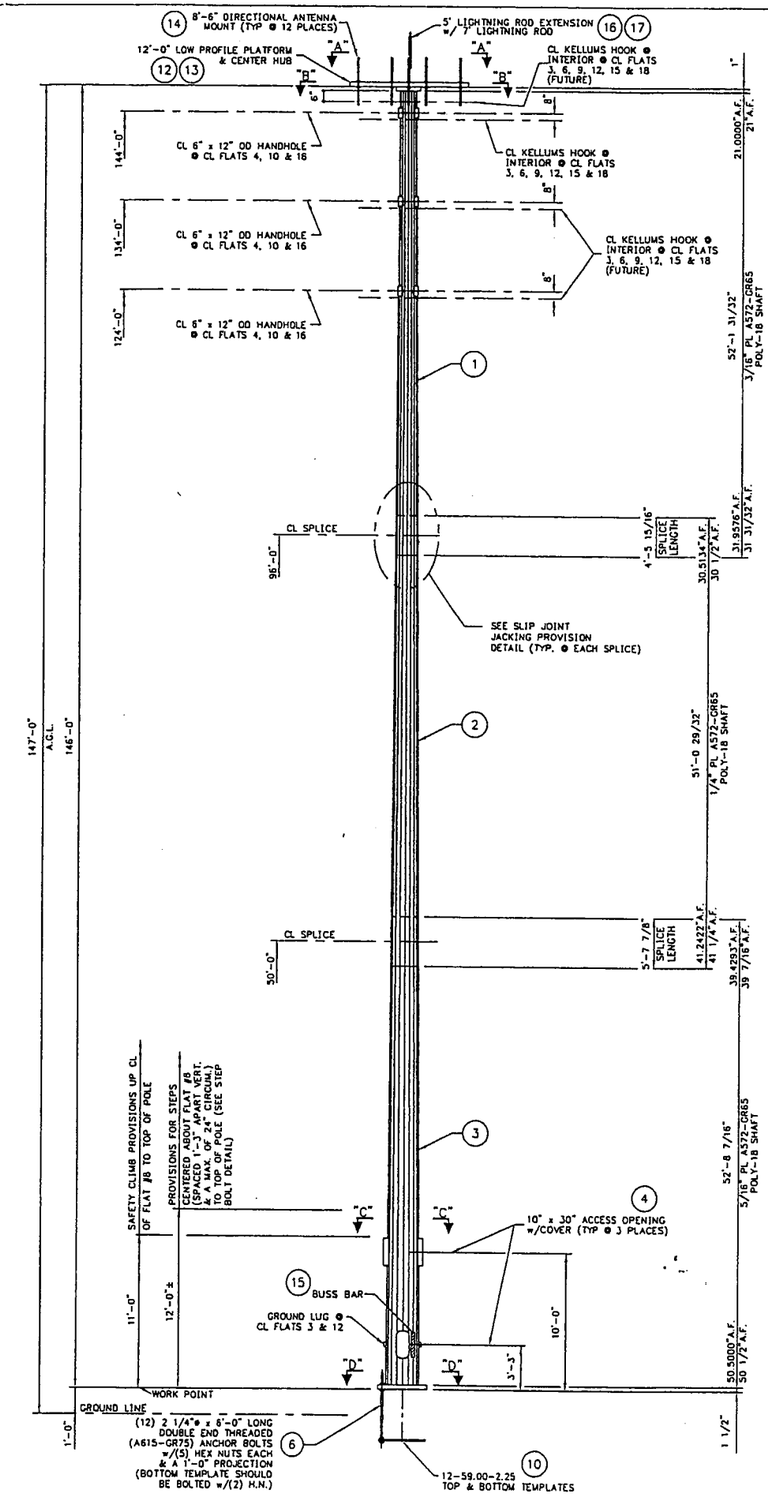
EMERSON
Network Power

ENGINEERED
ENDEAVORS
INCORPORATED
The Experienced Point of View

ENGINEERED ENDEAVORS INCORPORATED

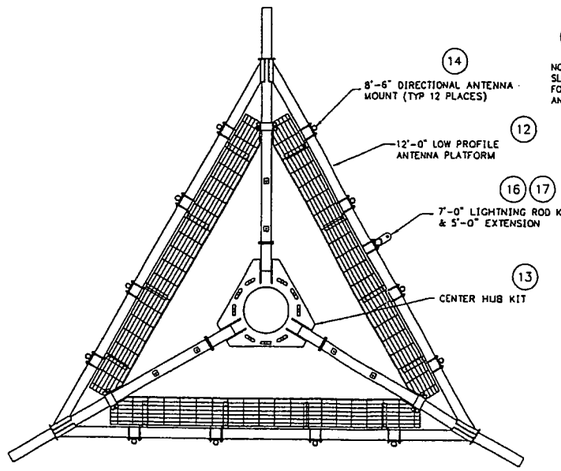
7610 Jenther Drive ■ Mentor, Ohio 44060
Telephone: (440) 918-1101 ■ Telefax: (440) 918-1108

Sprint PCS
Structure & Foundation
Design Calculations
150' Monopole
Site: Chaplin/CT33XC583
EEI Job #: 11855-E01 Rev. 1



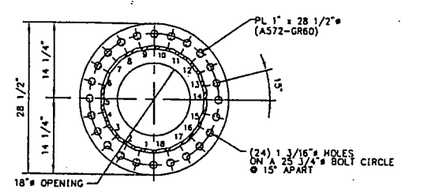
ERECTION VIEW
SCALE ——— NONE

NOTE: ALL ELEVATIONS SHOWN FROM BOTTOM OF BASE PLATE UNLESS OTHERWISE NOTED.



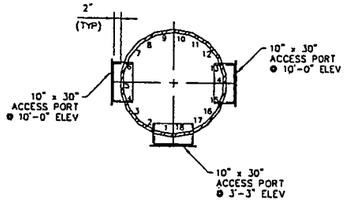
VIEW "A-A"

NOTE: (9) 1"ø (A325) HEX BOLTS & SLOT COVERS REQUIRED FOR PLATFORM ATTACHMENT

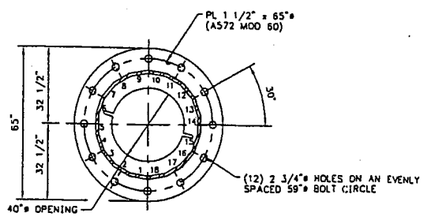


VIEW "B-B"

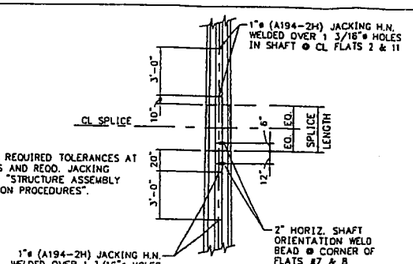
NOTE: PLATFORM REMOVED FOR CLARITY



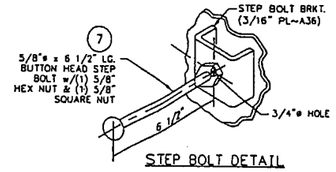
SECTION "C-C"



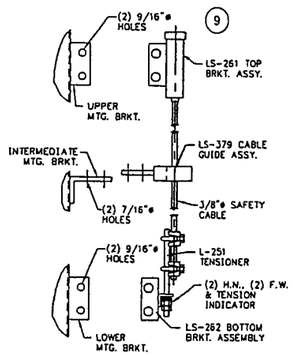
SECTION "D-D"



SLIP JOINT JACKING PROVISION DETAIL



STEP BOLT DETAIL



SAFETY CLIMB ATTACHMENT DETAILS
(LOCATED ALONG CL OF FLAT #8)

MATERIAL REQ'D. PER ASSEMBLY

GALV. WT.	QTY.	ITEM	MK. NO.	DESCRIPTION
--	1	(1)	---	SHAFT ASSY. (TOP SECTION)
--	1	(2)	---	SHAFT ASSY. (MIDDLE SECTION)
--	1	(3)	---	SHAFT ASSY. (BOTTOM SECTION)
31.41	3	(4)	K11497	10" x 30" ACCESS PORT COVER PL
		(5)		HARDWARE AS FOLLOWS:
6.87	9	(5A)	K11097	6" x 12" HANDHOLE COVER PL
105.77	12	(6)	2.25-A880DE-5	2 1/4"ø x 6'-0" LG. (A615-GR75) ANCHOR BOLTS w/ (5) HEX NUTS (A194-GR2H), EACH
1.08	--	(7)	S10006	5/8"ø x 6 1/2" LG. BUTTON HEAD STEP BOLT w/ (1) HEX & (1) SQUARE NUT EACH
	1	(8)		STRUCTURE ASSEMBLY AND ERECTION PROCEDURES
	1	(9)	DBI-150	150'-0" SAFETY CLIMB KIT
150.16	2	(10)	12-59.00-2.25	SETTING TEMPLATE
1.50	6	(11)	GS13625	5/8"ø KELLUMS HOOK ASSY.
1098.42	1	(12)	K10994A	12' LOW PROFILE ANTENNA PLATFORM
292.32	1	(13)	K11128	PLATFORM CENTER HUB
40.91	12	(14)	K11014	8'-6" LOW PROFILE DIRECTIONAL ANTENNA MOUNT
7.50	1	(15)	K10062	20" BUSS BAR KIT
28.60	1	(16)	K10333	7'-0" LIGHTNING ROD KIT
28.39	1	(17)	K11027	5' LIGHTNING ROD EXTENSION
	1	(18)		PLATFORM ASSEMBLY PROCEDURE

TOTAL GALV. STR. & ACCES. WT. __#__
TOTAL ANCHOR BOLT & TEMPLATE WT. 1906.17#

GENERAL NOTES

1) MONOPOLE IS DESIGNED IN ACCORDANCE WITH TIA/EIA-222F 90 MPH FASTEST MILE WIND SPEED AND 2000 IBC 110 MPH 3-SECOND GUST WIND. 1/2" RADIAL ICE. DESIGN IS IN COMPLIANCE WITH SPRINT SPECIFICATION SSEO 3.001.06.001, REV 2
2) ALL WELDS SHALL BE IN ACCORDANCE WITH AWS D.1.1. (LATEST EDITION). LONGITUDINAL SEAM WELDS WITHIN SLIP-JOINT AREA IN FEMALE SECTION SHALL BE 100% PENETRATION.
3) MONOPOLE SHALL BE HOT DIP GALVANIZED PER ASTM A123.
4) CONTRACTOR SHALL THOROUGHLY REVIEW EEI'S ASSEMBLY & ERECTION PROCEDURE PRIOR TO INITIATING THE ERECTION OF THE MONOPOLE
5) THE ORIENTATION OF THE MONOPOLE SHALL BE VERIFIED PRIOR TO ERECTION OF THE POLE.
6) SECTIONS OF THE MONOPOLE SHALL BE JACKED TOGETHER WITH A MINIMUM JACKING FORCE OF 10,000 lbf APPLIED TO EACH SIDE. FOR A MAXIMUM RECOMMENDED JACKING FORCE, SPLICE LENGTH TOLERANCE, AND AIR GAP BETWEEN SECTIONS REFER TO EEI ASSEMBLY & ERECTION PROCEDURE.
7) FOR PROPER SHAFT ALIGNMENT A 2" HORIZONTAL WELD BEAD AND A MARK ARE POSITIONED ON EACH SHAFT AT EACH SPLICE. THE 2" HORIZONTAL WELD BEADS ARE ON THE MATCHING CORNERS. THE MARK NUMBER IS ON THE ADJACENT FLAT. THE CORNERS WITH WELD BEADS SHALL BE ALIGNED FROM TOP TO BOTTOM OF THE POLE. MARK NUMBERS SHALL BE MATCHED FOR EACH SIDE & THE DISTANCE BETWEEN TWO WELD BEADS SHOULD BE 18" (±4").
8) FIELD ASSEMBLY NUTS (1"ø) FOR JACKING SECTIONS TOGETHER ARE LOCATED ON OPPOSING SECTION FLATS ABOVE AND BELOW SPLICES.
9) GAP BETWEEN TOP OF THE FOUNDATION AND BOTTOM OF THE BASE PLATE MAY BE FILLED WITH A NON-SHRINK GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF f'=2000 psi. WATER DRAINAGE MUST BE PROVIDED UNDERNEATH THE BASE PLATE TO ENSURE THAT MOISTURE DOES NOT COLLECT INSIDE THE MONOPOLE.
10) ALL BOLTED CONNECTIONS WITH A325 HIGH-STRENGTH BOLTS SHALL BE ASSEMBLED IN ACCORDANCE WITH SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS. BOLTS SHALL BE BROUGHT TO SNUG-TIGHT CONDITIONS AS RECOMMENDED BY THE FLANGE SPECIFICATIONS IN FLANGE-TYPE JOINTS AND SHOULD BE SHIMMED IF NECESSARY. THE SHIMS WILL BE SUPPLIED BY EEI.
11) ANCHOR BOLTS SHALL BE TIGHTENED AFTER THE STRUCTURE IS PLUMB. BOTH TOP & BOTTOM NUT SHALL BE TIGHTEN TO 600 ft-lbs MOMENT. FOR DETAIL ANCHOR BOLT INSTALLATION REFER TO EEI ASSEMBLY AND ERECTION PROCEDURE.
12) POLE TAPER = 0.2101in/ft.

STATE OF CONNECTICUT
MICHAEL R. MOREL
No. 21220
LICENSED PROFESSIONAL ENGINEER
9/9/03

Michael R. Morel

ASSEMBLY MARKING PROCEDURE

EACH INDIVIDUAL ASSEMBLY SHALL HAVE A METAL TAG WELDED TO IT WHICH WILL BE ENGRAVED WITH THE ASSEMBLY MARK NO. AS SHOWN IN THE MATERIAL BLOCK. (MINIMUM OF 5/8" HIGH LETTERS)

1	STRUCTURE RE-DESIGN	9/9/03	M.A.S.
0	COMPLETED APPROVAL DWG	8/14/03	M.A.S.

ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View
7610 Jenther Drive • Mentor, OH 44060-4872
Ph: (440) 918-1101 • Ph: (888) 270-3855
Fx: (440) 918-1108 • www.engend.com

147'-0" MONOPOLE
SPRINT PCS/NJ
CHAPLIN, CT33XC583
WINDHAM COUNTY, CT

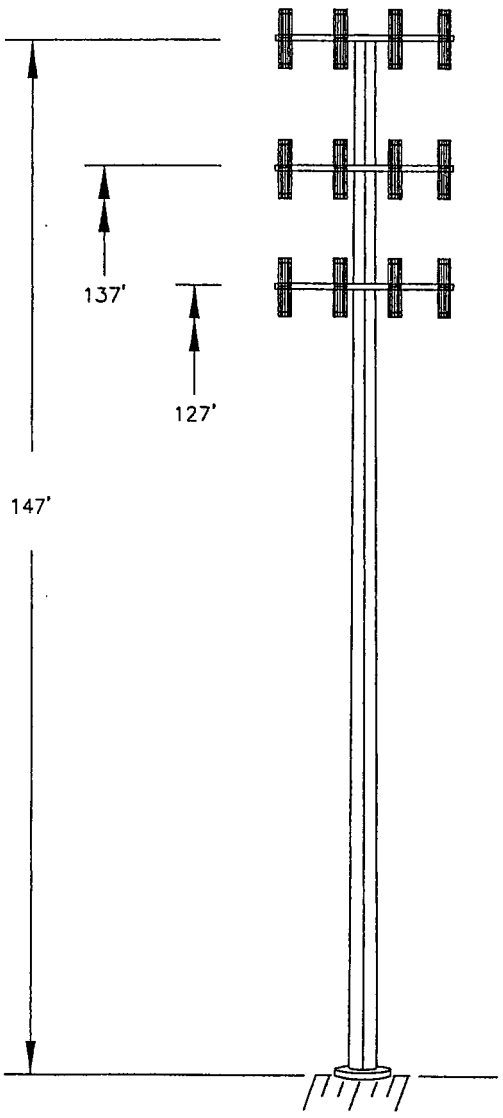
SCALE NONE	PROJECT NO. 11855
1/4 or 1/8	DRAWING NO. GS54762

ENGINEERED ENDEAVORS INCORPORATED

Customer SPRINT PCS/NJ By L. PADGETT 9/8/03 (Date)

Structure 147' MONOPOLE Checked ____ 11855 (Job/Quote No.)

SITE LOCATION – WINDHAM COUNTY, CT
SITE NAME – CHAPLIN, CT33XC583



ANTENNA LOADING:

(12) DAPA 48000 DIRECTIONAL ANTENNAS
LOW PROFILE PLATFORM @ 147' (SPRINT)

(12) DAPA 48000 DIRECTIONAL ANTENNAS
LOW PROFILE PLATFORM @ 137' (VERIZON)

(12) DAPA 48000 DIRECTIONAL ANTENNAS
LOW PROFILE PLATFORM @ 127' (FUTURE)

Michael R. Morel

DESIGN NOTES:

DESIGNED IN ACCORDANCE WITH TIA/EIA 222 F
90 MPH FASTEST MILE WIND SPEED AND
2000 IBC 110 MPH 3-SECOND GUST WIND.
1/2" RADIAL ICE.

NOTE: DESIGN IS IN COMPLIANCE WITH SPRINT SPECIFICATION SSEO 3.001.06.001, Rev 2

NOTE: IT IS THE RESPONSIBILITY OF THE PURCHASER TO VERIFY THAT THE WIND LOADS AND DESIGN CRITERIA SPECIFIED MEET THE REQUIREMENTS OF ALL LOCAL BUILDING CODES

ENGINEERED ENDEAVORS, INC.
7610 Jenther Drive * Mentor, Ohio 44060
Telephone: (440) 918-1101 * Telefax: (440) 918-1108

Engineered Endeavors Inc.

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Mentor, Ohio 44060
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Communications Structure Nonlinear Analysis and Design Program

16:37:50 09-08-2003
Revision 1.3 - 2/07/00
Engineer: L. PADGETT

Customer **SPRINT PCS/NJ**
Job Name **11855, REV. 1**
Structure **147' MONOPOLE**
Location **WINDHAM COUNTY, CT**
Site **CHAPLIN**

OD BOT	OD TOP	NUM. SIDES	THICK INCH	TAPER IN/FT	LENGTH FT	JOINT INCH	JOINT TYPE	YIELD KSI	WEIGHT LBS	JOINT HEIGHT
31.96	21.00	18	0.1875	0.210	52.25	54.00	SLIP	65.0	2748.	96.00
41.23	30.52	18	0.2500	0.210	51.08	68.00	SLIP	65.0	4854.	50.00
50.50	39.42	18	0.3125	0.210	52.83	0.00	BASEPL	65.0	7864.	0.00
			TOTAL TUBE WEIGHT					15466.	POUNDS	
			POLE SHAFT LENGTH					146.00	FEET	

E = 29600.0 KSI
UNIT WGT = 0.283 LBS/CU IN
AISC constants are used for stress reductions.
TUBE SECTIONS HAVE 18 SIDES AND ARE TREATED AS ROUND
Internal bend radius = 3 X T
Tube diameters are measured flat to flat.
Tube diameters are increased by 1.020 for wind across points.
Drag coefficients are increase by 1.300 for steps on the pole.
AISC Tube Shape Coefficient of 1.000 is applied.
ORIGINAL DATA FILE NAME T:\ENG4\JOBS11\11855172
REVISED DATA FILE NAME T:\ENG4\JOBS11\11855147

APPURTENANCES

DESCRIPTION	NUM.	ELEV.	Kz	AREA	WGT	Ca	AREA	WGT	Ca	FACTOR
				< WITHOUT ICE >			< WITH ICE >			
48000	12	146.	1.529	3.20	18.	1.4000	3.65	41.	1.4000	0.85
12' LOW PROFILE PLAT	1	146.	1.529	7.50	1500.	2.0000	9.20	1750.	2.0000	1.00
48000	12	136.	1.499	3.20	18.	1.4000	3.65	41.	1.4000	0.85
12' LOW PROFILE PLAT	1	136.	1.499	7.50	1500.	2.0000	9.20	1750.	2.0000	1.00
48000	12	126.	1.466	3.20	18.	1.4000	3.65	41.	1.4000	0.85
12' LOW PROFILE PLAT	1	126.	1.466	7.50	1500.	2.0000	9.20	1750.	2.0000	1.00

LOAD CASE 1

OPERATIONAL LOADING

DEAD LOAD FACTOR 1.00 WIND PSF REDUCTION 1.00 RADIAL ICE 0.00 IN.

WIND VELOCITY 50 BOTTOM 6.45 PSF TOP 9.77 PSF
MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
48000	146.00	0.220	0.756
12' LOW PROFILE PLAT	146.00	1.500	0.248
48000	136.00	0.220	0.741
12' LOW PROFILE PLAT	136.00	1.500	0.243
48000	126.00	0.220	0.725
12' LOW PROFILE PLAT	126.00	1.500	0.238

TUBE PROPERTIES			MEMBER FORCES			STRESSES			STRESS	TOTAL	
ELEV FT	DIAM IN	WALL IN	SHEAR K	BENDING K-FT	AXIAL K	AXIAL KSI	BEND. KSI	ALLOW KSI	RATIOS	DEFL IN	TILT DEG
146.00	21.00	0.1875	1.16	0.00	1.90	0.16	0.00	49.24	0.00	30.5	1.87
136.00	23.10	0.1875	1.16	11.56	1.90	0.14	1.81	48.08	0.04	26.6	1.85
126.00	25.20	0.1875	2.39	35.48	4.05	0.27	4.66	47.10	0.10	22.8	1.78
116.00	27.29	0.1875	3.62	71.64	6.35	0.40	8.00	46.28	0.18	19.1	1.67
106.00	29.39	0.1875	3.83	109.90	6.89	0.40	10.57	45.58	0.24	15.8	1.52
96.00	31.49	0.1875	4.04	150.32	7.48	0.41	12.58	44.96	0.29	12.8	1.34
TYPE OF JOINT: SLIP JOINT											
96.00	30.99	0.2500	4.31	150.32	8.71	0.36	9.80	48.01	0.21	12.8	1.34
83.00	33.71	0.2500	4.31	206.32	8.71	0.33	11.34	47.07	0.25	9.4	1.15
72.00	36.02	0.2500	4.58	256.72	9.78	0.35	12.35	46.38	0.27	6.9	0.97
61.00	38.33	0.2500	4.83	309.90	10.84	0.36	13.15	45.78	0.29	4.9	0.80
50.00	40.64	0.2500	5.09	365.84	11.97	0.38	13.79	45.25	0.31	3.2	0.63
TYPE OF JOINT: SLIP JOINT											
50.00	40.01	0.3125	5.33	365.84	13.97	0.36	11.44	47.63	0.25	3.2	0.63
40.00	42.11	0.3125	5.33	419.13	13.97	0.34	11.82	47.07	0.26	2.0	0.49
30.00	44.21	0.3125	5.55	474.60	15.38	0.36	12.13	46.57	0.27	1.1	0.37
20.00	46.30	0.3125	5.76	532.20	16.85	0.37	12.38	46.11	0.28	0.5	0.24
10.00	48.40	0.3125	5.98	591.98	18.39	0.39	12.60	45.69	0.28	0.1	0.12
0.00	50.50	0.3125	6.33	654.00	20.83	0.42	12.77	45.30	0.29	0.0	0.00

REACTION COMPONENTS (KIPS AND FT-KIPS)

TRANSVERSE SHEAR	VERTICAL FORCE	WIND SHEAR	MOMENT ABOUT TRANSVERSE	MOMENT ABOUT VERTICAL	MOMENT ABOUT WIND AXIS
0.000	20.833	-6.335	654.000	0.000	0.000

LOAD CASE 2
90 MPH FASTEST MILE & 110 MPH 3-SEC GUST WIND

DEAD LOAD FACTOR 1.00 WIND PSF REDUCTION 1.00 RADIAL ICE 0.00 IN.

WIND VELOCITY 90 BOTTOM 20.91 PSF TOP 31.66 PSF
MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
48000	146.00	0.220	2.449
12' LOW PROFILE PLAT	146.00	1.500	0.804
48000	136.00	0.220	2.400
12' LOW PROFILE PLAT	136.00	1.500	0.788
48000	126.00	0.220	2.348
12' LOW PROFILE PLAT	126.00	1.500	0.771

TUBE PROPERTIES			MEMBER FORCES			STRESSES			STRESS	TOTAL	
ELEV FT	DIAM IN	WALL IN	SHEAR K	BENDING K-FT	AXIAL K	AXIAL KSI	BEND. KSI	ALLOW KSI	RATIOS	DEFL IN	TILT DEG
146.00	21.00	0.1875	3.73	0.00	1.56	0.13	0.00	49.24	0.00	97.5	6.01
136.00	23.10	0.1875	3.73	37.06	1.56	0.12	5.80	48.08	0.12	85.1	5.94
126.00	25.20	0.1875	7.72	113.82	3.36	0.23	14.94	47.10	0.32	73.0	5.74
116.00	27.29	0.1875	11.66	229.86	5.24	0.33	25.67	46.28	0.56	61.4	5.38
106.00	29.39	0.1875	12.35	352.83	5.81	0.34	33.93	45.58	0.75	50.7	4.89
96.00	31.49	0.1875	13.05	482.93	6.45	0.35	40.41	44.96	0.91	41.1	4.32
TYPE OF JOINT: SLIP JOINT											
96.00	30.99	0.2500	13.92	482.93	7.76	0.32	31.49	48.01	0.66	41.1	4.32
83.00	33.71	0.2500	13.92	663.49	7.76	0.30	36.48	47.07	0.78	30.2	3.69
72.00	36.02	0.2500	14.82	826.15	8.92	0.32	39.73	46.38	0.86	22.3	3.14
61.00	38.33	0.2500	15.64	998.03	10.07	0.34	42.34	45.78	0.93	15.7	2.58
50.00	40.64	0.2500	16.46	1178.96	11.31	0.36	44.45	45.25	0.99	10.4	2.02
TYPE OF JOINT: SLIP JOINT											
50.00	40.01	0.3125	17.26	1178.96	13.44	0.34	36.86	47.63	0.78	10.4	2.02
40.00	42.11	0.3125	17.26	1351.45	13.44	0.33	38.10	47.07	0.82	6.6	1.60
30.00	44.21	0.3125	17.97	1531.10	15.38	0.36	39.13	46.57	0.85	3.7	1.18
20.00	46.30	0.3125	18.66	1717.71	16.86	0.37	39.97	46.11	0.87	1.6	0.78
10.00	48.40	0.3125	19.37	1911.38	18.40	0.39	40.67	45.69	0.90	0.4	0.38
0.00	50.50	0.3125	20.52	2112.29	20.83	0.42	41.26	45.30	0.92	0.0	0.00

REACTION COMPONENTS (KIPS AND FT-KIPS)

TRANSVERSE SHEAR	VERTICAL FORCE	WIND SHEAR	MOMENT ABOUT TRANSVERSE	MOMENT ABOUT VERTICAL	MOMENT ABOUT WIND AXIS
0.000	20.835	-20.523	2112.294	0.000	0.000

LOAD CASE 3

BASIC LOADING PLUS ICE

DEAD LOAD FACTOR 1.00 WIND PSF REDUCTION 0.75 RADIAL ICE 0.50 IN.

WIND VELOCITY 90 BOTTOM 15.68 PSF TOP 23.75 PSF
MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
48000	146.00	0.491	2.095
12' LOW PROFILE PLAT	146.00	1.750	0.740
48000	136.00	0.491	2.053
12' LOW PROFILE PLAT	136.00	1.750	0.725
48000	126.00	0.491	2.009
12' LOW PROFILE PLAT	126.00	1.750	0.709

TUBE PROPERTIES			MEMBER FORCES			STRESSES			STRESS	TOTAL	
ELEV FT	DIAM IN	WALL IN	SHEAR K	BENDING K-FT	AXIAL K	AXIAL KSI	BEND. KSI	ALLOW KSI	RATIOS	DEFL IN	TILT DEG
146.00	21.00	0.1875	3.27	0.01	2.18	0.18	0.00	49.24	0.00	83.5	5.17
136.00	23.10	0.1875	3.27	32.58	2.18	0.16	5.10	48.08	0.11	72.8	5.11
126.00	25.20	0.1875	6.74	99.72	4.59	0.31	13.09	47.10	0.28	62.4	4.93
116.00	27.29	0.1875	10.16	200.95	7.09	0.44	22.44	46.28	0.49	52.4	4.61
106.00	29.39	0.1875	10.68	307.45	7.66	0.45	29.56	45.58	0.66	43.2	4.19
96.00	31.49	0.1875	11.22	419.32	8.29	0.45	35.08	44.96	0.79	35.0	3.70
			TYPE OF JOINT: SLIP JOINT								
96.00	30.99	0.2500	11.87	419.32	9.58	0.40	27.34	48.01	0.58	35.0	3.70
83.00	33.71	0.2500	11.87	573.36	9.58	0.36	31.52	47.07	0.68	25.6	3.15
72.00	36.02	0.2500	12.54	711.17	10.72	0.38	34.20	46.38	0.74	18.9	2.67
61.00	38.33	0.2500	13.16	855.81	11.86	0.40	36.30	45.78	0.80	13.3	2.19
50.00	40.64	0.2500	13.77	1007.22	13.07	0.41	37.97	45.25	0.85	8.8	1.71
			TYPE OF JOINT: SLIP JOINT								
50.00	40.01	0.3125	14.37	1007.22	15.54	0.40	31.49	47.63	0.67	8.8	1.71
40.00	42.11	0.3125	14.37	1150.90	15.54	0.38	32.45	47.07	0.70	5.6	1.35
30.00	44.21	0.3125	14.90	1299.86	16.95	0.39	33.22	46.57	0.72	3.1	1.00
20.00	46.30	0.3125	15.41	1453.99	18.42	0.41	33.83	46.11	0.74	1.4	0.66
10.00	48.40	0.3125	15.94	1613.35	19.96	0.42	34.33	45.69	0.76	0.3	0.32
0.00	50.50	0.3125	16.80	1778.06	22.40	0.45	34.73	45.30	0.77	0.0	0.00

REACTION COMPONENTS (KIPS AND FT-KIPS)

TRANSVERSE SHEAR	VERTICAL FORCE	WIND SHEAR	MOMENT ABOUT TRANSVERSE	MOMENT ABOUT VERTICAL	MOMENT ABOUT WIND AXIS
0.000	22.398	-16.801	1778.060	0.000	0.000

SUMMARY TABLE

ELEV	STRESS RATIO	AXIAL	BENDING	LOADING
146.00	0.01	1.56	0.0	2 90 MPH FASTEST MILE & 110 MPH
136.00	0.12	1.56	37.1	2 90 MPH FASTEST MILE & 110 MPH
126.00	0.32	3.36	113.8	2 90 MPH FASTEST MILE & 110 MPH
116.00	0.56	5.24	229.9	2 90 MPH FASTEST MILE & 110 MPH
106.00	0.75	5.81	352.8	2 90 MPH FASTEST MILE & 110 MPH
96.00	0.91	6.45	482.9	2 90 MPH FASTEST MILE & 110 MPH
83.00	0.78	7.76	663.5	2 90 MPH FASTEST MILE & 110 MPH
72.00	0.86	8.92	826.2	2 90 MPH FASTEST MILE & 110 MPH
61.00	0.93	10.07	998.0	2 90 MPH FASTEST MILE & 110 MPH
50.00	0.99	11.31	1179.0	2 90 MPH FASTEST MILE & 110 MPH
40.00	0.82	13.44	1351.4	2 90 MPH FASTEST MILE & 110 MPH
30.00	0.85	15.38	1531.1	2 90 MPH FASTEST MILE & 110 MPH
20.00	0.87	16.86	1717.7	2 90 MPH FASTEST MILE & 110 MPH
10.00	0.90	18.40	1911.4	2 90 MPH FASTEST MILE & 110 MPH
0.00	0.92	20.83	2112.3	2 90 MPH FASTEST MILE & 110 MPH

MAXIMUM SUPPORT MOMENT K-FT	2112.29
CORRESPONDING AXIAL FORCE KIPS	20.83
CORRESPONDING SHEAR FORCE KIPS	20.52

BASE PLATE AT ELEVATION 0.00 FEET

TUBE DIAMETER	50.50	INCHES
DESIGN MOMENT	2112.3	KIP FT
DESIGN MOMENT IS 0. DEGREES FROM THE WIND DIRECTION		
BOLTS ARE ON THE KNUCKLES OF THE TUBE		
APPLIED AXIAL FORCE	20.8	KIPS
APPLIED SHEAR	20.52	KIPS

BOLT DATA

BOLT TYPE	A615 GR75	
BOLTS ARE EVENLY SPACED		
DIAMETER	2.250	INCHES
EFFECTIVE AREA	3.250	SQ IN
TOTAL LENGTH	6.0	FEET
End plates are required.		
MINIMUM EMBEDMENT	7.5	FEET
NUMBER OF BOLTS	12	
BOLT CIRCLE DIAMETER	59.00	INCHES
ALLOWABLE STRESS	60.0	KSI
APPLIED AXIAL STRESS	44.6	KSI
MAX BOLT FORCE	144.9	KIPS
BOLT BENDING STRESS	2.5	KSI
COMBINED BOLT STRESS	47.1	KSI
CLEARANCE UNDER PLATE	3.25	INCHES
BOLT WEIGHT	1353.6	POUNDS

PLATE DATA

DIAMETER OF PLATE	65.00	INCHES
MATERIAL	A572 GR60	
PROVIDED THICKNESS	1.500	INCHES
REQUIRED THICKNESS	1.389	INCHES
BOLT HOLE DIAMETER	2.625	INCHES
CENTER HOLE SIZE	40.00	INCHES
NET WEIGHT	847.6	POUNDS
RAW STOCK WEIGHT	1793.5	POUNDS
SURFACE AREA	27.73	SQ FT
ALLOWABLE STRESS	59.99	KSI
MAX APPLIED STRESS	51.44	KSI

CONCRETE STRENGTH 3000. PSI

Base Plate - use 65.00 inch ROUND x 1.500 inch A572 GR60 with (12) 2.250 diameter x 8.00 foot caged A615 GR75 bolts on a 59.00 inch bolt circle. End plates are required.

ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View

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Fx: (440) 918-1108 * www.engend.com

DESIGN CALCULATIONS FOR A SPREAD FOOTER FOUNDATION

Sprint PCS
147 ft Monopole

Chaplin
CT33XC583
Windham County, CT

EEI Project Number 11855, Revision 1
September 9, 2003

FOUNDATION DESIGN CALCULATIONS FOR A SPREAD FOOTER FOUNDATION

ENGINEERED ENDEAVORS INCORPORATED

ENGINEERED ENDEAVORS INCORPORATED
*7610 Jenther Drive * Mentor, Ohio 44060*
*Tel:(440)918-1101 * Fax:(440)918-1108*

CUSTOMER: SPRINT PCS
STRUCTURE: 147' MONOPOLE
JOB NUMBER: 11855, Revision 1
LOCATION: WINDHAM COUNTY, CT
SITE NAME: CHAPLIN

SERVICE LOADS AT BASE OF THE MONOPOLE

DESIGN LOADING	
MOMENT	2112.3 ft-kips
SHEAR	20.5 kips
AXIAL	20.8 kips

ANCHOR BOLTS

QUANTITY	12.0
LENGTH	6.0 ft
BOLT CIRCLE	59.0 in
PROJECTION	12.0 in

FOUNDATION PARAMETERS

MINIMUM PEDESTAL WIDTH	79.0 in
PEDESTAL PROJECTION	12.0 in
MINIMUM FOUNDATION HEIGHT	5.5 ft

	HEIGHT	WIDTH		
FOOTING	4.50 ft	24.00 ft	SOIL UNIT WEIGHT	100 pcf
PEDESTAL	1.00 ft	7.00 ft	CONCRETE WEIGHT	150 pcf
			ANGLE OF FRICTION	10 degrees

FOUNDATION WEIGHT	396.15 kips	
CONCRETE VOLUME	97.81 yds^3	
SOIL WEIGHT	0.00 kips	H= 0.00
TOTAL VERTICAL LOAD	416.95 kips	B= 24.00
KERN OF ECCENTRICITY	4.00 ft	
ACTUAL ECCENTRICITY	5.34 ft	
OVERTURNING MOMENT	2225.2 ft-kips	
RESISTING MOMENT	5003.4 ft-kips	
ALLOWABLE GROSS SOIL PRESSURE	0.0 ksf	
ALLOWABLE NET SOIL PRESSURE	6.0 ksf	

		GROSS	NET
SOIL PRESSURE	MAXIMUM q=	1.74 ksf	1.05 ksf
	MINIMUM q=	0.00 ksf	

SAFETY FACTOR **Sf = 2.25**

ULTIMATE STRENGTH DESIGN OF FOOTING

CONCRETE, psi	3000
STEEL, KSI	60

SHEAR IN FOOTING

1. CASE I -DEAD LOAD, TWO-WAY SHEAR U= 1.4*D

Ultimate Vertical Load, kips		583.73
Ultimate Pressure, ksf		1.01
Ultimate shear V, kips		**461.11**
Design shear Vn, kips		**4719.70** O.K.

2. CASE II - WIND LOAD, ONE-WAY SHEAR U=0.9*D+1.3*W

Ultimate Moment, kip-ft		2892.71
Ultimate Vertical Load, kips		375.26
Eccentricity, ft		7.71
Ultimate Pressure, ksf	qult=	2.43
Dist. from edge to critical sect., ft		4.50
Pressure distance ft	c=	12.87
Pressure @ critical section, ksf		1.58
Ultimate Shear, kips		**216.49**
Design Shear, kips		**1287.19** O.K.

FLEXURE STRENGTH DESIGN

Ultimate Moment, kip-ft		Case I	878.64		
		Case II	2569.43	q1=	0.83
Coefficient of Resistance		Rn=	51.6		
Reinforcement Ratio		r=	0.00087		
Min. Reinforcement Ratio		r min	0.00180		
Min. Steel Area, sq.in.		A1	24.88		
Type of Bars		#	8		
		Ab,in^2=	0.79		
BOTTOM	Min. Number of Bars		31.50		
	Actual Number of Bars		36.00		
	Actual Steel Area, sq.in.		28.44		
	Steel Ratio Actual	ra=	0.00206		
	Revised Coef. of Resist	Rn=	123.43		
	Design Moment, kip-ft		**6142.67**		
	Horizontal Spacing, in	shor=	8.06		
TOP	Min. Steel Area, sq.in		24.88		
	Min. Number of Bars		31.50		
	Actual Number of Bars		36.00		
	Top Steel Area, sq.in		28.44		
	Horizontal Spacing, in	shor=	8.06		

PEDESTAL DESIGN

Pedestal Width, in		84	Ultim. Momen	2772.7	
Concrete, ksi		3			
Reinforcement, ksi		60			
Rebars , #8	Q-ty	44	Area, sq.in	0.79	
Design Rebars	Q-ty	12	Area, sq.in	2.90	
Minimum reinforcement ratio		0.0050	Rebar space, i	5.35	
Actual reinforcement ratio		0.0049			
Concrete cover , in		4			
Rebar layout radius, in		37.50			

Bending about the major axis

No.	Angle, deg	Coord., in	Edge Dist., in	No.	Angle, deg	Coord., in	dge Dist., in
1	0	37.50	4.50	7	180	-37.50	79.50
2	30	32.48	9.52	8	210	-32.48	74.48
3	60	18.75	23.25	9	240	-18.75	60.75
4	90	0.00	42.00	10	270	0.00	42.00
5	120	-18.75	60.75	11	300	18.75	23.25
6	150	-32.48	74.48	12	330	32.48	9.52

Location of neutral axis c=, 8.4

Compression zone, a= 7.14

		No.	e	Force *kips*
		1	0.0014	109.62
eu=	0.003			
	Concrete, kips			1529.39
	Total compression			**1639.01**

Tension zone		No.	e	Force *kips*
		2	0.0004	33.72
ey=	0.00207	3	0.0053	173.80
		4	0.0120	173.80
		5	0.0187	173.80
		6	0.0236	173.80
		7	0.0254	173.80
		8	0.0236	173.80
		9	0.0187	173.80
		10	0.0120	173.80
		11	0.0053	173.80
		12	0.0004	33.72
	Total tension, kips			**1631.65**

Moment due to compression

Rebars	Force *kips*	Mom. Arm. *in*	Moment *k-ft*
1	109.62	37.50	342.56
Concrete	1529.39	38.43	4897.87
Total in compressio			**5240.42**

Moment due to tension

Rebars	Force *kips*	Mom. Arm *in*	Moment *k-ft*
2	33.72	32.48	-91.26
3	173.80	18.75	-271.56
4	173.80	0.00	0.00
5	173.80	-18.75	271.56
6	173.80	-32.48	470.36
7	173.80	-37.50	543.13
8	173.80	-32.48	470.36
9	173.80	-18.75	271.56
10	173.80	0.00	0.00
11	173.80	18.75	-271.56
12	33.72	32.48	-91.26
Total in tension			**1301.32**

Design moment about the major axis, kip 5887.56

Bending about the diagonal

No.	Angle, deg phi	Coord., in c1	Edge Dist., in di
1	0	37.50	21.90
2	30	32.48	26.92
3	60	18.75	40.65
4	90	0.00	59.40
5	120	-18.75	78.15
6	150	-32.48	91.87

No.	Angle, deg phi	Coord., in cl	dge Dist., in di
7	180	-37.50	96.90
8	210	-32.48	91.87
9	240	-18.75	78.15
10	270	0.00	59.40
11	300	18.75	40.65
12	330	32.48	26.92

Location of neutral axis c=, 27.55

Compression zone, a= 23.42

		No.	e	Force *kips*
		1	0.000615575	44.32
eu=	0.003	2	6.84918E-05	5.75
		12	6.84918E-05	5.75

Tension zone		No.	e	Force *kips*
		2		
		3	0.0014	119.80
ey=	0.00207	4	0.0035	173.80
		5	0.0055	173.80
		6	0.0070	173.80
		7	0.0076	173.80
		8	0.0070	173.80
		9	0.0055	173.80
		10	0.0035	173.80
		11	0.0014	119.80
		12		

Concrete, kips	1398.37	
Total compression	**1454.20**	**Total tension, kips** **1456.2**

Moment due to compression

Rebars	Force *kips*	Mom. Arm. *in*	Moment *k-ft*
1	44.32	37.50	138.51
2	5.75	32.48	15.57
12	5.75	32.48	15.57
Concrete	1398.37	51.59	6011.95

Total in compressio **6181.60**

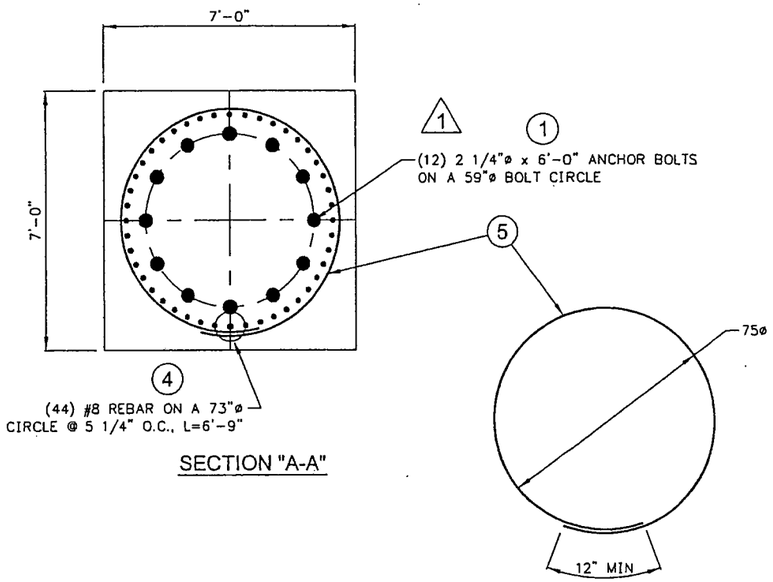
Moment due to tension

Rebars	Force *kips*	Mom. Arm *in*	Moment *k-ft*
3	119.80	18.75	-187.19
4	173.80	18.75	-271.56
5	173.80	0.00	0.00
6	173.80	-18.75	271.56
7	173.80	-37.50	543.13
8	173.80	-32.48	470.36
9	173.80	-18.75	271.56
10	173.80	0.00	0.00
11	119.80	18.75	-187.19

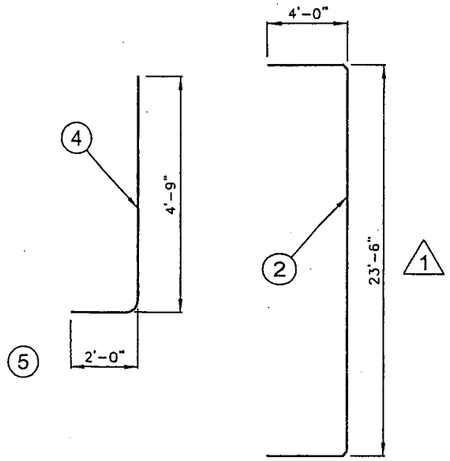
Total in tension **910.66**

Design Moment, kip-ft **6383.04**

Pedestal Design Moment, kip-ft **5887.56**



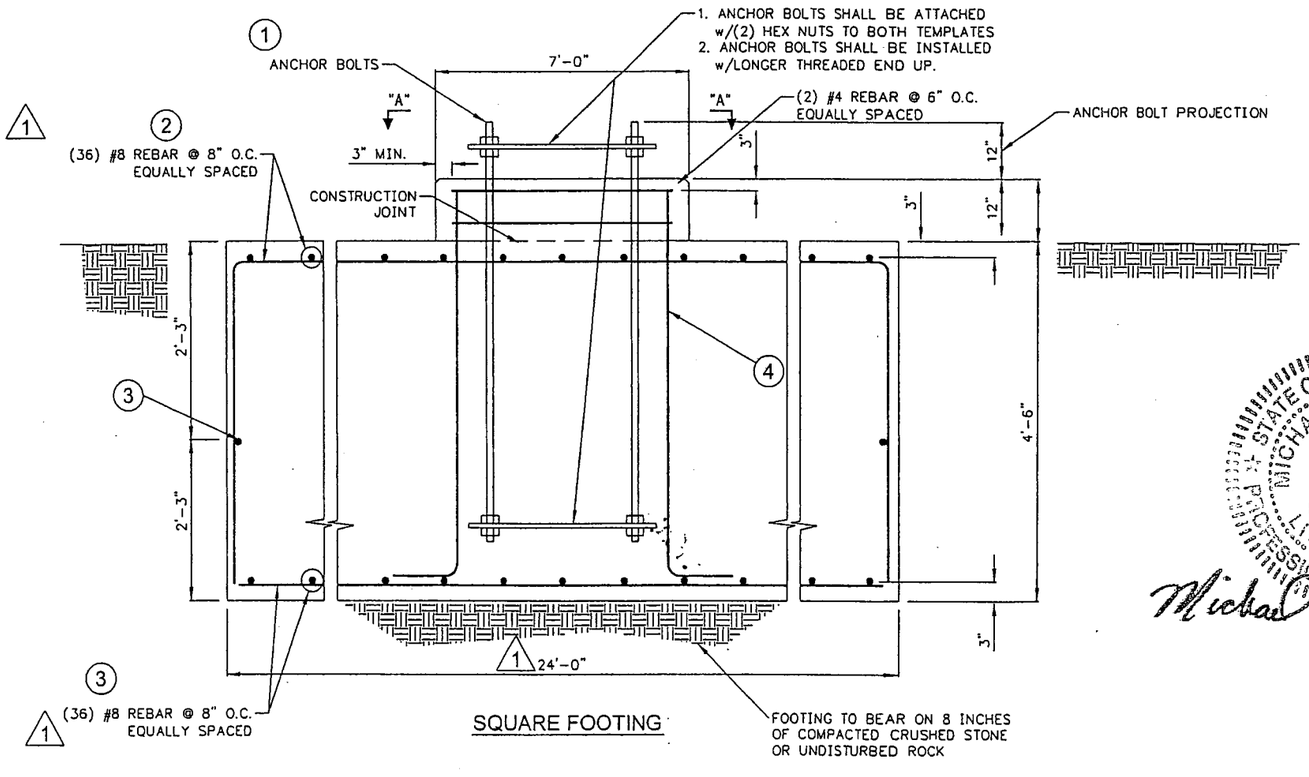
SECTION "A-A"



FOUNDATION LOADING	
MOMENT	2112.3 kip-ft
SHEAR	20.5 kips
AXIAL	20.8 kips

MATERIAL LIST		
ITEM	QTY.	DESCRIPTION
1	12	2 1/4"ø x 6'-0" (A615-GR.75) ANCHOR BOLTS
2	72	#8 REBAR x 31'-6" (ASTM A615-GR.60)
3	76	#8 REBAR x 23'-6" (ASTM A615-GR.60)
4	44	#8 REBAR x 6'-9" (ASTM A615-GR.60)
5	2	#4 REBAR x 21'-9" (ASTM A615-GR.60)

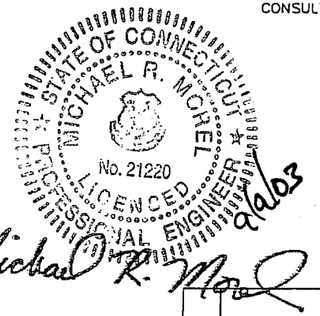
VOL. CONCRETE @ 4000 psi (TYPE II CEMENT)	99.0 yd^3
STEEL (ASTM A615-GR.60)	11650.0 lbs



SQUARE FOOTING

GENERAL NOTES:

1. FOUNDATION DESIGN IS BASE ON THE FOLLOWING: EEI JOB# 11855, DRAWING# GS54762 SOIL REPORT BY CLARENCE WELTI GEOTECHNICAL, REPORT NO. N/A – JULY 24, 2003
2. FOUNDATION EMBEDMENT IS SHOWN FROM THE GROUND LEVEL AT THE TIME OF SOIL INVESTIGATION AS DEPICTED IN THE SOIL REPORT. SHOULD THE ACTUAL SOIL CONDITIONS DIFFER FROM THOSE IN THE REPORT, THE GEOTECHNICAL ENGINEER AND FOUNDATION DESIGNER SHOULD BE NOTIFIED IN ORDER TO RE-EVALUATE THE FOUNDATION DESIGN.
3. SOIL REPORT SHOULD BE CONSULTED PRIOR TO CONSTRUCTION. STEEL CAISSON OR SLURRY METHOD MAY BE REQUIRED TO PREVENT SOIL FROM CAVING DURING CONSTRUCTION. THE CAISSON SHOULD BE REMOVED AFTER COMPLETION OF CONCRETING OR, IF LEFT IN THE GROUND, ALL VOIDS AROUND THE CAISSON SHALL BE FILLED WITH PRESSURIZED GROUT. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
4. FOUNDATION EXCAVATION SHALL BE INSPECTED PRIOR TO PLACEMENT OF REINFORCEMENT AND ANCHOR BOLTS.
5. SPECIAL INSPECTION OF REINFORCEMENT, ANCHOR BOLT INSTALLATION, AND CONCRETE IS REQUIRED PER 2000 IBC. FOUNDATION REINFORCEMENT AND ANCHOR BOLTS SHALL BE INSPECTED PRIOR TO PLACEMENT.
6. REINFORCING STEEL SHALL COMFORM TO ASTM A615-87, Fy=60 ksi. REINFORCEMENT SHALL BE ASSEMBLED USING STEEL WIRE. WELDING IS NOT PERMITTED. MINIMUM SPLICE LENGTH: FOR No. 6 BARS AND SMALLER – 44 x øbar; FOR No. 7 BARS AND LARGER – 55 x øbar. HORIZONTAL TIES SHALL BE STAGGERED WITH NO MORE THAN 50% OF SPLICES IN ONE PLACE.
7. CONCRETE MIX DESIGN AND CONSTRUCTION PROCEDURE SHALL BE IN COMPLIANCE WITH ACI 318-02, ACI 336.3R-93, AND ALL APPLICABLE STATE AND LOCAL CODES.
   a. MINIMUM COMPRESSIVE STRENGTH – 4000 psi AT 28 DAYS. USE TYPE II CEMENT UNLESS STATED OTHERWISE.
   b. CONCRETE MIX SHOULD HAVE A SLUMP OF 7" (±1") FOR DRILLED PIER AND 3" (±1") FOR MAT FOUNDATIONS.
   c. FOR DRILLED PIERS ONLY THE CONCRETE OVER THE ENTIRE LENGTH OF ANCHOR BOLTS SHALL BE VIBRATED. FOR MAT FOUNDATIONS ALL CONCRETE SHALL BE VIBRATED.
8. ANCHOR BOLT ORIENTATION REQUIRED PRIOR TO CONCRETE PLACEMENT. THE CONTRACTOR SHOULD CONSULT THE SITE PLAN AND MONOPOLE DRAWING FOR PROPER ACCESS PORT ORIENTATION.



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REV	DESCRIPTION	DATE	DWN	CHK
1	REVISED POLE HGT/AB's/REACT	9/9/03	L.A.P.	
0	COMPLETED DRAWING (172' POLE)	8/9/03	L.A.P.	

SPRINT PCS
147'-0" MONOPOLE
CHAPLIN, CT33XC583
WINDHAM COUNTY, CT

SCALE: N.T.S.	PROJECT NO.	11855
SHEET 1 of 1	DRAWING NO.	11855S-147.1

Exhibit C

T-Mobile USA Inc.
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Farrell, Christine
From: Hassan Syed - Radio Frequency Engineer
cc: Overbey Jason
Subject: Power Density Report for CT11508F
Date: December 31, 2003

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a New Monopole at 54 Paimer Road, Chaplin, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from T-Mobile transmitters are in the 1935-1945 MHz frequency band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for each antenna is EMS RR90-17-02DP.
4) The antenna center line height is 127 ft.
5) The maximum transmit power from any sector is 1744.7 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a New Monopole at 54 Paimer Road, Chaplin, CT, is 0.02614 mW/cm^2. This value represents 2.614% of the Maximum Permissible Emission (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.
The combined Power Density from other carriers is 9.16%. The combined Power Density for the site is 11.774% of the M.P.E. standard.

New England Market

Connecticut

Worst Case Power Density

T-Mobile

Site:	**CT11508F**
Site Address:	**54 Paimer Road**
Town:	**Chaplin**
Tower Height:	**150 ft.**
Tower Style:	**New Monopole**
Base Station TX output	20 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	140 ft.
Antenna Height	127.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	4.50 dB
Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.6240 dB
Total Attenuation	6.1240 dB
Total EIRP per Channel	53.39 dBm
(In Watts)	218.09 W
Total EIRP per Sector	62.42 dBm
(In Watts)	1744.70 W
nsg	10.3760
Power Density (S) =	**0.026144 mW/cm^2**
Voicestream Worst Case % MPE =	**2.6144%**

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Verizon	5.2000 %
Cingular	
Sprint PCS	3.9600 %
AT&T Wireless	
Nextel	
Total Excluding T-Mobile	**9.1600 %**
T-Mobile	2.6144
Total % MPE for Site	**11.7744%**

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100 Filley Street, Bloomfield, CT 06002
860-794-6427 fax 860-692-7159

First Selectman Rusty Lanzit
Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

RE: **Tower Share– Existing Wireless Telecommunications Facility**
Lot 54 Palmer Road, Chaplin, Connecticut

Dear First Selectman Rusty Lanzit:

Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly Voicestream Wireless Corp.) intends to co-locate antennas on the existing monopole located at Lot 54 Palmer Road, Chaplin. Attached, please find a copy of our application to the CT Siting Council.

If you have any questions or concerns, please feel free to call me at 860-794-6427, or the CT Siting Council.

Very Truly Yours

Christine Farrell
T-Mobile Real Estate and Zoning

Attachments-Application

Cc: CSC