STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
www.ct.gov/csc

March 24, 2005

Karina Fournier
Zoning Department
T-Mobile
100 Filley Street
Bloomfield, CT 06002

RE: **TS-T-MOBILE-069-060303** - Omnipoint Communications, Inc. (T-Mobile) request for an order to approve tower sharing at an approved telecommunications facility located at 280 Ross Road, Killingly, Connecticut.

Dear Ms. Fournier:

At a public meeting held March 22, 2006, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated March 3, 2006, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: The Honorable Janice Thurlow, Chairman Town Council, Town of Killingly
Roger Gandolf, Zoning Officer, Town of Killingly
Christopher B. Fisher, Esq., Cuddy & Feder LLP
Michele G. Briggs, New Cingular Wireless PCS, LLC

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
www.ct.gov/csc

March 7, 2006

The Honorable Janice Thurlow
Chairman Town Council
Town of Killingly
172 Main Street
P. O. Box 6000
Danielson, CT 06239-6000

RE: **TS-T-MOBILE-069-060303** - Omnipoint Communications, Inc. (T-Mobile) request for an order to approve tower sharing at an approved telecommunications facility located at 280 Ross Road, Killingly, Connecticut.

Dear Mr. Thurlow:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for Wednesday, March 22, 2006 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by March 20, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

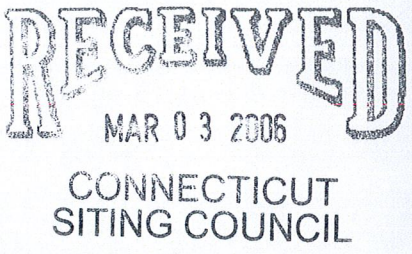
Enclosure: Notice of Intent

c: Roger Gandolf, Zoning Officer, Town of Killingly

G:\EM\T-MOBILE\Killingly\Thurlow.DOC

CSC
CONNECTICUT SITING COUNCIL

ORIGINAL



100 Filley Street, Bloomfield, CT 06002
860-796-3988 fax 860-692-7159
Karina.Fournier@t-mobile.com

TS-T-MOBILE-069-060303

March 3, 2006

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**
280 Ross Road Killingly, CT
Latitude: 41 46 17 / Longitude: 71 51 21

Dear Ms. Katz and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly Voicestream Wireless Corp.) hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use of a future communications tower, located at 280 Ross Road ("Cingular Permit Ross Rd"), in Killingly, CT owned by Cingular Wireless. T-Mobile and Cingular have agreed to the shared use of the Cingular Permit Ross Rd facility, as detailed below.

Cingular Permit Ross Rd Facility

The Cingular Permit Ross Rd facility will consist of a one hundred twenty (120) foot high monopole ("Tower") owned and operated by Cingular Wireless. T-Mobile proposes to locate antennas at a centerline mounting height of one hundred ten (110) feet. The equipment will be located within the existing compound at the base of the tower.

Cingular Permit Ross Rd Facility

As shown on the enclosed plans prepared by Diversified Technology Consultants., including a site plan and tower elevation of the Cingular Permit Ross Rd Facility, annexed hereto as Exhibit 1, 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 site plan. T-Mobile will install nine (9) antennas at the one hundred ten (110) foot level of the Tower. Three (3) associated unmanned equipment cabinets will be located at the base of the tower.

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 Cingular Permit Ross Rd facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

A. Technical Feasibility The future Tower and compound are designed to accommodate multiple carriers. A tower design is attached as Exhibit 2. The tower was designed to hold multiple carriers and can safely accommodate the proposed T-Mobile antennas. The proposed shared use of this Tower is technically feasible. Further there is sufficient room at the base of the 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 existing Cingular Permit Ross Rd 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 nor expand the site plan at the Cingular Permit Ross Rd facility and will be of minimal impact to the 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 15.9% of the standard. See Radio Frequency Memo dated December 13, 2005, prepared by Farid Marbouh, annexed hereto as Exhibit 3;

5.) The proposed shared use of the Cingular Permit Ross Rd facility will 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 Cingular Permit Ross Rd 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 Radio Frequency Field Survey annexed hereto as Exhibit 3, 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 Killingly area through shared use of the Cingular Permit Ross Rd 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 Cingular Permit Ross Rd 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 Cingular Permit Ross Rd facility.

Respectfully submitted,

Karina Fournier
Zoning Dept.
T-Mobile
100 Filley St.
Bloomfield, CT 06002
(860) 796-3988

cc: Chairman, Robert H. Loiselle, Sr
Town Manager, Bruce Benway

Exhibit 1

CINGULAR PERMIT ROSS RD

280 ROSS ROAD
KILLINGLY, CT 06239

SITE NUMBER: CTNL140B

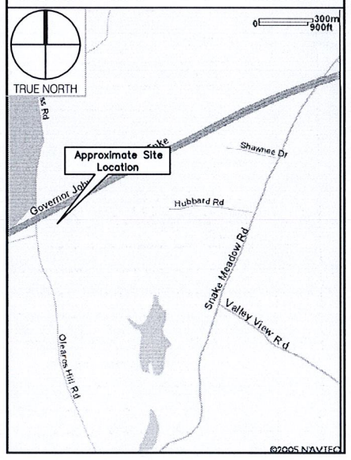
SITE TYPE: CO-LOCATE

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND 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 AND IMPROVEMENTS IN ACCORDANCE WITH 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 CONTRACTOR'S 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 AND ALL OTHER MATERIALS AND 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 WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND 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 WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED 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 AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH 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 AND 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 72-HOURS 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

AS SHOWN



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.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET & INDEX	0
A-1	PLANS, ELEVATION, DETAIL & NOTES	0
S-1	STRUCTURAL NOTES, SECTIONS & DETAILS	0
E-1	ELECTRICAL & GROUNDING NOTES,	0
	RISERS & DETAILS	

PROJECT SUMMARY

SITE NUMBER:	CTNL140B
SITE NAME:	CINGULAR PERMIT ROSS RD
SITE ADDRESS:	280 ROSS ROAD KILLINGLY, CT 06239
ASSESSORS PARCEL NO.:	MAP 255, LOT 12
CONSTRUCTION TYPE:	CO-LOCATION
STRUCTURE OWNER:	CINGULAR WIRELESS 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
PROPERTY OWNER:	SNAKE MEADOW CLUB 1011 RTE 163 OAKDALE, CT 06370
APPLICANT:	OMNIPOINT COMMUNICATIONS, INC. 100 FILLEY STREET BLOOMFIELD, CT 06002

OMNIPOINT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY OF T-MOBILE USA, INC.
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159

DIVERSIFIED TECHNOLOGY CONSULTANTS
556 WASHINGTON AVENUE NORTH HAVEN CT 06473
203 239 4290 203 234 7319 FAX

STATE OF CONNECTICUT
MURALI D. ATLURU
No. 11668
LICENSED PROFESSIONAL ENGINEER

APPROVALS

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

PROJECT NO: 05-151-200

DRAWN BY: DEB

CHECKED BY: AGS

SUBMITTALS

0	12/30/05	CONSTRUCTION

CTNL140B
CINGULAR PERMIT
ROSS RD

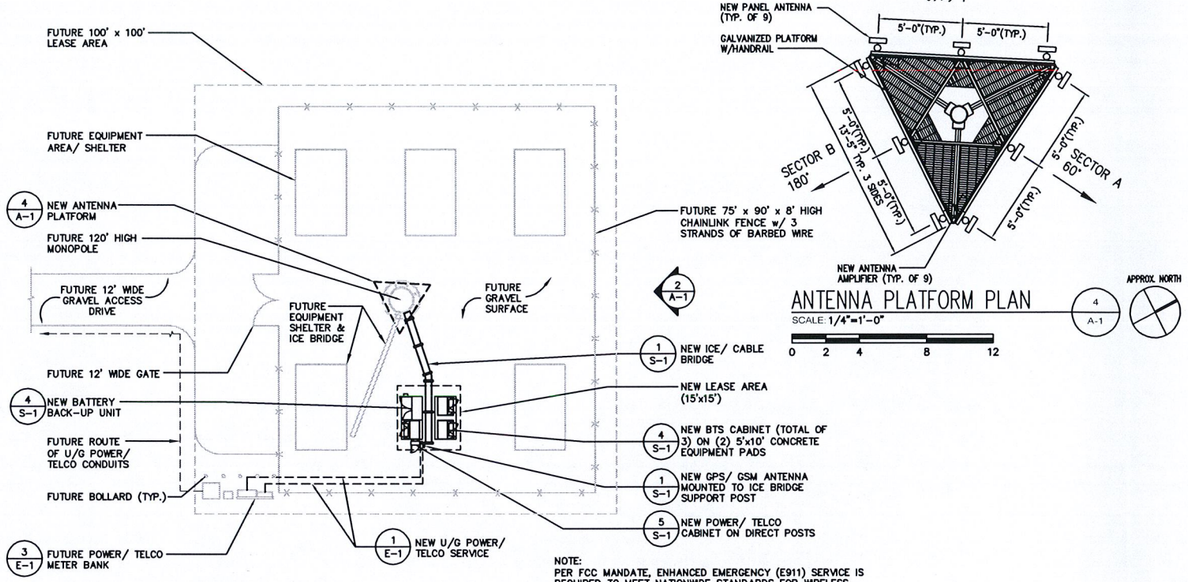
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE

TITLE SHEET & INDEX

SHEET NUMBER

T-1



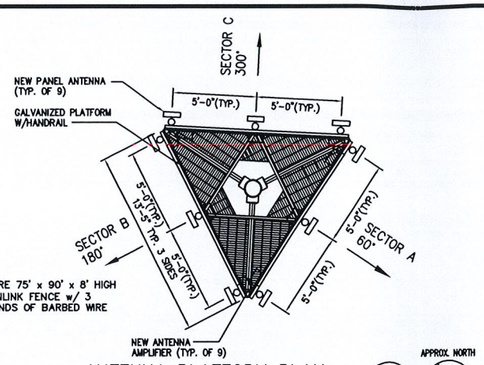
NOTE:
PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/ LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. LESSEE/ LICENSEE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

COMPOUND PLAN

SCALE: 1/16" = 1'-0"

0 8 16 32 48

1 A-1 APPROX. NORTH



ANTENNA PLATFORM PLAN

SCALE: 1/4"=1'-0"

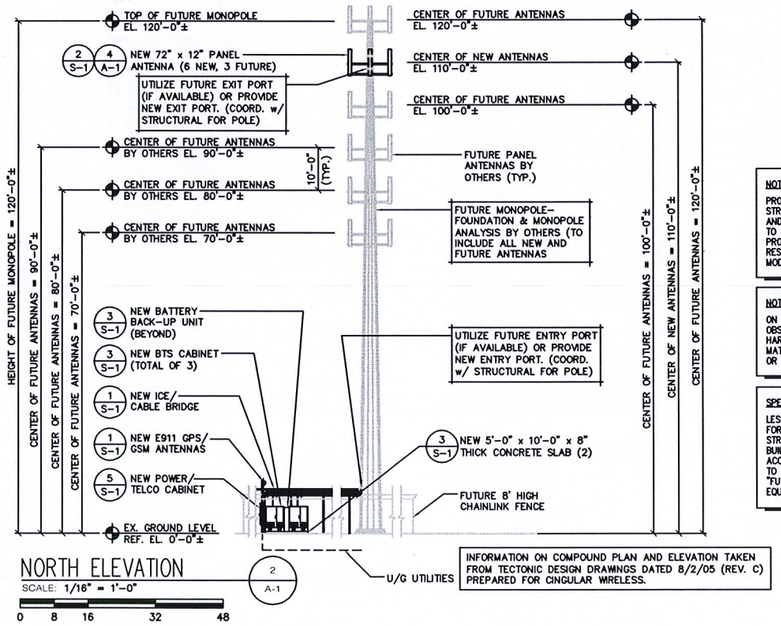
0 2 4 8 12

2 A-1

4 A-1 APPROX. NORTH

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.
2. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH OWNER PRIOR TO CONSTRUCTION.
3. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, ORDERING OR FABRICATION OF ANTENNA MOUNTS, CONTRACTOR SHALL CONSULT WITH PROJECT OWNER'S RF ENGINEER AND FIELD VERIFY ALL ANTENNA SECTOR LOCATIONS AND ANTENNA AZIMUTHS.
4. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
5. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
6. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER 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.
7. ANTENNAS, SUPPORTS AND CABLE MOUNTS SHALL BE PAINTED TO MATCH EXISTING SURFACES TO WHICH IT IS ATTACHED. PAINT SHALL BE SHERWIN WILLIAMS, COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND LESSEE/LICENSEE GUIDELINES.
8. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. EQUIPMENT WILL BE INDEPENDENTLY POWERED WITH SEPARATE METER.
10. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
11. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
12. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
13. ALL (E)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 UTILITY COMPANY ENGINEERING.
14. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH.
15. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
16. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND 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 AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.



NORTH ELEVATION

SCALE: 1/16" = 1'-0"

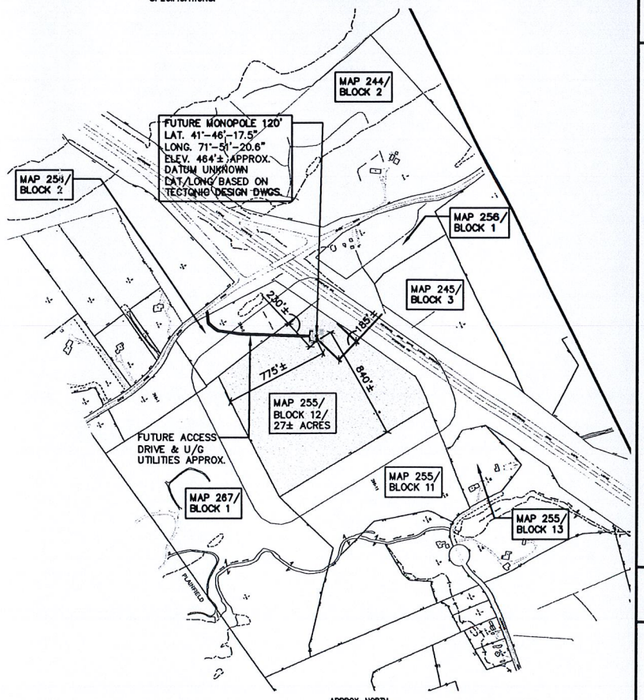
0 8 16 32 48

2 A-1

NOTE:
PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A GLOBAL STRUCTURAL STABILITY ANALYSIS TO DETERMINE CAPACITY AND SUITABILITY OF EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY PROPOSED EQUIPMENT. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ALL REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

NOTE:
ON EXISTING ANTENNA SUPPORT STRUCTURES WITH FAA OBSTRUCTION MARKING, PAINT ANTENNAS, MOUNTING HARDWARE, AND EXPOSED VERTICAL CABLE RUNS TO MATCH EXISTING HARDWARE PATTERN (AVIATION ORANGE OR WHITE).

SPECIAL LANDLORD NOTE:
LESSEE/LICENSEE "FUTURE" PANEL ANTENNAS ARE DEPICTED FOR THE PURPOSES OF DETERMINING TOWER/MONOPOLE STRUCTURAL CAPACITY, OBTAINING ZONING APPROVALS AND BUILDING PERMITS. SUBSEQUENT ENDORSEMENT OR ACCEPTANCE OF THIS DRAWING BY THE TOWER OWNER 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.



PLOT PLAN

SCALE: 1" = 500'

0 250 500 1000 1500

3 A-1 APPROX. NORTH

PLOT PLAN INFORMATION TAKEN FROM TECTONIC DESIGN DRAWINGS DATED 8/2/05 (REV. C) PREPARED FOR CINGULAR WIRELESS & TOWN OF KILLINGLY ASSESSORS GIS MAP.

ABBREVIATIONS

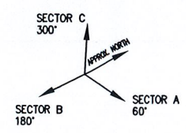
ADJ	ADJUSTABLE	OC	ON CENTER
AGL	ABOVE GRADE LEVEL	OPP	OPPOSITE
APPROX	APPROXIMATE	SF	SQUARE FOOT
C	CONDUIT	SHT	SHEET
CONC	CONCRETE	SIM	SIMILAR
CONT	CONTINUOUS	STL	STEEL
CJ	CONSTRUCTION JOINT	TOC	TOP OF CONCRETE
DIA	DIAMETER	TOM	TOP OF MASONRY
DWG	DRAWING	TYP	TYPICAL
EGB	EQUIPMENT GROUND BAR	VIF	VERIFY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

SYMBOLS AND MATERIALS

NEW ANTENNA
EXISTING ANTENNAS
ASPHALT
NEW ACCESS EASEMENT
CONCRETE
ELECTRIC BOX
LIGHT POLE
FND. MONUMENT
SPOT ELEVATION
SET POINT
REVISION
GRID REFERENCE
DETAIL REFERENCE
ELEVATION
SECTIONS & DETAILS

GROUT OR PLASTER
(E)BRICK
(E)MASONRY
CONCRETE
EARTH
GRAVEL
PLYWOOD
SAND
WOOD CONT.
WOOD BLOCKING
STEEL
CENTER LINE
PROPERTY LINE
STEPPED FOOTING
MATCH LINE
WORK POINT
GROUND WIRE
COAXIAL CABLE

ANTENNA ORIENTATION KEY



OMNIPOINT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY OF T-MOBILE USA, INC.
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159

dtc
DIVERSIFIED TECHNOLOGY CONSULTANTS
556 WASHINGTON AVENUE NORTH HAVEN CT 06473
203.239.4205 203.234.7319 FAX

STATE OF CONNECTICUT
MURALI D. ATHURU
No. 11569
LICENSED PROFESSIONAL ENGINEER

APPROVALS

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

PROJECT NO: 05-151-200
DRAWN BY: DEB
CHECKED BY: AGS

SUBMITTALS

0	12/30/05	CONSTRUCTION

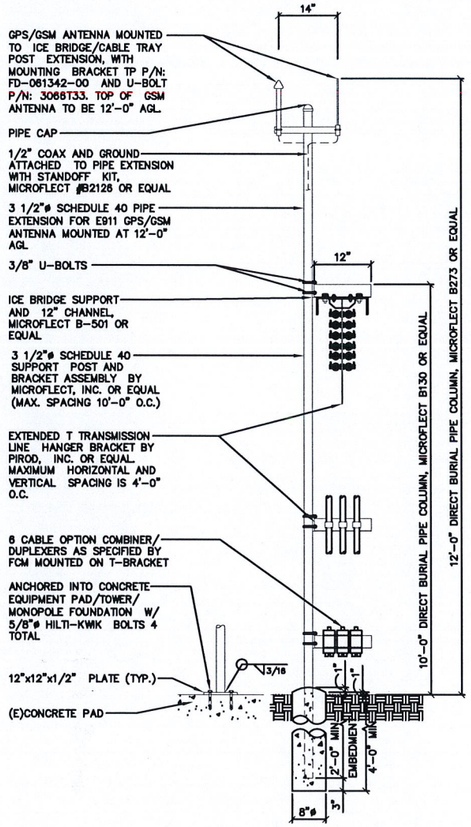
CTNL140B
CINGULAR PERMIT
ROSS RD

280 ROSS ROAD
KILLINGLY, CT 06239

PLANS, ELEVATION, DETAIL & NOTES

SHEET NUMBER
A-1

R:\05151-000 T Mobile\200-Cingular Permit Ross Rd Killingly CT\CD\Rev 0\CTNL140A CD 12-30-2005 Rev0.dwg, A-1, 12/29/2005 6:13:50 PM, dan.bolan, Diversified Technology Consultants.

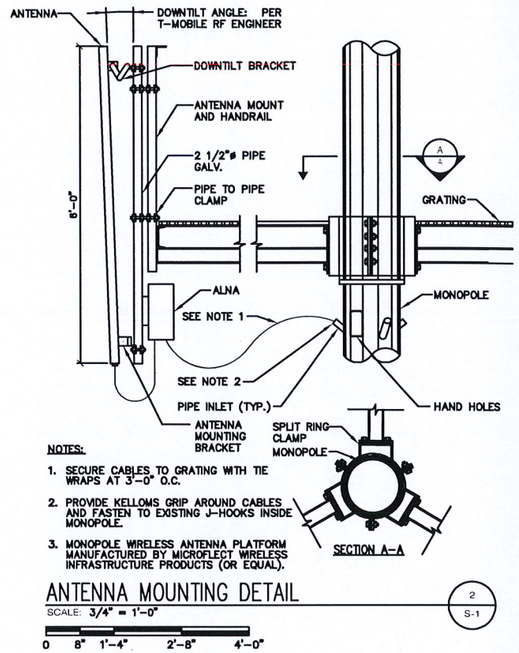


SECTION AT ICE BRIDGE/CABLE TRAY

SCALE: 3/4"=1'-0"

1 / S-1

0 8" 1'-4" 2'-8" 4'-0"



NOTES:

1. SECURE CABLES TO GRATING WITH TIE WRAPS AT 3'-0" O.C.
2. PROVIDE KELLOMS GRIP AROUND CABLES AND FASTEN TO EXISTING J-HOOKS INSIDE MONOPOLE.
3. MONOPOLE WIRELESS ANTENNA PLATFORM MANUFACTURED BY MICROFLECT WIRELESS INFRASTRUCTURE PRODUCTS (OR EQUAL).

ANTENNA MOUNTING DETAIL

SCALE: 3/4" = 1'-0"

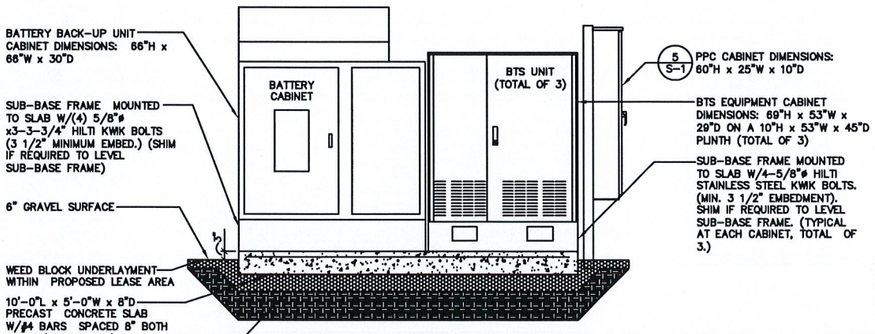
2 / S-1

0 8" 1'-4" 2'-8" 4'-0"

STRUCTURAL NOTES

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL WIDE-FLANGE SHAPES SHALL CONFORM TO ASTM 992A. ALL OTHER SHAPES AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL, UNLESS OTHERWISE NOTED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND 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) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 5/8" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION, IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC- COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH 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 TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DLI. 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. 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. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-20 AND OR HY-150 SYSTEMS (AS SPECIFIED AN DWG.) OR ENGINEERS APPROVED EQUAL WITH 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 WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ONE HALF (3 1/2) INCHES.
15. GRAVEL SUB BASE AND CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL.
16. CONCRETE FOR FENCE AND ICE BRIDGE SUPPORT SHALL BE 3000 PSI AIR ENTRAINED (4 %-6 %) NORMAL WEIGHT CONCRETE.
17. ALL CAST IN PLACE CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND 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 AND LARGER .....2 INCHES
      - #5 AND SMALLER .....1 1/2 INCHES

    ALL EXPOSED EDGES SHALL BE PROVIDED WITH A 3/4"x3/4" CHAMFER UNLESS NOTED OTHERWISE.
19. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
20. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY.

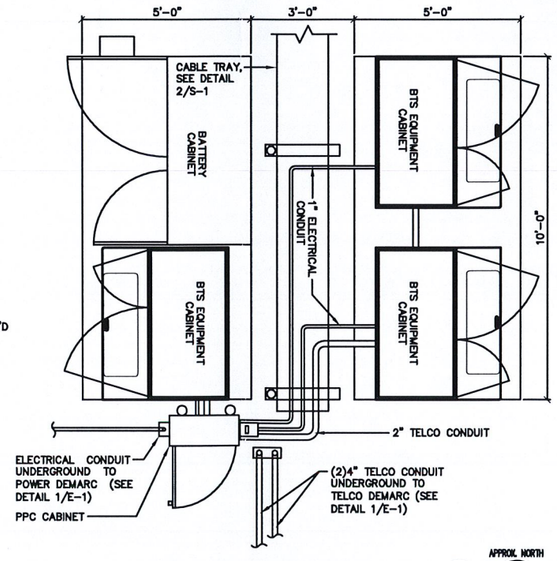


EQUIPMENT SLAB SECTION VIEW

SCALE: 1/2" = 1'-0"

3 / S-1

0 1'-0" 2'-0" 4'-0" 8'-0"



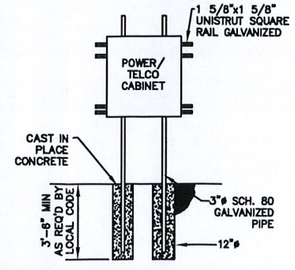
PLAN AT EQUIPMENT PAD

SCALE: 1/2" = 1'-0"

4 / S-1

APPROX. NORTH

0 1'-0" 2'-0" 4'-0" 8'-0"



POWER/TELCO CABINET MOUNTING DETAIL

SCALE: NTS

5 / S-1

OMNIPOINT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY OF T-MOBILE USA, INC.
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159

dtc
DIVERSIFIED TECHNOLOGY CONSULTANTS
556 WASHINGTON AVENUE NORTH HAVEN CT 06473
203 239 4203 203 234 7370 FAX

STATE OF CONNECTICUT
MURALI D. ATLURU
No. 11569
LICENSED PROFESSIONAL ENGINEER

APPROVALS

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

PROJECT NO:	05-151-200
DRAWN BY:	DEB
CHECKED BY:	AGS

SUBMITTALS

0	12/30/05	CONSTRUCTION

CTNL140B
CINGULAR PERMIT
ROSS RD

280 ROSS ROAD
KILLINGLY, CT 06239

STRUCTURAL NOTES, SECTIONS & DETAILS

SHEET NUMBER

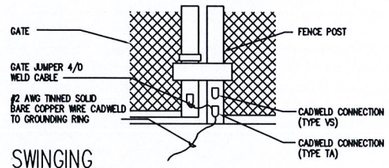
S-1

RISER DIAGRAM FEEDER SCHEDULE NOTES:

1. THE CONTRACTOR SHALL INSTALL GROUNDING BUSHINGS ON ALL CONDUITS AS INDICATED.

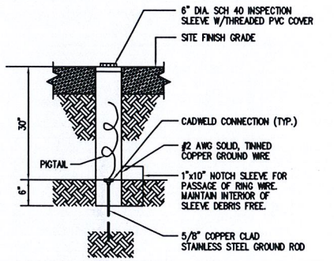
2. ALL CONDUITS SHALL BE EMT UNLESS INDICATED OTHERWISE.

3. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL (1) GFI SERVICE DUPLEX RECEPTACLE WITH NEMA 3R IN-USE COVER, (AS REQUIRED BY NEC). (2) SURFACE MOUNTED, NONMETALLIC, GASKETED, CORROSION RESISTANT, 26W TRIPLE TUBE COMPACT FLUORESCENT FIXTURE WITH ELECTRONIC BALLAST. FIXTURE SHALL BE CANLET #GFWF26H1C-CSC OR EQUAL. (1) SINGLE POLE SWITCH IN WEATHER-TIGHT ENCLOSURE. FURNISH AND INSTALL (2) #12, (1) #12 GND. IN 3/4" CONDUIT TO NEW 20AMP, 1-POLE CIRCUIT BREAKER IN T-MOBILE POWER / TELCO CABINET. MOUNT DEVICES AND LIGHTING ON EQUIPMENT MOUNTING RACK.



SWINGING GATE GROUNDING DETAIL

SCALE: N.T.S. — 9 / E-1



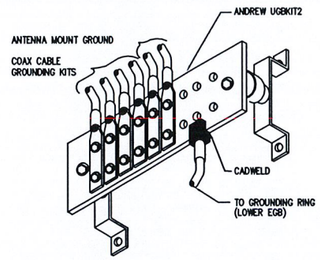
GROUND ROD TEST WELL DETAIL

SCALE: N.T.S. — 8 / E-1

NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

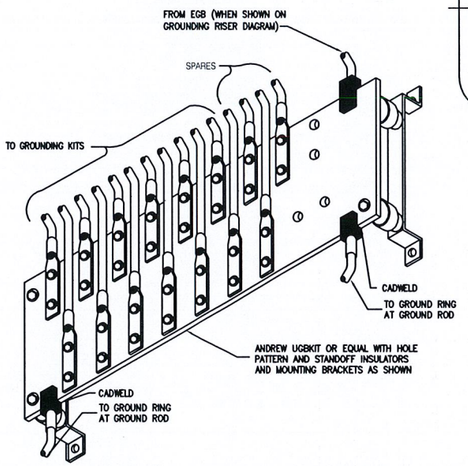
TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: N.T.S. — 7 / E-1



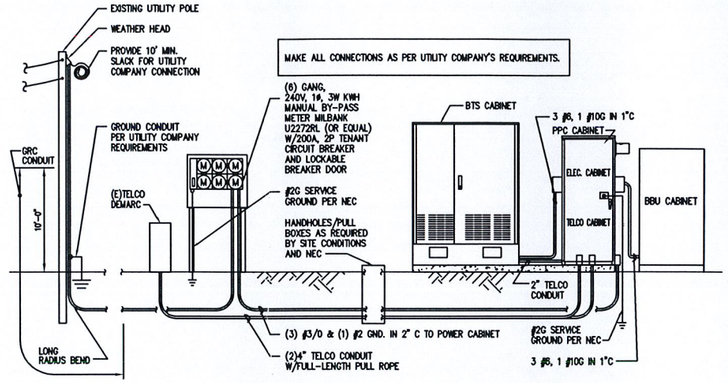
EQUIPMENT GROUND BAR (EGB)

SCALE: N.T.S. — 6 / E-1



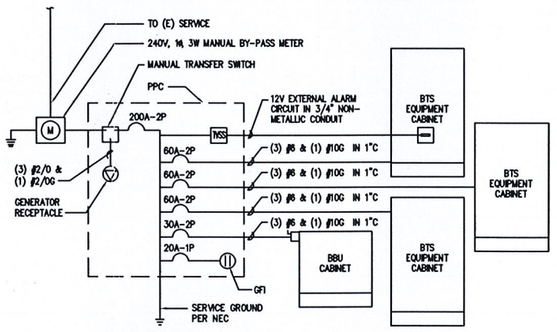
MASTER GROUND BAR (MGB)

SCALE: N.T.S. — 5 / E-1



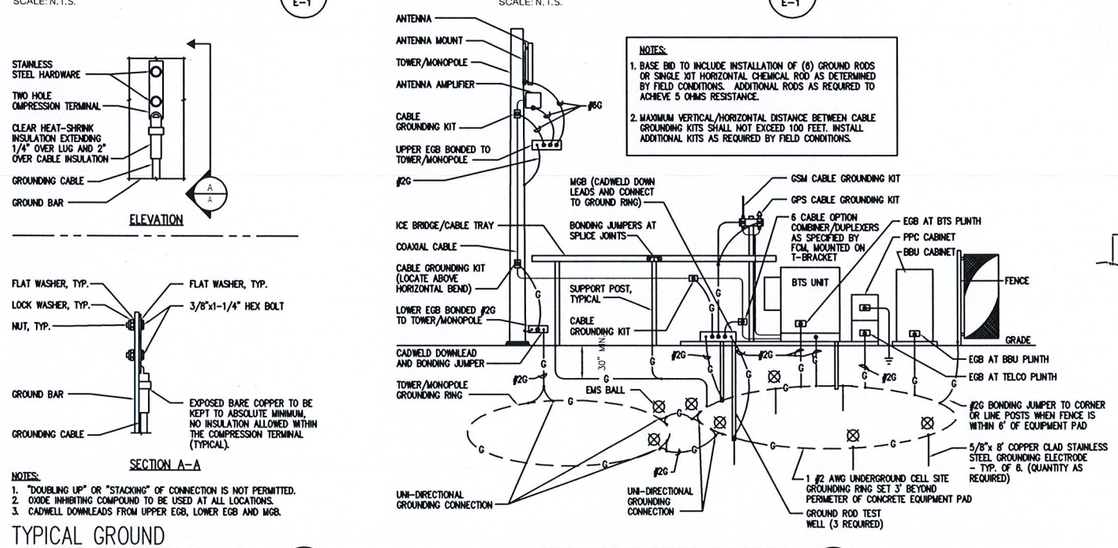
POWER RISER DIAGRAM

SCALE: N.T.S. — 3 / E-1



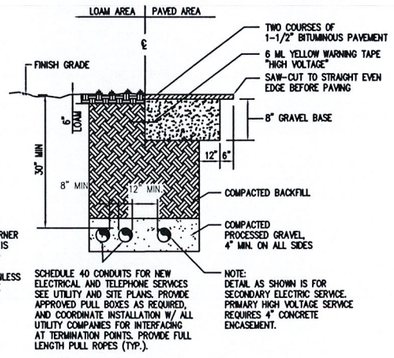
ONE LINE DIAGRAM

SCALE: N.T.S. — 2 / E-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S. — 4 / E-1



BURIED CONDUIT DETAIL

SCALE: N.T.S. — 1 / E-1

ELECTRICAL LEGEND

	NEW PANEL BOARD, SURFACE MOUNTED
	EXISTING PANEL BOARD, SURFACE MOUNTED
T	DRY TYPE TRANSFORMER
M	METER
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	FUSIBLE DISCONNECT SWITCH, MOUNTED 54"A.F.F.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
	DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
J	JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
	EXPOSED WIRING
	HOME RUNS, MINIMUM 2#10 + 1#10G IN 3/4" CONDUIT U.O.N.
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
GRC	GALVANIZED RIGID CONDUIT
G	GROUND
	GROUND
MGB	MASTER GROUND BAR ○MECHANICAL CONNECTION ●CADWELD CONNECTION
EGB	EQUIPMENT GROUND BAR ○MECHANICAL CONNECTION ●CADWELD CONNECTION
G	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	COAXIAL CABLE
	5/8"x8' COPPER CLAD STAINLESS STEEL GROUND ROD
	●EXOTHERMIC (CADWELD) OR ●MECHANICAL (COMPRESSION TYPE) CONNECTION
PPC	POWER PROTECTION CABINET
	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #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 WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH 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. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS'N MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

OMNIPOINT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY OF T-MOBILE USA, INC.
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159

dtc
DIVERSIFIED TECHNOLOGY CONSULTANTS
556 WASHINGTON AVENUE NORTH HAVEN CT 06473
203.239.4295 203.234.7378 FAX

STATE OF CONNECTICUT — DORALI D. ATLURU — No. 11569 — LICENSED — PROFESSIONAL ENGINEER

APPROVALS

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

PROJECT NO: 05-151-200

DRAWN BY: DEB

CHECKED BY: AGS

SUBMITTALS

0	12/30/05	CONSTRUCTION

CTNL140B
CINGULAR PERMIT
ROSS RD

280 ROSS ROAD
KILLINGLY, CT 06239

ELECTRICAL & GROUNDING NOTES, RISERS & DETAILS

SHEET NUMBER

E-1

Exhibit 2

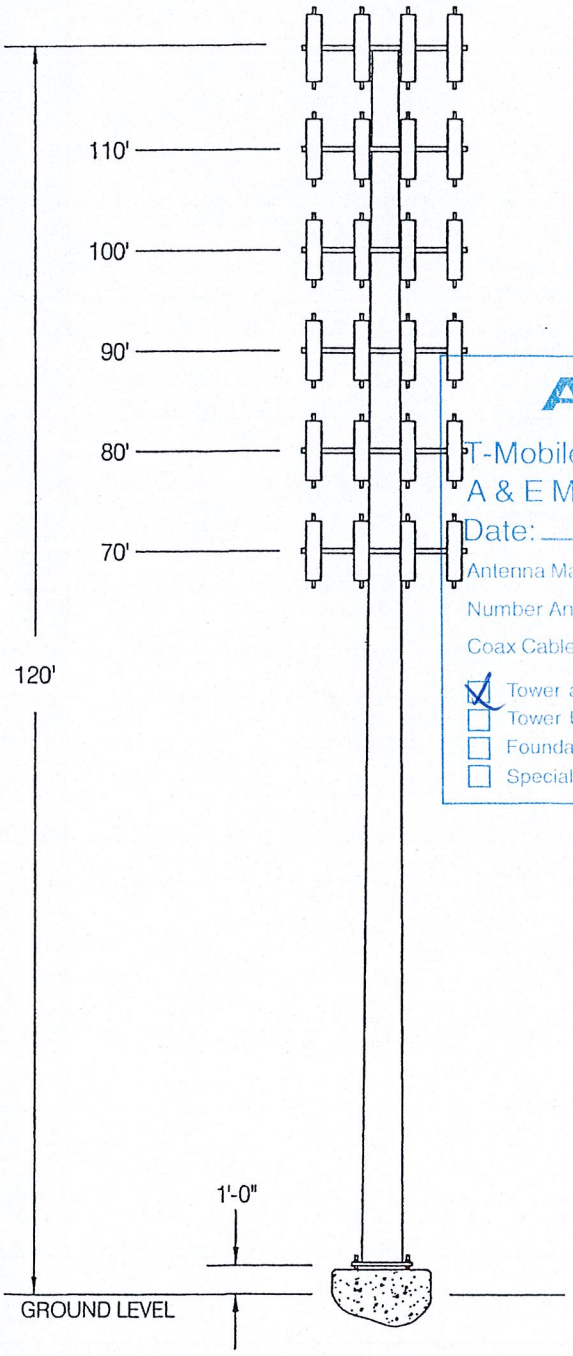
ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View

Customer: TECTONIC ENGINEERING
Description: 120' MONOPOLE
EEI Job Number: 13781

EMERSON™ Network Power

SITE INFORMATION
Location: WINDHAM COUNTY, CT
Site Name: KILLINGLY
Site Number: 3917

DESIGN INFORMATION
Designed By: JAY PARR
Design Date: 11/7/2005
Status: REVISION 0



ANTENNA LOADING

(12) 7770.00 PANEL ANTENNAS, (6) AMPLIFIERS, AND (18) DIPLEXERS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 120'
(12) ALP 9212 PANEL ANTENNAS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 110'
(12) ALP 9212 PANEL ANTENNAS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 100'
(12) ALP 9212 PANEL ANTENNAS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 90'
(12) ALP 9212 PANEL ANTENNAS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 80'
(12) ALP 9212 PANEL ANTENNAS MOUNTED ON A 16 ft LOW PROFILE PLATFORM AT 70'

APPROVED
T-Mobile Site No: CTNL1465
A & E Manager: D. O'Connor
Date: 2/20/06
Antenna Make: EMS Model No.: DP65DR2
Number Antennas: 9 Rad. Center (AGL).: 110 Feet
Coax Cables: Number: 24 ☐ 7/8" ☒ 1-5/8" ☐ 2-1/4"
☒ Tower and Foundation Acceptable: No Upgrades Required
☐ Tower Upgrades Required
☐ Foundation Upgrades Required
☐ Special Coax Placement or Bundling Required

DESIGN CRITERIA

DESIGNED IN ACCORDANCE WITH THE TIA/EIA 222-F FOR 90 MPH FASTEST MILE WIND SPEED AND 1/2" RADIAL ICE (NON-SIMULTANEOUS)

DESIGN MEETS THE REQUIREMENTS OF SECTIONS 1609 AND 3108 OF THE 2000 AND 2003 INTERNATIONAL BUILDING CODES FOR 110 MPH 3-SECOND GUST WIND SPEED

STATE OF CONNECTICUT
MICHAEL R. MOREL
No. 21220
LICENSED PROFESSIONAL ENGINEER
11/15/05

Michael R. Morel

ENGINEERED ENDEAVORS, INC.
7610 Jenther Drive • Mentor, Ohio 44060-4872
Phone: (440) 918-1101 • Phone: (888) 270-3855
Fax: (440) 918-1108 • www.engend.com

APPURTENANCES

DESCRIPTION	NUM.	ELEV.	Kz	AREA	WGT	Ca	AREA	WGT	Ca	FACTOR
				< WITHOUT ICE >			< WITH ICE >			
7770.00	12	119.	1.443	4.20	35.	1.4000	4.67	68.	1.4000	0.93
AMPLIFIER/DIPLEXER	24	119.	1.443	0.67	18.	1.4000	0.83	23.	1.4000	0.89
16' LOW PROFILE PLAT	1	119.	1.443	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00
ALP 9212	12	109.	1.407	3.90	27.	1.4000	4.24	55.	1.4000	0.85
16' LOW PROFILE PLAT	1	109.	1.407	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00
ALP 9212	12	99.	1.369	3.90	27.	1.4000	4.24	55.	1.4000	0.85
16' LOW PROFILE PLAT	1	99.	1.369	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00
ALP 9212	12	89.	1.328	3.90	27.	1.4000	4.24	55.	1.4000	0.85
16' LOW PROFILE PLAT	1	89.	1.328	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00
ALP 9212	12	79.	1.283	3.90	27.	1.4000	4.24	55.	1.4000	0.85
16' LOW PROFILE PLAT	1	79.	1.283	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00
ALP 9212	12	69.	1.235	3.90	27.	1.4000	4.24	55.	1.4000	0.85
16' LOW PROFILE PLAT	1	69.	1.235	11.00	1900.	2.0000	14.00	2200.	2.0000	1.00

LOAD CASE 2

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 22.35 PSF
MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
7770.00	119.00	0.811	2.767
AMPLIFIER/DIPLEXER	119.00	0.559	0.941
16' LOW PROFILE PLATFORM	119.00	2.200	1.062
ALP 9212	109.00	0.660	2.239
16' LOW PROFILE PLATFORM	109.00	2.200	1.035
ALP 9212	99.00	0.660	2.178
16' LOW PROFILE PLATFORM	99.00	2.200	1.007
ALP 9212	89.00	0.660	2.113
16' LOW PROFILE PLATFORM	89.00	2.200	0.977
ALP 9212	79.00	0.660	2.042
16' LOW PROFILE PLATFORM	79.00	2.200	0.944
ALP 9212	69.00	0.660	1.965
16' LOW PROFILE PLATFORM	69.00	2.200	0.909

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
119.00	18.50	0.1875	5.24	0.00	3.37	0.31	0.00	50.98	0.00	60.3	4.52
109.00	21.29	0.1875	5.24	52.26	3.37	0.27	9.64	49.07	0.20	51.0	4.40
99.00	24.09	0.1875	9.15	143.48	6.39	0.45	20.63	47.60	0.44	42.1	4.08
96.00	24.93	0.1875	12.80	181.79	9.34	0.64	24.39	47.22	0.53	39.6	3.96
TYPE OF JOINT: SLIP JOINT											
96.00	24.43	0.3125	13.05	181.80	10.03	0.42	15.48	51.99	0.31	39.6	3.96
89.00	26.38	0.3125	13.05	272.97	10.03	0.39	19.87	51.99	0.39	34.0	3.73
79.00	29.18	0.3125	16.71	439.78	13.50	0.48	26.09	51.81	0.51	26.5	3.35
69.00	31.97	0.3125	20.32	642.62	17.25	0.56	31.66	50.46	0.64	20.0	2.91
58.50	34.90	0.3125	23.77	891.94	21.21	0.62	36.77	49.28	0.76	14.1	2.42
48.50	37.70	0.3125	24.20	1133.76	22.58	0.62	39.99	48.32	0.84	9.5	1.93
TYPE OF JOINT: SLIP JOINT											
48.50	36.95	0.3750	24.70	1133.76	25.84	0.60	34.88	51.00	0.69	9.5	1.93
36.00	40.44	0.3750	24.70	1442.43	25.84	0.55	36.95	49.74	0.75	5.2	1.39
24.00	43.79	0.3750	25.20	1744.74	27.81	0.54	38.03	48.72	0.79	2.3	0.90
12.00	47.15	0.3750	25.69	2053.02	29.91	0.54	38.54	47.84	0.82	0.6	0.44
0.00	50.50	0.3750	26.61	2367.66	33.35	0.56	38.68	47.08	0.83	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	33.347	-26.611	2367.656	0.000	0.000

BASE PLATE AT ELEVATION 0.00 FEET

TUBE DIAMETER	50.50	INCHES
DESIGN MOMENT	2776.4	KIP FT
DESIGN MOMENT IS	0.	DEGREES FROM THE WIND DIRECTION
BOLTS ARE ON THE KNUCKLES OF THE TUBE		
APPLIED AXIAL FORCE	29.3	KIPS
APPLIED SHEAR	31.76	KIPS

BOLT DATA

BOLT TYPE	A615 GR75	
BOLTS ARE EVENLY SPACED		
DIAMETER	2.250	INCHES
EFFECTIVE AREA	3.250	SQ IN
TOTAL LENGTH	8.0	FEET
End plates are required.		
MINIMUM EMBEDMENT	7.4	FEET
NUMBER OF BOLTS	16	
BOLT CIRCLE DIAMETER	59.00	INCHES
ALLOWABLE STRESS	60.0	KSI
APPLIED AXIAL STRESS	44.0	KSI
MAX BOLT FORCE	143.0	KIPS
BOLT BENDING STRESS	2.9	KSI
COMBINED BOLT STRESS	46.9	KSI
CLEARANCE UNDER PLATE	3.25	INCHES
BOLT WEIGHT	1804.8	POUNDS

PLATE DATA

DIAMETER OF PLATE	65.00	INCHES
MATERIAL	A572 MOD60	
PROVIDED THICKNESS	2.000	INCHES
REQUIRED THICKNESS	1.667	INCHES
BOLT HOLE DIAMETER	2.625	INCHES
CENTER HOLE SIZE	40.50	INCHES
NET WEIGHT	1100.0	POUNDS
RAW STOCK WEIGHT	2391.3	POUNDS
SURFACE AREA	26.99	SQ FT
ALLOWABLE STRESS	60.00	KSI
MAX APPLIED STRESS	41.69	KSI
CONCRETE STRENGTH	3000.	PSI

Base Plate - use 65.00 inch ROUND x 2.000 inch A572 MOD60 with (16) 2.250 diameter x 8.00 foot caged A615 GR75 bolts on a 59.00 inch bolt circle. End plates are required.

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:	TECTONIC ENGINEERING
STRUCTURE:	120' MONOPOLE
JOB NUMBER:	13781
LOCATION:	WINDHAM COUNTY, CT
SITE NAME:	KILLINGLY

SERVICE LOADS AT BASE OF THE MONOPOLE

DESIGN LOADING	
MOMENT	2776.4 ft-kips
SHEAR	31.8 kips
AXIAL	29.3 kips

ANCHOR BOLTS

QUANTITY	16.0
LENGTH	8.0 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	7.5 ft

	HEIGHT	WIDTH		
FOOTING	3.00 ft	24.50 ft	SOIL UNIT WEIGHT	100 pcf
PEDESTAL	4.50 ft	7.00 ft	CONCRETE WEIGHT	150 pcf
			ANGLE OF FRICTION	30 degrees

FOUNDATION WEIGHT	303.19 kips	
CONCRETE VOLUME	74.86 yds^3	
SOIL WEIGHT	229.50 kips	H= 3.50
TOTAL VERTICAL LOAD	561.99 kips	B= 28.54
KERN OF ECCENTRICITY	4.08 ft	
ACTUAL ECCENTRICITY	5.36 ft	
OVERTURNING MOMENT	3014.9 ft-kips	
RESISTING MOMENT	6884.3 ft-kips	
ALLOWABLE GROSS SOIL PRESSURE	0.0 ksf	
ALLOWABLE NET SOIL PRESSURE	8.0 ksf	

		GROSS	NET
SOIL PRESSURE	MAXIMUM q=	2.22 ksf	1.33 ksf
	MINIMUM q=	0.00 ksf	

SAFETY FACTOR Sf = 2.28

PEDESTAL DESIGN

Pedestal Width, in		84
Concrete, ksi		3
Reinforcement, ksi		60
Rebars , #8	Q-ty	46
Design Rebars	Q-ty	12
Minimum reinforcement ratio		0.0050
Actual reinforcement ratio		0.0052
Concrete cover , in		4.5
Rebar layout radius, in		37.00

Ultim. Moment	4671.2
Area, sq.in	0.79
Area, sq.in	3.03
Rebar space, ir	5.05

Bending about the major axis

No.	Angle, deg	Coord., in	Edge Dist., in
1	0	37.00	5.00
2	30	32.04	9.96
3	60	18.50	23.50
4	90	0.00	42.00
5	120	-18.50	60.50
6	150	-32.04	74.04

No.	Angle, deg	Coord., in	Edge Dist., in
7	180	-37.00	79.00
8	210	-32.04	74.04
9	240	-18.50	60.50
10	270	0.00	42.00
11	300	18.50	23.50
12	330	32.04	9.96

Location of neutral axis c=, ir **8.786**
Compression zone, a= **7.47**

No.	e	Force *kips*
1	0.0013	105.81

eu= 0.003

Concrete, kips 1599.67

Total compression **1705.48**

Tension zone

ey= 0.00207

No.	e	Force *kips*
2	0.0004	35.12
3	0.0050	181.70
4	0.0113	181.70
5	0.0177	181.70
6	0.0223	181.70
7	0.0240	181.70
8	0.0223	181.70
9	0.0177	181.70
10	0.0113	181.70
11	0.0050	181.70
12	0.0004	35.12

Total tension, kips **1705.53**

Moment due to compression

Rebars	Force *kips*	Mom. Arm. *in*	Moment *k-ft*
1	105.81	37.00	326.24
Concrete	1599.67	38.27	5101.06

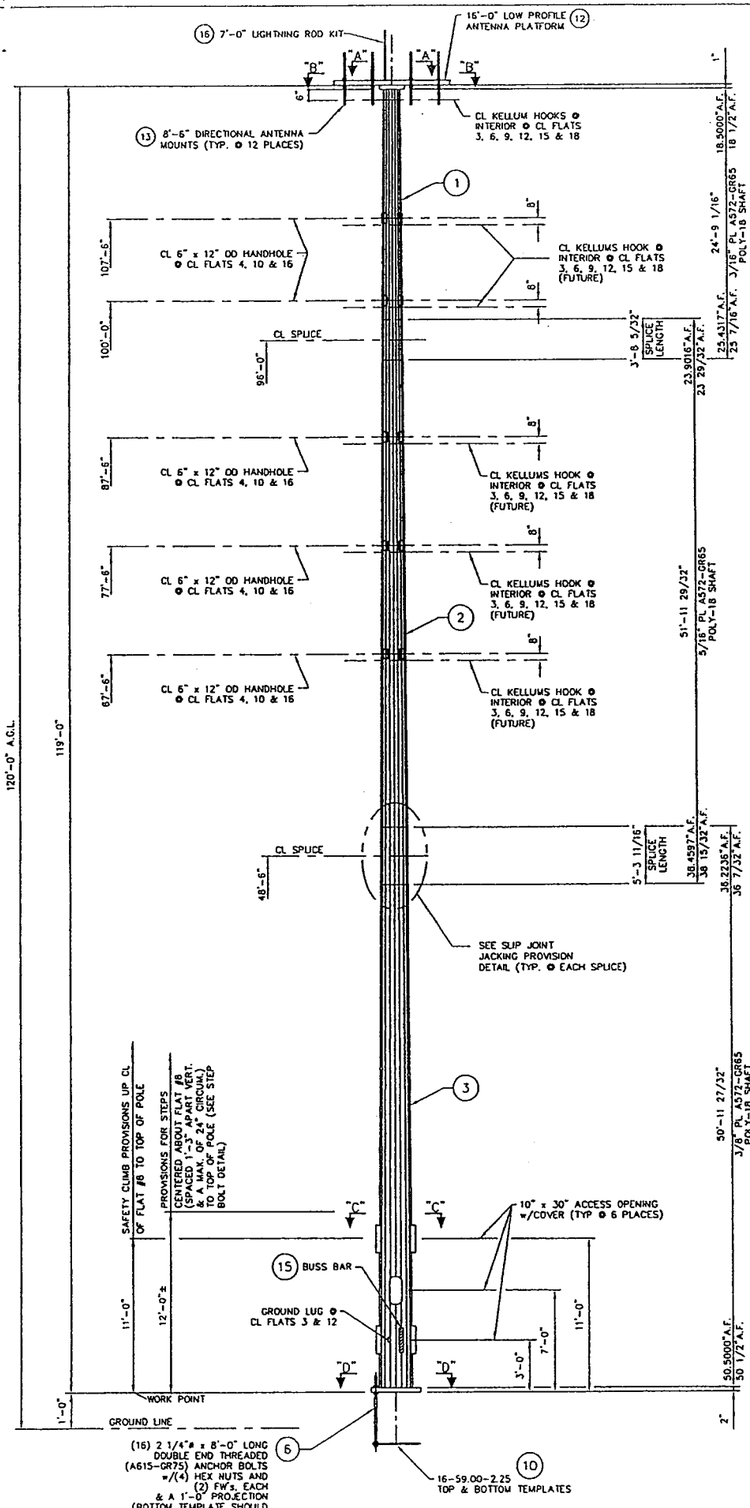
Total in compressior **5427.31**

Moment due to tension

Rebars	Force *kips*	Mom. Arm. *in*	Moment *k-ft*
2	35.12	32.04	-93.77
3	181.70	18.50	-280.12
4	181.70	0.00	0.00
5	181.70	-18.50	280.12
6	181.70	-32.04	485.18
7	181.70	-37.00	560.24
8	181.70	-32.04	485.18
9	181.70	-18.50	280.12
10	181.70	0.00	0.00
11	181.70	18.50	-280.12
12	35.12	32.04	-93.77

Total in tension **1343.07**

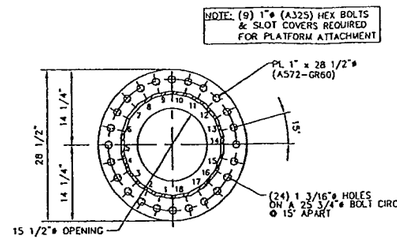
Design moment about the major axis, kip-f 6093.34



ERECTION VIEW

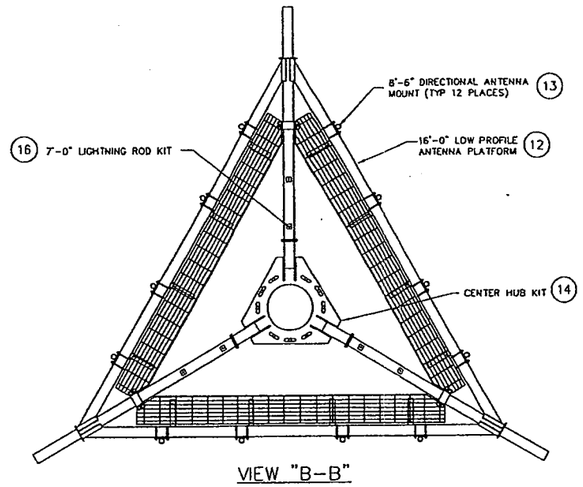
SCALE ——— NONE

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

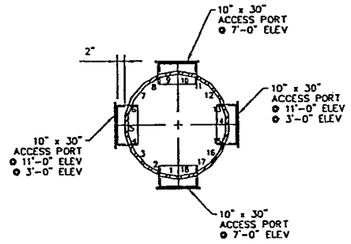


VIEW "A-A"

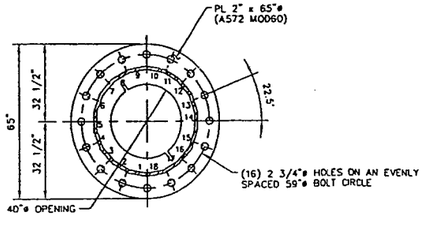
NOTE: PLATFORM REMOVED FOR CLARITY



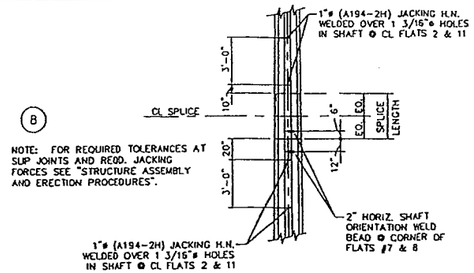
VIEW "B-B"



SECTION "C-C"

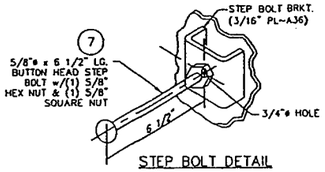


SECTION "D-D"

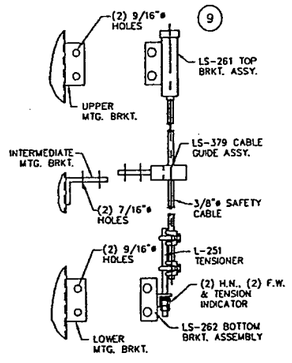


NOTE: FOR REQUIRED TOLERANCES AT SLIP JOINTS AND REQD. JACKING FORCES SEE "STRUCTURE ASSEMBLY AND ERECTION PROCEDURES".

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) 24.84' LG.
--	1	2	---	SHAFT ASSY. (MIDDLE) 51.99' LG.
--	1	3	---	SHAFT ASSY. (BOTTOM) 51.15' LG.
31.41	6	4	K11497	10" x 30" ACCESS PORT COVER PL
		5		HARDWARE AS FOLLOWS:
6.87	15	5A	K11097	6" x 12" HANDHOLE COVER PL
129.50	16	6	2.25-A880DE-4	2 1/4"ø x 8'-0" LG. (A615-GR75) ANCHOR BOLTS w/(4) HEX NUTS (A194-GR2H) & (2) FW's, 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-120	120'-0" SAFETY CLIMB KIT
	1	9A	L2010	SAFETY CLIMB HARNESS
110.74	2	10	16-59.00-2.25	SETTING TEMPLATE
0.40	6	11	GS13220	3/8"ø KELLUMS HOOK ASSY.
--	1	12	--	16'-0" LOW PROFILE ANTENNA PLATFORM
40.91	12	13	K11014	8'-6" LOW PROFILE DIRECTIONAL ANTENNA MOUNTS
--	1	14	--	SPLIT CENTER HUB KIT
7.50	1	15	K10062	BUSS BAR KIT
28.60	1	16	K10333	7' LIGHTNING ROD

TOTAL GALV. STR. & ACCES. WT. __#_____
TOTAL ANCHOR BOLT & TEMPLATE WT. 2293.49#

GENERAL NOTES

1) MONOPOLE IS DESIGNED IN ACCORDANCE WITH TIA/EIA-222F FOR 90 MPH FASTEST MILE WIND SPEED AND 1/2" RADIAL ICE (NON-SIMULTANEOUS). MEETS THE REQUIREMENTS OF SECTIONS 1609 & 3108 OF THE 2000 & 2003 IBC FOR 110 MPH 3-SECOND GUST WIND SPEED.
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 = 0.2800in/ft.

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)

STATE OF CONNECTICUT
MICHAEL R. MOREL
No. 21220
LICENSED PROFESSIONAL ENGINEER
11/15/05

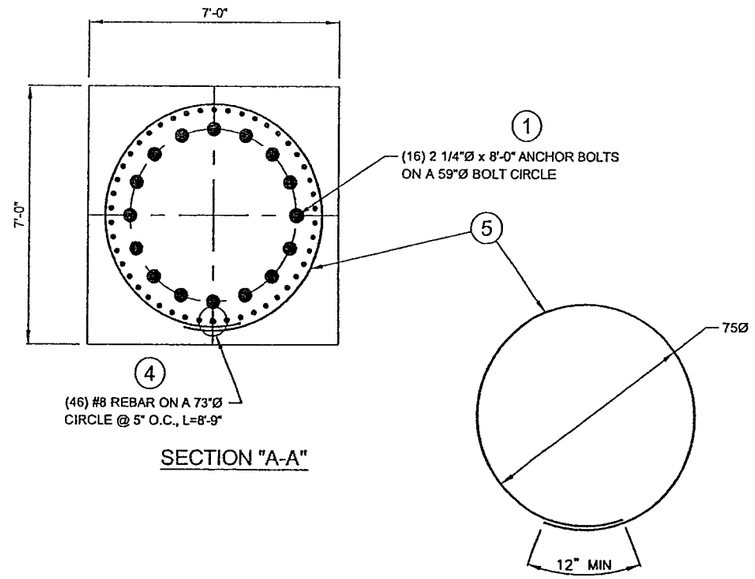
Michael R. Morel

REV	DESCRIPTION	DATE	DWN	APP.
0	COMPLETED APPROVAL DWG	11/8/2005	J.A.M.	

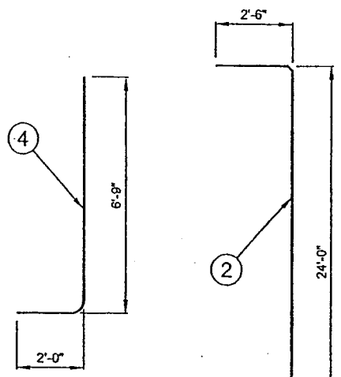
ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View
7610 Jenther Drive * Mentor, OH 44060-4872
Ph: (440) 918-1101 * Ph: (888) 270-3855
Fx: (440) 918-1108 * www.engend.com

120'-0" MONOPOLE
TECTONIC ENGINEERING
KILLINGLY 3917
WINDHAM COUNTY, CT

SCALE NONE	PROJECT NO.	13781
SH 1 OF 1	DRAWING NO.	GS56036



SECTION "A-A"



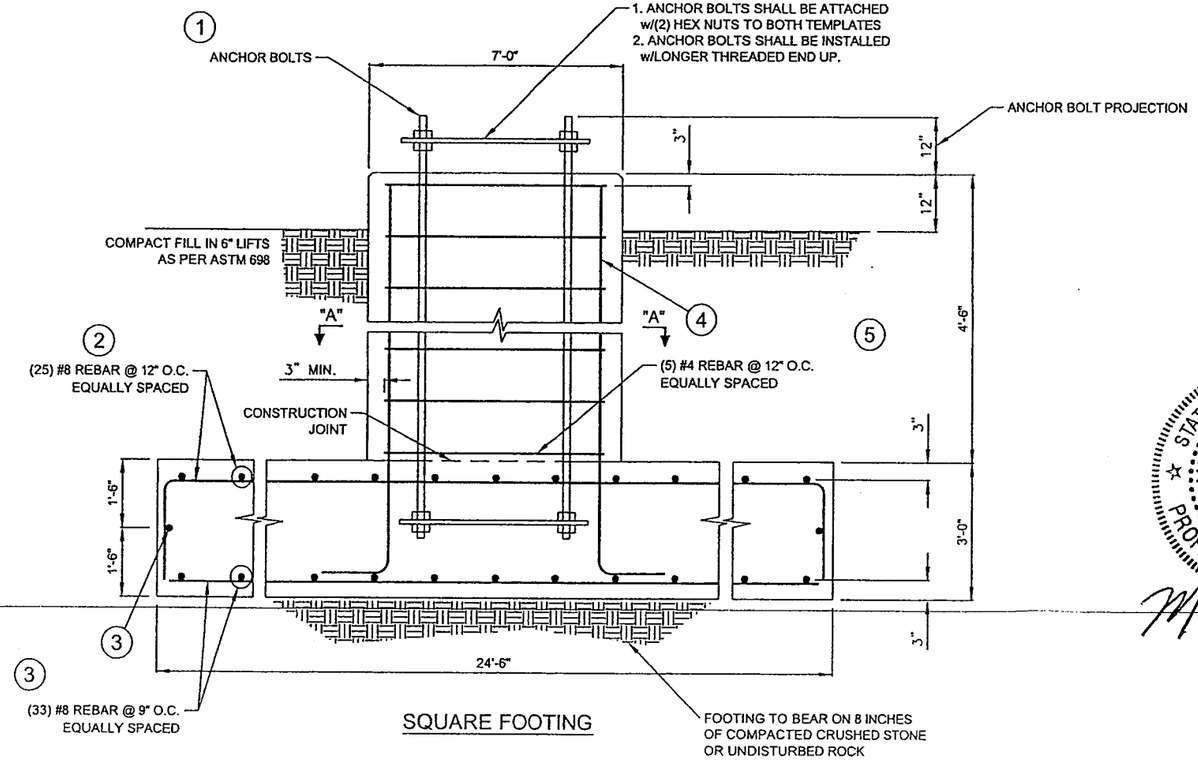
FOUNDATION LOADING	
MOMENT	2776.4 kip-ft
SHEAR	31.8 kips
AXIAL	29.3 kips

MATERIAL LIST		
ITEM	QTY.	DESCRIPTION
1	16	2 1/4"Ø x 8'-0" (A615-GR.75) ANCHOR BOLTS
2	50	#8 REBAR x 29'-0" (ASTM A615-GR.60)
3	70	#8 REBAR x 24'-0" (ASTM A615-GR.60)
4	46	#8 REBAR x 8'-9" (ASTM A615-GR.60)
5	5	#4 REBAR x 21'-9" (ASTM A615-GR.60)

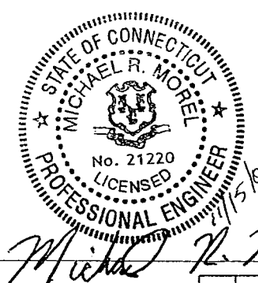
VOL. CONCRETE @ 4000 psi (TYPE II CEMENT)	74.9 yd^3
STEEL (ASTM A615-GR.60)	11300.3 lbs

GENERAL NOTES:

1. FOUNDATION DESIGN IS BASED ON THE EEI JOB NUMBER 13781 AND DRAWING NUMBER GS56036. THE SOIL REPORT WAS PROVIDED BY TECTONIC ENGINEERING & SURVEYING CONSULTANTS, P.C REFER TO REPORT NUMBER 3917.KILLINGLY DATED 11/7/05.
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 CASING OR SLURRY METHOD MAY BE REQUIRED TO PREVENT SOIL FROM CAVING DURING CONSTRUCTION. THE CASING SHOULD BE REMOVED AFTER COMPLETION OF CONCRETING OR, IF LEFT IN THE GROUND, ALL VOIDS AROUND THE CASING 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 2003 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.



SQUARE FOOTING



REV	DESCRIPTION	DATE	DWN	CHK
0	COMPLETED DRAWING	11/15/2005	J.P.	

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

TECTONIC ENGINEERING
120'-0" MONOPOLE
KILLINGLY / 3917
WINDHAM COUNTY, CT

SCALE: N.T.S.	PROJECT NO.	13781
SHEET 1 of 1	DRAWING NO.	S13781-120.0

Exhibit 3

T-Mobile

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

Technical Memo

To: Christine Farrell
From: Farid Marbouh - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CTNL140B
Date: December 13, 2005

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 280 Ross Rd, Killingly, 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 110 ft.
5) The maximum transmit power from any sector is 2535.83 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 280 Ross Rd, Killingly, CT, is 0.05144 mW/cm^2. This value represents 5.144% of the Maximum Permissible Exposure (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 10.8%. The combined Power Density for the site is 15.944% of the M.P.E. standard.

New England Market

Connecticut

Worst Case Power Density

Site:	**CTNL140B**
Site Address:	**280 Ross Rd**
Town:	**Killingly**
Tower Height:	**120 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	0 ft.
Antenna Height	110.0 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	0.0000 dB
Total Attenuation	4.5000 dB
Total EIRP per Channel	55.01 dBm
(In Watts)	316.98 W
Total EIRP per Sector	64.04 dBm
(In Watts)	2535.83 W
nsg	12.0000
Power Density (S) =	**0.051437 mW/cm^2**
T-Mobile Worst Case % MPE =	**5.1437%**

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	
Cingular	10.8000 %
Sprint PCS	
AT&T Wireless	
Nextel	
Total Excluding T-Mobile	**10.8000 %**
T-Mobile	5.1437
Total % MPE for Site	**15.9437%**