STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

December 13, 1999

Peter W. van Wilgen, Director – Real Estate Operations
SNET Wireless, Inc.
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: TS-SCLP-007-991105 - Springwich Cellular Limited Partnership request for an order to approve tower sharing at an existing telecommunications facility located at the Berlin Town Hall on 240 Kensington Road in Berlin, Connecticut.

Dear Mr. van Wilgen:

At a public meeting held December 8, 1999, 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 been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequency now used on this tower. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point 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.

The proposed shared use is to be implemented as specified in your letter dated November 5, 1999, and in additional information dated November 29, 1999.

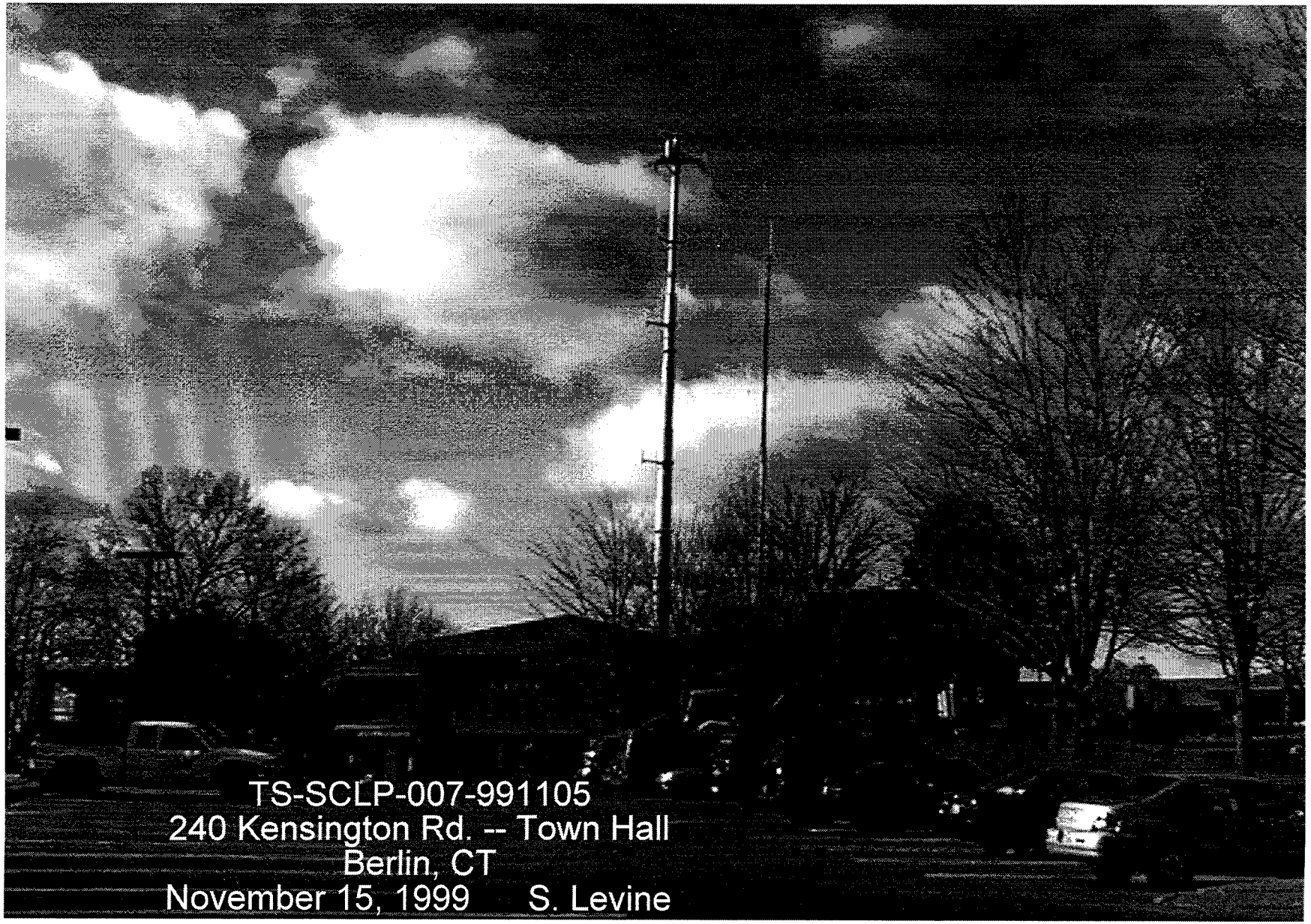
Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/SLL/sll
cc: Honorable Bonnie Therrien, Town Manager, Town of Berlin
Ronald C. Clark, Manager – Real Estate, Nextel Communications
J. Brendan Sharkey, Esq., Omnipoint Communications

I:\siting\em\sclp\berlin\dc120899.doc


TS-SCLP-007-991105
240 Kensington Rd. -- Town Hall
Berlin, CT
November 15, 1999 S. Levine

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

November 17, 1999

Bonnie L. Therrien
Town Manager
Town of Berlin
P.O. Box 1
Kensington, CT 06037

RE: TS-SCLP-007-991105 - Springwich Cellular Limited Partnership request for an order to approve tower sharing at an existing telecommunications facility located at the Berlin Town Hall on 240 Kensington Road in Berlin, Connecticut.

Dear Ms. Therrien:

The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for Wednesday, December 8, 1999, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,

Joel M. Rinebold
Executive Director

JMR/jlh

Enclosure: Notice of Tower Sharing

I:\siting\cm\springwich\berlin\therrie1

FROM SCLP

Salem-East Haddam Rd.	41 28 6.3	72 16 24
Berlin-Kensington Rd.	41 37 34	72 46 34
Rocky Hill-Main St	41 40 05	72 46 34
Branford-Acorn Rd.	41 17 35	72 45 48
Ashford-Ference Rd.	41 57 07	72 11 46
Middletown-Saybrook Rd.	41 30 38	72 35 38

500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7614

Springwich Cellular Limited Partnership

November 5, 1999

Peter W. van Wilgen
Director - Real Estate Operations

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: A Request by Springwich Cellular Limited Partnership Pursuant to Connecticut General Statute §16-50aa for an Order to Approve Shared Use of an Existing Facility located at the Berlin Town Hall, 240 Kensington Road in Berlin, Connecticut.

Dear Chairman Gelston:

The following package contains a request from Springwich Cellular Limited Partnership (SCLP or applicant) to share an existing facility owned by the Town of Berlin and managed by Omnipoint Communications, Inc. (Omnipoint).

Pursuant to Connecticut General Statute (CGS) §16-50aa, SCLP hereby requests an Order from the Connecticut Siting Council (Council) to approve the proposed shared use by the applicant of an existing facility located at the Berlin Town Hall, 240 Kensington Road in Berlin, Connecticut. SCLP proposes to install antennas on the tower and to locate an approximately 12 foot by 26 foot single story equipment shelter at the base of the tower within a fenced compound. This request is similar to one filed by Nextel Communications, Inc. (Nextel) for this same location and approved by the Council on August 31, 1999. The applicant requests the Council to find that the proposed shared use of the tower facility satisfies the criteria stated in CGS §16-50aa and to issue an Order approving the proposed shared use.

Background

SCLP is licensed by the Federal Communications Commission (FCC) to provide cellular telephone service within the State of Connecticut. The applicant and Omnipoint have agreed to the proposed shared use of the tower facility pursuant to mutually acceptable terms and conditions. As part of this agreement, Omnipoint has authorized SCLP to act on its behalf to apply for all necessary Federal, State, and local permits and approvals, including the instant Tower Sharing Request. The Council has previously approved similar tower sharing requests.

The tower is a 190 foot AGL monopole type tower. SCLP proposes to install twelve Allgon Model 7120.16 antennas (Exhibit A) or their equivalent at a radiation center of 149 feet.

Exhibit B depicts the locations of the other tenants on the tower. SCLP's radio transmission equipment will be located in an approximately 12 foot by 26 foot equipment shelter to be set on a concrete slab at the base of the tower (Exhibit C). The location of the other existing and proposed shelters are also shown in this Exhibit. Erosion and sediment controls will be used as necessary during construction.

CGS §16-50aa states that, upon written request for approval of a proposed shared use the Council shall issue an Order approving such shared use if it finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns.

Discussion

The shared use of the Omnipoint tower satisfies the criteria stated in CGS §16-50aa as follows:

A. Technical Feasibility. The site will allow SCLP to provide improved coverage to State Routes 71, 71A, 372, and throughout Berlin and will help in alleviating call traffic blocking from SCLP's existing adjacent sites. SCLP engineers have also determined that the proposed antenna installations present minimal potential for interference to or from existing radio transmissions from this location.

Additionally, this recently constructed monopole was specifically designed to accommodate multiple users, including SCLP. The proposed shared use therefore is technically feasible.

B. Legal Feasibility. Under CGS §16-50aa, the Council has been authorized to issue an Order approving the proposed shared use of a tower facility such as the Omnipoint facility. This authority complements the Council's prior-existing authority under CGS §16-50p to issue Orders approving the construction of new towers that are subject to the Council's jurisdiction. This request is similar to past Tower Sharing Requests that the Council has approved.

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

- The proposed antenna and shelter installations will not cause any significant change or alteration in the physical and environmental characteristics of the existing site.
- The site has already been cleared to construct the existing facility; therefore, the proposed installations will require minimal site preparation work.
- The proposed equipment shelter will be located at the base of the tower. The proposed installations will not increase the noise levels at the existing facility by six decibels or more and will not emit any noise other than from air conditioning equipment when in use.

- Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base, to a level at or above applicable ANSI standards. In its recent tower sharing request for this same tower, Nextel's engineering staff calculated the total radio frequency electromagnetic power density to be 61.06% of the ANSI standard. SCLP's installation, with 19 channels and 100 watts per channel, will add 5.74% for a collective worst-case general population/uncontrolled exposure level of 66.80% of the ANSI standard, as calculated for mixed frequency sites. Power density levels from shared use of the tower facility would thus be below applicable ANSI standards.

- The proposed installations will not require any water or sanitary facilities and will not produce air emissions from any combustion source. After construction is complete (approximately four weeks), the proposed installations will not generate any traffic other than periodic maintenance visits.

Based upon the above information, SCLP believes that if approved, the proposed shared use will have a minimal environmental effect and is therefore environmentally feasible.

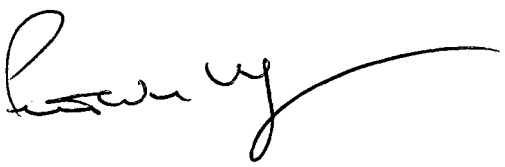
D. Economic Feasibility. As previously mentioned, Omnipoint and the applicant have entered into a mutual agreement to share use of the exiting tower facility on terms agreeable to the parties and is thus economically feasible.

E. Public Safety Concerns. The provision of new or improved cellular phone service in the Berlin area through shared use of the existing facility is expected to enhance the safety and welfare of area residents.

Conclusion

For the reasons discussed above, the proposed shared use of the Omnipoint facility satisfies the criteria stated in CGS §16-50aa and advances the State's and the Siting Council's long-time goal of preventing the unnecessary proliferation of towers. The applicant therefore requests that the Siting Council issue an Order approving the proposed shared use. Thank you for your consideration of this matter.

Very truly yours,

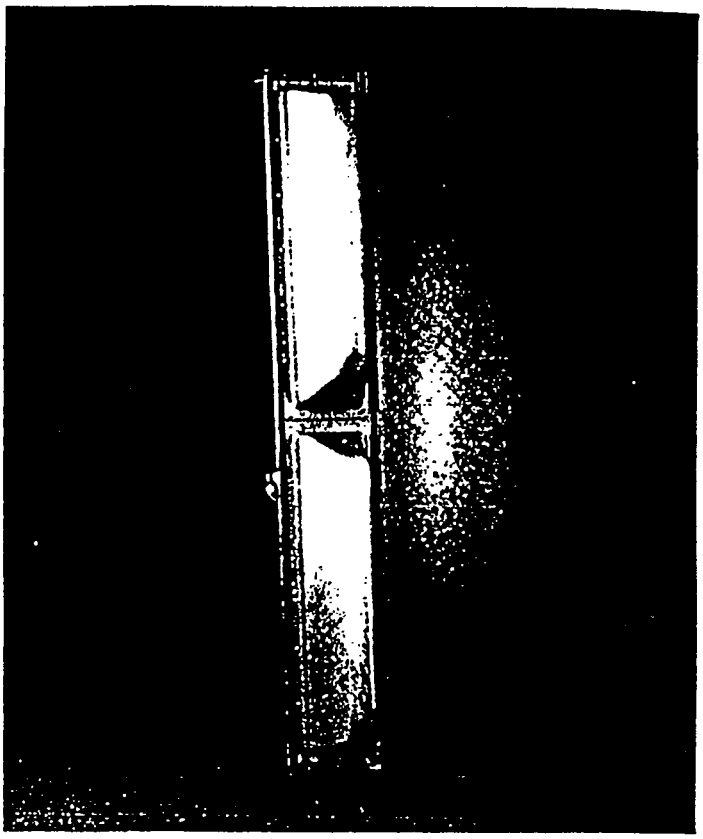


Attachments

cc: Bonnie Therrien, Town Manager
Brian J. Miller, Dir. of Development

EXHIBIT A

LOG-PREIODIC REFLECTOR ANTENNA
110 Degrees 11 dBd



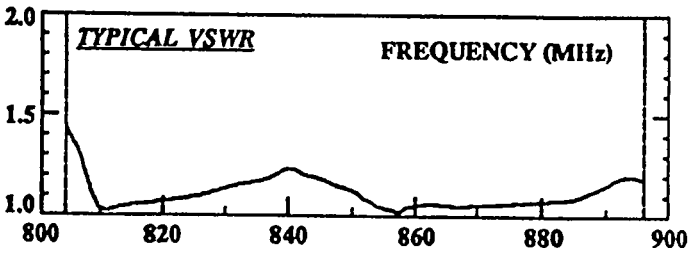
Features:

- ☐ Broadbanded. (800-900 MHz)
- ☐ Low backlobe radiation. Front to back ratio better than 25 dB.
- ☐ Low intermodulation products.
- ☐ Low wind-load.
- ☐ Low weight.
- ☐ Small size.
- ☐ Rugged design.

Please see the following pages including radiation patterns for ALP 11011-N.

Electrical Specifications:

Frequency range:	806-896 MHz
Impedance:	50 Ohm
Connector:	N female
VSWR:	Typ. 1,3:1 max 1,5:1
Polarization:	Vertical
Gain:	11 dBd
Front to back ratio:	>25 dB
Intermodulation: (2 x 25 W)	IM5 - 107 dBm
Power Rating:	500 W
H-Plane: -3 dB	110°
E-Plane: -3 dB	15°
Lightning Protection:	DC Grounded



Mechanical Specifications:

Overall height:	51 in. (1320 mm)
Width:	8.3 in. (210 mm)
Depth:	11.4 in. (290 mm)
Weight incl. mounting items:	24.5 lbs (11 Kg)
Rated wind velocity:	113 mph (180 Km/h)
Wind Area (CxA/Front):	3.7 sq.ft (0.34 sq.m)
Lateral thrust at rated wind:	
Worst case	530 N

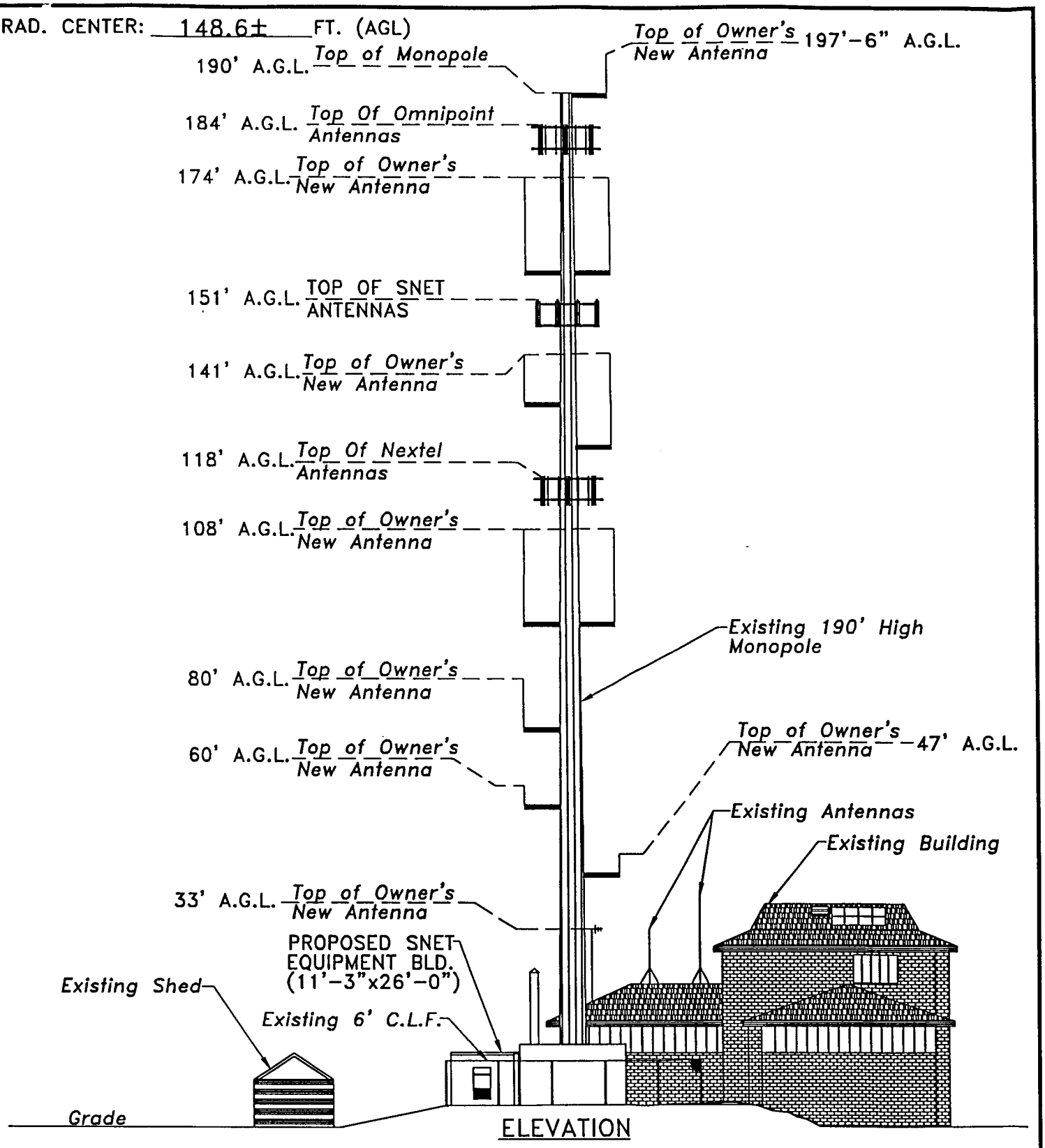
Materials:

Radiating elements:	Aluminum
Element housing:	Grey PVC
Reflector:	Aluminum
Mounting Hardware	
clamps:	Hot dip galvanized steel
bolts:	Stainless steel

Manufactured by: Allgon System AB

7120.16

EXHIBIT B



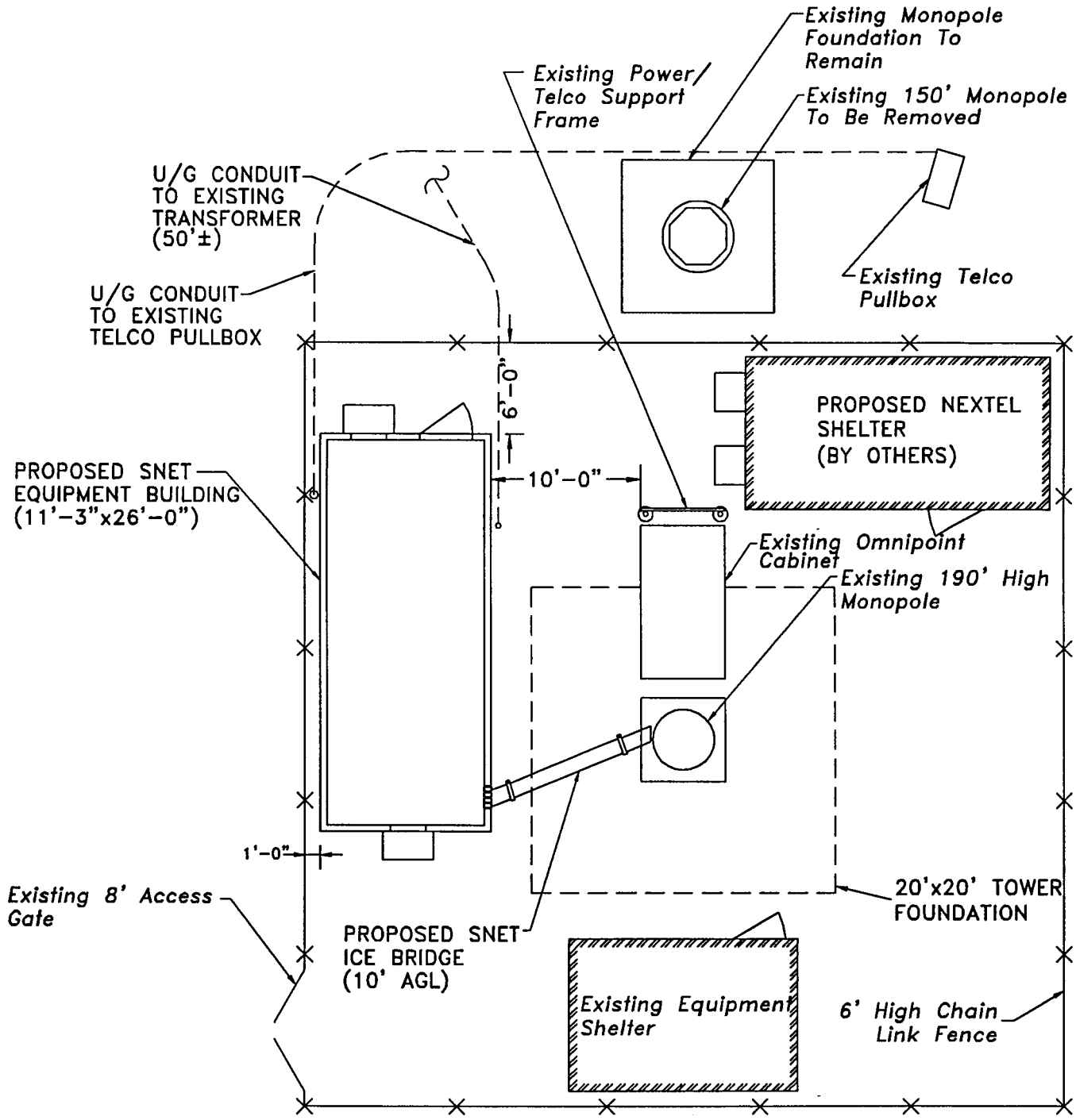
ELEVATION

SNET MOBILITY PRELIMINARY DESIGN EXHIBIT	NORTH	SITE NAME: BERLIN TOWN HALL	SNET #:00000
		ADDRESS: 240 KENSINGTON RD. BERLIN, CT 06037	MGI #: 14777
			TASK #: 0000
		DRAWN: MDJ | CHECKED: GMP | SCALE: N.T.S.	DATE: 8/9/99

Maguire Group Inc.
Architects · Engineers · Planners
One Court Street
New Britain, Connecticut 06051

EXHIBIT C

RAD. CENTER: 148.6± FT. (AGL)



SNET MOBILITY PRELIMINARY DESIGN EXHIBIT	NORTH	SITE NAME: BERLIN TOWN HALL	SNET #:00000
		ADDRESS: 240 KENSINGTON RD. BERLIN, CT 06037	MGI #: 14777
			TASK #: 0000
		DRAWN: MDJ | CHECKED: GMP | SCALE: 1"=10'	DATE: 8/9/99

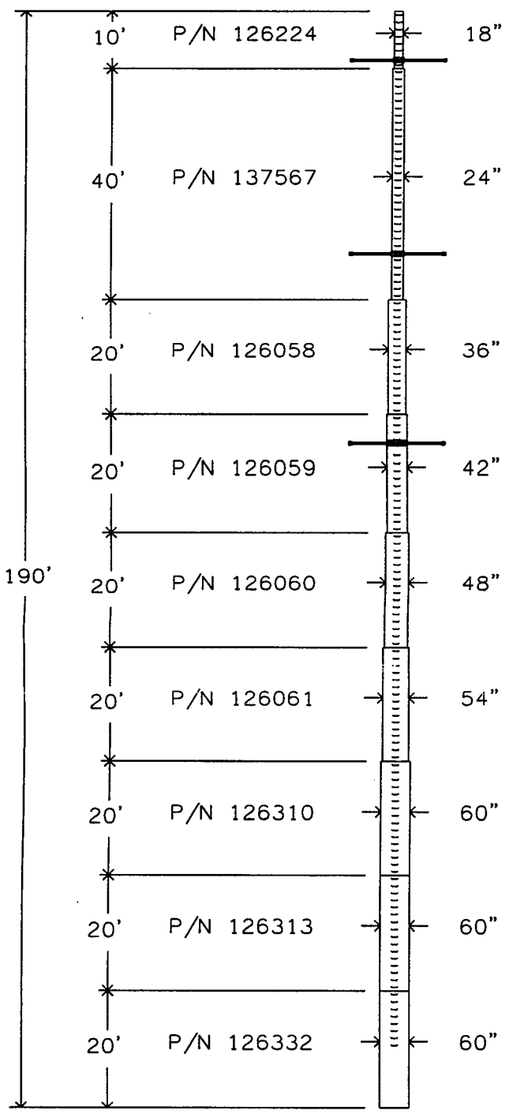
Maguire Group Inc.
Architects · Engineers · Planners
One Court Street
New Britain, Connecticut 06051

MONOPOLE SECTION DATA

(ALL BOLTS ARE FOR BOTTOM OF SECTION)

SECTION					CONNECT BOLT			PILOT BOLT		
LENGTH	PART#	SIZE	WALL	WT. *	DIAM	LENGTH	#	DIAM	LENGTH	#
10'	126224	18"	0.375"	894#	1"	4-1/2"	13	1"	5"	3
40'	137567	24"	0.375"	4348#	1"	4-1/2"	21	1"	5"	3
20'	126058	36"	0.375"	3286#	1"	4-1/2"	25	1"	5"	3
20'	126059	42"	0.375"	3833#	1"	4-1/2"	29	1"	5"	3
20'	126060	48"	0.375"	4376#	1"	4-1/2"	33	1"	5"	3
20'	126061	54"	0.375"	4918#	1"	4-1/2"	45	1"	5"	3
20'	126310	60"	0.375"	5701#	1-1/4"	4-1/2"	64			
20'	126313	60"	0.500"	7779#	1-1/4"	4-1/2"	64			
20'	126332	60"	0.625"	10007#						

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

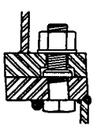


CLAMP-ON PLATFORM TO BE PLACED AT 182' (C/L). SEE DWG # 135945-B FOR INSTALLATION DETAILS.

CLAMP-ON PLATFORM TO BE PLACED AT 148'-6" (C/L). SEE DWG # 135945-B FOR INSTALLATION DETAILS.

CLAMP-ON PLATFORM TO BE PLACED AT 115'-6" (C/L). SEE DWG # 135945-B FOR INSTALLATION DETAILS.

ALL CONNECTIONS ARE A-325 BOLTS SEE TABLE ABOVE FOR SIZE & QTY.



TYPICAL FLUSH FLANGE CONNECTION

VIEW A

SEE PAGE 2 OF THIS DRAWING FOR OPENING INFORMATION.

SEE PAGE 5 OF THIS DRAWING FOR CONNECTION BOLT TIGHTENING SPECIFICATIONS.

SEE PAGE 10 OF THIS DRAWING FOR BASE SECTION INSTALL.

REMOVABLE CLIMBING RUNGS

STATE OF CONNECTICUT JOHN R. ERICHSEN No 17 LICENSED PROFESSIONAL ENGINEER

MAY 04 1999

REV	DESCRIPTION OF REVISIONS	INI	DATE
F	REVISED DRAWING	TSD	04/29/1999
E	AUTO CAD EDITS	TSD	04/28/1999
D	NEW ANTENNA LOADING	TSD	04/28/1999
C	NEW REACTIONS/MODEL CHANGE		02/05/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999
A	ADDED ANCHOR STEEL NOTE - PG 4	KWD	01/14/1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' ASSEMBLY DRAWING

APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	N/A	
DRAWN BY	TSD	

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

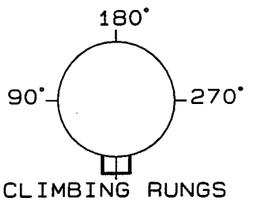
From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045661F.DWG * 04/28/1999 15:11 @ 05/03/1999 08:11

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 1 OF 10

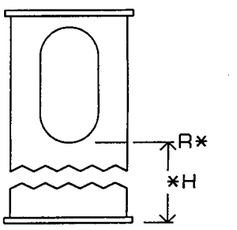
OPENINGS & BRACKETS (CONTINUED ON NEXT PAGE)

HEIGHT *H	TYP	DESCRIPTION	ANGL	ASSEMBLY DRAWING#
189'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
188'-6"	13	SAFETY CLIMB BRACKET	0°	
187'-6"	17	WELDED SIDEARM STUB	120°	
186'-6"	17	WELDED SIDEARM STUB	120°	
186'	9	4" X 6" PORTHOLE EXITING UP	90°	
186'	9	4" X 6" PORTHOLE EXITING UP	270°	
182'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
177'-9"	9	4" X 6" PORTHOLE EXITING UP	60°	
177'-9"	9	4" X 6" PORTHOLE EXITING UP	180°	
177'-9"	9	4" X 6" PORTHOLE EXITING UP	300°	
176'-9"	9	4" X 6" PORTHOLE EXITING UP	60°	
176'-9"	9	4" X 6" PORTHOLE EXITING UP	180°	
176'-9"	9	4" X 6" PORTHOLE EXITING UP	300°	
156'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
154'	9	4" X 6" PORTHOLE EXITING UP	60°	
154'	9	4" X 6" PORTHOLE EXITING UP	180°	
154'	9	4" X 6" PORTHOLE EXITING UP	300°	
152'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
146'-3"	9	4" X 6" PORTHOLE EXITING UP	60°	
146'-3"	9	4" X 6" PORTHOLE EXITING UP	180°	
146'-3"	9	4" X 6" PORTHOLE EXITING UP	300°	
145'-3"	9	4" X 6" PORTHOLE EXITING UP	60°	
145'-3"	9	4" X 6" PORTHOLE EXITING UP	180°	
145'-3"	9	4" X 6" PORTHOLE EXITING UP	300°	
144'-3"	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
131'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
129'	9	4" X 6" PORTHOLE EXITING UP	90°	
129'	9	4" X 6" PORTHOLE EXITING UP	270°	
127'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
123'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
117'-9"	9	4" X 6" PORTHOLE EXITING UP	90°	
117'-9"	9	4" X 6" PORTHOLE EXITING UP	270°	
113'-3"	9	4" X 6" PORTHOLE EXITING UP	60°	
113'-3"	9	4" X 6" PORTHOLE EXITING UP	180°	
113'-3"	9	4" X 6" PORTHOLE EXITING UP	300°	
112'-3"	9	4" X 6" PORTHOLE EXITING UP	60°	
112'-3"	9	4" X 6" PORTHOLE EXITING UP	180°	
112'-3"	9	4" X 6" PORTHOLE EXITING UP	300°	
111'-3"	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
90'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
88'	9	4" X 6" PORTHOLE EXITING UP	60°	
88'	9	4" X 6" PORTHOLE EXITING UP	180°	

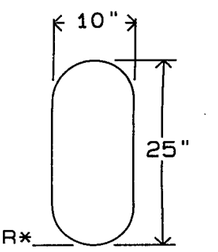


CLIMBING RUNGS

THE ANGLE TO THE OPENING IS MEASURED CLOCKWISE FROM THE CENTER-LINE OF THE CLIMBING RUNGS WHEN LOOKING DOWN.



* THE HEIGHT IN THE TABLE IS THE DISTANCE FROM THE BASE OF THE BOTTOM SECTION OF THE POLE TO THE OPENING REFERENCE (R*) AS SHOWN ON PAGES 2 - 4 OF THIS DRAWING.



TYPE 2 OPENING

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' OPENINGS

APPROVED/ENG.	TSD	04/29/1999	
APPROVED/FOUND.	N/A		
DRAWN BY	TSD		

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999

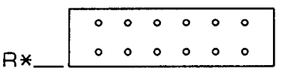
From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045662D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

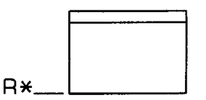
DRAWING NO. 204566-B
PAGE 2 OF 10

OPENINGS & BRACKETS (CONTINUED FROM PREVIOUS PAGE)

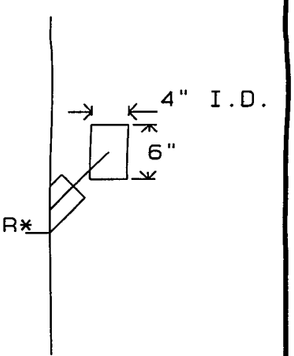
HEIGHT *H	TYP	DESCRIPTION	ANGL	ASSEMBLY DRAWING#
88'	9	4" X 6" PORTHOLE EXITING UP	300°	
86'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
70'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
68'	9	4" X 6" PORTHOLE EXITING UP	90°	
68'	9	4" X 6" PORTHOLE EXITING UP	270°	
66'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
57'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
55'	9	4" X 6" PORTHOLE EXITING UP	90°	
55'	9	4" X 6" PORTHOLE EXITING UP	270°	
53'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
43'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
37'-9"	9	4" X 6" PORTHOLE EXITING UP	90°	
37'-9"	9	4" X 6" PORTHOLE EXITING UP	270°	
33'	11	PLATFORM MOUNTING ANGLES (4)	SEE>	121975-B
31'	9	4" X 6" PORTHOLE EXITING UP	90°	
31'	9	4" X 6" PORTHOLE EXITING UP	270°	
29'	19	PAD EYES FOR FUTURE PLATFORM	SEE>	121975-B
9'-10"	8	TRANS. LINE BRIDGE ATTACH BRACKET	90°	
9'-10"	8	TRANS. LINE BRIDGE ATTACH BRACKET	180°	
9'-10"	8	TRANS. LINE BRIDGE ATTACH BRACKET	270°	
9'-6"	13	SAFETY CLIMB BRACKET	0°	
7'-4"	2	10" X 25" OVAL PORTHOLE	90°	
7'-4"	2	10" X 25" OVAL PORTHOLE	180°	
7'-4"	2	10" X 25" OVAL PORTHOLE	270°	
6'-9"	7	GROUNDING PLATE	90°	
6'-9"	7	GROUNDING PLATE	180°	
6'-9"	7	GROUNDING PLATE	270°	
4'	8	TRANS. LINE BRIDGE ATTACH BRACKET	180°	
1'-6"	2	10" X 25" OVAL PORTHOLE	180°	
1'	7	GROUNDING PLATE	180°	
1'	18	GROUNDING ANGLES (3)	SEE>	131093-B



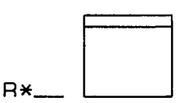
GROUNDING PLATE



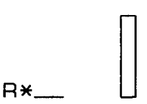
LINE BRIDGE BRACKET



TYPE 9 OPENING



PLATFORM MOUNTING ANGLE



SAFETY CLIMB BRACKET

MAY 0 1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' OPENINGS

APPROVED/ENG.	TSD	04/29/1999	
APPROVED/FOUND.	N/A		
DRAWN BY	TSD		

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

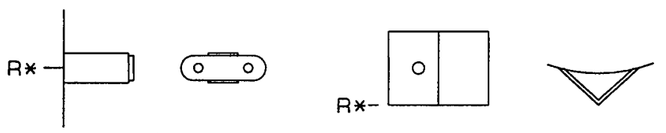
REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999

From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045663D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 3 OF10

SIDE VIEW | FRONT VIEW | FRONT VIEW | TOP VIEW



SINGLE WELDED STUB

GROUNDING ANGLE

STATE OF CONNECTICUT
JOHN R. ERICHSEN
No. 14734
LICENSED PROFESSIONAL ENGINEER

MAY 04 1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' OPENINGS

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999
C	NEW REACTIONS/MODEL CHANGE		02/05/1999
A	ADDED ANCHOR STEEL NOTE - PG 4	KWD	01/14/1999

APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	N/A	
DRAWN BY	TSD	

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

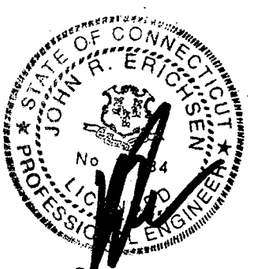
From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045664D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11

ENG. FILE NO. A-115400-
ARCHIVE Q-81101

DRAWING NO. 204566-B
PAGE 4 OF 10

GENERAL NOTES

1. TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 80 MPH BASIC WIND SPEED WITH NO ICE.
   TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 80 MPH BASIC WIND SPEED WITH 0.50" RADIAL ICE WITH LOAD DUE TO WIND REDUCED BY 25% WHEN CONSIDERED SIMULTANEOUSLY WITH ICE.
2. MATERIAL: (A) SOLID RODS CONFORM TO ASTM A-572 GRADE 50 REQUIREMENTS.
   (B) ANGLES CONFORM TO ASTM A-36 REQUIREMENTS.
   (C) PIPE CONFORMS TO ASTM A-53 TYPE E, GRADE B REQUIREMENTS. (MIN YIELD STRENGTH=42 KSI)
   (D) ALL STEEL PLATES CONFORM TO ASTM A-36 REQUIREMENTS.
   (E) ANCHOR BOLTS CONFORM TO ASTM A-687 REQUIREMENTS.
3. BASE REACTIONS PER EIA/TIA-222-F FOR 80 MPH BASIC WIND SPEED WITH NO ICE.
   TOTAL WEIGHT= 64.5 KIPS.
   MOMENT= 3486.6 KIP-FT.
   MAXIMUM SHEAR= 29.0 KIPS TOTAL.
4. BASE REACTIONS PER EIA/TIA-222-F FOR 80 MPH BASIC WIND SPEED WITH 0.50" RADIAL ICE:
   TOTAL WEIGHT= 72.6 KIPS.
   MOMENT= 2863.9 KIP-FT.
   MAXIMUM SHEAR= 23.3 KIPS TOTAL.
5. FINISH: HOT DIPPED GALVANIZED AFTER FABRICATION.
6. ANTENNAS: 190' (1) DB589 ANTENNA MOUNTED ON A SIDE ARM USING 7/8" LINE.
   182' (12) RR90-17-XXDP ANTENNAS MOUNTED ON A LOW PROFILE CLAMP-ON ROTATABLE PLATFORM USING 1-5/8" LINES.
   156' (1) DB205 ANTENNA USING 1/2" LINE & (1) SRL224 ANTENNA USING 7/8" LINE MOUNTED ON A SIDE ARM.
   148'-6" (12) 5' PANEL ANTENNS MOUNTED ON A LOW PROFILE CLAMP-ON ROTATABLE PLATFORM USING 1-5/8" LINES.
   131' (1) SRL233 ANTENNA MOUNTED ON A SIDE ARM USING 7/8" LINE.
   123' (1) DB205 ANTENNA MOUNTED ON A SIDE ARM USING 1/2" LINE.
   115'-6" (12) 5' PANEL ANTENNAS MOUNTED ON A LOW PROFILE CLAMP-ON ROTATABLE PLATFORM USING 1-5/8" LINES.
   90' (2) DB205 ANTENNAS MOUNTED ON SIDE ARMS USING 1/2" LINES.
   70' (1) SRL233 ANTENNA MOUNTED ON A SIDE ARM USING 7/8" LINE.
   57' (1) DB583 ANTENNA MOUNTED ON A SIDE ARM USING 1/2" LINE.
   43' (1) FG4000 ANTENNA MOUNTED ON A SIDE ARM USING 1/2" LINE.
   33' (1) MYA4505 ANTENNA MOUNTED ON A SIDE ARM USING 1/2" LINE.
7. INSTALL BASE SECTION WITH MINIMUM OF 2" CLEARANCE ABOVE CONCRETE. SEE BASE SECTION PLACEMENT PAGE OF THIS DRAWING FOR MORE INFORMATION.
8. MIN. WELDS 5/16" UNLESS OTHERWISE SPECIFIED. ALL WELDING TO CONFORM TO AWS SPECIFICATIONS.
9. ALL BOLTS MUST BE IN PLACE WITH JAM NUTS PRIOR TO ERECTION OF THE STRUCTURE. ALL BOLTS AND NUTS MUST BE IN PLACE AND TIGHTENED BEFORE THE ADJOINING SECTION(S) ARE PLACED.
10. ALL A-325 BOLTS ARE TO BE TIGHTENED TO A SNUG TIGHT CONDITION AS DEFINED BY AISC SPECIFICATION UNLESS OTHERWISE NOTED. A MORE QUANTITATIVE ALTERNATIVE APPROACH TO ACHIEVING A SNUG TIGHT CONDITION IS TO TIGHTEN USING THE TORQUE VALUES FROM DRAWING 123107-A.
11. EIA GROUNDING FOR TOWER.
12. OUTSIDE CLIMB RUNGS WITH SAFETY CLIMB.
13. MONOPOLE TO BE PAINTED SLATE GRAY.
14. MONOPOLE HAS BEEN DESIGNED TO INCLUDE THE WEAKEST POINT AT APPROXIMATELY THE 140' ELEVATION.



MAY 04 1999

REV	DESCRIPTION OF REVISIONS	INI	DATE
F	REVISED DRAWING	TSD	04/29/1999
E	AUTO CAD EDITS	TSD	04/28/1999
D	NEW ANTENNA LOADING	TSD	04/28/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999

From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045665F.DWG * 04/29/1999 08:08 @ 05/03/1999 08:11

OMNIPOINT
BERLIN CT-1[illegible]-004B, CT
MP60 X 19[illegible]' NOTES

APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	N/A	
DRAWN BY	TSD	

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 5 OF 10

FOUNDATION NOTES

1. SOIL AS PER REPORT BY FRENCH & PARELLO ASSOCIATES, INC., DATED 12/13/98, FPA FILE NO. 98A209ER1.
2. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE' INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. A COLD JOINT IS PERMISSIBLE UPON CONSULTATION WITH PIROD. ALL COLD JOINTS SHALL BE COATED WITH BONDING AGENTS PRIOR TO SECOND POUR.
4. ALL FILL SHOULD BE PLACED IN LOOSE LEVEL LIFTS OF NO MORE THAN 12" THICK. FILL MATERIALS SHOULD BE CLEAN AND FREE OF ORGANIC AND' FROZEN MATERIALS OR ANY OTHER DELETERIOUS METERIALS. COMPACT FILL TO 97% OF STANDARD' PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698.
5. GROUTING OF MONOPOLE BASE IS OPTIONAL. IF GROUT IS 'USED, DRAINAGE MUST BE PROVIDED FROM THE INTERIOR OF THE POLE. REFER TO DRAWING # 118492-B FOR BASE SECTION INSTALLATION.
6. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.
7. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
8. INSTALL BASE SECTION WITH MINIMUM OF 2" CLEARANCE ABOVE CONCRETE. SEE PAGE 10 OF THIS DRAWING FOR MORE INFORMATION.
9. FOUNDATION IS TO BEAR ENTIRELY ON THE RED HARD SHALE THAT IS LOCATED AT A DEPTH OF APPROXIMATELY 9.0' BELOW EXISTING GRADE.
10. ANY WATER THAT MAY ACCUMULATE IN THE EXCAVATION MUST BE REMOVED PRIOR TO POURING CONCRETE. GROUNDWATER IS NOT EXPECTED TO CAUSE SIGNIFICANT CONSTRUCTION DIFFICULTY AT THIS SITE.
11. ALL EXCAVATIONS ARE TO BE SUPPORTED IN ACCORDANCE WITH LOCAL OSHA SAFETY REGULATIONS FOR EXCAVATING AND TRENCHING.
12. PARTIAL BEARING ON SOIL AND ROCK IS NOT PERMITTED. IF THIS SITUATION ARISES, OVEREXCAVATE TO THE ROCK SURFACE AND REPLACE WITH A LEAN CONCRETE MUD MAT UP TO THE DESIGN SUBGRADE ELEVATION.
13. FOUNDATION BEARING SURFACE IS TO BE CLEANED AND FREE OF ANY LOOSE/DISTURBED MATERIAL PRIOR TO POURING CONCRETE.

MAY 0 4 1999

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' NOTES

APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	WRH	04/29/1999
DRAWN BY	TSD	

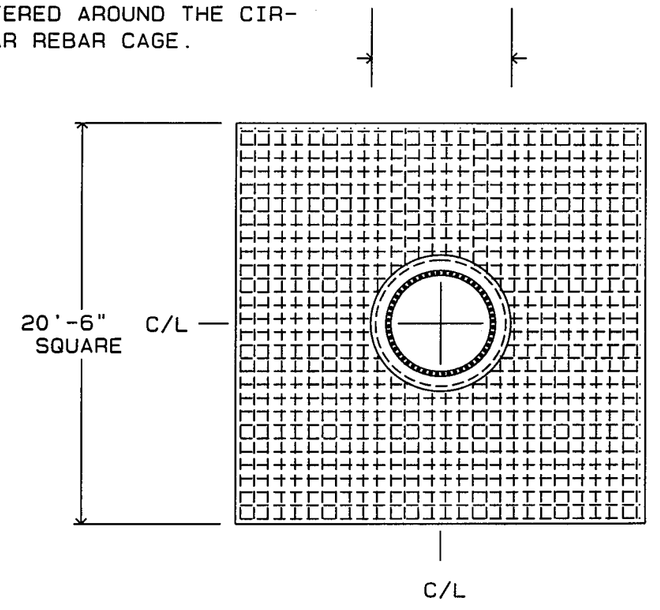
PIROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

From: 81101.DFT - 04/28/1999 11:30
Printed from: 20456660.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11$$

ENG. FILE NO. A-115400-
ARCHIVE Q-81101

DRAWING NO. 204566-B
PAGE 6 OF10

7' ROUND PIER,
CENTERED AROUND THE CIRCULAR REBAR CAGE.



BASE FLANGE MUST BE CENTERED IN PIER WITHIN +/- 10% OF PIER DIAMETER.

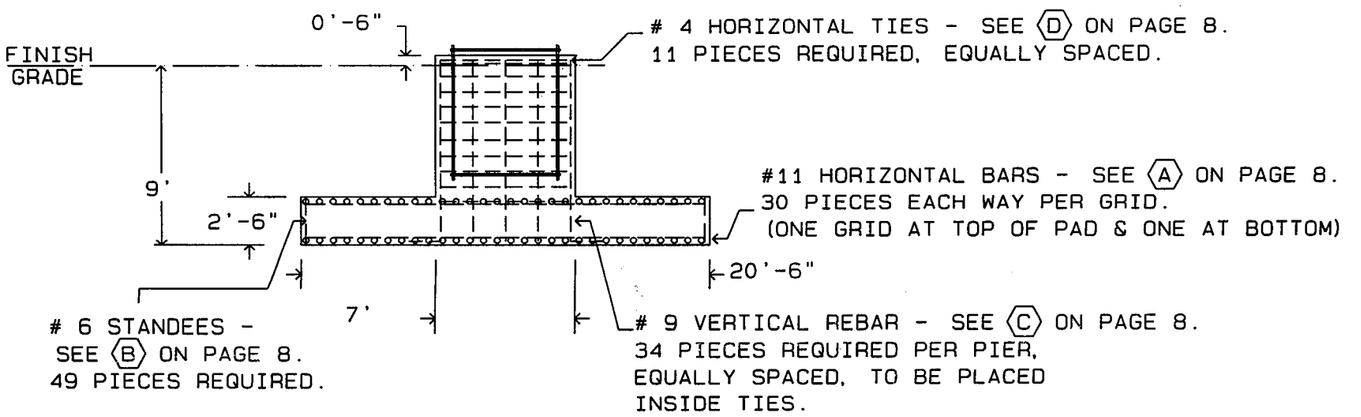
ALL REBAR REQUIRES MINIMUM OF 3" CONCRETE COVERAGE.

FOR ANCHOR STEEL IDENTIFICATION AND PLACEMENT INFORMATION, SEE PAGE 9.

FOR BASE SECTION INSTALLATION, SEE PAGE 10 OF THIS DRAWING

GROUTING OF MONOPOLE BASE IS OPTIONAL. IF GROUT IS USED, DRAINAGE MUST BE PROVIDED FROM THE INTERIOR OF POLE.

CROWN TOP OF FOUNDATION TO FACILITATE DRAINAGE.



TOWER FOUNDATION

48.9 CUBIC YARDS CONCRETE REQUIRED
FOR INSTALLATION SPECIFICATIONS AND ADDITIONAL INFORMATION, SEE PAGE 6 OF THIS DRAWING.

MAY 04 1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' BASE FOUNDATION

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999

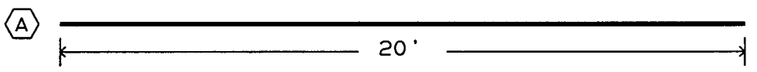
APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	WRH	04/29/1999
DRAWN BY	TSD	

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045667D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11

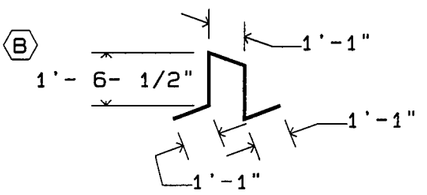
ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 7 OF 10

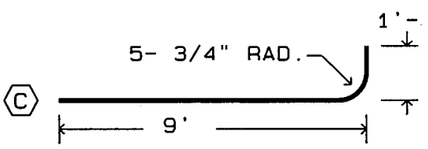


#11 REBAR - 120 PIECES REQ. TOTAL
APPROX WT = 106.3# EACH, 12756# TOTAL

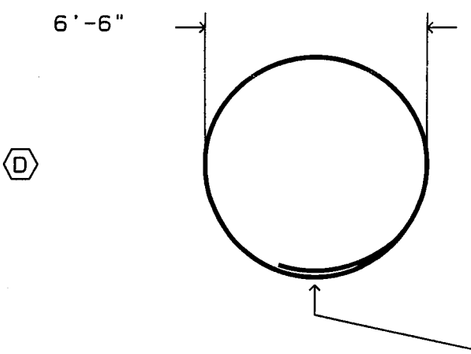
REBAR SUPPORTS MAY CONSIST OF ANY ACCEPTABLE MEANS OF SECURELY SUPPORTING THE TOP REINFORCEMENT GRID ABOVE THE BOTTOM REINFORCEMENT GRID WHILE MAINTAINING A SEPARATION OF2' (OUTSIDE REBAR TO OUTSIDE REBAR).



6 REBAR - 49 PIECES REQUIRED TOTAL
TYPE 26 STANDEE PLACED BETWEEN REBAR GRIDS ON NOMINAL 4' SPACING THROUGHOUT
APPROX UNBENT LENGTH = 6'- 4- 7/8"
APPROX WT = 9.6# EACH, 470# TOTAL



9 REBAR - 34 PIECES REQUIRED TOTAL
APPROX UNBENT LENGTH = 10'- 4- 7/8"
APPROX WT = 35.4# EACH, 1204# TOTAL



4 REBAR - 11 PIECES REQUIRED TOTAL
APPROX UNBENT LENGTH = 21'-11- 5/8"
APPROX WT = 14.7# EACH, 162# TOTAL

LAP DIMENSION: 1'- 6- 1/2"
PLACE REBAR RINGS SO THAT LAPS ON ADJACENT RINGS ARE 180 DEGREES APART. PLACE ONE RING AT TOP OF PAD AND TWO RINGS AT TOP OF PIER REBAR. EQUALLY SPACE REMAINING RINGS ALONG PIER.

REBAR DETAIL

TOTAL APPROX REBAR WEIGHT = 14592#
REINFORCING BAR TO CONFORM TO
ASTM A615 GRADE 60 SPECIFICATIONS.

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999

From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045668D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11$$

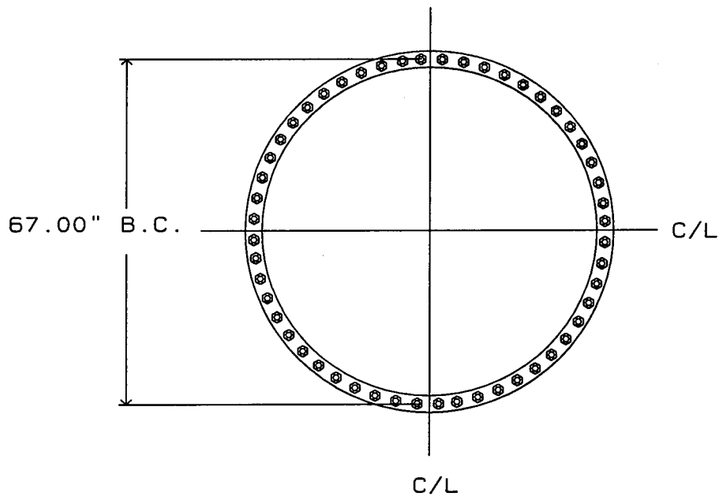
OMNIPOINT
BERLIN CT-[illegible]1-004B, CT
MP60 X 190' REBAR DETAIL

APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	WRH	04/29/1999
DRAWN BY	TSD	

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

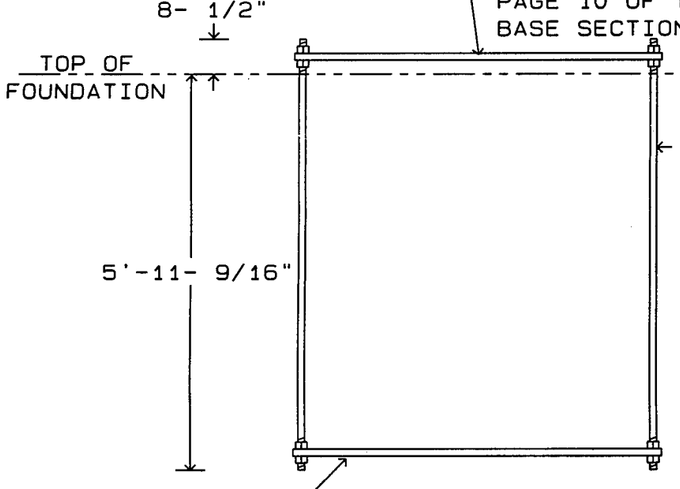
ENG. FILE NO. A-115400-Q-81101
ARCHIVE
DRAWING NO. 204566-B
PAGE 8 OF10

BASE FLANGE MUST BE CENTERED IN PIER
WITHIN +/- 10% OF PIER DIAMETER.



GROUTING OF MONOPOLE BASE IS OPTIONAL.
IF GROUT IS USED, DRAINAGE MUST BE
PROVIDED FROM THE INTERIOR OF POLE.

PERMANENT FOUNDATION PLATE P/N 125220 MUST BE SECURELY DOUBLE-NUTTED TO ANCHOR BOLTS DURING CONCRETE INSTALLATION AND MUST BE LEVEL +/- 1/8". PLACE BASE FLANGE AS DEPICTED ABOVE. DO NOT REMOVE THIS PLATE. SEE DRAWING #118492-B AND PAGE 10 OF THIS DRAWING FOR FURTHER DETAILS OF BASE SECTION PLACEMENT.



ANCHOR BOLT P/N 109881 - 52 REQUIRED
DIAMETER= 1.25" COLOR CODE= PINK/WHITE
INSTALL WITH 8.5" OF THREADS EXPOSED.
BENDING, STRAIGHTENING OR REALIGNING
(HOT OR COLD) OF THE ANCHOR BOLTS BY
ANY METHOD IS PROHIBITED.

PLATE P/N 125220 SECURELY DOUBLE-NUTTED TO ANCHOR
BOLTS USED AS EMBEDMENT PLATE IN CONCRETE.

TOWER ANCHOR STEEL PLACEMENT

MAY 04 1999

OMNIPOINT
BERLIN CT-11-004B, CT
MP60 X 190' ANCHOR STEEL

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999
B	ADDED FOUNDATIONS	DAC	01/15/1999

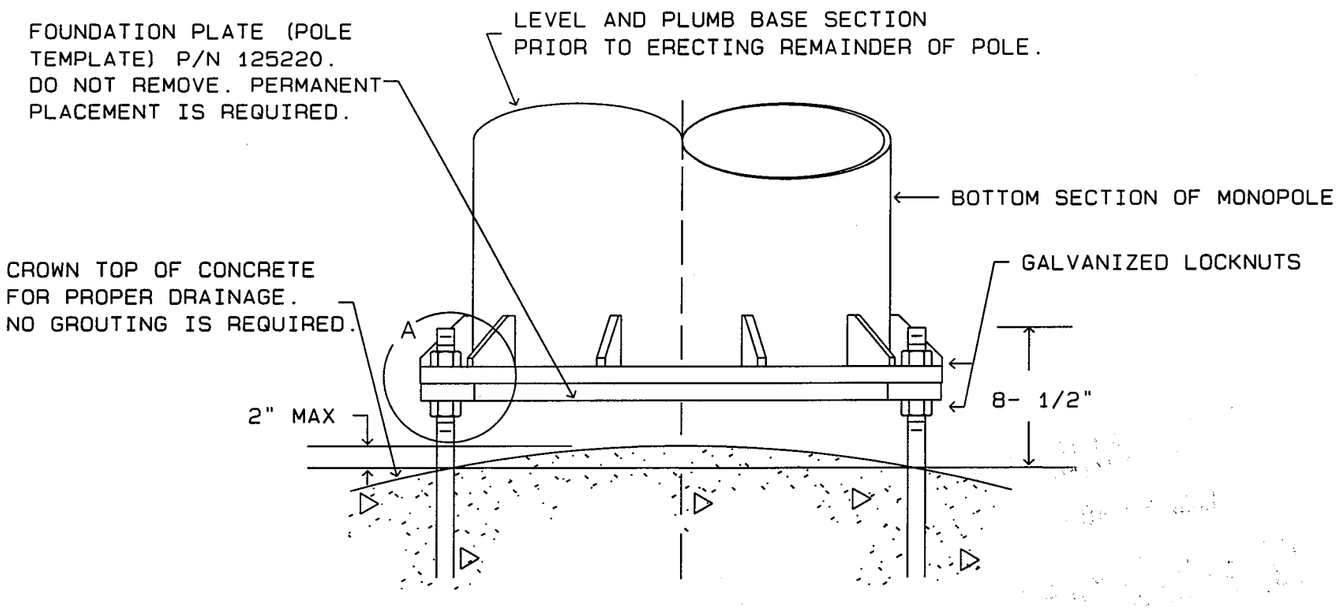
APPROVED/ENG.	TSD	04/29/1999
APPROVED/FOUND.	WRH	04/29/1999
DRAWN BY	TSD	

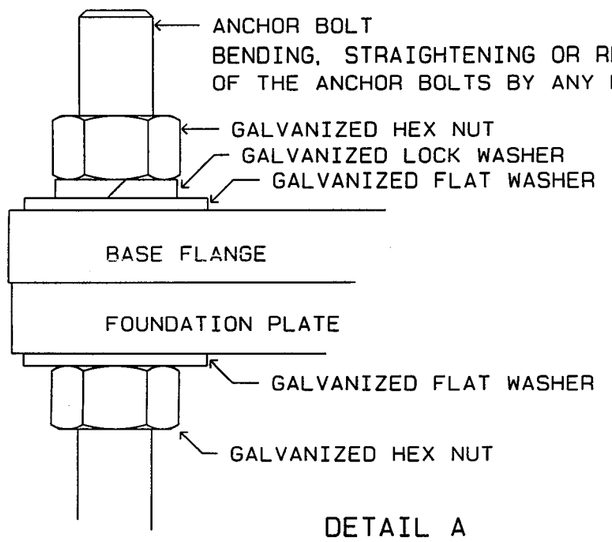
PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

From: 81101.DFT - 04/28/1999 11:30
Printed from: 2045669D.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11:59

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 9 OF 10





DETAIL A

TOWER BASE SECTION PLACEMENT

STATE OF CONNECTICUT
JOHN R. ERICHSEN
No. 13134
LICENSED
PROFESSIONAL ENGINEER
MAY 4 1999

OMNIPOINT
BERLIN CT-1[illegible]-004B, CT
MP60 X 190' BASE SECTION PLACEMENT

APPROVED/ENG.	TSD	04/29/1999	
APPROVED/FOUND.	WRH	04/29/1999	
DRAWN BY	TSD		

PiROD INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

REV	DESCRIPTION OF REVISIONS	INI	DATE
D	NEW ANTENNA LOADING	TSD	04/28/1999

From: 81101.DFT - 04/28/1999 11:30
Printed from: 204566AD.DWG - 04/28/1999 11:19 @ 05/03/1999 08:11$$

ENG. FILE NO. A-115400-Q-81101
ARCHIVE

DRAWING NO. 204566-B
PAGE 10 OF10