ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

December 28, 2012

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-125-111214 – 70 Herb Road, Sharon, Connecticut**
EM-VER-134-120416 – 51 Stony Lane, Stafford Springs, Connecticut
EM-VER-139-120202A – Mountain Road, Suffield, Connecticut
EM-VER-140-120919 – 580 Chapel Street, Thomaston, Connecticut
EM-VER-168-120316 – 478 Good Hill Road, Woodbury, Connecticut
EM-VER-137-120411 – 40 Taugwonk Spur, Stonington, Connecticut
EM-VER-144-120925 – Booth Hill Road, Trumbull, Connecticut

Completion of Construction Activity

Dear Ms. Roberts: 121010

The purpose of this letter is to notify the Siting Council that construction activity associated with the above-referenced Cellco Partnership d/b/a Verizon Wireless telecommunications facilities has been completed.

If you have any questions or need any additional information regarding this facility please do not hesitate to contact me.

Sincerely,

Kenneth C. Baldwin

Copy to:
Sandy M. Carter

12012147-v1

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@ct.gov
www.ct.gov/csc

November 1, 2012

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-137-121010** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 40 Taugwonk Road, Stonington, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated October 10, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. 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. Please be advised that the validity of this action shall expire one year from the date of this letter. 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 of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/CDM/jbw

c: The Honorable Ed Haberek Jr., First Selectman, Town of Stonington
Keith Brynes, Town Planner, Town of Stonington
Christopher B. Fisher, Esq., AT&T

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@ct.gov
www.ct.gov/csc

October 11, 2012

The Honorable Ed Haberek Jr.
First Selectman
Town of Stonington
Town Hall
152 Elm Street
Stonington, CT 06378

RE: **EM-VER-137-121010** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 40 Taugwonk Road, Stonington, Connecticut.

Dear First Selectman Haberek:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72. A copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by October 25, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/jbw

c: Keith Brynes, Town Planner, Town of Stonington

ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
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Direct (860) 275-8345

Also admitted in Massachusetts

ORIGINAL

October 10, 2012

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
40 Taugwonk Road, Stonington, Connecticut

Dear Ms. Roberts:

On October 9, 2012 we filed a Notice of Exempt Modification on behalf of Cellco Partnership d/b/a Verizon Wireless ("Cellco") for the modifications to the above-referenced facility. I received, today, the Post Modification Observation Report which confirms that the modifications designed for the tower (Job # 2011266.17, dated 8/12/11) and referenced in the Structural Analysis Report submitted with the October 9, 2012 filing, have been completed.

Enclosed please find five (5) copies of the Post Modification Observation Report.

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Edward Haberek, Jr., Stonington First Selectman
Louis J. Damato and John C. Damato
Sandy M. Carter

11919924-v1

at&t
Martin Jelleme
AT&T Mobility
5405 Windward Pkwy
Alpharetta, GA 30004
(770) 708-6124

GPD GROUP
Nate Hendricks
520 South Main Street., Suite 2531
Akron, Ohio 44311
(330)572-2208
nhendricks@gpdgroup.com

GPD# 2011267.87
March 13, 2012

POST MODIFICATION OBSERVATION REPORT

AT&T DESIGNATION:	**Site USID:**	**65065**
	Site Name:	**STONINGTON**
	Site FA:	**10035004**
	AT&T Project:	**Verizon Modification 2-1-11**
VERIZON DESIGNATION:	**Site Name:**	**Stonington**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F & 2003 IBC** **85-mph with 0" ice** **74-mph with 1/2" ice**
SITE DATA:		**40 Taugwonk Rd Unit 22, Stonington, CT 06378, New London County** **Latitude 41° 22' 58.169" N, Longitude 71° 54' 6.501" W** **150' Modified Monopole**

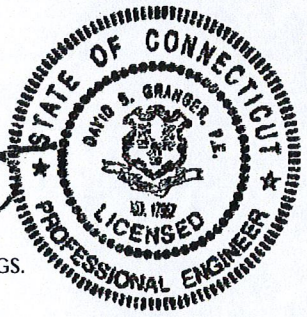
Dear Mr. Jelleme,

GPD is pleased to submit this Post Observation Letter for the aforementioned tower. The purpose of this letter is to provide a summary of the modifications and the hands on observation performed by GPD on February 3, 2012. This observation was performed in order to verify structural reinforcements specified in modification drawings by GPD Group (Job #: 2011266.17, Rev. 0, dated 8/12/11).

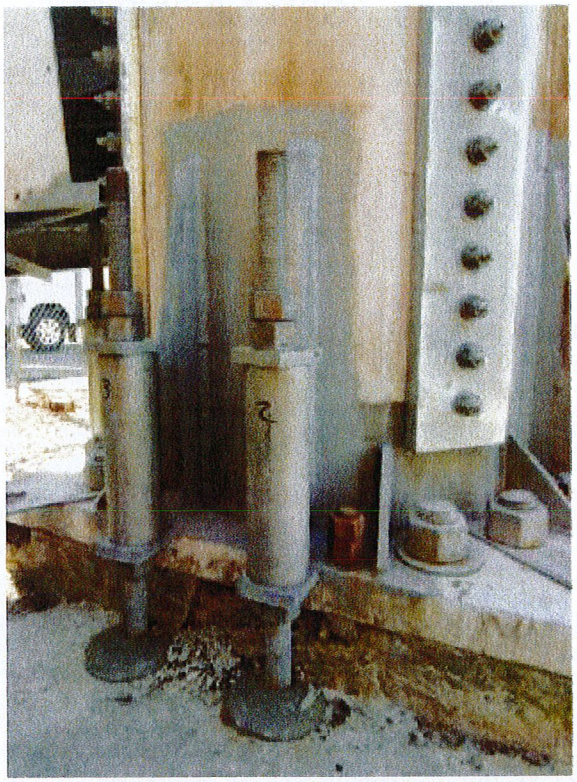
The design drawings called for the installation of new modification plates between 0'-6" to 120'-0", new anchor rods, and bridge stiffeners at 110'-0".

Upon comparison of the designed and installed modifications, it is in our opinion that the installed modifications **appear to be in general conformance with the design documents.** We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,

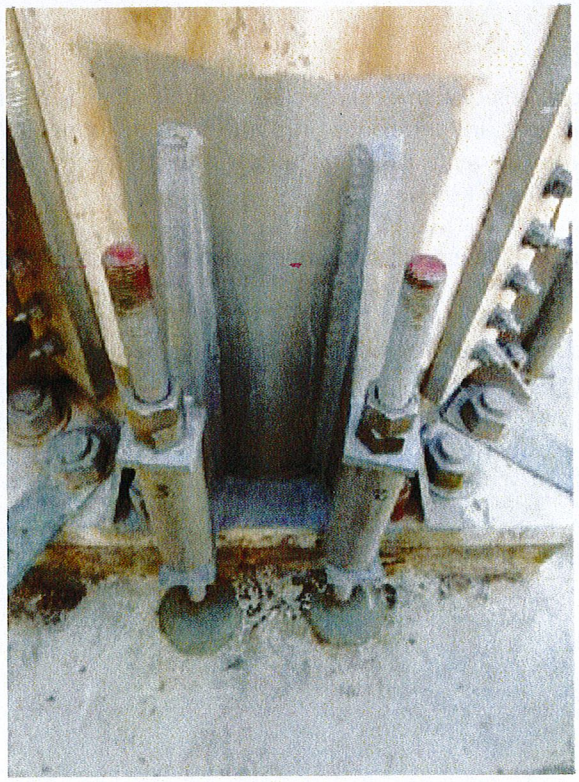


David B. Granger, P.E.
Connecticut #: 17557
ATTACHMENTS - PHOTOS, 10 PGS.
AS-BUILT DRAWINGS (5 PGS.)
MILL TEST REPORT (MTR) (14 PGS.)
WELDER CERTIFICATIONS (4 PGS.)
CERTIFIED WELD INSPECTOR REPORT (CWI) (1 PG.)
ANCHOR ROD PULL TEST REPORT, (1 PG.)



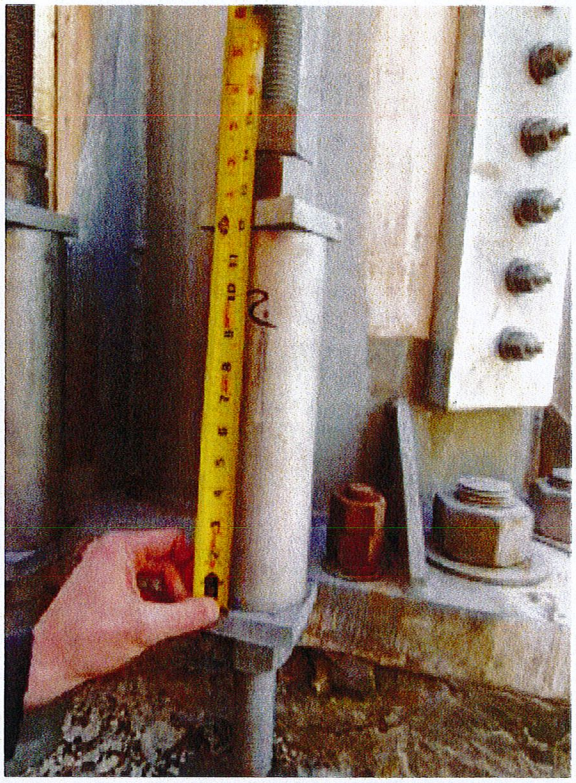
New 1-1/2"Ø fully threaded anchor rod (Typ 8)

New 1-1/2"Ø fully threaded anchor rod (Typ 8)

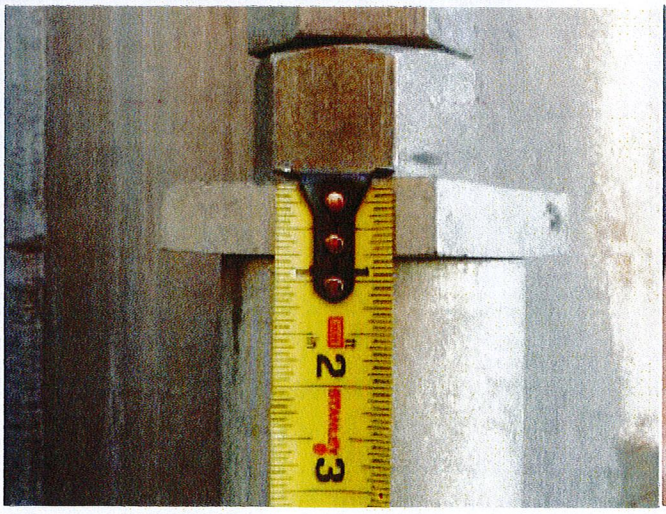


New 1-1/2"Ø fully threaded anchor rod (Typ 8)

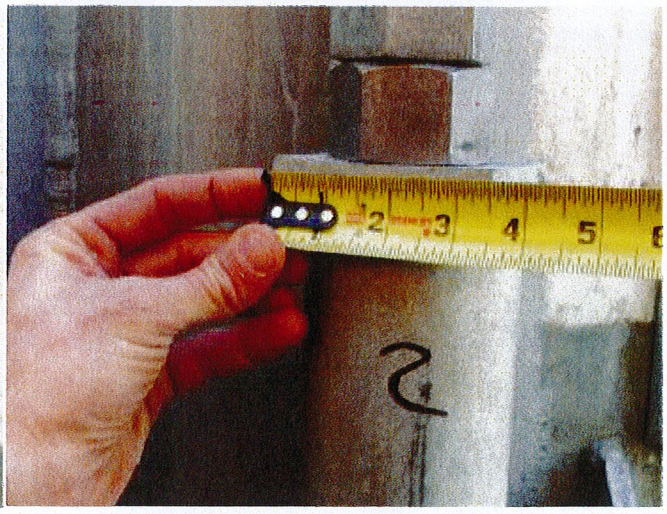
Verification of 24" tall anchor rod bracket



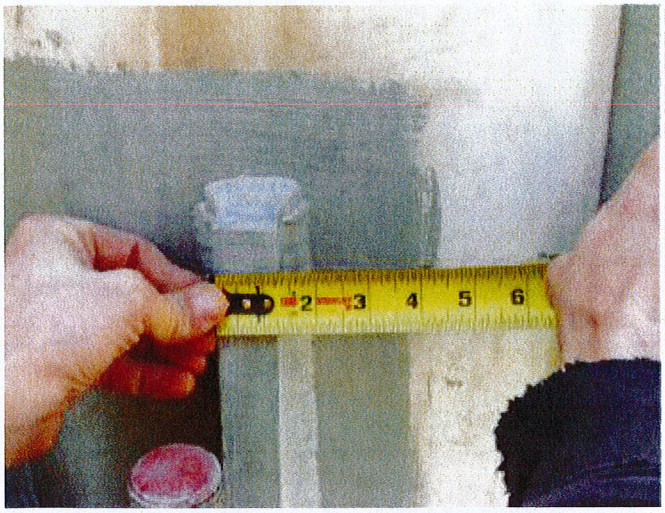
Verification of 12" tall 3XX-Strong Pipe



View of 3/4" thick washer plate

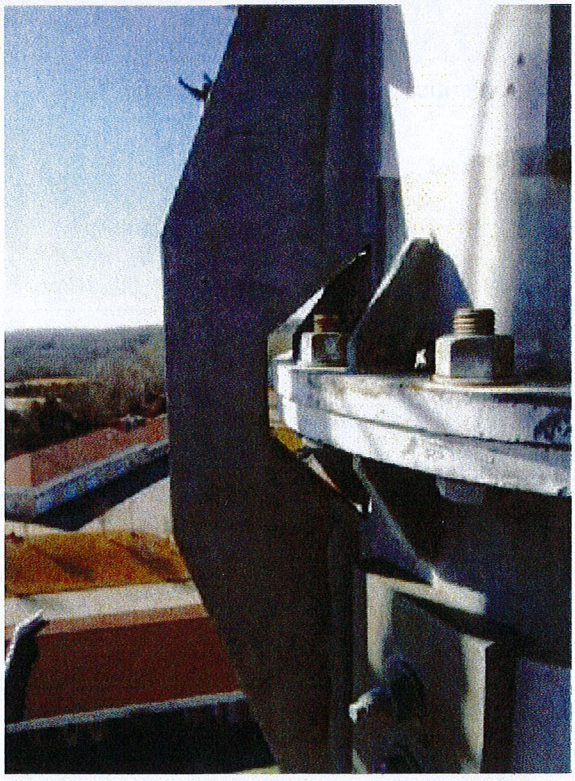


View of 3-1/2" wide washer plate

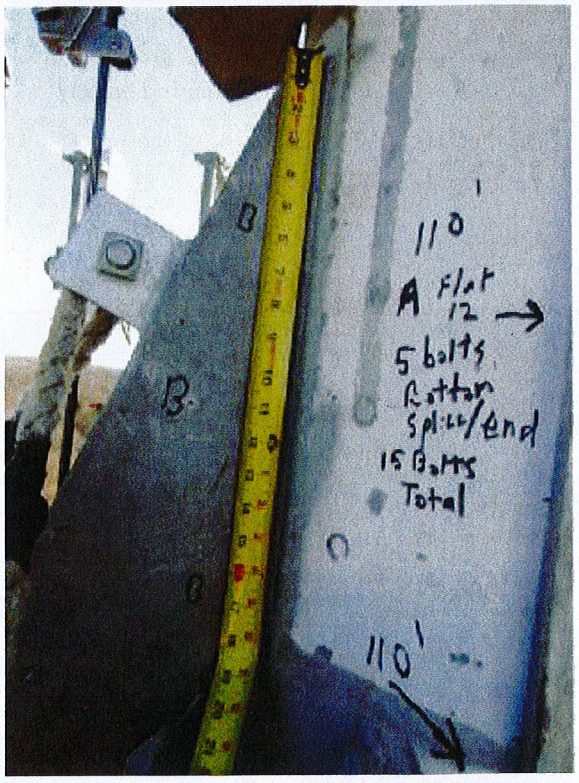


Verification of 1-1/4" thick anchor rod bracket

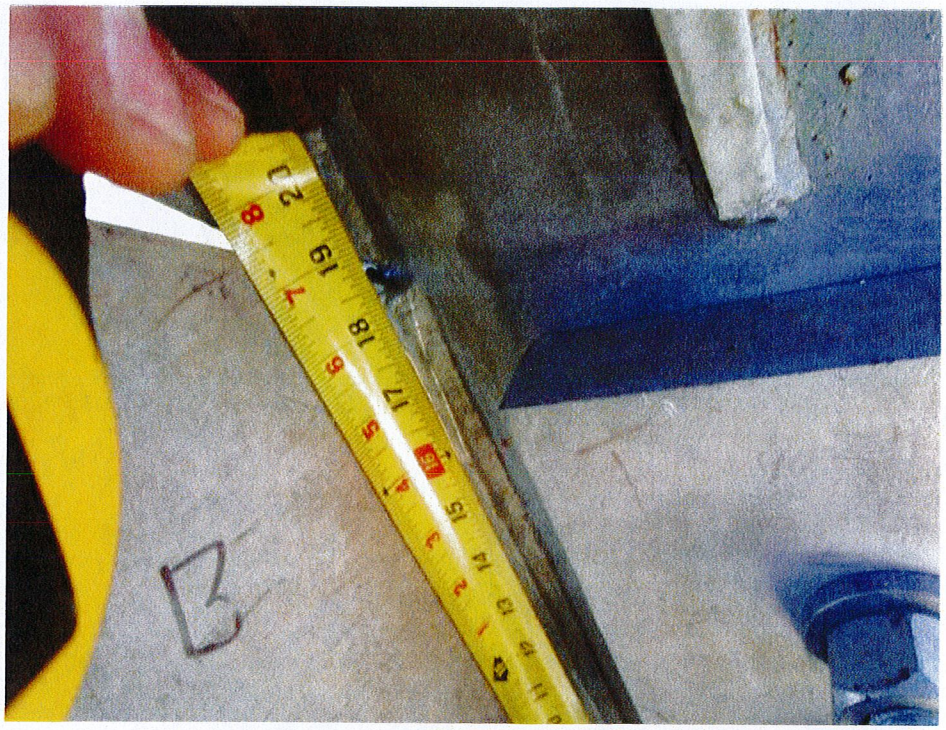
Verification of 1-1/2"Ø anchor rod



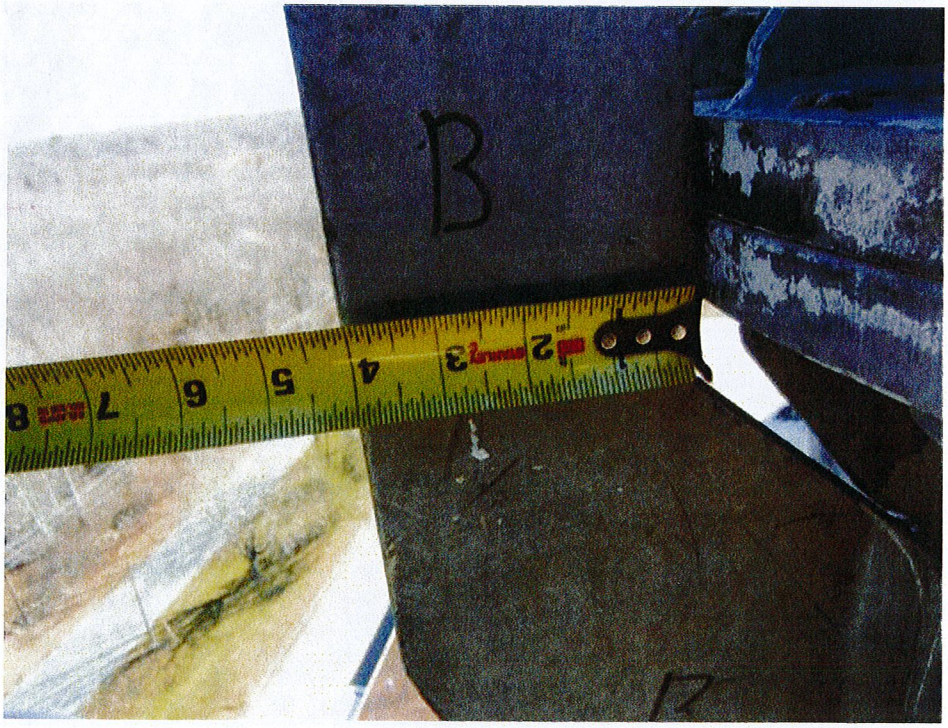
View of new bridge stiffener 110'-0"



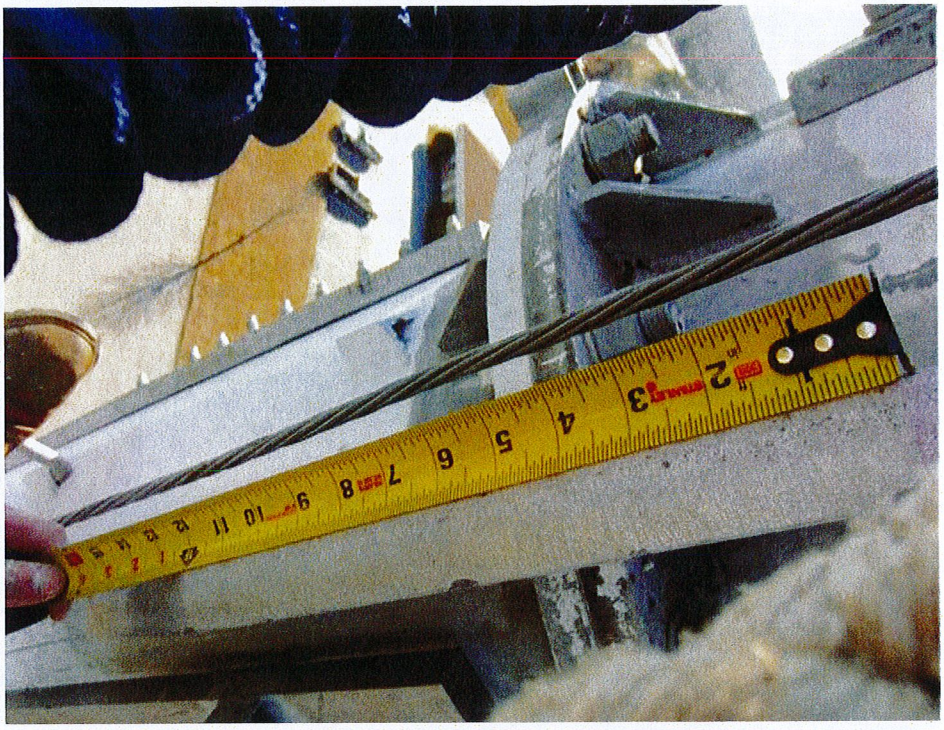
Verification of 18" connection point to tower



Verification of 18" connection point to tower

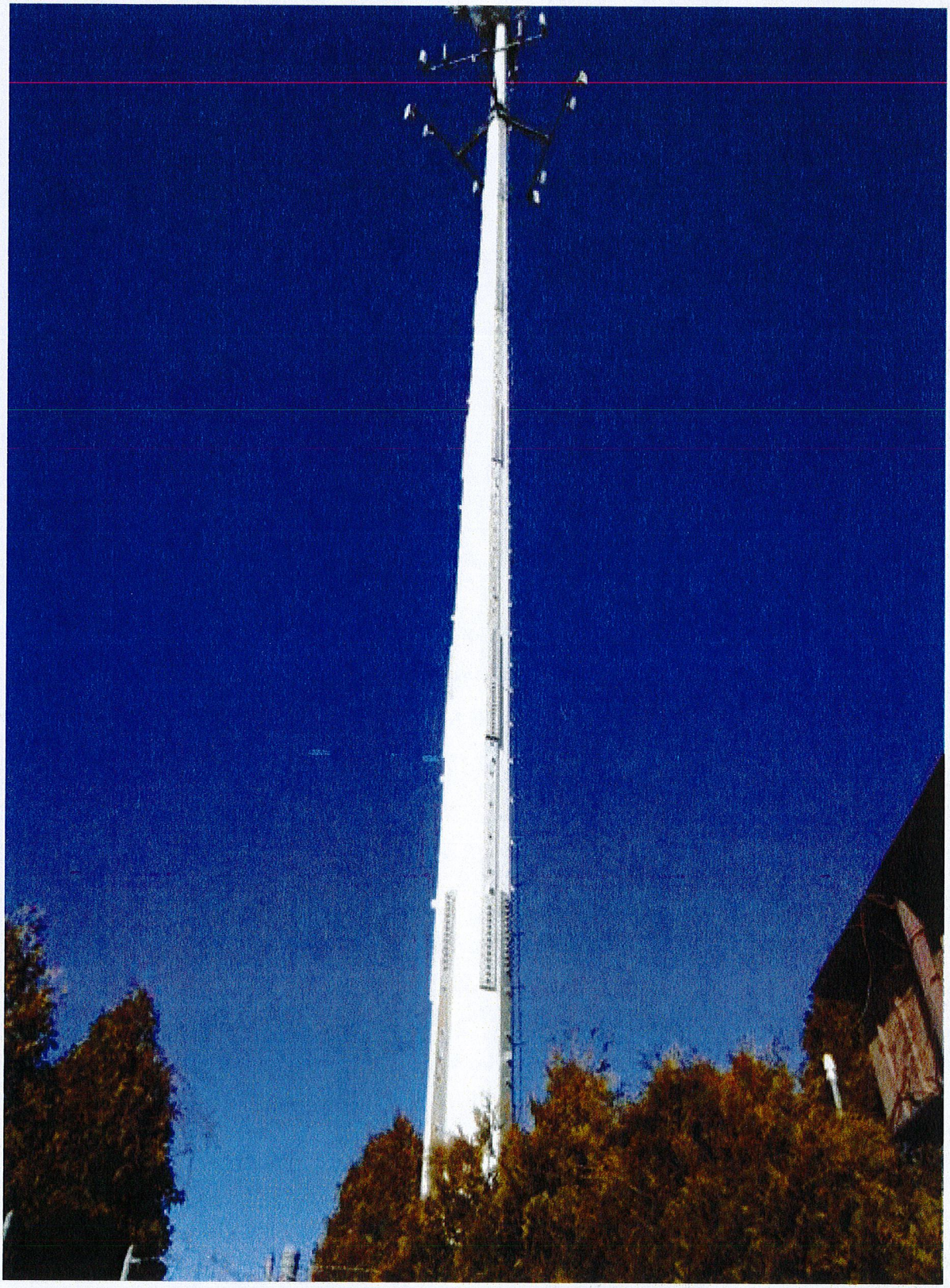


Verification of 4" wide plate per detail E / S-2



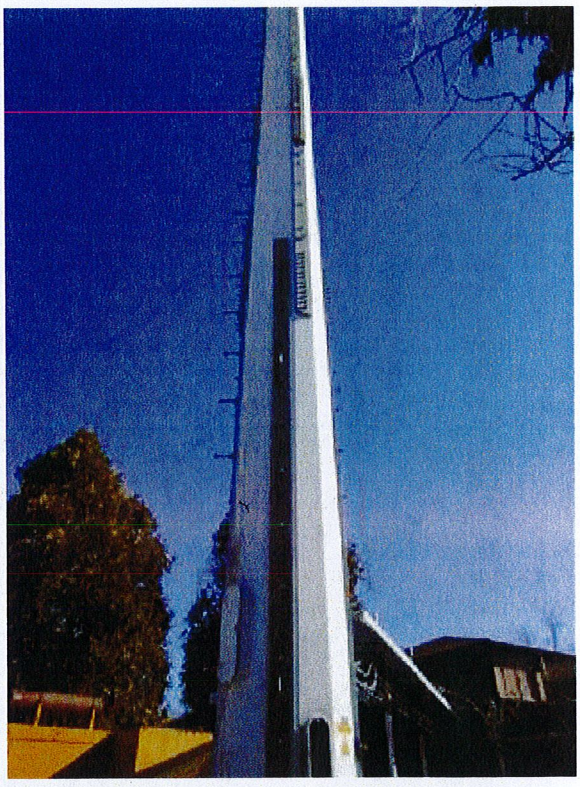
Verification of 1'-0" Max height on outer edge of stiffener

Verification of new 1-1/4" thick bridge stiffener

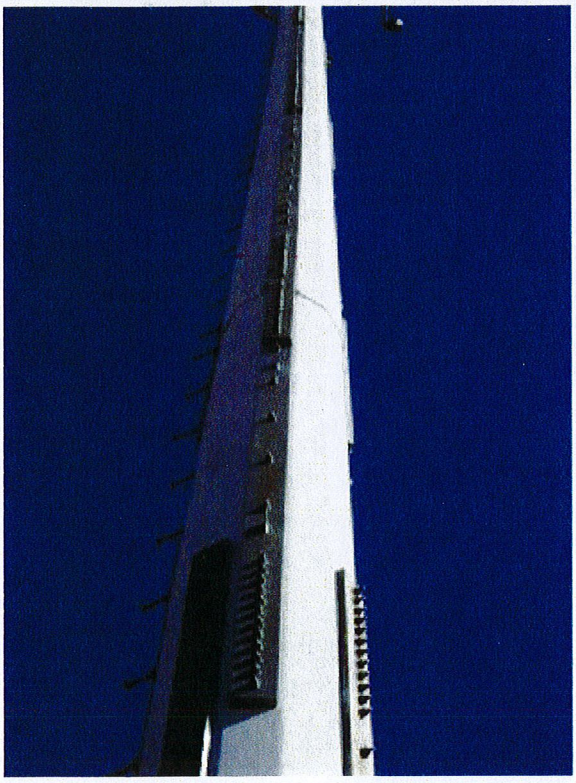


Overall view of modification plate

View of plate 0'-6" to 20'-9"

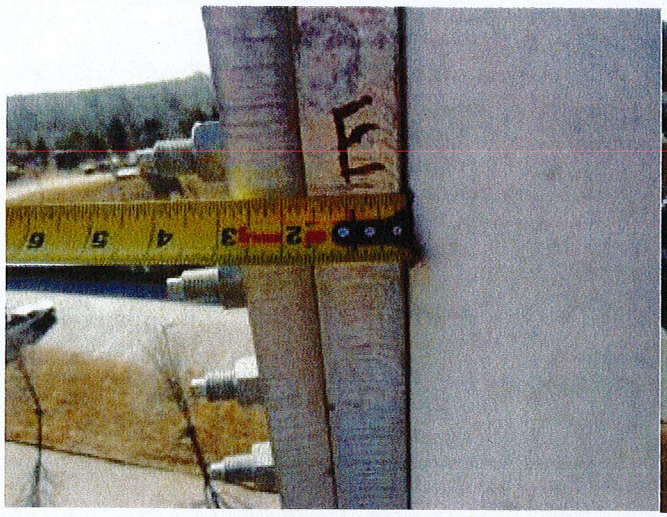


View of plate 0'-6" to 20'-9"

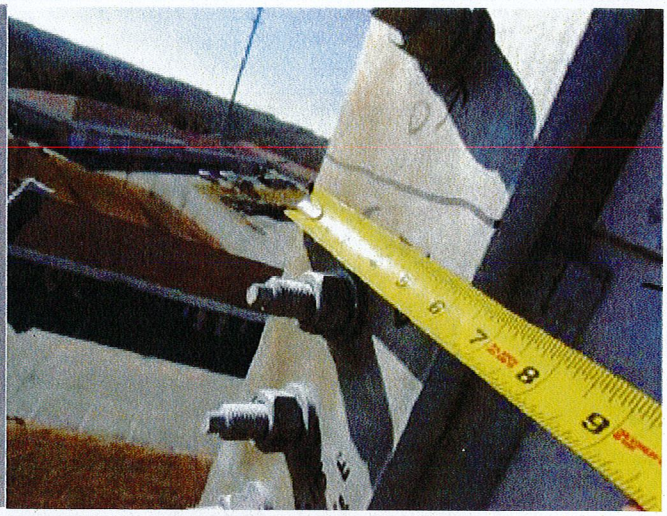


View of plate 17-6" to 110'-0"

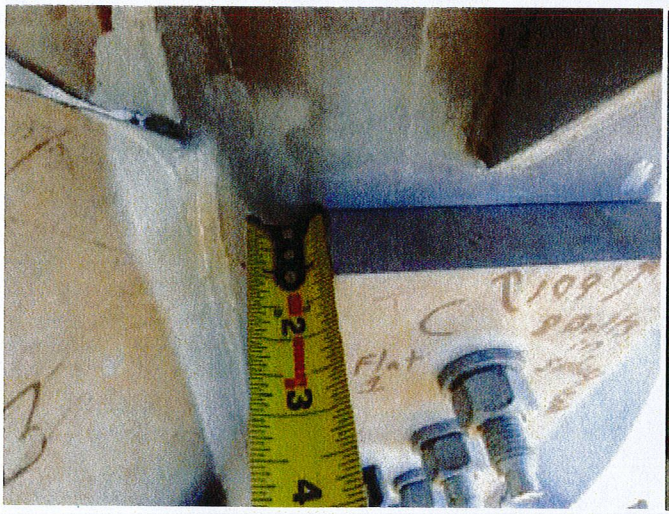
View of plate 17-6" to 110'-0"



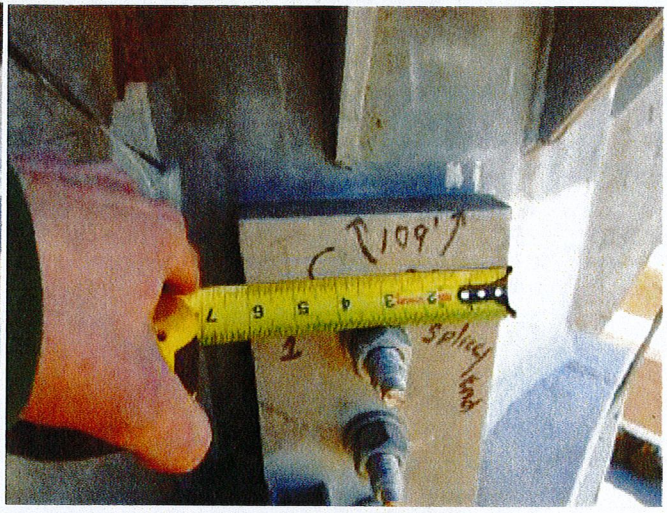
7"x1-1/2" Plate (0'-6" to 70'-0")



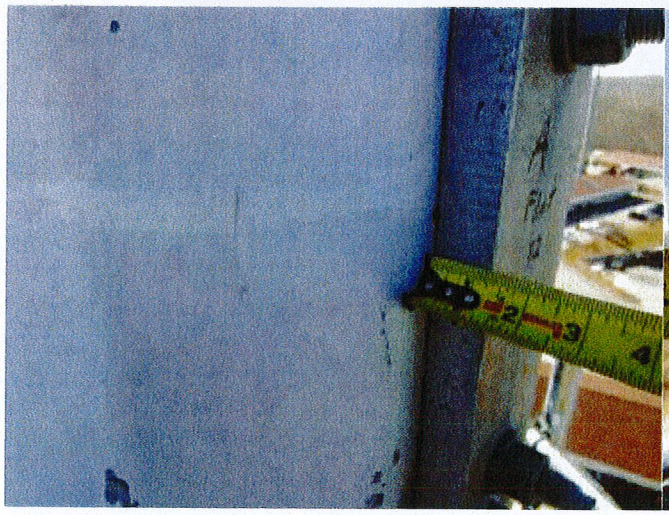
7"x1-1/2" Plate (0'-6" to 70'-0")



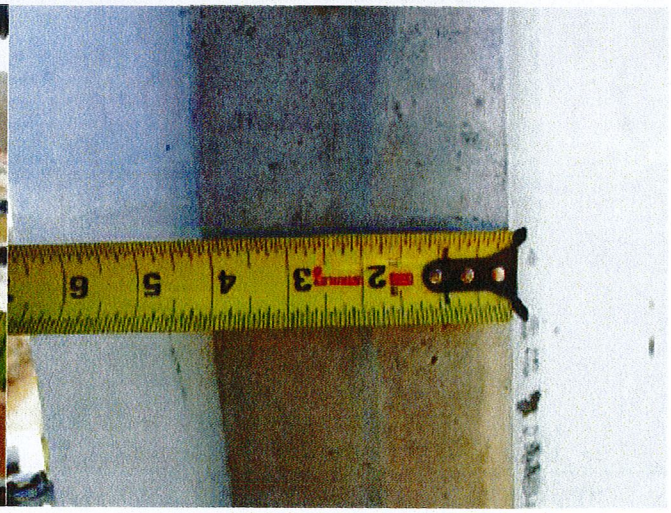
6"x1-1/4" Plate (70'-0" to 110'-0")



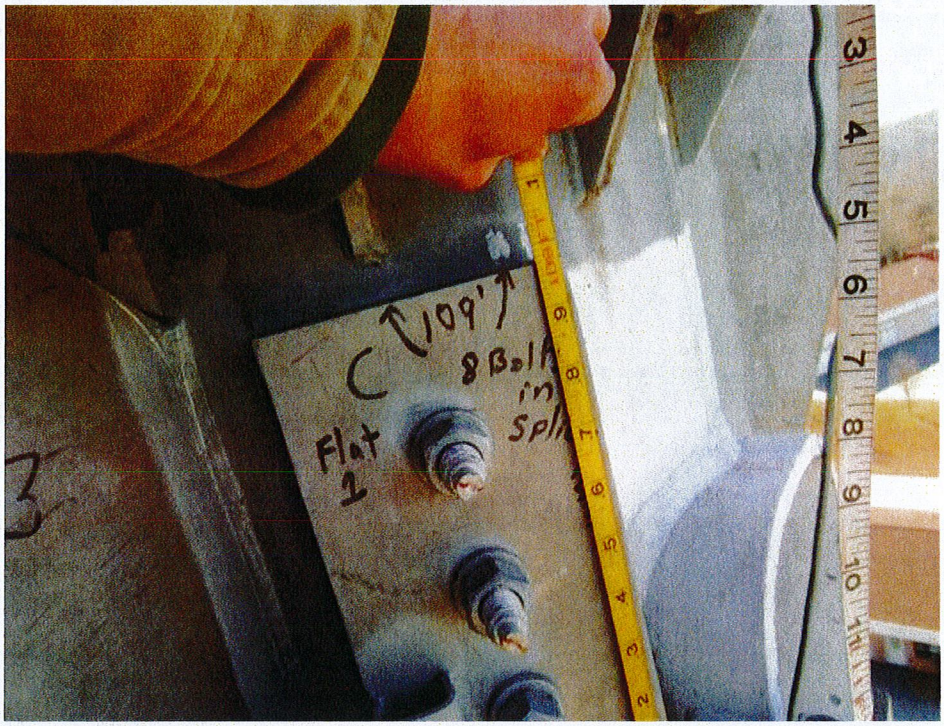
6"x1-1/4" Plate (70'-0" to 110'-0")



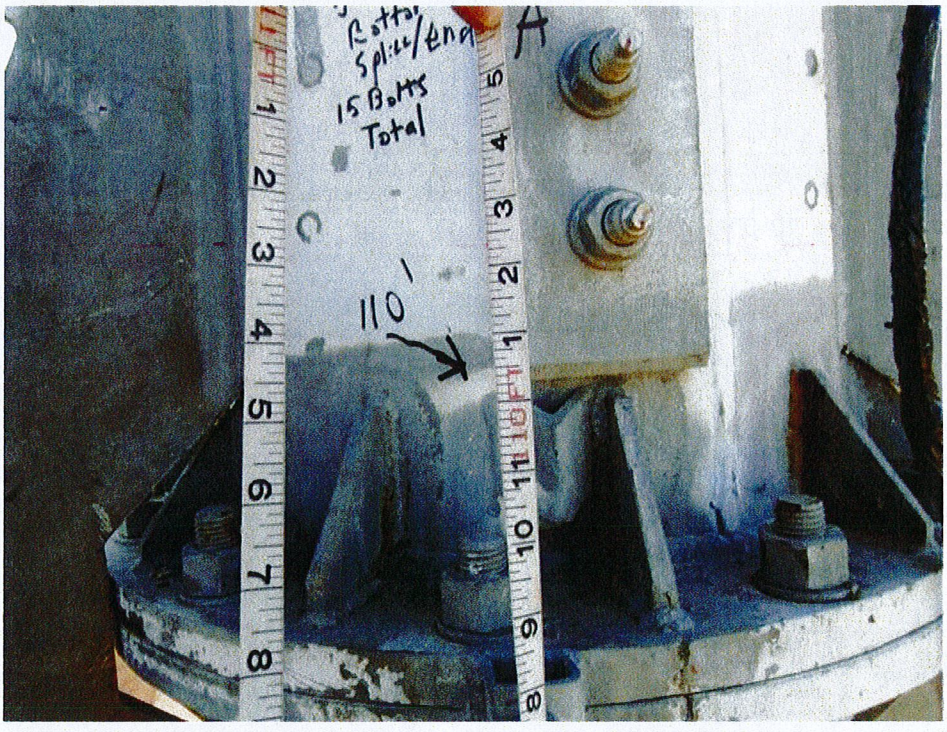
4"x1-1/4" Plate (110'-0" to 120'-0")



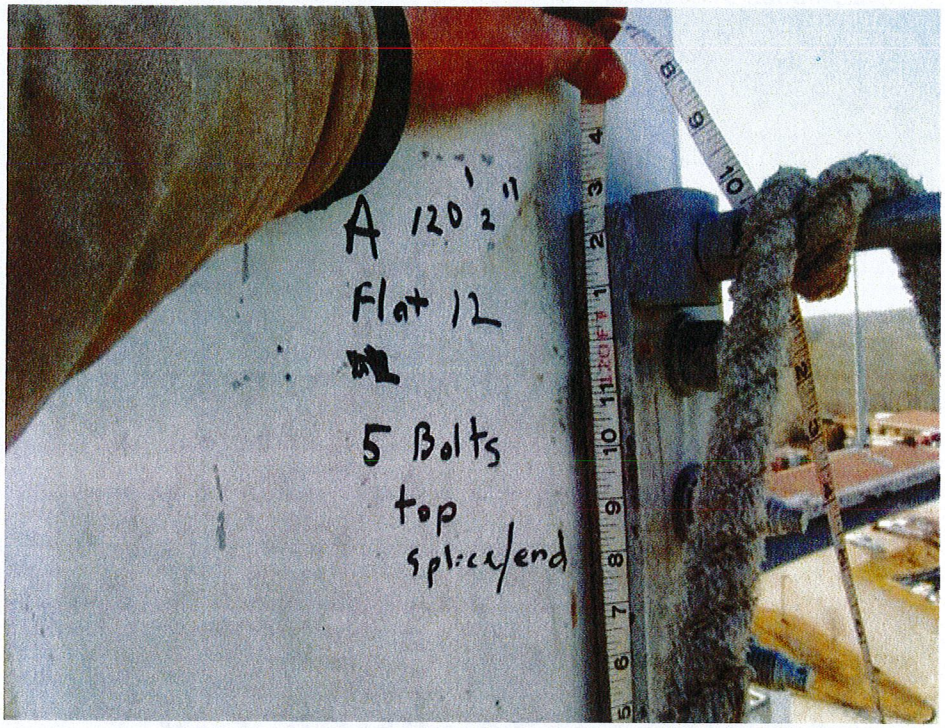
4"x1-1/4" Plate (110'-0" to 120'-0")



Verification channel was installed to 109'-0"



Verification channel was installed to 110'-0"



Verification channel was installed to 120'-0"

USID 65065 STONINGTON MODIFICATION SUPPORT DOCUMENTS

AS-BUILT DRAWINGS, 5 PGS.

GPD GROUP®

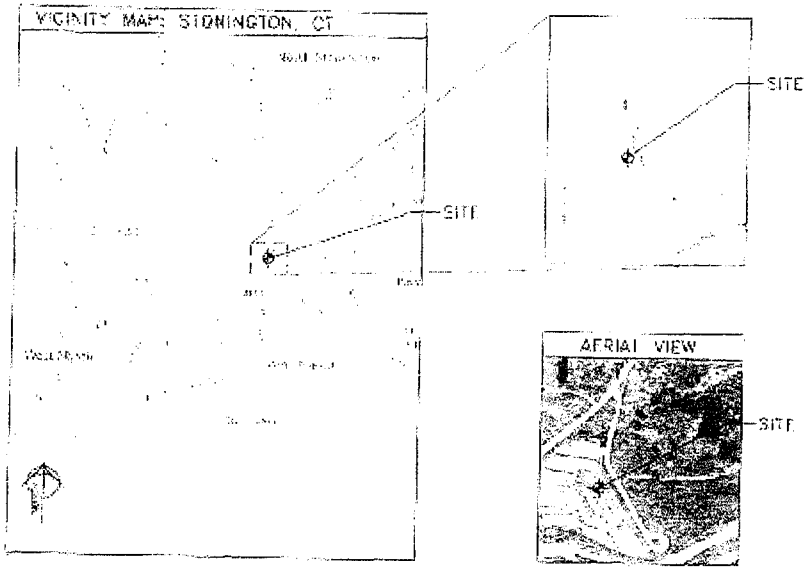
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

STONINGTON

USID #: 65065

150'-0" MODIFIED MONOPOLE

VICINITY MAP: STONINGTON, CT



PROJECT SUMMARY

TOWER OWNER	
TOWER TYPE	
ADDRESS	
LAT/LONG	
ELEVATION	
OWNER CONTACT	
APPLICANT CONTACT	

PROJECT DESCRIPTION:

Matt David
1-6-12

DATE	REVISION

DRAWING INDEX

T-1	TITLE SHEET
S-1	TOWER ELEVATION & ANTENNA LAYOUT
A-1	COMPOUND SECTION & DETAILS
A-2	EQUIPMENT SECTIONS & DETAILS

STATE OF CONNECTICUT
PROFESSIONAL ENGINEER
LICENSED

TOWER OWNER

at&t

ENGINEERS

GPD GROUP

CO-LOCATOR

verizon wireless

STONINGTON

USID #: 65065

7011276.17

REVISION

GENERAL NOTES

Pen Paint

Matt David

1-6 12

CONTRACTOR NOTES

WELD NOTES

ANCHOR ROD NOTES

MODIFICATION PLATE NOTES

STATE OF CONNECTICUT — LICENSED PROFESSIONAL ENGINEER

at&t

USID 65066

65066 - STONINGTON
40 TAUGWONK RD UNIT 22
STONINGTON, CT 06378

PROJECT NOTES

20111206.17

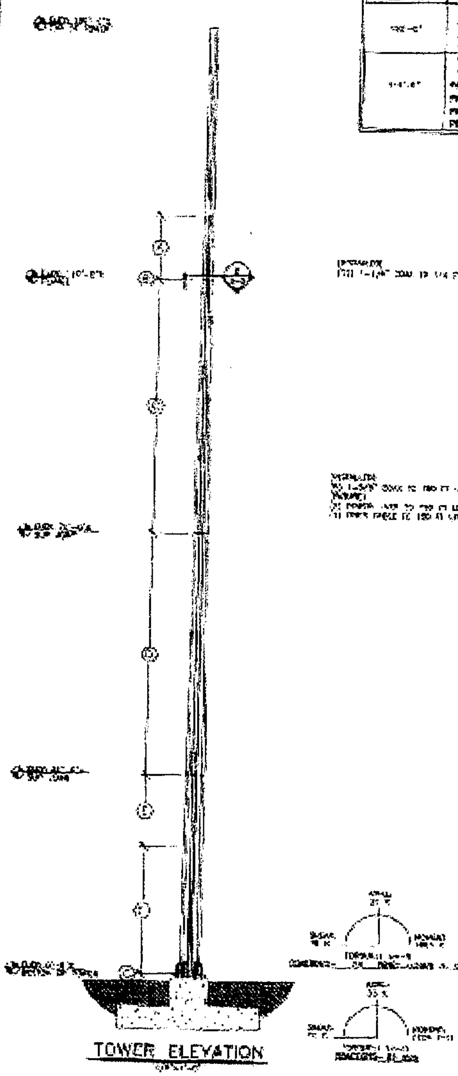
N-1

ANTENNA SCHEDULE

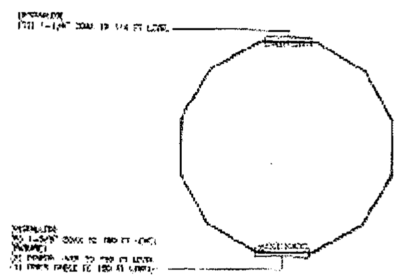
ELEVATION	STATUS	ANTENNA	MOUNT	COAX
[illegible]	EXISTING	[illegible]	[illegible] PLATFORM W/ [illegible]	[illegible]
	EXISTING	[illegible]		
	FUTURE	[illegible]		(1) FIBER CABLE
	EXISTING	[illegible]		(2) [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]		
	PROPOSED	[illegible]		
	PROPOSED	[illegible]		
	PROPOSED	[illegible]		
	PROPOSED	[illegible]		

MODIFICATION SCHEDULE

SYMBOL	ELEVATION	MEMBER TYPE	EXISTING MEMBER	NEW MEMBER	NOTES
A	[illegible]	MODIFICATION PLATES	[illegible]	[illegible]	[illegible]
B	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C	[illegible]	MODIFICATION PLATES	[illegible]	[illegible]	[illegible]
D	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
E	[illegible]	MODIFICATION PLATES	[illegible]	[illegible]	[illegible]
F	[illegible]	MODIFICATION PLATES	[illegible]	[illegible]	[illegible]
G	[illegible]	ANCHOR RODS	[illegible]	[illegible]	[illegible]

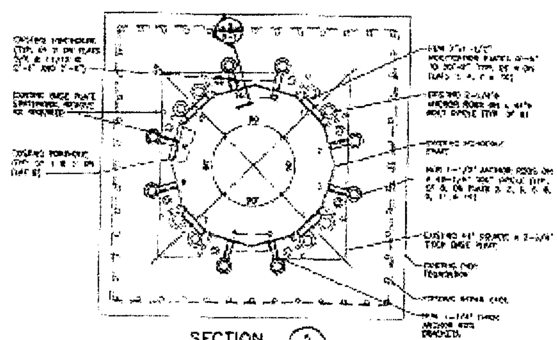


TOWER ELEVATION

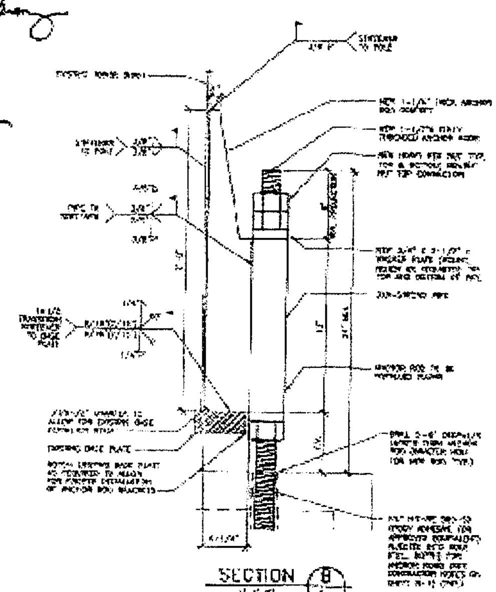


COAX LAYOUT

N.T.S.



SECTION A



SECTION B

STATE OF CONNECTICUT
LICENSED PROFESSIONAL ENGINEER

Pen Paint

1-6-12

GPD GROUP

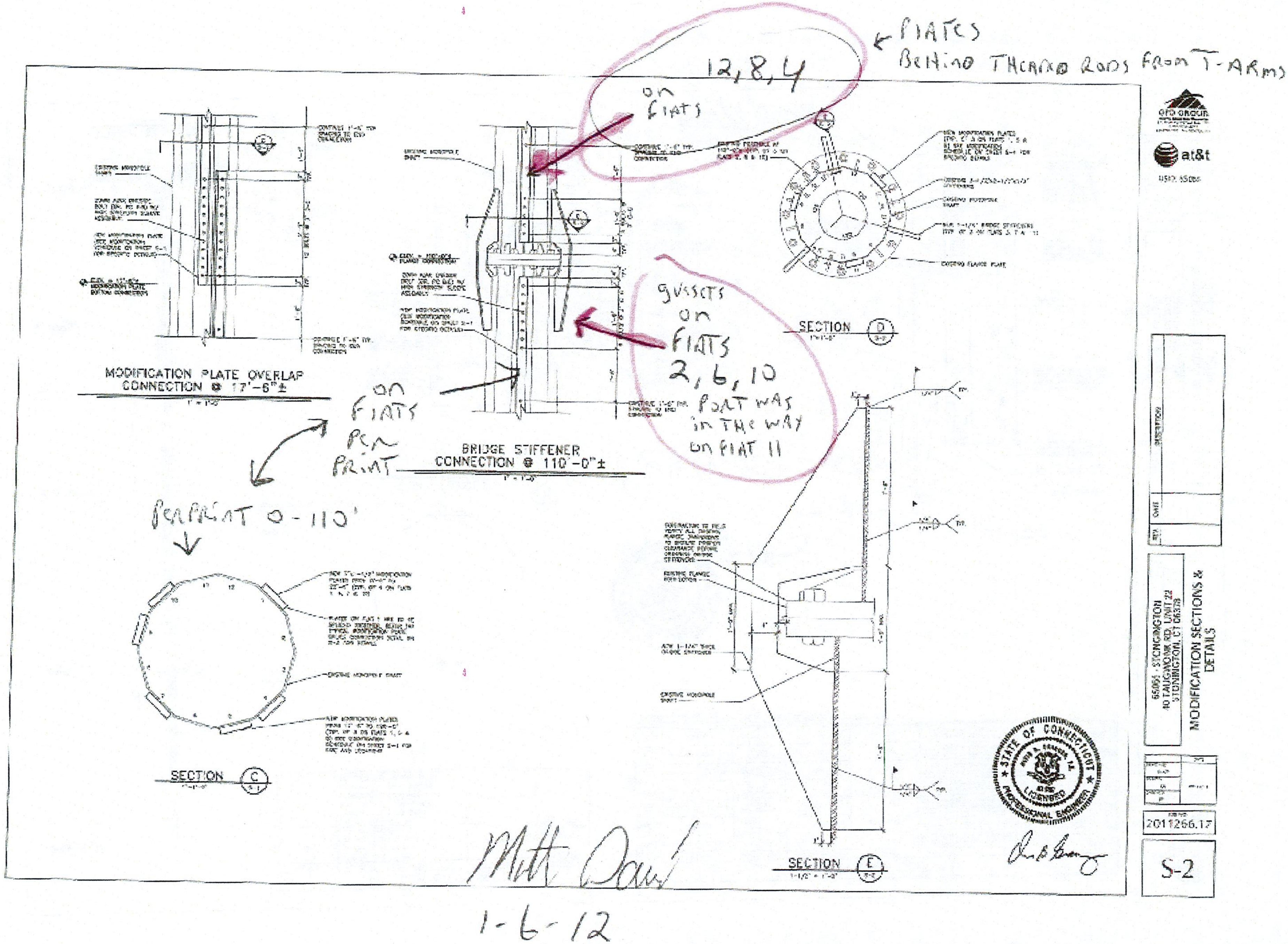
at&t

65085 - STONINGTON
40 TAUGWONK RD UNIT 25
STONINGTON, CT 06378

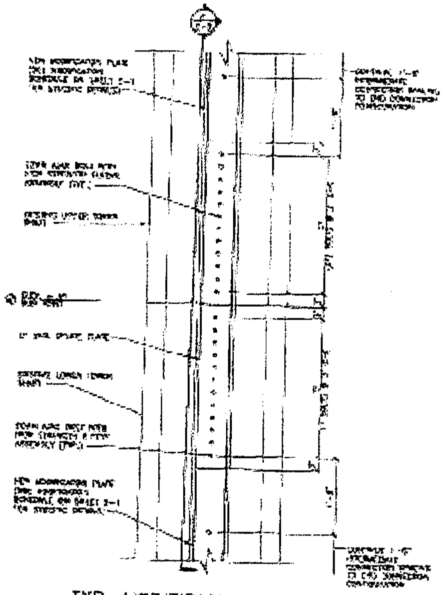
TOWER ELEVATION & MODIFICATION DETAILS

2011256.17

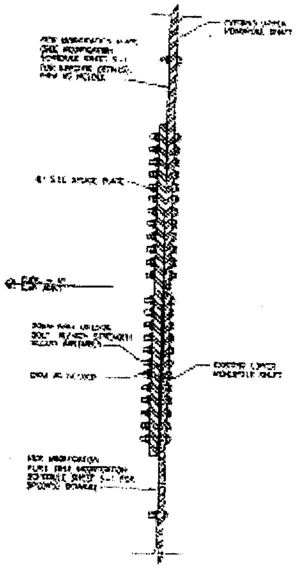
S-1



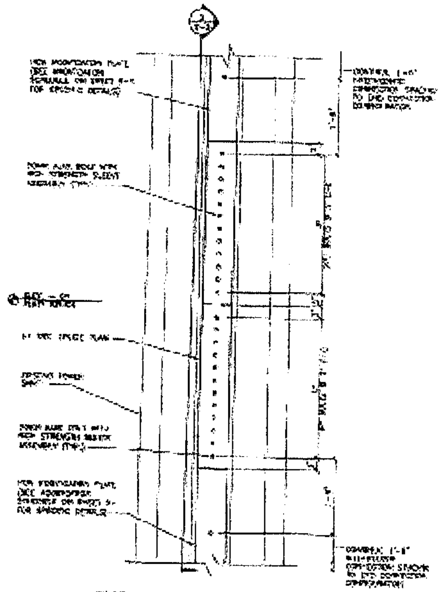
← PLATES
BEHIND THREAD RODS FROM T-ARMS
12, 8, 4
on FLATS
GUSSETS on FLATS 2, 6, 10
PORT WAS IN THE WAY ON FLAT 11
on FLATS PER PRINT
PER PRINT 0-110'
MODIFICATION PLATE OVERLAP CONNECTION @ 17'-6"±
BRIDGE STIFFENER CONNECTION @ 110'-0"±
SECTION D
SECTION C
SECTION E
at&t
65065 - STONINGTON
40 TAUGWONK RD. UNIT 22
STONINGTON, CT 06378
MODIFICATION SECTIONS & DETAILS
2011266.17
S-2
STATE OF CONNECTICUT
LICENSED PROFESSIONAL ENGINEER
1-6-12



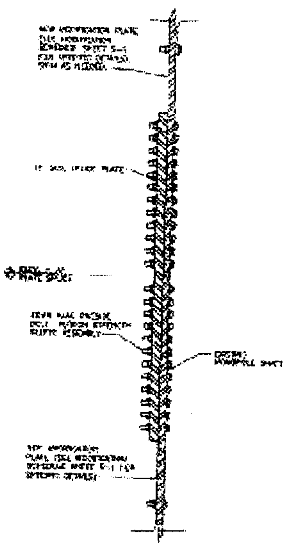
TYP. MODIFICATION PLATE SLIP JOINT SPLICE CONNECTION



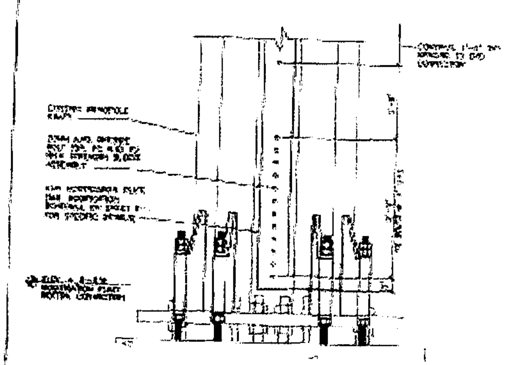
SECTION F



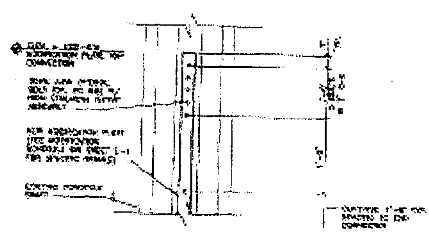
TYP. MODIFICATION PLATE SPLICE CONNECTION



SECTION G



MODIFICATION PLATE BOTTOM CONNECTION
@ 0'-9"±



MODIFICATION PLATE TOP CONNECTION
@ 120'-0"±

MODIFICATION PLATE SLIP JOINT SPLICE CONNECTION SCHEDULE

A	B	C	D	E	F
41'-9"±	[illegible]	2'-6"	[illegible]	[illegible]	[illegible]
70'-6"±	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MODIFICATION PLATE SPLICE CONNECTION SCHEDULE

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Per Print

Matt Dary 1-6-12

AT&T
USID: 85045

65065 - STONINGTON
40 TAUGWONK RD. UNIT 22
STONINGTON, CT 06378

MODIFICATION SECTIONS & DETAILS

2011266.17

S-3

USID 65065 STONINGTON MODIFICATION SUPPORT DOCUMENTS

MILL TEST REPORT (MTR), 14 PGS.

GPD GROUP®

Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

Anchor rods
Stonington

UNIQUE INDUSTRIES, INC.

PO Box 683
Calera, AL 35040
tel 205.668.0490
fax 205.668.0431
sales@uiind.com
www.uiind.com

Item: 1-1/2-6 x 12'	ALL THREADED ROD		
Material Specification: ASTM F1554 GR.105			
LOT#:	13855		
Heat Number:	11902200	Origin:	USA
Tensile Strength PSI:	129900.000	Yield Strength PSI:	111600.000
Elongation:	21	Reduction of Area:	63
Hardness:	24 HRC	Wedge Tensile:	N/A
Macro Etch:	S1/R2/C1	Tempering Temp.:	1380F

Carbon (C):	0.410	Chromium (CR):	0.930
Manganese (MN):	0.850	Molybdenum (MO):	0.165
Phosphorus (P):	0.009	Copper (CU):	NA
Sulfur (S):	0.026	Nitrogen (N):	NA
Silicon (SI):	0.240	Nickel (NI):	NA
Cobalt (CO):	NA	Aluminum (AL):	NA
Vanadium (V):	NA	Tin (SN):	NA
Tungsten (W):	NA	Titanium (TI):	NA
Columbium/Niobium (NB/CB):	NA	Boron (B):	NA
Calcium (CA):	NA		

We hereby certify that the foregoing data is a true copy of the data furnished to us by our supplier or producing mill & test lab.
Zeb Lee

TENNESSEE GALVANIZING®
P.O. BOX 609
JASPER, TN. 37347

SHIPPING ADDRESS:
1535 INDUSTRIAL BLVD.
JASPER, TN. 37347

GALVANIZING CERTIFICATION:

WE HEREBY CERTIFY THE FOLLOWING MATERIALS HAVE BEEN GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS AS SET FORTH BY ASTM-A-153C 153M-05. FINAL INSPECTION HAS BEEN MADE AND MATERIALS MEET ALL REQUIREMENTS. WE FURTHER CERTIFY THAT FASTENERS WE GALVANIZE COMPLY WITH THE COATING, WORKMANSHIP, FINISH AND APPEARANCE REQUIREMENTS OF ASTM F2329.

CUSTOMER NAME: UNIQUE INDUSTRIES, INC.
P.O. BOX 683
CALERA, AL. 35040

SO# 120206
PO# 6531

DESCRIPTION:	***QTY***
ALLTHREAD 1 ½ X 90	8

DAVID S. WARE, PRESIDENT/CEO

JAMES WALDEN, TENNESSEE NOTARY PUBLIC
MY COMMISSION EXPIRES 09/10/11

JAMES WALDEN
STATE OF TENNESSEE NOTARY PUBLIC
MARION COUNTY

KLEIN STEEL SERVICE

Work Order No. 379948

Bill To: D & D Welding
Williamson, NY
Order Due Date: 11/02/2011
Inside Sales: Ron Pritchard
Outside Sales: Sarah Piedmont
Customer P.O. #: VERBAL/MATT
Terms: .5% 10 Net 30

STOP #
56

Ship To: Route:
D & D Welding
4710 Rt 104
Williamson, NY 14589
Attn:MATT 259-4095 315 589 4700

LD	Qty	Code	Description	Width	Length	Loc	Weight	Certs	Processing
1	1	[PI3XXH]	3" XXH (.600) SMLS PIPE	TRACK	~~20'~~ 20'7"		371.56	X	Line Due Date: 11/02/2011
Comments:									
15	15	[P112A572]	1 1/2" A572-50/A709 GR 50	7"	240"		10,720.50	X	Burning
Comments:		TOL: CKS WIDTH X STOCK LENGTH + STRAIGHT AS POSSIBLE PLEASE							Line Due Date: 11/02/2011
8	8	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	6"	240"		4,084.00	X	Burning
Comments:		TOL: CKS WIDTH X STOCK LENGTH + STRAIGHT AS POSSIBLE PLEASE							Line Due Date: 11/02/2011
2	2	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	4"	240"		680.67	X	Burning
Comments:		TOL: CKS WIDTH X STOCK LENGTH + STRAIGHT AS POSSIBLE PLEASE							Line Due Date: 11/02/2011
3	3	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	B/O - COMES FOR PAINT			612.60	X	Burning
Comments:		BURN TO PRINT + TOL: CKS							Line Due Date: 11/02/2011
8	8	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	B/O - 8			289.28	X	Burning
Comments:		BURN TO PRINT + TOL: CKS							Line Due Date: 11/02/2011
37			Totals:				16,758.61		

KLEIN STEEL SERVICE

Work Order No. 379948

Bill To: D & D Welding
Williamson, NY
Order Due Date: 11/02/2011
Inside Sales: Ron Pritchard
Outside Sales: Sarah Piedmont
Customer P.O. #: VERBAL/MATT
Terms: .5% 10 Net 30

STOP #

Ship To: Route:

D & D Welding
4710 Rt 104
Williamson, NY 14589

Attn:MATT 259-4095 315 589 4700

Material Packaging Instructions:

Skids:
Max Bundle Weight: 0
Spacers:

Delivery Instructions:

Receiving Hours:
Delivery Comments: CERTS REQUIRED
+
REF: STONINGTON

Signature:_____

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	969346

10/28/2011 From: MARMON/KEYSTONE
M/K OR: 83-14780
C P.O.: MH16450-O

INIT. : JOAN

To: KLEIN STEEL SERVICE

V&M FRANCE (A01) TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE	VALLOUREC & MANNESMANN TUBES Vallourec Group	INSPECTION CERTIFICATE (A02) 3.1 EN 10204 : 2004 No. : 60105v11 (A05) Page: 3 / 6 Date: 05.07.2011

(077)
PRODUCT CHEMICAL ANALYSIS

(907.1) Heat	(C03.1) Test Piece	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	Cu %	Ti %
min		-	0,10	0,29	-	-	-	-	-	-	-
max		0,25	-	1,06	0,030	0,030	0,40	0,15	0,40	0,40	-
969108	01EM566	0,15	0,19	0,77	0,017	0,002	0,14	0,04	0,08	0,14	0,001
969108	02EM566	0,15	0,19	0,77	0,017	0,002	0,14	0,04	0,08	0,14	0,001
969346	01EM566	0,16	0,17	0,76	0,016	0,002	0,15	0,03	0,07	0,12	0,001
969346	02EM566	0,16	0,17	0,76	0,017	0,002	0,15	0,03	0,07	0,12	0,001

(907.1) Heat	(C03.1) Test Piece	Nb/Cb %	V %	B ppm	0002 %	0014 %	1003 %				
min		-	-	-	-	-	-				
max		-	0,08	-	0,15	1,00	0,48				
969108	01EM566	0,000	0,00	0	0,00	0,40	0,33				
969108	02EM566	0,000	0,00	0	0,00	0,40	0,33				
969346	01EM566	0,000	0,00	0	0,00	0,37	0,33				
969346	02EM566	0,000	0,00	0	0,00	0,37	0,33				

0002	V+NB+TI
0014	CR+CU+MO+NI+V
1003	CE = C+MN/6+(CR+MO+V)/5+(NI+CU)/15

(444)
HEAT TREATMENT

NORMALIZED CONDITION MIN 920°C (1688 F) COOLING AIR

TENSILE TEST RESULTS

Type (014.1)	Tube strip specimen
Test temperature (C03)	Room temperature
Direction (C02)	longitudinal

SIMPLE LENGTH

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	969346

10/28/2011 From: MARMON/KEYSTONE To: KLEIN STEEL SERVICE
M/K OR: 83-14780 INIT. : JOAN
C P.O.: MH16450-O

V&M FRANCE (A01) TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE	VALLOUREC & MANNESMANN TUBES Vallourec Group	INSPECTION CERTIFICATE (A02) 3.1 EN 10204 : 2004 No. : 60105v11 (A03) Page: 4 / 5 Date: 05.07.2011

TENSILE TEST RESULTS

(B07.1) Heat	(C09.1) Test Piece	(C10.2) Dimension	(C11) YS	(C12) TS	(C13.2) Elong.						
		in / sq in	$R_{t0,5}$ psi	R_m psi	2" %						
min		-	42000	60000	28,0						
max		-	-	-	-						
969108	01EM568	0,48x0,65 0,31	42218	70074	38,5						
969346	01EM568	0,48x0,65 0,29	42073	69929	38,5						

(C10.2)
Dimension — Test piece dimensions
Test piece area

(C99)
TECHNOLOGICAL AND OTHER TESTS ON SPECIMENS

Test	Conditions	Test rate	Result
Flattening test	Flattening test (specific)		Satisfactory

(D99)
OTHER TESTS ON PIPE

Test	Conditions	Test rate	Result
Hydrostatic test	2500 PSI 5 SEC	100% each lot	Satisfactory
Appearance & Dimensions	Aspect & Dimensions (spécifique)	100% each lot	Satisfactory
Residual magnetism	30 GAUSS MAX	100% each lot	Satisfactory

(A84, B88)
MARKING, IDENTIFICATION

4	Die stamping round nose tools	FRANCE
4	Paint stenciled on one side	V & M FRANCE 5L 0061 API DATE OF MARKING A/SA53 A/SA106 3 1/2 B + X42 PSL1 S SMLS 2500 PSI HT HEAT NUMBER XXS 3 1/2 X 0.600 21001850 8279 LENGTH HOUSTON

(Z01)
The supplied products are in compliance with the requirements of the order

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	969346

10/28/2011 From: MARMON/KEYSTONE To: KLEIN STEEL SERVICE
M/K OR:83-14780 INIT. :JOAN
C P.O.:MH16450-O

V&M FRANCE (A01) TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE	VALLOUREC & MANNESMANN TUBES Vallourec Group	INSPECTION CERTIFICATE (A02) 3.1 EN 10204 : 2004 No. : 80108v11 (A03) Page: 6 / 6 Date: 05.07.2011

(A06, 202, 203)

Date	05.07.2011
Validated by	Inspection Representative
	Valérie DELACROIX
☎	+ (33) 3 27 23 14 56
🖷	+ (33) 3 27 23 15 26
@	valerie.delacroix@vmtubes.fr
Stamp	

Indication in parentheses correspond to attributes according to EN 10168

This testimonial and certification respectively may neither be modified nor used for other products. Offences are regarded as falsification of documents and will be subject to criminal prosecution.

Mill Test Reports
For PO# _____
Dixie Pipe Sales, Inc.

Customer Name: D & D Welding
Customer PO#: VERBAL/MATT
Shipper No: 379948
Heat Number: 1506138

NUCOR PLATE MILL
P.O.Box 279
Winton, NC 27986
(252) 356-3700

Mill Test Report

Page 2

NUCOR It's our Nature.

Issuing Date : 08/25/2011 B/L No. : 303373 Load No. : 305108 Our Order No. : 935357 Cust. Order No. : JCR 6718
Vehicle No: TTPX 82318
Specification : 1.5000" x 96.000" x 480.000"
ASTM A572 Grade 50/345-07/A709 Grade 50-11/ AASHTO M270 50 97
Type 2

Sold To : WARREN FABRICATION & MACHINING CORP
P.O. BOX 1032
WARREN,OH 44482

Ship To : WARREN FABRICATION & MACHINING CORP
HUBBARD SIDE (OLD GAXT) PB597
CUSTOMER NO.
7845 CHESNUT RIDGE RD.; 05709
SITING#-73700 STATION
HUBBARD,OH 44425

Marking :

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al(tot)	V	Nb	Ti	N	Ca	B	Sn	CEQ	PCM
1506138	0.17	1.15	0.009	0.003	0.16	0.29	0.10	0.08	0.02	0.013	0.042	0.001	0.001		0.0009	0.0003	0.010	0.42	0.26

Tensile Test

Plate Serial No	Pieces	Tons	Dir.	(psi) Yield	(psi) Tensile	Elongation % in 2"	Elongation % in 8"
1506138-03	3	29.40	T	54,800	81,500		18.6
			T	54,700	81,500		20.9
1506138-04	4	39.20	T	54,800	81,500		18.6
			T	54,700	81,500		20.9

Charpy Impacts

Dir.	1	(ft) shear	2	(ft) shear	3	(ft) shear	Ave.	(ft) shear	Size	Temp	Min Ave.

Manufactured to fully killed practice by Electric Arc Furnace. Welding or weld repair was not performed on this material.
Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate as-rolled, unless otherwise noted in Specification
Yield by 0.5EUL method unless otherwise specified Ceq = C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B
Melted and manufactured in the USA. ISO 9001:2008 certified (#008063) by SRI Quality System Registrar (#0985-09). PED 97/23/EC 7/2 Annex 1, Para. 4.3 Compliant. DIN 50049 3.1.B/EN 10204 3.1B(2004). DIN EN 10204 3.1(2005) compliant. For ABS grades only, Quality Assurance certificate 09-MMPQA-546

We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.

T. A. Depretis

T A Depretis, Metallurgist

08/26/2011 8:42:53 AM

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	2M519

EVRAZ CLAYMONT STEEL A DIVISION OF EVRAZ INC NA

4001 Philadelphia Pike, Claymont DE 19703

Material Test Report

B/L: 292580

06/30/2011

Sold To: KLEIN STEEL SERVICE, INC.
105 VANGUARD PKWY, ROCHESTER, NY 14608

Order 225607-02 Customer PO BJK3710 Part No. P114A572

Specifications:
ASTM A572/A572M-07 Grade 50(345) Type 2 Fully Killed Fine Grain Practice

Products Shipped for Order 225607-02 (sorted by Serial)

Serial	Heat-Slab Orig	R/R	Plate Size in Inches	Plate Size in MM	Lbs	Kg
A73030-1	2M519-406 USA	7.8	1.2500 x 96.0000 x 240.0000	31.75 x 2438.40 x 6096.00	8,168	3,676

Shipment Summary of Order 225607-02: 1 piece 8,168 lbs (3,676 kg)

Chemical Analysis for Order 225607-02 (sorted by Heat)

HeatAnlys	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
	2M519	0.08	1.32	0.014	0.012	0.25	0.280	0.146	0.153	0.037	0.020
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.004	0.08	0.00	0.009	0.004	0.002	0.0001			

Tensile Tests for Order 225607-02 (sorted by Heat)

Serial	Heat-Slab	Gauge Inches	Gauge MM	Tensile KSI	Tensile MPA	Yield KSI	Yield MPA	Elongation %	Elongation In.	Elongation MM	RA %	Head Tail	Dir	Norm	S/R	Test ID
A71943-1	2M519-301	1.0000	25.40	74	508	56	387	24	8	200			Tran			295435
A72134-1	2M519-303	1.2500	31.75	74	513	55	379	26	2	50			Tran			295483

Other Information for Order 225607-02
Material is 100% melted and manufactured in the USA.

Shipment Grand Totals of B/L 292580: 6 pieces 47,372 lbs (21,317 kg)

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Chief Metallurgist, David J. Cernava D. J. Cernava

Revision:

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	969346

10/28/2011 From: MARMON/KEYSTONE To: KLEIN STEEL SERVICE
M/K OR: 83-14780 INIT. : JOAN
C P.O.: MH16450-O

V&M FRANCE (A01) TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE	VALLOUREC & MANNESMANN TUBES Vallourec Group	INSPECTION CERTIFICATE (A02) 3.1 EN 10204 : 2004 No. : 8010Sv11 (A07) Page: 1 / 5 Date: 05.07.2011

(A01) V&M FRANCE	(A08.1) V&M-Order-No. AL0012 (A08.2) Suborder
(A04.1) Customer DIXIE PIPE SALES,LP PO Box 300850 HOUSTON 77230 PO# 80-59113	(A07.1) Order-No. 21001850
(A04.2) Orderer V&M USA CORP. / HOUSTON TX 77041	(A07.2) Order-No. 21001850 Date 07.04.2011
	(A07.5) Order-No. 6270

(B01, B02, B04) Description of the product	Hot finished seamless line pipe Ends bevelled, angle 30° (+5 / -0), root face 1.6 mm (± 0.8) Inside without rust protection Outside dry varnish As rolled API spec. 5 L, PSL1, 10.2007 ASTM A 106 - 10 / ASTM A 530 - 04a / ASTM A 53 - 10 ASME SA 106, Edition 2010 / ASME SA 530, Edition 2010 ASME SA 53, Edition 2010 ASME Boiler and Pressure Vessel Code, Sect. II, Part. A, Edition 2010 Nace MR 0175 / ISO 15156-2:2003 / COR.1:2005 / EN ISO 15156-2:2003, Annex A.2.1.2 Nace MR 0103-2005, Paragraph 2.1 Spec. USA, Rev. B, dated December 2009 X 42 Grade B acc. to - API 5 L - ASTM A 106 / ASME SA 106 - ASTM A 53 / ASME SA 53

ROCKWELL C HARDNESS <= 22 GUARANTEED
NO MERCURY, MERCURY COMPOUNDS OR MERCURY CONTAINING INSTRUMENTS AND/OR EQUIPMENT HAVE BEEN USED IN ANY MANNER WHICH MIGHT CAUSE A CONTAMINATION IN MANUFACTURE, ASSEMBLY, OR TEST OF MATERIAL.
NO WELD REPAIR WAS PERFORMED.

(A10) V&M Item	(A09) Cust. Item	(B14) Item text	(B03) Dimensions	(B10) Single length
4			NPS 3 XXS OD-Tolerance + 0.75 % - 0.75 % WT-Tolerance + 15 % - 12.5 %	Random length from 38 to 42 Ft

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	969346

10/28/2011 From: MARMON/KEYSTONE
M/K OR: 83-14780
C P.O.: MH16450-O

INIT. : JOAN

To: KLEIN STEEL SERVICE

V&M FRANCE (A01) TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE	VALLOUREC & MANNESMANN TUBES Vallourec Group	INSPECTION CERTIFICATE (A02) 3.1 EN 10204 : 2004 No. : 80105v11 (A05) Page: 2 / 5 Date: 05.07.2011

(A13) V&M Item	(A09) Cust. Item	(B07.1) Heat	(B08) Quantity	(B11) Total length ft	(B13) Weight lb
4		969106	40	1.649,870	30.873
		969346	92	3.811,610	70.683
			132	5.461,480	101.556

(C71)

HEAT CHEMICAL ANALYSIS

For each reduction of 0,01 % carbon below 0,30 %, an increase of 0,06 % manganese above the specified maximum will be permitted up to a maximum of 1,35 %

(B07.1) Heat	(B10) Process	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	Cu %	Ti %
min	-	-	0,10	0,29	-	-	-	-	-	-	-
max	-	0,28	-	1,06	0,030	0,030	0,40	0,15	0,40	0,40	-
969106	Electric (EAF)	0,16	0,19	0,76	0,018	0,002	0,14	0,05	0,08	0,14	0,001
969346	Electric (EAF)	0,18	0,17	0,74	0,019	0,002	0,15	0,04	0,08	0,13	0,002

(B07.1) Heat	Nb/Cb %	V %	B ppm	0002 %	0014 %	1003 %						
min	-	-	-	-	-	-						
max	-	0,08	-	0,16	1,00	0,48						
969106	0,000	0,00	2	0,00	0,41	0,33						
969346	0,000	0,00	3	0,00	0,40	0,33						

0002	V+NB+TI
0014	CR+CU+MO+NI+V
1003	CE = C+MN/6+(CR+MO+V)/5+(NI+CU)/15

Heats fully killed

(C73)

PRODUCT CHEMICAL ANALYSIS

For each reduction of 0,01 % carbon below 0,30 %, an increase of 0,08 % manganese above the specified maximum will be permitted up to a maximum of 1,35 %

KLEIN STEEL SERVICE

Back Order Work Order No. 379948

Bill To: D & D Welding
Williamson, NY
Order Due Date: 11/02/2011
Inside Sales: Ron Pritchard
Outside Sales: Sarah Piedmont
Customer P.O. #: VERBAL/MATT
Terms: .5% 10 Net 30

STOP # 4

Ship To: Route: 5 11/1 S
D & D Welding
4710 Rt 104
Williamson, NY 14589

Attn:MATT 259-4095 315 589 4700

Backorder

3	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	612.60	X	Burning	Line Due Date: 11/02/2011
Comments:	BURN TO PRINT + TOL: CKS					
8	[P114A572]	1 1/4" THICK A572-50/A709 GR 50	289.29	X	Burning	Line Due Date: 11/02/2011
Comments:	BURN TO PRINT + TOL: CKS					
11		Totals:	901.89			

Material Packaging Instructions:

Skids:
Max Bundle Weight: 0
Spacers:

Delivery Instructions:

Receiving Hours:
Delivery Comments: CERTS REQUIRED
+
REF: STONINGTON

Signature:_____

Customer Name	Customer PO#	Shipper No	Heat Number
D & D Welding	VERBAL/MATT	379948	2M147

Vendor
Klein Steel of Western NY

Heat Number
2M147

EVRAZ
4001 Philadelphia Pike, Claymont DE 19703

Material Test Report

B/L: 290138
04/27/2011

Sold To: KLEIN STEEL SERVICE, INC.
105 VANGUARD PKWY, ROCHESTER, NY 14606

Order 224179-02 Customer PO BJK3170 Part No. P114A572

Specifications:
ASTM A572/A572M-07 Grade 50(345) Type 2 Fully Killed Fine Grain Practice
ASTM A709/A709M-10 Grade 50(345) Type 2 Fully Killed Fine Grain Practice

Products Shipped for Order 224179-02 (sorted by Serial)

Serial	Heat-Slab Orig	R/R	Plate Size in Inches	Plate Size in MM	Lbs	Kg
A64585-1	2M147-103 USA	7.8	1.2500 x 96.0000 x 240.0000	31.75 x 2438.40 x 6096.00	8,168	3,676

Shipment Summary of Order 224179-02: 1 piece 8,168 lbs (3,676 kg)

Chemical Analysis for Order 224179-02 (sorted by Heat)

HeatAnlys	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
	2M147	0.08	1.23	0.015	0.070	0.30	0.194	0.181	0.119	0.041	0.021
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.007	0.08	0.00	0.008	0.006	0.002	0.0003			

Tensile Tests for Order 224179-02 (sorted by Heat)

Serial	Heat-Slab	Gauge Inches	Gauge MM	Tensile KSI	Tensile MPA	Yield KSI	Yield MPA	Elongation %	Elongation In.	Elongation MM	RA %	Head Tail	Dir	Norm	S/R	Test ID
A64590-1	2M147-202	0.7874	20.00	72	493	56	385	26	8	200			Trans			292215
A64601-1	2M147-902	1.5000	38.10	76	521	54	374	23	2	50			Trans			292216

Other Information for Order 224179-02
Material is 100% melted and manufactured in the USA

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Chief Metallurgist, David J. Cernava D. J. Cernava

Revision:

ORDER

Entered By: JOHN

*** RELEASE ***

November 28, 2011 11:23 AM

Order #	00008152-0000
Order Date	11/28/2011
Page	1 of 1
Req Ship Date	11/29/2011

BILL TO: D&D
D&D WELDING
4710 ROUTE 104

WILLIAMSON, NY 14589

SHIP TO: D&D WELDING
4710 ROUTE 104

WILLIAMSON, NY 14589

Ordered By:

PrePaid ____ **Collect** ____ **3rd Party** ____

TERMS	Customer PO #	Freight	FOB	Ship Via
PREPAYMENT OF INVOICE	VERBAL DAVID	PREPAID ADD CLASS 50	SWF-WH75	YELLOW

Order Qty	Ship Qty	B/O Qty	Item # / Description	Customer Part#	U/M	Carton Qty	# of Cartons
352	352	0	463752G M20 X 95 ONSIDE ASSEMBLY BOLT		EA	32	11
			Unit Weight: 1		**Ext Weight:**		405
288	288	0	453889 M20 X 135 ONESIDE ASSEMBLY		EA	24	12
			Unit Weight: 1		**Ext Weight:**		377
38	38	0	458430 ONESIDE 3' M20 HIGH TENSILE SLEEVE		EA	1	38
			Unit Weight: 5		**Ext Weight:**		203
2	2	0	1-SIDE BOX HEAVY DUTY ONE SIDE BOX		EA	0	Infinity
			Unit Weight: 1		**Ext Weight:**		1

PLS SHIP ON YRC QUOTE # 94881646. PHONE 800-610-6500
PLS PACK IN HD EXTERNAL BOXES AND STRAP TO PALLET
PLS PUT TWO (2) "DO NOT STACK" LABELS ON EACH HD BOX
PLS PUT CONTACT ON BOL: MATT DAVID 585-259-4095

Total Order Weight: 987

WELDER CERTIFICATIONS, 4 PGS.

GPD GROUP®
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

Welder Qualification Test Record - AWS D1.1 Independent Quality Services,LLC

Welder Name : **Jarod Arthur** SS# :Withheld by employer Date: March 05, 2009
WPS # DD-02 Welding Process: FCAW Type: Semi-Automatic
Mode of Transfer : Spray Current/Polarity: DCEP Stamp ID : 4

	Actual Variable in Testing	Qualification Range
Position		
Groove:	**3G**	**1, 2, 3G**
Fillet:	n/a	**1, 2, 3F**
Joints		
Type:	Groove (B-U2a-GF) Fig. 4.21	Prequalified Groove & Fillet
Backing:	Yes	Yes
Backing type:	A-36	group 1 & 2
Groove welded from :	One side	One Side
Base Metal		
Material Type & Grade:	A-36	group 1 & 2 to group 1 & 2
Thickness	3/8"	1/8 to 3/4
Diameter: fillet qualified	N/A	
Filler Metal:		
Spec. Number:	ANSI/AWS A5.20	ANSI/AWS A5.20
Class:	E71T-1	ExxTx
F No.	6	6
GAS:		
composition	ArCO2 75/25	ArCO2 75/25
flow rate; cup/backing	32	26-36

Visual Examination Results: Acceptable

Appearance: Good **Cracks:** None

Reinforcement: acceptable **Undercut:** None

Bend Test Results:
3G - Face Bend 1: Pass **Root Bend 2:** Pass

Test Conducted by: Kevin J. Adair, CWI **Per: ANSI/ AWS D1.1**
Laboratory Test # (s): 9-03-dd1,2 **Date :03/05/09**

The undersigned certify that the statements in this record are correct and that the test welds were prepared and tested in accordance with the requirements of ANSI/AWS D1.1-(08) "*Structural Welding Code - Steel*"

D & D Welding

Authorized By: Matt David Date: 3/05/05

Welding Procedure Specification AWS D1.1 **by Independent Quality Services, LLC**

for D & D Welding

WPS # **DD-02** PQR: **Prequalified Joints** 5/01/05

Welding Process: FCAW Type: Semi-Automatic Mode of Transfer : Spray

---

Joints
Type: Groove & Fillet
Type: Single
Backing: Yes
Backing type: A36/572
Groove welded from : One side

Position
Position of groove: All
Position of fillet: All
Progression : Up

Base Metal

Material Type & Grade:	group 1 &2 to group 1&2
Tubular:	group 1 &2 to group 1&2
Thickness	1/8" to Unlimited"
Diameter:	≥ 24" groove
fillet qualified	All

Electrical type /Polarity: DCEP

Base Metal Preparation: Light wire brushing , and/or grinding as nec.

Filler Metal:

Spec. Number:	A5.29
Class:	E70-T1 - E 71-T1
F No.	6

Sketch of joint detail

Prequalified in accordance with Section 3 - AWS D1.1

AWS QC 1 KEVIN J. ADAIR 94100015 CWI

GAS:

composition	ArCO2 75/25%
flow rate; cup/backing	26-36 CFM; ½-¾ /as required

PreHeat: min 50 deg. F & as nec. to remove moisture to a max 350 deg. F **Postweld Treatment:** None

Technique:
Maximum root & fill pass thickness : 3/16"
Stringer / weave: Both Number of electrodes: 1 Spacing: N/a Peening: None
Multi- or Single pass: Either Interpass Cleaning: Chipping, Wire Brushing and / or Grinding

Pass	electrode diam.	Current Amperes / Volts	travel speed	wire feed speed
All	.035-.060	per manufacturer	8-12 ipm	as required

This procedure may vary due to fabrication sequence, fit up, pass size, etc within the limitations of variables given in ANSI/AWS D1.1-(04) "Structural Welding Code - Steel"

Authorized By: Matthew Davis Date: 3/01/05

WELDER OR WELDING OPERATOR PERFORMANCE QUALIFICATION

WELDER'S NAME: **MATTHEW DAVID** STAMP NO.: "M"
WELDING PROCESS(ES) USED: **SMAW** TYPE: **MANUAL**
IDENTIFICATION OF WPS FOLLOWED BY WELDER DURING WELDING OF TEST COUPON: **DD-01**
BASE MATERIAL(S) WELDED: **SA-572 GR. 50 & GR. 65** THICKNESS: **3/8"**

VARIABLES	RECORD ACTUAL VALUES USED IN QUALIFICATION	RANGE QUALIFIED
PROCESS/TYPE (TABLE 4.10, ITEM (1)	SMAW	
ELECTRODE (SINGLE OR MULTIPLE) TABLE 4.10, ITEM (8)	SINGLE	
CURRENT/POLARITY	DCRP	DCRP
POSITION (TABLE 4.10, ITEM (4)	3G	1G,2G,3G,1F,2F,3F
WELD PROGRESSION (TABLE 4.10, ITEM (6)	Uphill	Up/Down
BACKING (YES OR NO) TABLE 4.10, ITEM (7)	YES	With
MATERIAL/SPEC.	A572 GR. 50, A572 GR. 65	GR. III to II, GR. II to II, GR III to I, GR. II to I, GR. I to I
BASE METAL		
THICKNESS (PLATE)		3/8"
GROOVE		1/8" to ¾"
FILLET		ALL
THICKNESS (PIPE/TUBE)		
GROOVE		1/8" to 3/4"
FILLET		All
DIAMETER		
GROOVE		24" & UP
FILLET		All
FILLER METAL: (TABLE 4.10, ITEM (3)		
SPEC. NO.	SFA5.1	5.1
CLASS	ROOT E6010, REM. E7018	(SAME)
F-NO. (TABLE 4.10 ITEM (2)	F3,F4	F3,F4
GAS/FLUX TYPE (TABLE 4.10, ITEM (3)	N/A	N/A
OTHER		

VISUAL INSPECTION (4.8.1)
ACCEPTABLE: YES [X] NO [ ]

GUIDED BEND TEST RESULTS (4.30.5)

TYPE	RESULTS	TYPE	RESULTS
Face	Passed		
Root	Passed		

FILLET WELD TEST RESULTS (4.30.2.3 & 4.30.4.1)
APPEARANCE: FILLET SIZE:
FRACTURE TEST ROOT PENETRATION: MACRO TEST:
(DESCRIBE THE LOCATION, NATURE AND SIZE OF ANY CRACK OR TEARING IN THE SPECIAMN)

INSPECTED BY: **EUGENE W. SHORT** TEST NO.: **3104**
ORGANIZATION: **A & E TESTING, INC.** DATE: **7-13-00**

RADIOGRAPHIC TEST RESULTS (4.30.3.1)
FILM IDENTIFICATION: RESULTS: REMARKS:
INTERPRETED BY: TEST NO.:
ORGANIZATION: DATE:

WE, THE UNDERSIGNED, CERTIFY THAT THE STATEMENTS IN THIS RECORD ARE CORRECT AND THAT THE TEST WELDS WERE PREPARED, WELDED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4, ANSI/AWS D1.1 (CURRENT EDITION) STRUCTURAL WELDING CODE - STEEL.
WE CERTIFY THAT THE STATEMENTS IN THIS RECORD ARE CORRECT AND THAT THE TEST COUPONS WERE PREPARED, WELDED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IX OF THE ASME CODE.

MANUFACTURER OR CONTRACTOR: **D & D WELDING** BY: DATE: **7-14-00**

FORM E-4 (MODIFIED) *EDITORIAL CHANGE 7-28-03, REMOVED SOCIAL SECURITY NUMBER 7/28/03

WELDING PROCEDURE SPECIFICATION

Identification # DD-01
Revision: -0- Date: 7-13-00 By: M. DAVID
Company Name: D & D WELDING Authorized By: Date:
Welding Process(es): SMAW Type – Manual [X] Semi-automatic []
Machine [ ] Automatic [ ]

JOINT DESIGN USED:
TYPE: B-U2-GF
Single: [x] [x] Double
Backing: Yes [x] No [ ]
Backing Material: Carbon Steel (Group I,II,III)

POSITION:
Position of groove: 1G,2G,3G Fillet: 1F,2F,3F
Vertical Progression: Uphill [x] Downhill [x]

Root Opening: N/A
Groove Angle: N/A
Back Gouging: Yes [x] No [X]
Method: Optional

ELECTRICAL CHARACTERISTICS

Transfer Mode: Short-Circuiting: [ ]
Globular: [ ] Spray: [ ]
Current: AC [ ] DCSP [ ] DCRP [x] Pulsed [ ]
Other:

BASE METALS:
Material Spec. Gr. III to Gr. II, Gr. II to Gr. II, Gr. III to Gr. I, Gr. II to Gr. I, Gr. I to Gr. I

Type or Grade: (See Above)
Thickness: Groove: 1/8" TO ¾" Fillet: All
Diameter: (Pipe): Groove: 24" & UP Fillet: All

TUNGSTEN ELECTRODE (GTAW)
Size: N/A
Type: N/A

FILLER METALS:
AWS Specification: SFA5.1

AWS Classification: ROOT 6010, REM. E7018

TECHNIQUE:
Stringer or Weave Bead: Both allowed

Multi-pass [x] Single Pass [x] (Per Side)
Number of Electrodes: Single
Electrode Spacing: Longitudinal: [ ] Lateral: [ ]
Angle: [ ]
Peening: Not Allowed
Interpass cleaning: Wire brush, Grind

SHIELDING:
Flux: N/A

PREHEAT:
Preheat Temp.: Min. 60 Deg. F
Interpass Temp.: Max.: 600 Deg. F

POSTWELD HEAT TREATMENT:
Temp. N/A Time: N/A

WELDING PROCEDURE

Pass or Weld layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diameter	Type & Polarity	Amps or Wire Feed Speed			
ROOT	SMAW	E6010	3/32"	dcrp	80-110	N/A	4-6 IPM	All pre-qualified of AWS D1.1 fig. 3.3 & 3.4 within limits of above variables
REM.	SMAW	E7018	3/32"	dcrp	80-110	N/A	4-6 IPM	

USID 65065 STONINGTON MODIFICATION SUPPORT DOCUMENTS

CERTIFIED WELD INSPECTOR REPORT (CWI), 1 PG.

GPD GROUP®
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

Veteran Welding & Consulting

James M. Claypool, CWI
6478 N. Slocum Rd. - Ontario, NY - 14519
(585) 233-8257

January 10 2012 Reference # VW2012-1

Inspection Site: NWHN2054
Project Name: Stonington,CT
Contractor Name: D&D Welding
Client Name: Westower Communications

Specific Inspection Area: Tower Retrofit
Weldment Types: 8 Anchor Rods 3 Bridge stiffeners
Welder verified: Yes

Inspection Results:

Remote visual inspection of the Anchor rod modification with 8 anchor rods with 3/8 fillets and 3 bridge stiffeners with1/4 fillets as welded meet the requirements of the modification detail. No obvious weld deficiencies were noted. All weld sizes appear to meet the requirements as noted in the drawings. One hundred and twenty pictures were reviewed.

James M Claypool
CWI 10011081
QC1 EXP. 1/1/2013

Reinspection Required: No
Project Status (Continuing/Closed): Closed
Inspection results reported to: Westower Communications

James M. Claypool, CWI #10011081

USID 65065 STONINGTON MODIFICATION SUPPORT DOCUMENTS

ANCHOR ROD PULL TEST, 1 PG.

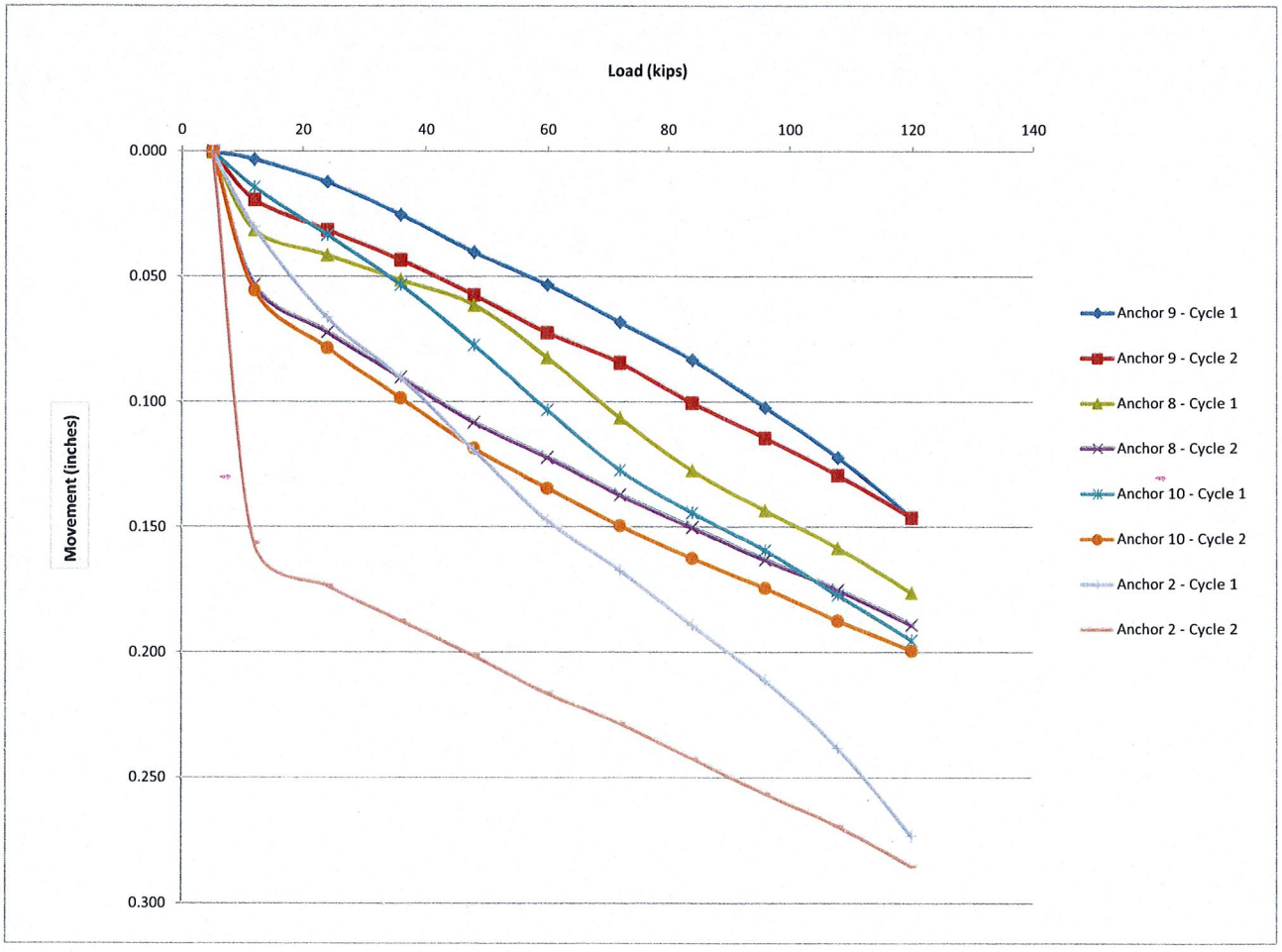
GPD GROUP®
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

ANCHOR TESTING DATA SHEET

Terracon

Project: 65065 - Stonington
Location: Stonington, Connecticut
Project Number: J2121119
Test Date: 3/9/12

			Anchor Movement							
Basis of Load	Load	Jack Pressure	Anchor 9		Anchor 8		Anchor 10		Anchor 2	
TL=Max Test Load			Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2
TL = 120 kips	(Kips)	(psi)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)
Alignment Load	5	250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.1*TL	12	550	0.003	0.019	0.031	0.053	0.014	0.055	0.030	0.156
0.2*TL	24	1100	0.012	0.031	0.041	0.072	0.033	0.078	0.066	0.173
0.3*TL	36	1650	0.025	0.043	0.051	0.090	0.053	0.098	0.090	0.187
0.4*TL	48	2200	0.040	0.057	0.061	0.108	0.077	0.118	0.119	0.201
0.5*TL	60	2750	0.053	0.072	0.082	0.122	0.103	0.134	0.147	0.216
0.6*TL	72	3300	0.068	0.084	0.106	0.137	0.127	0.149	0.167	0.228
0.7*TL	84	3850	0.083	0.100	0.127	0.150	0.144	0.162	0.189	0.242
0.8*TL	96	4400	0.102	0.114	0.143	0.163	0.159	0.174	0.211	0.256
0.9*TL	108	4950	0.122	0.129	0.158	0.175	0.177	0.187	0.238	0.269
1.0*TL	120	5500	0.146	0.146	0.176	0.189	0.195	0.199	0.273	0.285
Alignment Load	5	250	0.012	0.018	0.042	0.052	0.042	0.042	0.140	0.149
		Incremental Residual Movement		0.006		0.010		0.000		0.009



ROBINSON & COLE

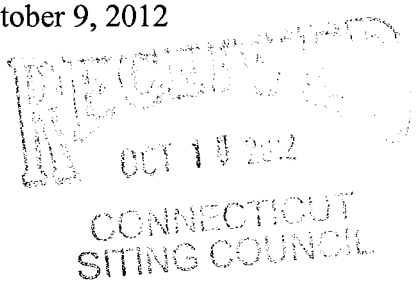
EM-VER-137-121010

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

October 9, 2012



Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
40 Taugwonk Road, Stonington, Connecticut

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the 114-foot level on an existing 150-foot tower at the above-referenced address. The tower is owned by AT&T. Cellco's use of the tower was approved by the Council in 1992. Cellco now intends to replace all of its existing antennas with six (6) model LPA-80080-6CF cellular antennas; three (3) model BXA-171085-12BF PCS antennas; and three (3) model BXA-70063-6CF LTE antennas, all at the same 114-foot level. Cellco also intends to install six (6) coax cable diplexers behind its antennas. Attached behind Tab 1 are the specifications for the replacement antennas and diplexers.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Edward Haberek, Jr., First Selectman of the Town of Stonington. A copy of this letter is also being sent to Louis J. Damato and Jon C. Damato, the owners of the property on which the tower is located.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and diplexers will be located at the 114-foot level on the existing 150-foot tower.

2. The proposed modifications do not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundaries.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative General Power Density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower and foundation can support Cellco's proposed antenna modifications. (See Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

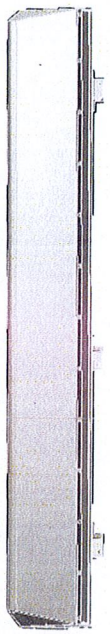
Enclosures
Copy to:
Edward Haberek, Jr., Stonington First Selectman
Louis J. Damato and John C. Damato
Sandy M. Carter

LPA-80080-6CF-EDIN-X

V-Pol | Log Periodic | 80° | 14.0 dBd

Replace "X" with desired electrical downtilt.

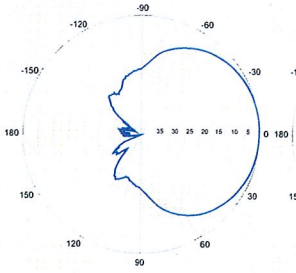
Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



Electrical Characteristics		
Frequency bands	806-960 MHz	
Polarization	Vertical	
Horizontal beamwidth	80°	
Vertical beamwidth	10°	
Gain	14.0 dBd (16.1 dBi)	
Electrical downtilt (X)	0, 2, 4, 5, 6, 8, 10	
Impedance	50Ω	
VSWR	≤1.4:1	
Upper sidelobe suppression (0°)	-22.6 dB	
Null fill	10% (-20.0 dB)	
Input power	500 W	
Lightning protection	Direct Ground	
Connector(s)	1 Port / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1800 x 140 x 335 mm	70.9 x 5.5 x 13.2 in
Depth of antenna with z-bracket	375 mm	14.8 in
Weight without mounting brackets	9.5 kg	21.0 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.25 m² Side: 0.61 m²	Front: 2.7 ft² Side: 6.6 ft²
Wind load @ 161 km/hr (100 mph)	Front: 415 N Side: 878 N	Front: 93 lbf Side: 198 lbf

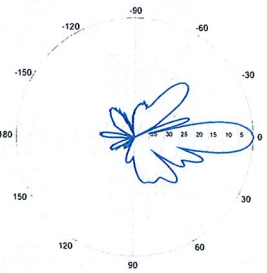
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit (0-20°)	21700000	50-102 mm 2.0-4.0 in	11 kg 25 lbs
Lock-Down Brace	If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in.		

LPA-80080-6CF-EDIN-X



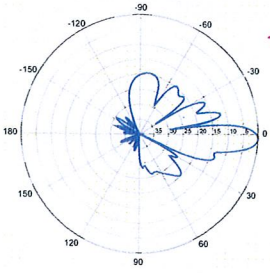
Horizontal | 750 MHz

LPA-80080-6CF-EDIN-0



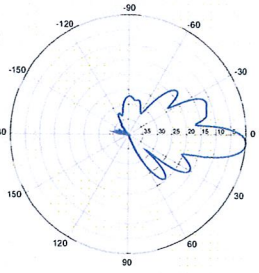
0° | Vertical

LPA-80080-6CF-EDIN-2



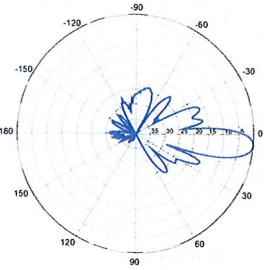
2° | Vertical

LPA-80080-6CF-EDIN-4



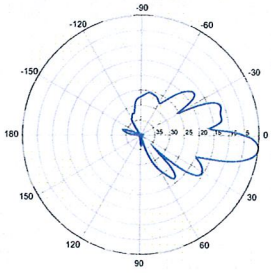
4° | Vertical

LPA-80080-6CF-EDIN-5



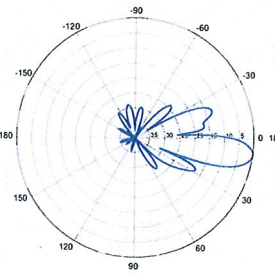
5° | Vertical

LPA-80080-6CF-EDIN-6



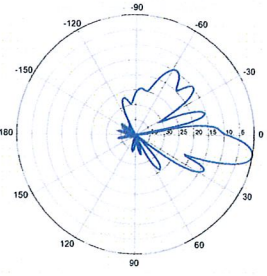
6° | Vertical

LPA-80080-6CF-EDIN-8



8° | Vertical

LPA-80080-6CF-EDIN-10



10° | Vertical

BXA-171085-12BF-EDIN-X

Replace "X" with desired electrical downtilt

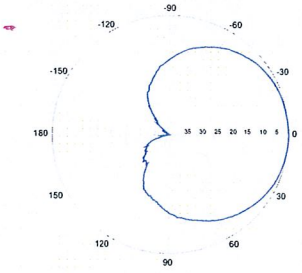
X-Pol | FET Panel | 85° | 18.0 dBi

Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	88°	85°	80°
Vertical beamwidth	4.5°	4.5°	4.5°
Gain	15.1 dBd / 17.2 dBi	15.5 dBd / 17.6 dBi	15.9 dBd / 18.0 dBi
Electrical downtilt (X)	0, 2, 4		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back ratio	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		

Mechanical Characteristics		
Dimensions Length x Width x Depth	1820 x 154 x 105 mm	71.7 x 6.1 x 4.1 in
Depth with z-brackets	133 mm	5.2 in
Weight without mounting brackets	6.8 kg	15 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.28 m² Side: 0.19 m²	Front: 3.1 ft² Side: 2.1 ft²
Wind load @ 161 km/hr (100 mph)	Front: 460 N Side: 304 N	Front: 103 lbf Side: 68 lbf

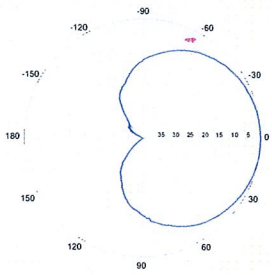
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171085-12BF-EDIN-X-FP		

BXA-171085-12BF-EDIN-X



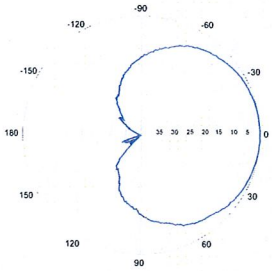
Horizontal | 1710-1880 MHz

BXA-171085-12BF-EDIN-X



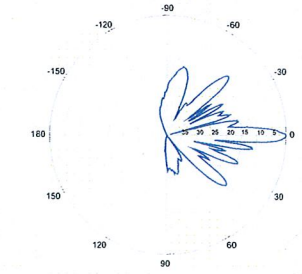
Horizontal | 1850-1990 MHz

BXA-171085-12BF-EDIN-X



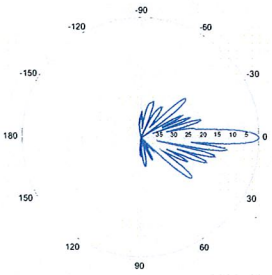
Horizontal | 1920-2170 MHz

BXA-171085-12BF-EDIN-0



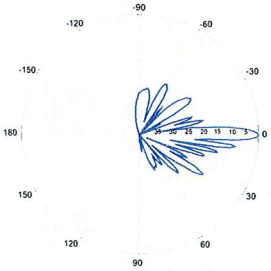
0° | Vertical | 1710-1880 MHz

BXA-171085-12BF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171085-12BF-EDIN-0



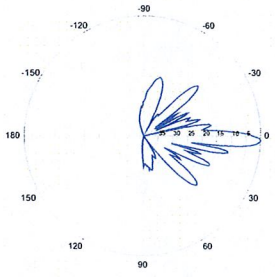
0° | Vertical | 1920-2170 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

BXA-171085-12BF-EDIN-X

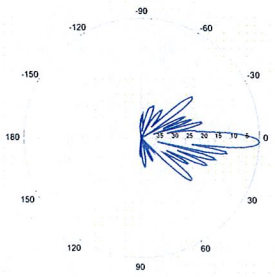
X-Pol | FET Panel | 85° | 18.0 dBi

BXA-171085-12BF-EDIN-2



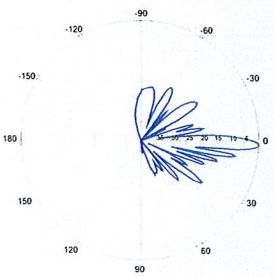
2° | Vertical | 1710-1880 MHz

BXA-171085-12BF-EDIN-2



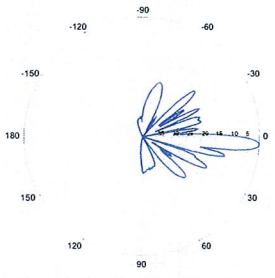
2° | Vertical | 1850-1990 MHz

BXA-171085-12BF-EDIN-2



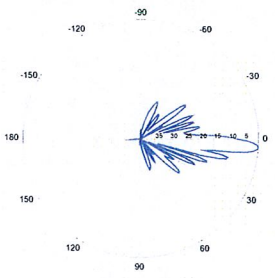
2° | Vertical | 1920-2170 MHz

BXA-171085-12BF-EDIN-4



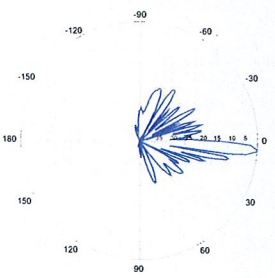
4° | Vertical | 1710-1880 MHz

BXA-171085-12BF-EDIN-4



4° | Vertical | 1850-1990 MHz

BXA-171085-12BF-EDIN-4



4° | Vertical | 1920-2170 MHz

Amphenol ANTENNA SOLUTIONS

BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

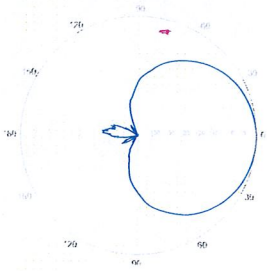
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

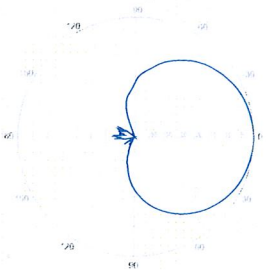
Electrical Characteristics	696-900 MHz	
Frequency bands	696-806 MHz	806-900 MHz
Polarization	±45°	
Horizontal beamwidth	65°	63°
Vertical beamwidth	13°	11°
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10	
Impedance	50Ω	
VSWR	≤1.35:1	
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB
Null fill	5% (-26.02 dB)	
Isolation between ports	< -25 dB	
Input power with EDIN connectors	500 W	
Input power with NE connectors	300 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in
Depth with z-brackets	172 mm	6.8 in
Weight without mounting brackets	7.9 kg	17 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.51 m² Side: 0.24 m²	Front: 5.5 ft² Side: 2.6 ft²
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf

Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X

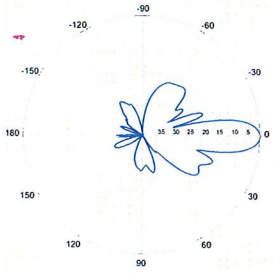


Horizontal | 750 MHz

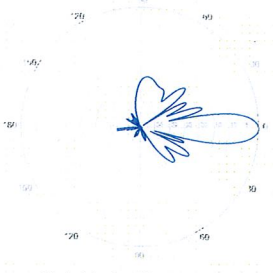


Horizontal | 850 MHz

BXA-70063-6CF-EDIN-0

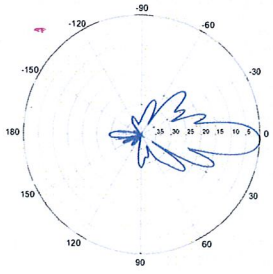


0° | Vertical | 750 MHz

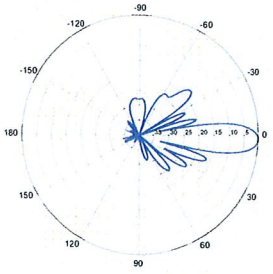


0° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-2



2° | Vertical | 750 MHz



2° | Vertical | 850 MHz

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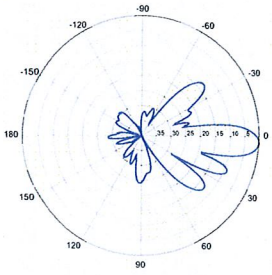
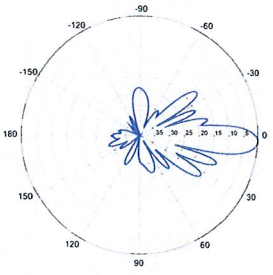
BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3

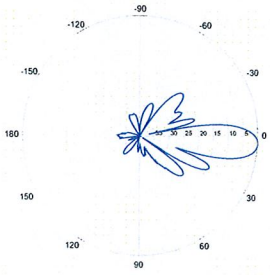


3° | Vertical | 750 MHz

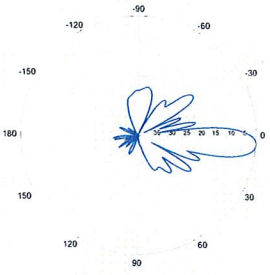


3° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-4

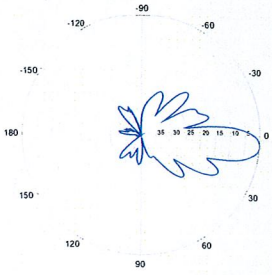


4° | Vertical | 750 MHz

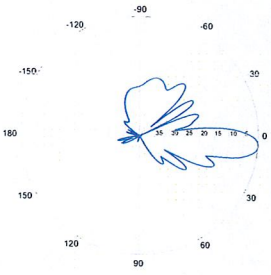


4° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-5

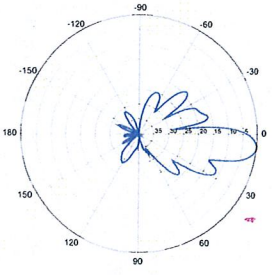


5° | Vertical | 750 MHz

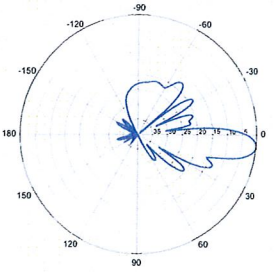


5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6

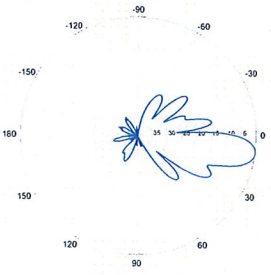


6° | Vertical | 750 MHz

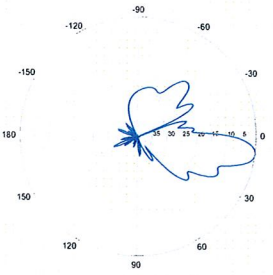


6° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-8

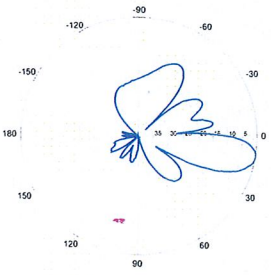


8° | Vertical | 750 MHz

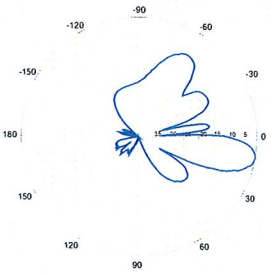


8° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-10



10° | Vertical | 750 MHz



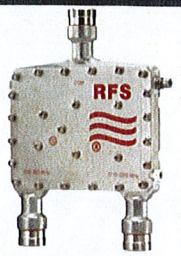
10° | Vertical | 850 MHz

Product Data Sheet **FD9R6004/2C-3L**

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



Features/Benefits

- **LTE ready design**
- **Extremely Low Insertion Loss**
- **High level of Rejection between bands – Protection against interferences**
- **Extremely High Power Handling Capability**
- **Integrated DC block/bypass versions available**
- **Very compact & small size design – Easy installation and reduced tower load**
- **In-line long-neck connectors for easy connection & waterproofing**
- **Exceptional reliability & environmental protection (IP 67)**
- **Equipped with 1 * Breathable Vent – Prevent any humidity inside the product**
- **Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)**
- **Grounding already provided through the mounting bracket**
- **Kit available for easy dual mount**

Technical Specifications

Product Type	Diplexer/Cross Band Coupler
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 57/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

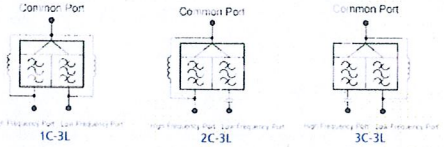
Notes

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

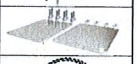
Other Documentation

FD9R6004/2C-3L Installation Instructions: Wideband_Diplexer_Installation_Rev5.pdf

Selection Guide Diplexer 698-960 / 1710-2200MHz					
	Model Number	Full DC Pass	DC Pass High Band	DC Pass Low Band	Mounting Hardware Included
Single	FD9R6004/1C-3L				X
	FD9R6004/2C-3L				X
	FD9R6004/3C-3L				X
Dual	KIT-FD9R6004/1C-DL				X
	KIT-FD9R6004/2C-DL				X
	KIT-FD9R6004/3C-DL				X



The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	Description	
SEM2-1A	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
SEM2-3	Assembly kit for 2 pcs of FD9R6004/xC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
CA020-2	Ground Cable, 2m, includes lugs (Optional)	
CA030-2	Ground Cable, 2m, includes lugs (Optional)	
SEM6	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

	General	Power	Density					
Site Name: Stonington								
Tower Height: Verizon @ 114Ft.								
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*Cingular UMTS	1	500	153	0.0077	880	0.5867	1.31%	
*Cingular GSM	2	427	153	0.0131	1900	1.0000	1.31%	
*Cingular GSM	2	296	153	0.0091	880	0.5867	1.55%	
Verizon PCS	**11**	**262**	**114**	**0.0797**	**1970**	**1.0000**	**7.97%**	
Verizon Cellular	**9**	**265**	**114**	**0.0660**	**869**	**0.5793**	**11.39%**	
Verizon AWS	**1**	**636**	**114**	**0.0176**	**2145**	**1.0000**	**1.76%**	
Verizon 700	**1**	**863**	**114**	**0.0239**	**698**	**0.4653**	**5.13%**	
								30.43%
* Source: Siting Council								

AT&T Towers
5405 Windward Pkwy
Alpharetta, GA 30004
(770) 708-6100

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
Kevin Clements
1117 Perimeter Center West, Suite W303
Atlanta, GA 30338
(678) 781-5061
kclements@gpdgroup.com

GPD# 2012765.12
May 10, 2012

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	Site USID:	65065
	Site FA:	10035004
	Site Name:	STONINGTON
	AT&T Project:	Verizon Modification 4-3-2012
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2003 IBC, ASCE7-05 & 2005 CT BC** **85-mph fastest mile with 0" ice** **38-mph fastest mile with 3/4" ice**
SITE DATA:		**40 Taugwonk Rd Unit 22, Stonington, CT 06378, New London County** **Latitude 41° 22' 58.169" N, Longitude 71° 54' 6.501" W** **150' Monopole**

Ms. Charlotte Malone,

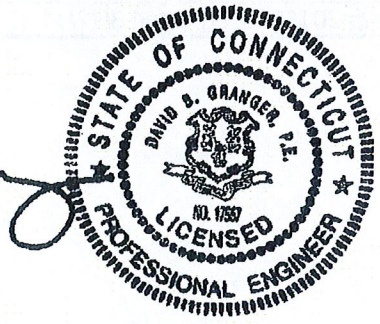
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

Analysis Results

Tower Stress Level with Proposed Equipment:	99.8%	Pass
Foundation Ratio with Proposed Equipment:	53.7%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,



David B. Granger, P.E.
Connecticut #: 17557

SUMMARY & RESULTS

The purpose of this analysis was to verify that the existing structure is capable of carrying the proposed loading configuration as specified by Verizon to AT&T. This report was commissioned by Ms. Charlotte Malone of AT&T.

Modifications designed by GPD Group (Job #: 2011266.17, dated 8/12/11) were considered in this analysis.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	99.8%	Pass
Base Plate	66.5%	Pass
Anchor Bolts	91.2%	Pass
Bridge Stiffeners @ 110'	58.9%	Pass
Foundation	53.7%	Pass

ANALYSIS METHOD

tnxTower (Version 6.0.4.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Verizon Co-location document	Siterra
Site Lease Application	Verizon Application, dated 4/3/12	Siterra
Tower Design	Not Provided	Siterra
Foundation Design	Not Provided	Siterra
Foundation Investigation	WEI Project #: 2011-1385, dated 3/24/11	Siterra
Geotechnical Investigation	WEI Project #: 2011-1385, dated 3/24/11	Siterra
Modification Drawings	SpectraSite Site #: CT-0035, dated 9/17/02	Siterra
Previous Structural Analysis	GPD Group Job #: 2011266.17, dated 8/12/11	Siterra
Tower Mapping	GPD Group & Timberline, dated 7/29/11	Siterra
Post Modification Inspection	GPD Job #: 2011267.87, dated 3/13/12	Siterra
Modification Drawings	GPD Group Job #: 2011266.17, dated 8/12/11	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower shaft sizes and shape are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified. In the case of absent foundation data, it is the tower owner's responsibility to insure that the foundation system is adequate to support the structure with its new reactions.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. All prior structural modifications, if any, are assumed to be as per data supplied/available, to have been properly installed and to be fully effective.
9. All proposed coax/ waveguide are assumed to be internal to the monopole.
10. Tower Mounted Amplifiers are assumed to be installed behind antennas.
11. All existing loading was obtained from the tower mapping by GPD Group & Timberline, dated 7/29/11, site photos, and provided preliminary tower summary and is assumed to be accurate.
12. Foundation steel was not able to be determined through testing. Therefore it was assumed that the foundation steel in place is equal to or in excess of the soil failure criteria in the foundation analysis
13. The AT&T Future coax size and quantity and the DC Unit was assumed based on previously LTE project experience.
14. The existing AT&T loading as found in the tower mapping by GPD Group & Timberline, dated 7/29/11 was found to vary from the Preliminary Tower Summary. The existing AT&T loading is based on the tower mapping.
15. The existing Verizon loading as found in the tower mapping by GPD Group & Timberline, dated 7/29/11 was found to vary from the existing loading listed in the Verizon application. The existing Verizon loading is based on the tower mapping.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD Group has performed a recent site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD Group in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD Group does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD Group provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD Group, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD Group makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD Group will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD Group pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	STONINGTON
Site Number	65065
FA Number	10035004
Date of Analysis	5/10/2012
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	150'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Mapping	WEI Project #: 2011-1385	3/24/2011
Geotech Report	WEI Project #: 2011-1385	3/24/2011
Tower Mapping	GPD Group & Timberline	7/29/2011
Previous Structural Analysis	GPD Group Job #: 2011266.17	8/12/2011
Modification Drawings	GPD Group Job #: 2011266.17	8/12/2011

Design Parameters

Design Code Used	TIA/EIA-222-F, 2003 IBC ASCE7-05 & 2005 CT BC
Location of Tower (County, State)	New London, CT
Basic Wind Speed (mph)	85 (Fastest-mile)
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	99.8%
Anchor Rods (%)	91.2%
Foundation (%)	53.7%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Note: Steel grades based upon previous analysis.

Modifications designed by GPD Group (Job #: 2011266.17, dated 8/12/11) were considered in this analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
AT&T Mobility	150	153	6	Panel	Powerwave	7770.00	23/143/263	1	Unknown	13' Platform w/ rails	12	Unknown	1-5/8"	Internal
AT&T Mobility	150	153	6	TMA	Powerwave	LGP 21401				behind antennas				
AT&T Mobility	150	153	6	TMA	Powerwave	LGP13519				on the same mount				
Verizon	114	114	6	Panel	Swedcom	ALPE 9011	30/150/250	3	Unknown	12' T-Arms	12	Unknown	1-1/4"	Internal
Verizon	114	114	6	Panel	Andrew	948F85T2E-M	30/150/250			on same mounts				

Note: The existing ALPE 9011 Antennas and existing 948F85T2E-M Antennas at 114' shall be removed prior to the installation of the proposed loading. All other equipment shall remain.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
Verizon	114	114	3	Panel	Antel	BXA-70063-6CF	30/150/250			on existing mounts				
Verizon	114	114	6	Panel	Antel	LPA-80080/6CF	30/150/250			on existing mounts				
Verizon	114	114	3	Panel	Antel	BXA-171085-12BF	30/150/250			on existing mounts				
Verizon	114	114	6	Diplexer	RFS	FD9R6004/2C-3L				behind antennas				

Note: The proposed loading shall be in addition to the remaining existing loading at the same elevation.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Internal/External
AT&T Mobility	150	153	3	Panel	Powerwave	P65-17-XLH-RR	23/143/263			on existing mounts	2	DC Power	7/8"	Internal
AT&T Mobility	150	153	6	RRU	Ericsson	RRUS 11				on existing mounts	1	Fiber	1/2"	Internal
AT&T Mobility	150	153	6	DC Unit	Ericsson	DC6-48-60-18-8F				on existing mounts				

Note: The future loading shall be in addition to the existing loading at the same elevation.

APPENDIX B

tnxTower Output File

tnxTower	Job	Page
	65065 STONINGTON	1 of 6
GPD Group 520 South Main Street, Suite 2531 Akron, OH Phone: (330) 572.2100 FAX: (330) 572.2101	**Project** 2012765.12	**Date** 12:53:51 05/10/12
	Client AT&T Mobility	**Designed by** mmoeller

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in New London County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Area

Description	*Face or Leg*	*Allow Shield*	*Component Type*	*Placement*	*Total Number*		C_AA_A	*Weight*
				ft			ft^2/ft	*plf*
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	150.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
						2" Ice	0.00	0.82
						4" Ice	0.00	0.82
1/2" Fiber Cable	C	No	Inside Pole	150.00 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
						2" Ice	0.00	0.15
						4" Ice	0.00	0.15
7/8" DC Power Cable	C	No	Inside Pole	150.00 - 8.00	2	No Ice	0.00	0.60
						1/2" Ice	0.00	0.60
						1" Ice	0.00	0.60
						2" Ice	0.00	0.60
						4" Ice	0.00	0.60
LDF6-50A (1-1/4 FOAM)	C	No	Inside Pole	114.00 - 8.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
						1" Ice	0.00	0.66
						2" Ice	0.00	0.66
						4" Ice	0.00	0.66
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	20.50 - 0.50	1	No Ice	0.13	0.00
						1/2" Ice	0.25	0.00
						1" Ice	0.37	0.00
						2" Ice	0.62	0.00
						4" Ice	1.12	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	20.50 - 0.50	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	20.50 - 0.50	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	20.50 - 0.50	1	No Ice	0.13	0.00
						1/2" Ice	0.25	0.00
						1" Ice	0.37	0.00
						2" Ice	0.62	0.00
						4" Ice	1.12	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	70.00 - 17.50	1	No Ice	0.13	0.00
						1/2" Ice	0.25	0.00
						1" Ice	0.37	0.00
						2" Ice	0.62	0.00
						4" Ice	1.12	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	70.00 - 17.50	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
7" x 1-1/2" Mod Plate	C	No	CaAa (Out Of Face)	70.00 - 17.50	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
6" x 1.25" Plate	C	No	CaAa (Out Of Face)	110.00 - 70.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
6" x 1.25" Plate	C	No	CaAa (Out Of Face)	110.00 - 70.00	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
6" x 1.25" Plate	C	No	CaAa (Out Of Face)	110.00 - 70.00	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
4" x 1-1/4" Mod Plate	C	No	CaAa (Out Of Face)	120.00 - 110.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
4" x 1-1/4" Mod Plate	C	No	CaAa (Out Of Face)	120.00 - 110.00	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00
4" x 1-1/4" Mod Plate	C	No	CaAa (Out Of Face)	120.00 - 110.00	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
						2" Ice	0.00	0.00
						4" Ice	0.00	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
10'-8" Central Platform w/ 42" tower extension	C	None		0.0000	150.00	No Ice	37.47	37.47	2000.00
						1/2" Ice	44.23	44.23	2040.00
						1" Ice	50.99	50.99	2480.00
						2" Ice	64.51	64.51	3360.00
						4" Ice	91.55	91.55	5120.00
P65-17-XLH-RR w/ 2"x78" Mount Pipe	A	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	11.47	8.34	93.73
						1/2" Ice	12.08	9.54	170.35
						1" Ice	12.71	10.53	260.07
						2" Ice	14.07	12.56	470.26
						4" Ice	17.08	16.82	1046.24
(2) 7770.00 w/ 6' Mount Pipe	A	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	6.22	4.35	60.90
						1/2" Ice	6.77	5.20	106.99
						1" Ice	7.30	5.92	163.01
						2" Ice	8.38	7.41	297.01
						4" Ice	10.69	10.76	683.74
(2) LGP21401	A	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	0.00	0.23	10.00
						1/2" Ice	0.00	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
(2) LGP13519	A	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	0.34	0.21	5.30
						1/2" Ice	0.42	0.28	8.02
						1" Ice	0.51	0.36	11.91
						2" Ice	0.73	0.55	23.96
						4" Ice	1.25	1.03	70.63
(2) RRUS 11	A	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	2.94	1.25	55.00
						1/2" Ice	3.17	1.41	74.32
						1" Ice	3.41	1.59	96.56
						2" Ice	3.91	1.96	150.56
						4" Ice	5.02	2.82	302.12
P65-17-XLH-RR w/ 2"x78" Mount Pipe	B	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	11.47	8.34	93.73
						1/2" Ice	12.08	9.54	170.35
						1" Ice	12.71	10.53	260.07
						2" Ice	14.07	12.56	470.26
						4" Ice	17.08	16.82	1046.24
(2) 7770.00 w/ 6' Mount Pipe	B	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	6.22	4.35	60.90
						1/2" Ice	6.77	5.20	106.99
						1" Ice	7.30	5.92	163.01
						2" Ice	8.38	7.41	297.01
						4" Ice	10.69	10.76	683.74
(2) LGP21401	B	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	0.00	0.23	10.00
						1/2" Ice	0.00	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
(2) LGP13519	B	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	0.34	0.21	5.30
						1/2" Ice	0.42	0.28	8.02
						1" Ice	0.51	0.36	11.91
						2" Ice	0.73	0.55	23.96
						4" Ice	1.25	1.03	70.63
(2) RRUS 11	B	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice	2.94	1.25	55.00
						1/2" Ice	3.17	1.41	74.32
						1" Ice	3.41	1.59	96.56
						2" Ice	3.91	1.96	150.56

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						4" Ice	5.02	2.82	302.12
DC6-48-60-18-8F Surge Suppression Unit	B	From Centroid-Leg	4.00 0.00 0.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.47 1.67 1.88 2.33 3.38	1.47 1.67 1.88 2.33 3.38	32.80 50.52 70.72 119.24 252.92
P65-17-XLH-RR w/ 2"x78" Mount Pipe	C	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.47 12.08 12.71 14.07 17.08	8.34 9.54 10.53 12.56 16.82	93.73 170.35 260.07 470.26 1046.24
(2) 7770.00 w/ 6' Mount Pipe	C	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.22 6.77 7.30 8.38 10.69	4.35 5.20 5.92 7.41 10.76	60.90 106.99 163.01 297.01 683.74
(2) LGP21401	C	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.00 0.00 1.61 1.97 2.79	0.23 0.31 0.40 0.61 1.12	10.00 21.26 30.32 54.89 135.29
(2) LGP13519	C	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.34 0.42 0.51 0.73 1.25	0.21 0.28 0.36 0.55 1.03	5.30 8.02 11.91 23.96 70.63
(2) RRUS 11	C	From Centroid-Leg	4.00 0.00 3.00	23.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.94 3.17 3.41 3.91 5.02	1.25 1.41 1.59 1.96 2.82	55.00 74.32 96.56 150.56 302.12
Sabre 12' T-Arm C10-113-021	A	From Leg	1.73 1.00 0.00	30.0000	114.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.28 9.52 11.76 16.24 25.20	3.02 4.20 5.38 7.74 12.46	258.10 330.12 402.14 546.18 834.26
Sabre 12' T-Arm C10-113-021	B	From Leg	1.73 1.00 0.00	30.0000	114.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.28 9.52 11.76 16.24 25.20	3.02 4.20 5.38 7.74 12.46	258.10 330.12 402.14 546.18 834.26
Sabre 12' T-Arm C10-113-021	C	From Leg	1.97 0.35 0.00	10.0000	114.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.28 9.52 11.76 16.24 25.20	3.02 4.20 5.38 7.74 12.46	258.10 330.12 402.14 546.18 834.26
(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	3.46 2.00 0.00	30.0000	114.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.35 4.79 5.25 6.17 8.11	10.51 11.56 12.49 14.40 18.43	42.90 104.60 177.42 348.65 824.28
BXA-70063-6CF w/ Mount Pipe	A	From Leg	3.46 2.00 0.00	30.0000	114.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.73 8.27 8.81 9.93 12.27	5.49 6.23 6.99 8.55 11.97	45.95 102.49 168.09 325.39 762.05
BXA-171085-12BF w/	A	From Leg	3.46	30.0000	114.00	No Ice	4.74	5.30	49.74

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Mount Pipe			2.00			1/2" Ice	5.19	6.10	93.74
			0.00			1" Ice	5.64	6.91	146.98
						2" Ice	6.58	8.59	279.63
						4" Ice	8.58	12.14	668.98
(2) FD9R6004/2C-3L	A	From Leg	3.46	30.0000	114.00	No Ice	0.00	0.08	3.10
			2.00			1/2" Ice	0.00	0.14	5.40
			0.00			1" Ice	0.54	0.20	8.79
						2" Ice	0.75	0.34	19.61
						4" Ice	1.28	0.74	62.87
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	3.46	30.0000	114.00	No Ice	4.35	10.51	42.90
			2.00			1/2" Ice	4.79	11.56	104.60
			0.00			1" Ice	5.25	12.49	177.42
						2" Ice	6.17	14.40	348.65
						4" Ice	8.11	18.43	824.28
BXA-70063-6CF w/ Mount Pipe	B	From Leg	3.46	30.0000	114.00	No Ice	7.73	5.49	45.95
			2.00			1/2" Ice	8.27	6.23	102.49
			0.00			1" Ice	8.81	6.99	168.09
						2" Ice	9.93	8.55	325.39
						4" Ice	12.27	11.97	762.05
BXA-171085-12BF w/ Mount Pipe	B	From Leg	3.46	30.0000	114.00	No Ice	4.74	5.30	49.74
			2.00			1/2" Ice	5.19	6.10	93.74
			0.00			1" Ice	5.64	6.91	146.98
						2" Ice	6.58	8.59	279.63
						4" Ice	8.58	12.14	668.98
(2) FD9R6004/2C-3L	B	From Leg	3.46	30.0000	114.00	No Ice	0.00	0.08	3.10
			2.00			1/2" Ice	0.00	0.14	5.40
			0.00			1" Ice	0.54	0.20	8.79
						2" Ice	0.75	0.34	19.61
						4" Ice	1.28	0.74	62.87
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	3.46	30.0000	114.00	No Ice	4.35	10.51	42.90
			2.00			1/2" Ice	4.79	11.56	104.60
			0.00			1" Ice	5.25	12.49	177.42
						2" Ice	6.17	14.40	348.65
						4" Ice	8.11	18.43	824.28
BXA-70063-6CF w/ Mount Pipe	C	From Leg	3.46	30.0000	114.00	No Ice	7.73	5.49	45.95
			2.00			1/2" Ice	8.27	6.23	102.49
			0.00			1" Ice	8.81	6.99	168.09
						2" Ice	9.93	8.55	325.39
						4" Ice	12.27	11.97	762.05
BXA-171085-12BF w/ Mount Pipe	C	From Leg	3.46	30.0000	114.00	No Ice	4.74	5.30	49.74
			2.00			1/2" Ice	5.19	6.10	93.74
			0.00			1" Ice	5.64	6.91	146.98
						2" Ice	6.58	8.59	279.63
						4" Ice	8.58	12.14	668.98
(2) FD9R6004/2C-3L	C	From Leg	3.46	30.0000	114.00	No Ice	0.00	0.08	3.10
			2.00			1/2" Ice	0.00	0.14	5.40
			0.00			1" Ice	0.54	0.20	8.79
						2" Ice	0.75	0.34	19.61
						4" Ice	1.28	0.74	62.87

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	10'-8" Central Platform w/ 42" tower extension	34	40.235	2.7902	0.0040	8625
114.00	Sabre 12' T-Arm C10-113-021	34	22.135	1.8927	0.0009	2389

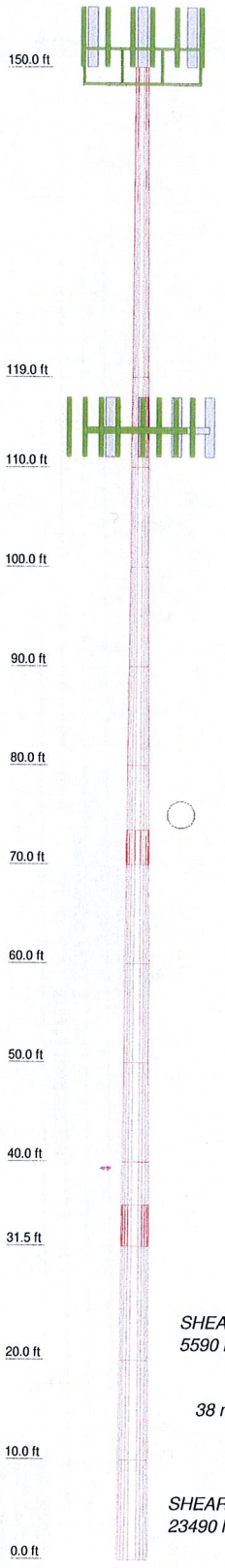
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	150 - 119	Pole	TP19.84x15x0.1875	1	-3742.24	616836.39	93.6	Pass
L2	119 - 110	Pole	TP21.25x19.84x0.454	2	-5702.27	*	85.5	Pass
L3	110 - 100	Pole	TP22.84x21.25x0.632	3	-7396.09	*	68.2	Pass
L4	100 - 90	Pole	TP24.43x22.84x0.6	4	-9151.35	*	82.0	Pass
L5	90 - 80	Pole	TP26.02x24.43x0.573	5	-10971.10	*	94.3	Pass
L6	80 - 70	Pole	TP27.61x26.02x0.549	6	-12180.60	*	98.8	Pass
L7	70 - 60	Pole	TP29.03x25.9555x0.726	7	-15984.90	*	84.9	Pass
L8	60 - 50	Pole	TP30.46x29.03x0.701	8	-18521.90	*	92.6	Pass
L9	50 - 40	Pole	TP31.888x30.46x0.679	9	-21120.00	*	99.6	Pass
L10	40 - 31.5	Pole	TP33.1x31.888x0.662	10	-22259.50	*	99.8	Pass
L11	31.5 - 20	Pole	TP34.266x31.1814x0.714	11	-24367.60	*	91.2	Pass
L12	20 - 10	Pole	TP35.823x34.266x0.807	12	-31059.30	*	94.7	Pass
L13	10 - 0	Pole	TP37.38x35.823x0.785	13	-34348.90	*	98.4	Pass
							Summary	
						Pole (L10)	99.8	Pass
						RATING =	**99.8**	**Pass**

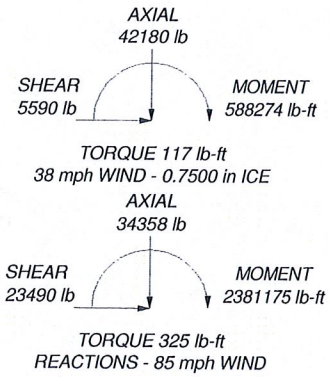
*See Appendix F – Pole Reinforcement Calculations.

APPENDIX C

Tower Elevation Drawing



Section	13	12	11	10	9	8	7	6	5	4	3	2	1
Length (ft)	10.00	10.00	15.67	8.50	10.00	10.00	13.50	10.00	10.00	10.00	10.00	9.00	31.00
Number of Sides	12	12	12	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.7850	0.8070	0.7140	0.6620	0.6790	0.7010	0.7260	0.5490	0.5730	0.6000	0.6320	0.4540	0.1875
Socket Length (ft)				4.17				3.50					
Top Dia (in)	35.8230	34.2660	31.1814	31.8880	30.4600	29.0300	25.9555	26.0200	24.4300	22.8400	21.2500	19.8400	15.0000
Bot Dia (in)	37.3800	35.8230	34.2660	33.1000	31.8880	30.4600	29.0300	27.6100	26.0200	24.4300	22.8400	21.2500	19.8400
Grade								A572-65					
Weight (lb)	3080.7	3027.4	3924.1	1962.6	2268.8	2230.8	2874.5	1580.0	1547.7	1514.4	1482.8	899.5	1097.5
Total Weight	27490.7												



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
10'-8" Central Platform w/ 42" tower extension	150	(2) LGP13519	150
		(2) RRUS 11	150
P65-17-XLH-RR w/ 2"x78" Mount Pipe	150	Sabre 12' T-Arm C10-113-021	114
(2) 7770.00 w/ 6' Mount Pipe	150	Sabre 12' T-Arm C10-113-021	114
(2) LGP21401	150	Sabre 12' T-Arm C10-113-021	114
(2) LGP13519	150	(2) LPA-80080/6CF w/ Mount Pipe	114
(2) RRUS 11	150	BXA-70063-6CF w/ Mount Pipe	114
P65-17-XLH-RR w/ 2"x78" Mount Pipe	150	BXA-171085-12BF w/ Mount Pipe	114
(2) 7770.00 w/ 6' Mount Pipe	150	(2) FD9R6004/2C-3L	114
(2) LGP21401	150	(2) LPA-80080/6CF w/ Mount Pipe	114
(2) LGP13519	150	BXA-70063-6CF w/ Mount Pipe	114
(2) RRUS 11	150	BXA-171085-12BF w/ Mount Pipe	114
DC6-48-60-18-8F Surge Suppression Unit	150	(2) FD9R6004/2C-3L	114
P65-17-XLH-RR w/ 2"x78" Mount Pipe	150	(2) LPA-80080/6CF w/ Mount Pipe	114
(2) 7770.00 w/ 6' Mount Pipe	150	BXA-70063-6CF w/ Mount Pipe	114
(2) LGP21401	150	BXA-171085-12BF w/ Mount Pipe	114
		(2) FD9R6004/2C-3L	114

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. Tower Rating: 99.8%

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Akron, OH
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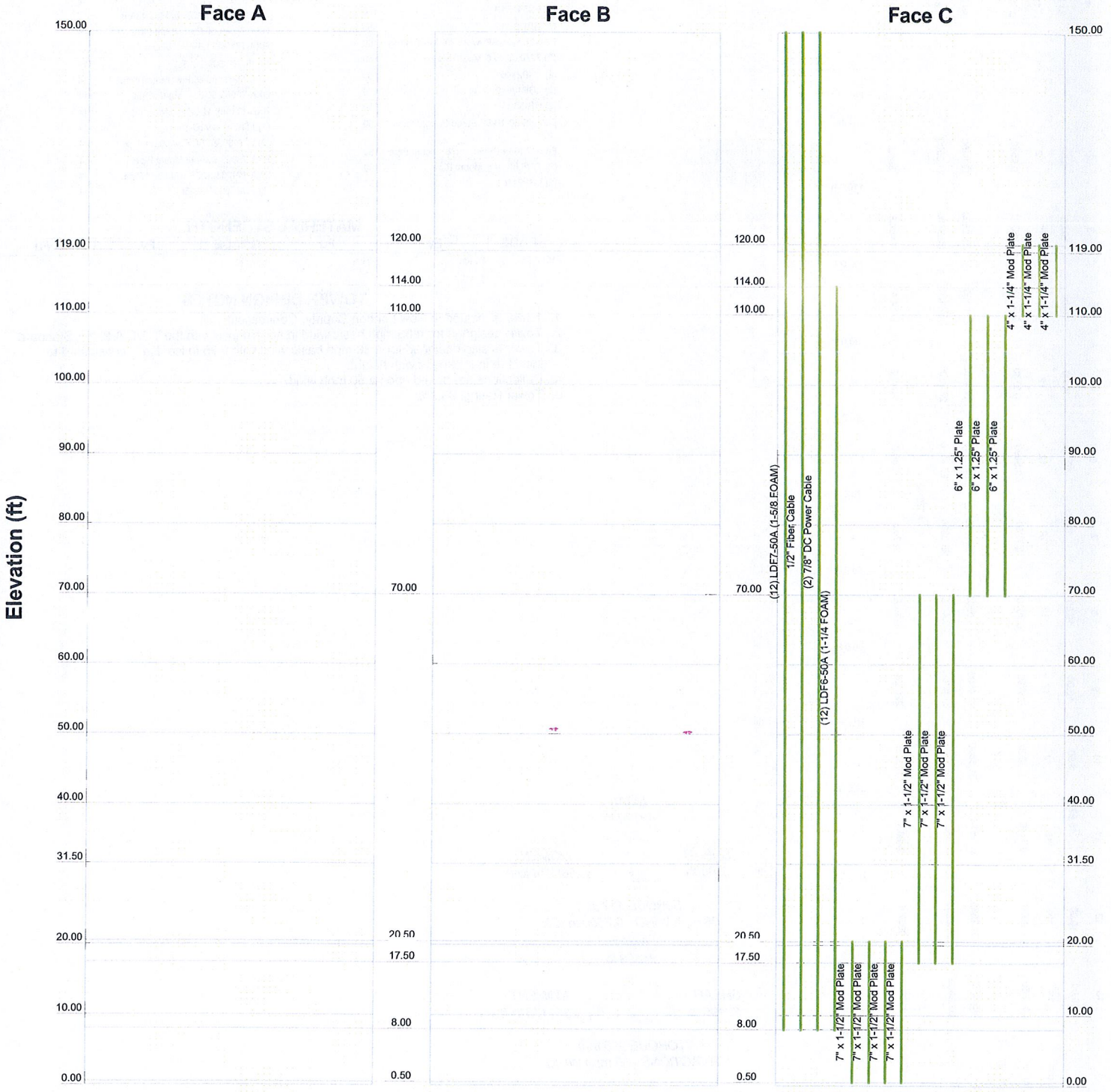
Job: *65065 STONINGTON*			
Project: *2012765.12*			
Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
Code: TIA/EIA-222-F	Date: 05/10/12	Scale: NTS	
Path: O:\2012\2012765\12\TNX\65065.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 150'

Round | Flat | App In Face | App Out Face | Truss Leg



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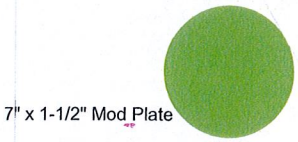
Project: *2012765.12*			
Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
Code: TIA/EIA-222-F	Date: 05/10/12	Scale: NTS	
Path: O:\2012\2012765\12\TNX\65065.eri		Dwg No. E-7	

Feedline Plan
10'

Round _____ Flat _____ App In Face _____ App Out Face _____

Section @ 10'



7" x 1-1/2" Mod Plate

(12) LDF7-50A (1-5/8 FOAM)

(12) LDF6-50A (1-1/4 FOAM)
(2) 7/8" DC Power Cable
1/2" Fi[illegible] Cable

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Job: ***65065 STONINGTON***			
Project: ***2012765.12***			
Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
Code: TIA/EIA-222-F	Date: 05/10/12	Scale: NTS	
Path: O:\2012\2012765\12\TNX\65065.eri		Dwg No. E-7	

APPENDIX D

Anchor Bolt and Base Plate Analysis

520 South Main Street • Suite 2531 • Akron, Ohio 44311• PHONE 330-572-2100 • FAX 330-572-2101

GPD GROUP

Engineers • Architects • Planners

Job 2012264.02

Sheet No 1 Of 1

Calculated By: MM Date: 5/10/2012

Checked By: Date: 5/10/2012

EIA/TIA-222-F

ANCHOR ROD CALCULATIONS

AISF 1.33

Moment from TNX (M) =	2381 kip-ft		
Axial from TNX (A) =	34.358 kip		
Shear from TNX (V)=	23.49 kip		
		Grade	A615-J
Existing Bolt Diameter	2.250 in.	Bolt Circle (BC_{ex}) =	44 in.
Net Tensile Area (A_{ex}) =	3.250 $in.^2$	Fy	75 ksi
Number Existing Bolts (E)	8	Fu	100 ksi
		Grade	A615-J
Modified Bolt Diameter	1.250 in.	Bolt Circle (BC_{mod1}) =	44 in.
Net Tensile Area (A_{m1})	0.969 $in.^2$	Fy	75 ksi
Number Modiefied Bolts (M1)	8	Fu	100 ksi
		Grade	F1554-105
Modified Bolt Diameter	1.500 in.	Bolt Circle (BC_{mod2}) =	49.25 in.
Modified Bolt Area (A_{m2})=	1.767 $in.^2$	Fy	105 ksi
Number Modiefied Bolts (M2)	8	Fu	125 ksi

I_{ex} =	7697.69 $in.^4$	$(E*A_{ex}*BC_{ex}^2/8)$
I_{mod1} =	2375.83 $in.^4$	$(M1*A_{mod1}*BC_{mod1}^2/8)$
I_{mod2} =	4286.32 $in.^4$	$(M2*A_{mod2}*BC_{mod2}^2/8)$
I_{total} =	14359.84 $in.^4$	

f_{ex} =	174.06 kips	$(E*(BC_{ex}/2)*A_{ex})/I_{total)}$
f_{mod1} =	53.72 kips	$(M1*(BC_{mod1}/2)*A_{mod1})/I_{total)}$
f_{mod2}=	86.59 kips	$(M2*(BC_{mod2}/2)*A_{mod2})/I_{total)}$
V_{uex}=	1.59 kips	$V*(A_{ex})/(A_{ex}*E+A_{mod1}*M1+A_{mod2}*M2)$
V_{umod1}=	0.48 kips	$V*(A_{mod1})/(Aex*E+Amod1*M1+A_{mod}2*M2)$
V_{umod2}=	0.87 kips	$V*(A_{mod2})/(Aex*E+Amod1*M1+A_{mod}2*M2)$
Ax_{ex}=	2.33 kips	$A*(A_{ex})/(A_{ex}*E+A_{mod1}*M1+A_{mod2}*M2)$
Ax_{mod1}=	0.70 kips	$A*(A_{mod1})/(A_{ex}*E+A_{mod1}*M1+A_{mod2}*M2)$
Ax_{mod2}=	1.27 kips	$A*(A_{mod2})/(A_{ex}*E+A_{mod1}*M1+A_{mod2}*M2)$

F_{ex}=	171.73 kips	[(E*(BCex/2)*Aex)/Itotal)] - [A*(Aex)/(Aex*E+Amod1*M1+Amod2*M2)]
F_{mod1}=	53.03 kips	[(M1*(BCmod1/2)*Amod1)/Itotal)] - [A*(Amod1)/(Aex*E+Amod1*M1+Amod2*M2)]
F_{mod2}=	85.32 kips	[(M2*(BCmod2/2)*Amod2)/Itotal)] - [A*(Amod2)/(Aex*E+Amod1*M1+Amod2*M2)]

Allowable Tension Existing Rods (f_{tex})=	195.00 kips	
Allowable Tension Modification Rods 1 (f_{tmod1})=	58.14 kips	
Allowable Tension Modification Rods 2 (f_{tmod2})=	97.19 kips	

Existing Rod Rating=	88.1%	OK
Modification Rod 1 Rating=	91.2%	OK
Modification Rod 2 Rating=	87.8%	OK

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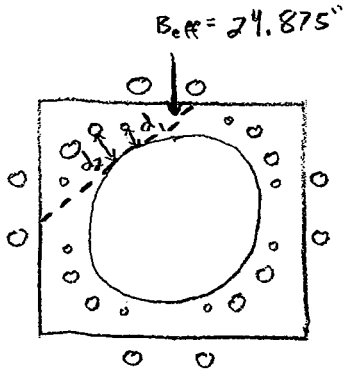
Job 2012765.12 Calculated By: MM Date:

Sheet No. 1 Of 1 Checked By: Date:

Base Plate Check

$I_{tot} = 14395.5\ in^4$ (Bolts)
$A_{tot} = 55.763\ in^2$



Force in Rods

2 1/4" : $F_{ex} = 171.73^k$

1 1/4" : $F_{mod_1} = 53.08^k$

$d_1 = 1.6875"$
$d_2 = 3.125"$

$M_{plate} = 171.73^k (3.125\ in)(2) + 53.08^k (1.6875")(2) = 1252.46\ k\text{-}in$

Plate Stress $= 6 M_{plate} / B_{eff}\, t^2 = 6(1252.46\ k\text{-}in)/24.875\ in(2.75\ in)^2$
$= 39.9\ ksi$

Allowable Plate Stress $= \left(\frac{4}{3}\right) \cdot 0.75 \cdot 60\ ksi = 60\ ksi$

Capacity $= 39.9\ ksi / 60\ ksi = 66.5\%$ OK

APPENDIX E

Bridge Stiffener Calculations

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Job #: 2012765.12
Sheet No 1 Of 1

Calculated By: MM Date: 5/10/2012
Checked By: Date:

BOLT AND BRIDGE STIFFENER CALCULATIONS @ 110'

Moment from RISA (M) =	324.12	kip-ft	ASIF =	1.33			
Axial from RISA (P) =	5.7	kip					
Inner Bolt Diameter =	1	in					
Inner Bolt Area (A_{inner}) =	0.79	in^2	Inner Bolt Circle (BC_{inner}) =	25.75	in		
Inner Bolt MOI ($I_{o.inner}$) =	0.05	in^4	Total Area ($A_{tot.in}$) =	9.42	in^2		
Number Inner Bolts (N_{inner}) =	12		Percent Total Area (η_{in}) =	38.6%		Axial, Inner Bolts ($P*\eta_{in}$) =	2.20 kips
Bridge Stiffener Width =	4.00	in					
Bridge Stiffener Thickness =	1.25	in					
Bridge Stiffener Unbraced Length =	12.00	in					
Bridge Stiffener Area (A_{pl}) =	5.00	in^2	Bridge Stiffener Circle (BC_{pl}) =	32.5	in		
Bridge Stiffener MOI (I_o) =	6.67	in^4	Total Area ($A_{tot.pl}$) =	15.00	in^2		
Number Bridge Stiffeners (N_{pl})	3		Percent Total Area (η_{pl}) =	61.4%		Axial, Bridge Stiffener ($P*\eta_{pl}$) =	3.50 kips

I_{inner} =	781.74	$in.^4$	$(N_{inner}*A_{inner}*BC_{inner}^2/8+N_{inner}*I_{o.inner})$
I_{pl} =	2000.47	$in.^4$	$(N_{pl}*A_{pl}*BC_{pl}^2/8+N_{pl}*I_{o.pl})$
I_{tot} =	2782.21	$in.^4$	$(I_{inner} + I_{outer} + I_{pl})$
F_{inner} =	14.3	kips	$(M*(BC_{inner}/2)*A_{inner})/I_{total} + P*\eta_{in}/N_{inner})$
F_{pl} =	114.8	kips	$(M*(BC_{pl}/2)*A_{pl})/I_{total} + P*\eta_{pl}/N_{pl})$

f_y =	50	ksi
E =	29000	ksi
K =	1.0	
KL/r =	10.392	
C_c =	107.00	
$F_{a.pl}$ =	29.22	ksi
$F_{allow.pl}$ =	194.81	kips
Bridge Stiffener Rating =	58.9%	OK

APPENDIX F

Pole Reinforcement Calculations

GPD GROUP

Reinforced Monopole Analysis
65065 STONINGTON
2012765.12

Code =	TIA/EIA-222-F
AISF=	1.333
Max Stress Ratio=	1
# of Sides =	12

Geometry									Reactions				Output	Capacities		
Shape	Quantity	Section	Elevation (ft)	Pole Flat-Flat (in)	Wall t (in)	Fy (ksi)	K	Conn.Spacing (in)	Moment (k-ft)	Axial (k)	Shear (k)	Torsion (k-ft)	Equivalent t (in)	Pole	Reinforcment	Pass/Fail
Plate 4x1.25	3	L2	110	21.25	0.1875	65	0.8	18	324.11917	5.70227	13.4216	0.33908	0.454	49.4%	85.5%	Pass
Plate 6x1.25	3	L3	100	22.84	0.25	65	0.8	18	463.30667	7.39609	14.4293	0.32821	0.632	44.7%	68.2%	Pass
Plate 6x1.25	3	L4	90	24.43	0.25	65	0.8	18	612.565	9.15135	15.436	0.31684	0.600	54.0%	82.0%	Pass
Plate 6x1.25	3	L5	80	26.02	0.25	65	0.8	18	771.8275	10.9711	16.4315	0.30507	0.573	62.3%	94.3%	Pass
Plate 6x1.25	3	L6	70	27.61	0.25	65	0.8	18	880.64167	12.1806	17.0627	0.29738	0.549	65.4%	98.8%	Pass
Plate 7x1.5	3	L7	60	29.03	0.3125	65	0.8	18	1120.4167	15.9849	18.4242	0.28526	0.726	57.9%	84.9%	Pass
Plate 7x1.5	3	L8	50	30.46	0.3125	65	0.8	18	1309.225	18.5219	19.3533	0.27787	0.701	63.2%	92.6%	Pass
Plate 7x1.5	3	L9	40	31.888	0.3125	65	0.8	18	1507.0167	21.12	20.2233	0.27056	0.679	68.2%	99.6%	Pass
Plate 7x1.5	3	L10	31.5	33.1	0.3125	65	0.8	18	1595.2917	22.2595	20.5711	0.26754	0.662	68.5%	99.8%	Pass
Plate 7x1.5	3	L11	20	34.266	0.375	65	0.8	18	1681.8667	24.3676	21.0515	0.26381	0.714	62.7%	91.2%	Pass
Plate 7x1.5	4	L12	10	35.823	0.375	65	0.8	18	2150.375	31.0593	22.6817	0.24019	0.807	65.3%	94.7%	Pass
Plate 7x1.5	4	L13	0	37.38	0.375	65	0.8	18	2381.175	34.3489	23.5029	0.22544	0.785	68.0%	98.4%	Pass

GPD Modified Monopole Analysis - V1.00

APPENDIX G

Foundation Analysis

GPD GROUP

Mat Foundation Analysis
65065 STONINGTON
2012765.12

General Info	
Code	TIA/EIA-222-F (ASD)
Bearing On	Rock
Foundation Type	Mono Pad
Pier Type	Square
Reinforcing Known	No
Max Capacity	1

Tower Reactions		
Moment, M	2381.175	k-ft
Axial, P	34.358	k
Shear, V	23.49	k

Pad & Pier Geometry		
Pier Width, ø	6	ft
Pad Length, L	22	ft
Pad Width, W	22	ft
Pad Thickness, t	3.5	ft
Depth, D	8	ft
Height Above Grade, HG	1	ft

Pad & Pier Reinforcing		
Rebar Fy	60	ksi
Concrete Fc'	3	ksi
Clear Cover	3	in
Reinforced Top & Bottom?	No	
Pad Reinforcing Size		
Pad Quantity Per Layer		
Pier Rebar Size	# 9	
Pier Quantity of Rebar	48	

Soil Properties		
Soil Type	Granular	
Soil Unit Weight	120	pcf
Angle of Friction, ø	38	°
Bearing Type	Net	
Ultimate Bearing	30	ksf
Water Table Depth	n/a	ft
Frost Depth	3.333	ft

Bearing Summary			Load Case
Qxmax	2.40	ksf	1D+1W
Qymax	2.40	ksf	1D+1W
Qmax @ 45°	2.99	ksf	1D+1W
$Q_{(all)\ Gross}$	15.48	ksf	
Controlling Capacity	**19.3%**	**Pass**	

Overturning Summary (Required FS=1.5)			Load Case
FS(ot)x	2.79	≥1.5	1D+1W
FS(ot)y	2.79	≥1.5	1D+1W
Controlling Capacity	**53.7%**	**Pass**