



Crown Castle
3530 Toringdon Way Suite 300
Charlotte NC 28277

Jerry Feathers
Tel (704) 405-6549
Fax (724) 416-6484
Email: Jerry.feathers.contractor@crowncastle.com

October 28, 2015

Melanie A. Bachman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: T-Mobile-Exempt Modification - EM-T-MOBILE-155-14117; Crown : 829013
T-Mobile Site ID: CT1178D
Located at: 467 South Quaker Lane, West Hartford, CT 06110

Dear Ms. Bachman:

This letter is to confirm that all construction activity has been completed. Pursuant to the Connecticut Siting Council approval of **EM-T-MOBILE-155-14117**, this letter is to satisfy item number five of the approval letter that the CSC will be notified in writing within 45 days after completion of construction. To satisfy number two of the decision letter Crown is also submitting a PMI document certified by a professional engineer stating the modifications were completed in accordance with the CD's and structural analysis. Page three of the report shows the engineers stamp.

Please contact me if you have any questions.

Sincerely,

Jerry Feathers

Property Specialist
704-405-6549



August 19, 2015



John McGee
Crown Castle
3530 Toringdon Way, STE 300
Charlotte, NC 28277
(980) 209-8253
John.McGee@crowncastle.com

Sinnott Gering and Schmitt Towers, INC
315 West Huron St., STE 120
Ann Arbor, MI 48103
(402) 507-5170
SGS_PMI@sgstowers.com

Subject: Modification Inspection Report

Crown Castle Designation:	Crown Castle BU Number:	829013
	Crown Castle Site Name:	WEST HARTFORD/I-84/X43
	Crown Castle JDE Job Number:	302452

Engineering Firm Designation: **SGS Project Number:**

Site Data: **467 South Quaker Lane (Church of St. Mark)**
West Hartford, CT 06110
N 41° 44' 55.59", W 72° 43' 52.86"
120 Foot Monopole

Dear Mr. McGee,

Sinnott Gering and Schmitt Towers, Inc. (SGS) is pleased to submit this "Modification Inspection Report" (MI Report) to Crown Castle for the modification/reinforcement to the subject structure. This Modification Inspection (MI) was performed in accordance with Crown Castle ENG-SOW-10007 Modification Inspection SOW, Contract Documents, and Crown Castle Purchase Order number 757233. The purpose of this MI is to confirm that the modification installation configuration and workmanship are in accordance with the contract document(s) listed in Table 2. The MI is not a review of the adequacy or effectiveness of the modification/reinforcement solution.

Table 1 – General Information

	Company	Contact	Dates on Site
MI Inspector	SGS	Nicholas J. Schmitt, P.E., S.E.	N/A
MI Inspector Field Representative (if applicable)	SGS	Matt Cialdini	August 12, 2015
<input checked="" type="checkbox"/> Independent <input type="checkbox"/> EOR <input type="checkbox"/> Turnkey			
Modification Design EOR	TEP	Graham Andres, P.E.	N/A
General Contractor	LCC	Keith Stackhouse	Unknown
Sub to the General Contractor	N/A	N/A	N/A
Field CWI for the General Contractor	Allied Testing Laboratories	Christopher Purinton, C.W.I.	March 2 to 4, 2015
Field NDE for the General Contractor			

Table 2 – Documents

Document(s)	Remarks	Source
Modification Drawings Date: 4/23/2015 EOR: Graham Andres, P.E. Job#: 25680.24967 R1	Creator of Drawings: TEP Job #: 25680.24967 R1 Date of Drawings: 4/23/2015	CCI Sites Drawing File: 5650111

Based on our inspection, SGS determines this project:

X PASSING MI

The configuration, materials and/or workmanship of the modifications are installed in accordance with the Contract Documents and no deficiencies were found.

EXECUTIVE SUMMARY

MODIFICATION	CONFIGURATION	MATERIALS	WORKMANSHIP
Modify Existing Foundation.	Passing	Passing	Passing
Note: Different Bonding Agent was Installed than Designed. See Section 6.3.2 for EOR Approval E-Mail.			
Note: Foundation was Installed Different than Designed. See Section 6.1.2 for EOR/ CCI Approval E-Mails.			
Reinforce Existing Base Plate Stiffeners.	Passing	Passing	Passing

All observations were performed after the construction was complete. SGS was not present during the construction phase. The onsite PMI was performed by Matt Cialdini, SGS.

We at SGS appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,



Nick Schmitt, P.E., S.E.

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PRE-CONSTRUCTION

6.1.2 EOR APPROVAL

From: Ryan Rimmele
Sent: Monday, August 17, 2015 3:42 PM
To: Sgs Pmi; Keith_ Stackhouse; McGee, John
Cc: lccmods; CMRP
Subject: RE: West Hartford/I-84/X43 829016 155211 Punch List

All,

Consider this email means of satisfying the EOR Approval MI Checklist item.

The 1.5" increase is acceptable.

Thanks,
Ryan

Ryan Rimmele, P.E., S.E.

Project Engineer | Tower Engineering Professionals, Inc. (www.tepgroup.net)

326 Tryon Road | Raleigh, NC 27603 | Office: (919) 661-6351 ext. 2402 | Fax: (919) 661-6350 | Mobile: (908) 268-3043

From: Keith_ Stackhouse [mailto:keith_stackhouse@lcc.com]
Sent: Monday, August 17, 2015 3:18 PM
To: Ryan Rimmele <rrimmele@tepgroup.net>
Cc: lccmods <lccmods@lcc.com>; McGee, John <John.McGee@crowncastle.com>; SGS_PMI <sgs_nmi@sgstowers.com>
Subject: RE: West Hartford/I-84/X43 829016 155211 Punch List

Hello Ryan,

As per our conversation,

The concrete upgrade is 1.5" larger than illustrated in the SDD's. Could you approve the variance in the concrete?

Thanks,

Keith A. Stackhouse
Structural Construction Manager



LCC Construction Services
2500 Sylon Blvd.
Hainesport, NJ 08036

(Cell) 609-367-6107
keith_stackhouse@lcc.com

From: McGee, John [mailto:John.McGee@crowncastle.com]
Sent: Monday, August 17, 2015 3:08 PM
To: Keith_ Stackhouse; SGS_PMI
Cc: lccmods
Subject: RE: West Hartford/I-84/X43 829016 155211 Punch List

Thanks Keith,

Do you have EOR approval for the foundation pad being 1.5" oversized? I am fine with it but SGS were looking for approval.

SGS are we missing anything else?

Best Regards

John McGee
Project Manager ETA – Structural Modifications
T: (980) 209-8253 | M: (704) 877-8397 | F:(724) 416-4716
john.mcgee@crowncastle.com

CROWN CASTLE
3530 Toringdon Way Suite 300, Charlotte NC, 28277
CrownCastle.com

PUNCH ITEM 3

HEIGHT	FLAT/ARC	PLATE #	PLATE HT START/STOP	DRAWING PG #
Foundation	N/A	N/A	N/A	S-3
DISCREPANCY:				
<p>The drawings call for additional foundation reinforcement equal to 1'-3" on all sides of the existing foundation thus changing the existing foundation dimensions from 6' x 6' to 8'-6" x 8'-6". The lengths of each side of the foundation are as follows:</p> <ul style="list-style-type: none"> - North Side: 8'-7½" - East Side: 8'-7" - South Side: 8'-7½" - West Side: 8'-6" 				
ACTIONS NEEDED BY GC:				
Provide EOR approval for existing conditions.				
PHOTOGRAPHS				

[SGS PMI@Sgstowers.com](mailto:SGS_PMI@Sgstowers.com)

6.1.3 MATERIAL TEST REPORT (MTR)

Re-Steel Supply Co., Inc. 2000 Eddystone Industrial Park Eddystone, PA 15022 Phone: (810)878-8218 FAX: (810)878-9279				JOB NUMBER S5622	RELEASE NUMBER 1	REQ. DELIVERY DATE 7/16/2015	PAGE 1 of 1											
				JOB NAME W.HARTFORD	TAM													
				CUSTOMER LCC														
MATERIAL TYPE Rebar, Grade 60, Black		REFERENCE EDDY		DRAWING ID		DESCRIPTION PO# 414701												
Item	Qty	Size	Length	Mark	Shape	Lbs	A	B	C	D	E	F/R	G	H	J	K	O	BC

CPD
 CONTACT DANIEL 856-206-8661
 \$375.00
 RM

1	40	8	5-09			345													0
	40					345													
2	10	4	32-05	400	12	217	0-042	7-11	7-11	7-11	7-11		0-042						L11
	10					217													

Total Weight: 562 Lbs

Longest Length: 32-05

WEIGHT SUMMARY

SIZE	TOTAL			STRAIGHT			LIGHT BENDING			HEAVY BENDING		
	ITEMS	PIECES	LBS	ITEMS	PIECES	LBS	ITEMS	PIECES	LBS	ITEMS	PIECES	LBS
Rebar, Grade 60, Black												
4	1	10	217	0	0	0	1	10	217	0	0	0
6	1	40	345	1	40	345	0	0	0	0	0	0
	2	50	562	1	40	345	1	10	217	0	0	0

Total Weight: 562 Lbs

Longest Length: 32-05

040 257

6.1.4 NDE REPORT OF MONOPOLE BASE PLATE
See Section 6.2.4 Contractor's Certified Weld Inspection.

6.1.5 PACKING SLIPS

Bill of Lading

Re-Steel Supply Co., Inc.
2000 Eddystone Industrial Park
Eddystone, PA 19022
Phone: (610)876-6216

Bill of Lading #: ED58379
Ship Date: 7/16/2015
Customer: LCC

S W.HARTFORD
H W.HARTFORD
I
P

T
O

Job Number: S5622
Ship Via: CUSTOMER PICKUP
F.O.B.:
Customer P.O.:
Customer Job No:
Contact:
Phone:

Qty Ordered	UM	Description	Weight (Lbs)
562	lbs	Reinforcing Steel Per CC ALT9, Release 1 PO# 414701 Rebar Black	562
Total Weight:			562

Signature: _____

Name: _____

CONSTRUCTION

6.2.1 CONSTRUCTION INSPECTIONS



LCC Construction Services
2500 Sylon Blvd.
Hainesport, NJ 08036
856-810-1658

To: Crown Castle
Subject: Construction inspection
Site: **West Hartford - 829013**

Please be advised that all work was completed per drawings dated 4-25-15 by Tower Engineering Professionals, in accordance with industry standards and contract documents including modification drawings and specifications, state and local regulations, OSHA, and engineering standards. On-site cold galvanizing was applied in accordance with Crown ENG-BUL-10149.

Please let me know if you have any questions.

Thank you,

A handwritten signature in black ink that reads 'Keith A. Stackhouse'.

Keith A. Stackhouse
Structural Construction Manager
LCC Deployment Services

6.2.2 FOUNDATION INSPECTIONS



63-2 North Branford Road
Branford, Connecticut 06405
(203) 488-0580
Fax (203) 488-8587
www.CentekEng.com

FIELD VISIT REPORT

DATE: July 29, 2015 **TIME:** 12:00 PM

TO: LCC Development Services **PHONE:** 609.367.6107
ATTN: Keith Stackhouse **EMAIL:** Keith_stackhouse@lcc.com

PREPARED BY: Erik Armas **PHONE:** 203.488.0580 ext. 144
EMAIL: earmas@centekeng.com

SUBMITTED BY: Carlo F. Centore, PE **PHONE:** 203.488.0580 ext. 122
EMAIL: cfcentore@centekeng.com

CEN TEK NO.: 15133.000





PROJECT NAME: West Hartford/I84/X43

CC: Construction Services of Branford (Adrien Paradis)


The following was observed, discussed, reviewed and/or resolved at the site, which requires action by the Contractor unless noted otherwise. Items shall remain on this ongoing report until resolved to the satisfaction of this office.

072915. 1	Purpose of field visit was to confirm compliance with Crown Castle (Job #829013) Structural Design Drawings Rev. 01 dated 04/23/15 for the drilling of holes for future dowel installation.	
072915. 2	Weather conditions were clear with an afternoon temperature of 87°F. The Contractor was on site during today's inspection.	
072915. 3	All (4) four sides of the existing pier were exposed and confirmed 4'-6" down from top of pier to the base. (Reference S-5 Rev. 1 dated 04/23/15)	

**IF YOU DO NOT RECEIVE ALL PAGES AS NOTED ABOVE,
PLEASE CONTACT OUR OFFICE IMMEDIATELY.
PAGE 1 OF 3**

<p>072915. 4</p>	<p>After being exposed, the existing pier was roughened in preparation for the future concrete placement.</p> <p>(Reference Note 2 on S-5 Rev. 1 dated 04/23/15)</p>	
<p>072915. 5</p>	<p>Forty (40) evenly space holes were drilled around the perimeter of the existing pier accommodating 3" clearance from the future formwork.</p> <p>(Reference S-5 Rev. 1 dated 04/23/15)</p>	
<p>072915. 6</p>	<p>Due to equipment issues, all holes drilled this date did not meet the minimum 1'-8" embedment depth.</p> <p>(Reference S-5 Rev. 1 dated 04/23/15)</p>	
<p>072915. 7</p>	<p>(See note 072915.6 above)</p>	

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PAGE 2 OF 3**

072915. 8	(See note 072915.6 above)	
072915. 9	Drilling will recommence upon receipt of additional equipment and confirmation of no obstructions. Contractor to notify Centek Engineering, Inc. when they are ready to proceed with drilling.	

Prepared by:

Carlo F. Centore, PE (CT PE#16694)
 (type or printed name)


 Signature

07/29/15
 Date



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 PLEASE CONTACT OUR OFFICE IMMEDIATELY.
 PAGE 3 OF 3**

F I E L D V I S I T R E P O R T

DATE: August 6, 2015 **TIME:** 8:30 AM

TO: LCC Development Services **PHONE:** 609.367.6107
ATTN: Keith Stackhouse **EMAIL:** Keith_stackhouse@lcc.com

PREPARED BY: Erik Armas **PHONE:** 203.488.0580 ext. 144
EMAIL: earmas@centekeng.com

SUBMITTED BY: Carlo F. Centore, PE **PHONE:** 203.488.0580 ext. 122
EMAIL: cfcentore@centekeng.com

CEN TEK NO.: 15133.000





PROJECT NAME: West Hartford/IB4/X43

CC: Construction Services of Branford (Adrien Paradis)






The following was observed, discussed, reviewed and/or resolved at the site, which requires action by the Contractor unless noted otherwise. Items shall remain on this ongoing report until resolved to the satisfaction of this office.

080615. 1	Purpose of field visit was to confirm compliance with Crown Castle (Job #829013) Structural Design Drawings Rev. 01 dated 04/23/15 for the drilling and epoxying of dowels.
080615. 2	Weather conditions were clear with an afternoon temperature of 87°F. The Contractor was on-site during today's inspection.
080615. 3	<p>All holes were confirmed as 1'-8" embedment.</p>  <p>(Reference S-5 Rev. 1 dated 04/23/15)</p>

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 PAGE 1 OF 4**

<p>080615. 4</p>	<p>(See Above Note 080615.3)</p>	
<p>080615. 5</p>	<p>Prior to the installation of the vertical #6 dowel bars, all holes were cleaned per the manufacturer's instructions. Cleaning efforts were conducted two times due to excessive dirt and/or water in the holes. All holes were also flushed and vacuummed in addition to the aforementioned cleaning.</p> <p>(Reference Note 3 on S-5 Rev. 1 dated 04/23/15)</p>	
<p>080615. 6</p>	<p>(See above note 080615.5)</p>	
<p>080615. 7</p>	<p>(See above note 080615.5)</p>	

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 PAGE 2 OF 4**


<p>080615. 8</p>	<p>After each hole was confirmed clean, the #6 dowel bars were epoxyed into place using Hilti Hit-HY 200a.</p> <p>(Reference Note 3 S-5 Rev. 1 dated 04/23/15)</p>	
<p>080615. 9</p>	<p>(See above note 080615.8)</p>	
<p>080615. 10</p>	<p>(See above note 080615.8)</p>	
<p>080615. 11</p>	<p>3" to 3-1/2" clearance from the top of concrete verified.</p> <p>(Reference S-5 Rev. 1 dated 04/23/15)</p>	
<p>080615. 12</p>	<p>"#4 Ties" spaced at 6" on center per the contract documents.</p> <p>(Reference S-5 Rev. 1 dated 04/23/15)</p>	

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PAGE 3 OF 4**

080615. 13	(See above note 080615.12)	
080615. 14	Cetco Waterstop-RX used in lieu of the Sikaswell S-2 per the Project Engineer of Record. (Reference email dated 07/28/15)	
080615. 15	All reinforcing was installed in accordance will all applicable drawings. The contractor is authorized to proceed with placing concrete upon the curing of the epoxy.	

Prepared by:

Carlo F. Centore, PE (CT PE#16694)
(type or printed name)


Signature

08/06/15
Date

(Design Professional Seal)



**IF YOU DO NOT RECEIVE ALL PAGES AS NOTED ABOVE,
PLEASE CONTACT OUR OFFICE IMMEDIATELY.
PAGE 4 OF 4**

Search

Erik An

Mail Address Book Calendar Tasks Briefcase Preferences Search Re: West Hartfo

Close Reply Reply to All Forward Delete Spam Actions

West Hartford (BU829013), TEP No. 25680.24967 - Request for water stop Substitution /note#4

Hi Keith,

Substituting the Cetco Waterstop-RX for the sikaswell S-2 is acceptable. Let me know if you need anything else.

Thanks,
Ryan

Ryan Rimmele, P.E., S.E.

Project Engineer | Tower Engineering Professionals, Inc. (www.tepgroup.net)

326 Tryon Road | Raleigh, NC 27603 | Office: (919) 661-6351 ext. 2402 | Fax: (919) 661-6350 | Mobile: (908) 268-3000

From: Keith_ Stackhouse [mailto:keith_stackhouse@lcc.com]

Sent: Tuesday, July 28, 2015 2:21 PM

To: Ryan Rimmele <rrimmele@tepgroup.net>

Cc: McGee, John <John.McGee@crowncastle.com>; Vadney, Dan <Dan.Vadney@crowncastle.com>; D'Amico, Jaso

Subject: West Hartford (BU829013), TEP No. 25680.24967 - Request for water stop Substitution /note#4 -pg. S-5

Hello Ryan

Would it be acceptable to substitute the Sikaswell S-2 water stop product called out in note#4

As per our conversation, the pour is set for tomorrow afternoon!

Thanks,

Keith A. Stackhouse

Structural Construction Manager



LCC Construction Services
2500 Sylon Blvd.
Hainesport, NJ 08036

(Cell) 609-367-6107



Remit To:
 P.O. Box 418827
 Boston, MA 02241-8827



CUST #: 2925792

BILL TO:
 818 1 MB 0.438 EG042X 0511 01417763824 P2737988 0001:0001



CONSTRUCTION SERVICES OF BRAND
 DBA CSB COMMUNICATIONS
 63-3 N BRANFORD RD
 BRANFORD CT 06405-2880

6/3/23

INVOICE

UPC VENDOR	INVOICE DATE	INVOICE NUMBER
000000	07/29/15	3157890-00
P.O. NO.		PAGE #:
SOUTH QUAKER LANE		1 of 1

CORRESPONDENCE TO:

AH Harris & Sons, Inc.
 91 Holmes Rd
 Newington, CT 06111-1833
 (860)665-9400

SHIP TO:

CONSTRUCTION SERVICES OF BRAND
 DBA CSB COMMUNICATIONS
 SOUTH QUAKER LANE JOB
 BRANFORD, CT 06405

INSTRUCTIONS		SHIP POINT			TERMS		SHIP VIA		SHIPPED
PAUL		M010 Newington			NET 30		Cust Pick Up		07/29/15
LINE NO.	PRODUCT AND DESCRIPTION	QUANTITY ORDERED	QUANTITY B.O.	QUANTITY SHIPPED	QTY. U/M	UNIT PRICE	PRICE U/M	DISCOUNT %	AMOUNT NET
1	30350 WATERSTOP RX101 3/4X1X16.67 100LF 36/PLT	1	0	1	BX	190.00	BX	0.00	190.00 T
1	Lines Total	Qty Shipped Total			1		Line Total		190.00
							Taxes		12.07
							Total Due		202.07

Last Page

Notwithstanding any different or additional terms that may be contained in your order, your order is accepted only on the express condition that you assent to the terms and conditions contained on this page and on the reverse side hereof. Subject to 1 1/2 % per month late charge if not paid within terms. Merchandise cannot be returned without authorization. Transportation charges must be prepaid on returned goods. Credit will be based on our count upon inspection and will be subject to a restocking charge.

0001:0001

Outbound delivery

SHIPMENT NUMBER: 397100487
RELEASE DATE: 06/04/2015

CUSTOMER PO NUMBER:
 414461

CUSTOMER ACCT:

HILTI NEW JERSEY NDC
 1 Industrial Road
 Dayton NJ 08810-3501

BILL TO:
 12170167
 L C C DEPLOYMENT SERVICES INC
 7900 WESTPARK DR STE A300
 MC LEAN VA 22102-4240

SHIP TO:
 21817872
 L C C DEPLOYMENT SERVICES INC
 2500 Sylon Blvd.
 Hainesport NJ 08036
 TOM ROBERTS
 856-810-1658



Order Number: 516860024		Your Reference:	
Material Number	Material Description	Quantity Ordered	Quantity on this Shipment
3496599	Hybrid adh HY 200-R 16.9oz/500ml 2MC + HDM	1 EA	
2022794	Hybrid adh HY 200-R 16.9oz/500MI		2 BOX of 20 EA = 40 EA
2101993	Dispenser HDM 500 box		1 EA
2007059	Cartridge holder red HIT-CR 500		1 EA
2022794	Hybrid adh HY 200-R 16.9oz/500MI	1 BOX	1 BOX of 20 EA = 20 EA

WARNING: Tool repair must be performed only by qualified repair personnel knowledgeable about the specific tool and the legal requirements. Service, maintenance or repair performed by unqualified personnel could result in a risk of accidents and injury. The instructions with regard to service, maintenance and repair in the respective operating instructions must be strictly adhered to.

Customer Order Information
 DCRO0709 - 140786 - NY Old Bethpage Hill

CALL 1-800-879-8000 FOR INQUIRIES ON ITEMS NOT RECEIVED WITH THIS SHIPMENT

Standard Hilti terms and conditions printed on the reverse side of this pack list apply
 SDS available at www.us.hilti.com or by calling 1-800-879-8000

Forwarder	UNITED PARCEL SERVICE LLC
Trans. Mode	
Route	UPS GROUND
Shipping Cond.	Standard

Received By: _____
Date: _____ Time: _____ Pkgs: _____

TILCON

TILCON CONNECTICUT INC.

301 Hartford Ave. • P.O. Box 310903 • Newington, CT 06131-0903
www.tilconct.com
CONCRETE PLANTS
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• PORTLAND, CT • HARTFORD, CT • BROOKLYN, CT
• OLD SAYBROOK, CT • ENFIELD, CT • GROTON, CT

TEL: (860) 225-7801
TOLL FREE 1-888-TILCON

CONTROL NUMBER
9049701

DATE	TIME	ORDER NO.	CUST. NO.	JOB NO.	TRUCK NO.	PLANT NO.	TICKET NO.
08/07/15	13:15	215	5082		0075	158	084146

CUSTOMER NAME/INFORMATION	JOB NAME/INFORMATION
CONSTR. SRVS. OF BRANFORD-LLC	CHURCH: 467 SOUTH QUARRER LANE W EST HARTFORD

SPECIAL INSTRUCTIONS	QUANTITY DELIVERED
REAR PARKING LOT OFF CHURCH	9.00

PRGID ID	QUANTITY	PRODUCT DESCRIPTION	UNIT/MEASURE	SUNIT	EXTENDED
4000-01	11.00	4000-C 3/4	yd		
4000-02	1.00	ENVIRONMENTAL IMPACT FEE	EA		
4000-03	1.00	ENERGY SURCHARGE	EA		
"WATCH THAT CHILD"					
Material Design Qty	1238.1b	Ready-Mix Concrete	yd	1834.2 lb	
3/4"	453.1b	1070g lb 10660.1b	EA		
3/4"	1450.1b	7540.1b	EA		
TYPE 2	51.1b	11600.1b	EA		
TYPE 2	6.00 oz	48.00 oz	EA		
TYPE 2	36.5 oz	93.28 oz	EA		
TYPE 2	33.0 ga	221.0 ga	EA		

Delayed truck time beyond 5 min./CY to be billed at a rate of _____ per 15 min.

MIXER ARRIVED _____ MIXER DISCHARGED _____ DELAYED TRUCK TIME _____

Minimum Haul Rate: _____
Hot Water Use Rate: _____

I authorize the driver of this truck to add _____ gallons of water to the load of concrete for which I assume complete responsibility. The undersigned agrees to indemnify and hold harmless the driver of the truck and TILCON CONNECTICUT INC. from any and all damage, losses and/or injury to the premises and/or adjacent property which may be claimed by anyone to have arisen out of the delivery of this order.

"Caution: BRAKANT" avoid contact with skin and eyes."

INSPECTED, APPROVED & RECEIVED BY _____

Sub-Total Sales Tax _____
Balance Due _____

READ REVERSE SIDE FOR FURTHER CONDITIONS OF PURCHASE. CUSTOMER DELIVERY COPY

6.2.3 CONCRETE COMP. STRENGTH AND SLUMP TESTS



MATERIALS TESTING, INC.

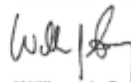
55 LAURA STREET • NEW HAVEN, CONNECTICUT 06512 • (203) 468-5216
 42 BOSTON POST ROAD • WILLIMANTIC, CONNECTICUT 06226 • (860) 423-1972

COMPRESSION TESTS - ASTM C-39

CLIENT:	Centek Engineering 63-2 North Branford Road Branford, CT 06405 Attn: Mr. Erik Armas	M-100
PROJECT:	Communication Tower West Hartford I-84/X43 467 South Quaker Lane West Hartford, CT	
LOCATION:	Pier extension	
CONCRETE SUPPLIER:	Tilcon Concrete	CYLINDERS CAST BY: Materials Testing, Inc.
DATE CAST:	8/7/15	DATE RECEIVED: 8/11/15
AMBIENT TEMP., °F:	87	CONCRETE TEMP., °F: 90
SLUMP, IN.:	3	AIR CONTENT, %: 5.0
TRUCK NO.:	230	SAMPLING TIME: 2:14 PM
BATCH TICKET #:	884146	
REQUIRED STRENGTH, PSI:	4000	MIX DESIGN: 400201

CYLINDER NOS.	AGE DAYS	CYL. WTS.	DATE TESTED	LOAD-LBS.	COMPRESSIVE STRENGTH - PSI
M-6105	7	8.84	8/14/15	47,800	3,810
M-6106	28	8.84	9/4/15		
M-6107	28	8.82	9/4/15		
M-6108	28	8.83	9/4/15		
M-6109	Spare	8.80	Spare		

Materials Testing, Inc.



William J. Soucy

File: Original
 1cc: Client

wib

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6.2.4 CONTRACTOR'S CERTIFIED WELD INSPECTION



ALLIED TESTING LABORATORIES, INC.

115 St. George Road • Springfield, Massachusetts 01104
Phone: (413) 736-1846 Fax: (413) 736-1838

Report No. 1 of Structural Steel Inspection Date: 3/2/15

Client: LCC Construction Services
Project: West Hartford, CT Monopole Tower – I-84/X43
Subject: Structural Steel Inspection / Non-Destructive Testing

Reported to: LCC Construction Services – Attention: Mr. Keith Stackhouse

STRUCTURAL STEEL INSPECTION / NON-DESTRUCTIVE TESTING (ULTRASONIC)

Allied inspector on site this date met with LCC superintendent Joe Gentes and welder Ervin Moore. Reviewed welder certifications, WPS and SOW.

Performed initial visual inspection of original manufacturer's welds at baseplate, including partial access to interior of monopole-to-baseplate weld, exterior of monopole-to-baseplate weld, and stiffener welds to both monopole and baseplate. All surfaces were coated with original galvanizing and paint. No discontinuities were noted.

Ultrasonic longitudinal and shear wave testing was begun at the accessible exterior faces between stiffeners to determine the joint geometry of the monopole plate to the baseplate connection. The joint appeared to be fillet welds both sides or partial penetration with reinforcing fillets both sides; so no further evaluation of the welds was performed using Ultrasound.

Equipment and calibration were demonstrated to Mr. Gentes for his photo documentation. Magnetic particle equipment and calibration were also demonstrated for photos on the first welds to be built-up and their adjacent monopole and baseplate welds in each "bolt pocket".

We witnessed all preparations for welding including opening of filler metal, electrode storage, setup of manual and powered equipment for preheating, cleaning, SMAW welding in conformance with the WPS, the scope of work, and conformance with AWS D1.1. No discrepancies were noted in procedures and during this work no discontinuities were observed in original welds that were being cleaned and preheated for future welding.

Respectfully submitted,
ALLIED TESTING LABORATORIES, INC.

By: Richard Bellucci
President

MEMBER: A.S.T.M. / A.C.I. / A.W.S. / A.S.N.T. / M.C.I.B. / I.A.C.R.S.



ALLIED TESTING LABORATORIES, INC.

115 St. George Road • Springfield, Massachusetts 01104
Phone: (413) 736-1846 Fax: (413) 736-1838

Report No. 3 of Structural Steel Inspection Date: 3/4/15

Client: LCC Construction Services
Project: West Hartford Monopole Tower – I-84/X43
Subject: Structural Steel Inspection / Non-Destructive Testing

Reported to: LCC Construction Services – Attention: Mr. Keith Stackhouse

STRUCTURAL STEEL INSPECTION / NON-DESTRUCTIVE TESTING (MAGNETIC PARTICLE)

Allied inspector on site this date met with LCC Site Superintendent, Joe Gentes. It was reported that welding was completed.

Magnetic Particle Testing was performed at the remainder of new fillet welds not previously tested (approximately 75% of total). No discontinuities were noted at new welds or adjacent existing welds. Welds were visually inspected prior to testing and were found in conformance with modification specification and AWS D1.1-10 prior to application of new coating. Calibration, MT, and visual methods and use of fillet gauge was demonstrated. Visual and test methods were in conformance with project specifications as defined in project documents provided to Allied Testing.

At the end of this shift all welds were tested and found acceptable.

Magnetic Particle Testing report enclosed.

Respectfully submitted,
ALLIED TESTING LABORATORIES, INC.


By: Richard Bellucci
President

MEMBER: A.S.T.M. / A.C.I. / A.W.S. / A.S.N.T. / M.C.I.B. / I.A.C.R.S.



ALLIED TESTING LABORATORIES, INC.

115 St. George Road • Springfield, Massachusetts 01104
Phone: (413) 736-1846 Fax: (413) 736-1838

Report No. 2 of Structural Steel Inspection Date: 3/3/15

Client: LCC Construction Services
Project: West Hartford Monopole tower – I-84/X43
Subject: Structural Steel Inspection / Non-Destructive Testing

Reported to: LCC Construction Services – Attention: Mr. Keith Stackhouse

STRUCTURAL STEEL INSPECTION / NON-DESTRUCTIVE TESTING (MAGNETIC PARTICLE)

Allied inspector on site this date met with LCC Site Superintendent Joe Gentes and welder Ervin Moore. Verified setup of complete conforming equipment as used on the previous shift.

Observed cleaning, preheating, SMAW welding, slagging and brushing. All materials, procedures, and qualification of welder was in conformance with AWS D1.1, the WPS, the weld specification, and the scope of work as presented to Allied Testing Laboratories.

Magnetic Particle testing was performed prior to welding and following welding at each "bolt pocket". No discontinuities were noted at original (existing) fillet welds and no discontinuities were noted at new completed fillet welds. Completed welds were in conformance with the specification and AWS D1.1-10 and were visually inspected and MT tested prior to application of new coating. Testing equipment, calibration, methods, and gauge were demonstrated.

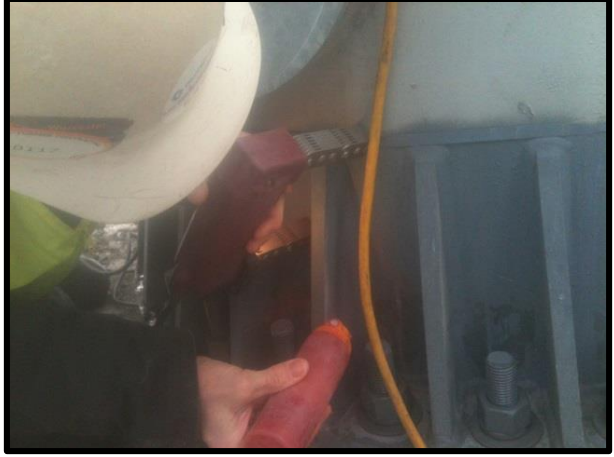
At the end of this shift welding was approximately 50% completed.

Magnetic Particle Testing Report enclosed.

Respectfully submitted,
ALLIED TESTING LABORATORIES, INC.

By: Richard Bellucci
President

MEMBER: A.S.T.M. / A.C.I. / A.W.S. / A.S.N.T. / M.C.I.B. / I.A.C.R.S.





HELLIER
377 West Main Street, Suite 2
Mianitc, CT 06357-1018

Phone (860) 739-8950
FAX (860) 739-8732

A Rockwood Company

March 27, 2002

Mr. Christopher Purinton
White Engineering
21 Roseland Terrace
Longmeadow, MA 01106

Dear Mr. Purinton:

I am pleased to enclose your certificate for satisfactory completion of the 24 hour Magnetic Particle Testing Levels I/II training course that you attended from 3/25/02 to 2/27/02.

Your final course grade: 96

If we at HELLIER can be of further assistance to you in your NDT career, please contact us.

Very truly yours,

HELLIER NORTH-EAST

A handwritten signature in cursive script that reads "Alice Baldi".

Alice Baldi
Office Administrator

Enclosure: Certificate



HELLIER

277 West Main Street, Suite 2
Niantic, CT 06357-1018

Phone (860) 739-8950
FAX (860) 739-6732

A Rockwood Company

October 20, 2006

Mr. Christopher Purinton
White Engineering, LLC
54 Popple Hill Road
P.O. Box 878
Glen, NH 03838

Dear Mr. Purinton:

I am pleased to enclose your certificate for satisfactory completion of the 16 hour Penetrant Testing Levels I/II training course that you attended from 10/5/2006 to 10/6/2006.

Your final course grade: 84%

If we at Hellier can be of further assistance to you in your NDT career, please contact us.

Very truly yours,

A handwritten signature in cursive script that reads "Donald P. Blanchette".

Donald P. Blanchette
Manager - HELLIER Northeast

DPB/mkp



HELLIER
 177 West Main Street
 North Attleboro, MA 01937-1011
 Phone (800) 739-8950
 FAX (800) 739-0712

A Howard Group Company

September 5, 2001

Mr. Christopher Purinton
 P.O. Box 773
 Sturbridge, MA 01566

Subject: NDT Level II Examination Results

Dear Mr. Purinton:

The following are the examination results for the NDT Level II examinations you took at our facility. The examinations meet the requirements of SNT-TC-1A.

Ultrasonic Testing:

Examination	Grade	Exam Date
General	80%	3/4/99
Specific	96%	3/4/99
Practical	81%	4/27/01
Composite	86%	

The examinations will be maintained in HELLIER's locked qualification files and are available for review or audit.

Please contact me at (860) 739-8950 if you have any questions.

Very truly yours,
 HELLIER



 Thomas L. Phynic
 Director of Quality Services



American Welding Society

Certifies That
WELDING INSPECTOR

Christopher H Purinton

Has excelled with the requirements of AWS CCI,
Standard for AWS Certification of Welding Inspectors.

with X without _____ eye correction _____ color blind

Richard J. ...
AWS President
Richard J. ...
AWS Certificate Chair

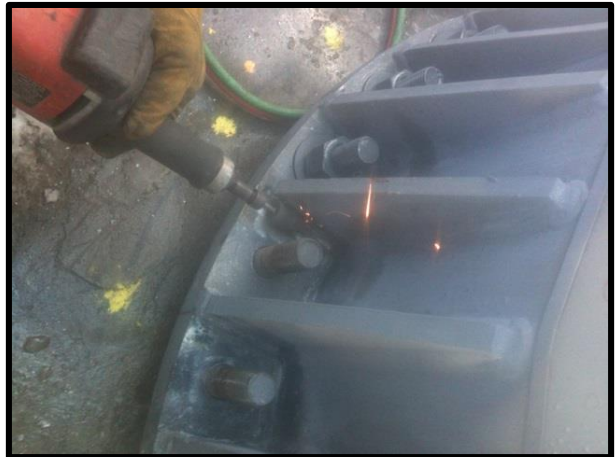


97071191

Certificate Number

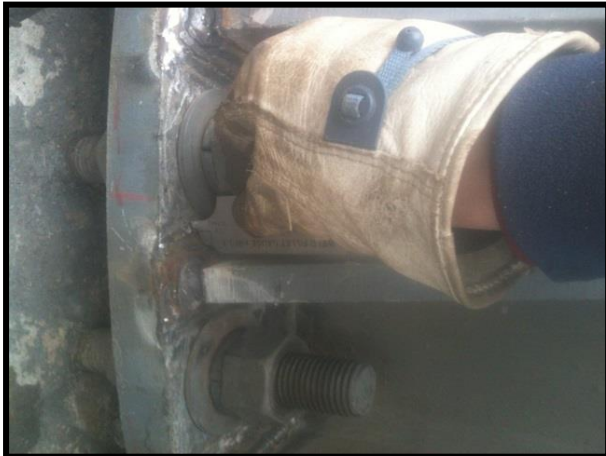
July 1 2015

Expiration Date













6.2.5 ON SITE COLD GALVANIZING VERIFICATION




6.2.6 GC AS-BUILT DOCUMENTS

STRUCTURAL DESIGN DRAWINGS

SITE NAME:
WEST HARTFORD/I-84/X43

CROWN CASTLE BU NUMBER: **829013** APPLICATION NUMBER: **261528 REV. 3**

SITE ADDRESS:
**467 SOUTH QUAKER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)
N 41° 44' 55.75", W 72° 43' 52.75"**




AS-BUILT
No changes
Date 8/17/15
Signed K.A. Stackhouse

MODIFICATION PROVISIONS	
THE MODIFICATIONS DEPICTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL MODIFICATION ANALYSIS REPORT COMPLETED BY TOWER ENGINEERING PROFESSIONALS (TEP), JOB# 25680-24867 DATED APRIL 23, 2014 (REV. 1). THIS REPORT IS BASED ON A SPECIFIC ANTENNA LOADING AND COAM CONFIGURATION. SEE THE REPORT FOR THE ANTENNA AND COAM LOADING INFORMATION. ANY OTHER ANTENNA OR COAM CONFIGURATION REQUIRES REVIEW BY TEP. SATISFACTORY COMPLETION OF THE MODIFICATIONS INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.	
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, QUANTITIES, PART NUMBERS AND COAM/ANTENNA PLACEMENTS PRIOR TO BIDDING ORDERING MATERIALS, AND CONSTRUCTION.	

INDEX OF SHEETS		
NO.	SHEET TITLE	REV
T-1	TITLE SHEET	1
N-1	MI CHECKLIST AND NOTES	1
N-2	PROJECT NOTES I	0
N-3	PROJECT NOTES II	0
N-4	FOUNDATION NOTES	0
S-1	TOWER ELEVATION AND MODIFICATION SCHEDULE	1
S-2	COMPOUND DETAILS	1
S-3	BASE SECTION DETAILS	1
S-4	BASE PLATE STIFFENER DETAILS	1
S-5	FOUNDATION REINFORCEMENT DETAILS	1


PROJECT TEAM	
CCI MODIFICATION PROJECT MANAGER:	CROWN CASTLE
NAME:	3530 TORNADO WAY, SUITE 300
ADDRESS:	CHARLOTTE, NC 28277
CITY, STATE, ZIP:	JOHN WITTE
CONTACT:	(980) 209-8253
PHONE:	JOHN.WITTE@CROWNCASTLE.COM
EMAIL:	
ENGINEERING FIRM PROJECT MANAGER:	TOWER ENGINEERING PROFESSIONALS, INC.
NAME:	326 TRIVON ROAD
ADDRESS:	RALEIGH, NC 27603
CITY, STATE, ZIP:	RYAN J. RIMMEL, P.E.
CONTACT:	(919) 861-4351
PHONE:	CRMP@TEPGROUP.NET
EMAIL:	

ATTENTION	
ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE, FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.	


REVISION NOTES	
	REVISED MODIFICATION DRAWINGS

PLANS PREPARED FOR:
CROWN CASTLE

3530 TORNADO WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PLANS PREPARED BY:


TOWER ENGINEERING PROFESSIONALS
326 TRIVON ROAD
RALEIGH, NC 27603-4283
OFFICE: (919) 861-4351
www.tepgroup.net

SEAL:


REGISTERED CIVIL ENGINEER
April 23, 2015

1	04-23-15	REVISED MOD. DRAWINGS
2	10-07-14	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	SCALE	CHECKED BY:

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: **T-1** REVISION: **1**

TEP # 25680-24867

MODIFICATION INSPECTION NOTES:

MI CHECKLIST	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
<input checked="" type="checkbox"/>	MI CHECKLIST DRAWING
<input checked="" type="checkbox"/>	FOR APPROVAL
<input checked="" type="checkbox"/>	FABRICATION INSPECTION
<input checked="" type="checkbox"/>	FABRICATOR CERTIFIED WELD INSPECTION
<input checked="" type="checkbox"/>	MATERIAL TEST REPORT (MTR)
<input checked="" type="checkbox"/>	FABRICATOR NDE INSPECTION
<input checked="" type="checkbox"/>	NDE REPORT OF WONDSPLE BASE PLATE PER ENG-SOW-10033
<input checked="" type="checkbox"/>	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
<input checked="" type="checkbox"/>	CONSTRUCTION INSPECTIONS
<input checked="" type="checkbox"/>	CONTINUOUS FOUNDATION INSPECTIONS
<input checked="" type="checkbox"/>	CONCRETE COMP. STRENGTH AND SLUMP TESTS
<input checked="" type="checkbox"/>	GROUT COMP. STRENGTH (ASTM C109)
<input checked="" type="checkbox"/>	POST INSTALLED REBAR VERIFICATION
<input checked="" type="checkbox"/>	BASE PLATE GROUT VERIFICATION
<input checked="" type="checkbox"/>	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
<input checked="" type="checkbox"/>	EARTHWORK: LIFT AND DENSITY
<input checked="" type="checkbox"/>	ON SITE COLD GALVANIZING VERIFICATION
<input checked="" type="checkbox"/>	QUILT WIRE TENSION REPORT
<input checked="" type="checkbox"/>	GC AS-BUILT DOCUMENTS
<input checked="" type="checkbox"/>	NON-TENSION CONTROLLED BOLT INSPECTION SEE SHEET N-4 FOR DETAILS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
<input checked="" type="checkbox"/>	MI INSPECTOR RESUME OR RECORD DRAWINGS
<input checked="" type="checkbox"/>	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
<input checked="" type="checkbox"/>	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PM REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PM REPORT

GENERAL

THE MODIFICATION INSPECTOR (MI) IS A VISUAL INSPECTION IF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OVERSIGHT OF THE MODIFICATION DESIGN, OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL M'S SHALL BE CONDUCTED BY A CROWN ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. SEE ENG-BB-10113 LIST OF APPROVED MI VENDORS.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PERMITS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROGRESSIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR CROWN POINT OF CONTACT (POC).

REFER TO ENG-SOW-10007, MODIFICATION INSPECTION SOW FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO CROWN.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST AND ENG-SOW-10007.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREVIOUSLY TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY QUILT WIRE TENSIONING OR RE-TENSIONING OPERATIONS
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTIONS TO COME WITH ONE SITE VISIT
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFECTS CORRECTED DURING THE INITIAL MI. ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI

IF THE GC AND MI INSPECTOR AGREES TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, CROWN SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF PROFITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY OF THE FOLLOWING REASONS (INCLUDING, BUT NOT LIMITED TO, WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED):

- IF CROWN CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING M'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI (TAILED M'S), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT M.
- OR, WITH CROWN'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

MI VERIFICATION INSPECTIONS

CROWN RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTIONS ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH ENG-SOW-10007.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT AESV/CFI FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/RECTION AND INSPECTION
- RAW MATERIALS
- PHOTOS OF ALL CRITICAL DETAILS
- WELD PREPARATION
- FOUNDATION MODIFICATIONS
- BOLT INSTALLATION AND TORQUE
- POST INSTALLED CONDITION
- SURFACE COATING REPAIR
- FINAL CONSTRUCTION PHOTOGRAPHS
- FINAL IN FIELD CONDITION


PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO ENG-SOW-10007.


PLANS PREPARED FOR:
CROWN CASTLE

3530 TORNADO WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PROJECT INFORMATION:
WEST HARTFORD/I-84/X43
BU #: 829013
467 SOUTH QUAKER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

PLANS PREPARED BY:


TOWER ENGINEERING PROFESSIONALS
326 TRIVON ROAD
RALEIGH, NC 27603-4283
OFFICE: (919) 861-4351
www.tepgroup.net

SEAL:



REGISTERED CIVIL ENGINEER
April 23, 2015

1	04-23-15	REVISED MOD. DRAWINGS
2	10-07-14	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	SCALE	CHECKED BY:

SHEET TITLE:
MI CHECKLIST AND NOTES

SHEET NUMBER: **N-1** REVISION: **1**

TEP # 25680-24867



AS-BUILT
No changes
Date 8/17/15
Signed K.A. Stackhouse

FOUNDATION NOTES:

- FOUNDATION INSTALLATION SHALL BE SUPERVISED BY PERSONNEL KNOWLEDGEABLE AND EXPERIENCED WITH THE PROPOSED FOUNDATION TYPE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICES AND IN A GOOD WORKMANLIKE MANNER.
- CONTRACTOR SHALL VERIFY DIMENSIONS WITH ORIGINAL DRAWINGS.
- FOR FOUNDATION AND ANCHOR TOLERANCES, SEE ORIGINAL DRAWINGS.
- FOUNDATION DESIGN ASSUMES LEVEL GRADE AT THE SITE.
- THE FOUNDATION DESIGN IS IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL ENGINEERING PRINCIPLES AND PRACTICES WITHIN THE LIMITS OF THE SUBSURFACE DATA PROVIDED.
- FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT THE DESIGN PARAMETERS ARE NOT APPLICABLE FOR THE SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
- THE FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS, AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON THE CONDITIONS AT THE SITE.
- THE FOUNDATION DESIGN ASSUMES NO CONSTRUCTION JOINTS. HOWEVER, CONSTRUCTION JOINTS SHALL BE PERMITTED UPON APPROVAL BY THE OWNER/ENGINEER.

EXCAVATION:

- WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND SAFETY REGULATIONS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION, AND UTILITIES SHALL BE ESTABLISHED PRIOR TO BEGINNING WORK.
- INTIMATE CONTACT BETWEEN THE CONCRETE AND THE SOIL WALLS OF THE DRILLED SHAFT IS ESSENTIAL. THE CONCRETE SHALL BE APPROPRIATELY VIBRATED DURING CONSTRUCTION.
- THE SIDES OF THE EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE CUTTINGS.
- LOOSE MATERIAL TO BE REMOVED FROM THE BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT.
- DRILLING FLUID, IF USED, SHALL BE FULLY DISPLACED BY CONCRETE AND SHALL NOT BE DETRIMENTAL TO THE CONCRETE OR SURROUNDING SOIL. CONTAMINATED CONCRETE SHALL BE REMOVED AND REPLACED WITH FRESH CONCRETE.

REINFORCING STEEL:

- THE REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60. IT SHALL BE DEFORMED AND SPLICES SHALL NOT BE ALLOWED UNLESS OTHERWISE NOTED.
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- REINFORCING CAGES SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING AND THROUGHOUT PLACEMENT OF CONCRETE. WHEN TEMPORARY CASING IS UTILIZED, BRACING SHALL BE ADEQUATE TO RESIST FORCES OCCURRING FROM FLOWING CONCRETE DURING CASING EXTRACTION.
- SPACERS SHALL BE ATTACHED INTERMITTENTLY THROUGHOUT THE ENTIRE LENGTH OF TIEBACK REINFORCING TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" UNLESS OTHERWISE NOTED. APPROVED SPACERS SHALL BE USED TO INSURE A 3" MINIMUM COVER ON REINFORCEMENT.
- THE CONCRETE COVER FROM THE TOP OF THE FOUNDATION TO THE ENDS OF THE VERTICAL REINFORCEMENT SHALL NOT EXCEED 4" NOR BE LESS THAN 2".
- THE CONCRETE COVER FROM THE BOTTOM OF THE FOUNDATION TO THE ENDS OF THE VERTICAL REINFORCEMENT SHALL NOT EXCEED 4" NOR BE LESS THAN 3".

CONCRETE:

- WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- THE CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28-DAYS.
- PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL, ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI-318 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE.
- CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL, AND OTHER OCCURRENCES THAT MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.

CONCRETE (CONTINUED):

- FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL DOWN WITHOUT HITTING THE SIDES OF THE EXCAVATION, FORMWORK, REINFORCING BARS, FORM TIES, CAGE BRACING, OR OTHER OBSTRUCTIONS UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
- THE MAXIMUM SIZE OF THE AGGREGATE SHALL NOT EXCEED A SIZE SUITABLE FOR THE INSTALLATION METHOD UTILIZED OR 1/3-CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. THE MAXIMUM SIZE MAY BE INCREASED TO 2/3-CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL PREVENT HONEYCOMBS AND VOIDS.
- A TEMPORARY PROTECTIVE STEEL CASING WILL BE REQUIRED TO KEEP THE SHAFT OPEN DURING CONSTRUCTION AND INSPECTIONS PRIOR TO PLACING CONCRETE. THIS CASING SHOULD BE EXTRACTED AS THE CONCRETE IS PLACED.

FINISHING:

- THE TOP OF THE FOUNDATION SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISH.
- THE EXPOSED EDGES OF THE CONCRETE SHALL BE CHAMFERED 1" x 1".


AS-BUILT
 No changes
 Date 8/17/15
 Signed, K.A. Stackhouse

PLANS PREPARED FOR:

CROWN CASTLE
 3530 TORNADO WAY, SUITE 300
 CHARLOTTE, NC 28277
 OFFICE: (980) 209-8833

PROJECT INFORMATION:

WEST HARTFORD/84/X43
BU #: 829013
 467 SOUTH QUAKER LANE
 WEST HARTFORD, CT 06110
 (HARTFORD COUNTY)

PLANS PREPARED BY:


TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27604-2623
 OFFICE: (919) 684-5351
 www.tepro.com

SEAL:


 APR 23 2015

1	04-23-15	REVISED (M.D. DRAWINGS)
2	10-07-14	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	CAJ	CHECKED BY: JEP

SHEET TITLE:

FOUNDATION NOTES

SHEET NUMBER: **N-4** REVISION: **1**
 TEP # 24620-2482C

POLE SPECIFICATIONS

POLE SHAPE TYPE:	18-SIDED POLYGON				
POLE SHAFT GRADE:	ASTM A572-65				
BASE PLATE GRADE:	ASTM A572-50				
ANCHOR BOLT GRADE:	ASTM A-687				

SHAFT SECTION	SECTION LENGTH (FT.)	SHAFT THICKNESS (IN.)	LAP SPLICE (FT.)	OUTER DIAMETER (IN.)	
				TOP	BOTTOM
1	18.00	0.250	2.92	22.130	26.500
2	37.50	0.313	3.83	24.870	36.900
3	37.50	0.375	4.67	32.500	41.750
4	37.50	0.375	-	39.850	49.060

MODIFICATION SCHEDULE

NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)
①	REINFORCE EXISTING BASE PLATE STIFFENERS. SEE SHEETS S-3 AND S-4 FOR DETAILS.	0
②	INSTALL PROPOSED FOUNDATION REINFORCEMENT. SEE SHEETS S-2, S-3, AND S-5 FOR DETAILS.	0
③	CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTOR AND CROWN CASTLE PROJECT MANAGER. SEE SHEET N-1 FOR DETAILS.	-

NOTES:

- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE THE MODIFICATION INSPECTOR/ENGINEER OF RECORD WITH A SEALED CERTIFIED WELD INSPECTION REPORT. THIS REPORT SHALL DOCUMENT THE ENTIRE WELDING PROCESS (PRE-CURING/POST) WITH PROPER PHOTOS. WELDING SHALL CONFORM TO AWS D1.1/D1.1M, 2000 "STRUCTURAL WELDING CODE-STEEL". FOR ADDITIONAL NOTES, SEE WELDING NOTES.
- ANTENNAS AND OTHER APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THE MODIFICATIONS SHOWN ABOVE.
- NOTE OF THE CIRCUMFERENTIAL WELD OF THE BASE PLATE TO SHAFT CONNECTION IS REQUIRED. PLEASE SEE ENG-SHOW-10033 TOWER BASE PLATE NDE AND ENG-BUL-10051 NDE REQUIREMENTS FOR MONOPOLE BASEPLATE TO PREVENT CONNECTION FAILURE. NOTIFY THE EOR AND CROWN ENGINEERING IMMEDIATELY IF ANY CRACKS ARE SUSPECTED OR HAVE BEEN IDENTIFIED. THE NDE SHALL INCLUDE ANY EXISTING MODIFICATIONS THAT HAVE BEEN WELDED TO THE BASE PLATE. FULL PENETRATION WELDING TO THE BASEPLATE REQUIRED AS PART OF THIS ACTIVE REINFORCEMENT DESIGN SHALL BE INCLUDED IN THE NDE SCOPE OF WORK.
- DUE TO THE MODIFICATIONS REQUIRED, CONTINUOUS INSPECTIONS AND MATERIAL TESTING WILL NEED TO BE PERFORMED.
- CONTRACTOR SHALL ORDER AND INSTALL A NEW TOWER TAG IF THE EXISTING TOWER TAG IS MOVED OR DAMAGED DUE TO THE INSTALLATION OF THE MODIFICATION SHOWN ABOVE.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE TOWER OWNER OR ENGINEER OF RECORD.

ATTENTION

NO DETAILED INFORMATION REGARDING INTERFERENCES WAS PROVIDED. THEREFORE, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE FABRICATING MATERIALS AND PROCEEDING WITH THE WORK. REPORT ANY AND ALL DISCREPANCIES TO TOWER ENGINEERING PROFESSIONALS, INC., AND CROWN CASTLE CONSTRUCTION MANAGER IMMEDIATELY.


AS-BUILT
 No changes
 Date 8/17/15
 Signed, K.A. Stackhouse


PLANS PREPARED FOR:

CROWN CASTLE
 3530 TORNADO WAY, SUITE 300
 CHARLOTTE, NC 28277
 OFFICE: (980) 209-8833


PROJECT INFORMATION:

WEST HARTFORD/84/X43
BU #: 829013
 467 SOUTH QUAKER LANE
 WEST HARTFORD, CT 06110
 (HARTFORD COUNTY)

PLANS PREPARED BY:


TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27604-2623
 OFFICE: (919) 684-5351
 www.tepro.com

SEAL:


 APR 23 2015


1	04-23-15	REVISED (M.D. DRAWINGS)
2	10-07-14	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	CAJ	CHECKED BY: JEP

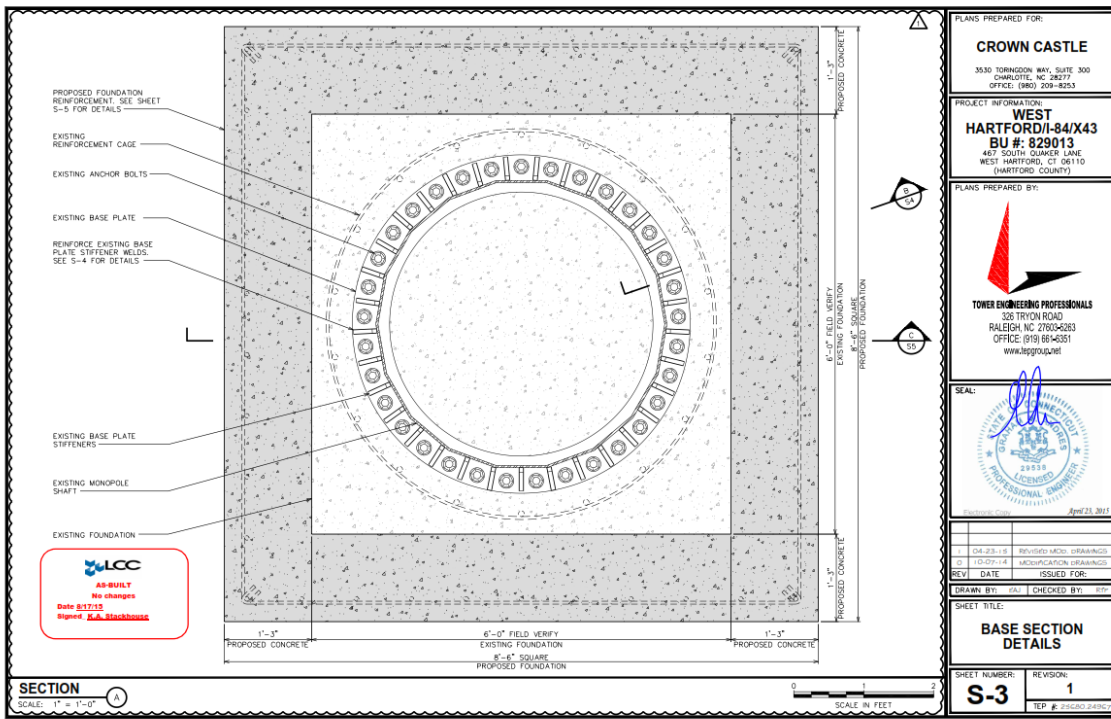
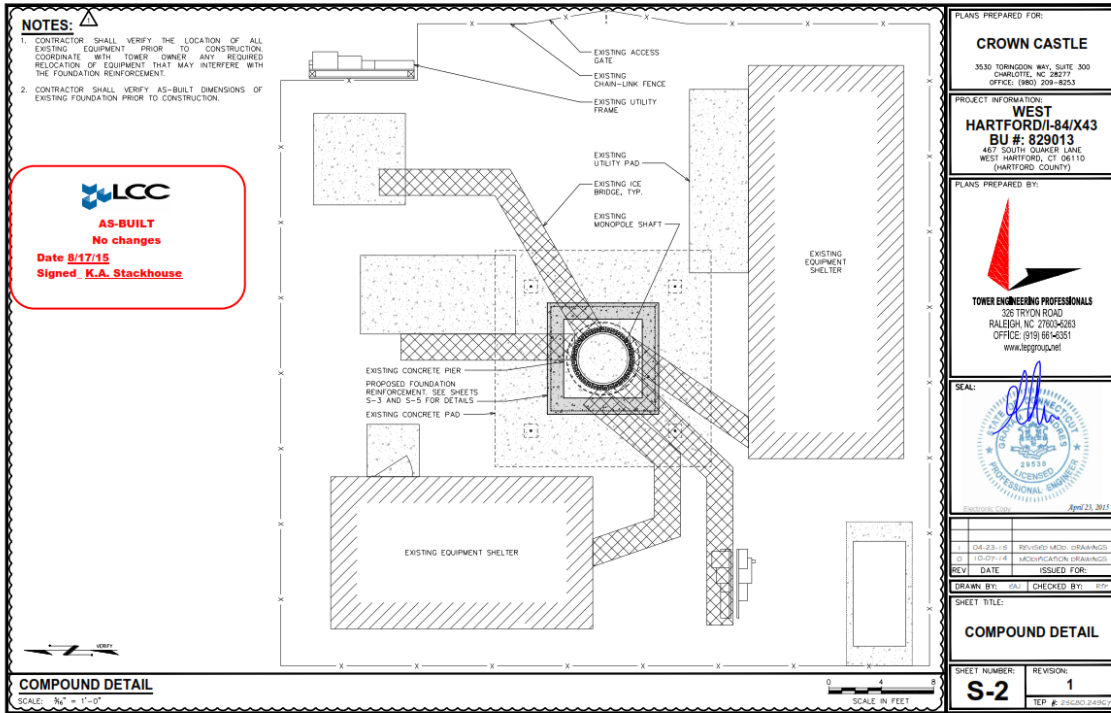
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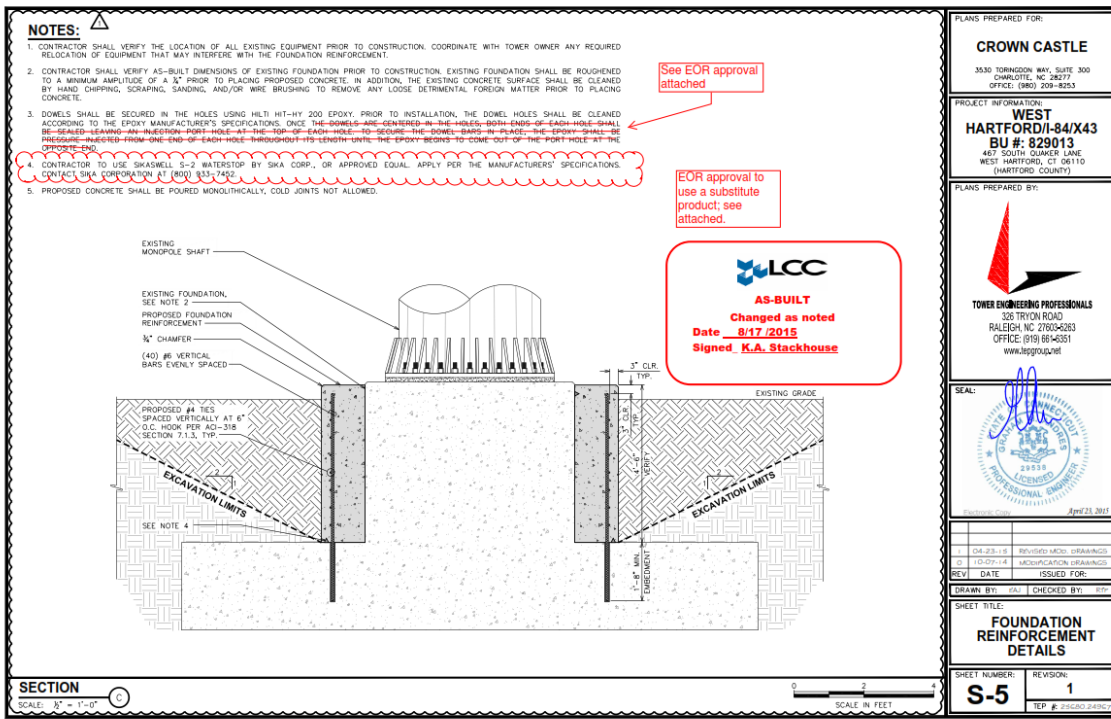
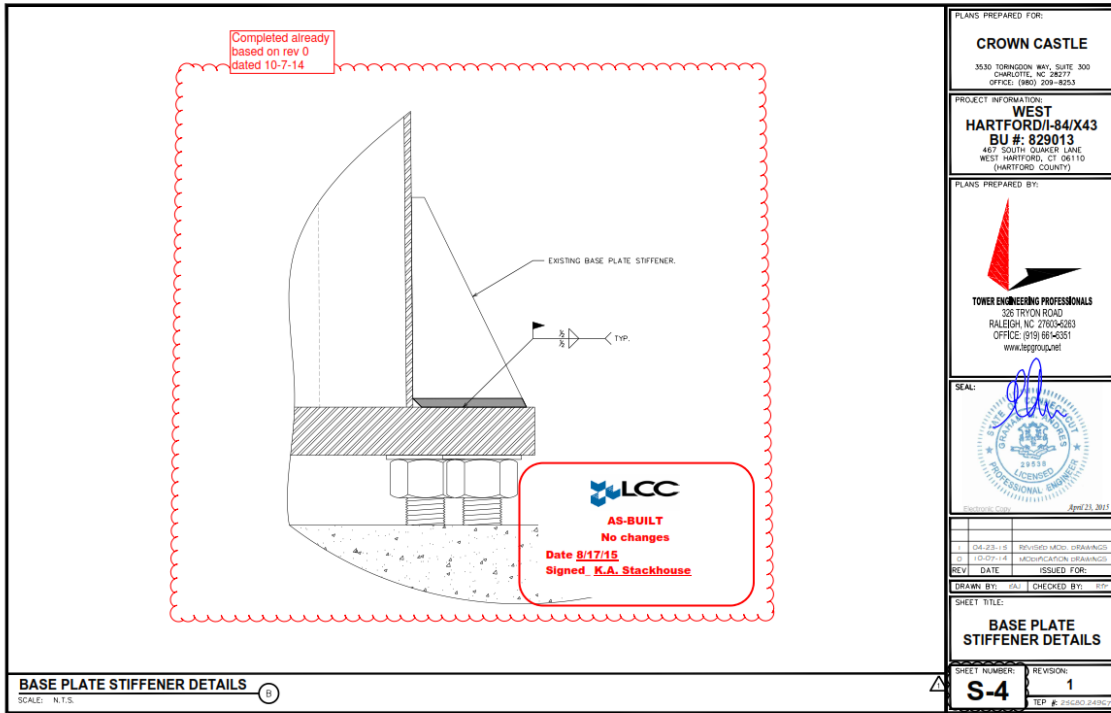
TOWER ELEVATION AND MODIFICATION SCHEDULE

SHEET NUMBER: **S-1** REVISION: **1**
 TEP # 24620-2482C

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


 SCALE IN FEET





POST-CONSTRUCTION


6.3.1 MI INSPECTOR REDLINE OR RECORD DRAWING(S)

STRUCTURAL DESIGN DRAWINGS

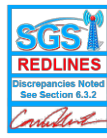
SITE NAME:
WEST HARTFORD/I-84/X43

CROWN CASTLE BU NUMBER: **829013** APPLICATION NUMBER: **261528 REV. 3**

SITE ADDRESS:
**467 SOUTH QUAKER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)
N 41° 44' 55.75", W 72° 43' 52.75"**



AS-BUILT
No changes
Date 8/17/15
Signed K.A. Stackhouse



Discrepancies Noted
See Section 6.3.2

MODIFICATION PROVISIONS

THE MODIFICATIONS DEPICTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL MODIFICATION ANALYSIS REPORT COMPLETED BY TOWER ENGINEERING PROFESSIONALS (TEP), JOB# 25680-24867 DATED APRIL 23, 2014 (REV. 1). THIS REPORT IS BASED ON A SPECIFIC ANTENNA LOADING AND COAX CONFIGURATION. SEE THE REPORT FOR THE ANTENNA AND COAX LOADING INFORMATION. ANY OTHER ANTENNA OR COAX CONFIGURATION REQUIRES REVIEW BY TEP. SATISFACTORY COMPLETION OF THE MODIFICATIONS INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, QUANTITIES, PART NUMBERS AND COAX/ANTENNA PLACEMENTS PRIOR TO BIDDING ORDERING MATERIALS, AND CONSTRUCTION.

INDEX OF SHEETS

NO.	SHEET TITLE	REV
T-1	TITLE SHEET	1
N-1	MI CHECKLIST AND NOTES	1
N-2	PROJECT NOTES I	0
N-3	PROJECT NOTES II	0
N-4	FOUNDATION NOTES	1
S-1	TOWER ELEVATION AND MODIFICATION SCHEDULE	1
S-2	COMPOUND DETAILS	1
S-3	BASE SECTION DETAILS	1
S-4	BASE PLATE STIFFENER DETAILS	1
S-5	FOUNDATION REINFORCEMENT DETAILS	1

PROJECT TEAM

CCI MODIFICATION PROJECT MANAGER:
NAME: CROWN CASTLE
ADDRESS: 3530 TORNADO WAY, SUITE 300
CITY, STATE, ZIP: CHARLOTTE, NC 28277
CONTACT: JOHN WITTE
PHONE: (980) 209-8253
EMAIL: JOHN.WITTE@CROWNCASTLE.COM

ENGINEERING FIRM PROJECT MANAGER:
NAME: TOWER ENGINEERING PROFESSIONALS, INC.
ADDRESS: 328 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: RYAN J. RIMMEL, P.E.
PHONE: (919) 861-4351
EMAIL: CRR@TEPGROUP.NET

REVISION NOTES

REVISED MODIFICATION DRAWINGS


ATTENTION

ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE, FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.

PLANS PREPARED FOR:

CROWN CASTLE
3530 TORNADO WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
328 TRYON ROAD
RALEIGH, NC 27603-0283
OFFICE: (919) 861-4351
www.tepgroup.net

SEAL:


PROJECT INFO:
DATE: April 23, 2015

1	04-23-15	REVISED MOD. DRAWINGS
2	10-07-14	MODIFICATION DRAWINGS

REV. DATE ISSUED FOR:

DRAWN BY: JAL CHECKED BY: JEP

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: **T-1** REVISION: **1**
TEP # 25680-24867

MI CHECKLIST

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
<input checked="" type="checkbox"/>	MI CHECKLIST DRAWING
<input checked="" type="checkbox"/>	FOR APPROVAL
<input checked="" type="checkbox"/>	FABRICATION INSPECTION
<input checked="" type="checkbox"/>	FABRICATOR CERTIFIED WELD INSPECTION
<input checked="" type="checkbox"/>	MATERIAL TEST REPORT (MTR)
<input checked="" type="checkbox"/>	FABRICATOR NDE INSPECTION
<input checked="" type="checkbox"/>	NDE REPORT OF WONDSPLE BASE PLATE PER ENG-SOW-10033
<input checked="" type="checkbox"/>	PACKING SLIPS

CONSTRUCTION

<input checked="" type="checkbox"/>	CONSTRUCTION INSPECTIONS
<input checked="" type="checkbox"/>	CONTINUOUS FOUNDATION INSPECTIONS
<input checked="" type="checkbox"/>	CONCRETE COMP. STRENGTH AND SLUMP TESTS
<input checked="" type="checkbox"/>	GROUT COMP. STRENGTH (ASTM C109)
<input checked="" type="checkbox"/>	POST INSTALLED REBAR VERIFICATION
<input checked="" type="checkbox"/>	BASE PLATE GROUT VERIFICATION
<input checked="" type="checkbox"/>	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
<input checked="" type="checkbox"/>	EARTHWORK: LIFT AND DENSITY
<input checked="" type="checkbox"/>	ON SITE COLD GALVANIZING VERIFICATION
<input checked="" type="checkbox"/>	QUILT WIRE TENSION REPORT
<input checked="" type="checkbox"/>	GC AS-BUILT DOCUMENTS
<input checked="" type="checkbox"/>	NON-TENSION CONTROLLED BOLT INSPECTION SEE SHEET N-4 FOR DETAILS

POST-CONSTRUCTION

<input checked="" type="checkbox"/>	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
<input checked="" type="checkbox"/>	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
<input checked="" type="checkbox"/>	PHOTOGRAPHS

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PM REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PM REPORT

MODIFICATION INSPECTION NOTES:

GENERAL
THE MI INSPECTOR (MI) IS A VISUAL INSPECTION IF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OVERSIGHT OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL M'S SHALL BE CONDUCTED BY A CROWN ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. SEE ENG-BB-10113 LIST OF APPROVED MI VENDORS.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PERMITS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR CROWN POINT OF CONTACT (POC).

REFER TO ENG-SOW-10007, MODIFICATION INSPECTION SOW FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR
THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO CROWN.

GENERAL CONTRACTOR
THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST AND ENG-SOW-10007.

RECOMMENDATIONS
THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREVIOUSLY TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY QUIET TENDING OR RE-TENSIONING OPERATIONS
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTIONS TO COME WITH ONE SITE VISIT
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFECTS CORRECTED DURING THE INITIAL MI. ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI
IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, CROWN SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF PROFITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY OF THE FOLLOWING REASONS:

- IF CROWN CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING M'S
IF THE MODIFICATION INSTALLATION WILL FAIL, THE MI (TAILED MI), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI
- OR, WITH CROWN'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

MI VERIFICATION INSPECTIONS
CROWN RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTIONS ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH ENG-SOW-10007.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT AEV/AESV FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS
BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION AND INSPECTION
- RAW MATERIALS
- PHOTOS OF ALL CRITICAL DETAILS
- FOUNDATIONAL MODIFICATIONS
- WELD PREPARATION
- BOLT INSTALLATION AND TORQUE
- FINAL INSTALLED CONDITION
- SURFACE COATING REPAIR
- FINAL CONSTRUCTION PHOTOGRAPHS
- FINAL IN FIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE COMPLETED AND SUBMITTED TO CROWN.


THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO ENG-SOW-10007.

PLANS PREPARED FOR:

CROWN CASTLE
3530 TORNADO WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PROJECT INFORMATION:
WEST HARTFORD/I-84/X43
BU #: 829013
467 SOUTH QUAKER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
328 TRYON ROAD
RALEIGH, NC 27603-0283
OFFICE: (919) 861-4351
www.tepgroup.net

SEAL:


PROJECT INFO:
DATE: April 23, 2015

1	04-23-15	REVISED MOD. DRAWINGS
2	10-07-14	MODIFICATION DRAWINGS

REV. DATE ISSUED FOR:

DRAWN BY: JAL CHECKED BY: JEP

SHEET TITLE:
MI CHECKLIST AND NOTES

SHEET NUMBER: **N-1** REVISION: **1**
TEP # 25680-24867

AS-BUILT

No changes
Date 8/17/15
Signed K.A. Stackhouse

GENERAL NOTES:

- ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED CROWN CASTLE OR ITS DESIGNATED REPRESENTATIVE.
- ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF CONNECTICUT.
- WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 2005 CONNECTICUT STATE BUILDING CODE.
- UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
- ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TOE DRUMS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
- ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORKS COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
- ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE REGIONAL LEASING AGENT FOR APPROVAL.
- ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASKING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- IF APPLICABLE, ALL CONCRETE WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-02, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE."
- 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
- ALL TOWER DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL MAKE REPAIRS AVAILABLE TO THE CONTRACTOR IMMEDIATELY. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
- ALL TOWER MODIFICATION WORK SHALL BE IN ACCORDANCE WITH TIA-1019-A STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPROVED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE TOWER OWNER OR ENGINEER OF RECORD.

LCC
AS-BUILT
No changes
Date 8/17/15
Signed K.A. Stackhouse

SGS
REDLINES
Discrepancies Noted
See Section 6.3.2

PLANS PREPARED FOR:
CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065
OFFICE: (518) 899-3442

PROJECT INFORMATION:
WEST HARTFORD/1-84/X43
BU #: 829013
467 SOUTH QUAMER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
328 TRYON ROAD
RALEIGH, NC 27604-6683
OFFICE: (919) 854-6551
www.tegroup.net

SCALE:

REV	DATE	ISSUED FOR
0	10-07-14	MODIFICATION DRAWINGS
1		ISSUED FOR

DRAWN BY: **TAJ** | CHECKED BY: **SGS**

SHEET TITLE:
PROJECT NOTES I

SHEET NUMBER: **N-2** | REVISION: **0**
TEP #: 21650-248C

STRUCTURAL STEEL NOTES:

- THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN (ASD), 9TH EDITION.
- UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - STRUCTURAL STEEL
 - ANGLE: ASTM A36
 - PIPE/TUBE: ASTM A500-50
 - PLATE: ASTM A36 (SELF SUPPORTING AND GUYED TOWERS)
 - PLATE: ASTM A572-50 (MONOPOLE)
 - BOLTS
 - A. ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - B. ALL DI-BOLTS, ASTM A193 GRADE 7.
 - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
- ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, ASD, 9TH EDITION.
- HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
- HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM F90. 453 BASIS/ASTM A954 BASIS/ASTM G95. AS APPLICABLE. ADDITIONAL: ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO STEEL BY ANY OTHER MEANS.
- REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PART CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTED MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TOUCH TO A TEMPERATURE SUFFICIENT TO MELT THE PASTE OR STICK OR PASTE PASTED. SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL. AFTER REPAIR, STEEL SHALL BE REPAINTED TO MATCH EXISTING FINISH OR APPLICABLE CONSTRUCTION WORK.
- A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.

WELDING NOTES:

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M: 2000 "STRUCTURAL WELDING CODE-STEEL".
- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
- CONTRACTOR SHALL RETAIN AN AWS CERTIFIED WELD INSPECTOR TO PERFORM VISUAL INSPECTIONS ON FIELD WELDS. A LETTER AND REPORT SHALL BE ISSUED TO THE CONTRACTOR. CONTRACTOR SHALL SUBMIT LETTER AND REPORT TO TOWER ENGINEERING PROFESSIONALS.
- GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND GRIND THE SURFACE OF THE ROD TO BE INSTALLED FOR A DISTANCE OF 2" MINIMUM ALL AROUND THE AREA TO BE WELDED. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING.
- DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0°F. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS SHALL COMPLY WITH SECTION 3.5.1 AND TABLE 3.2 OF THE AWS D1.1/D1.1M:2000.
- DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
- FOR ALL WELDING, USE 70 KSI LOW HYDROGEN ELECTRODES. ELECTRODES SHALL BE APPROPRIATE FOR THE WELDING POSITION REQUIRED TO MAKE THE JOINT.
- AFTER FINAL INSPECTION, THE AREA OF THE WELDS, THE INSTALLATION AND ALL SURFACES DAMAGED BY WELDING OR GRINDING SHALL RECEIVE A COOL-GALVANIZED COATING. THIS COATING SHALL BE APPLIED BY BRUSH. THE GALVANIZING COMPOUND SHALL CONTAIN A MINIMUM OF 95% PURE ZINC. THE FINISHED COATING SHALL BE A MINIMUM THICKNESS OF 3 MILS.
- FOR MONOPOLE TOWERS FULL PENETRATION WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 100% NDE INSPECTED BY ULTRASONIC TESTING (UT) IN ACCORDANCE WITH AWS D1.1.
- FOR MONOPOLE TOWERS PARTIAL PENETRATION AND FILLET WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 50% NDE INSPECTED BY MAGNETIC PARTICLE (MT) IN ACCORDANCE WITH AWS D1.1.

SGS
REDLINES
Discrepancies Noted
See Section 6.3.2

PLANS PREPARED FOR:
CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065
OFFICE: (518) 899-3442

PROJECT INFORMATION:
WEST HARTFORD/1-84/X43
BU #: 829013
467 SOUTH QUAMER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
328 TRYON ROAD
RALEIGH, NC 27604-6683
OFFICE: (919) 854-6551
www.tegroup.net

SCALE:

REV	DATE	ISSUED FOR
0	10-07-14	MODIFICATION DRAWINGS
1		ISSUED FOR

DRAWN BY: **TAJ** | CHECKED BY: **SGS**

SHEET TITLE:
PROJECT NOTES II

SHEET NUMBER: **N-3** | REVISION: **0**
TEP #: 21650-248C

BOLT TIGHTENING PROCEDURE:

LCC
AS-BUILT
No changes
Date 8/17/15
Signed K.A. Stackhouse

NUT METHOD, USING THE CHESTNUT FIELD METHOD.

BOLT	TURN BEYOND SNUG TIGHT
1/2"	+ 1/2 TURN BEYOND SNUG TIGHT
3/8"	+ 1/2 TURN BEYOND SNUG TIGHT
1/4"	+ 1/2 TURN BEYOND SNUG TIGHT
3/16"	+ 1/2 TURN BEYOND SNUG TIGHT
1/8"	+ 1/2 TURN BEYOND SNUG TIGHT

ING EIGHT DIA.

BOLTS 4.25 TO 8.0 INCH LENGTH

CONNECTION BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-THE-NUT TIGHTENING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY CONTACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT IN A MANNER THAT WILL MINIMIZE RELAXATION OF PREVIOUSLY PRESTRESSING BOLTS.

ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

NOMINAL HOLE DIMENSIONS

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT
1/2"	3/8"	3/8" x 1/8"
3/4"	5/8"	5/8" x 3/8"
1"	7/8"	7/8" x 1"
1 1/4"	1 1/8"	1 1/8" x 1 1/4"
1 1/2"	1 1/4"	1 1/4" x 1 1/2"

— DIMENSIONS GIVEN IN INCHES

BOLT EDGE AND SPACING

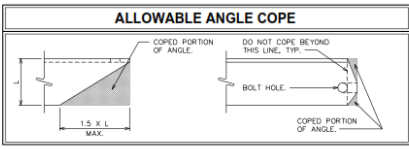
BOLT DIAMETER	MIN. EDGE	SPACING
1/2"	1/4"	1 1/2"
3/4"	3/8"	1 3/4"
1"	1/2"	2"
1 1/4"	5/8"	2 1/2"
1 1/2"	3/4"	3"

MIN. — DIMENSIONS GIVEN IN INCHES

WORKABLE GAGES

LEG	4	3 1/2	3	2 1/2	2	1 1/2	1
G	2 1/2	2	1 1/2	1 1/4	1 1/8	1 1/16	1

— WORKABLE GAGES GIVEN IN INCHES
— MATCH EXISTING WHEN APPLICABLE



FOUNDATION NOTES:

- GENERAL NOTES:**
- FOUNDATION INSTALLATION SHALL BE SUPERVISED BY PERSONNEL KNOWLEDGEABLE AND EXPERIENCED WITH THE PROPOSED FOUNDATION TYPE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICES AND IN A GOOD WORKMANLIKE MANNER.
 - CONTRACTOR SHALL VERIFY DIMENSIONS WITH ORIGINAL DRAWINGS.
 - FOR FOUNDATION AND ANCHOR TOLERANCES, SEE ORIGINAL DRAWINGS.
 - FOUNDATION DESIGN ASSUMES LEVEL GRADE AT THE SITE.
 - THE FOUNDATION DESIGN IS IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL ENGINEERING PRINCIPLES AND PRACTICES WITHIN THE LIMITS OF THE SUBSURFACE DATA PROVIDED.
 - FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT THE DESIGN PARAMETERS ARE NOT APPLICABLE FOR THE SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
 - THE FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS, AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON THE CONDITIONS AT THE SITE.
 - THE FOUNDATION DESIGN ASSUMES NO CONSTRUCTION JOINTS. HOWEVER, CONSTRUCTION JOINTS SHALL BE PERMITTED UPON APPROVAL BY THE OWNER/ENGINEER.

- EXCAVATION:**
- WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND SAFETY REGULATIONS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION, AND UTILITIES SHALL BE ESTABLISHED PRIOR TO BEGINNING WORK.
 - INTIMATE CONTACT BETWEEN THE CONCRETE AND THE SOIL WALLS OF THE DRILLED SHAFT IS ESSENTIAL. THE CONCRETE SHALL BE APPROPRIATELY VIBRATED DURING CONSTRUCTION.
 - THE SIDES OF THE EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE CUTTINGS.
 - LOOSE MATERIAL TO BE REMOVED FROM THE BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT.
 - DRILLING FLUID, IF USED, SHALL BE FULLY DISPLACED BY CONCRETE AND SHALL NOT BE DETRIMENTAL TO THE CONCRETE OR SURROUNDING SOIL. CONTAMINATED CONCRETE SHALL BE REMOVED AND REPLACED WITH FRESH CONCRETE.

- REINFORCING STEEL:**
- THE REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60. IT SHALL BE DEFORMED AND SPLICES SHALL NOT BE ALLOWED UNLESS OTHERWISE NOTED.
 - WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
 - REINFORCING CAGES SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING AND THROUGHOUT PLACEMENT OF CONCRETE. WHEN TEMPORARY CASING IS UTILIZED, BRACING SHALL BE ADEQUATE TO RESIST FORCES OCCURRING FROM FLOWING CONCRETE DURING CASING EXTRACTION.
 - SPACERS SHALL BE ATTACHED INTERMITTENTLY THROUGHOUT THE ENTIRE LENGTH OF TIEBACK REINFORCING TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
 - MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" UNLESS OTHERWISE NOTED. APPROVED SPACERS SHALL BE USED TO INSURE A 3" MINIMUM COVER ON REINFORCEMENT.
 - THE CONCRETE COVER FROM THE TOP OF THE FOUNDATION TO THE ENDS OF THE VERTICAL REINFORCEMENT SHALL NOT EXCEED 4" NOR BE LESS THAN 2".
 - THE CONCRETE COVER FROM THE BOTTOM OF THE FOUNDATION TO THE ENDS OF THE VERTICAL REINFORCEMENT SHALL NOT EXCEED 4" NOR BE LESS THAN 3".

- CONCRETE:**
- WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
 - THE CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28-DAYS.
 - PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL, ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI-318 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE.
 - CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL, AND OTHER OCCURRENCES THAT MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.

CONCRETE (CONTINUED):

- FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL, DOWN WITHOUT HITTING THE SIDES OF THE EXCAVATION, FORMWORK, REINFORCING BARS, FORM TIES, CAGE BRACING, OR OTHER OBSTRUCTIONS. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
- THE MAXIMUM SIZE OF THE AGGREGATE SHALL NOT EXCEED A SIZE SUITABLE FOR THE INSTALLATION METHOD UTILIZED OR 1/3-CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. THE MAXIMUM SIZE MAY BE INCREASED TO 2/3-CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL PREVENT HONEYCOMBS AND VOIDS.
- A TEMPORARY PROTECTIVE STEEL CASING WILL BE REQUIRED TO KEEP THE SHAFT OPEN DURING CONSTRUCTION AND INSPECTIONS PRIOR TO PLACING CONCRETE. THIS CASING SHOULD BE EXTRACTED AS THE CONCRETE IS PLACED.

FINISHING:

- THE TOP OF THE FOUNDATION SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISH.
- THE EXPOSED EDGES OF THE CONCRETE SHALL BE CHAMFERED 1" x 1".

LCC
AS-BUILT
No changes
Date 8/17/15
Signed, K.A. Stackhouse



PLANS PREPARED FOR:
CROWN CASTLE
3530 TORMONDOR WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PROJECT INFORMATION:
WEST HARTFORD/I-84/X43
BU #: 829013
467 SOUTH QUAMER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

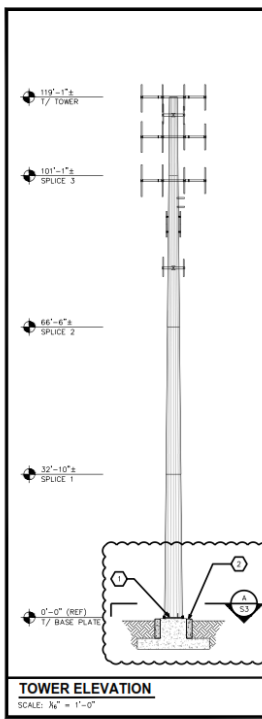
PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27602-6263
OFFICE: (919) 684-6351
www.teppro.com

SCALE:

1	04-23-15	REVISED MOD. DRAWINGS
0	10-07-14	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	CHK	CHECKED BY: TEP

SHEET TITLE:
FOUNDATION NOTES

SHEET NUMBER: **N-4** REVISION: **1**
TEP # 24620-2462C



POLE SPECIFICATIONS					
POLE SHAPE TYPE:	18-SIDED POLYGON				
POLE SHAFT GRADE:	ASTM A572-65				
BASE PLATE GRADE:	ASTM A572-50				
ANCHOR BOLT GRADE:	ASTM A-687				
SHAFT SECTION	SECTION LENGTH (FT.)	SHAFT THICKNESS (IN.)	LAP SPLICE (FT.)	OUTER DIAMETER (IN.)	
				TOP	BOTTOM
1	18.00	0.250	2.92	22.130	26.500
2	37.50	0.313	3.83	24.870	36.060
3	37.50	0.375	4.67	32.500	41.750
4	37.50	0.375	-	39.850	49.060

LCC
AS-BUILT
No changes
Date 8/17/15
Signed, K.A. Stackhouse

MODIFICATION SCHEDULE		
NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)
①	REINFORCE EXISTING BASE PLATE STIFFENERS. SEE SHEETS S-3 AND S-4 FOR DETAILS.	0
②	INSTALL PROPOSED FOUNDATION REINFORCEMENT. SEE SHEETS S-2, S-3, AND S-5 FOR DETAILS.	-
③	CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTOR AND CROWN CASTLE PROJECT MANAGER. SEE SHEET N-1 FOR DETAILS.	-

NOTES:

- IT'S THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE THE MODIFICATION INSPECTOR/ENGINEER OF RECORD WITH A SEALED CERTIFIED WELD INSPECTION REPORT. THIS REPORT SHALL DOCUMENT THE ENTIRE WELDING PROCESS (PRE-COURING/POST) WITH PROPER PHOTOS. WELDING SHALL CONFORM TO AWS D1.1/D1.1M, 2000 "STRUCTURAL WELDING CODE-STEEL". FOR ADDITIONAL NOTES, SEE WELDING NOTES.
- ANTENNAS AND OTHER APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THE MODIFICATIONS SHOWN ABOVE.
- NDE OF THE CIRCUMFERENTIAL WELD OF THE BASE PLATE TO SHAFT CONNECTION IS REQUIRED. PLEASE SEE ENG-100W-10033 TOWER BASE PLATE NDE AND ENG-BL-10001 NDE REQUIREMENTS FOR MONOPOLE BASEPLATE TO PREVENT CONNECTION FAILURE. NOTIFY THE EOR AND CROWN ENGINEERING IMMEDIATELY IF ANY CRACKS ARE SUSPECTED OR HAVE BEEN IDENTIFIED. THE NDE SHALL INCLUDE ALL EXISTING MODIFICATIONS THAT HAVE BEEN WELDED TO THE BASE PLATE. FULL PENETRATION WELDING TO THE BASEPLATE REQUIRED AS PART OF THIS ACTIVE REINFORCEMENT DESIGN SHALL BE INCLUDED IN THE NDE SCOPE OF WORK.
- DUE TO THE MODIFICATIONS REQUIRED, CONTINUOUS INSPECTIONS AND MATERIAL TESTING WILL NEED TO BE PERFORMED.
- CONTRACTOR SHALL ORDER AND INSTALL A NEW TOWER TAG IF THE EXISTING TOWER TAG IS MOVED OR DAMAGED DUE TO THE INSTALLATION OF THE MODIFICATION SHOWN ABOVE.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPROVED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE TOWER OWNER OR ENGINEER OF RECORD.

ATTENTION

NO DETAILED INFORMATION REGARDING INTERFERENCES WAS PROVIDED. THEREFORE, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE FABRICATING MATERIALS AND PROCEEDING WITH THE WORK. REPORT ANY AND ALL DISCREPANCIES TO TOWER ENGINEERING PROFESSIONALS, INC., AND CROWN CASTLE CONSTRUCTION MANAGER IMMEDIATELY.



PLANS PREPARED FOR:
CROWN CASTLE
3530 TORMONDOR WAY, SUITE 300
CHARLOTTE, NC 28277
OFFICE: (980) 209-8253

PROJECT INFORMATION:
WEST HARTFORD/I-84/X43
BU #: 829013
467 SOUTH QUAMER LANE
WEST HARTFORD, CT 06110
(HARTFORD COUNTY)

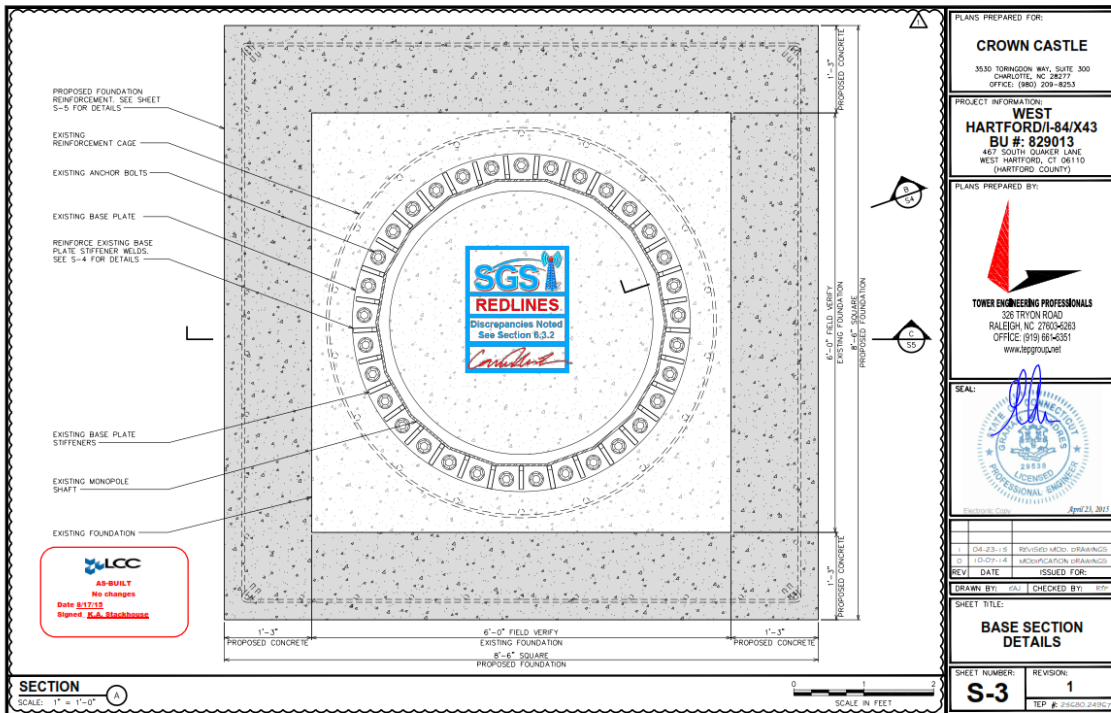
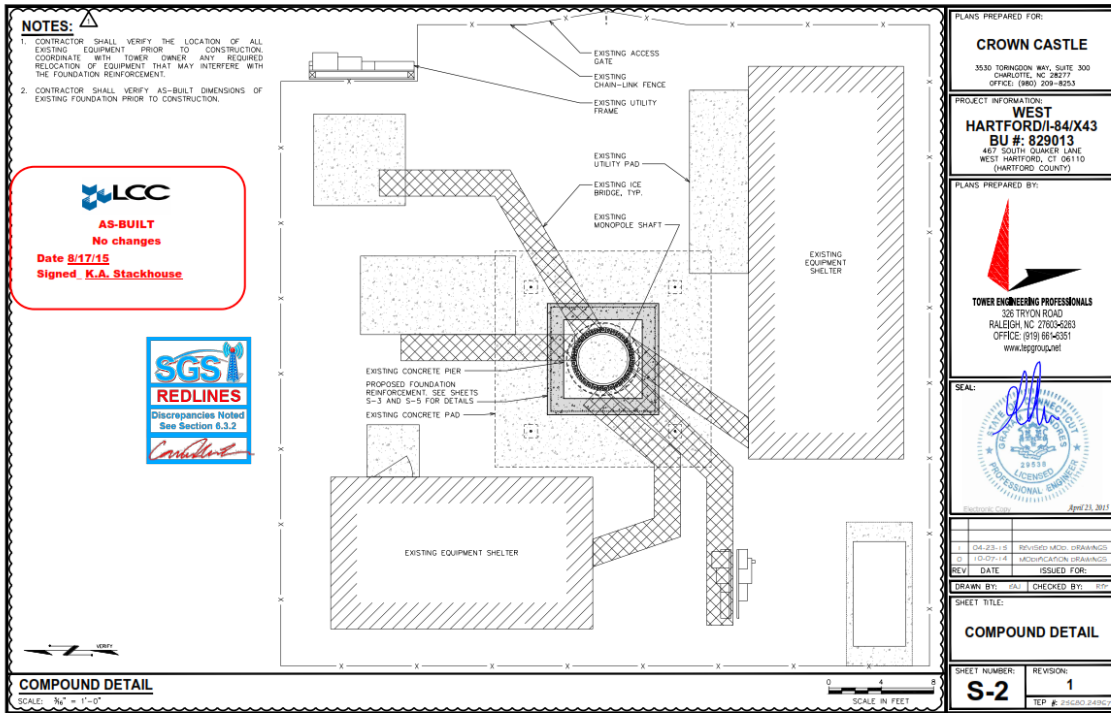
PLANS PREPARED BY:
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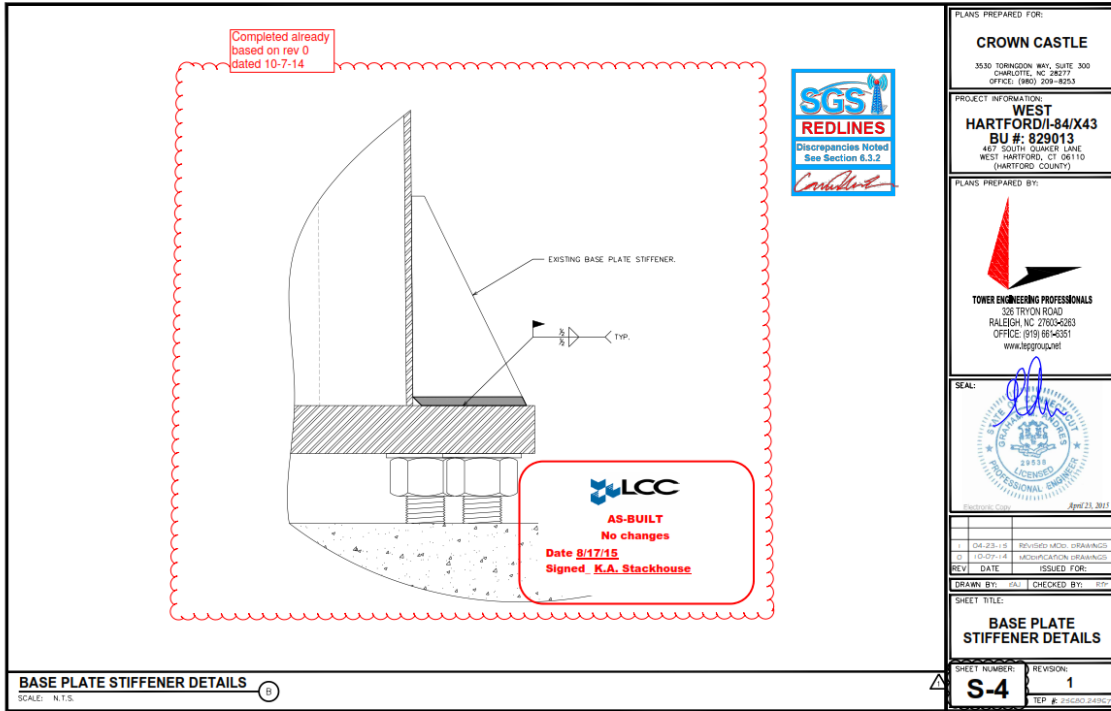
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0	10-07-14	MODIFICATION DRAWINGS
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DRAWN BY:	CHK	CHECKED BY: TEP

SHEET TITLE:
TOWER ELEVATION AND MODIFICATION SCHEDULE

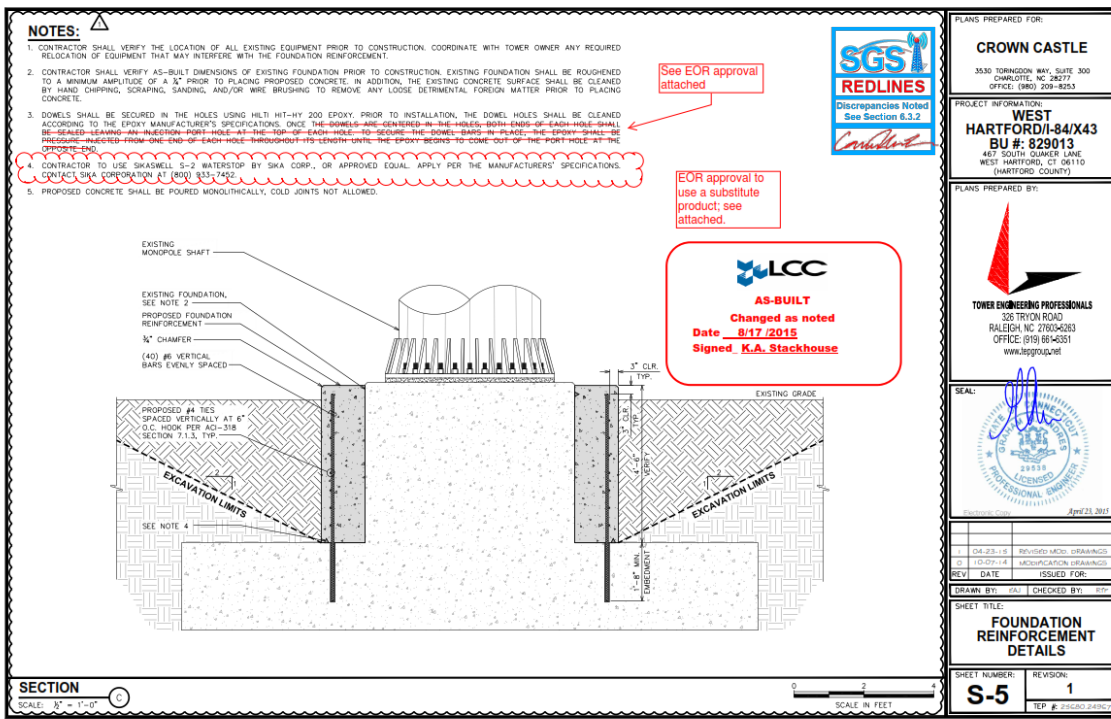
SHEET NUMBER: **S-1** REVISION: **1**
TEP # 24620-2462C







PLANS PREPARED FOR:	
CROWN CASTLE 3530 TORNGDON WAY, SUITE 300 CHARLOTTE, NC 28277 OFFICE (980) 209-8253	
PROJECT INFORMATION:	
WEST HARTFORD/I-84/X43 BU #: 829013 467 SOUTH QUAKER LANE WEST HARTFORD, CT 06110 (HARTFORD COUNTY)	
PLANS PREPARED BY:	
 TOWER ENGINEERING PROFESSIONALS 326 TRYON ROAD RALEIGH, NC 27604-2623 OFFICE (919) 684-6351 www.teppro.com	
SEAL:	
 APR 23, 2011	
1	04-23-15 REVISED M.D. DRAWINGS
2	10-07-14 MODIFICATION DRAWINGS
REV	DATE ISSUED FOR:
DRAWN BY:	CAL CHECKED BY: JPP
SHEET TITLE:	
BASE PLATE STIFFENER DETAILS	
SHEET NUMBER:	REVISION:
S-4	1
TEP # 25620-248C	

BASE PLATE STIFFENER DETAILS
SCALE: N.T.S.



PLANS PREPARED FOR:	
CROWN CASTLE 3530 TORNGDON WAY, SUITE 300 CHARLOTTE, NC 28277 OFFICE (980) 209-8253	
PROJECT INFORMATION:	
WEST HARTFORD/I-84/X43 BU #: 829013 467 SOUTH QUAKER LANE WEST HARTFORD, CT 06110 (HARTFORD COUNTY)	
PLANS PREPARED BY:	
 TOWER ENGINEERING PROFESSIONALS 326 TRYON ROAD RALEIGH, NC 27604-2623 OFFICE (919) 684-6351 www.teppro.com	
SEAL:	
 APR 23, 2011	
1	04-23-15 REVISED M.D. DRAWINGS
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REV	DATE ISSUED FOR:
DRAWN BY:	CAL CHECKED BY: JPP
SHEET TITLE:	
FOUNDATION REINFORCEMENT DETAILS	
SHEET NUMBER:	REVISION:
S-5	1
TEP # 25620-248C	

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

6.3.2 ENGINEER OF RECORD EMAIL

From: Ryan Rimmele
Sent: Tuesday, July 28, 2015 6:02 PM
To: Keith_ Stackhouse
Cc: McGee, John; Vadney, Dan; D'Amico, Jason (Vendor); PMI; lccmods; Erik Armas; RAL-CMRP
Subject: RE: West Hartford (BU829013), TEP No. 25680.24967 - Request for water stop Substitution /note#4 -pg. S-5

Flag Status: Flagged

Hi Keith,

Substituting the Cetco Waterstop-RX for the sikaswell S-2 is acceptable. Let me know if you need anything else.

Thanks,
Ryan

— — — — —
Ryan Rimmele, P.E., S.E.
Project Engineer | Tower Engineering Professionals, Inc. (www.tepgroup.net)
326 Tryon Road | Raleigh, NC 27603 | Office: (919) 661-6351 ext. 2402 | Fax: (919) 661-6350 | Mobile: (908) 268-3043

From: Keith_ Stackhouse [mailto:keith_stackhouse@lcc.com]
Sent: Tuesday, July 28, 2015 2:21 PM
To: Ryan Rimmele <rimmele@tepgroup.net>
Cc: McGee, John <John.McGee@crowncastle.com>; Vadney, Dan <Dan.Vadney@crowncastle.com>; D'Amico, Jason (Vendor) <Jason.D'Amico.Vendor@crowncastle.com>; PMI <PMI@tepgroup.net>; lccmods <lccmods@lcc.com>; Erik Armas <earmas@centekeng.com>
Subject: West Hartford (BU829013), TEP No. 25680.24967 - Request for water stop Substitution /note#4 -pg. S-5

Hello Ryan

Would it be acceptable to substitute the Sikaswell S-2 water stop product called out in note#4 on page S-5 for the following product - Cetco RX101; I have include the data sheet for your review.

As per our conversation, the pour is set for tomorrow afternoon!

Thanks,
Keith A. Stackhouse
Structural Construction Manager

Keith Stackhouse


From: Ryan Rimmele
Sent: Wednesday, June 10, 2015 10:49 AM
To: Keith Stackhouse
Cc: CMRP; RJR
Subject: West Hartford (BU829013), TEP No. 25680.24967 - RFI

Categories: WEST HARTFORD - 829013 - 150086

Hi Keith,

I got your message. That note was copied over by mistake. That is a note we use if we are doweling completely through the pier (rebar sticking out on both sides) and the injection port is to prevent the epoxy from pouring out the other side – which we don't have for this case. I apologize for the confusion.

For this case install the rebar in accordance with Hilti's installation procedures/recommendations like you typically would.

NOTES: 

1. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING EQUIPMENT PRIOR TO CONSTRUCTION. COORDINATE WITH TOWER OWNER ANY REQUIRED RELOCATION OF EQUIPMENT THAT MAY INTERFERE WITH THE FOUNDATION REINFORCEMENT.
2. CONTRACTOR SHALL VERIFY AS-BUILT DIMENSIONS OF EXISTING FOUNDATION PRIOR TO CONSTRUCTION. EXISTING FOUNDATION SHALL BE ROUGHEN TO A MINIMUM AMPLITUDE OF A 1/8" PRIOR TO PLACING PROPOSED CONCRETE. IN ADDITION, THE EXISTING CONCRETE SURFACE SHALL BE CLEAN BY HAND CHIPPING, SCRAPING, SANDING, AND/OR WIRE BRUSHING TO REMOVE ANY LOOSE DETRIMENTAL FOREIGN MATTER PRIOR TO PLACING CONCRETE.
3. DOWELS SHALL BE SECURED IN THE HOLES USING HILTI HIT-HY 200 EPOXY. PRIOR TO INSTALLATION, THE DOWEL HOLES SHALL BE CLEAN ACCORDING TO THE EPOXY MANUFACTURER'S SPECIFICATIONS. ~~ONCE THE DOWELS ARE CENTERED IN THE HOLES, BOTH ENDS OF EACH HOLE SHALL BE SEALED LEAVING AN INJECTION PORT HOLE AT THE TOP OF EACH HOLE TO SECURE THE DOWEL BARS IN PLACE. THE EPOXY SHALL BE PRESSURE INJECTED FROM ONE END OF EACH HOLE THROUGHOUT ITS LENGTH UNTIL THE EPOXY BEGINS TO COME OUT OF THE PORT HOLE AT THE OPPOSITE END.~~
4. CONTRACTOR TO USE SIKASWELL S-2 WATERSTOP BY SIKA CORP., OR APPROVED EQUAL. APPLY PER THE MANUFACTURERS' SPECIFICATION CONTACT SIKA CORPORATION AT (800) 933-7452.
5. PROPOSED CONCRETE SHALL BE POURED MONOLITHICALLY, COLD JOINTS NOT ALLOWED.

Thanks,
Ryan

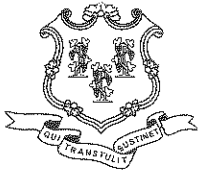
— — — — —
Ryan Rimmele, P.E., S.E.

Project Engineer | Tower Engineering Professionals, Inc. (www.tepgroup.net)

326 Tryon Road | Raleigh, NC 27603 | Office: (919) 661-6351 ext. 2402 | Fax: (919) 661-6350 | Mobile: (908) 268-3043
[Civil](#) | [Surveying](#) | [Environmental](#) | [PM&E](#) | [Structural](#) | [Inspections](#) | [Geotechnical and Material Testing](#) | [Construction](#) | [Renewable Energy](#)

6.3.3 PHOTOGRAPHS





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

December 8, 2014

Jerry Feathers
Real Estate Specialist
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

RE: **EM-T-MOBILE-155-141117** – T-Mobile notice of intent to modify an existing telecommunications facility located at 467 South Quaker Lane, West Hartford, Connecticut.

Dear Mr. Feathers:

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:

- The tower shall be reinforced in accordance with the attached drawings included with the structural analysis report prepared by FDH Engineering dated October 7, 2014 and stamped by Graham Andres;
- Within 45 days following completion of the equipment installation, T-Mobile shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis;
- Any deviation from the proposed modification as specified in this notice and supporting materials with the 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;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by T-Mobile shall be removed within 60 days of the date the antenna ceased to function;
- 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 November 13, 2014. 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 by any dimension, increase noise levels at the tower site boundary by six decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut 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,



Melanie A. Bachman
Acting Executive Director

MAB/RM/lm

- c: The Honorable Scott Slifka, Mayor, Town of West Hartford
Ronald Van Winkle, Town Manager, Town of West Hartford
Todd Dumais, Town Planner, Town of West Hartford
The Church of St. Mark the Evangelist, Corp.