ATC TOWER INSPECTION FORM

AMERICAN TOWER® CORPORATION

ANSI-TIA/EIA-222 Compliant

SECTION A - SITE INFORMATION

ATC Site Number	: 306030	**ATC Site Name, State**	: Lees Summit, MO
Site Address	: 111 SW Hook Road	**Number of Compounds**	: 1
City/State	: Lees Summit, MO	**Date of Inspection**	: 4/27/18
Contractor Name	: FDH Infrastructure		
Inspection Completed By	: Doug Groshong		

SECTION B - TOWER INFORMATION

Structure Type	: Guyed	**Number of Tower Legs**	: 1
Tower Height	: 300.0	**Climbing/Safety Device**	: Yes
Overall Structure Height	: 305.3	**FCC/ASR Number**	: 1004077
Tower Manufacturer	: Not posted	**AM Detuning ?**	: No

SECTION C - SITE INFORMATION CATEGORIES

SECTION A - Site Information
SECTION B - Tower Information
SECTION C - Tower Information Summary Comments
SECTION D - Summary of Deficiencies
SECTION E - Tower Foundation Comments
SECTION F - Tower Structure Comments
SECTION G - Safety Comments
SECTION H - Grounding Comments
SECTION I - Guy Anchors & Wires Comments
SECTION J - AM Detuning Comments
SECTION K - Compliance

SECTION D- SUMMARY OF OBSERVATIONS

Instructions: List Comments in Sections E through J as applicable. Section D Summary will automatically populate.

1. Erosion along the compound fence line has exposed the fence post foundations. (Photos 289-294)
2. No top cap installed on top safety climb assembly. (Photo 273)
3. Little to no room for adjustment on turnbuckles at each anchor for wires 1-3. (Photos 308-309, 326-328,330,343-345)
4. Rusted cotter pins at each anchor. (Photos 311-312,329,346-347)
5. Rust spot on anchor head at anchor A. (Photo 313)
6.
7.
8.
9.
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11.
12.
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14.
15.

SECTION E - TOWER FOUNDATION

Instructions

Tower base should be visually inspected for spalling and cracking of the concrete. The soil surrounding the tower base foundation should be inspected for evidence of settlement. Any such settlement or movement should be noted.

Base drains (if present) should be clear of any obstructions. Penetrate drain with object to ensure drains functioning.

Base insulators (if present) - The porcelain surface should be wiped clean with a soft cloth to remove any salt deposits or other foreign substance. A check should be made for any evidence of deterioration or cracks in the porcelain surface.

All discrepancies must be marked with masking tape and magic marker.
All discrepancies must be noted and photographed and numbered.

	Yes	No	Corrected	N/A
Is tower center pin in place?	x			
Is tower center pin free of corrosion?	x			
Are all base plate bolts, nuts, and washers present?	x			
Is the tower foundation in good condition? (No cracking, spalling, or settling)	x			
Is the concrete tower base free from standing water?	x			
Are base drains clear and free flowing? (Drains required only under tubular legs.)				x
Is porcelain surface of base insulators in good condition? (No deterioration or cracking)				x
Is the soil around the foundation in good condition? (No settling or movement)	x			

Place an x in the proper box

If any comments exceed one row please expand the row height so that all of the text is visible. To expand rows automatically, click the Select All button, then click AutoFit Row Height in the Cells/Format box.

Comments:

1. Erosion along the compound fence line has exposed the fence post foundations. (Photos 289-294)
2.
3.
4.

SECTION F - TOWER STRUCTURE

Instructions

Corrosion - If corrosion is observed, the source should be determined and noted.

Damaged or faulty members - A visual inspection must be made of the entire tower structure to determine if any of the members have been deformed or damaged. Any bowed, bent or damaged member/bolt should be noted as to part number, size, location on tower, nature and magnitude of deformation or damage.

Do not remove any tower member for replacement unless authorized by ATC Engineering Dept - Signed/Sealed Construction Drawings are required if a modification is required.

All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

	Yes	No	Corrected	N/A
Are all bolts and nuts tight? Tighten up to 20 loose bracing bolts and document as corrected.	x			
Is the tower free of rust? (If "No", be specific in the comments below.)	x			
Are all structural members straight and not damaged, bent, and/or missing?	x			
Is the tower finish in good condition? (No obvious signs of cracking)	x			

Place an x in the proper box

Comments:

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8.

SECTION G - SAFETY

Instructions

Safety is paramount- Report anything that makes it unsafe to operate or maintain this tower to ATC immediately.

All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

	Yes	No	Corrected	N/A
Is there a safety climb system?	x			
Are all components of the safety climb system free of rust?	x			
Is the cable free from kinks, fraying, broken wires or strands or other damage?	x			
Is the climbing path free from obstructions allowing a clear path for the cable?	x			
Is the cable secured by properly spaced cable guides?	x			
Is the total system properly installed including the top connection? If No, correct and note.		x		
Is the FCC and ATC signage apparent and placed properly.	x			

Place an x in the proper box

Comments:

1. No top cap installed on top safety climb assembly. (Photo 273)
2.
3.
4.

SECTION H - GROUNDING

Instructions

Connections - The connections above grade should be visually checked for loose fittings, ensure wires are snug in mechanical connections or well bonded with exothermic connections at the base of the tower.

Ground Wires - The ground wires at the base should be cad welded to each leg.

Take a photo of the grounding at the base and at each anchor.

All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

	Yes	No	Corrected	N/A
Is the tower base properly grounded?	x			
Are the guy cables and/or guy anchor heads properly grounded?	x			
Are ground wires and connections in satisfactory condition?	x			
Is there a lightning rod or static dissipation array installed on this tower?	x			
Is lightning rod or static dissipation array properly installed, if present?	x			
Is the lightning rod mounted in a location making it the highest point on the tower?	x			

Place an x in the proper box

Comments:

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SECTION I - GUY ANCHORS & WIRES

Instructions

All discrepancies must be marked with masking tape and magic marker and must be noted and photographed.

	Yes	No	Corrected	N/A
Are the guy cables & paths clear of brush, vegetation, fencing or any other obstruction?	x			
Are the anchor heads and rods free from any bends and/or fractures?	x			
Are the anchor heads and turnbuckle hardware free from soil build-up?	x			
Are exposed guy anchor foundations free from cracking, weathering?	x			
Excavate the soil around anchor shafts by hand to a distance of 36" (along the shaft) and 12"	x			
Do the turnbuckles have room for adjusting tensions? (Not fully extended or contracted?)		x		
Are the anchor heads free of corrosion?		x		
Is guy anchor rod laterally aligned?	x			
Are guy wires free of broken strands or insulators?	x			
Are the guy dampers secured and in good condition?				x
Are all shackles, clevises, thimbles, cotter pins, and Crosby clamps properly installed?	x			
Are the dead-end grips in good condition?	x			
Are the dead-end grip end-sleeves (ice-clips) installed?	x			
Are guy wires and guy hardware free of corrosion?		x		
Is each turnbuckle safety wire properly installed and secure? If not, make corrections.	x			
Are guy wire connections in satisfactory condition?	x			
Are guy attachment points to tower in good condition?	x			

Place an x in the proper box

IMPORTANT:	
Shaft Location	***Type***
Inner Anchor	I
Middle Anchor (If applicable)	
Outer Anchor (If applicable)	
Shaft Type	***Select***
Channel	C
Double Channel	2C
Double Angle	2L
I-Beam or W-shape	I
Solid Rod	SR
Double Solid Rod	2SR
Flat Plate	FPL
Helical	HL
Caisson	CSN
Please describe below	Other

Note - If anchor shafts show signs of heavy corrosion at any point, stop digging immediately and complete the remainder of the inspection.

Comments:

1. Little to no room for adjustment on turnbuckles at each anchor for wires 1-3. (Photos 308-309, 326-328,330,343-345)
2. Rusted cotter pins at each anchor. (Photos 311-312,329,346-347)
3. Rust spot on anchor head at anchor A. (Photo 313)
4.
5.
6.
7.
8.
9.
10.

SECTION J- AM DETUNING

Instructions

All discrepancies must be marked with masking tape and magic marker and must be noted and photographed.

Note: If the tower has a base insulator (decommissioned AM hot tower) the box next to the tower with a single wire feed is NOT an AM detuning device.

	Yes	No	Corrected	N/A
Is there an AM Detuning system on the tower?		x		
Are the AM Detuning skirt wires securely attached to the tower?				x
Are the AM Detuning wires in good condition? (Broken, sharp bends, etc)				x
Is the AM Detuning box securely attached to the tower or other mounting system?				x
Is the AM Detuning box in good condition? (Sealed, loose or missing hardware, etc)				x
Is the exterior of the AM Detuning box free of rust and corrosion?				x
Is the AM Detuning system properly grounded?				x

Place x in the proper box

Comments:

1.
2.

SECTION K - COMPLIANCE

I understand that this information and form are the sole property of American Tower Corporation and may not be copied or shared without written permission from ATC.

I certify this report to be accurate and complete to the best of my knowledge and belief.

Name : Kyle Edwards **Date :** 4/27/18

Company : FDH Infrastructure

Site #	: 306030
Site Name	: Lees Summit, MO
Contractor Name	: FDH Infrastructure
Completed By	: Doug Groshong
Date	: 4/27/18

Rev 6.0 (06/14/17)

AMERICAN TOWER® CORPORATION

PRE GUY TENSION MEASUREMENTS

Note - Cable sizes must be measured with Guy Cable Measuring Tool. Photos of size and tension measurements are required. If all cable sizes at one elevation are the same for all legs, photos of size measurements of only one leg are required.

Temperature (°F)	65
Wind Speed (MPH)	9
Wind Direction	WNW

(Northernmost (A) Anchor)

Guy Level	Elev. (Ft.)	Dist. To Anchor (Ft.)	Guy Attachment Type	# of Strands	Are cables EHS or BS?	Cable Size measurement - *See Note above		Paint Color on Dead-End Grip (If visible)	Measured Tension (Lbs) - Use "GP/Left" column for Guy Pull-Off - *See Note above				Dead-End Grip color for this size/str	% of Break Strength (adjusted for temp.)		Tension 6%-16%	
						Size	Photo#		GP / Left	Photo#	Right	Photo#		GP / Left	Right	Left	Right
1	48	216	Guy Pull-Off	7 Strand	EHS	7/16	350	Green	2400	364			Green	12.1%		OK	
2	108	216	Guy Pull-Off	7 Strand	EHS	7/16	353	Green	2440	366			Green	12.2%		OK	
3	168	216	Stabilizer	7 Strand	EHS	7/16	356	Green	2200	368	2380	370	Green	10.9%	11.8%	OK	OK
4	227	216	Guy Pull-Off	7 Strand	EHS	9/16	359	Yellow	3680	372			Yellow	10.7%		OK	
5	288	216	Stabilizer	7 Strand	EHS	9/16	362	Yellow	3220	374	3800	376	Yellow	9.4%	11.0%	OK	OK
6																	
7																	
8																	
9																	
10																	

(B Anchor)

Guy Level	Elev. (Ft.)	Dist. To Anchor (Ft.)	Guy Attachment Type	# of Strands	Are all cables EHS or BS?	Cable Size measurement *See Note above		Paint Color on Dead-End Grip (If visible)	Measured Tension (Lbs) - Use "GP/Left" column for Guy Pull-Off *See Note above				Dead-End Grip color for this size/str	% of Break Strength (adjusted for temp.)		Tension 6%-16%	
						Size	Photo#		GP / Left	Photo#	Right	Photo#		GP / Left	Right	Left	Right
1	48	216	Guy Pull-Off	7 Strand	EHS	7/16	350	Green	2480	390			Green	12.5%		OK	
2	108	216	Guy Pull-Off	7 Strand	EHS	7/16	353	Green	2280	388			Green	11.4%		OK	
3	168	216	Stabilizer	7 Strand	EHS	7/16	356	Green	2280	384	2200	386	Green	11.3%	10.9%	OK	OK
4	227	216	Guy Pull-Off	7 Strand	EHS	9/16	359	Yellow	3180	382			Yellow	9.3%		OK	
5	288	216	Stabilizer	7 Strand	EHS	9/16	362	Yellow	3540	378	3540	380	Yellow	10.3%	10.3%	OK	OK
6																	
7																	
8																	
9																	
10																	

(C Anchor)

Guy Level	Elev. (Ft.)	Dist. To Anchor (Ft.)	Guy Attachment Type	# of Strands	Are cables EHS or BS?	Cable Size measurement *See Note above		Paint Color on Dead-End Grip (If visible)	Measured Tension (Lbs) - Use "GP/Left" column for Guy Pull-Off *See Note above				Dead-End Grip color for this size/str	% of Break Strength (adjusted for temp.)		Tension 6%-16%	
						Size	Photo#		GP / Left	Photo#	Right	Photo#		GP / Left	Right	Left	Right
1	48	216	Guy Pull-Off	7 Strand	EHS	7/16	350	Green	2680	392			Green	13.5%		OK	
2	108	216	Guy Pull-Off	7 Strand	EHS	7/16	353	Green	2460	394			Green	12.3%		OK	
3	168	216	Stabilizer	7 Strand	EHS	7/16	356	Green	2440	396	2480	398	Green	12.1%	12.3%	OK	OK
4	227	216	Guy Pull-Off	7 Strand	EHS	9/16	359	Yellow	3500	400			Yellow	10.2%		OK	
5	288	216	Stabilizer	7 Strand	EHS	9/16	362	Yellow	3460	402	3400	404	Yellow	10.1%	9.9%	OK	OK
6																	
7																	
8																	
9																	
10																	

(D Anchor)

Guy Level	Elev. (Ft.)	Dist. To Anchor (Ft.)	Guy Attachment Type	# of Strands	Are cables EHS or BS?	Cable Size measurement *See Note above		Paint Color on Dead-End Grip (If visible)	Measured Tension (Lbs) - Use "GP/Left" column for Guy Pull-Off *See Note above				Dead-End Grip color for this size/str	% of Break Strength (adjusted for temp.)		Tension 6%-16%	
						Size	Photo#		GP / Left	Photo#	Right	Photo#		GP / Left	Right	Left	Right
1	48		Guy Pull-Off														
2	108		Guy Pull-Off														
3	168		Stabilizer														
4	227		Guy Pull-Off														
5	288		Stabilizer														
6																	
7																	
8																	
9																	
10																	

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Site Name	: Lees Summit, MO
Contractor Name	: FDH Infrastructure
Completed By	: Doug Groshong
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3-SIDED TOWER TWIST AND PLUMB

	Face Width (Ft)	Elevation (Ft)
4th Taper Change ***OR*** Top of Tower		
3rd Taper Change ***OR*** Top of Tower		
2nd Taper Change ***OR*** Top of Tower		
1st Taper Change ***OR*** Top of Tower	3.63	300.00
Base of tower (Bottom of steel)*	3.63	0.00

Temp (°F)	65
Wind Speed	9
Direction	WNW

For a GT w/ a tapered base, enter the face width at the top of the taper into Cell G14.

OBSERVED LEG DISPLACEMENTS										CALCULATED TWIST			CALCULATED OUT-OF-PLUMB		
Data Point	Mast Elev. * See Note (Ft)	A - Face Width (In)	Leg Width (In)	D1**	i1	D2	i2	D3	i3	d (In)	e	α (Deg)	x (In)	y (In)	r (In)
1	48.00	43.50	3.75	-0.25		-0.38		0.00		-0.39	-0.02	-0.90	-0.41	-0.08	0.42
2	108.00	43.50	3.75	-0.38		-0.38		0.00		-0.47	-0.02	-1.08	-0.41	-0.23	0.47
3	168.00	43.50	3.75	-0.38		-0.50		-0.13		-0.63	-0.02	-1.43	-0.41	-0.08	0.41
4	226.50	43.50	3.75	-1.00		-0.63		-0.38		-1.26	-0.05	-2.87	-0.27	-0.62	0.68
5	288.00	43.50	3.75	-0.63		0.00		-0.63		-0.78	-0.03	-1.79	0.68	-0.39	0.78
6															
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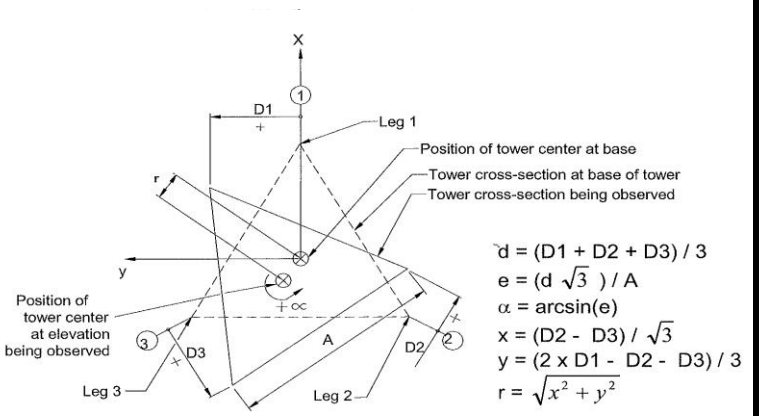
18															
19															
20															

Tower Plumb and Twist Measurements

The transit is to be set up on each leg azimuth at the base of the tower. The corresponding tower leg at the base of the tower is used to set the vertical baseline.



**** Mast Elevation Note***

For guyed towers, record data at each guy elevation ***and*** at all taper change elevations. For self-supporting towers, record data at each 20' section ***and*** at all taper change elevations.

***** Displacement Note***

"D" refers to direct
"i" refers to inverse
Unitless; values are fraction of leg displaced

Site #	: 306030
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Completed By	: Doug Groshong
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Tower Height Verification Form

TOTAL TOWER HEIGHT = GROUND TO HIGHEST APPURTENANCE (F+S+A) = 305.344 (feet)

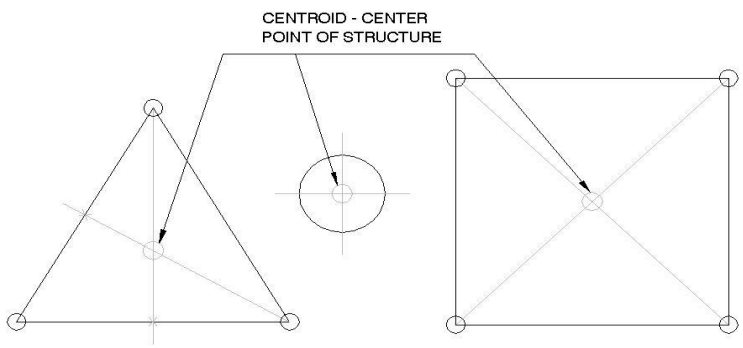
HEIGHT of FOUNDATION (F) = 0.344 **(feet)**
(Measure from ground at center of tower to top of baseplate)

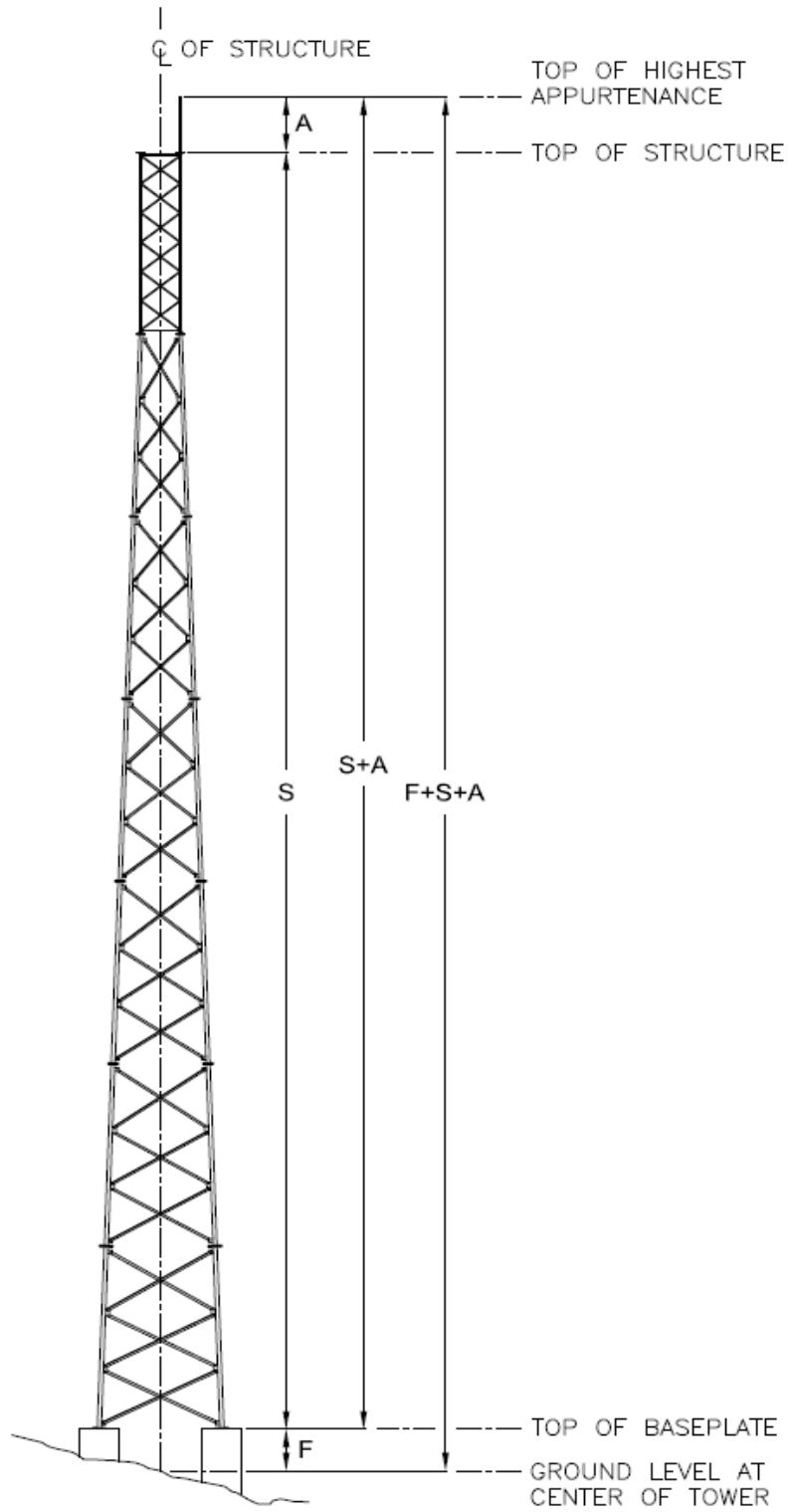
HEIGHT of STRUCTURE (S) = 300 **(feet)**
(Measure from top of baseplate to top of structure)

HEIGHT of APPURTENANCE (A) = 5 **(feet)**

HEIGHT with APPURTENANCE (F+S+A) = 305.344 **(feet)**

Distance From Centroid At Base Of Structure To Laser Tripod = N/A **(feet)**





METHOD OF MEASUREMENT

- (●) Tape Drop
- ( ) Range Finder

(Accuracy to be within +/- 1’ for structures Up to 100 feet. The accuracy is no better than +/- 1’ for structures greater than 100 feet.) This method is generally used to validate existing distances only.

Range Finder Make and Model #	TruPulse 200
Calibration Date	
Training Date	

MEASUREMENT CERTIFICATION:

Company: **FDH Infrastructure Services**

Print Name: **Kyle Edwards**

Date: **4/27/2018**