STATION: BEATTYVILLE REPEATER
CUSTOMER: SOUTH CENTRAL BELL
TOWER TYPE: 214' SELF SUPPORTER
DATE OF INSPECTION: 6-29-94
INSPECTOR: LANE JOHNSON
CREW: PHIL HOUCHENS

Minerich, Inc.

MAINTENANCE AND INSPECTION REPORT

1905 Barnes Mill Road
P.O. Box 98
Richmond, Kentucky 40475
Phone: (606) 623-0024

MINERICH, INC.
MAINTENANCE/INSPECTION REPORT

STATION: Beattyville Repeater
CUSTOMER: South Central Bell
TOWER TYPE: 214' Self Supporter
DATE OF INSPECTION: 6-29-94
INSPECTOR: Lane Johnson
CREW: Phil Houchens

CERTIFICATION

It is the supervisor's responsibility to ensure that all the procedures used (plumb/tensioning) comply with the requirements for this project and to ensure that safe and correct practices are maintained during maintenance and inspection work.

1]. This certifies that all the information entered herein is correct to the best of my knowledge and that all items noted by [X] have been **corrected** or explained on page 11 notes for reasons for **not correcting,** and that the customer's representative has been informed of major problems that require authorization to correct.

Lane Johnson SIGNED

CUSTOMER'S REPRESENTATIVE:

MINERICH, INC. SUPERVISOR/INSPECTOR
PRINT NAME: Lane Johnson

2] Report reviewed and recorded. Rob E. Minerich

MINERICH INC. PROJECT MANAGER
PRINT NAME: Rob E. Minerich

3] Date of last inspection. _____

MINERICH, INC.
MAINTENANCE/INSPECTION REPORT

STATION: BEATTYVILLE REPEATER

SUMMARY

[1] TOWER STRUCTURE

1. G Sections
2. G Angles/Members
3. G Splices
4. G Bolts/Nuts/Filler plates
5. N/A Guy Pulloffs
6. N/A Torque Stabilizers
7. G Ladder
8. G Safety Climb Device
9. G Step Bolts
10. G Lightning Rod
11. G Foundations
12. G Galvanizing/Rust/Flaking
13. G Tower Grounding

[2] TOWER SUPPORT SYSTEM - N/A

1. _____ Tower Plumbness
2. _____ Guy Tensions
3. _____ Guy Attachments
4. _____ Guy Anchors
5. _____ Anchor Grounding
6. _____ Anchor Fence/Guard Posts

[3] PAINTING

1. 7 Number of Bands
2. G Condition of Paint
3. G Surface Coverage

[4] SITE

1. G Access Road
2. G Access Gate/s
3. X Shelter Fence
4. G Shelter
5. G General Site Conditions

[5] ELECTRICAL

1. ✓ Relamped
2. G Operation
3. G Beacon
4. G Sidelights
5. G Conduit
6. G Junction Boxes
7. G Supports

[6] WAVEGUIDE

1. G Eliptical
2. G Rigid
3. N/A Co-Axial
4. G Spacing
5. G Supports
6. G Waveguide Bridge
7. G Building Entry
8. G Pressure
9. G Ice Protection
10. N/A Bullet Protection
11. X Grounding

[7] ANTENNAS

1. G Parabolic [1]
2. G Horns [4]
3. N/A Reflectors [ ]
4. N/A Two Way [ ]
5. G Mounts
6. G Stiffarms
7. X Antenna Ice Protection
8. X Feedhorn Ice Protection
9. G Grounding

Legend:
[G]--Good [X]--See Notes [N]--Not Applicable

[1] TOWER STRUCTURE

GUYED _____

SELF SUPPORTING 214'

OTHER _____

1. Check sections for damage or distortion

   G

2. Check angles and members for damage, distortion and missing steel

   G

3. Check splices

   G

4. Check bolts for tightness (Torque Wrench)

   G

5. Check guy pulloffs

   N/A

6. Check torque stabilizers

   N/A

7. Check ladder/step bolts

   G

8. Check safety climb

   G

9. Check lightning rod

   G

10. Check foundations (grout, settling, cracks)

    G

11. Check galvanized surfaces

    G

12. Check tower grounding system

    G

[2] TOWER SUPPORT SYSTEMS — N/A

1. TOWER PLUMBNESS

Check with transit. Plumb must be checked from two points approximately 90 degrees apart.

Set up transit for positon 1., sighting across two faces of the tower; this position will allow you to verify the amount of tower twist.

Set up transit for position 2., behind an anchor 90 degrees to the position 1.

Align the vertical crosshair with the outside leg edge as close to the base as possible and observe the deviation from plumb throughout the total tower height.

The distance the vertical hair is off to the left or right of the outside edge of the leg shall be measured and the amount of deviation at each guy point recorded. (In inches and fractions of inches using 1/8" segments.)

GUY LEVEL

Lowest Guy	Transit Position 1 Vertical Hair		Transit Position 2 Vertical Hair		Transit Position 1 **Final**		Transit Position 2 **Final**	
	Left	Right	Left	Right	Left	Right	Left	Right
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

MINERICH, INC.
MAINTENANCE/INSPECTION REPORT

(4A)

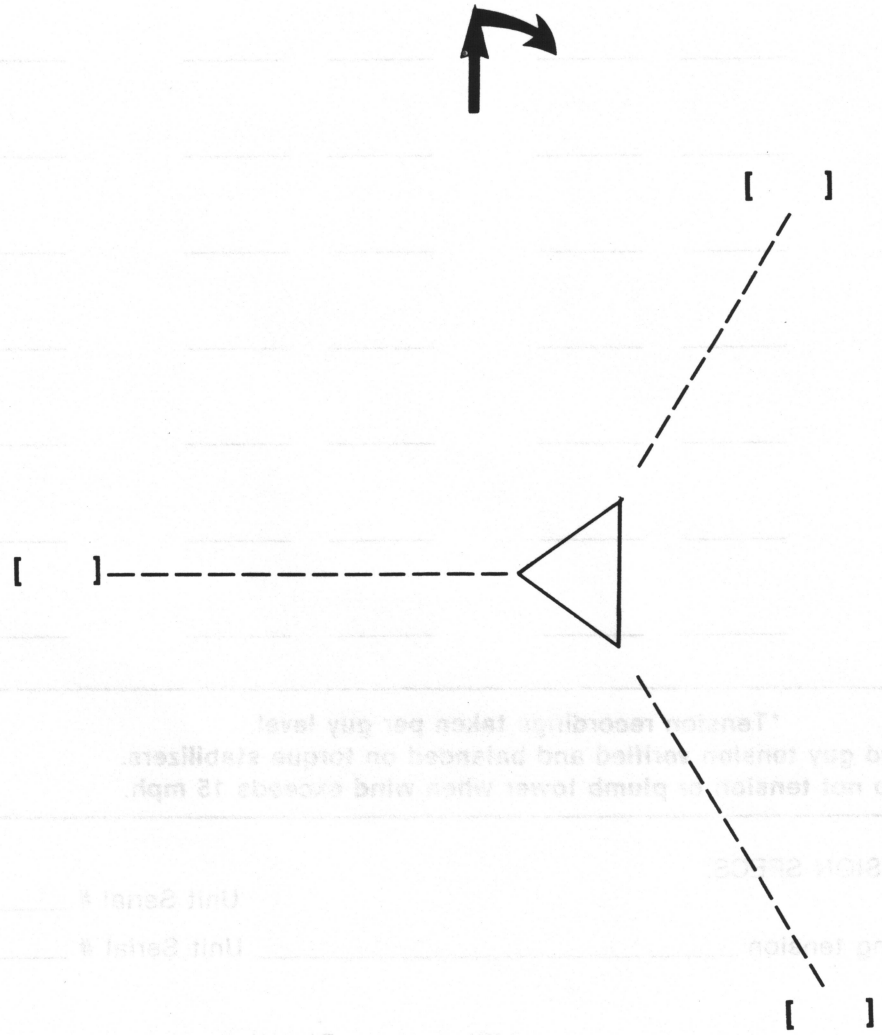
[2] TOWER SUPPORT SYSTEMS – N/A

1. **TOWER PLUMBNESS**

A). Record the amount and direction of **twist**.

B). Draw a sketch locating

1. **Transit** set up positions and note (Pos. I) and (Pos. II)
2. **Magnetic North**
3. **Building** to Tower relation
4. **Anchors** noted clockwise from "N"



MINERICH, INC.
MAINTENANCE/INSPECTION REPORT

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[2] TOWER SUPPORT SYSTEMS – N/A

[2] GUY TENSIONS

TENSIONS:	Guy Level	Guy Size	Guy "A" Actual/Final		Guy "B" Actual/Final		Guy "C" Actual/Final	
____ 1.	____		____	____	____	____	____	____
____ 2.	____		____	____	____	____	____	____
____ 3.	____		____	____	____	____	____	____
____ 4.	____		____	____	____	____	____	____
____ 5.	____		____	____	____	____	____	____
____ 6.	____		____	____	____	____	____	____
____ 7.	____		____	____	____	____	____	____
____ 8.	____		____	____	____	____	____	____
____ 9.	____		____	____	____	____	____	____

***Tension recordings taken per guy level.**
2nd guy tension verified and balanced on torque stabilizers.
Do not tension or plumb tower when wind exceeds 15 mph.

[ ] TENSION SPECS:

Unit Serial # _____

Method used for determining tension _____ Unit Serial # _____

Ground wind velocity _____ MPH Direction _____

Outside air Temperature _____ degrees Fahrenheit

Weather Conditions _____

Reason tension/plumb not completed _____

_____

[2] TOWER SUPPORT SYSTEMS –3/4

[3/4] GUY ATTACHMENTS/ANCHORS

1. Describe condition and type of connection hardware

   1. _____ Preform _____
   2. _____ Fist Grip _____
   3. _____ Crosby Clamp _____
   4. _____ Other _____
   5. _____ Thimbles _____
   6. _____ Shackles _____
   7. _____ Sockets _____
   8. _____ Other _____
   9. _____ Turnbuckles _____

2. Check cotter pins/locking nuts are secured

   _____

3. Check for adequate reserve thread on turnbuckles

   _____

4. Check safety wire passes through turnbuckle centers and eyes/jaws

   _____

5. Check guy hardware and guy strands for corrosion

   _____

6. Check guy tails for unravelling

   _____

7. Check guy anchors

	Inner:			Outer:		
	"A"	**"B"**	**"C"**	**"A"**	**"B"**	**"C"**
1. _____ Flat bar	_____	_____	_____	_____	_____	_____
2. _____ Rod	_____	_____	_____	_____	_____	_____
3. _____ "[" Channel	_____	_____	_____	_____	_____	_____
4. _____ "][" Channel	_____	_____	_____	_____	_____	_____
5. _____ Weldment (Caisson)	_____	_____	_____	_____	_____	_____

8. Check backfill condition

   _____

9. Anchor heads for clearance above grade

   _____

[2] TOWER SUPPORT SYSTEMS – N/A

[5/6] ANCHOR GROUNDING/PAINTING

1. Check anchor ground connections

2. Check guy wire ground connections

3. Record type of connections

"A" Inner/Outer **"B" Inner/Outer** **"C" Inner/Outer**

4. Check anchor fences/guard posts

5. Record Type of fences/guard posts

"A" Inner/Outer **"B" Inner/Outer** **"C" Inner/Outer**

[3] PAINTING

1. Check number of color bands

7

2. Check paint condition

G

3. Record color

RED - WHITE

[4] **SITE:**

1. Check access road condition
   G
2. Check access gate/s condition
   G
3. Check shelter/building fence condition and Record size
   X - NE SIDE OF FENCE AND GATE POST ARE LEANING 103'6" x 84'8"
4. Check general shelter/building condition and Record size
   G 43'8" x 31'4"
5. Check general site condition
   G

[5] **ELECTRICAL**

		Beacon	Sidelight/s
1. Relamped	Yes	✓	✓
	No		

2. Record Bulb Manufacturer/Type
   DUROTEST 620W/120V - BEACON DUROTEST 1166W/120V - SIDELIGHTS
3. Check Operation of lights and control
   G
4. Record unit type/manufacturer
   CROUSE-HINDS 6BT - 449143
5. Check beacon physically for damage and condition
   G
6. Check sidelights physically for damage and condition
   G
7. Check conduit/junction boxes for damage
   G
8. Check support system for damage
   G

[6] WAVEGUIDE

Check and record Waveguide types

	Type:	Type Number:	Number Runs:	Condition:
1.	Eliptical	EW52*/EW90	4 / 2	G
2.	Rigid	3" CIRC	4	G
3.	Co-axial			

* UNDER W/G BRIDGE

4. Flex Sections at antennas/record quantity

Antenna:

Quantity/Type:

5. Check for correct spacing

G

6. Check waveguide support system

G

7. Check waveguide bridge

G

8. Check building entry/ports

G

9. Check pressurization/leaks

G

10. Check ice protection on waveguide

G

11. Check bullet protection on waveguide

N/A

12. Check waveguide grounding system

X- RETAPED 4 GROUNDS UNDER W/G BRIDGE

Waveguide Top:	Bottom:	Other:
G	G	

[7] **ANTENNAS**
Check and record antenna types.

	Size/Type:		Parabolic Azimuth	Height:	Horn:	R/flrs:	2/Ways:	Stiffarms:
1.	8'	GABRIEL	194.6°	98'				/
2.	9'	ROHR KS15676	103.3°		209'			
3.	10'	AND SHX 10	103.3°		209'			
4.	9	ROHR KS15676	330.2°		209			
5.	10'	AND SHX10	330.2°		209'			
6.								
7.								
8.								
9.								
10.								

5. Check mounts/hardware

G

6. Check stiffarms

G

7. Check ice protection

Antenna:	Ft:	Az:	Feedhorn:	Ft:	Az:

8. Check Antenna grounding at antenna

G

[8] **GENERAL NOTES** (NOTE ALL ITEMS CORRECTED OR REQUIRING FURTHER ACTION)

1] All rusted areas zinc rich spray coated [/] cans used.

[4] SITE

3) SHELTER FENCE AND A GATEPOST ARE LEANING.

[6] WAVEGUIDE

11.) RETAPED 4 GROUNDS ON ELIPTICAL W/G UNDER BRIDGE.

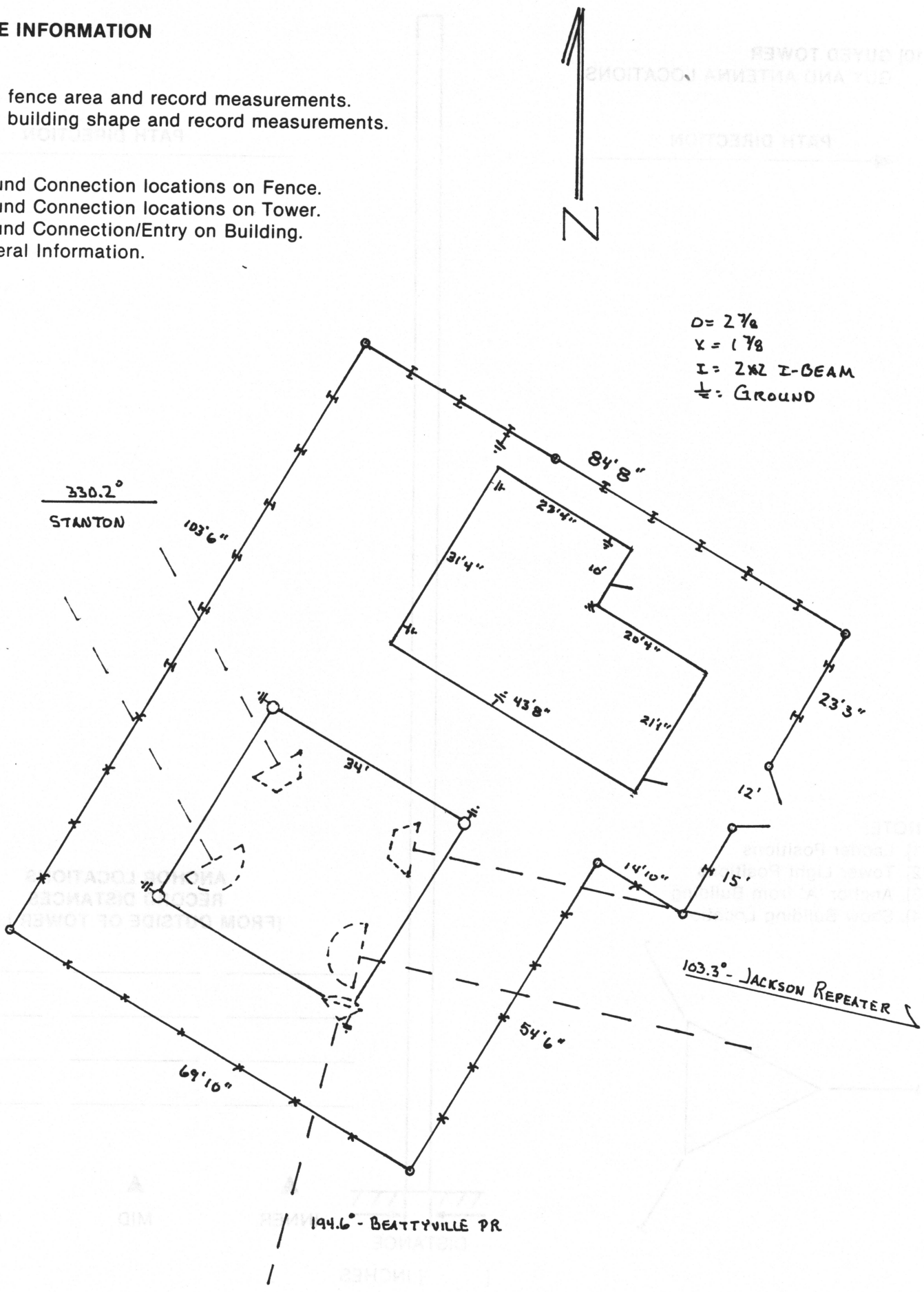
[7] ANTENNAS

8' GABRIEL ANT AT 98'-194.6° SHOULD HAVE ICE PROTECTION

[9] SITE INFORMATION

Sketch fence area and record measurements.
Sketch building shape and record measurements.

NOTE:
1] Ground Connection locations on Fence.
2] Ground Connection locations on Tower.
3] Ground Connection/Entry on Building.
4] General Information.



MINERICH, INC.
MAINTENANCE/INSPECTION REPORT

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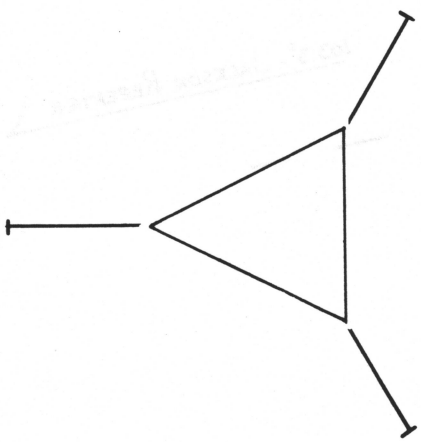
[10] **GUYED TOWER**
GUY AND ANTENNA LOCATIONS

PATH DIRECTION

PATH DIRECTION

NOTE:
1]. Ladder Positions
2]. Tower Light Positions
3]. Anchor 'A' from Building
4]. Show Building Location



ANCHOR LOCATIONS
RECORD DISTANCES
[FROM OUTSIDE OF TOWER LEG]

_____ _____ _____ "A"

_____ _____ _____ "B"

_____ _____ _____ "C"

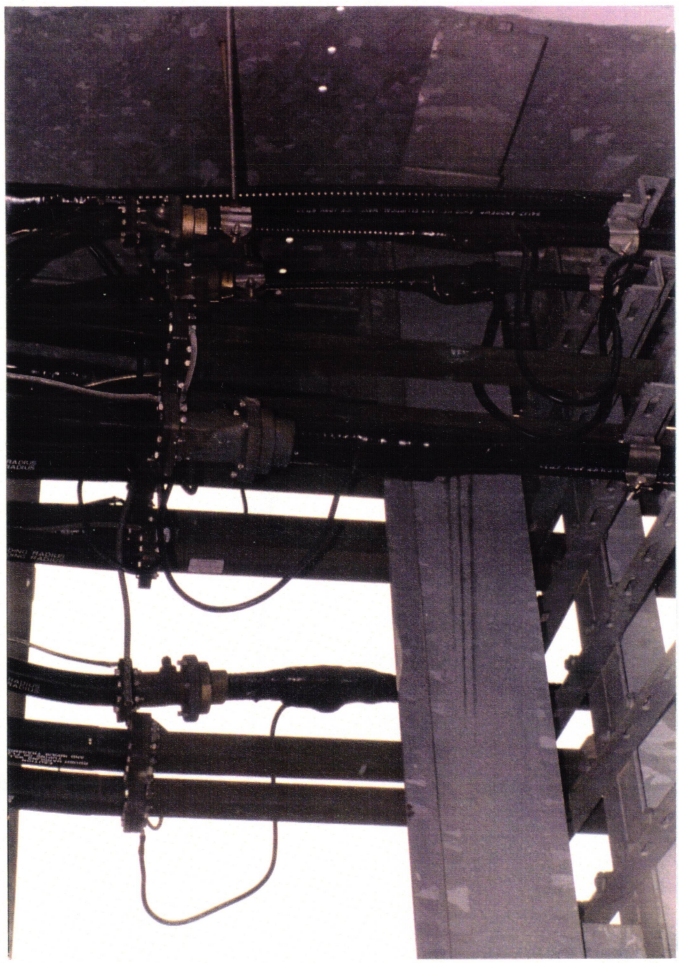
_____ _____ _____ "D"

▲ INNER ▲ MID ▲ OUTER

DISTANCE

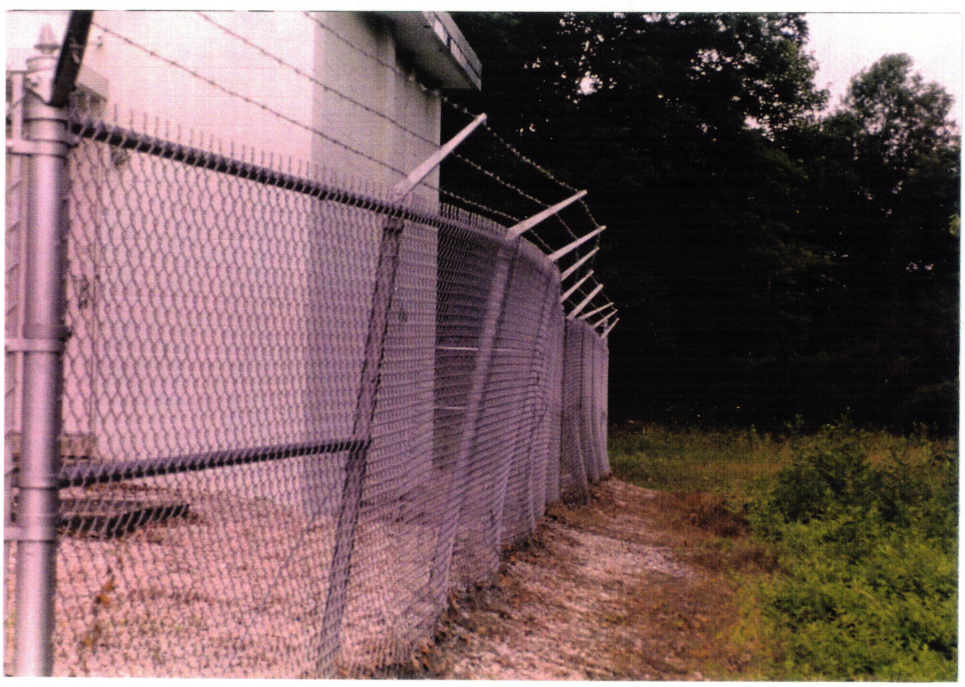
[ ] INCHES

[11] SITE PHOTOGRAPHS



RETAPED GROUNDS ↑

FENCE DAMAGE ↓



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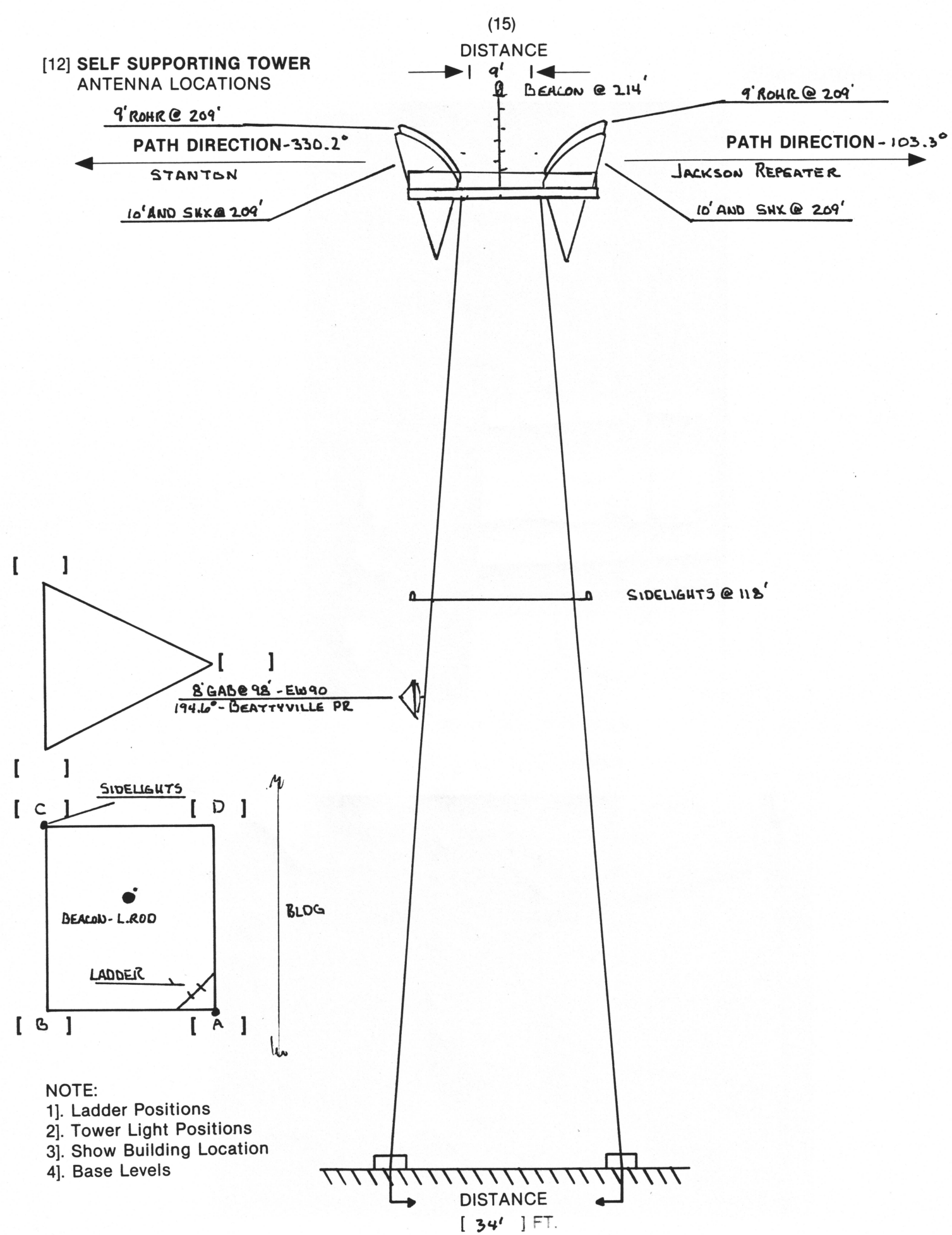
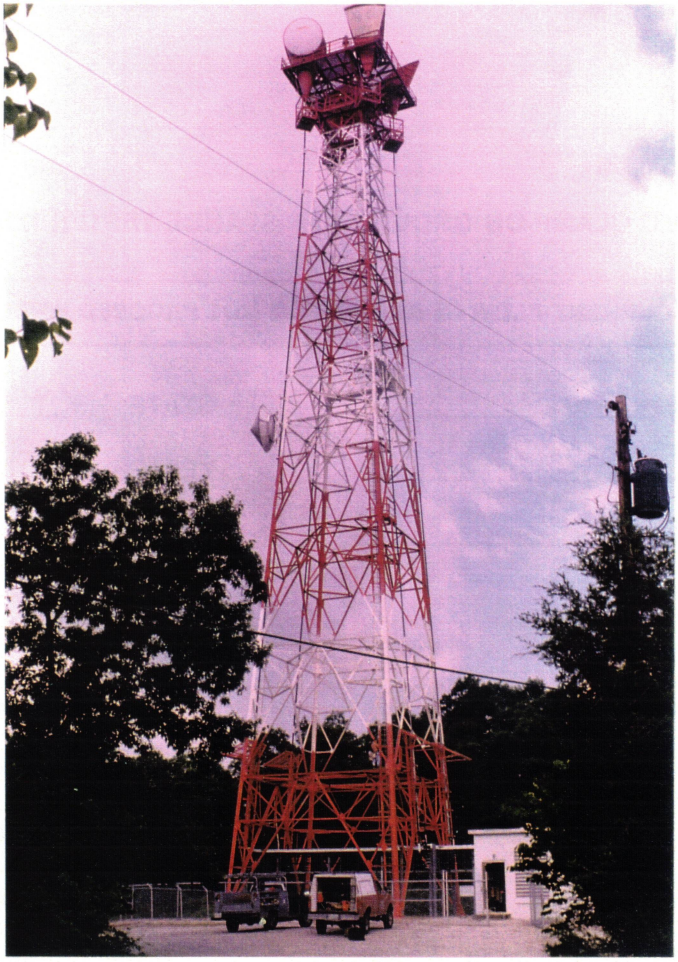
MAINTENANCE/INSPECTION REPORT

[12] **SELF SUPPORTING TOWER**
ANTENNA LOCATIONS



NOTE:
1]. Ladder Positions
2]. Tower Light Positions
3]. Show Building Location
4]. Base Levels

[13] SITE PHOTOGRAPHS TOWER / BUILDING



[14] GROUND MEG TESTING

EQUIPMENT:

AEMC CLAMP-ON GROUND RESISTANCE TESTER MODEL 3700

IF MORE THAN 2AMP CURRENT FLOW IN GROUND DO NOT PROCEED WITH GROUND RESISTANCE TEST

SITE: BEATTYVILLE REPEATER STATE: KY

DATE: 6-29-94 TESTER: LANE JOHNSON

WEATHER: CLEAR - HOT SITE TERRAIN: ROLLING HILLS

PROBE LOCATION:	CURRENT READINGS:	OHMS READINGS:
1. MAIN GROUND TO BUILDING (ALL GROUNDS)	0.0 AMPS	<2.0
2. TOWER BASE --- (A)	_____ AMPS	0.89
3. TOWER BASE --- (B)	_____ AMPS	0.79
4. TOWER BASE --- (C)	_____ AMPS	0.76
TOWER BASE --- (D)		0.99
5. FENCE -- (CORNER NE SIDE)	_____ AMPS	10.3
6. FENCE -- (CORNER)	_____ AMPS	_____
7. ANCHORS -- ("A" INNER)	_____ AMPS	_____
("A" OUTER)	_____ AMPS	_____
("B" INNER)	_____ AMPS	_____
("B" OUTER)	_____ AMPS	_____
("C" INNER)	_____ AMPS	_____
("C" OUTER)	_____ AMPS	_____

NOTES

[15] RECOMMENDATIONS/ACTION REQUIRED

[16] **SITE PHOTOGRAPHS**