



**On a little Farm
Market road in
Hempstead, Texas...**

634



Round Mountain Radio Ranch



• **NR5M**

Dayton Contest Forum
May 2010

W2GD, K4ZA, NR5M

GOAL?

- World-class multi-op station
- with SOAB/SO2R capabilities




Driven by “Best of the Best”
choices within station budget

Quality
Reliability
LOUD

All contributing factors!

The background is a dark blue gradient. Three large, overlapping circles are centered on the page. Each circle contains several concentric rings, with the innermost ring being a dotted line. The circles overlap in the center, creating a complex geometric pattern.

Roadblocks in the way?

The background features a dark blue gradient that transitions from a very dark blue at the top to a slightly lighter blue at the bottom. Overlaid on this gradient are several sets of concentric circles in a lighter blue color. These circles are arranged in a way that they overlap each other, creating a complex, layered pattern. The text is centered in the upper-left quadrant of the image.

Property/station sat un-used
nearly 15 years!
(no maintenance)

Towers: 14 existing towers

All showing serious neglect

broken/missing guy wires

vines over 40 feet high

antennas and/or pieces dangling,

or completely missing, etc.



Damaged 160M vertical



Damaged 40M stack



Damaged 15M stack tower



Damaged 10M stack tower

What was needed was a PLAN

We looked to experts!

Consultations with W3LPL,
N6BV, N3RD, K3LR, K4JA, &
others, including our vendors...

Choices? Keeping with “the best”
factor...all K3LR/W3TX OWA Yagi
stacks: 40M - 10M (48 ft booms)

All K0XG tower hardware, including
star guy brackets & orbital ring
rotators

The background of the slide is a dark blue gradient with several sets of concentric circles in a lighter blue color, creating a ripple effect.

All towers guyed w/Phillystran or
Polygon Rod

All towers to be star-guyed to
maximize capability/survivability



All Prosisstel or K7NV-rebuilt
Prop Pitch rotators

All Green Heron rotator controllers

Array Solutions Stack-Matches

All feed lines to be HELIAX

LDF-7 (1 & 5/8-in) running to tower bases

LDF-5 (7/8-in) up towers for phasing lines

LDF-4 feeding Beverages & 160/80M

Switching shed

Used for cable terminations
orbital ring rotator power supplies
matrix relay systems
lightning protection/grounding

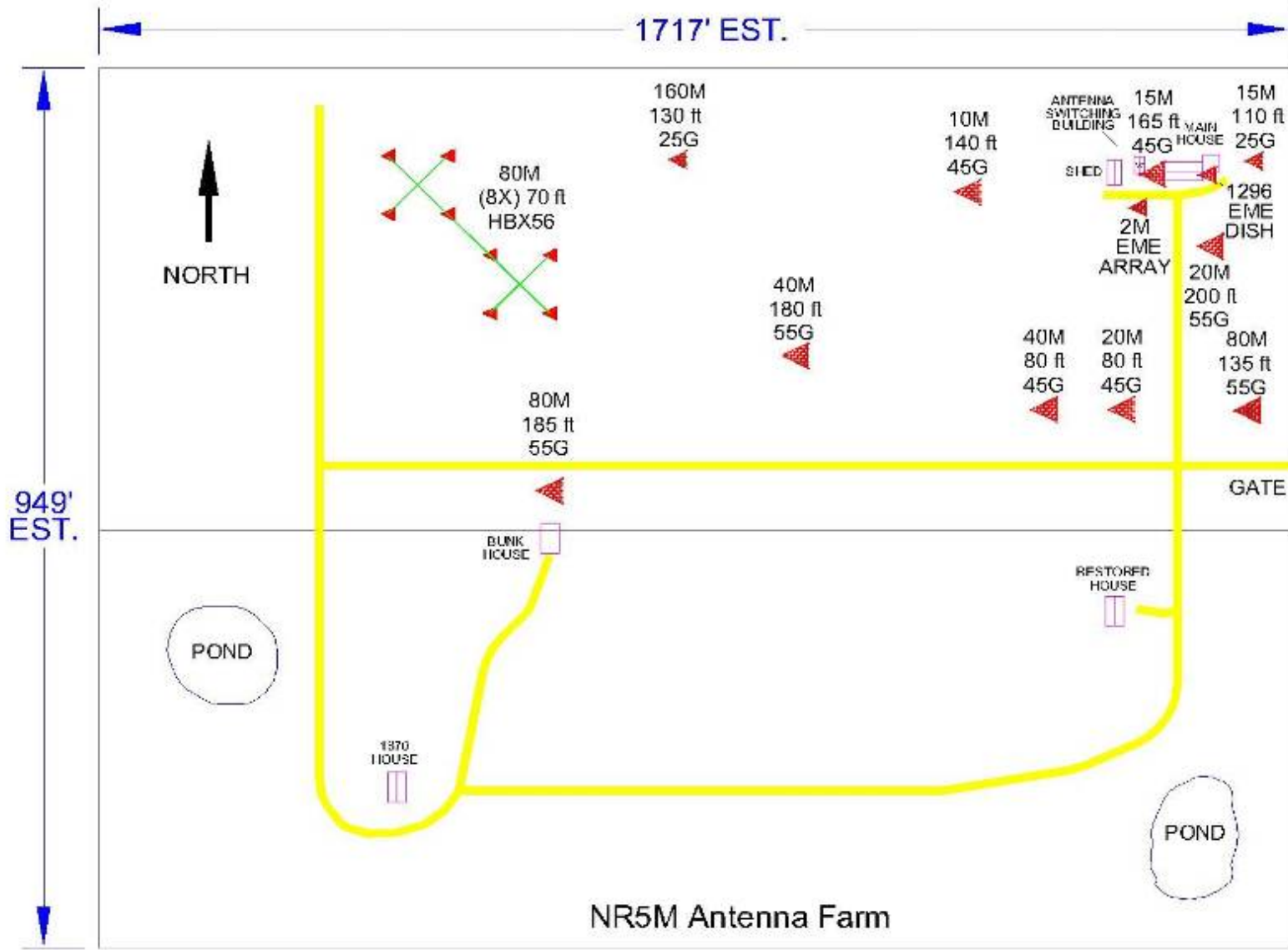
Then FSJ4-50 (1/2-in) SuperFlex in
to hamshack

Order of work:

10M antennas (ARRL 10M Test to be 1st contest during station renovation)

then...

15M, 20M, 40M, 80M, 160M



NR5M Antenna Farm

41562 FM 1736 Road, Hempstead, Texas 77445

the old

Cutting loose (literally) old 40M KLMs



the new

40M 4L K3LR/W3TX OWAs

@185/105ft w/ 10M OWA above





Typical construction approach—using a crane
Safe, fast, labor-savings

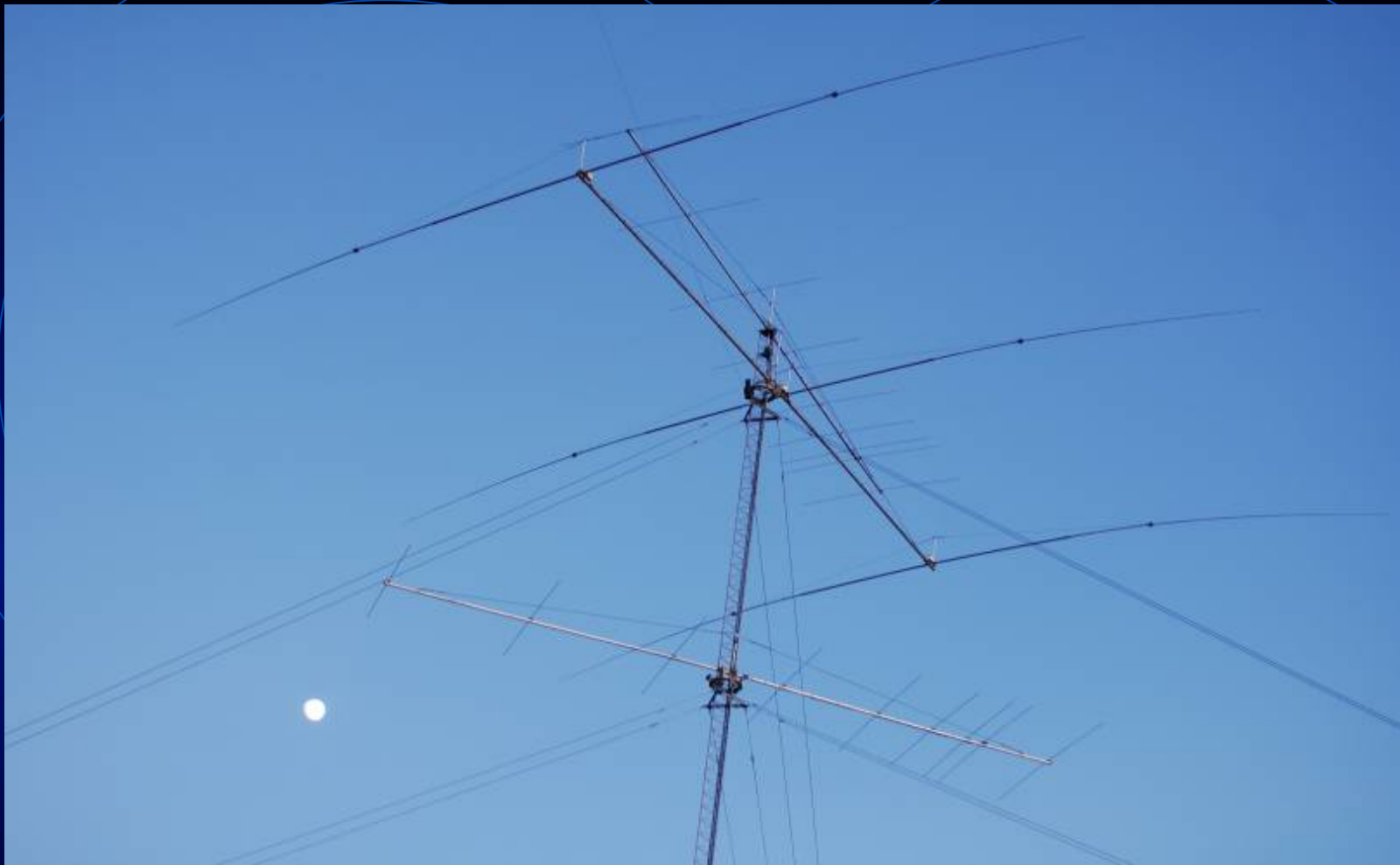


Kenny, KZ5KG/W5AAC ranch resident, ground crew

Building M2 80M 3L Yagi #1

W2GD, K7ZV, K4ZA





3L 80M Yagi @ 135 ft

20M 6L OWA stack
44/94/144/198ft



15M 7L OWA stack
42/82/122/162ft



10M 8L OWA stack
35/70/105/140ft



6M 13L 60ft boom OWA stack
38/76/114/152ft



2M M2 EME array



NR5M PROJECT TIMELINE

May 2007 NR5M & W2GD meet in Dayton to discuss rebuild

July 2007 Visit Texas—site survey

Aug. 2007 develop preliminary reconstruction PLAN

Sept. 2007 begin dismantling & guy repairs

Oct. 2007 continue dismantling & begin 10M build & install

Nov. 2007 continue 10M stack installation work

Dec. 2007 finish 10M antenna installations

Jan. 2008 begin 15M guy & rotator installation

Feb. 2008 finish 15M stack installation

Mar. 2008 begin 20M guy & rotator installation

Apr. 2008 complete 20M guys, begin 40M guy work

May 2008 finish 20M stack install, continue 40M guy & rotator work

Timeline, continued

June 2008 finish 40M stack/10M install, begin 80/160 antenna work

July 2008 No Visit

Aug. 2008 80M four square towers built & installed

Sept. 2008 Complete 80M four squares, begin 160M

Oct. 2008 Repairs after Hurricane Ike, finish 160M, begin 80M tower prep

Nov. 2008 Build/Install 3L 80M wire Yagis, rotator maintenance

Dec. 2008 Prep 135ft tower for 80M Yagi, Rotator Updates

Jan. 2009 Finish 135ft tower prep, build 80M Yagi, repair 15M antennas

Feb. 2009 No Visit

Mar. 2009 install 1st 80M beam, add 80ft to 2nd 80M tower, start 6M tower repairs

April 2009 No Visit

Timeline, continued

May 2009 6M & 185ft 80M tower guy wire & rotator work with K6NA

June 2009 6M & 185ft 80M rotators, phasing lines, guys, feedline work

July 2009 No Visit

Aug, 2009 No Visit

Sept. 2009 6M stack & 20M two-stack installs, XG rotator maintenance

Sept. 2009 10M two-stack install 135ft 80M tower, 3L 80M install @ 185ft

Oct. 2009 No Visit

Timeline, *continued*

Nov. 2009 XG rotator repairs, EME tower assembly
Dec. 2009 No Visit

Jan. 2010 LM-470 tower erected & 2M EME array
installed

Feb. 2010 15M mult tower w/TIC rings, cabling, 15M stack
& 6M installs

Apr. 2010 10M tower star guyed, VHF/UHF antennas
installed

Antennas in use May 2010

160M

125 ft 25G vertical w/parasitic elements NE,NW,SW, SE

80M

pair Phased Four Squares

3L @ 185 ft

3L @ 135 ft

40M

4L/4L OWA @ 185/100 ft

4L OWA @ 80 ft

-

20M

6L/6L/6L/6L OWA @ 198/144/94/44 ft

6L/6L OWA @ 170/100 ft

4L @ 80 ft

15M

7I/7L/7L/7L OWA @ 162/122/82/42 ft

6L/6L KLM @ 105/65 ft

7L OWA @ 200 ft

10M

8L/8L/8L/8L OWA @ 140/105/70/35 ft

8L OWA @ 200 ft

9L/9L OWA @ 145/105 ft

VHF/UHF antennas

All M2

2M 15L vert/hor @ 158 ft

23CM two stack 23CM35 @ 179 ft

432 two stack 13WL @ 163 ft

2M 12L @ 159 ft



What makes this project different?

Complexity...

Duration...

Logistics...

Quality...

and of course...SIZE...

It's TEXAS...!

- You get the idea:
- It's big, **BIGGER, BIGGEST!**
- Here's Don with some smaller stuff...

Practical matters...

- Star guying...





Beauty of star guys...



What to do with those LDF-5 phasing lines



HBX-56 (four square) insulators









3L 80M @ 185 ft



Supplies...



6L/6L 15M Mult antennas KLM & 6M Yagi



Switching shed



Beverage example



Beverage feedpoint detail



Solid rod tower for 80M two stack @ 340/170 ft

1296 EME array



16.5 ft dish

Brrrr....30-degrees in Texas?



Thank God for Wal-Mart!

Like what you've seen?

John Crovelli W2GD
908-391-5611
w2gd@hotmail.com

Don Daso K4ZA
704-408-7948
k4za@juno.com



Give us a call!
We'd love to work for you~!

Clearly...

BIG things are happening
at NR5M

Here's George with more!



SO2R operation



Crowded M-M operation

Contest Results

2007 **ARRL 10M Mixed Mode #2 US/Canada**

2008

- ARRL SS S/O Phone #1 STX & #5 US/Canada**
- ARRL SS Multiop CW #1 STX & #2 US/Canada**
- ARRL DX 15M S/B SSB #1 US/Canada**
- ARRL DX 15M S/B CW #1 US/Canada**
- ARRL 10M SSB #1 STX**
- IARU #1STX #2 US/Canada**
- IOTA S/O SSB #3 World**
- CQ WPX CW 15M S/B #1 US & #6 World**
- CQ WPX CW 15M S/B #1 NA & #7 World**
- CQ WW DX SSB #1 W5, #4 US & #19 World M/M**

2009 ARRL 10M SO SSB 4th US/Canada
RAC SOAB 1st World
ARRL SS SSB SOHO 5th US/Canada
ARRL SS CW Multiop 2nd US/Canada
NA Sprint SSB SO 2nd US
CQ WW CW MM 10th USA
CQ WPX SSB SO/AB #1 W5 & #7 NA
CQ 160M CW #1 W5, #7 US & #10 NA
Russian DX SOAB Continental & US Winner

2010 CQ WPX SSB SOAB 4th US (Claimed scores)
160 SSB 4th US
Russian DX SSB SO 9th World
ARRL DX CW M-M 11th US
NA Sprint SSB SO 2nd US
BARTG Spring RTTY Multiop 3rd World
NAQP SSB SO 3rd US
RTTY M/S HP 1st World
NAQP CW M2 1st US

Open Invitation to visit or operate at the ranch...



The background is a dark blue gradient with several overlapping circles of varying sizes and colors (light blue and white) scattered across the slide.

Wrap up...

Q&A?