Permits: 410-313-2455
Inspections: 410-313-1810
Automated Line: 410-313-3800

Howard County Building/Fire Permit Application

Department of Inspections, Licenses & Permits
3430 Court House Drive
Ellicott City, MD 21043

Permit Number:

Building Address: 3420 Shady Lane
Glenwood, MD 21738

Suite/Apt. #_____ SDP/WP/BA #: _____

Census Tract: _____ Subdivision: _____

Section: _____ Area: _____ Lot: _____

Tax Map: _____ Parcel: _____ Grid: _____

Zoning: _____ Map Coordinates: _____ Lot Size: _____

Existing Use: _____

Proposed Use: Enclosed porch

Estimated Construction Cost: $_____

Description of Work: Add Enclosed porch to basement end through French Doors 18 x 12 foot

Occupant or Tenant: _____

Was tenant space previously occupied? ☐Yes ☐No

Contact Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Email: _____

Property Owner's Name: Edward Bruns

Address: 3420 Shady Lane

City: Glenwood State: MD Zip Code: 21738

Home Phone: 410-489-6119 Work Phone: _____

Applicant's Name & Mailing Address, (If other than stated herein):

Phone: _____ Fax: _____

Email: _____

Contractor Company: Nunley Home Improvements

Contact Person: William Nunley

Address: 9100 Grant Ave

City: Lawel State: MD Zip Code: 20723

License No.: MHIC 44107

Phone: 301 490 2310 Fax: 490 2310

Email: Billnunley@comcast.net

Engineer/Architect Company: _____

Responsible Design Prof.: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Email: _____

BUILDING DESCRIPTION - COMMERCIAL

Building Characteristics	Utilities
Height:	***Water Supply***
No. of stories:	☐ Public
Gross area, sq. ft./floor:	☐ Private
	Sewage Disposal
Area of construction (sq. ft.):	☐ Public
	☐ Private
Use group:	Electric: ☐ Yes ☐ No
	Gas: ☐ Yes ☐ No
Construction type:	***Heating System***
☐ Reinforced Concrete	☐ Electric ☐ Oil
☐ Structural Steel	☐ Natural Gas ☐ Propane Gas
☐ Masonry	***Sprinkler System:***
☐ Wood Frame	☐ N/A
☐ State Certified Modular	☐ Full
➢ **Roadside Tree Project Permit**	☐ Partial
☐Yes ☐No	☐ Other Suppression
Roadside Tree Project Permit #	No. of Heads:

BUILDING DESCRIPTION – RESIDENTIAL

Building Characteristics	*Utilities*
☐ SF Dwelling ☐ SF Townhouse	***Water Supply***
Depth **Width**	☐ Public
1st floor:	☐ Private
2nd floor:	***Sewage Disposal***
Basement:	☐ Public
☐ Finished Basement	☐ Private
☐ Unfinished Basement	Electric: ☐ Yes ☐ No
☐ Crawl Space	Gas: ☐ Yes ☐ No
☐ Slab on Grade	***Heating System***
No. of Bedrooms:	☐ Electric
Multi-family Dwelling	☐ Oil
No. of efficiency units:	☐ Natural Gas
No. of 1 BR units:	☐ Propane Gas
No. of 2 BR units:	
No. of 3 BR units:	
Other Structure:	
Dimensions:	
Footings:	➢ **Roadside Tree Project Permit**
Roof:	☐Yes ☐No
☐ State Certified Modular	**Roadside Tree Project Permit #**
☐ Manufactured Home	

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature _____ *Print Name* _____

Email Address _____ *Date* _____

Title/Company _____

Checks Payable to: **DIRECTOR OF FINANCE OF HOWARD COUNTY**

PLEASE WRITE NEATLY & LEGIBLY*

-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health	7/6/12	R Baile
Fire Protection		

Is Sediment Control approval required for issuance? ☐ Yes ☐ No

☐ CONTINGENCY CONSTRUCTION START

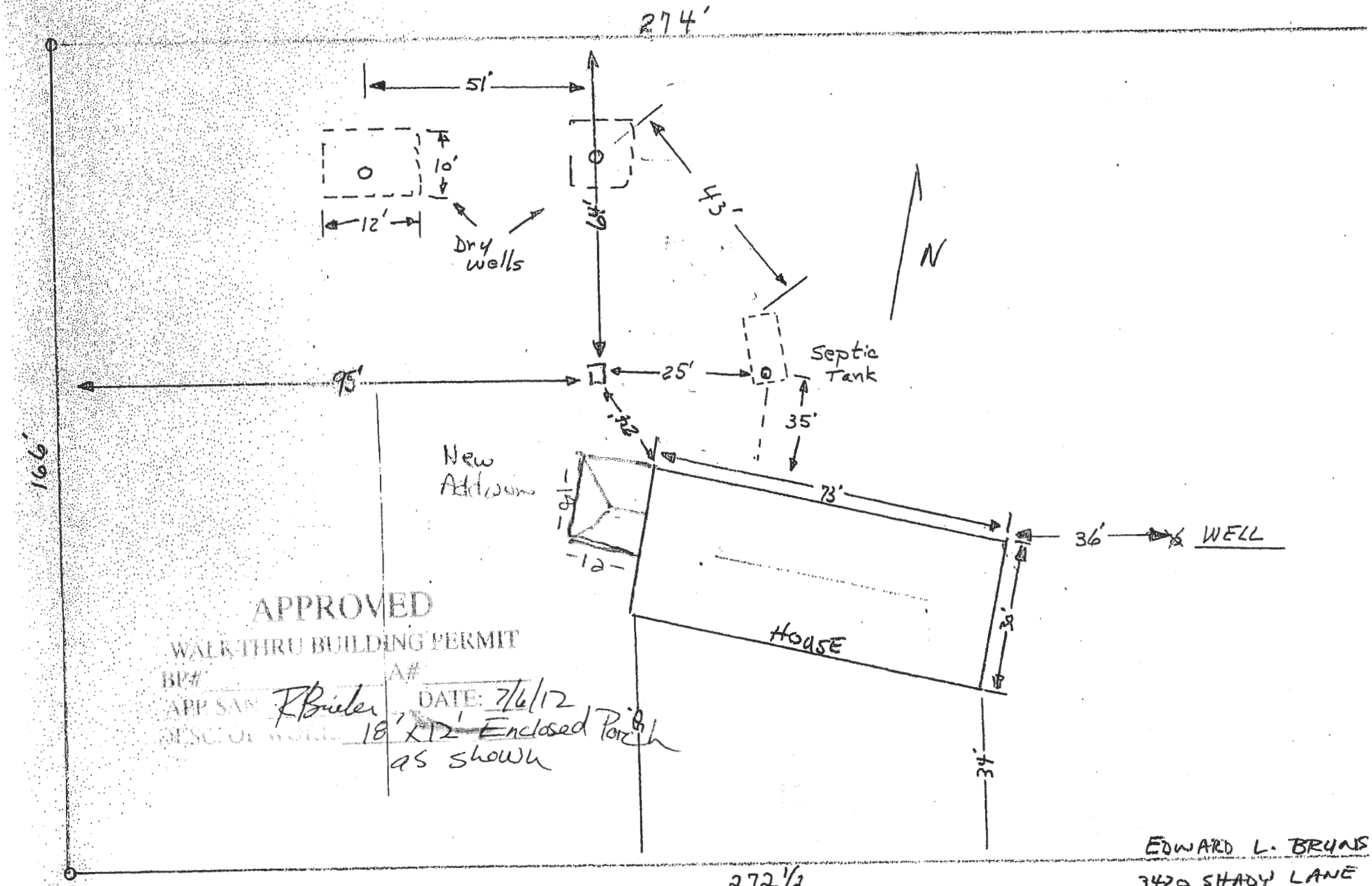
☐ ONE STOP SHOP

DPZ SETBACK INFORMATION	
Front:	
Rear:	
Side:	
Side St.:	
All minimum setbacks met?	☐ Yes ☐No
Is Entrance Permit Required?	☐ Yes ☐No
Historic District?	☐ Yes ☐No
Lot Coverage for New Town Zone:	
SDP/Red-line approval date:	

Filing Fee	$
Permit Fee	$
Tech Fee	$
Excise Tax	$
PSFS	$
Guaranty Fund	$
Add'l per Fee	$
Total Fees	$
Sub- Total Paid	$
Balance Due	$

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA

T:\Operations\Updated Forms\New building app 11.10.2010.docx



Not to Scale

EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 217

DEPT. OF INSPECTIONS, LICENSES AND PERMITS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MD 21043
PERMITS (410) 313-2455
INSPECTIONS (410) 313-1810
AUTOMATED INFORMATION (410) 313-3800

HOWARD COUNTY PERMIT APPLICATION

B09002400
PERMIT NUMBER

Building Address 3420 Stray Lane

Suite/Apt. #: _____ SDP/WP/Petition #: _____

Census Tract _____ Subdivision _____

Section _____ Area _____ Lot _____

Tax Map _____ Parcel _____ Grid _____

Zoning Map Coordinates Lot Size

Property Owner's Name EDWARD L. BRUNS

Address 3420 Stray Ln.

City _____ State _____ Zip Code _____

Home Phone (410) 489-6149 Work Phone _____

Applicant's Name & Mailing Address, (if other than stated herein):

Phone Fax

Existing Use _____

Proposed Use _____

Estimated Construction Cost $ 1,000

Description of Work Install 54' AMATuer Radio Tower 8' Mast and Antenna R

Occupant or Tenant _____

Contact Name _____

Address _____

City _____ State _____ Zip Code _____

Phone Fax

Contractor Company _____

Contact Person _____

Address _____

City _____ State _____ Zip Code _____

License No. _____

Phone Fax

Engineer or Architect Company _____

Contact Person _____

Address _____

City _____ State _____ Zip Code _____

Phone Fax

BUILDING DESCRIPTION – *COMMERCIAL*

Building Characteristics

Height:

No. of stories:

Gross area, sq. ft. per floor:

Use group:

Construction type:
____ Reinforced Concrete
____ Structural Steel
____ Masonry
____ Wood Frame

____ State Certified Modular

Utilities

Water Supply:
____ Public
____ Private
Sewage Disposal:
____ Public
____ Private

Electric Yes ☐ No ☐
Gas Yes ☐ No ☐

Heating System:
Electric ☐ Oil ☐
Natural Gas ☐
Propane Gas ☐

Sprinkler system: N/A ☐
____ Full
____ Partial
____ Other Suppression
____ # of Heads

BUILDING DESCRIPTION – *RESIDENTIAL*

Building Characteristics

SF Dwelling ☐ SF Townhouse ☐

Depth	Width
1st floor:	
2nd floor:	
Basement:	

Finished Basement ☐ Unfinished Basement ☐ Crawl space ☐ Slab on Grade ☐

No. of Bedrooms 3

Multi-family dwellings:
No. of efficiency units: _____
No. of 1 BR units: _____
No. of 2 BR units: _____
No. of 3 BR units: _____

Other Structure: _____
Dimensions: _____
Footings: _____
Roof: _____

____ State Certified Modular
____ Manufactured Home

Utilities

Water Supply:
____ Public
___\ Private
Sewage Disposal:
____ Public
___\ Private

Electric Yes ☐ No ☐
Gas Yes ☐ No ☐

Heating System:
Electric ☐ Oil ☐
Natural Gas ☐
Propane Gas ☐

Sprinkler system: N/A ☐
____ NFPA #13D
____ NFPA #13R
____ Other:

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Edward L. Bruns
Applicant's Signature

EDWARD L. BRUNS
Print Name

Title/Company

4 SEPT 2009
Date

Checks payable to: **DIRECTOR OF FINANCE OF HOWARD COUNTY**
PLEASE WRITE NEATLY AND LEGIBLY.

- FOR OFFICE USE ONLY -

AGENCY	DATE	SIGNATURE APPROVAL
Land Development, DPZ		
State Highways		
Building Officials		
Dev. Engineering, DPZ		
Health	10-9-09	Dana Bernard
Fire Protection		

Is Sediment Control approval required prior to issuance?
YES ☐ NO ☐

CONTINGENCY CONSTRUCTION START: ☐
ONE STOP SHOP: ☐

DPZ SETBACK INFORMATION

Front: _____
Rear: _____
Side: _____
Side St.: _____

All minimum setbacks met?
YES ☐ NO ☐

Is Entrance Permit Required?
YES ☐ NO ☐
Historic District?
YES ☐ NO ☐
Lot Coverage for New Town Zone _____
SDP/Red-line approval date _____

PROPERTY ID #

Filing fee $ _____
Permit fee $ 55.00
Excise tax $ 5.00
Add'l per fee $ _____
TOTAL FEES $ 55.00
Sub-total paid $ _____
Balance due $ _____
Check # 2332
Validation # _____

Accepted by _____

Distribution of Copies - White: Building Officials Green: LDD, DPZ Yellow: DED, DPZ Pink: Health Gold: SHA

T:\Operations\Updated forms

HG-54HD

54-Foot Self-Supporting Tower

Crank-ups®

TELEX® hy-gain®

TELEX COMMUNICATIONS, INC.

8601 East Cornhusker Highway, P.O. Box 5579, Lincoln, NE 68505-5579

PN 801771-4 MADE IN U.S.A. ORDER NO. 130-1

CHAPTER 1
GENERAL INFORMATION

WARNING
Installation of this product near power lines is dangerous. For your safety, FOLLOW THE INSTRUCTIONS.

GENERAL DESCRIPTION

This model is a 54-foot self-supporting tower designed to support 16.0 square feet of antenna area with winds up to 60 mph. This all steel tower has a guide system that allows the tubing to be open at each end insuring complete galvanizing and total moisture drainage.

The tower is extended from its nested position by manual crank. A thrust bearing can be bolted to the top section allowing a 2" diameter mast.

NOTE: If you are installing the Hy-Gain HDR-300 Rotator on your tower, you will not be able to nest the tower completely.

UNPACKING AND UNCRATING

Be sure to check your tower for any freight damage or missing parts. If you find damage, notify the trucking line that delivered the equipment immediately and advise Hy-Gain of the damage. Send a copy of the freight damage claim to:

Hy-Gain
Telex Communications, Inc.
8601 East Cornhusker Highway
P.O. Box 5579
Lincoln, Nebraska 68505-5579
Attention: Traffic Department

SPECIFICATIONS

Height:	
Extended	54 feet (16.45m)
Nested	21 feet (6.40m)
Guying	Self-supporting
Construction	All welded construction with leg guides and "W" configuration torsion resistant bracing.
Material	all steel
Plating	hot dipped galvanized
Wind Survival	60 mph (96.55 kmph) (fully extended with maximum load)
Antenna Load Limits	16.0 sq. ft. (1.488 sq. m)

EQUIPMENT SUPPLIED

The HG-54HD tower is supplied complete, including reinforcing steel and base mount. The tower corresponds to the drawings contained in this manual. Refer to the Parts List section for a complete breakdown of parts.

The Parts List shows the standard commercial packaging. Any changes or modifications, if any, which may be incorporated as the result of special contractual agreements are covered under

EQUIPMENT REQUIRED BUT NOT SUPPLIED

DESCRIPTION	USE
1 Tool box with common tools.	Tower Assembly and Base Foundation
1 Measuring tape, 12'	Base Foundation
1 Level	Base Foundation
3 Bolts, 3/4" x 2 1/2"	Base Foundation
Wood	Base Foundation Installation

CHAPTER 3
INSTALLATION PROCEDURES

CHECKING BASE FOUNDATION ASSEMBLY

IMPORTANT
FOR PROPER ALIGNMENT, THE TABS ON THE TOWER BASE FOUNDATION ASSEMBLY MUST CORRESPOND WITH THE TABS ON THE TOWER.

During shipment or while in storage, damage may have resulted to the tabs on the tower base foundation assembly.

Before installation of this tower, check proper alignment of the tabs. To do this, set the tower horizontally on two supports. Attach the base foundation assembly to the tower using the three-quarter inch (3/4") hardware, as shown below.

If the tabs on the base foundation assembly are out of alignment, use a large hammer to realign.

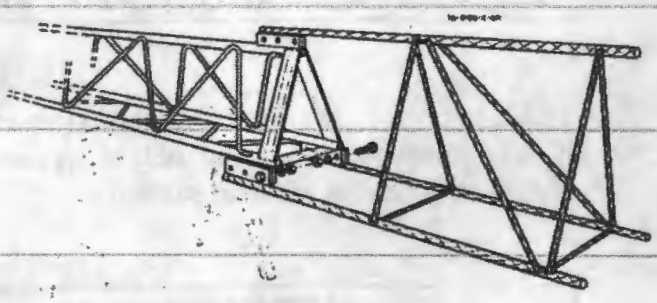


Figure 2
Checking Base Foundation Assembly

PLANNING YOUR PROCEDURE

Good planning is a key to a successful and safe tower installation. If you're not sure about a careful, safe installation, don't try to do it yourself. Call for professional help (Yellow Pages under Towers or your local power company).

The tower should be as close as possible to its related equipment. Determine the best possible site while thinking about power lines, but also think about overhanging tree limbs that may be blown into the tower during high winds.

FOUNDATION

Dig a hole 42" (1067 mm) square by 72" (1829 mm) deep as shown in Figure 3.

WOOD FORMS CONSTRUCTION

Construct a wooden frame around the hole to support the base foundation assembly as shown in Figure 4.

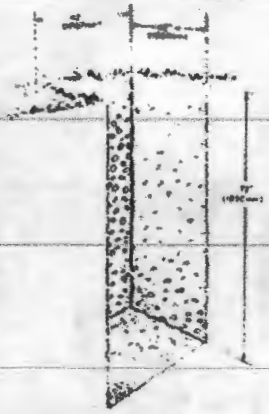


Figure 3
Digging Hole For Foundation

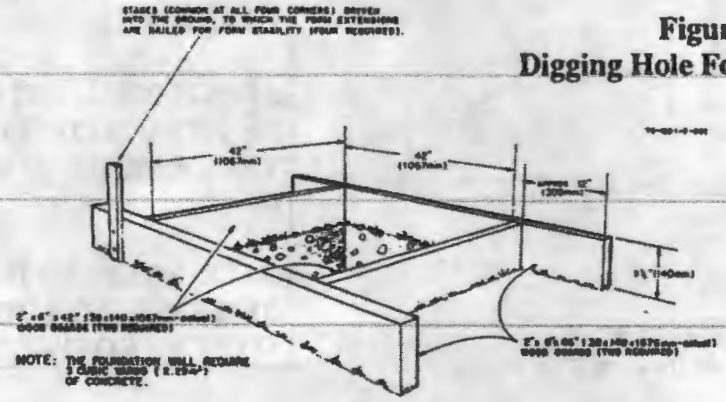
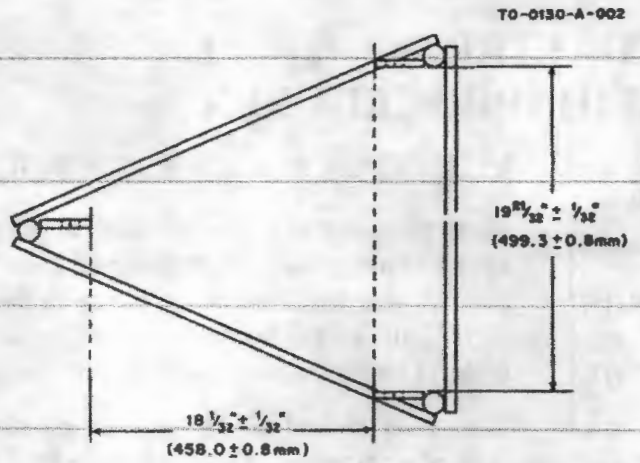


Figure 4
Constructing Wooden Frame For Concrete Base



NOTE: The 18 1/32 inch dimension may be measured by laying a straight board or level across the two ears and measuring from back edge in the center of the board.

Figure 5
Top View of Base Foundation Assembly

In the U.S.A. the dimensions of lumber are listed, and referred to, as the size after it is rough-cut at the sawmill, prior to being dried, planed and sold on the market. A sample would be the two by four (2" x 4"), which after being dried and planed will measure 1 1/2" x 3 1/2" (38 x 89 mm), or a two by six (2" x 6") which will measure 1 1/2" x 5 1/2" (38 x 140 mm).

Orient your tower base in the direction your tower will be raised. The two parallel ears of the base foundation assembly will be in the hinged side.

IMPORTANT
THE TABS ON THE BASE FOUNDATION ASSEMBLY MUST MATCH THE SPACING DIMENSIONS CALLED OUT IN FIGURE 5.

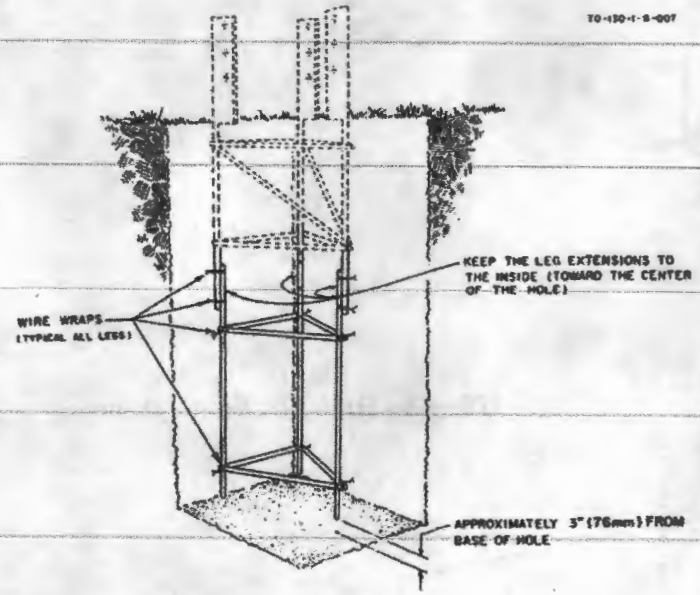


Figure 6
Attaching Reinforcing Extension

The tabs on the tower base foundation assembly may have been knocked out of alignment during shipment or while in storage.

IMPORTANT
CHECK AND REALIGN THE TABS USING A LARGE HAMMER, SO THEY WILL AGREE WITH THE DIMENSIONS GIVEN IN FIGURE 5.

ADDITIONAL REINFORCEMENT MUST BE ATTACHED TO THE BASE FOUNDATION ASSEMBLY AS SHOWN IN FIGURE 6.

BASE FOUNDATION ASSEMBLY MUST BE LEVEL FOR TOWER TO RAISE AND LOWER PROPERLY.

Pour concrete carefully into hole. Make certain base assembly maintains the proper clearance from the outside edges of the hole. Refer to Figure 9.

The concrete shall be designed to provide a minimum 28 day strength of 2000 PSI and shall contain not more than 7 1/2 gallons of water per sack of cement.

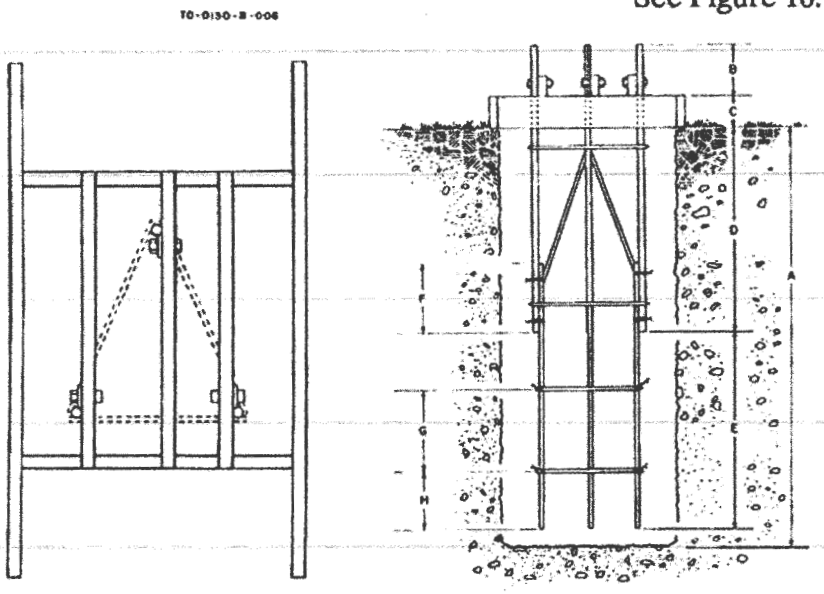
After the concrete is poured, check base assembly, making sure it is level and it hasn't shifted during the pour.

If the base is not level, tap the ears of the base with a hammer to level.

Let the base cure for at least one week before setting up tower!

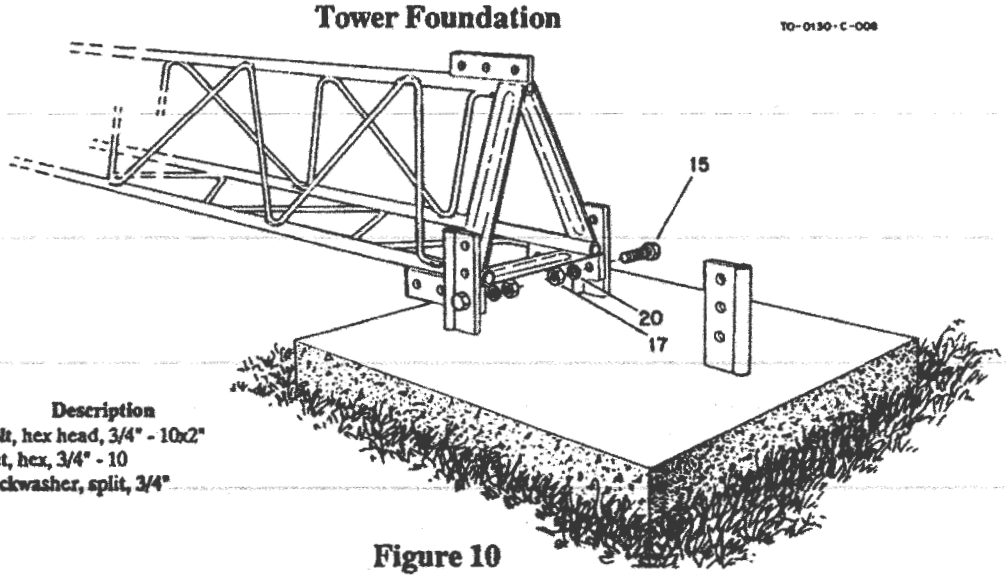
ATTACHING TOWER TO BASE PLATE

Set your tower on the hinged side of the base, align the bottom holes of the tower with the bottom holes in the base assembly. Install a single 3/4" bolt in each of the two parallel base ears. See Figure 10.



LETTER	PRODUCT 130-1 DIMENSION
A	72" (1829 mm)
B	8 3/4" (222 mm)
C	6" (152 mm)
D	35 1/4" (895 mm)
E	34" (864 mm)
F	12" overlap (min.) (305 mm)
G	14" (356 mm)
H	10" (254 mm)

Figure 9
Tower Foundation

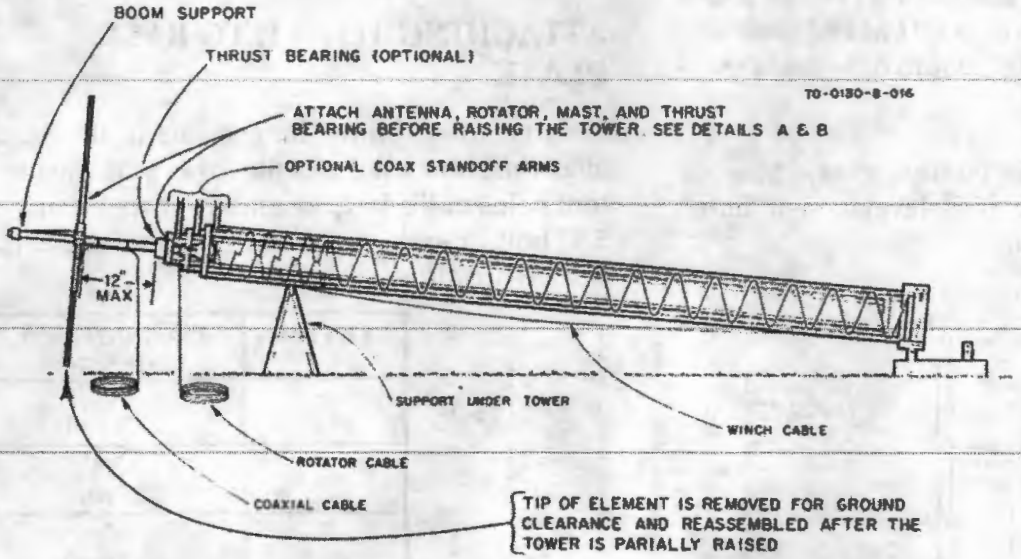


Item No.	Description
15	Bolt, hex head, 3/4" - 10x2"
17	Nut, hex, 3/4" - 10
20	Lockwasher, split, 3/4"

Figure 10
Attaching Tower to Base Tabs

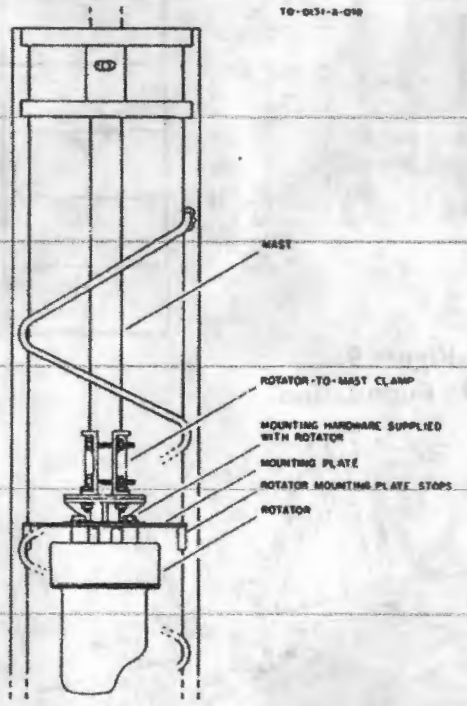
Place the tower on a support, such as a sawhorse, and attach your antenna and/or rotator to the tower before raising the tower as shown in Figure 11.

The support should not have any sharp edges that may come into contact with the winch cable.

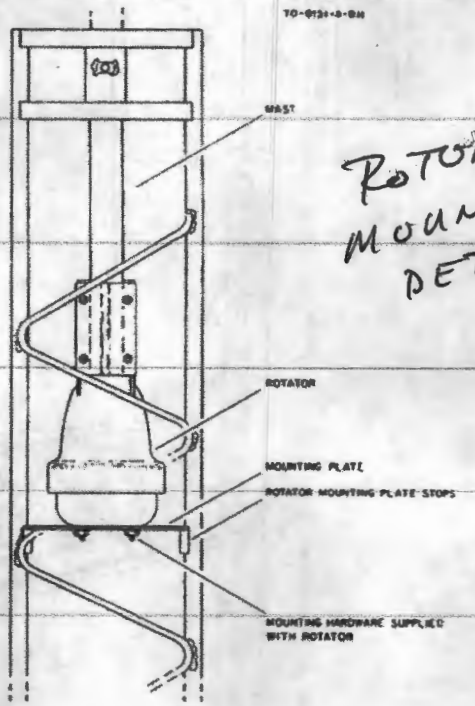


WARNING

When attaching coax arms (product 122) or any other tower accessory product to your crank-up tower, ensure that the tower raising cables are free to move. DO NOT allow the raising cables to become pinched between the tower legs, sheave brackets and pulleys or between coax arms and tower legs. Failure to inspect these cables may result in the catastrophic failure of your tower raising system and possible injury to anyone standing nearby!



Detail "A"
Typical Installation of Rotator Mounted Below Plate



ROTOR MOUNTING DETAL

Detail "B"
Typical Installation of Rotator Mounted Above Plate

NOTE: When the Hy-Gain HDR-300 Rotator is installed, do not retract the tower all the way. The tower will not be able to nest completely.

Figure 11
Attaching Related Products

hy-gain®
308 Industrial Park Road
Starkville, MS 39759 USA
Ph: (662) 323-9538 FAX: (662) 323-6551

HAM IV / HAM IVX
Antenna Rotator
~~HAM IV has 110 VAC~~
Controller HAM IVX has 220

INSTRUCTION MANUAL

GENERAL DESCRIPTION

The HAM IV rotator consists of a bell type rotator, a metered control unit and the necessary mounting hardware. The stock HAM IV is intended for in-tower mounting on the base plate which is part of the tower. However, in some instances, mast mounting is desired. The Lower Mast Support Kit, PN 51467 10, contains a lower mast support and the necessary hardware to facilitate mounting the HAM IV Rotator on top of a mast.

New features in the HAM IV include an 8 pin Cinch connector on the rear panel of the control, a chassis ground connection on the 110 VAC model, and a locking CinchTM connector at the rotor unit.

CAUTION

When using the lower mast support, antenna size is restricted to 7.5 square feet of wind surface area

Cinch'm a Division of Labinal Components & Systems,

The rotator unit must be wired to the control unit with an 8-wire cable. The control unit must be placed inside the house or other protected location. Included in the shipping box are:

A. Instruction Manual

B. Rotator Unit

C. Controller Unit

D. Mounting Hardware Pack

E. Connector Parts Pack

Due to the wide variety of towers available, each installation will have different requirements. The gauge of the 8-wire cable to connect the control unit to the rotator depends upon the distance between the rotator and control. The longer the distance, the larger the diameter of the wire required. Various antennas or beams require different installation methods.

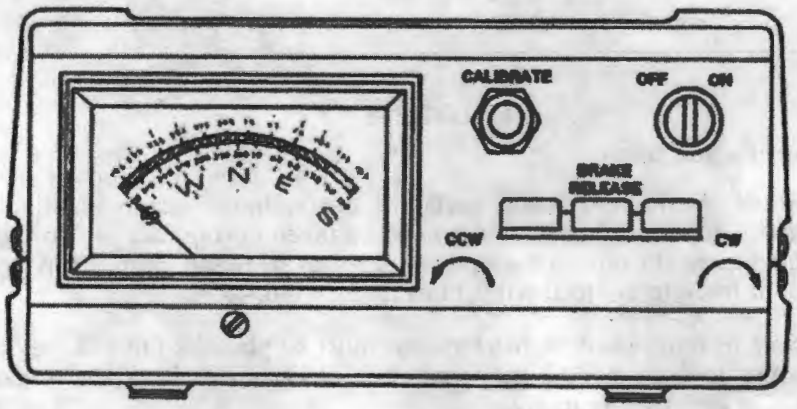


Figure 1
Control Unit - Front Panel

Specifications	
Input Voltage	120 VAC 50/60 Hz
Optional	220 VAC 50/60 Hz
Motor	24 VAC 2.25 Amp, capacitor start, capacitor run
Brake Solenoid	24 VAC, 5.0 Amps
Power Transformer	120 VAC/26 VAC 10% duty, thermal switch protected
Optional	220 VAC/26 VAC 10% duty, thermal switch protected
Meter Transformer	120 VAC/23 VAC continuous duty
Optional	220 VAC/23 VAC continuous duty
Meter	DC voltmeter 1000 ohms/volts, 1 MA full scale
Meter Scale	Direct Reading: North centered, 5 degree increments
Optional	Direct Reading: South centered, 5 degree increments
Maximum Antenna Size:	
A. Tower Mounted as per Figure 3	15 sq. ft. (1.4 sq. m) of wind surface area
B. Outside Tower or mast Mounted as per Fig. 5 or 6	7.5 sq. ft. (0.7 sq. m) of wind surface area
*Maximum Effective Moment (EM)	2,800 ft. lb. (387 Kg. M)
Operational Temperature Range	-30 deg. F to 210 deg. F (-34 deg. to 99 deg. C)
Maximum Interconnect Cable Resistance:	
A. Terminals 1 and 2	.8 ohm
B. Terminals 3,4,5,6,7, and 8	2.0 ohms
Rotation Time	45-60 seconds with 60 Hz input
Brake	Positive, electrically operated wedge, 75 segments spaced 4.8 degrees apart
Rotator Size	8 in. (20 cm) max. diameter by 13.5 in. (34 cm) high
Maximum Antenna Mast Size	2 1/16" O.D. (52 mm)
Mounting Hardware	Stainless steel hardware and plated steel clamp plate
Control Unit Size	8.5 in x 9.0 in. x 4.3 in. (21.6 cm x 22.8 cm x 11.0 cm)
Shipping Volume	2,280 cubic inches (37,350 ccms)
Shipping Weight	23.4 pounds (10.6 kb)

CAUTIONS

Install properly and safely

Towers, often the highest metal parts tin the vicinity, require caution during erection and placement. Extreme care must be taken during erection so that metal towers and beams do not contact power lines even if the beams slip or rotate, towers fall or fracture or metal wires blow in the wind, etc.

Metal towers or other position mechanisms must be placed so that if they fracture or blow over in high winds, they cannot contact power lines, be a hazard to individuals, or endanger property.

When no mounted within a tower with a thrust bearing, as shown in Figures 5 and 6, the rotator must be DEBATED.

SteppIR ™

Yagi • Dipole • Vertical

(Patent Pending)

SteppIR Yagi / Dipole Instruction Manual

3el

SteppIR Antennas
23831 S.E. Tiger MT. RD. Issaquah, WA 98027
Tel: 425-391-1999 Fax: 425-391-8377 Toll Free: 866-783-7747
Web: www.steppir.com

6/25/04

SteppIR Yagi / DipoleAntenna Specifications

Specifications	⇨	Dipole	2 El Yagi	3 el Yagi
Weight	⇨	10.5 lb / 4.5 kg	34 lb / 13.6 kg	45 lb/ 19 kg
Max. wind surface area	⇨	1.9ft² / 0.17 m²	3.9 ft² / 0.37 m²	6.0 ft² / 0.57 m²
Longest Element	⇨	36 ft / 10.97 m	36 ft / 10.97 m	36 ft / 10.97 m
Maximum Power	⇨	2000 Watts PEP	2000 Watts PEP	2000 Watts PEP
Boom Length	⇨	N/A	57" / 1.44 m	16 ft / 4.87 m
Boom Diameter	⇨	N/A	1-3/4"	1-3/4"
Frequency Coverage (continuous)	⇨	20m - 6m	20m - 6m	20m - 6m
Turning Radius	⇨	9 ft / 2.74 m	14.4 ft / 4.39 m	19.7 ft / 6 m
Cable Requirements (22 AWG)	⇨	4 conductor	12 conductor	12 conductor
Tuning Rate	⇨	1.17 mhz / Sec	1.17 mhz / Sec	1.17 mhz / Sec
Balun Included (see below)	⇨	No	Yes	Yes
Wind survivability	⇨	100 mph / 160.9 kph	100 mph / 160.9 kph	100 mph / 160.9 kph

6M5X 6 Meter Yagi

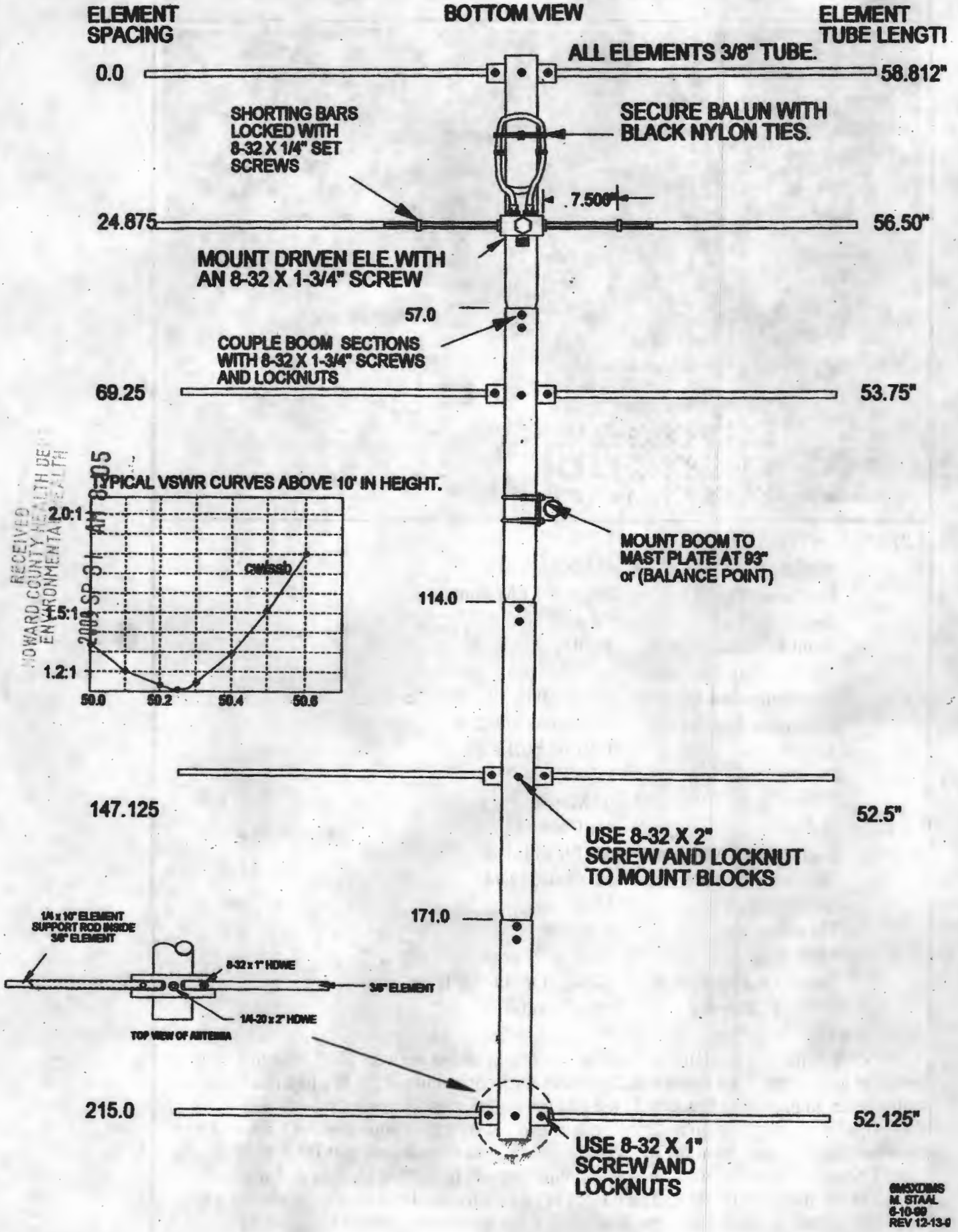
SPECIFICATIONS

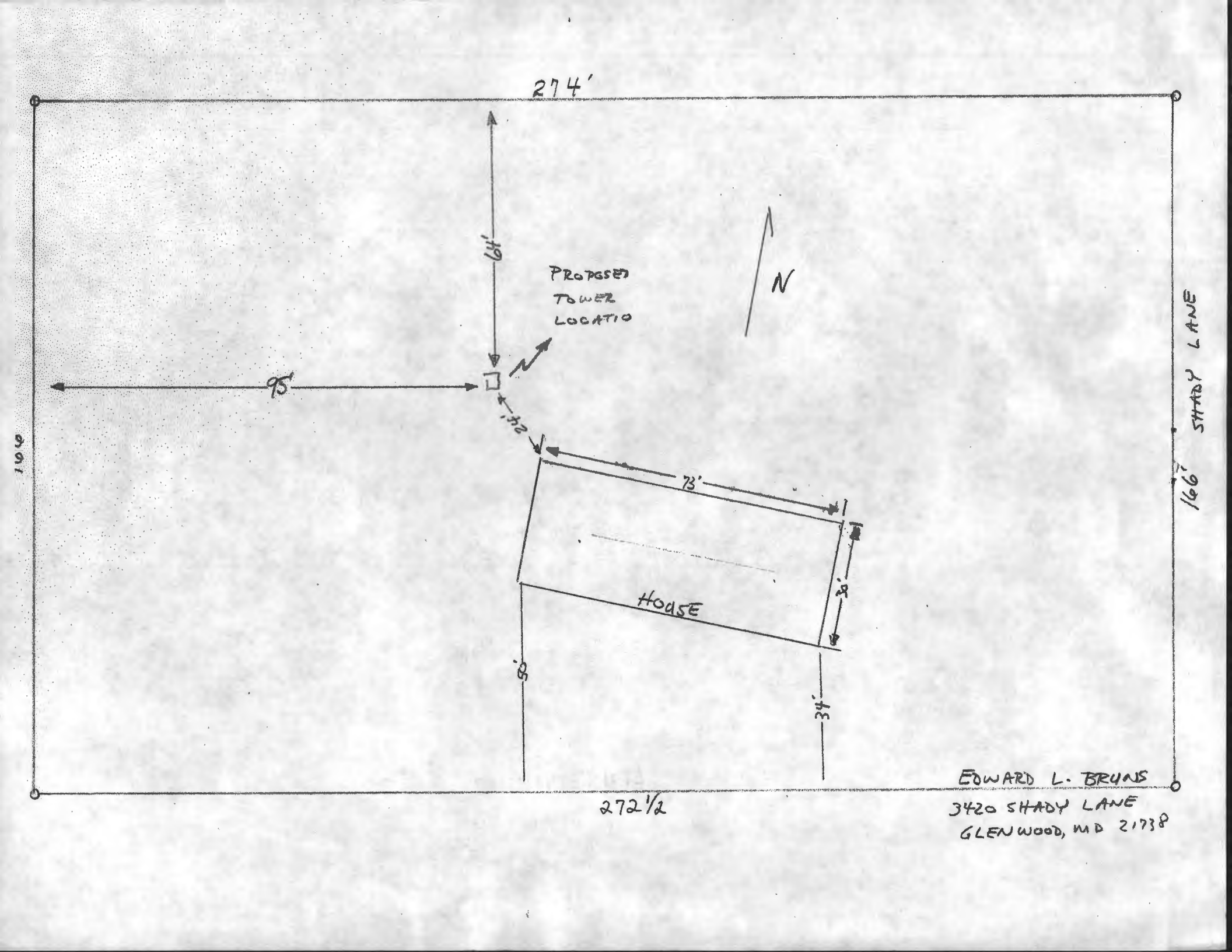
Model	6M5X
Frequency range	50-50.5 + FM dims
Gain	9.4 dBd
Front to back, Typical	21 dB
Beamwidth	E=42° / H=52°
Recommended Stacking	15-21' High 19-23' Wide
Feed impedance	50 Ohms / SO-239
VSWR	1.2:1 @ 50.1 MHz
Power Handling	1.5 KW
Match Type	'T' Match
Balun	4:1 Coaxial
Lightening Protection	All Ele.Grnded
Boom length/ Dia.	18' / 1-1/2" Dia
Turning Radius	11' 6"
Element Type	3/8" tube
Mast Size	1-1/2 to 2" nom.
Wind Area / Survival	2.2 sq. ft. / 100 MPH
Weight / ShipWt.	9 lbs / 11 lbs

FEATURES

The 6M5X is the latest computer optimized version of our popular 6M5. The 6M5X is two feet longer but front to back and gain are noticeably improved. We just made a good thing better maintaining low wind load and great performance for its size. It will compliment the rest of your antenna system and not overload your tower. Quick and easy to assemble, it is also great for mountain topping, grid expeditions and DXpeditions. The 6M5X features the same machined aluminum element mounting blocks, and sealed "T" match block,that all M2"s use. The 6M5X is perfect for the Ham trying 6 meters for the first time or the seasoned vet who may stack them for lower angle of radiation or even

6M5X DIMENSIONS




274'
64'
PROPOSED
TOWER
LOCATIO
N
95
22'
73'
28'
HOUSE
80'
34'
190'
166'
SHADY LANE
272 1/2
EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 21738

Howard County Health Department

Bureau of Environmental Health
7178 Columbia Gateway Drive Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
Website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

August 24, 2009

RE: 3420 Shady Lane
Glenwood, Maryland 21738
Building Permit# B09002400

Dear Mr. Bruns:

Further review of building permit # B09002400 is contingent upon submission of a building plan showing the following:

- Septic Tank, Dry Well, and all Septic Components
- Well

In addition, the following information must be submitted:

- Tower Antenna Information:

1. Tower Manufacturer
2. Antenna Area
3. Foundation Size
4. Foundation Depth
5. Is the tower free standing or guyed.

I hope these comments are helpful with your plan. Your building permit will be placed "on hold" until all Health Department requirements are met. If you have any questions or correspondence, I can be reached at the above address or by telephone at (410) 313-2775.

Respectfully,

Dana L. Bernard

Dana L. Bernard, Environmental Sanitarian
Bureau of Environmental Health
Well and Septic Program
Development and Coordination
Phone (410) 313-2775
E-mail: dbernard@howardcountymd.gov

DLB
cc: Well & Septic program file

September 29, 2009

RE: 3420 Shady Lane
Glenwood, Maryland 21738
Building Permit #B09002400

Dear Ms. Bernard:

In response to your request for further information regarding my building permit application, I am enclosing 5 copies of my property plat showing the locations of all septic system components and the well.

Additional information regarding the proposed tower and antennas are as follows:

1. The manufacturer of the tower is HY-GAIN which is now located at 308 Industrial Park Road, Starksville, MS 39739 Ph: (662) 323-6551
2. The total antenna area including the mast, is approximately 9 square feet.
3. The foundation size is 3.5 feet by 3.5 feet.
4. The foundation depth is 6 feet.
5. The tower is free standing, no guy wires required.

The complete system will consist of the HG-54HD tower, a ten foot long 2 inch diameter .120" wall steel mast of which 8 feet will extend above the towers top. The mast will be rotated by a HY-GAIN HAM-M antenna rotator operated by 24 volts. The HAM-M will be mounted inside the tower.

At the top of the tower will be located a 3 element SteppIR yagi weighing 45 pounds having a projected wind surface area of 6.0 square feet.

8 feet above the SteppIR will be located a smaller yagi with a projected wind surface are of 2.2 square feet weighing 9 pounds.

Please contact me if more information is required.

Thank you, Edward Bruns

Edward L. Bruns, W3EKT.
3420 Shady Lane
Glenwood, Maryland 21738
Ph: (410) 489-6119

Howard County Health Department

Bureau of Environmental Health
7178 Columbia Gateway Drive Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
Website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

August 24, 2009

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Glenwood, Maryland 21738
Building Permit# B09002400

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Respectfully,
Dana L. Bernard

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DLB
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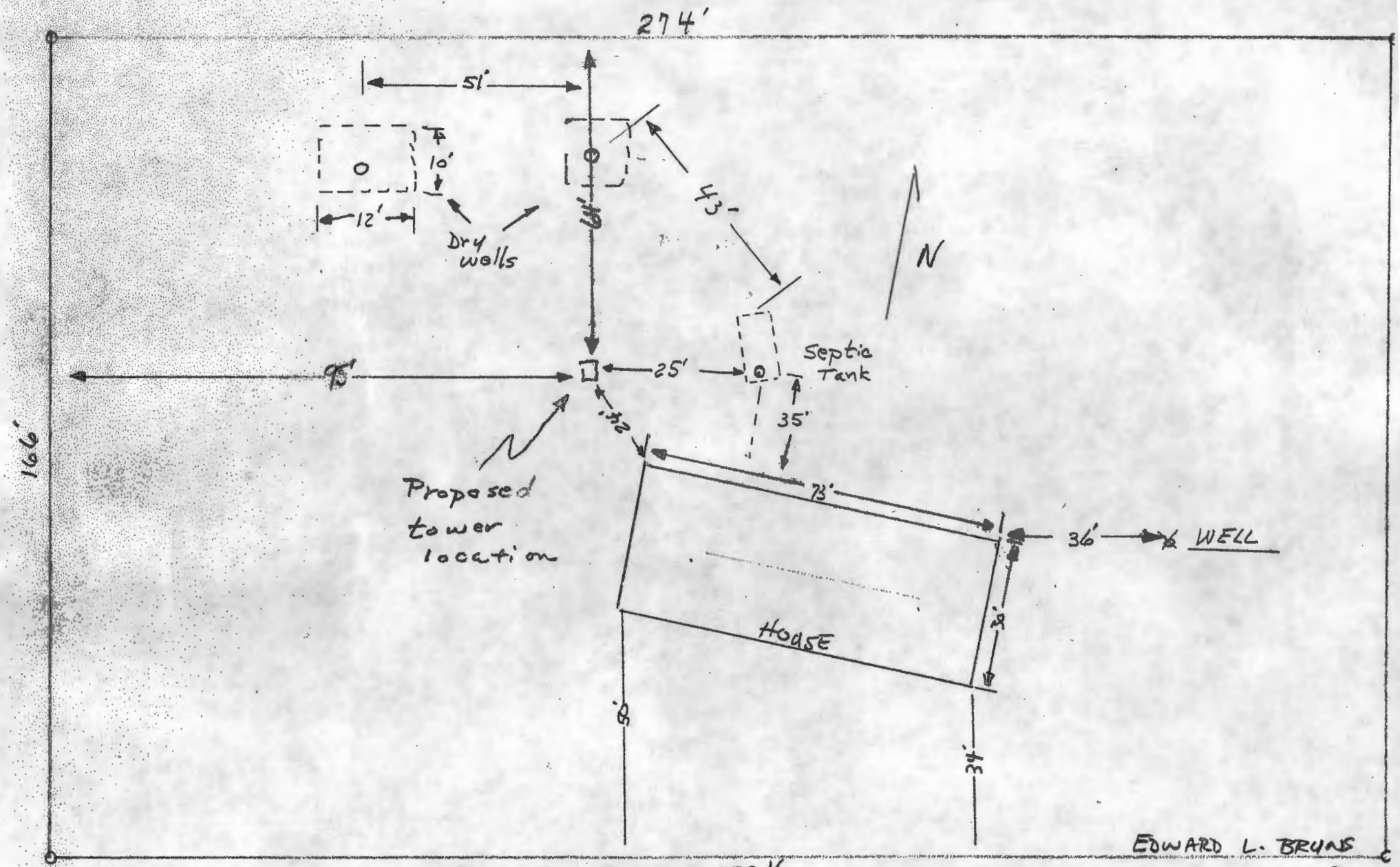
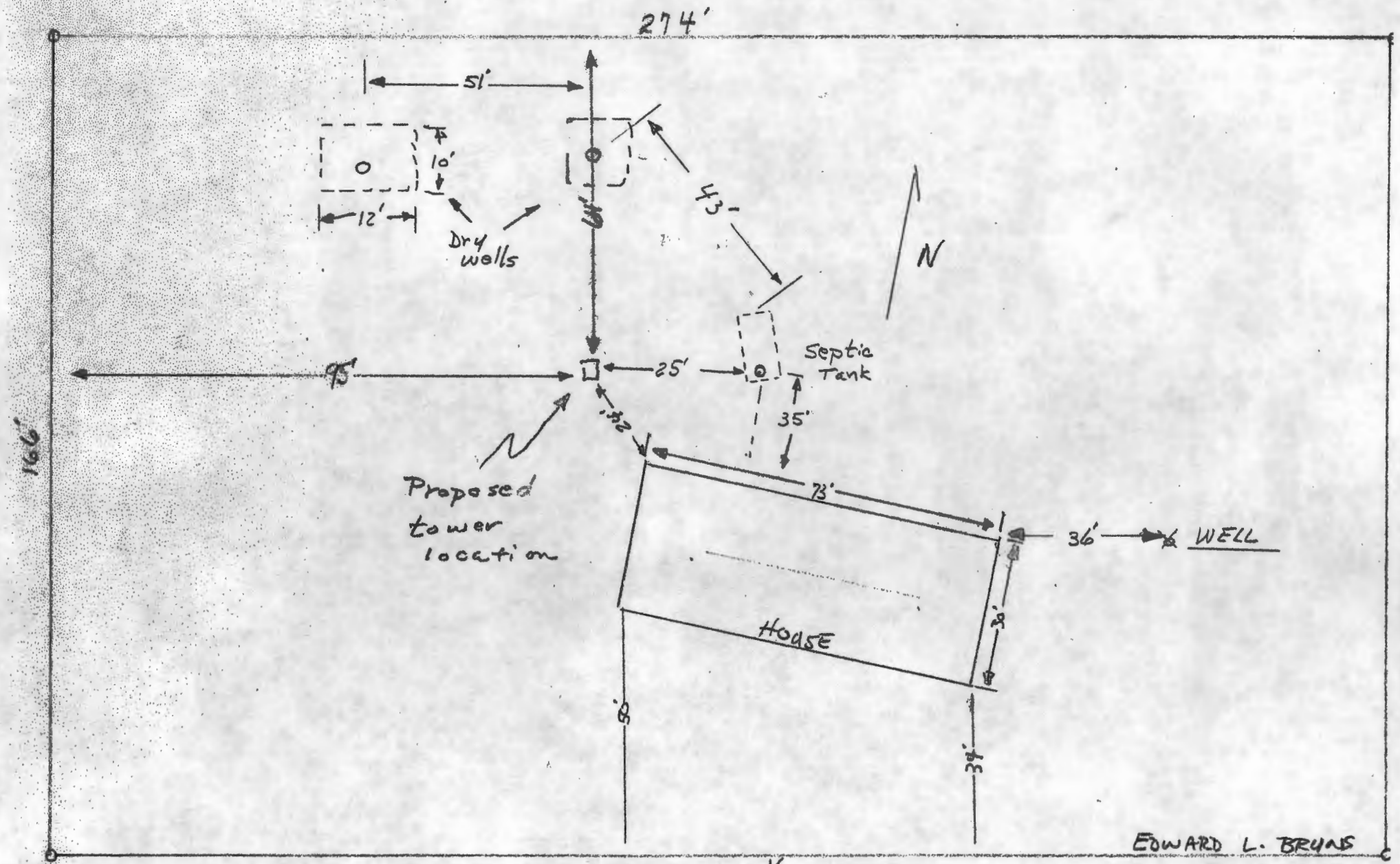
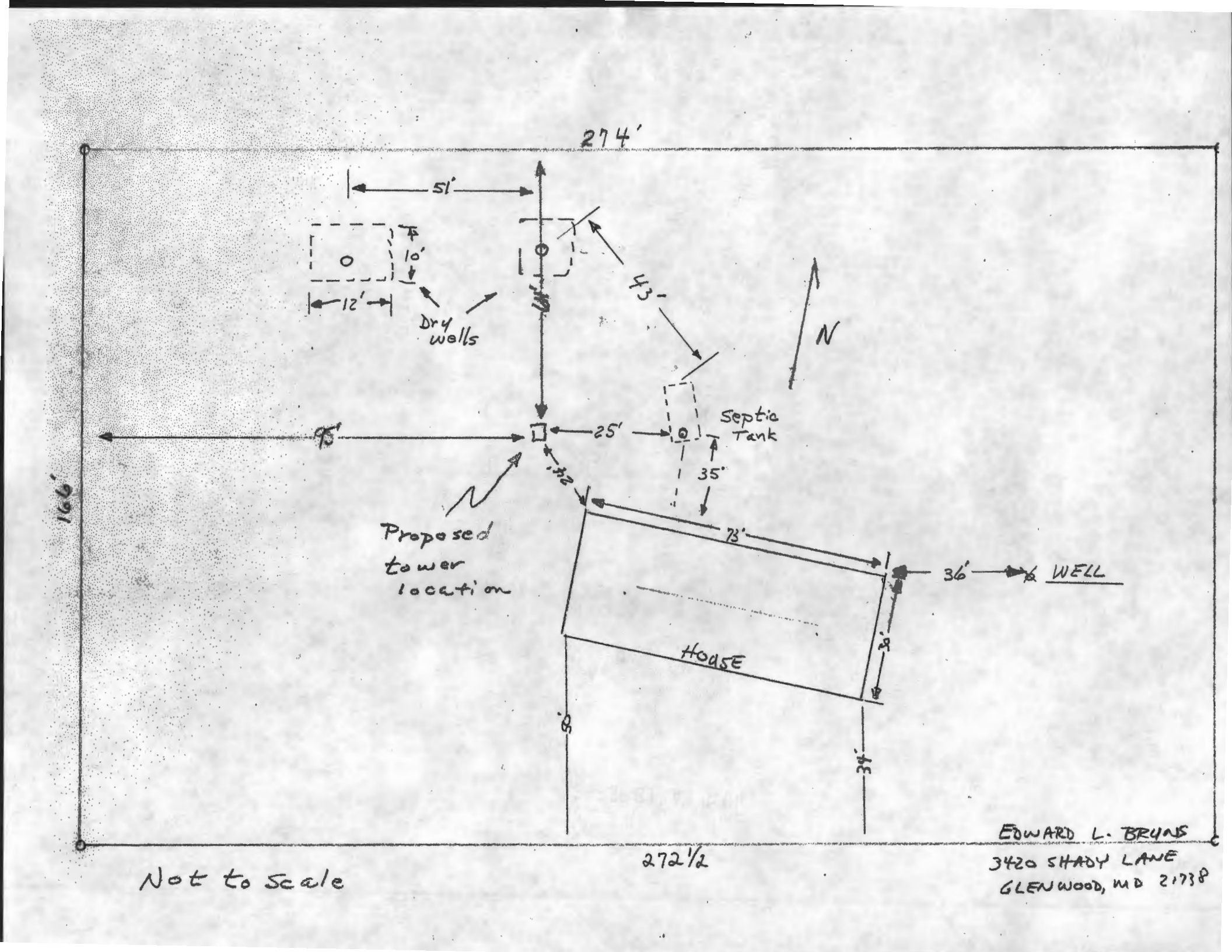
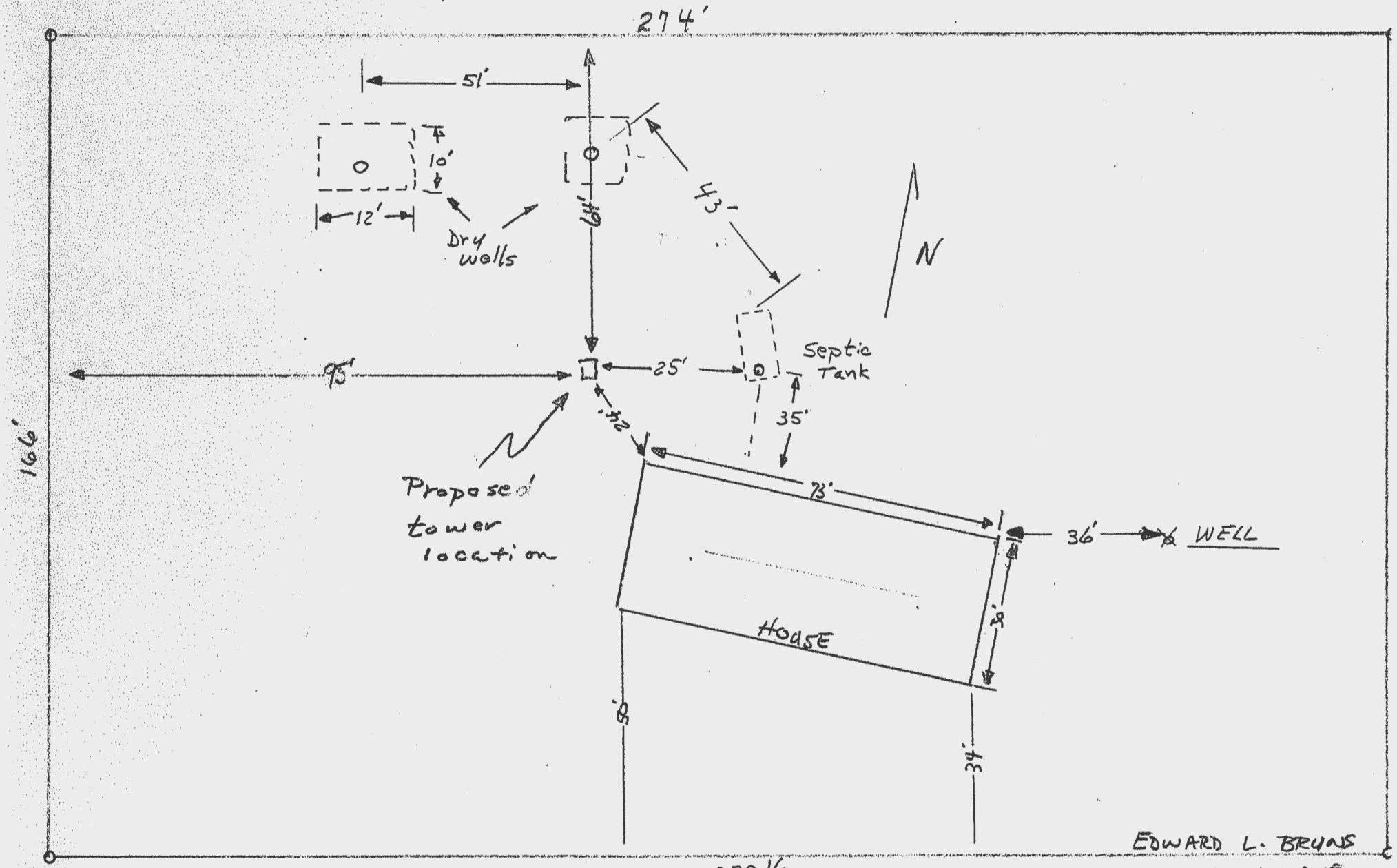
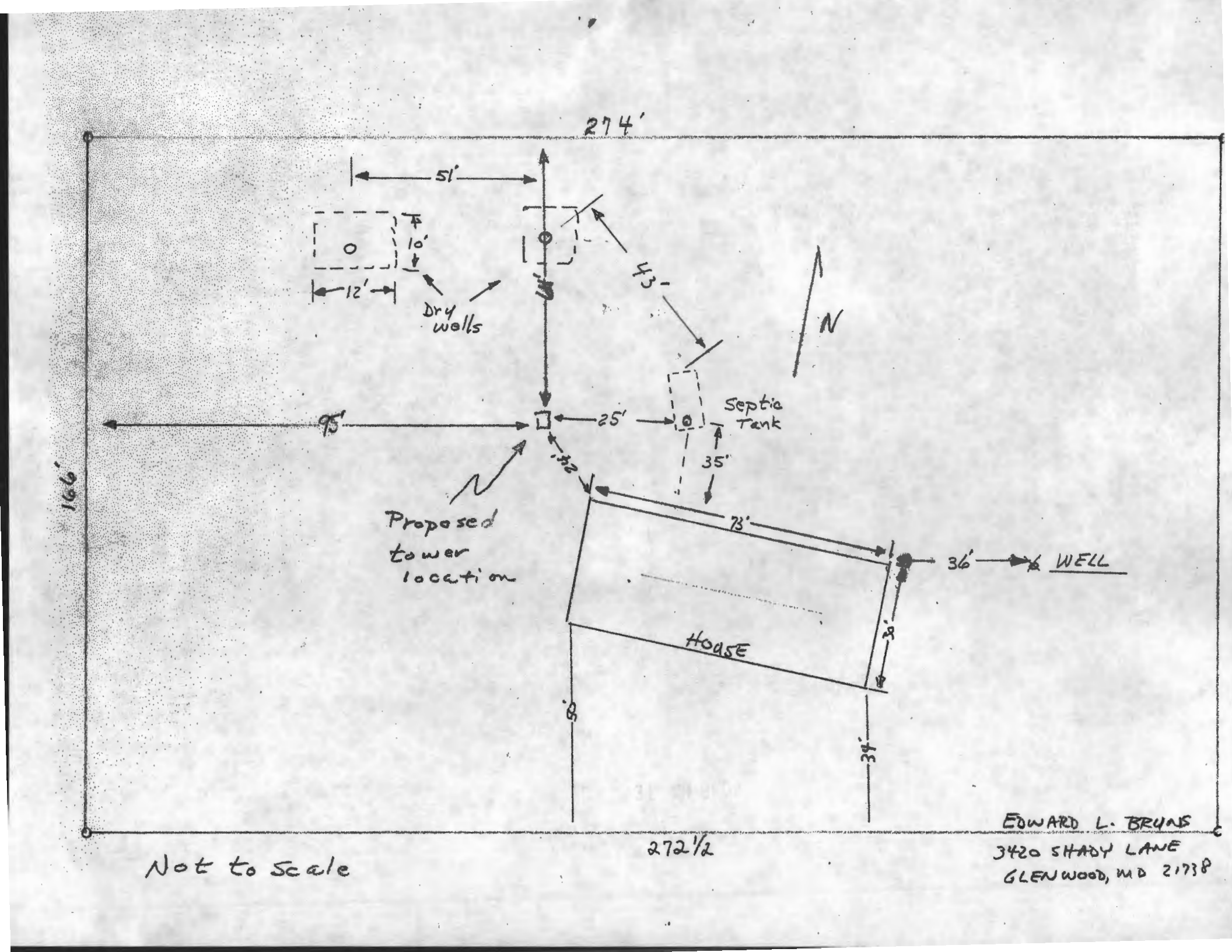

274'
51'
10'
12'
Dry wells
64'
53'
N
95'
25'
Septic Tank
35'
32'
Proposed tower location
73'
36'
WELL
House
30'
166'
272½
Not to Scale
EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 21738


274'
51'
10'
12'
Dry wells
44'
53'
N
95'
25'
Septic Tank
35'
32'
Proposed tower location
73'
36'
WELL
HOUSE
30'
30'
34'
166'
272 1/2
Not to Scale
EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 21738


274'
51'
10'
12'
Dry wells
43'
N
95'
25'
Septic Tank
35'
32'
Proposed tower location
73'
36'
WELL
House
29'
50'
34'
166'
272 1/2
Not to Scale
EDWARD L. BRYANS
3420 SHADY LANE
GLENWOOD, MD 21738


274'
51'
10'
12'
Dry wells
14'
43'
N
95'
25'
Septic Tank
35'
32'
166'
Proposed tower location
73'
36'
WELL
House
30'
8'
34'
272 1/2
Not to scale
EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 21738


274'
51'
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Dry wells
F/3
N
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73'
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House
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Not to Scale
EDWARD L. BRUNS
3420 SHADY LANE
GLENWOOD, MD 21738

WR-W-4 99/70

C 1 4554 SEQUENCE NO. (OWR USE ONLY)
(SEQ. NO.) (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
DEPARTMENT OF WATER RESOURCES
STATE OFFICE BLDG., ANNAPOLIS, MARYLAND 21401
WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 30 DAYS AFTER WELL COMPLETION

FILL IN THIS FORM COMPLETELY

A 14808

DATE RECEIVED (OWR USE ONLY) A 14 8-13

DATE WELL COMPLETED May 7 1971 (15-20)

DEPTH OF WELL 205 ft. (TO NEAREST FOOT) 22-26

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-71-0133 (28-37)

DRILLERS IDENTIFICATION NO. 004

OWNER Walker, STEPHEN (LAST NAME, FIRST NAME)

STREET OR RFD Shady Lane POST OFFICE Edgewood MD

WELL DESCRIPTION

WELL LOG

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (USE ADDITIONAL SHEETS IF NECESSARY)	FEET FROM	FEET TO	CHECK IF WATER BEARING
Yellow Shale	0	10	
		36	
Light Gray Granet	10	36	160
Gray Granet	36	205	

Gray Granet

6-7-71
case 18½'
grout 18½'
4 bags cement
2-3 p.m. RJTW.

GROUTING RECORD

WELL HAS BEEN GROUTED (CIRCLE APPROPRIATE BOX) YES Y (42) NO N (44)

TYPE OF GROUTING MATERIAL (CIRCLE BOX)* CEMENT C M (46-46) BENTONITE CLAY B C (48-48)

NO. OF BAGS 3½ NO. OF POUNDS

GALLONS OF WATER 30

DEPTH OF GROUT SEAL (TO NEAREST FOOT)
FROM 0 FT. (48-52) TO 18 FT. (54-58)
(ENTER 0 IF FROM SURFACE)

CASING RECORD

CASING TYPES (INSERT APPROPRIATE CODE BELOW)
STEEL S T (59) CONCRETE C O
PLASTIC P L OTHER O T

MAIN CASING TYPE	NOMINAL DIAMETER TOP (MAIN) CASING (NEAREST INCH)	TOTAL DEPTH OF MAIN CASING (NEAREST FOOT)
S T (60-61)	6 (63-64)	18½ (66-70)

OTHER CASING (IF USED)

	DIAMETER (INCH)	DEPTH (FEET) FROM	TO
EACH CASING			

SCREEN RECORD

SCREEN TYPE OR OPEN HOLE (INSERT APPROPRIATE CODE BELOW)
STEEL S T (71) BRASS OR BRONZE O R (73) OPEN HOLE H O (75)
PLASTIC P L OTHER O T

C 2 (SEQ. NO.)

DEPTH (NEAREST WHOLE FOOT)

	FROM	TO
1 H O (9-10)	18½ (11-15)	205 (17-21)
2 (23-24)	(26-30)	(32-36)
3 (38-39)	(41-45)	(47-51)

EACH SCREEN

SLOT SIZE 1. ____ 2. ____ 3. ____

DIAMETER OF SCREEN ____ (NEAREST INCH) (52-53)

GRAVEL PACK FROM ____ TO ____

IF WELL DRILLED WAS A FLOWING WELL CIRCLE BOX (68) F

DNR USE ONLY (NOT TO BE FILLED IN BY DRILLER) (E.R.O.S.)
(70) (72) W Q (74-75-76)
TELESCOPE CASING — LOG INDICATOR — OTHER DATA AVAILABLE

C 3 (SEQ. NO.)

PUMPING TEST

HOURS PUMPED (TO NEAREST HOUR) 5 (8-9)

PUMPING RATE GALLONS PER MINUTE TO NEAREST GALLON 3 (11-18)

METHOD USED TO MEASURE PUMPING RATE Bailer

WATER LEVEL (DISTANCE FROM LAND SURFACE)
BEFORE PUMPING 50 (17-20) (NEAREST FOOT)
WHEN PUMPING 200 (22-28) (NEAREST FOOT)

TYPE OF PUMP USED (CIRCLE APPROPRIATE BOX)
A (27) AIR P PISTON T TURBINE
C CENTRIFUGAL R ROTARY O OTHER (DESCRIBE BELOW)
J JET S SUBMERSIBLE

PUMP INSTALLED

TYPE OF PUMP (WRITE APPROPRIATE LETTER IN BOX - SEE ABOVE: A, C, J, P, R, S, T, O) (29)

DRILLER WILL INSTALL PUMP (CIRCLE APPROPRIATE BOX) YES Y (31) NO N (33)

CAPACITY:
GALLONS PER MINUTE (TO NEAREST GALLON) (31-35)
PUMP HORSE POWER (37-41)
PUMP COLUMN LENGTH (NEAREST FOOT) (43-47)

CASING HEIGHT (CIRCLE APPROPRIATE BOX AND ENTER CASING HEIGHT)

+ ABOVE / − BELOW LAND SURFACE 2 (50-51) (NEAREST FOOT) (49)

LOCATION OF WELL ON LOT

N SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC TANKS, AND/OR OTHER LAND MARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL).

CIRCLE APPROPRIATE BOXES

A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

E ELECTRIC LOG OBTAINED

C COPY OF ELECTRIC LOG ATTACHED

I HEREBY CERTIFY THAT I HAVE COMPLIED WITH ALL CONDITIONS STATED ON THE ABOVE-CAPTIONED "PERMIT TO DRILL WELL", AND THAT INFORMATION CONTAINED IN THIS REPORT IS TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

DRILLERS NAME (PLEASE PRINT) Harry Farrell

SIGNATURE Harry Farrell

HEALTH

Maryland Department of Assessments and Taxation
HOWARD COUNTY
Real Property Data Search (2007 vw2.3d)

Go Back
View Map
New Search

Account Identifier: **District -** 04 **Account Number -** 330331

Owner Information

Owner Name:	BRUNS EDWARD L TRUSTEE BRUNS JEANNETTE M TRUSTEE	**Use:**	RESIDENTIAL
		Principal Residence:	YES
Mailing Address:	3420 SHADY LN GLENWOOD MD 21738-9513	**Deed Reference:**	1) / 5957/ 685 2)

Location & Structure Information

Premises Address
3420 SHADY LN
GLENWOOD 21738

Legal Description
LOT 5 BLK B 1.020 A
3420 SHADY LN
WARFIELD ESTATES S 2

Map	Grid	Parcel	Sub District	Subdivision	Section	Block	Lot	Assessment Area	Plat No:
21	4	128					5	2	Plat Ref:

Special Tax Areas **Town** **Ad Valorem** **Tax Class** NO A/V, RURAL FIRE TAX

Primary Structure Built	Enclosed Area	Property Land Area	County Use
1971	1,596 SF	1.02 AC	

Stories	Basement	Type	Exterior
1	YES	STANDARD UNIT	BRICK

Value Information

	Base Value	Value As Of 01/01/2008	Phase-in Assessments As Of 07/01/2009	As Of 07/01/2010
Land	320,200	387,700		
Improvements:	130,200	147,580		
Total:	450,400	535,280	506,986	535,280
Preferential Land:	0	0	0	0

Transfer Information

Seller: BRUNS EDWARD L	**Date:** 01/20/2002	**Price:** $0	
Type: NOT ARMS-LENGTH	**Deed1:** / 5957/ 685	**Deed2:**	
Seller: WALKER STEPHEN T & WF	**Date:** 11/06/1985	**Price:** $135,000	
Type: IMPROVED ARMS-LENGTH	**Deed1:** / 1403/ 307	**Deed2:**	
Seller:	**Date:**	**Price:**	
Type:	**Deed1:**	**Deed2:**	

Exemption Information

Partial Exempt Assessments	Class	07/01/2009	07/01/2010
County	000	0	0
State	000	0	0
Municipal	000	0	0

Tax Exempt: NO
Exempt Class:

Special Tax Recapture:
* NONE *

2 A14808 P15975 ?