This past summer I put up a small tower. My research covered about two years. Actual selection of tower, location and installation took about seven months.

1. As they say on the Tower Talk email reflector "The prime directive in putting up a tower is to follow the manufactures directions to the letter on everything." Even if the tower is used get the manual or any other data on the tower before you start and follow it to the nth degree. They know a heck of a lot more about their tower than you or I will ever know.

2. Subscribe to the Tower Talk reflector. http://lists.contesting.com/mailman/listinfo/Towertalk is the URL. I think of it as "Tower University." They have a searchable archive that probably has something on your tower or that will otherwise help you. The URL is http://lists.contesting.com/_towertalk/

3. Before you start know how you are going to seal coax connectors. Electrical tape alone is not enough. I used "3M's ScotchKote" applied liberally and 2-3 coats. It is a rubberized material that comes in a small metal container with a brush attached to the bottom of the screw top. Also, use a quality electrical tape like "Scotch 33 or 63" also "Coax Seal" can be purchased thru AES or HRO.

4. Use lots and lots of cable ties. Try to use dark ones as they are usually more UV resistance that lighter colored. At critical ties tape over them to assure redundancy and to protect them.

5. Make a large enough service loop in the coax between the top of the tower and the mast/antenna. Make large drip loops (~4" radius) for horizontal runs of coax.

6. For a crank up use a very flexible coax like LMR-400 Ultraflex. There are about 5-6 different versions of the LMR-400 so be sure to get the Ultraflex. Don't use a solid conductor coax or one with foam insulation. The conductor will migrate toward the outer braid. Also, use quality connectors.....this is not the time to save $.25 on a connector.

7. Preplan every step of construction in advance. Run it past a friend for a sanity check. Make notes of your plan and carefully review it several days after you write it to see how it stands the test of time. Include how you are going to get your antenna on your tower, how to get the tower into place and how to get the base dug, framed and poured.

8. Put at least one lightning arrestor in each cable and the rotor cable. Locate them outside the shack. I have three in some instances and two of the three are outside. The third is built into some of the antenna switches.

9. Use flat braid use the biggest copper wire available for grounding. One inch braid or wire at least #4 or bigger should be used. Actually, aluminum wire of the same size is about equal to copper. The main drawback to aluminum is that it is softer than copper making it harder to make a good mechanical connection like a crimp.

10. Consider more than one ground rod for your station. Two will provide better dissipation. Separate them by at least ten feet and five or more feet from basement walls, underground utilities etc. Install one ground rod for each towr leg.

11. Use a professional grade material like "Ox-

Gard" when joining two dissimilar metals. It assures continued electrical continuity as it prevents galvanic corrosion in the connections.

12. Use professional grade concrete and preferably delivered from a commercial company. If the truck cannot get to your tower base use a "Georgia Buggy" to transport the concrete from the street to the tower base. Specify at least 3000PSI concrete and preferably 4000PSI. The later is only a few dollars more per yard and it is 33 percent stronger. When the pour starts tell the driver you want 6 inch slump. This determines the amount of water that is added to the mix. This is the standard slump for concrete. As you near the top of the pour change to 4-5 inch slump. The driver will add a little more water so the concrete can be worked better with a trowel and is easier to control near the end of the pour.

13. Make the frame of the hole at the top strong enough to hold the concrete. Brace each side so there is no chance of blowout.

14. Be prepared to and level the tower base as the concrete is poured. Verify after pouring. A 3-4 foot carpenters level is fine.

15. Verify clearances of trees, shrubs, power/utility lines, fences, structures and anything else within a radius equal to the height of the tower plus at least 10 feet before doing any work.

16. Determine whether covenants, building codes or zoning issues apply. Obtain permit(s) and clear any issues before beginning.

17. Talk with your insurance company. They may be able to give you some good advice on coverage. An

example is that you may need to add "no climb" protection for them to cover provide liability coverage.

18. Be sure your family is ready for your plans. If you have neighbors that might be a problem determine inadvance how you will handle their concerns. The oldadage of "It is easier to beg forgiveness afterward than permission at the start" may be fine in some circumstance, but it may not be after you have expended serious time and money.

19. Determine how much assistance you are going to need. Talk up your project among friends. Let them
know a week or two in advance of needing them. Be prepared to change your schedule to accommodate them.

20. Use proper safety equipment such as hard hats. If anyone is climbing be sure proper climb gear is used. A hard hat can be purchased from home improvement stores for about $10.00. Be sure you have at least one qualified climbing person if climbing is needed.

The above is not for legal advice and I'm sure there are other ways and better ways, but the recommendations are based on my research and experience. Your mileage may vary.