November 5, 1947

Mr. John Barron
Radio Consulting Engineer
Earle Building
Washington 4, D. C.

RE: Troy Record Company

Dear John:

Thanks you for your letter of November 3rd which crossed mine of the 4th telling you of almost identical elevation of our site with that of W G F M.

I was out to the site all day today and carefully went into the matter of antenna support with General Electric engineers. I learned that their present 100 ft. FM mast on which their 4-Bay antenna is mounted is really a makeshift, having been converted this summer from a turnstile type of antenna. All they did was to remove the di-pole elements or whatever their technical terms is and replaced them with the circular "donut" radiating elements. Moreover, that the "donuts" were mounted outside the pole diameter instead of mounting around the pole which is standard construction. With this method of mounting the elements, their pattern comes out irregular to the south and southeast - somewhat of a chunk taken out of a circular pattern because of this shadow effect.

I believe we should avoid mounting our circular elements in that manner so as to avoid distortion of pattern. Dont you agree with me? I also learned quite conclusively today that if we use the 8-Bay GE mast as suggested by Colonel Weir that we would have to use substantial guys at at least two levels. If guys are employed, the guy anchors would from the spot we have selected and where we must remain on the plot because of GE's micro wave television signal, slop over on adjoining property not belonging to us. This, of course, must be avoided.

If our installation must parallel W G F M's in all respects especially as to elevation above sea level of 1633 feet as measured to the center line of the radiating structure, I am almost convinced that we will have to employ a 58 or 60 foot antenna supporting structure of the self-supporting type. I can see no alternative in view of the

foregoing facts which I have outlined. At first I felt that Colonel Weir had a real good suggestion with the 8-Bay mast but because of its construction and the thinness of the mast wall, it would be impractical to use it without guying very securely. The mast now employed by W G F M as previously advised was fabricated by a Troy concern special and the wall structure is really substantial. Hence, they are able to guy it with three short guys about 25 feet from the base.

I am asking for quotations from the various tower builders on self-supporting units of 58 to 60 feet or the nearest standard. General Electric is just completing the erection of a 60 ft. tower for their new "elephant ears" television receiving antenna which receives both video and audio. On this little tower they mount a mast exactly the same dimensions of their 4-Bay circular type, dropping 8 feet into a special cradle-socket into the tower top-structure. I believe that is what we will have to do in order to mount this tower close to our property line in that fence-post corner where suitable space is precariously limited. This type of tower would eliminate guying. I also learned today that this tower was built special for them by the Schenectady Steel Construction Company and was welded in all the joints and mounted by this concern, including the 4-Bay mast, for $2500. It is not hot-dipped galvanised steel. It was not available so GE accepted ordinary steel. That's why they had it welded. I am going to ask this concern to bid on our tower in competition with the others. From the special manner in which this tower was constructed, they are obviously out of line on price.

Incidently, GE's 60 ft. tower has a windloading factor of 30 lbs. The other bidders have quoted on both 20 and 30 lbs. Shall we stick to 30 lbs. ? For so small a structure, I should'nt think that the difference cuts much ice either way. But if you insist on 30 lbs. I'll be glad to adhere to it. Will appreciate your advice.

Another reason for deciding against the use of GE's 8-Bay mast is that by actual measurement, the center line of the radiating structure of the 4-Bay arrangement on this mast would fall far short of requirements. I forgot to mention this fact previously. So I guess it is out, dont you think?

You might be interested to know that the New York Telephone Company is now in process of supplying W T R I on the other side of Pinnacle Mountain with 15,000 hi-fidelity wireline service for programming between their Troy Studio and the transmitter. This is the same line we will use. The line is rapidly nearing completion although I understand that the interm diate booster applifiers, three of which must be instalIled between Pinnacle mountain and Troy, are not yet instaIled and may not be until spring. WTRI is also figuring on rigging up some kind of makeshift ST relay link as stand-by equipment, but frankly I dont think much of the idea. Today, one of my former GE associates told me that the W G F M operators wished their ST link was in hell - it is causing so much trouble. One chap insisted that the failures of both W G F M and W B C A's ST links far outdistance any possible failures that could occur with the use of straight hi-fidelity wirelines.

If the telephone company can maintain 15,000 cycle eqalisation service between our Troy studios and the Helderberg transmitter location, maybe it would be smarter after all to duck the use of the ST stand-by link and gamble on a stand-by wire line even if it is encasedin the same general cable with the regular line. This is just a bit of day-dreaming, of course, since after all, the operating engineer of our station must ultimately determine if it would be practical to dispense altogether with the relay link.

I have brought you up to date on every angle from this end in which you might feel interested. Before making any decisions on the tower, I will appreciate having the benefit of your counsel on the various angles under discussion.

With kindest regards.

Very sincerely,

Ernest A. Barbeau
Radio Consultant

EAB/MW

CC- F.L.York ✓