



**City of Vacaville
Department of Public Works
Engineering Services**

January 25, 2018

TO: Albert Enault, Associate Planner

FROM: Adam Brown, Associate Civil Engineer

**SUBJECT: DRAKE'S POINT RADIO TOWER – RESPONSE TO INCOMPLETENESS
MEMO DATED 1/11/18**

Thank you, Albert, for providing the memo dated January 11, 2018 in which you provided comments on our Planning Application submittal that was submitted on December 15, 2017 which included 35% progress plans. This memo is to respond to your comments and provide any necessary clarifications requested. The numbered items below correspond to the numbered items provided in your memo referenced above.

1. The tower design and configuration was still being finalized at the time of the previous submittal. Since then, renderings have been prepared and were provided to you via email on 1/24. It is our hope that you can review the project and issue conditions of approval based on these renderings knowing that it is our intent to include elevation drawings of the tower and antennas with the construction document set which will be provided to your department at a later date in order to confirm compliance with the project's conditions of approval. Please let me know if this approach is acceptable.
2. The current project does not require the trimming or removal of any existing trees. It is a strong objective of project participants to limit the disturbance of the hilltop so that the public can continue to enjoy the vistas, hiking trails, trees, and vegetation that currently make the hilltop an open space treasure.
3. Colors and materials were still being discussed at the time of the previous submittal. A sample board has since been provided to you at the regular monthly update meeting held on January 18th.
4. The exact construction schedule will not be known until the contract is awarded and the pre-construction meeting has taken place. It will be up to the selected contractor to determine 1) if a helicopter needs to be used, and 2) the dates and times of its use should it necessary for installation. The current projected construction schedule is July to November. I propose to add a requirement that the Contractor provide this information to the Public Works Department as a submittal item as a condition of approval prior to helicopter use (i.e. language would be added to the contract documents indicating that the Contractor needs to provide this information prior to any work involving a helicopter).
5. An updated project description has been provided for your review/use that includes language related to Item 5 of your memo.
6. An updated project description has been provided for your review/use that includes language related to Item 6 of your memo.

7. An updated project description has been provided for your review/use that includes language related to Item 7 of your memo.
8. An updated project description has been provided for your review/use that includes language related to Item 8 of your memo.
9. An updated project description has been provided for your review/use that includes language related to Item 9 of your memo.
10. The tower is located on slopes that are less than 25%, while the building is not. The only slopes on the hilltop that are less than 25% are located in areas that would impact vistas and cause the proposed building to be less screened than in its currently proposed location. These requirements seem to conflict; therefore, we propose that the building and tower be allowed to be constructed as currently proposed in order to limit the project's visual impacts.
11. I am uncertain how the project footprint appears to create additional visibility of the enclosure. Please clarify. The hilltop is made up of multiple rock outcroppings. Per the 35% submittal drawings, the building is already being built into the hillside as far west as it can go without requiring a contractor to excavate through these rock outcroppings. The current building location and finish floor elevation provide the highest degree of visual screening using existing vegetation without impacting the vistas and day-use of the hilltop itself.
12. The project description describes the pole as not exceeding 50 feet in height. Since the initial preparation of the project description dated December 20, 2017, the tower has been finalized at 40 feet tall. The pole is a metal pole that can be given a number of coatings and colors. I would propose that the final Conditions of Approval stipulate what types of colors/finishes are acceptable. Please see renderings and cut sheets provided with this memo for tower configuration.
13. We are not proposing a ladder or ladder covers for the project. We are proposing to use anti-climbing pegs that will be removed during normal operation, and inserted only when climbing the pole is necessary for maintenance. This means they will not be visible at all during normal operations. These pegs will be stored in the equipment building. That being said, the pegs will be made of metal just as the pole will be made of metal and I propose that any effort to make the pole blend in with surroundings shall also apply to the anti-climbing pegs (i.e. given the same color/finish as the pole).
14. I apologize for the confusion. The cut sheet is more accurate. The rendering provided with this memo shows the total height of the tower and antennas. I have also provided a cut-sheet of the proposed pole showing the dimensions of where the horizontal stand-offs will be mounted.
15. The secondary pole used to transition the overhead lines to underground conduit will be a typical wood power pole. We will attempt to use the existing pole for this purpose; otherwise, a new power pole will be used. The height of the pole will only be as tall as the existing overhead line at that location (approx.. 30' or so). The height of the existing wood pole (37 feet) was measured with remote-controlled drones that were operated by City IT Department staff.
16. The existing navigation beacons are in fact not in operation. The Nut Tree Airport has noticed the FAA about the outage. They need to replace the lights and were contemplating replacing the pole until they heard about this project. We are currently working with Airport staff on this project. We will ensure that the new light(s) be installed in accordance with all FAA and FCC requirements, including elevations.

17. City Council was approached by the Police Department and the IT Department about this project in 2017. The City Council allowed the Police Department to proceed with developing this site given the stipulation that no permanent access road may be constructed. The Contractor will need to determine what is needed for construction purposes, and then the entire site will need to be restored to pre-construction conditions. The walking trail to remain is not currently planned to undergo any improvements in order to abide by the City Council's request.
18. KC Engineering was hired to perform geotechnical investigations for the project. A copy has been provided with this memo. KC Engineering has determined that trenching is in fact feasible and a backup plan is not necessary.
19. You are correct in that the elevations did not detail the retaining wall. These elevations were purely meant to accentuate the building elements and not the wall. As the plans develop, the elevations will be given greater detail.

I disagree that allowing the earth to be backfilled against the building will prevent people from climbing on the building; however, I agree that a 12-inch space between the wall and building may be a bit small. We were simply trying to minimize the building and pad footprint has much as possible, both for grading reasons and aesthetic reasons. Some consideration can be given to providing additional space between the building and the wall.

Also, since these plans were prepared, we're proposing to install a post-and-cable fence at the top of the retaining wall to prevent accidental falls into the space between the building and wall. This fence will provide added deterrence for those wanting to climb onto the building.

20. I do not agree that smooth face block will not blend as well with the surrounding environment. The color and mineral pattern of the block will have a greater effect on whether or not the blocks will blend in. That said, even though the hillside is covered in golden, dried grasses for a majority of the year, we have chosen a darker color block and included it on the sample board provided on January 18th.
21. Please see the sample board provided with this memo to view the proposed roof color.
22. The building will need to house the radio equipment. CSI Telecommunications is a consultant that has been hired by the IT Department to help advise us on this upgrade process. They have established the height of the building due to the equipment that needs to be housed inside.

The radio tower equipment requires backup power. Due to the limited access available, a typical diesel generator is not an option. Fuel cells are also not suited for this application. For those reasons, we are proposing solar panels on the roof to provide backup power in an outage. Seeing as this tower will provide critical radio communications for emergency response, it is critical that we maximize the amount of backup power that we have. For that reason, the roof will be sloped at the optimum angle for maximum solar output, the highest point of which will face north and be screened by existing vegetation. I believe the current design will need to remain as is.
23. Anti-graffiti coatings and finishes will be applied to all materials. Vandal-resistant measures will be implemented as stated in Item 9 of this memo.
24. The HVAC units will comply with all current City ordinances regarding noise thresholds.

Thank you for your thorough review of our Planning Application submittal package and we look forward to working with you to see this project through to completion.