



Kessler and Gehman Associates
Consultants • Broadcast • Wireless

APPLICATION FOR A NEW FM BROADCAST AUXILIARY STATION FOR WKGC-FM

CALL SIGN: WKGC-FM
FACILITY ID: 25562
FCC FILE NO.: BLED-20090327ADW
LOCATION: PANAMA CITY, FL

Prepared For:

Gulf Coast Community College
5230 West US HWY 98
Panama City, FL 32401

Prepared By:

Ryan Wilhour
Consulting Engineering
Kessler and Gehman Associates
507 NW 60th Street, Suite D
Gainesville, FL 32607-2055
352-332-3157 Extension 3
ryan@kesslerandgehman.com
www.kesslerandgehman.com

Prepared On:

June 20, 2023

TABLE OF CONTENTS

| | | |
|-----|--|---|
| 1.0 | PROPOSED AUXILIARY FACILITY | 2 |
| 2.0 | PREDICTED COVERAGE CONTOUR | 2 |
| 3.0 | ANTENNA STRUCTURE REGISTRATION AND TOWER MODIFICATION..... | 2 |
| 4.0 | RADIO FREQUENCY RADIATION COMPLIANCE..... | 3 |
| 5.0 | CERTIFICATION..... | 4 |
| | Appendix A – Tower Elevation Profile | 5 |
| | Appendix B – 47 CFR Section 73.1675(a)(1) Contour Analysis | 6 |
| | Appendix C – Far Field Exposure to RF Emissions | 7 |

1.0 PROPOSED AUXILIARY FACILITY

Gulf Coast Community College seeks authorization for an auxiliary broadcast facility with an ERP of 18.5kW at a HAAT of 67m on channel 214 located at ASR 1275208 for WKGC-FM. The facility will utilize a side mount circularly polarized omni-directional antenna and shall service the community of license while the main facility is down for occasional maintenance.

2.0 PREDICTED COVERAGE CONTOUR

Appendix B demonstrates the predicted 1.0 mV/m coverage contours of the proposed auxiliary facility and its associated main facility having FCC File No.: BLEED-20090327ADW. The contours were generated using a 3 arc second terrain in accordance with 47 CFR Section 73.313 using F(50,50) engineering charts described in 47 CFR Section 73.333.

Appendix A clearly illustrates that the proposed auxiliary contour is 100% subsumed by the licensed main facility contour and thus complies with the coverage requirement of 47 CFR Section 73.1675(a)(1). The proposed auxiliary facility shall substantially achieve its goal of providing comparable coverage to its listeners when necessary if the main WKGC-FM facility is down for occasional maintenance.

3.0 ANTENNA STRUCTURE REGISTRATION AND TOWER MODIFICATION

The structure to which the WKGC-FM auxiliary antenna will be mounted to has an Antenna Structure Registration (“ASR”) number of 1275208 and is owned by the applicant. The addition of the side mount antenna will not require any modifications to the ASR.

4.0 RADIO FREQUENCY RADIATION COMPLIANCE

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix C demonstrates that the peak exposure is 30.1% of the most restrictive permissible exposure threshold at any location on the ground. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites, individual sources of RFR which produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is over 5%, it is considered a significant contributor to

RFR exposure and thus contributions to exposure from other RF sources in the vicinity of the proposed facility must be considered. The proposed transmitter site has a host of other transmitting antennas on the tower as well as an adjacent tower having ASRN 1222456 making the site a complex environment for theoretical study. It is believed that the other sources of RFR are considered insignificant and would not push the threshold for general population or uncontrolled exposure over the 100% threshold.

5.0 CERTIFICATION

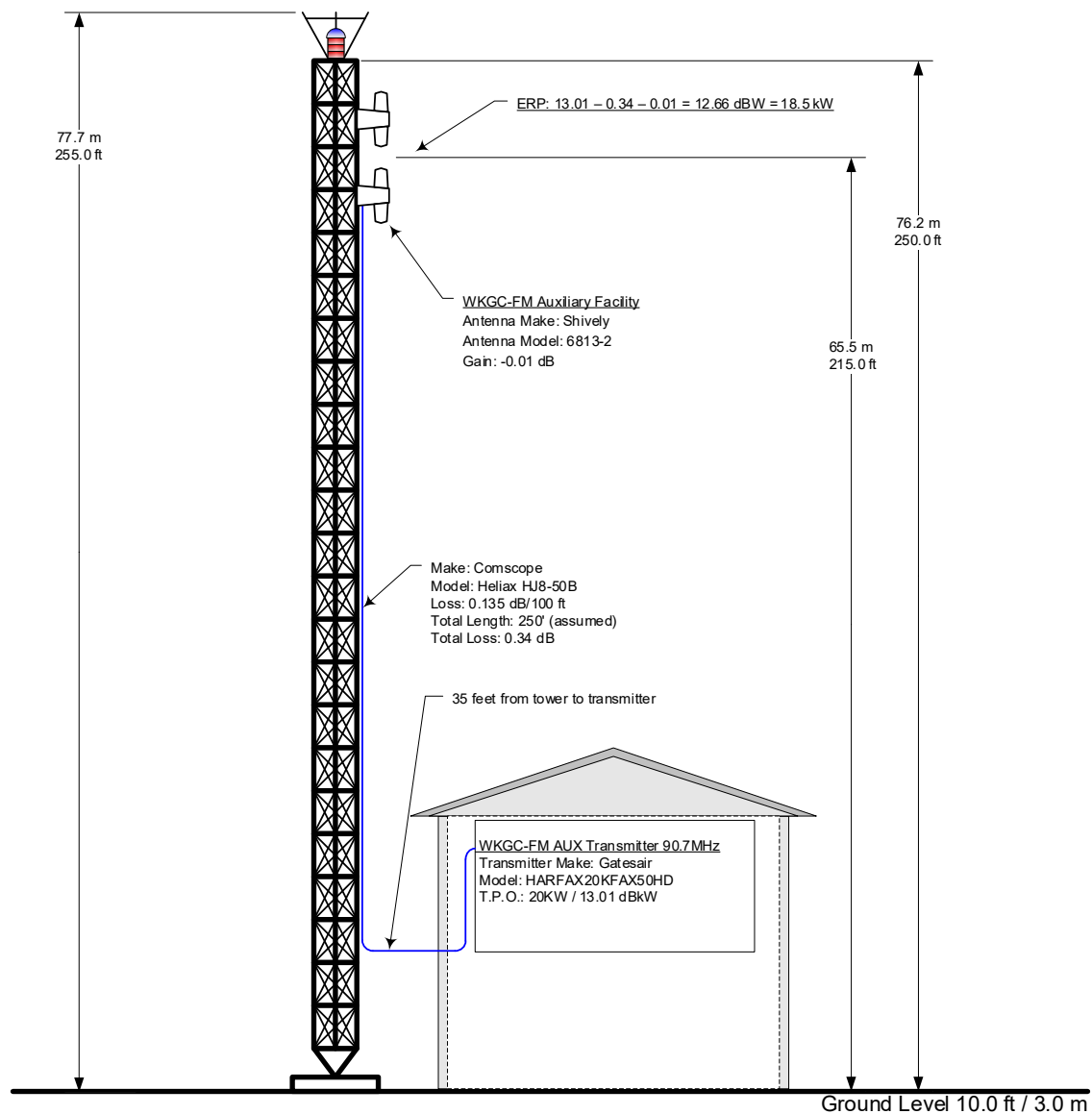
I, Ryan Wilhour, am an engineering associate of Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and have been working in the field of radio and television broadcast consulting since 1996. I am a graduate of the University of Florida with a Bachelor of Science degree in electrical engineering. I state that I personally conducted the site survey. The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

Ryan Wilhour



Consulting Engineer
June 20, 2023

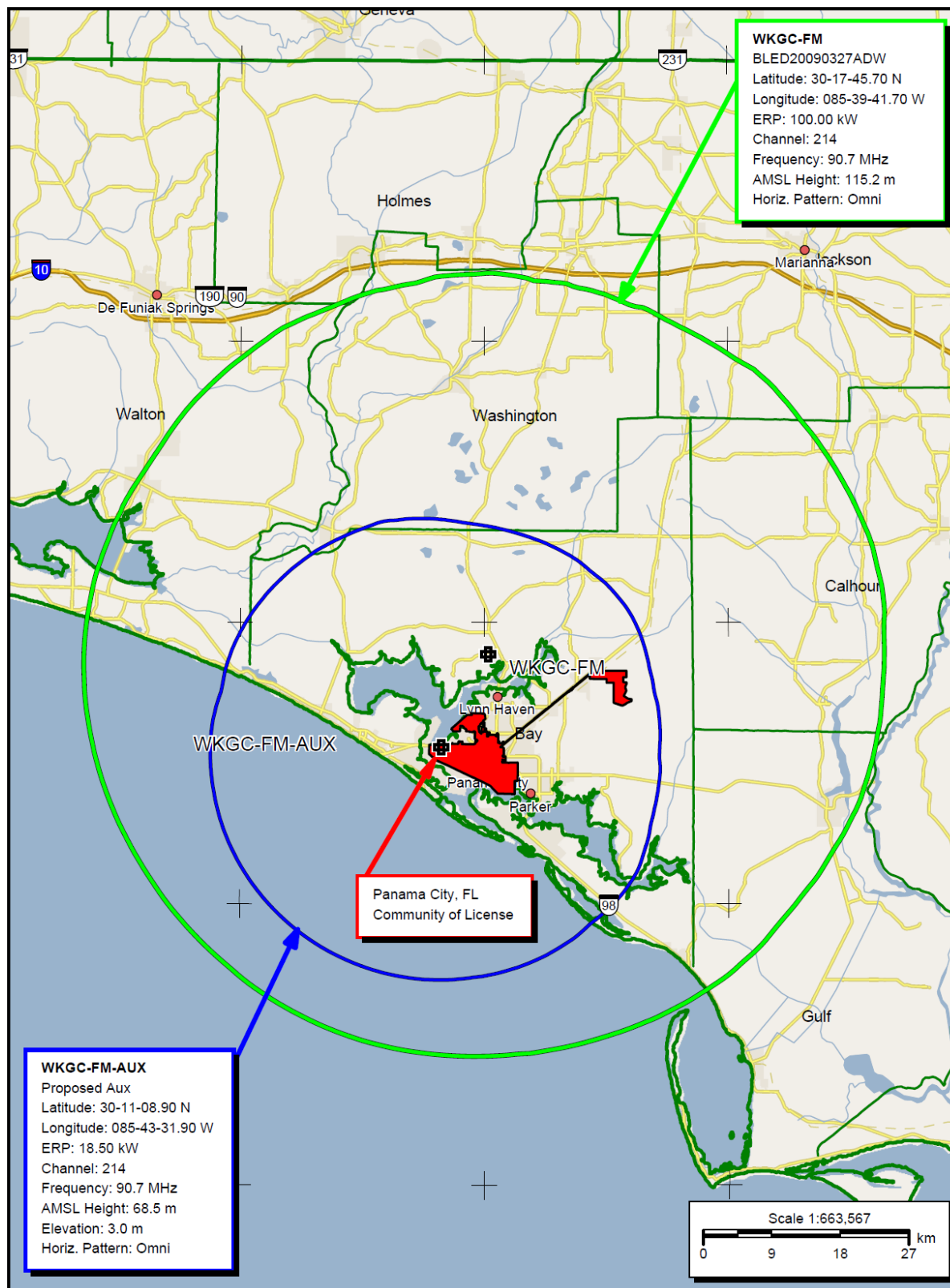
Appendix A – Tower Elevation Profile



| | |
|-----------------------------------|-----------------|
| FAA Aeronautical Study Number: | 2013-ASO-340-OE |
| FCC Tower Registration Number: | 1275208 |
| Antenna Center of Radiation AGL: | 65.5 m |
| Antenna Center of Radiation AMSL: | 68.5 m |
| Antenna Center of Radiation AAT: | 67 m |

| | |
|---------------------|---------------|
| NAD 83 Coordinates: | |
| N. Latitude: | 30° 11' 08.9" |
| W. Longitude: | 85° 43' 31.9" |
| NOTE: | NOT TO SCALE |

Appendix B – 47 CFR Section 73.1675(a)(1) Contour Analysis



Appendix C – Far Field Exposure to RF Emissions

