APPLICATION FOR CONSTRUCTION PERMIT INFORMATION
RADIO STATION WQAM
MIAMI, FLORIDA

560 KHZ 4.1 KW - D 1 KW - N U ND

September 23, 2014

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Executive Summary - WQAM

This engineering exhibit supports an application for construction permit of radio station WQAM in Miami, Florida. This application is for a new transmitter site. The licensee of WQAM has been notified by Miami-Dade County that the lease for the present transmitter site will not be renewed and that the station must move. This move is due to circumstances beyond the licensee's control and it would not otherwise be desired.

WQAM is presently licensed to operate unlimited time on 560 kilohertz with 5 kilowatts day and 1 kilowatt night, utilizing a nondirectional antenna for both day and night operation. By means of this present application, the licensee proposes to change the WQAM transmitter location to share the existing transmitter site of Radio Station WOCN. Also, Radio Station WKAT has a pending application, file number BP-20140609ACA, to relocate to the WOCN transmitter site. All three stations will share the existing WOCN antenna tower. The WQAM daytime power will be reduced to 4.1 kilowatts to meet the current allocation requirements, but the nighttime power will remain at 1 kilowwatt.

The proposal is classified as a minor change according to 47 CFR 73.3571(a)(2). As a Class B station operating on one of the channels listed in 73.26(a), the proposal satisfies 47 CFR 73.21(a)(2) which permits operation with a nominal power of not less than 0.25 kilowatt not more than 50 kilowatt at any time.

The Federal Aviation Administration has not been notified of the proposal as no new tower construction is proposed.

Ronald D. Rackley, P.E.

September 23, 2014

Broadcast Facility - WQAM

The proposed facility complies with the engineering standards and assignment requirements of 47 C.F.R. Sections 73.24(e), 73.24(g), 73.33, 73.45, 73.150, 73.152, 73.160, 73.182, 73.186 and 73.1650. Information included herein demonstrates compliance with all relevant requirements. The technical equipment proposed, the location of the transmitter, and other technical phases of operation comply with the regulations governing the same and the requirements of good engineering practice.

Proposed Transmitter Location

The location of the proposed WQAM facility will be located at NAD27 coordinates:

25-50-22 North
80-11-23 West

The existing tower of Radio Station WOCN, 1450 kHz, Miami, FL is proposed for unlimited operation.

Nondirectional Antenna System

An existing tower will be employed with top loading for the nondirectional antenna. The tower is 61.1 meters (200 feet) in height, with an overall height of 63.2 meters (207 feet) above ground level. Top loading exists by connecting guy wire sections to its top that produce an increase in electrical height of 14.3 electrical degrees. As the tower is physically 41.0 electrical degrees in height, its top-loaded electrical height will be 55.3 degrees.

Ground System

The existing ground system at the transmitter site will be utilized for the WQAM nondirectional antenna. It consists of 120 equally-spaced buried copper wire radials extending to the property boundaries. The maximum radial length is 58.5 meters. The minimum radial length is 7.9 meters where shortened by a property boundary. Interspersed between the 120 longer radials are an additional 120 radials that are 7.6 meters in length.

Request for Waiver of Section 73.189(b) of the Rules

Method of Moments analysis of the top loaded tower design predicts a horizontal plane radiation efficiency of 284.4 mV/m at one kilometer for 1.0 kilowatt antenna input power, assuming the standard 1.0 ohm loss at the tower base used for calculating theoretical radiation of AM transmitting antennas. See the Appendix that is appended to this exhibit. The predicted value exceeds the 282 mV/m minimum efficiency required by the rules for WQAM.

The ground system's average radial length falls below the values that can be used to estimate radiation efficiency in the table of the FCC Audio Services Division's "AM Ground System Correction Factors" document dated March 30, 1998, making adjustment of the radiation efficiency to account for reduced ground system dimensions impossible using the table. The standard method for considering ground system effects on radiation efficiency is known to yield inaccurate results for stations at the low end of the AM band, such as at 560 kilohertz, anyway, because of scaling errors having to do with differences in earth current depths at low AM frequencies when compared with 3,000 kilohertz where the research upon which the FCC's analysis methods are based was conducted. Scientific evidence suggests that higher than predicted radiation efficiencies are to be expected with reduced ground systems at such low frequencies. Quoting from an authoritative article on the subject: "The conventional ground system of 120 radials 90 degrees in length in many instances is a very conservative design. Particularly at lower frequencies in the MF navaid band, smaller systems will produce acceptable performance."[1] The MF navaid band extends to 535 kilohertz, just 25 kilohertz below the WQAM frequency, 560 kilohertz, and the same conclusion is valid for the proposed WQAM antenna.

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[1] Dawson, Benjamin F. and Stephen S. Lockwood Revisiting Medium-Wave Ground System Requirements. IEEE Antennas and Propagation Magazine, Vol. 50, No. 4, August 2008

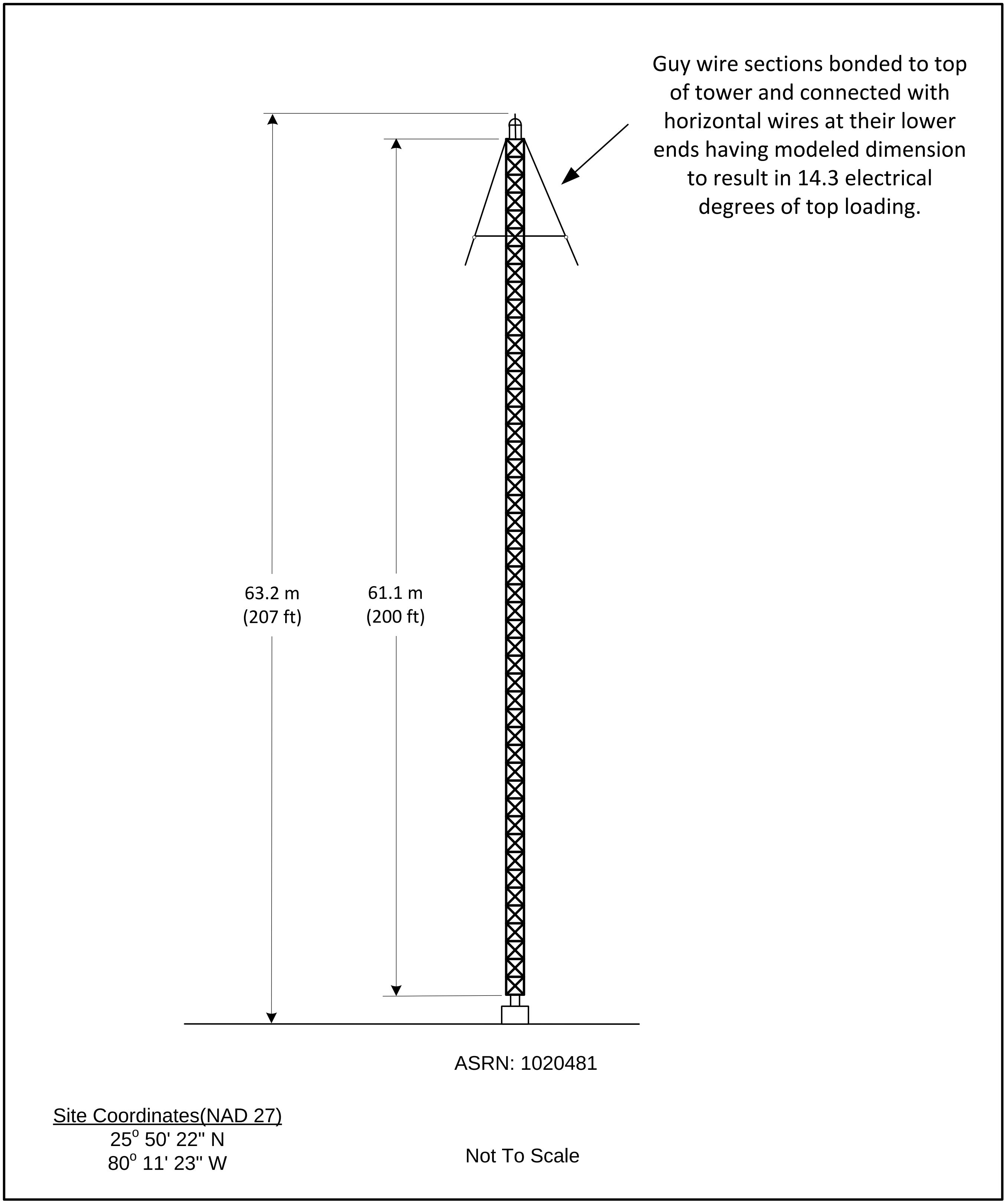
It is believed that satisfactory radiation efficiency will be produced by the proposed top loaded tower, despite not being able to derive its value through the usual methods, and that the value predicted using Method of Moments modeling with one ohm loss will serve for allocation study purposes to ensure that all other stations receive the required levels of overlap protection. Waiver of the requirements of Section 73.189(b) of the FCC rules to have an antenna meeting minimum efficiency requirements demonstrated through the standard methods is requested to allow the Method of Moments derived radiation efficiency, 284.4 mV/m, to be used for the purposes of coverage and allocations analysis in this application.

Moment Method Analysis of Proposed Top-Loaded Tower

Moment method modeling was used to characterize the top loading for the proposed tower. The Appendix includes the results of the design utilizing recognized moment method software.

Current Distribution of Proposed Antenna

Normally, FCC construction permits that authorize top-loaded towers have a standard condition requiring that current-distribution measurements be made and submitted prior to licensing. As is explained extensively in the Appendix to this exhibit, modern antenna modeling techniques were used to design the guy wire top loading arrangement proposed for the tower. Thus, current distribution measurements should not be required. It is requested that the construction permit for the proposed tower not require them.



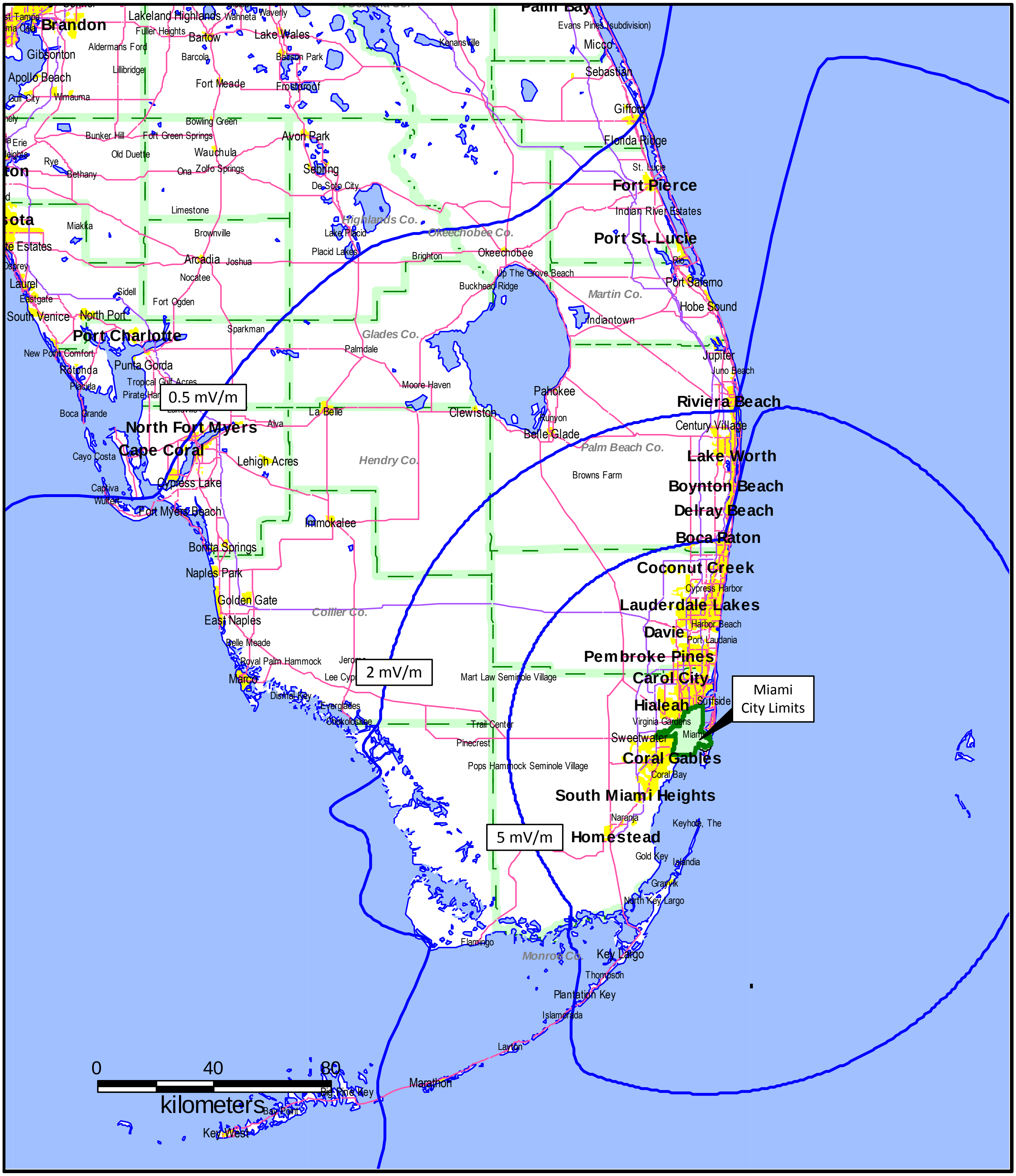
SKETCH OF ANTENNA ELEMENT

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Principal Community Coverage and Service Contours - WQAM

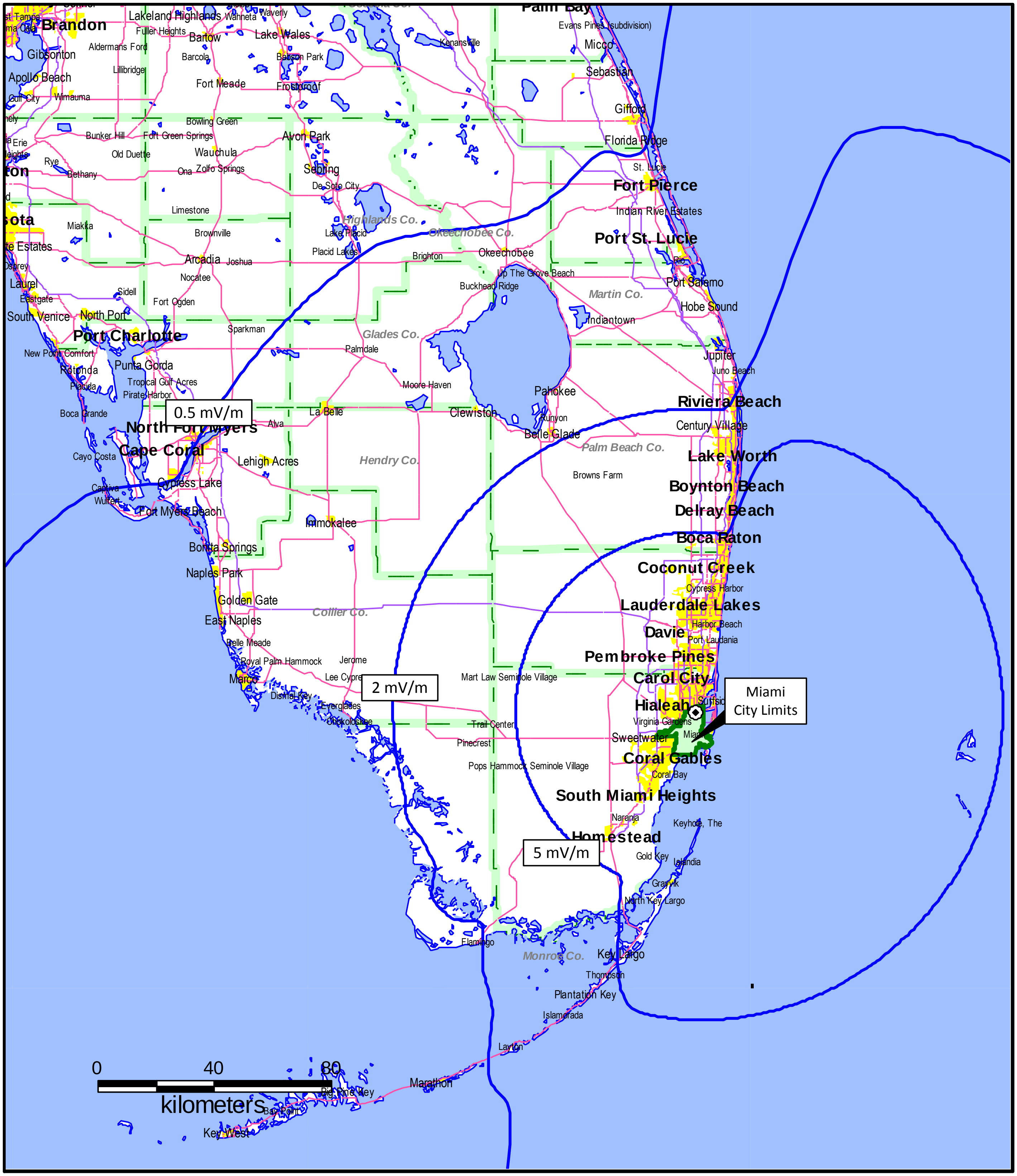
The proposed facility complies with the community coverage requirements of 47 C.F.R. Section 73.24(i). The daytime 5 mV/m and nighttime 8.3 mV/m interference-free contours encompass the entire principal community to be served. Maps showing the proposed and existing daytime and nighttime field strength service contours appear on the following pages.



EXISTING DAYTIME COVERAGE FIELD STRENGTH CONTOURS

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

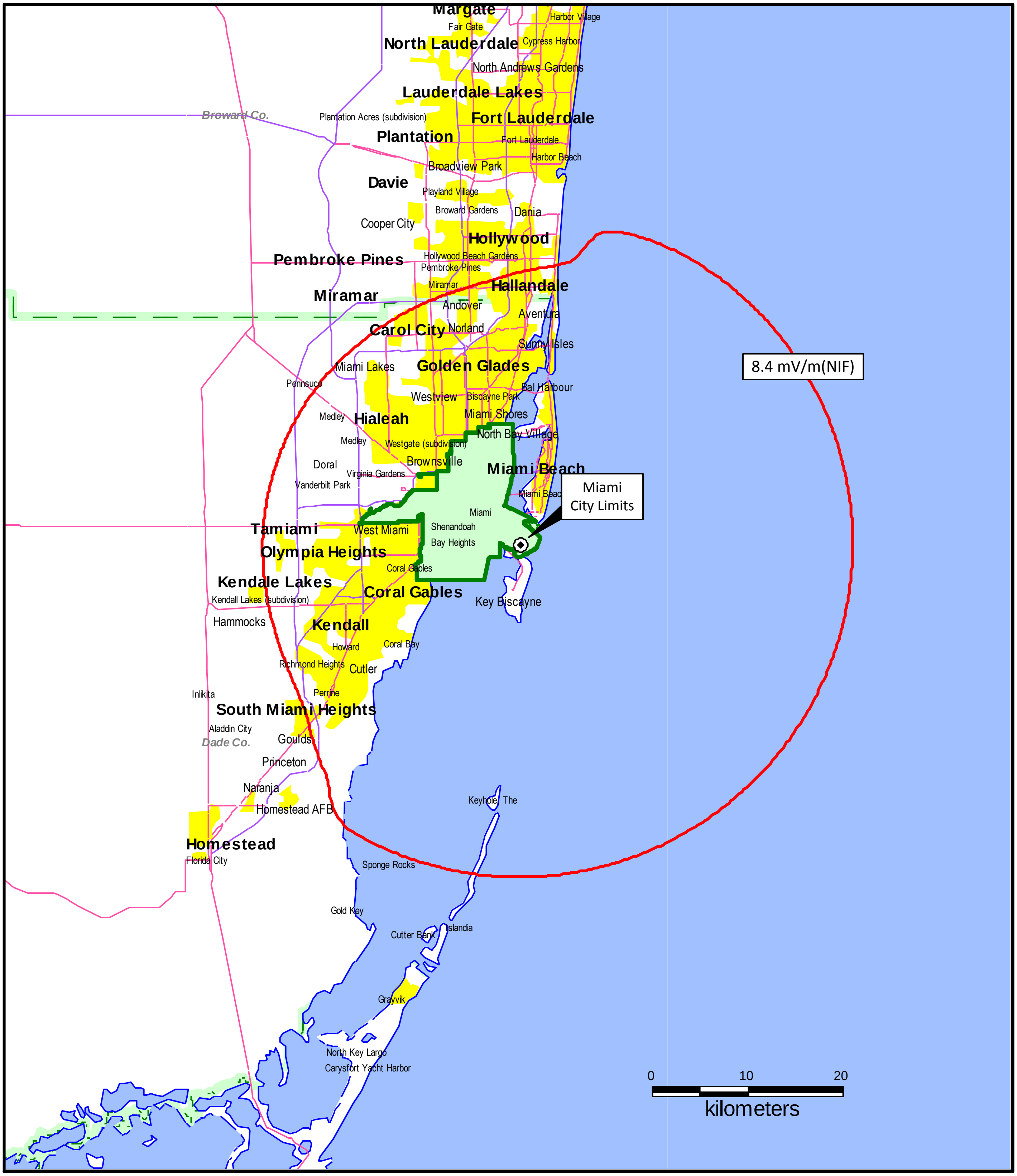
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



PROPOSED DAYTIME COVERAGE FIELD STRENGTH CONTOURS

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

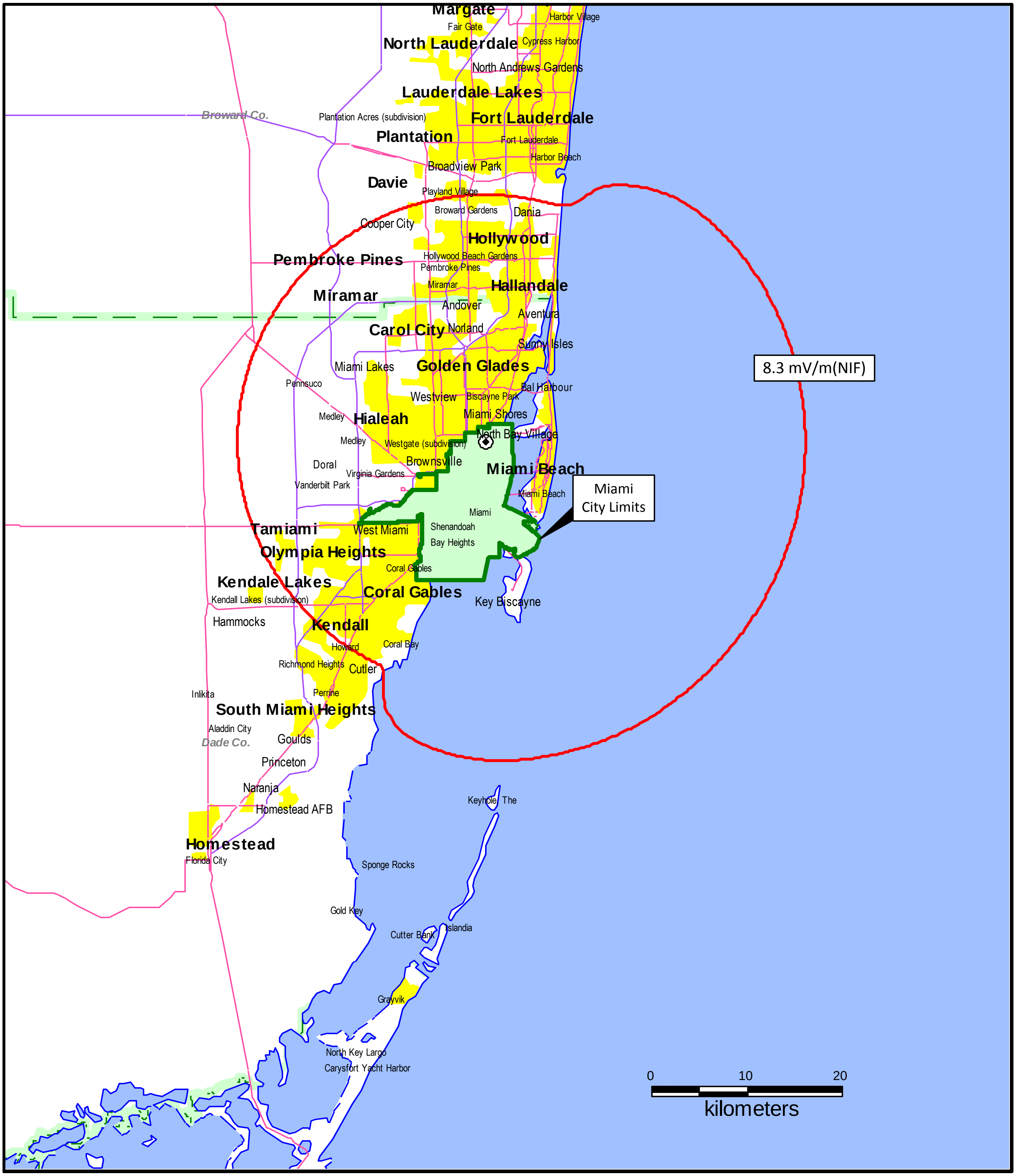
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



EXISTING NIGHTTIME COVERAGE FIELD STRENGTH CONTOUR

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



PROPOSED NIGHTTIME COVERAGE FIELD STRENGTH CONTOUR

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Allocation Requirements - WQAM

The proposed facility complies with the requirements of 47 C.F.R. Section 73.37, 73.182 and 73.187. The proposed operation does not involve overlap of signal strength contours with other stations where there is not already such overlap. A daytime allocation study was made utilizing FCC Figure M-3 conductivities. The daytime overlap detail maps show that the total overlap with each individual station now receiving overlap will be reduced with the proposed WQAM facility.

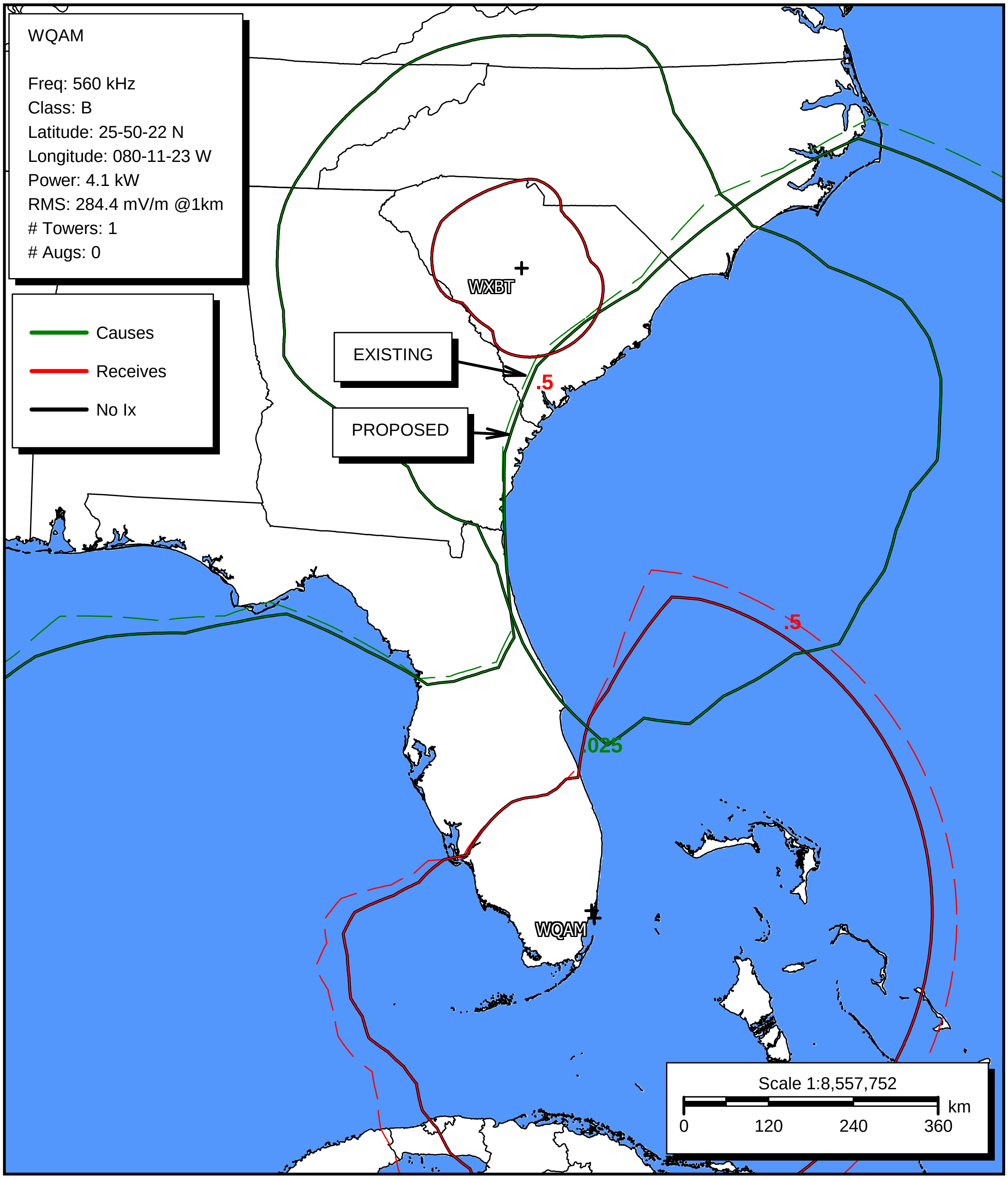
A nighttime allocation study shows protection to all stations and international allotments operating on the co-channel and adjacent channel frequencies assuming a waiver of the “ratchet clause” of 47 C.F.R. 73.182(q) footnote 1. The following figures support a conclusion that this proposal comports with all interference protection requirements on that basis.

Waiver of Ratchet Clause

As is the case with many fulltime stations that have occupied their channels for a number of years, the licensed WQAM nighttime facility produces a skywave interference limit that enters into the 50-percent exclusion RSS value of another domestic station – WXBT in Columbia, South Carolina. Footnote 1 of Section 73.182(q) of the FCC’s Rules requires that stations making facility changes reduce the radiation toward the other stations whose 50-percent exclusion RSS values they enter by either 10-percent or to a value that eliminates their limit when 50-percent exclusion is applied, if higher. The purpose is to provide some degree of “interference reduction” whenever such a station chooses to make a change in its facilities. It is requested that the requirement be waived in this instance, as the need for the transmitter site move is due to factors beyond the WQAM licensee’s control and they would not have otherwise sought to make the proposed changes.

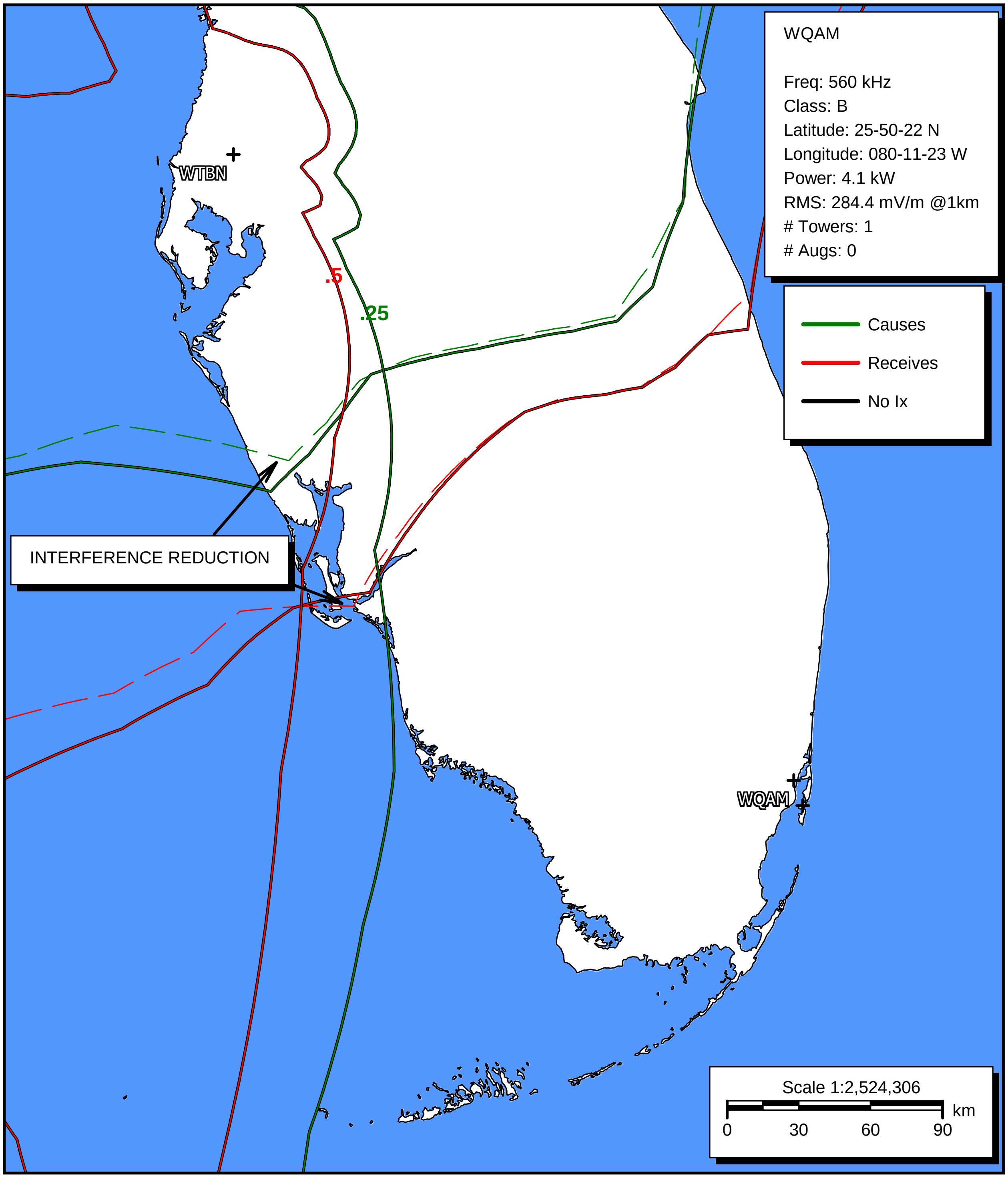
The proposed nighttime antenna provides a 2.4 percent reduction in interference to WXBT while protecting all other stations of concern and maintaining the local coverage of the present antenna to the fullest extent possible. It would be necessary for WQAM to suffer a reduction in coverage in order to have a 10-percent reduction in skywave signal toward WXBT. WQAM operates with a nondirectional antenna and the type of design change that is sometimes possible to reduce interference with directional antennas is not an option in this case.

Given the foregoing, and the fact that it is not possible to provide a 10-percent radiation reduction toward WXBT without a significant further reduction in the local coverage of WQAM, a waiver of the “10-percent reduction” requirement of Section 73.182(q) of the Rules is respectfully requested. Such a waiver would be consistent with others that have been granted by the FCC under circumstances where stations had to make changes due to circumstances beyond their licensees’ control.



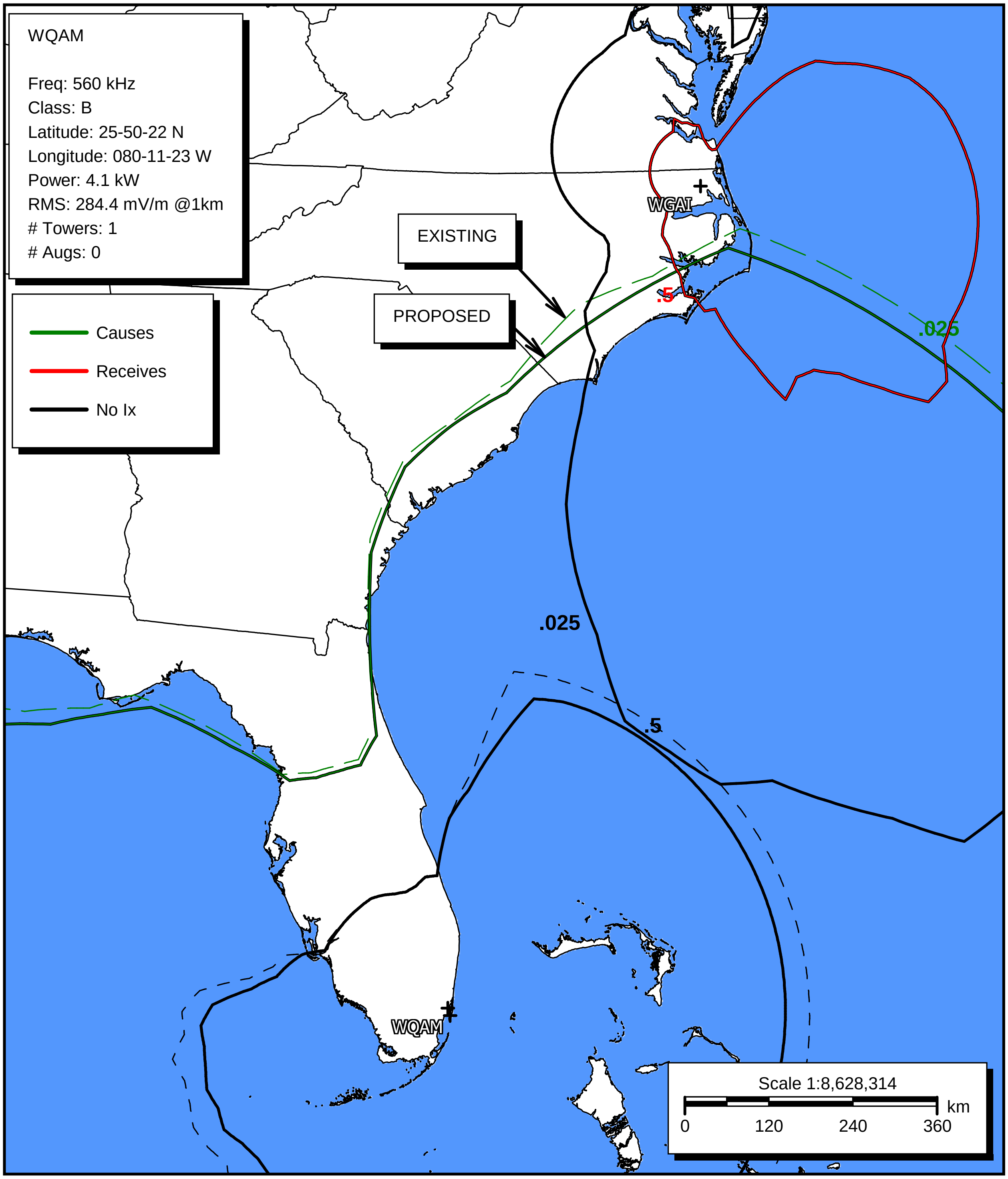
DAYTIME ALLOCATION STUDY

STATION: WXBT(560 KHZ)



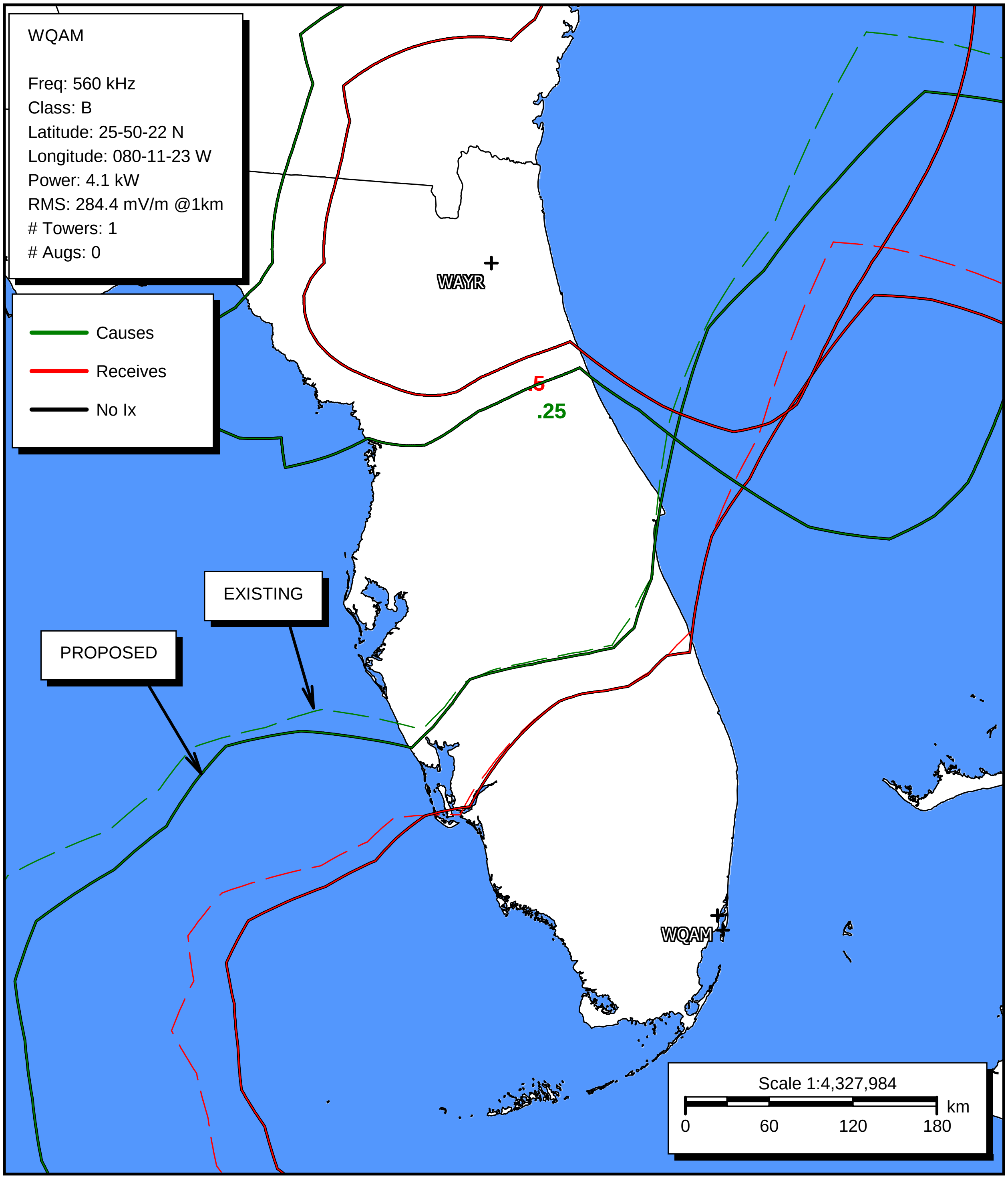
DAYTIME ALLOCATION STUDY

STATION: WTBN(570 KHZ)



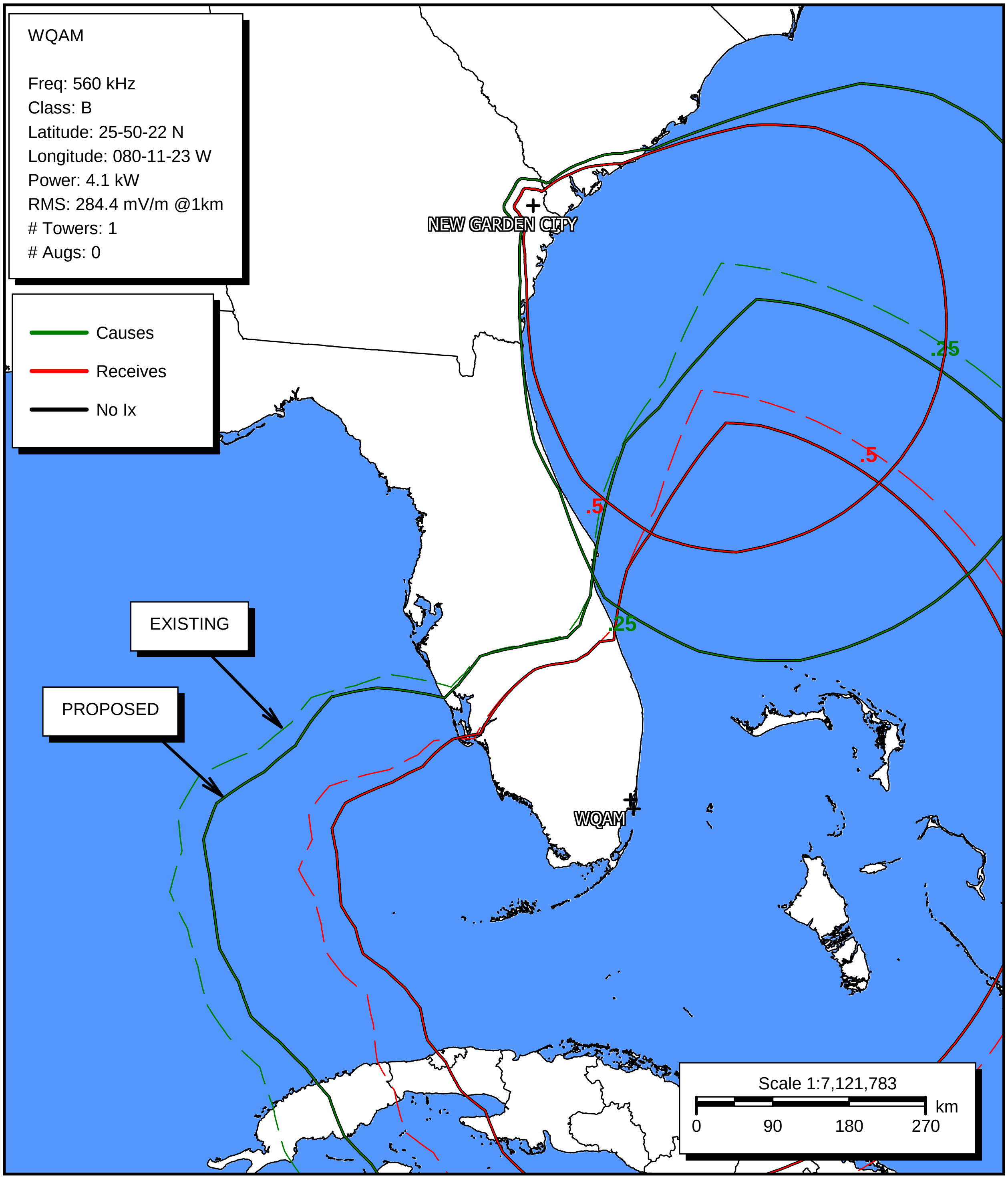
DAYTIME ALLOCATION STUDY

STATION: WGAI(560 KHZ)



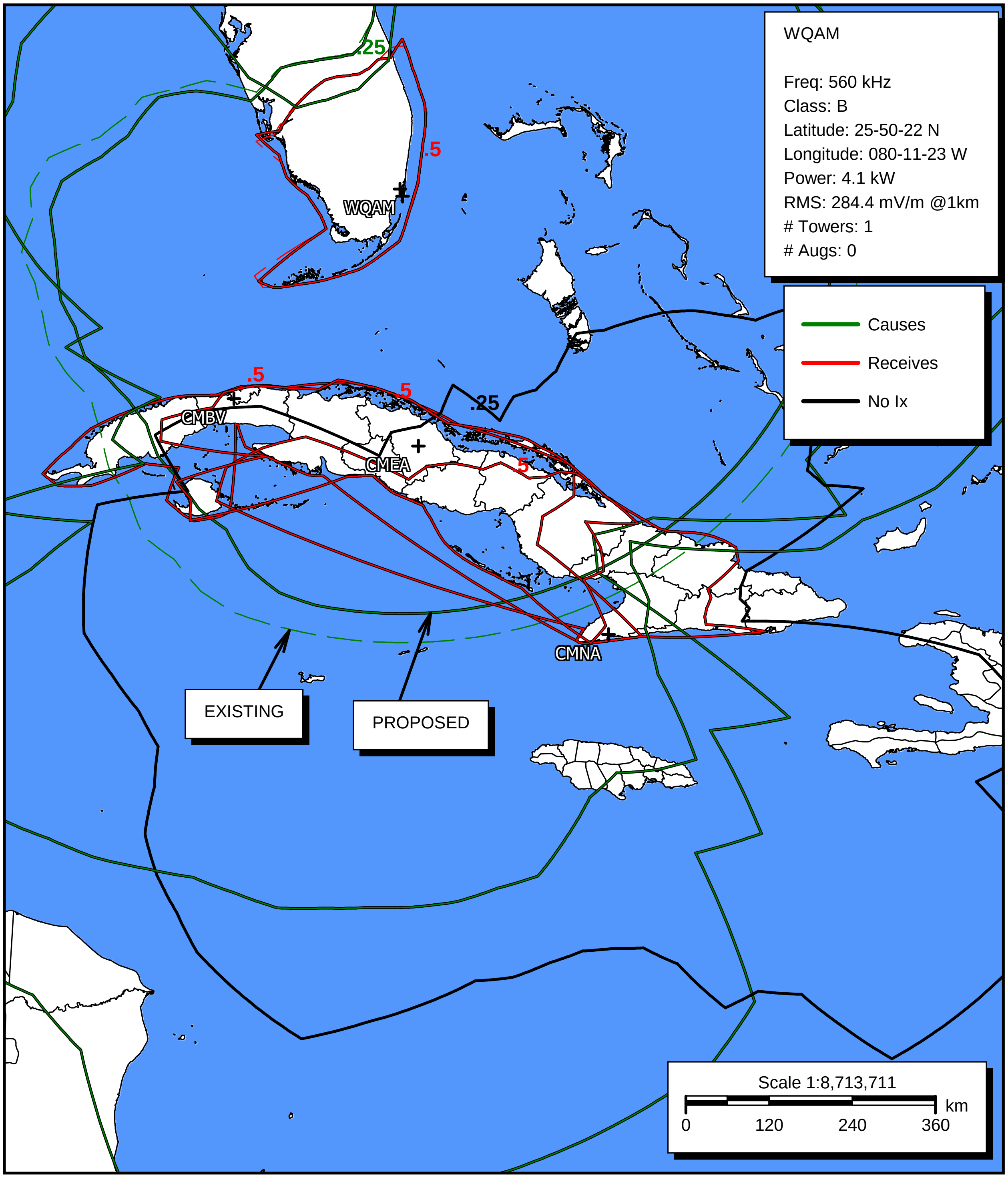
DAYTIME ALLOCATION STUDY

STATION: WAYR(550 KHZ)



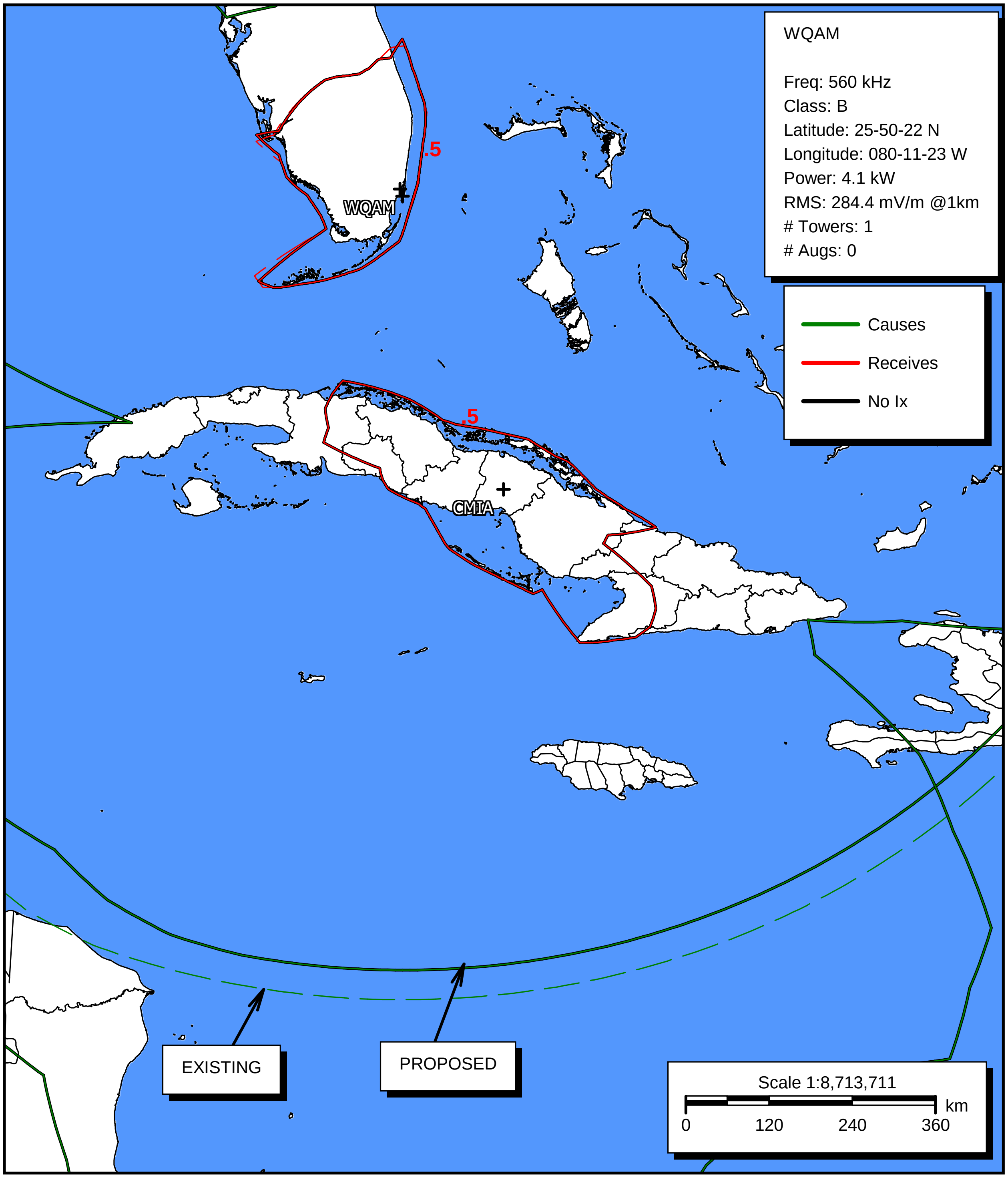
DAYTIME ALLOCATION STUDY

STATION: NEW GARDEN CITY(570 KHZ)



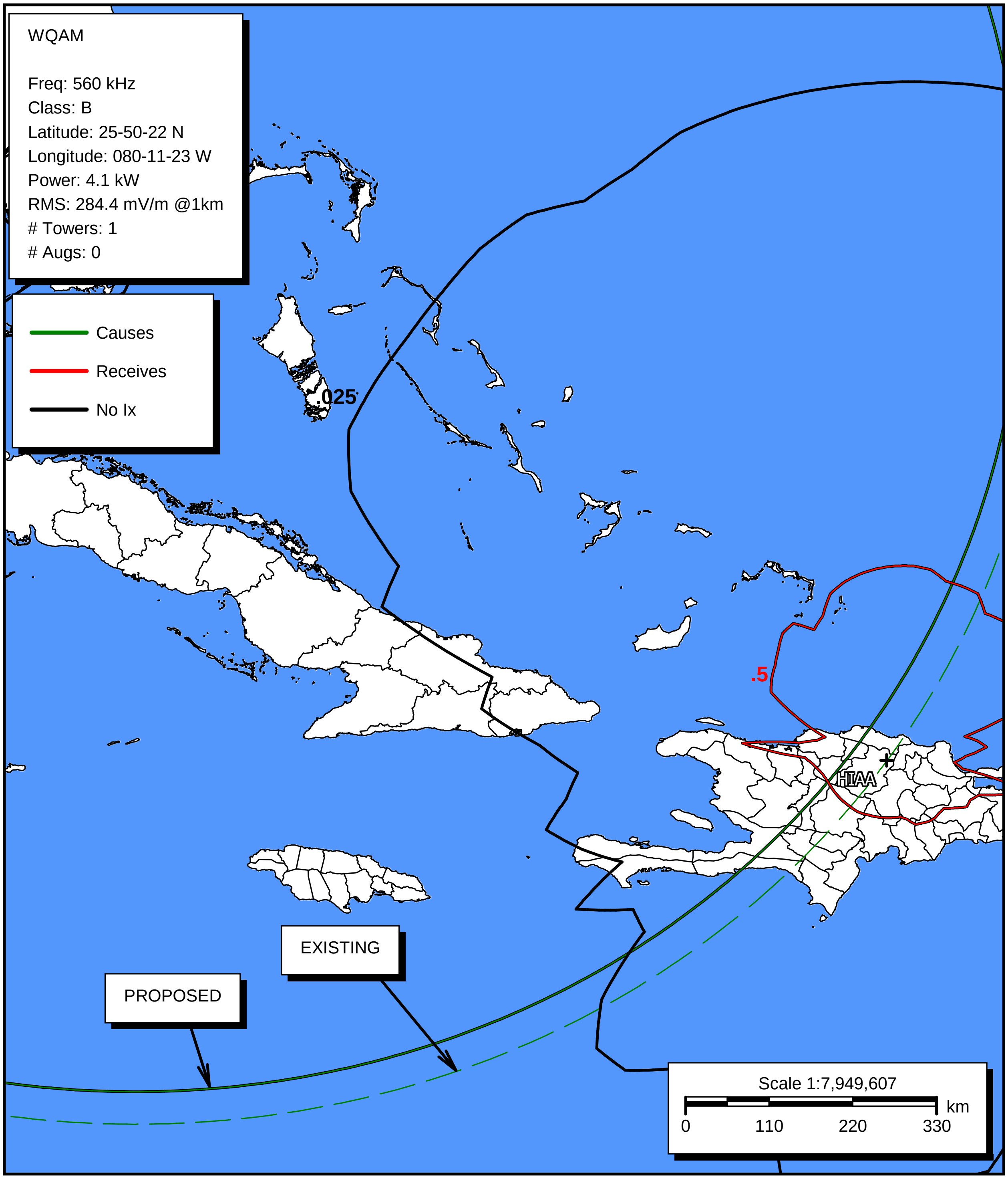
DAYTIME ALLOCATION STUDY

STATION: CMEA(570 KHZ); CMBV(550 KHZ); CMNA(570 KHZ)



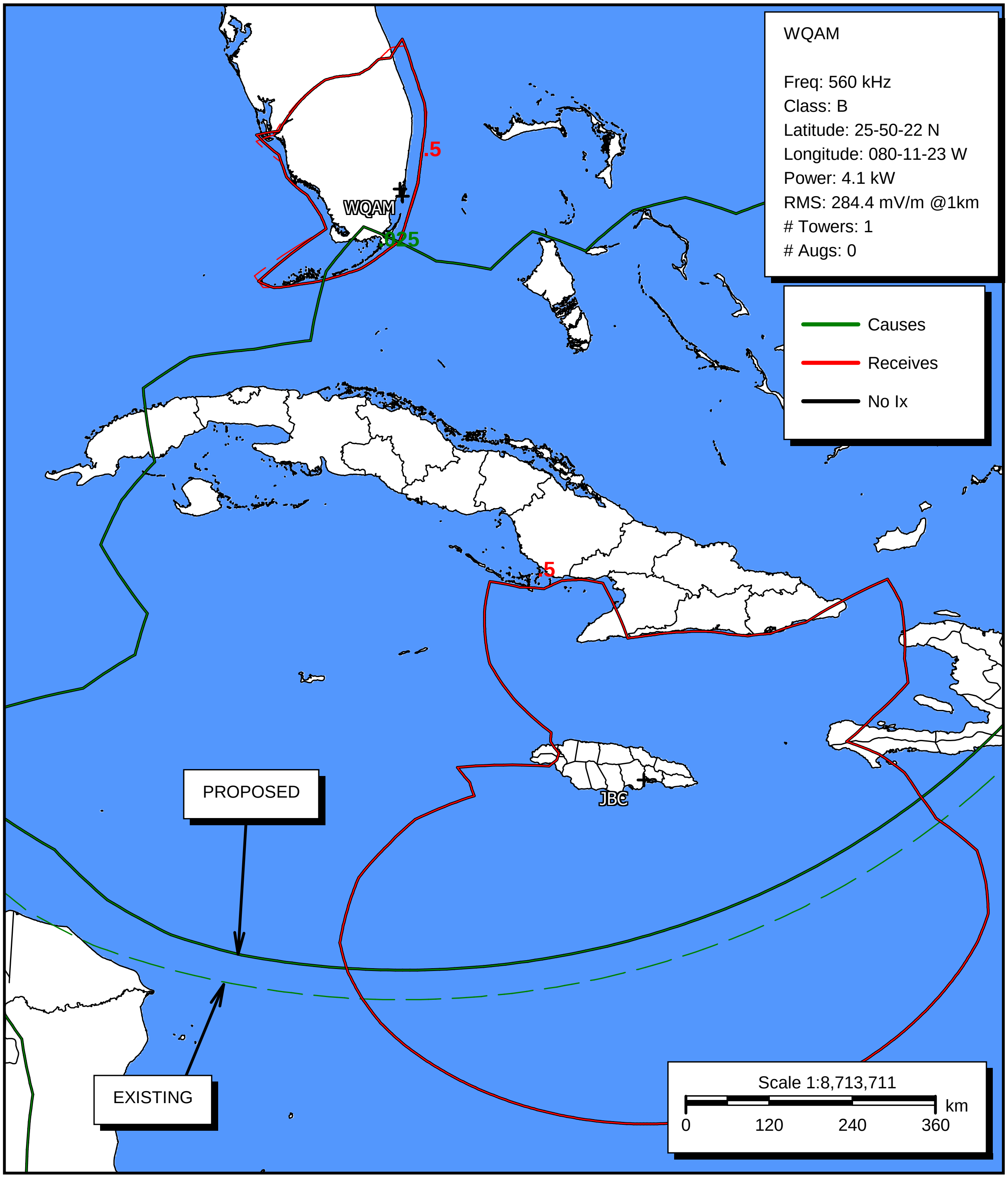
DAYTIME ALLOCATION STUDY

STATION: CMIA(560 KHZ)



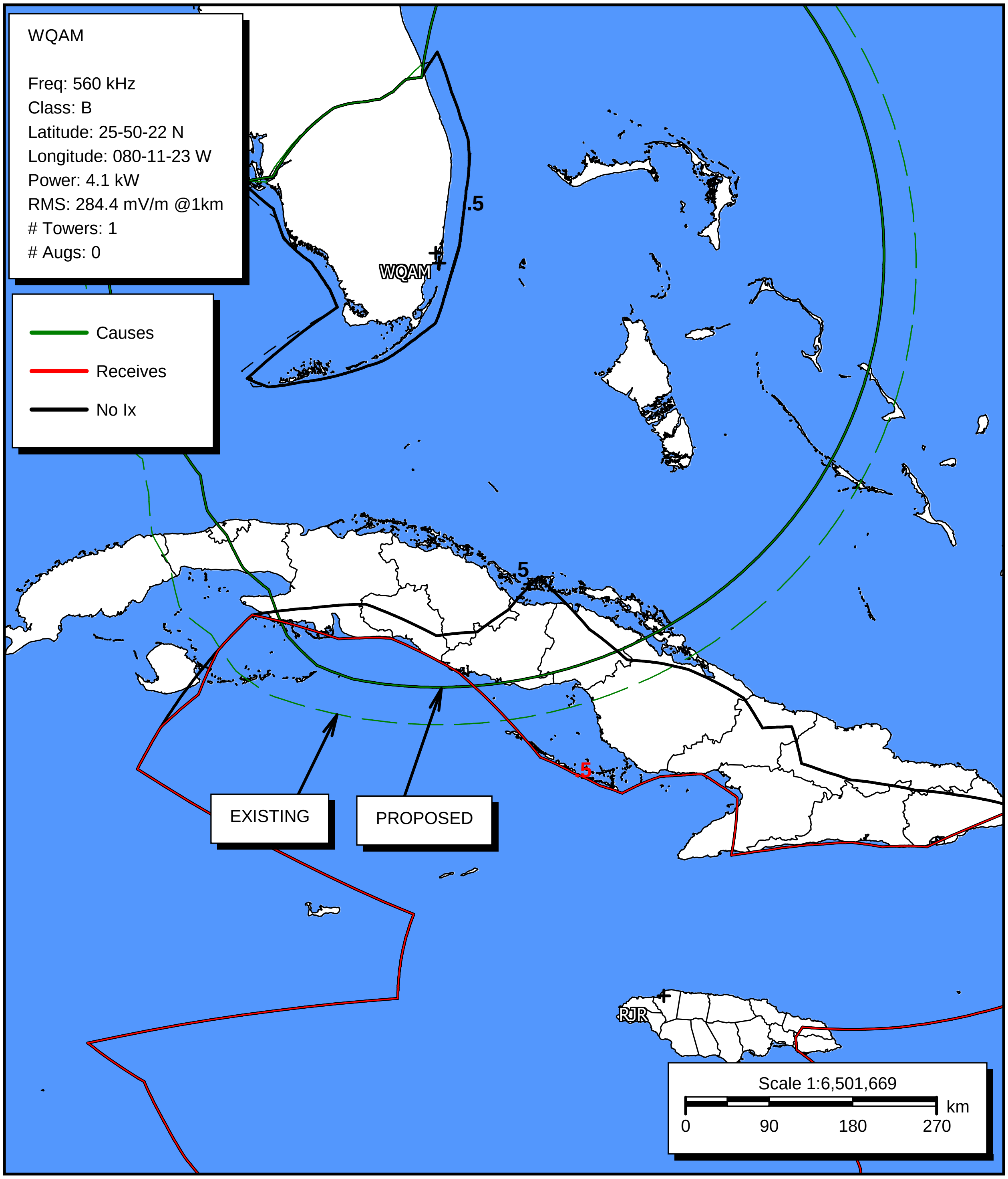
DAYTIME ALLOCATION STUDY

STATION: HIAA(560 KHZ)



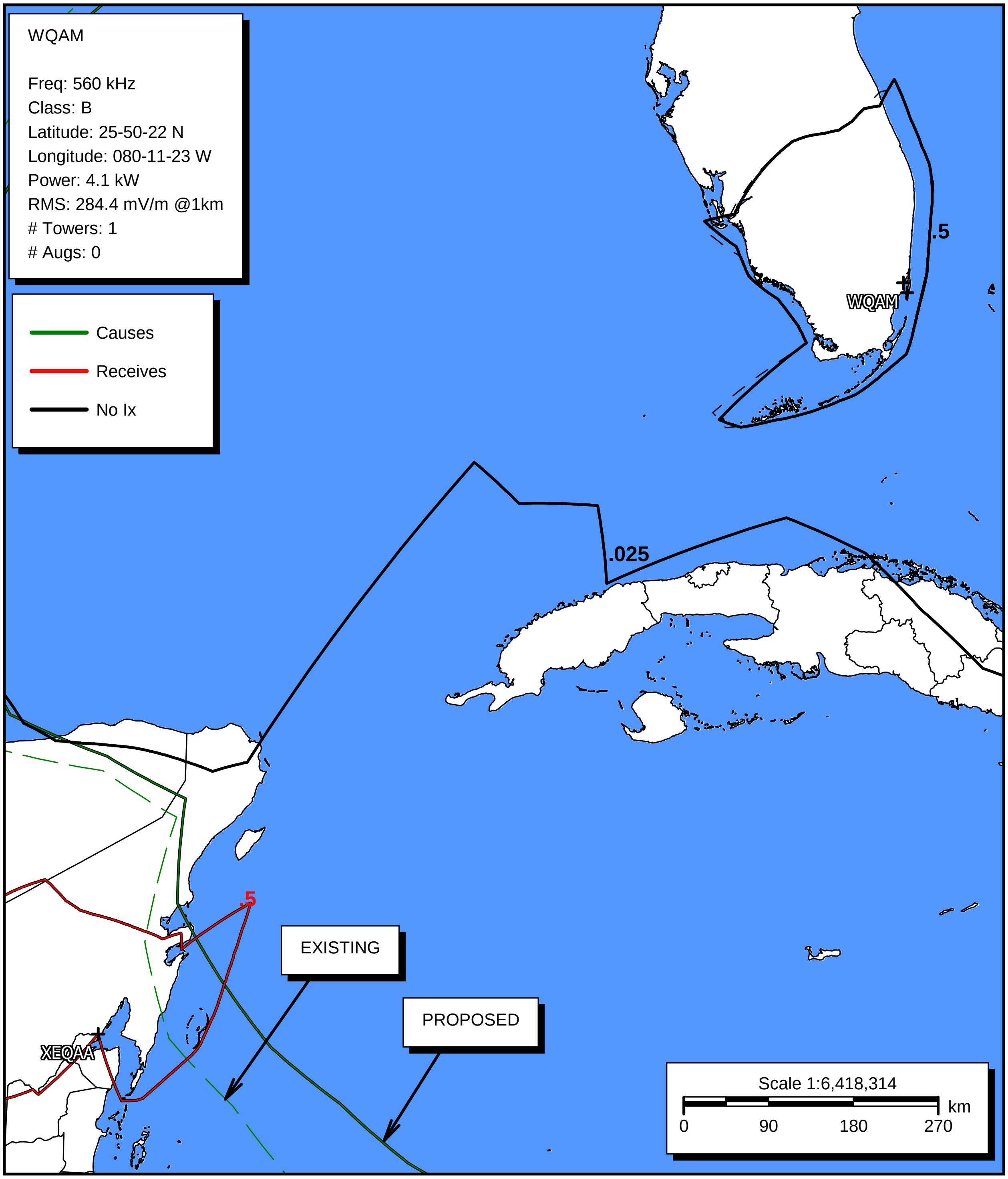
DAYTIME ALLOCATION STUDY

STATION: JBC(560 KHZ)



DAYTIME ALLOCATION STUDY

STATION: RJR(550 KHZ)



DAYTIME ALLOCATION STUDY

STATION: XEQAA(560 KHZ)

Tabulation of Data Employed in the Calculation of Groundwave Contours

Reference Station: WQAM, 560 kHz
Location: 25-50-22 N, 080-11-23 W

550 kHz Stations

386.7 km CMBV | 240.3 mi
23-01-00 N 082-26-00 W 500.0 kW ND1 - 329.3 mV/m@1km
Azi: 215.6 Class: A Sched: U File #:
Location: WAJAY, , CU

494.8 km WAYR | 307.4 mi
L 30-04-21 N 081-47-24 W 5.0 kW DA2 - 705.6 mV/m@1km
Azi: 341.1 Class: D Sched: U File #: BL19910725AD
Location: ORANGE PARK, FL, US

849.8 km RJR | 528.0 mi
18-28-00 N 077-54-00 W 10.0 kW ND1 - 302.9 mV/m@1km
Azi: 164.3 Class: B Sched: U File #:
Location: MONTEGO BAY, , JM

560 kHz Stations

463.1 km CMIA | 287.8 mi
21-53-00 N 078-43-00 W 10.0 kW ND1 - 310.5 mV/m@1km
Azi: 161.4 Class: B Sched: U File #:
Location: CIEGO DE AVI, , CU

912.7 km WXBT | 567.2 mi
L 34-01-55 N 081-08-31 W 5.0 kW DAN - 305.8 mV/m@1km
Azi: 354.0 Class: B Sched: U File #: BMML20130204ACU
Location: COLUMBIA, SC, US

936.1 km JBC | 581.7 mi
17-58-00 N 076-53-00 W 5.0 kW ND1 - 300.4 mV/m@1km
Azi: 159.2 Class: B Sched: U File #:
Location: NAGGO HEAD, , JM

1166.0 km XEQAA | 724.5 mi
18-29-39 N 088-17-56 W 2.5 kW ND1 - 278.0 mV/m@1km
Azi: 224.3 Class: B Sched: U File #:
Location: CHETUMAL, QR, MX

1204.8 km HIAA | 748.6 mi
19-29-00 N 070-40-00 W 0.5 kW ND1 - 300.4 mV/m@1km
Azi: 127.5 Class: C Sched: U File #:
Location: SANTIAGO 5, , DR

1222.9 km WGAI | 759.9 mi
L 36-20-16 N 076-14-49 W 1.0 kW DA2 - 297.4 mV/m@1km
Azi: 19.0 Class: B Sched: U File #: BL20040831ACS
Location: ELIZABETH CITY, NC, US

570 kHz Stations

350.6 km WTBN | 217.9 mi
L 28-12-40 N 082-31-46 W 5.0 kW DA2 - 656.4 mV/m@1km
Azi: 318.0 Class: B Sched: U File #: BML20100506AGM
Location: PINELLAS PARK,, FL, US

376.7 km CMEA | 234.1 mi
22-27-00 N 079-53-00 W 30.0 kW ND1 - 311.6 mV/m@1km
Azi: 175.3 Class: A Sched: U File #:
Location: SANTA CLARA, , CU

708.9 km NEW | 440.5 mi
GARD. CITY 32-09-41 N 081-17-37 W 1.0 kW DA2 - 343.8 mV/m@1km
Azi: 351.0 Class: B Sched: U File #: BNP20000201AHJ
Location: GARDEN CITY, GA, US

717.3 km CMNA | 445.7 mi
19-56-00 N 077-19-00 W 10.0 kW ND1 - 310.5 mV/m@1km
Azi: 156.3 Class: B Sched: U File #:
Location: PILON, , CU

Nighttime Allocation Study

Call: WQAM
Freq: 560 kHz
MIAMI, FL, US
Hours: N
Lat: 25-50-22 N
Lng: 080-11-23 W
Power: 1.0 kW
Theo RMS: 284.40 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	-999.0	0	1	41.0	14.3	0.0	0.0

Call Letters	Ct	St	City	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Margin (mV/m)
WXBT	US	SC	COLUMBIA	53.41	3.088	289.11	282.08	7.03
50% = 6.04, 25% = 7.392; WWNC=5.19 WQAM=3.09 JBC-A=2.68 HCBN2-A=1.99 KLVI=1.96 WHBQ=1.80								
KLVI	US	TX	BEAUMONT	28.02	1.651	294.55	284.07	10.48
50% = 4.532, 25% = 6.244; KLIF=2.39 KWTO=2.29 HCBN2-A=2.25 JBC-A=2.13 KTSA=1.98 WXBT=1.89 XEQAA/A=1.78 WQAM=1.65 KLZ=1.60 HJGS-A=1.57								
WFIL	US	PA	PHILADELPHIA	19.43	1.159	298.15	284.32	13.83
50% = 2.937, 25% = 4.636; WXBT=1.76 CJKL/A=1.71 WGAI=1.61 JBC-A=1.41 CFOS/A=1.41 WGR=1.41 WHYN=1.39 HCBN2-A=1.33 WHBQ=1.26 WGAN=1.25								
JBC-A	JM		NAGGO HEAD	28.10	1.666	296.50	280.11	16.39
50% = 2.878, 25% = 3.397; HJGS-A=2.35 WQAM=1.67 HIAA-C=1.20 XEQAA/A=1.00 HCBN2-A=0.90								
CMIA-D	CU		CIEGO DE AVI	51.90	3.193	307.65	262.58	45.07
50% = 6.387, 25% = 6.984; JBC-A=6.39 WQAM=2.83								
WIND	US	IL	CHICAGO	15.23	1.008	330.87	284.40	46.47
50% = 2.656, 25% = 4.145; KLVI=1.66 WXBT=1.63 KTRS=1.28 CFOS/A=1.21 HCBN2-A=1.20 WJLS=1.20 KLZ=1.15 WGAI=1.11 JBC-A=1.08 WEBC=1.02 WHBQ=1.01								
XEQAA/A	MX	QR	CHETUMAL	48.35	4.481	463.37	282.22	181.15
50% = 8.961, 25% = 9.409; XE/A=6.47 JBC-A=6.20 WQAM=2.87								
WHBQ	US	TN	MEMPHIS	26.96	2.795	518.44	284.04	234.39
50% = 8.68, 25% = 11.18; WXBT=6.30 KLVI=5.97 KWTO=4.17 WJLS=3.37 WIND=3.35 KTRS=3.12								
WGAN	US	ME	PORTLAND	10.82	1.131	522.86	284.40	238.46
50% = 3.142, 25% = 4.524; WSYR=2.23 WMCA=2.21 WHYN=1.55 WDEV=1.50 CJKL/A=1.44 WFIL=1.40 CFNB/A=1.39								
KWTO	US	MO	SPRINGFIELD	18.38	1.928	524.36	284.37	239.99
50% = 6.458, 25% = 7.711; WXBT=3.79 KLVI=3.71 WHBQ=3.68 WIND=2.65 KLZ=2.56 WJLS=2.05								
KLZ	US	CO	DENVER	7.30	0.811	555.65	284.40	271.25
50% = 2.313, 25% = 3.293; KSFO=1.59 KLVI=1.26 KRAI=1.11 HCBN2-A=1.06 WXBT=1.05 WIND=0.98 XEYO/A=0.95 WNAX=0.87 CJKL/A=0.81								

```
Call                                          SWFF   Req Prot   Permis   Cur Rad    Margin
Letters         Ct St City               (100uV/m)  (mV/m)    (mV/m)    (mV/m)    (mV/m)
--------------  -- -- ---------------  --------- -------- --------- --------- ---------
WJLS            US WV BECKLEY              29.04    3.583    616.92    283.90    333.02
   50% = 12.972, 25% = 14.332; WXBT=12.97 WFIL=4.78 WGAI=3.77

WHYN            US MA SPRINGFIELD          13.89    1.723    620.49    284.40    336.09
   50% = 6.237, 25% = 6.893; WGAN=4.92 WMCA=3.83 WSYR=2.30 WFIL=1.83

WTBN            US FL PINELLAS PARK,      186.78    2.304    616.80    262.38    354.42
   50% = 7.543, 25% = 9.216; WWNC=5.17 KLIF=3.92 TISBJ-A=3.84 WDBO=3.70
   XEME/ =2.75 XEME/A=2.60

WGAI            US NC ELIZABETH CITY       33.47    4.886    729.95    283.66    446.29
   50% = 19.242, 25% = 19.853; WFIL=13.79 WXBT=13.42 WJLS=4.89

HIAA-C          DR    SANTIAGO  5          41.58    6.535    785.87    283.46    502.42
   50% = 13.07, 25% = 13.743; JBC-A=13.07 HJGS-A=4.25

HRPX-B          HO    S PEDRO SULA         12.50    2.409    963.68    283.37    680.31
   50% = 4.818, 25% = 4.818; XEQAA/A=3.01 XE/A=2.87 JBC-A=2.43

XE/A            MX CS TAPACHULA            15.85    3.243   1023.06    284.14    738.92
   50% = 6.761, 25% = 7.93; XEQAA/A=5.93 XEOC/A=3.24 XEOC/ =2.55 JBC-A=2.52
   HCBN2-A=2.08

KSFO            US CA SAN FRANCISCO         3.16    0.794   1254.36    284.40    969.96
   50% = 2.553, 25% = 3.255; KLVI=1.61 KUZZ=1.55 KLZ=1.23 KLAC=1.10 KOAC=0.96
   KWTO=0.83 XEYO/A=0.80 HCBN2-A=0.79

WWNC            US NC ASHEVILLE            39.54    1.148   1451.78    283.23   1168.55
   50% = 3.349, 25% = 4.592; KLIF=2.08 TISBJ-A=1.94 WKBN=1.77 WAAX=1.54
   WCHS=1.43 WSPZ=1.41 WNAX=1.39 WKYX=1.23

KBLU            US AZ YUMA                  5.41    1.962   1814.23    284.40   1529.83
   50% = 6.528, 25% = 7.85; KLVI=4.54 KLZ=3.60 KWTO=3.00 KSFO=2.81 XEYO/A=2.63
   KLAC=2.04

WDUN            US GA GAINESVILLE          46.29    1.688   1823.31    282.71   1540.60
   50% = 6.063, 25% = 6.875; KTSA=3.63 RJR-A=3.59 WKRC=3.27 HCGB1-A=2.07
   WGR=1.84 WAYR=1.69

CJKL/A          CA ON KIRKLAND LAKE         5.87    2.190   1864.71    284.40   1580.31
   50% = 4.685, 25% = 5.427; WIND=3.44 WJLS=2.30 WXBT=2.19 WGAN=1.74 WEBC=1.59
   KMON=1.40

XEOC/A          MX DF IZTAPALAPA            9.51    3.818   2007.17    284.38   1722.79
   50% = 7.636, 25% = 9.058; XEMZA/A=6.05 XE/A=4.66 XEXZ/A=3.26 XEQAA/A=2.82
   KLVI=2.26

XEOC/O          MX DF MEXICO                9.38    3.816   2034.05    284.38   1749.67
   50% = 7.632, 25% = 9.354; XEMZA/A=6.12 XE/A=4.55 XEXZ/A=3.30 XEQAA/A=2.75
   KLVI=2.37 XESRD/A=2.27

XEOC/O          MX DF MEXICO                9.38    3.816   2034.05    284.38   1749.67
   50% = 7.632, 25% = 9.354; XEMZA/A=6.12 XE/A=4.55 XEXZ/A=3.30 XEQAA/A=2.75
   KLVI=2.37 XESRD/A=2.27

XEOC/O          MX DF MEXICO                9.38    3.816   2034.05    284.38   1749.67
   50% = 7.632, 25% = 9.354; XEMZA/A=6.12 XE/A=4.55 XEXZ/A=3.30 XEQAA/A=2.75
   KLVI=2.37 XESRD/A=2.27
```

Nighttime Interference-Free Calculation

Station Information:

Call: WQAM
Freq: 560 kHz
MIAMI, FL, US
Hours: N
Lat: 25-50-22 N
Lng: 080-11-23 W
Power: 1.0 kW
Theo RMS: 284.40 mV/m @ 1km @ 1kW

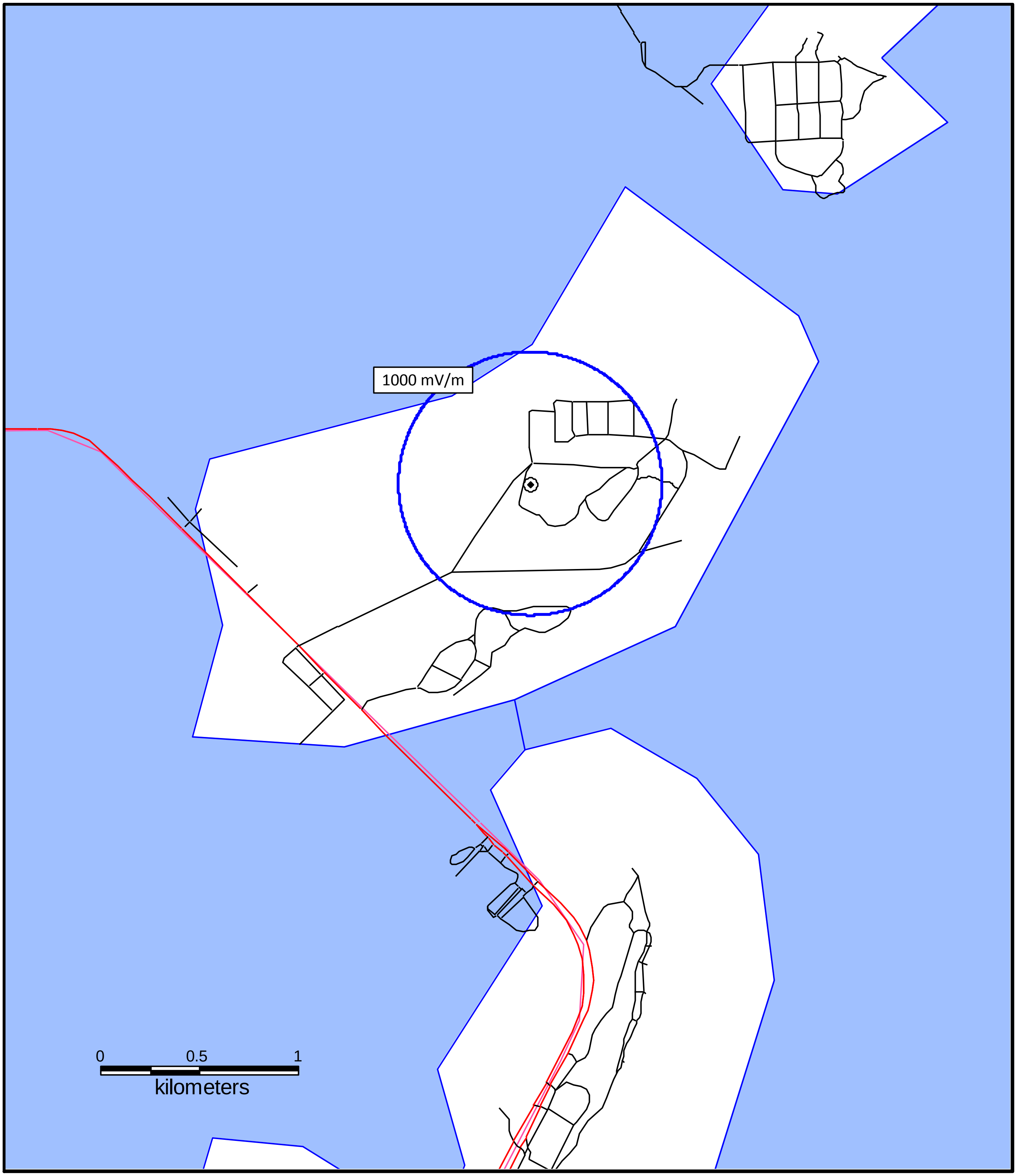
Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Contributors:

Call	Freq (kHz)	City	St	Ct	Limit (mV/m)	(%)	RSS Limit (mV/m)
JBC-A	0560	NAGGO HEAD		JM	8.265	100.0	**8.265 (NIF)**
HCBN2-A	0560	GUAYAQUIL		EC	3.437	41.6	8.951
HJGS-A	0560	TUNJA 4		CO	3.214	35.9	9.510
XEQAA/A	0560	CHETUMAL	QR	MX	2.439	25.6	9.818
WXBT	0560	COLUMBIA	SC	US	1.760	17.9	9.975
KLVI	0560	BEAUMONT	TX	US	1.738	17.4	10.125
WFIL	0560	PHILADELPHIA	PA	US	1.614	15.9	10.253
XE/A	0560	TAPACHULA	CS	MX	1.499	14.6	10.362
WHBQ	0560	MEMPHIS	TN	US	1.369	13.2	10.452
WGAI	0560	ELIZABETH CITY	NC	US	1.337	12.8	10.537
RJR-A	0550	MONTEGO BAY		JM	1.301	12.4	10.617
HIAA-C	0560	SANTIAGO 5		DR	1.270	12.0	10.693

Blanketing - WQAM

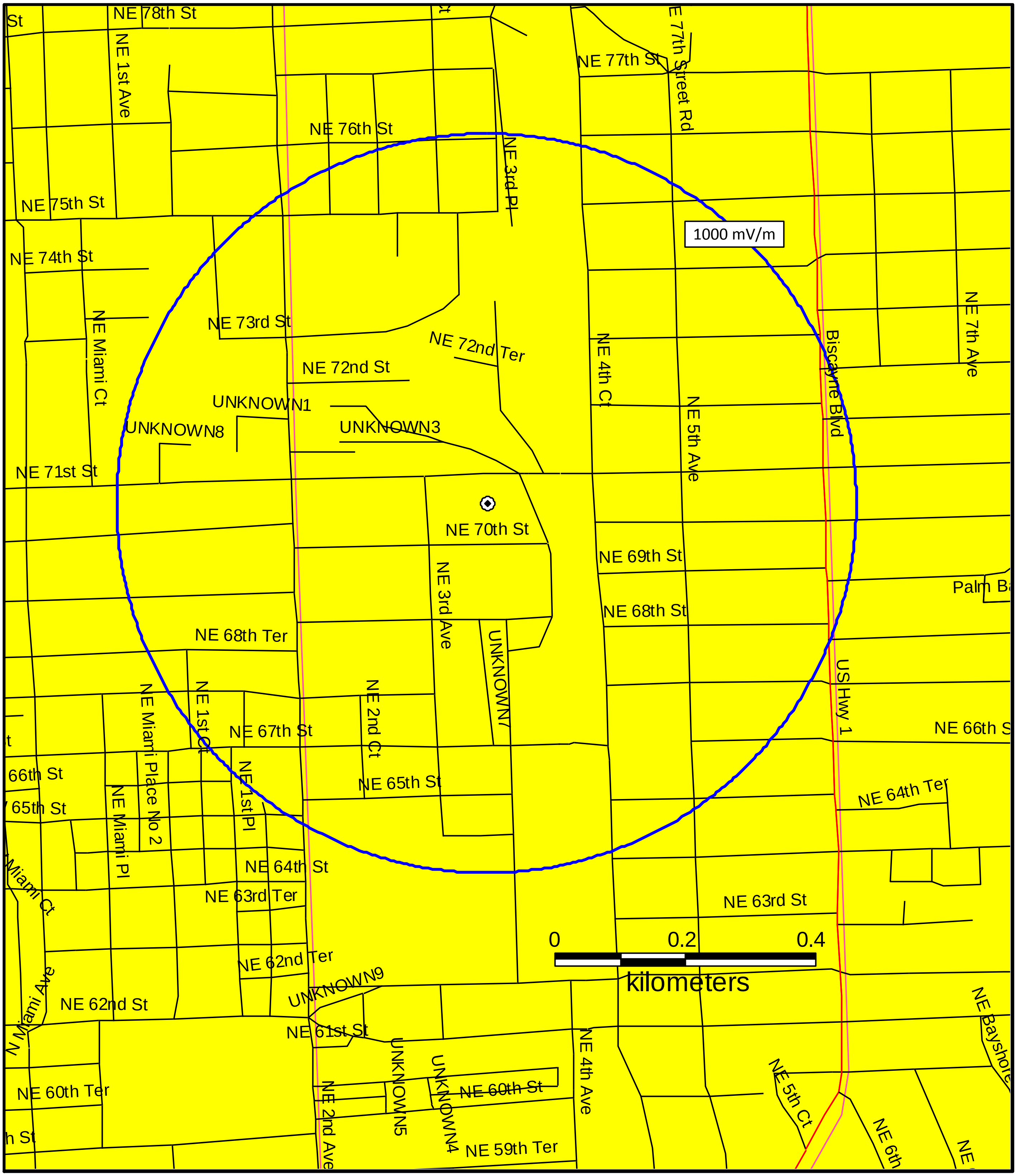
The provisions of 47 CFR 73.24(g) require that the population within the 1,000 mV/m contour not exceed 300 persons or 1 percent of the population within the 25 mV/m groundwave contour. At the proposed location, during daytime hours, the proposed 1,000 mV/m contour encompasses 2,685 persons or 0.16 percent of the 1,714,808 persons in the 25 mV/m contour. Thus, the requirements of 47 CFR 73.24(g) are met.



EXISTING DAYTIME BLANKETING FIELD STRENGTH CONTOUR

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



PROPOSED DAYTIME BLANKETING FIELD STRENGTH CONTOUR

RADIO STATION WQAM
MIAMI, FLORIDA
560 KHZ 4.1 KW-D 1 KW-N U ND

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Environmental Protection - WQAM

The proposed facility is excluded from environmental processing under the requirements of 47 C.F.R. Section 1.1306. The proposed facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments.

No tower construction is proposed by WQAM. Space within the existing transmitter building will be used to house the transmitting equipment. No new building construction is proposed.

The proposed WQAM operation will be evaluated in terms of both the electric and magnetic field components which will be present at the base of the tower. Using Figures 1 through 4 of Supplement A to OET Bulletin 65, the worst case interpolated distances at which the electric and magnetic fields would fall below ANSI guidelines will be calculated before construction. The areas surrounding the base of each tower will be appropriately restricted with a fence having the required minimum radius unless field measurement data indicates otherwise. The fences will assure that persons on the property outside the fenced areas will not be exposed to radiofrequency field levels in excess of those recommended by the ANSI. In addition, warning signs will be posted.

Tower Top Loading Analysis - WQAM

The tower that is employed as the main antenna for WQAM is 60.9 meters (200 feet) tall above its base insulator. That makes it 41.0 electrical degrees in physical height at the WQAM carrier frequency, 560 kilohertz. An additional 14.3 electrical degrees of effective height will be added by connecting three 12.0 meter (39.4 foot) sections of 0.0080 meter (5/16 inch) diameter guy wire to the tower top and connecting their lower ends together with identical horizontal guy wire sections above the first guy wire insulators from the tower. The guy wires that are connected to the tower top will descend at an angle of 33.7 degrees from the vertical tower axis, corresponding to a horizontal plane guy anchor radius of 2/3 of the tower height.

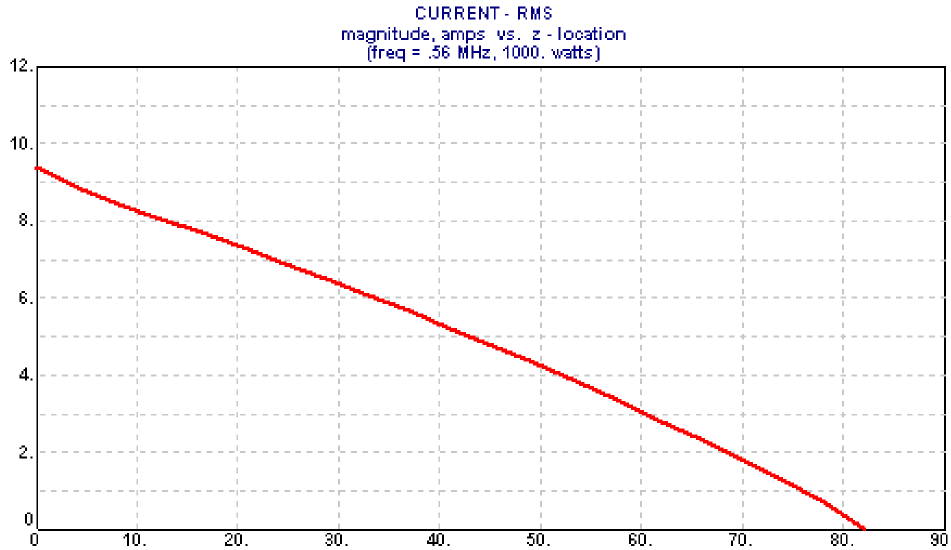
CURRENT DISTRIBUTION ANALYSIS OF PROPOSED WQAM TOP LOADED TOWER

Moment method modeling, which calculates tower current distribution rather than assuming it to have a sinusoidal characteristic, was used to design the top loading scheme for the proposed tower. It represents the state-of-the-art for calculating both tower current distribution and radiation characteristics in cases such as this. Modern research and experience indicate that moment method modeled current should match "real world" conditions more closely than the sinusoidal assumption that the FCC has used for analyzing current distribution measurements when new top-loaded antennas have been licensed in the past. The MININEC Broadcast Professional software package that is commonly used for proofing AM directional antennas in FCC applications for license was used to evaluate the top loading design. The details of the model are provided herein.

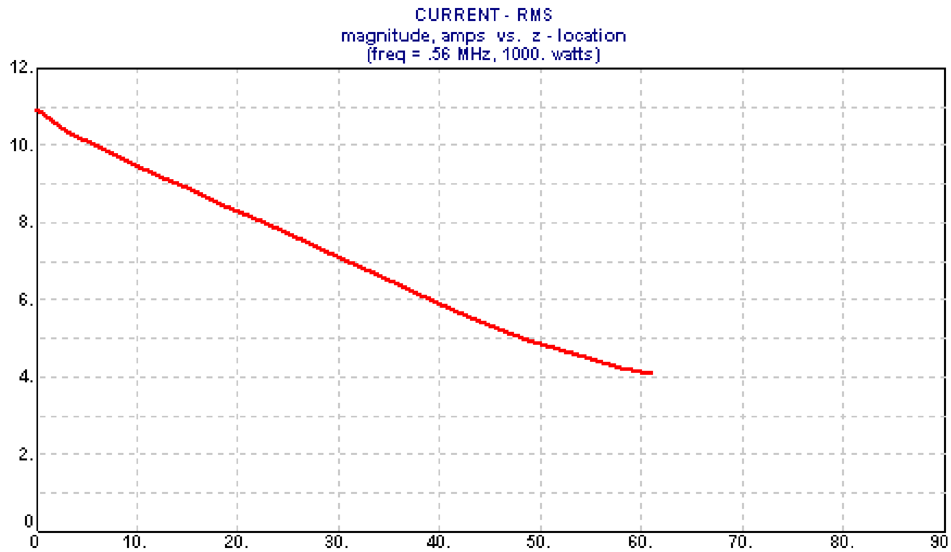
The top loading analysis of the proposed WQAM tower was performed using the current distribution of a tower with a total electrical height of 41.0 + 14.3 = 55.3 electrical degrees as a reference. The physical characteristics of the top loading wire sections connected to the top of the tower were selected to provide a match between the predicted current distribution along the proposed 41.0 degree top loaded tower with that of the lower 41.0 degree portion of the reference 55.3 electrical degree tower. Current distributions for both the reference and top-loaded models are plotted on the graphs that are shown on sheet 2. The currents were calculated assuming the same antenna input power. Their absolute values differ because of the differing integrand length between the two models, but their shapes when scaled together are essentially the same over the comparable span of height.

The models used a conductor with the equivalent radius of a triangular tower having a face width of 16 inches to represent the proposed WQAM tower. The top loading wires have the radius of the 5/16 inch EHS guy cable from which they will be constructed. Details of the modeled geometry of the reference tower are shown on sheet 3 and a list of the modeled current nodes is shown on sheet 4. Details of the modeled geometry of the proposed top loaded tower are shown on sheet 6 and the modeled current nodes are shown on sheet 7.

Both models included an assumed loss resistance of 1.0 ohm at the tower base. This is in keeping with standard FCC practice for calculating radiation efficiency of AM antennas of the proposed total electrical height. The horizontal plane radiation efficiencies of the reference tower and the proposed top loaded tower are shown on sheets 5 and 8, respectively.



REFERENCE
55.3 DEGREE TOWER
CALCULATED CURRENT DISTRIBUTION



PROPOSED
41.0 + 14.3 DEGREE TOP LOADED TOWER
CALCULATED CURRENT DISTRIBUTION

```
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GEOMETRY
Dimensions in meters
Environment: PERFECT GROUND

wire  caps X            Y            Z            radius      segs
 1    none 0            0            0            .194         20
           0            0            82.2

Number of wires          =  1
          current nodes  =  20

                        minimum                   maximum
Individual wires      wire    value             wire  value
segment length         1      4.11               1    4.11
segment/radius ratio   1      21.18556           1    21.18556
radius                 1      .194               1    .194


ELECTRICAL DESCRIPTION
Frequencies (MHz)
     frequency                no. of  segment length (wavelengths)
 no. lowest       step        steps   minimum         maximum
 1   .56          0            1      .007677117      .007677117

Sources
source node    sector  magnitude      phase           type
 1      1       1      1.             0               voltage

Lumped loads
             resistance    reactance     inductance  capacitance
passive
load  node   (ohms)        (ohms)        (mH)        (uF)
circuit
 1     1     1.            0             0           0             0
```

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CURRENT NODES

	coordinates (meters)			connections		node
wire	X	Y	Z	end1	end2	no.
1	0	0	0	GND	1	1
1	0	0	4.11	1	1	2
1	0	0	8.22	1	1	3
1	0	0	12.33	1	1	4
1	0	0	16.44	1	1	5
1	0	0	20.55	1	1	6
1	0	0	24.66	1	1	7
1	0	0	28.77	1	1	8
1	0	0	32.88	1	1	9
1	0	0	36.99	1	1	10
1	0	0	41.1	1	1	11
1	0	0	45.21	1	1	12
1	0	0	49.32	1	1	13
1	0	0	53.43	1	1	14
1	0	0	57.54	1	1	15
1	0	0	61.65	1	1	16
1	0	0	65.76	1	1	17
1	0	0	69.87	1	1	18
1	0	0	73.98	1	1	19
1	0	0	78.09	1	END	20

```
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RADIATION PATTERN - RMS
geographic coordinate system

Radial distance (meters) = 1000.
Frequency   = .56 MHz
Input power = 1000. watts
Efficiency = 91.20184 %
elevation  azimuth    E-theta                  E-phi
angle      angle      mag (v/m)  phase (deg)  mag (v/m) phase
0          0          .2911909   175.95       0         0
```

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GEOMETRY
Dimensions in meters
Environment: PERFECT GROUND

wire	caps	X	Y	Z	radius	segs
1	none	0	0	0	.194	20
		0	0	61.		
2	none	0	0	61.	.00397	3
		-3.34	5.8	51.		
3	none	0	0	61.	.00397	3
		-3.34	-5.8	51.		
4	none	0	0	61.	.00397	3
		6.66	0	51.		
5	none	-3.34	5.8	51.	.00397	3
		-3.34	-5.8	51.		
6	none	-3.34	-5.8	51.	.00397	3
		6.66	0	51.		
7	none	6.66	0	51.	.00397	3
		-3.34	5.8	51.		

Number of wires = 7
current nodes = 41

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	1	3.05	2	4.011034
segment/radius ratio	1	15.72165	2	1010.336
radius	2	.00397	1	.194

ELECTRICAL DESCRIPTION
Frequencies (MHz)

	frequency		no. of	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	.56	0	1	.005697131	.007492259

Sources

source	node	sector	magnitude	phase	type
1	1	1	1.	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	1	1.	0	0	0	0

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CURRENT NODES

	coordinates (meters)			connections		node
wire	X	Y	Z	end1	end2	no.
1	0	0	0	GND	1	1
1	0	0	3.05	1	1	2
1	0	0	6.1	1	1	3
1	0	0	9.150001	1	1	4
1	0	0	12.2	1	1	5
1	0	0	15.25	1	1	6
1	0	0	18.3	1	1	7
1	0	0	21.35	1	1	8
1	0	0	24.4	1	1	9
1	0	0	27.45	1	1	10
1	0	0	30.5	1	1	11
1	0	0	33.55	1	1	12
1	0	0	36.6	1	1	13
1	0	0	39.65	1	1	14
1	0	0	42.7	1	1	15
1	0	0	45.75	1	1	16
1	0	0	48.8	1	1	17
1	0	0	51.85	1	1	18
1	0	0	54.9	1	1	19
1	0	0	57.95	1	END	20
2	0	0	61.	1	2	21
2	-1.113333	1.933333	57.66667	2	2	22
2	-2.226667	3.866667	54.33333	2	END	23
3	0	0	61.	1	3	24
3	-1.113333	-1.933333	57.66667	3	3	25
3	-2.226667	-3.866667	54.33333	3	END	26
4	0	0	61.	1	4	27
4	2.22	0	57.66667	4	4	28
4	4.44	0	54.33333	4	END	29
5	-3.34	5.8	51.	2	5	30
5	-3.34	1.933333	51.	5	5	31
5	-3.34	-1.933334	51.	5	5	32
5	-3.34	-5.8	51.	5	-3	33
6	-3.34	-5.8	51.	3	6	34
6	-.006666481	-3.866667	51.	6	6	35
6	3.326667	-1.933333	51.	6	6	36
6	6.66	0	51.	6	-4	37
7	6.66	0	51.	4	7	38
7	3.326666	1.933333	51.	7	7	39
7	-.006667018	3.866667	51.	7	7	40
7	-3.34	5.8	51.	7	-2	41

```
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RADIATION PATTERN - RMS
geographic coordinate system

Radial distance (meters) = 1000.
Frequency   = .56 MHz
Input power = 1000. watts
Efficiency = 88.07808 %
elevation  azimuth    E-theta                    E-phi
angle      angle      mag (v/m)  phase (deg)  mag (v/m) phase
0          0          .2843572   177.38       4.669E-12 228.63
```