



## ENGINEERING STUDY

NEW 216C3

Belen, NM

BOARD OF EDUCATION OF THE CITY OF ALBUQUERQUE

Requesting a New facility

Pursuant to MB Docket No. 20-343, DA No. 21-463 (April 21, 2021)

November, 2021

# **NEW 216C3**

## **Belen, NM**

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### **TECHNICAL STATEMENT**

This technical statement and attached exhibits were prepared on behalf of the Board of Education of the City of Albuquerque, ("APS"), in support of a NEW NCE FM radio station on Channel 216C3 to be licensed to the community of Belen, New Mexico.

### **TECHNICAL PARAMETERS**

#### **Facilities Proposed**

Location (NAD83)	34° 23' 51.43.9" N Latitude, 107° 00' 43.1" W Longitude
Channel	216C3 (91.1MHz)
Tower Overall AGL Height-	58.2
Tower ASR	1005472
Proposed Antenna	4-Bay, Half-Wave spaced EPA Type 3-Directional
Antenna AGL Height-	29m
Site AMSL Height-	1704.4m
COR AMSL Height	1733.4m
HAAT	62.7m
ERP	7.5kW Non-Directional

## **BASIS OF CALCULATIONS**

All exhibits and calculations in this application were prepared using the USGS National Elevation Dataset (NED) 3 Second US Terrain database unless otherwise noted. Contours are calculated using 72 evenly spaced radials unless otherwise noted. All population calculations were based on the 2010 *Census Block Data* from the US Bureau of Census<sup>1</sup>.

## **POPULATION SERVED**

The proposed NCE facility will encompass 3,108 sq. km. and a total of 29,825 people (2010 Census).

## **47 CFR § 73.509 COMPLIANCE**

As demonstrated in Exhibit B, the proposed NCE facility will utilize a non-directional antenna and will meet all contour protection requirements toward other stations as specified in 47 CFR § 73.509. Exhibit B1 is a map showing the pertinent contours to the closest facilities, KFCY/KEZF (216C2) and KEDP-Application (216C3). It is noted that APS has contested the application of KEZF to ignore the vacant allotment for Belen. APS would like this opportunity to re-establish that allotment.

There are no allocation issues to any Mexican facilities or allotments.

## **SECTION 307(b) FAIR DISTRIBUTION OF SERVICE ANALYSIS.**

As shown in Exhibit C, the proposed facility will provide second NCE service to 188 people. As such, this proposal will not claim points for first or second NCE service.

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<sup>1</sup> As specified in FCC MB DA 21-885, Page 5, 6.

## **TV CHANNEL 6 PROTECTION**

There are no full-power TV6 facilities within 177 km of the proposed facility; therefore, the proposed 216C3 at Belen, NM is compliant with 73.525.

## **REASONABLE ASSURANCE**

Reasonable assurance for the proposed tower was received by Tiffany Yu, an authorized representative of the tower owner, American Tower Corporation, Broadcast Business Development Manager at (781) 926-7820 or [tiffany.yu@americantower.com](mailto:tiffany.yu@americantower.com).

## **COMMUNITY COVERAGE**

As demonstrated in Exhibit D, in compliance with 73.515, the proposed facility will cover 62.8% of the area and 99% of the population of the community of Belen, New Mexico.

## **ENVIRONMENTAL CONSIDERATIONS**

The proposed antenna will be attached to an existing tower. The tower is owned by American Tower Corp. The ASR is shown in Exhibit E.

It is not believed that this will trigger environmental compliance issues for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The proposed antenna will operate at a maximum power level of 7.5kW ERP and will operate at 29m AGL. APS proposes to operate with a 4-bay, half-wave spaced directional antenna. Based upon the FCC “FM Model”<sup>2</sup> Power Density vs. Distance calculator using a “EPA Type 3, Opposed U Dipole” type antenna setting, the maximum power density at 2m AGL contributed by the proposed antenna is expected to be 17.1  $\mu\text{W}/\text{cm}^2$  or 8.6% of the permitted 200  $\mu\text{W}/\text{cm}^2$  limit for uncontrolled exposure. There are no tall buildings near the proposed tower. It is noted that KXFR, 220C3 is operating at 46m AGL with a ring-stub antenna and is projected to generate over the maximum NIER

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<sup>2</sup> <https://www.fcc.gov/general/fm-model>

currently. When this facility was operating previously, it was compliant with MPE requirements, so it is expected that will continue, however, APS is willing to verify compliance with field readings upon completion of construction.

Based upon the preceding evaluation, the proposed antenna it is believed that the proposed antenna is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed FM station along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in cursive script that reads "Bert Goldman". The signature is written in black ink and is positioned above the printed name and title.

Bert Goldman  
Technical Consultant

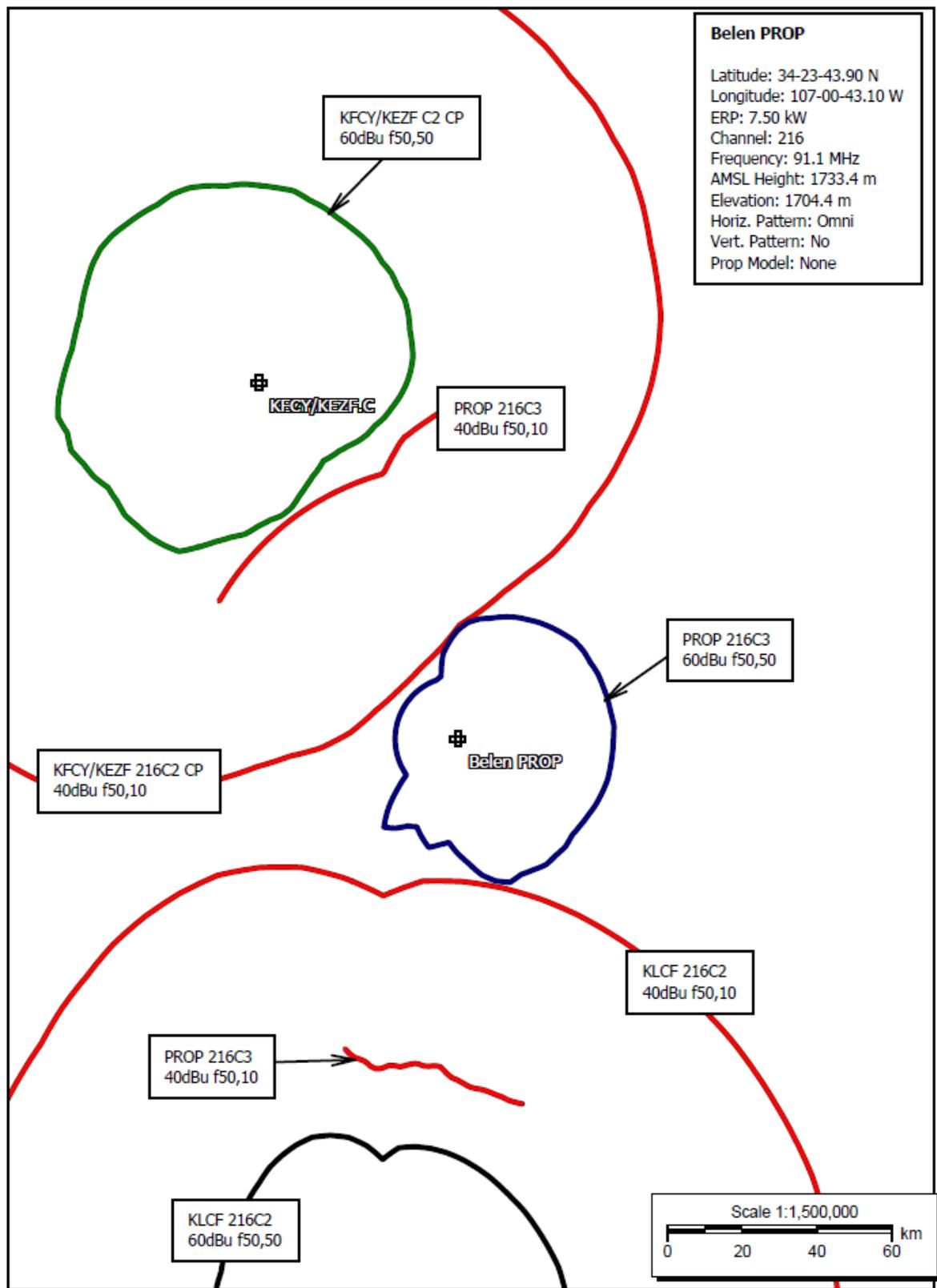
## EXHIBIT A ALLOCATION STUDY (LMS)

ComStudy 2.2 search of channel 216 (91.1 MHz Class C3) at 34-23-44.2 N, 107-00-44.1 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KEZF	GRANTS	NM 216 C2	109.09	177.00	330.9	-15.26 dB
KFCY	GRANTS	NM 216 C2	109.03	177.00	330.9	0.13 dB
KLCF	TRUTH OR CONSEQUENCE	NM 216 C2	159.61	177.00	187.2	0.77 dB
KFLQ	ALBUQUERQUE	NM 218 C	104.32	96.00	29.2	2.54 dB
KQLV	SANTA FE	NM 214 C	104.31	96.00	29.2	2.41 dB
KKLB	RUIDOSO	NM 217 C2	158.21	117.00	133.8	14.77 dB
KEDP	LAS VEGAS	NM 216 C3	208.75	153.00	50.7	16.66 dB
KFLQ	ALBUQUERQUE	NM 218 C	104.32	96.00	29.2	18.60 dB
KEDP	LAS VEGAS	NM 216 A	210.74	142.00	50.2	18.58 dB
KVER	EL PASO	TX 216 A	292.92	142.00	170.1	30.94 dB
KRXG	SILVER CITY	NM 217 C3	204.68	99.00	214.1	31.64 dB

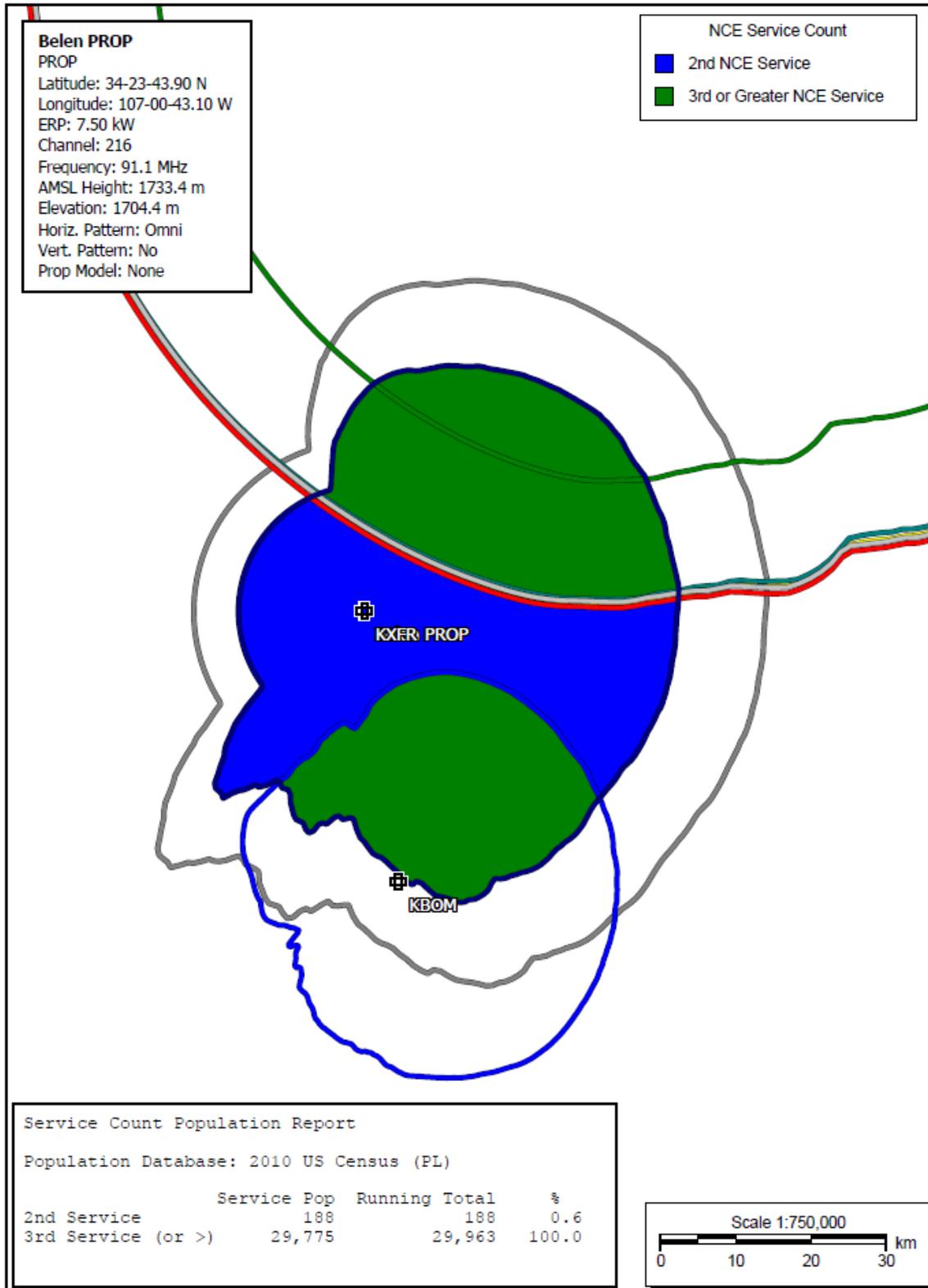
LMS as of 11/5/2021

**EXHIBIT B1- Contour Protections**



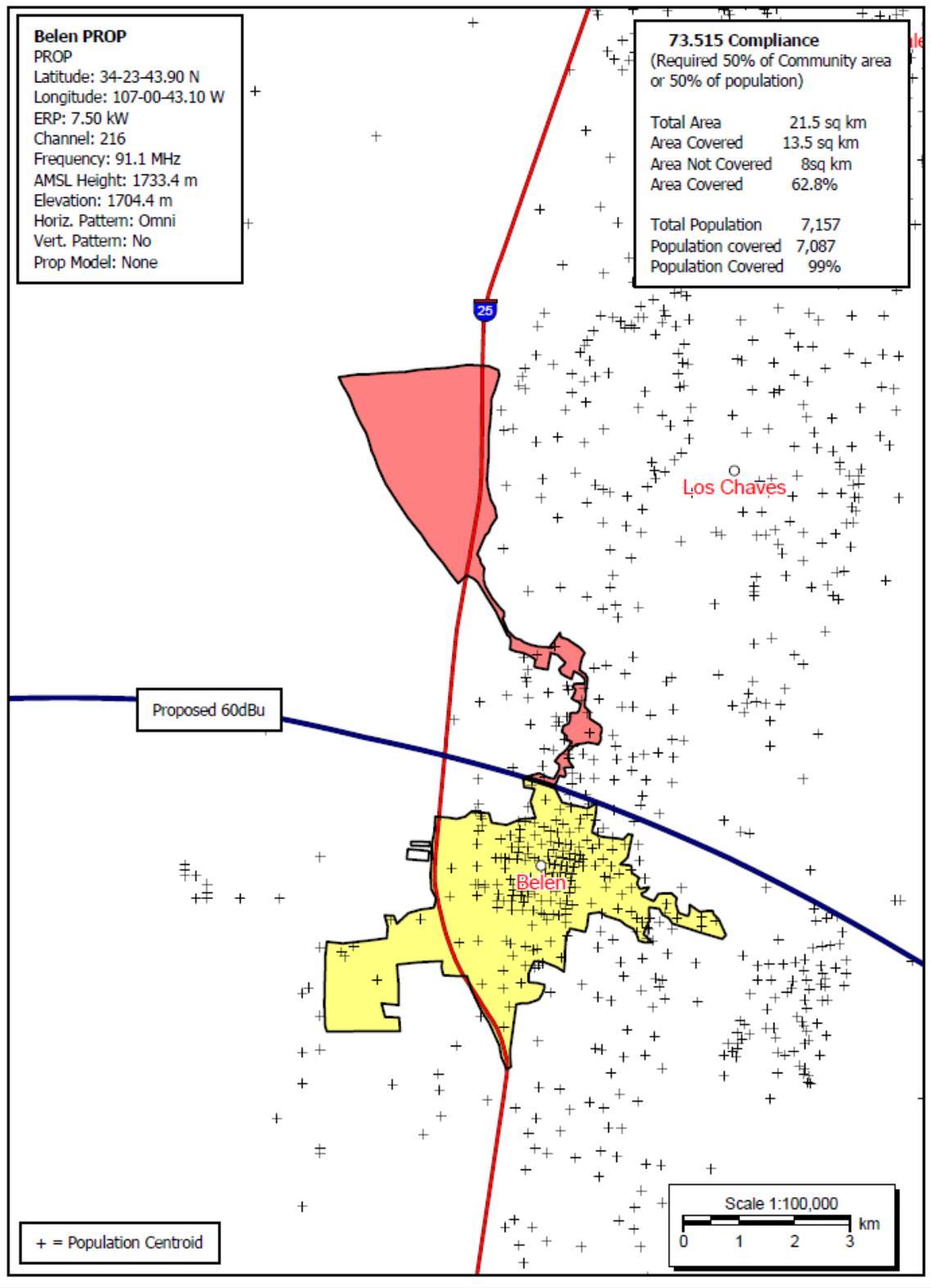
# EXHIBIT C- Fair Distribution Exhibit

## NCE Fair Distribution Exhibit



# EXHIBIT D Community Coverage

## Proposed 216C3, Belen, NM



## EXHIBIT E – ASR

### Registration 1005472

 [Map Registration](#)

Registration Detail			
Reg Number	1005472	Status	Constructed
File Number	A0816050	Constructed	05/27/1971
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates)			
Lat/Long	34-23-43.9 N 107-00-43.1 W	Address	9M West of Bernardo Interstate (La Joya #89015)
City, State	Magdalena , NM		
Zip	87825	County	SOCORRO
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level		Overall Height Above Ground (AGL)	
1704.4		58.2	
Overall Height Above Mean Sea Level		Overall Height Above Ground w/o Appurtenances	
1762.6		56.4	
Painting and Lighting Specifications			
None			
FAA Notification			
FAA Study	2006-ASW-1872-OE	FAA Issue Date	03/30/2006
Owner & Contact Information			
FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0005885231	Assignor ID	L00008376
Owner			
American Towers LLC Attention To: Regulatory Compliance FAA FCC 10 Presidential Way Woburn , MA 01801		P: (678)564-3236 F: E: faa-fcc@americantower.com	
Contact			
Attention To: FAA FCC 10 Presidential Way Woburn , MA 01801		P: (678)564-3236 F: E: faa-fcc@americantower.com	
Last Action Status			
Status	Constructed	Received	01/15/2013
Purpose	Change Owner	Entered	01/15/2013
Mode	Interactive		



**EXHIBIT F- TOWAIR Calculation**