

**ENGINEERING REPORT
MINOR CHANGE
CONSTRUCTION PERMIT
APPLICATION
Site Change**

for

767354 – Greenville, MI
CH210 (89.9 MHz)

July 2023

MUNN-REESE

Broadcast Engineering Consultants
Coldwater, MI 49036

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Discussion of Report

This firm was retained to prepare the required engineering report in support of this Minor Change Construction Permit Application for Facility ID. No 767354 – Greenville, MI. The present Construction Permit is authorized with an ERP of 6.0 kW at 320 meters AMSL. Operating parameters of 15 kW ERP at 353 meters AMSL are requested from a new location.

The antenna will be mounted on the tower bearing Antenna Structure Registration Number 1021427.

The present and proposed service contours showing service to the community of license, Greenville, MI is shown in ***Exhibit 1.0***.

The proposed operation may be used without causing or receiving interference to or from any existing FM broadcast station or facility. The proposed allocation is included in ***Exhibit 2.0***.

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Exhibit 1.0 - NEW NCE Station Greenville, MI Present and Proposed

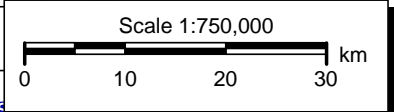
Munn-Reese.com

767354.C
0000167602
Latitude: 43-04-11.79 N
Longitude: 085-13-19.14 W
ERP: 6.00 kW
Channel: 210
Frequency: 89.9 MHz
AMSL Height: 320.0 m
Elevation: 259.1 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

767354.C.P
ASR 1021427
Latitude: 43-12-38.99 N
Longitude: 085-15-59.02 W
ERP: 15.00 kW
Channel: 210
Frequency: 89.9 MHz
AMSL Height: 353.0 m
Elevation: 266.7 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

FCC F(50-50) 60.00 dBu (FCC HAAT)





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Leslie Stockbridge

Proposed Allocation

REFERENCE		CH# 210B1 - 89.9 MHz, Pwr= 15 kw DA, HAAT= 88.8 M, COR= 353 M										DISPLAY DATES	
43 12 39.10 N.		Average Protected F(50-50)= 33.08 km										DATA 07-19-23	
85 15 59.10 W.		Standard Directional										SEARCH 07-19-23	
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*		
CITY	STATE			<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)		
210A	767354	CP	DCN	167.0	16.07	43 04 11.90	6.000	81.0	23.9	-95.8*<	-99.8*<		
Greenville	MI			347.1	0000167602	85 13 19.20	69	320	West Central Michigan Medi				
210C1	WLJN-FM	LIC	DCN	349.8	176.93	44 46 36.00	100.000	155.2	59.4	0.9	48.0		
Traverse City	MI			169.6	BLED20130730ANS	85 39 43.30	169	402	Good News Media, Inc.				
208C1	WCMU-FM	LIC	_CN	44.2	56.78	43 34 33.10	100.000	6.1	52.5	21.6	1.4		
Mount Pleasant	MI			224.6	BMLED20161227AAT	84 46 29.00	130	371	Central Michigan Universit				
209A	WNHG	LIC	DCN	226.0	37.22	42 58 40.10	3.200	16.7	11.5	4.4	1.6		
Grand Rapids	MI			45.8	BLED20150805AAO	85 35 44.10	74	299	West Central Michigan Medi				
212C1	WBLV	LIC	_CN	301.5	73.26	43 33 07.60	100.000	7.5	60.6	35.5	9.6		
Twin Lake	MI			120.9	BLED20151020AAA	86 02 31.20	186	429	Blue Lake Fine Arts Camp				
209A	WLNZ	LIC	DCN	132.0	78.32	42 44 15.10	1.000	15.1	10.7	28.6	13.9		
Lansing	MI			312.5	BLED20131127BHJ	84 33 11.90	33	293	Lansing Community College				
210C1	CBEFM	LIC	DCN	121.1	223.17	42 09 09.10	100.000	157.8	74.3	30.9	14.8		
Windsor	ON			302.7		82 57 04.70	164	348					
213B	WKAR-FM	LIC	_CN	128.9	89.55	42 42 07.10	87.000	9.3	68.9	45.8	17.2		
East Lansing	MI			309.5	BLED20110817ACF	84 24 47.90	269	536	Board Of Trustees, Michiga				
210A	WTHS	LIC	DCN	235.5	82.54	42 47 16.10	1.000	26.6	8.0	39.8	19.7		
Holland	MI			55.0	BLED19850425LP	86 06 02.10	47	245	Hope College				
211C2	WUCX-FM	LIC	_CN	72.8	132.93	43 33 10.10	30.000	70.9	47.4	29.3	34.0		
Bay City	MI			253.9	BLED19891010KB	83 41 23.90	146	328	Central Michigan Universit				
209A	WSPB	LIC	DCN	179.0	83.76	42 27 27.10	4.500	17.5	11.9	39.9	31.3		
Bedford	MI			359.0	BLED20140515AFJ	85 14 53.00	75	354	Holy Family Radio, Inc.				
210A	WKDS	LIC	_CN	193.2	110.42	42 14 36.10	0.140	25.5	7.6	63.3	32.6		
Kalamazoo	MI			13.0	BLED19830204AK	85 34 19.00	38	303	Western Michigan Universit				
263A	WTRV«	LIC	_CN	240.8	44.18	43 00 59.10	3.000	0.0	0.0	11.5R	32.7M		
Walker	MI			60.5	BLH20060602AAJ	85 44 24.10	100	320	Townsquare Media Of Grand				
211B	WYBA	LIC	DCN	177.7	118.67	42 08 39.20	32.000	52.9	33.0	39.1	44.5		
Coldwater	MI			357.8	BMLED20140602BAO	85 12 34.90	77	359	Bible Broadcasting Network				
207B	WGNB	LIC	DCN	234.9	71.87	42 50 14.10	30.000	2.2	25.8	53.5	44.5		
Zeeland	MI			54.4	BLED19881221KA	85 59 17.10	152	355	The Moody Bible Institute				
211A	WPRR-FM	LIC	DCN	218.6	87.80	42 35 29.10	5.000	22.0	14.7	49.3	48.5		
Clyde Township	MI			38.1	BLED20141031AAJ	85 56 07.10	57	268	Wprrr, Inc.				
209C3	WLMN	LIC	DCN	321.8	127.06	44 06 18.00	15.000	49.1	30.9	48.8	50.6		
Manistee	MI			141.1	BLED20100728AFC	86 15 01.30	86	292	Interlochen Center For The				
209B1	WTAC	LIC	DVN	111.6	136.13	42 44 56.10	15.000	40.5	26.7	62.2	57.1		
Burton	MI			292.7	BLED20130809AAP	83 42 58.80	110	401	Smile FM				
264B	WITL-FM«	LIC	_CN	133.4	86.28	42 40 33.10	26.500	0.0	0.0	16.5R	69.8M		
Lansing	MI			313.9	BLH19850610KF	84 29 59.90	196	465	Townsquare License, LLC				
210B1	WRRO	LIC	DCN	167.4	189.11	41 32 58.50	15.000	61.4	17.9	97.0	79.6		
Edon	OH			347.8	BLED20180402ACR	84 46 17.80	96	370	Our Lady Of Guadalupe Radi				
210A	WCXB	LIC	_CN	215.9	155.52	42 04 19.10	0.250	42.5	12.3	96.3	86.7		
Benton Harbor	MI			35.1	BLED20100326ACF	86 22 14.10	102	305	Cornerstone University				
209A	767359	CP	DCN	218.8	129.22	42 18 02.30	0.750	15.4	10.8	97.3	93.8		
South Haven	MI			38.1	0000167496	86 15 03.30	49	246	West Central Michigan Medi				
207A	WJKN-FM	LIC	_VN	153.2	131.34	42 09 13.10	2.500	2.1	22.9	94.6	105.0		
Spring Arbor	MI			333.7	BLED20050411AAG	84 32 56.90	83	398	Spring Arbor University				
263L1	WEEH-LP«	LIC	_CN	299.3	106.84	43 40 29.00	0.060			8.5R	98.3M		
Hart	MI			118.5	BMILL20070904AIE	86 25 21.30	39	257	Oceana Broadcasters, Inc				
263A	WSGW-FM«	LIC	NCN	69.0	111.20	43 33 42.10	3.000	0.0	0.0	11.5R	99.7M		
Carrollton	MI			249.9	BLH20130822AAZ	83 58 51.90	100	285	Alpha Media Licensee LLC				

CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference zone= - ZN1, Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.
< = Contour Overlap
Reference station has protected zone issue: Canada