

**DELAWDER COMMUNICATIONS, INC.**

P.O. Box 1095  
Ashburn, Virginia 20146-1095  
(703) 299-9222

**ENGINEERING REPORT**

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**Hauppauge, NY, Channel 296D FM Translator Application**

**EXHIBIT 1: LPFM PRECLUSION STUDY**

Juan Alberto Ayala (“Applicant”) submits this technical minor amendment for its pending 1983 application for a new FM translator station at Hauppauge, NY. The pending application file number is BNPFT-20030313AAV.

The corresponding minor change amendment includes a slight coordinate correction and a reduction in ERP. The changes are deemed minor changes pursuant to Section 74.1233(a) of the FCC Rules. This Exhibit 1 addresses only the LPFM Preclusion Study requirements of the technical amendment. (The other technical requirements of this amendment are address in a separate document of this on-line filing.)

**LPFM PRECLUSION STUDY RESULTS**

This Engineering Report demonstrates that this application meet the FCC’s requirements for this Auction 83 FM translator pursuant to *Creation of a Low Power FM Service, Amendment of Service Rules and Eligibility Rules for FM Broadcast Translator Stations*, Fifth Order on Reconsideration and Sixth Report and Order, FCC 12-144 (re;. December 4, 2012) (“Fifth Order on Reconsideration”). Additionally, the FCC’s LPFM spectrum availability program, [http://www.fcc.gov/Bureaus/MB/Databases/source\\_code/lpfm6.20121206.zip](http://www.fcc.gov/Bureaus/MB/Databases/source_code/lpfm6.20121206.zip) (“LPFM6”), is used as support for this Engineering Report.

An LPFM Preclusion Study is required by this application (based on the location of the herein proposed transmitter site) to each of the following *Spectrum Limited* Arbitron Metro Markets:

New York, NY –

Mrkt # 1; 30 min. grid centered at N 40-42-51 W 74-00-23 (d,m,s; NAD 27);

Bridgeport, CT –

Mrkt # 125; 30 min. grid centered at N 41-10-01 W 73-12-19 (d,m,s; NAD 27);

New Haven, CT –  
Mrkt # 116; 30 min. grid centered at N 41-18-29 W 72-55-43 (d,m,s; NAD 27);

Danbury, CT –  
Mrkt # 203; 30 min. grid centered at N 41-23-41 W 73-27-16 (d,m,s; NAD 27).

(Note that there are no *Spectrum Available* Markets located within 39 kilometers of the proposed 296D transmitter site.)

### *Metro Area Preclusion Study Results*

#### New York Metro Spectrum Limited Grid Study

The nearest point in the New York Grid is located more than 45 kilometers from the proposed 296D transmitter site; therefore, no grid study to the New York Metro Grid is required.

Therefore, as required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute New York Grid.

#### Bridgeport Metro Spectrum Limited Grid Study

Figure 1, attached, is the complete LPFM6 output file for the Bridgeport Metro Market with the study centered at the grid center.

From Figure 1 it is shown that zero channels are available within the 30-minute Grid for future LPFM on the same or lower first adjacent channels of the herein proposed FM translator (channels 295 and 296).

From Figure 1 it is also shown that zero channels are available within 15 kilometers of the proposed transmitter site (when rounded to the nearest kilometer) for future LPFM on the first-adjacent channel above (297). The nearest available LPFM channel/point for channel 297 is at N 41-24-01 73-03-19 and is located 67.1 km from the proposed transmitter site. (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 5.8 kilometers at its greatest distance, the spacing requirement from a future first adjacent-channel LPFM must be separated by 15 km.)

Therefore, as required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute Bridgeport Grid.

#### New Haven Metro Spectrum Limited Grid Study

Figure 2, attached, is the complete LPFM6 output file for the New Haven Metro Market with the study centered at the grid center.

From Figure 2 it is shown that zero channels are available within the 30-minute Grid for future LPFM on the same or lower first adjacent channels of the herein proposed FM translator (channels 295 and 296).

Note that the nearest point within the New Haven Metro Grid from the proposed 296D transmitter site is located more than 27 kilometers away. Therefore, no LPFM point on an adjacent channel is precluded by this channel 296D proposal. (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 5.8 kilometers at its greatest distance, the spacing requirement from a future first adjacent-channel LPFM must be separated by 15 km.) Therefore, channel 297 is unaffected within the New Haven Grid for future LPFM by this 296D proposal.

As required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute New Haven Grid.

#### Danbury Metro Spectrum Limited Grid Study

Figure 3, attached, is the complete LPFM6 output file for the Danbury Metro Market with the study centered at the grid center.

From Figure 3 it is shown that zero channels are available within the 30-minute Grid for future LPFM on the same or lower first adjacent channels of the herein proposed FM translator (channels 295 and 296).

Note that the nearest point within the Danbury Metro Grid from the proposed 296D transmitter site is located more than 37 kilometers away. Therefore, no LPFM point on an adjacent channel is precluded by this channel 296D proposal. (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 5.8 kilometers at its greatest distance, the spacing requirement from a future first adjacent-

channel LPFM must be separated by 15 km.) Therefore, channel 297 is unaffected within the Danbury Grid for future LPFM by this 296D proposal.

As required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute Danbury Grid.

#### *Transmitter Site Test Study Results*

Figure 4, attached, is the complete LPFM6 output file for a study centered at the herein proposed translator site. From this site, the center location is shown to NOT be available on any channel for future LPFM. Therefore, since at no channel exists for a future LPFM at the proposed transmitter site, the transmitter site test for this application is successfully passed.

FIGURE 1 (11 Pages)

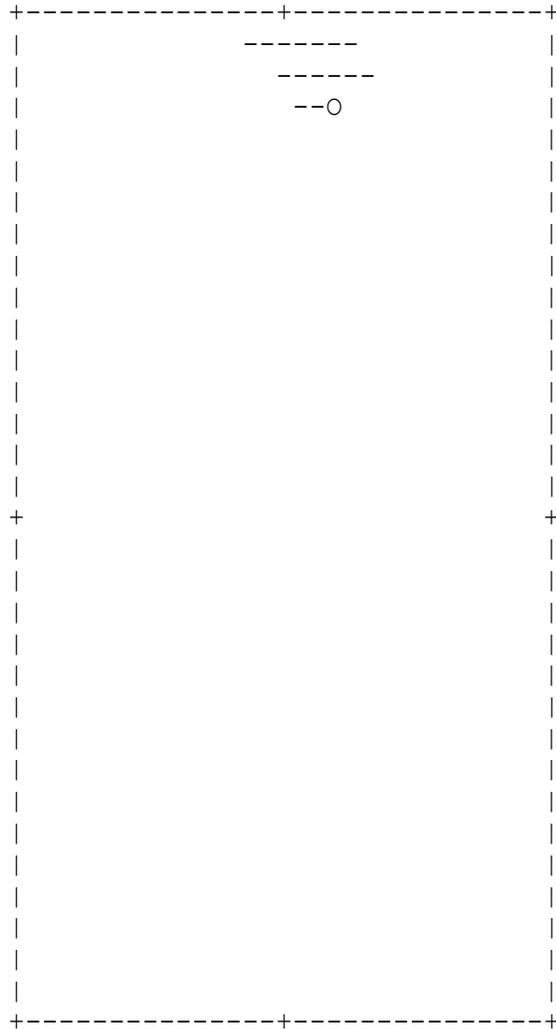
Bridgeport, CT  
 Latitude 41-10-01  
 Longitude 073-12-19  
 Grid Size 31 x 31  
 Micro FM 100 Watts at 30m HAAT  
 Co-Channel and 1st Adjacent Protected  
 2nd Adjacent Channel Not Protected  
 3rd Adjacent Channel Not Protected  
 I.F. Not Protected  
 TV Channel 6 Protected  
 CP Records Protected  
 APP Records Protected  
 FM Translators Protected  
 TV Channel 6 Translators/LP Protected  
 Auc83 FX App Records Not Protected

Chan	Avail								
200	0	220	0	240	0	260	0	280	0
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	0	283	0
204	0	224	0	244	0	264	0	284	0
205	0	225	16	245	127	265	0	285	0
206	0	226	0	246	0	266	0	286	0
207	0	227	25	247	0	267	0	287	0
208	0	228	0	248	0	268	0	288	4
209	0	229	0	249	0	269	0	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	2	292	0
213	0	233	0	253	0	273	109	293	0
214	0	234	0	254	3	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	116	297	3
218	0	238	0	258	0	278	3	298	3
219	0	239	0	259	0	279	90	299	0
								300	0

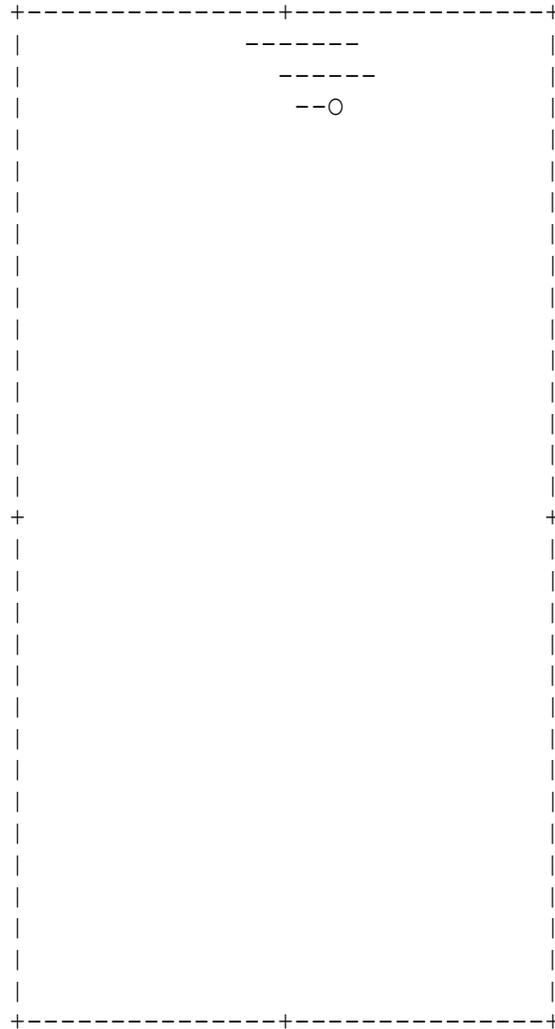
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 Total 501

Total allotments, least preclusive spacing: 14  
 Total allotments, most preclusive spacing: 11  
 Bridgeport, CT Bridgeport, CT  
 Latitude 41-10-01 Latitude 41-10-01

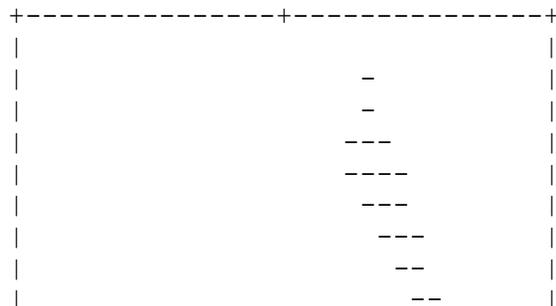
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 225 (X)



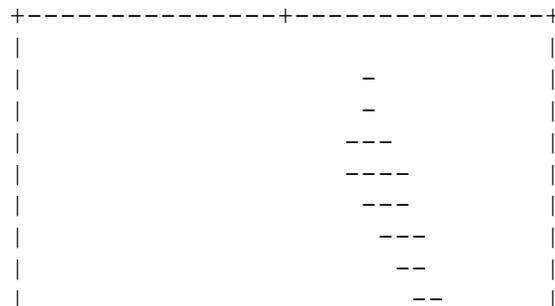
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 225 (X)

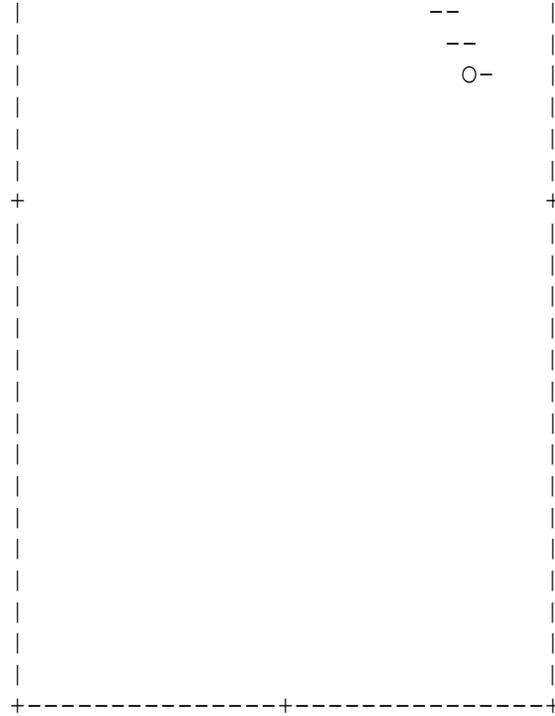
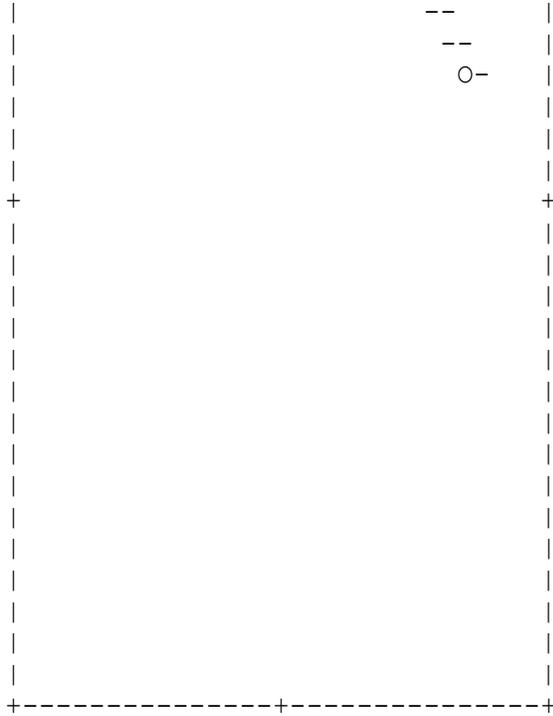


Point #401 at 41-23-01 073-09-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 227 (X)



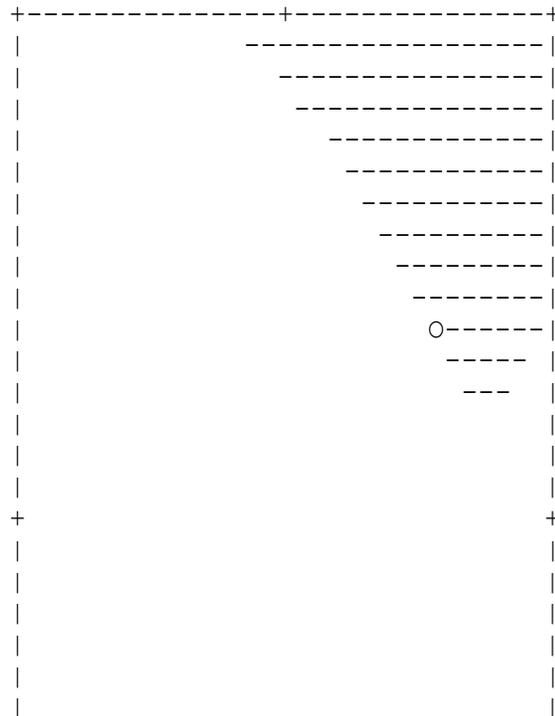
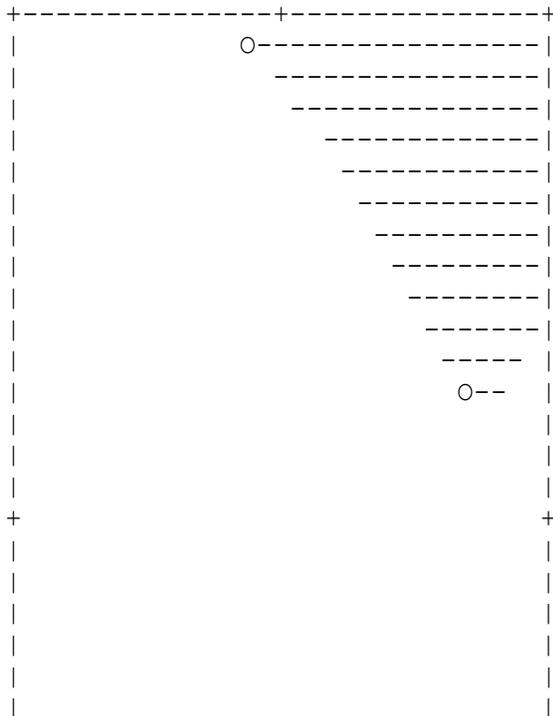
Point #401 at 41-23-01 073-09-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 227 (X)





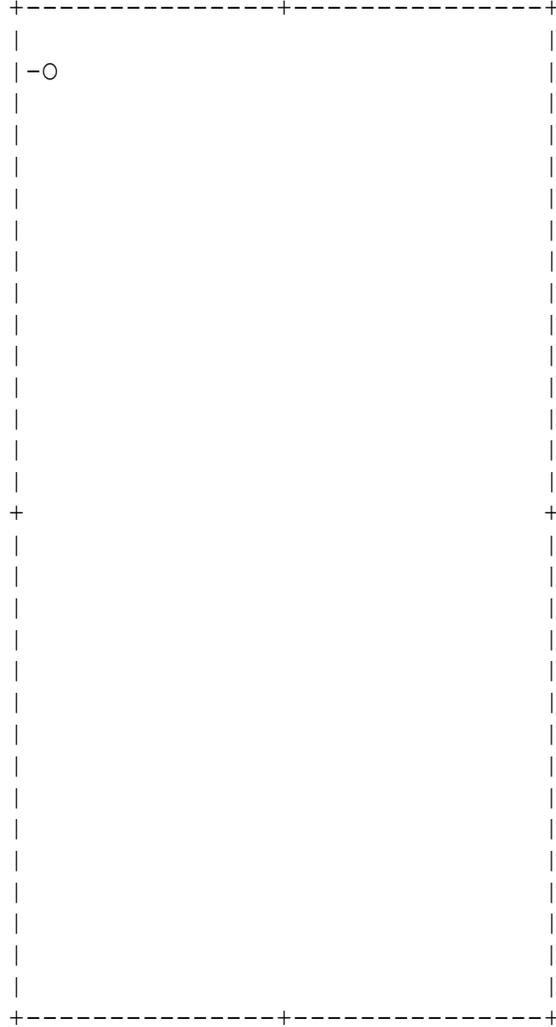
Point #144 at 41-14-01 073-01-19  
 Bridgeport, CT  
 Latitude 41-10-01  
 Longitude 073-12-19  
 Least preclusive siting  
 Availability of Channel 245 (X)

Point #144 at 41-14-01 073-01-19  
 Bridgeport, CT  
 Latitude 41-10-01  
 Longitude 073-12-19  
 Most preclusive siting  
 Availability of Channel 245 (X)

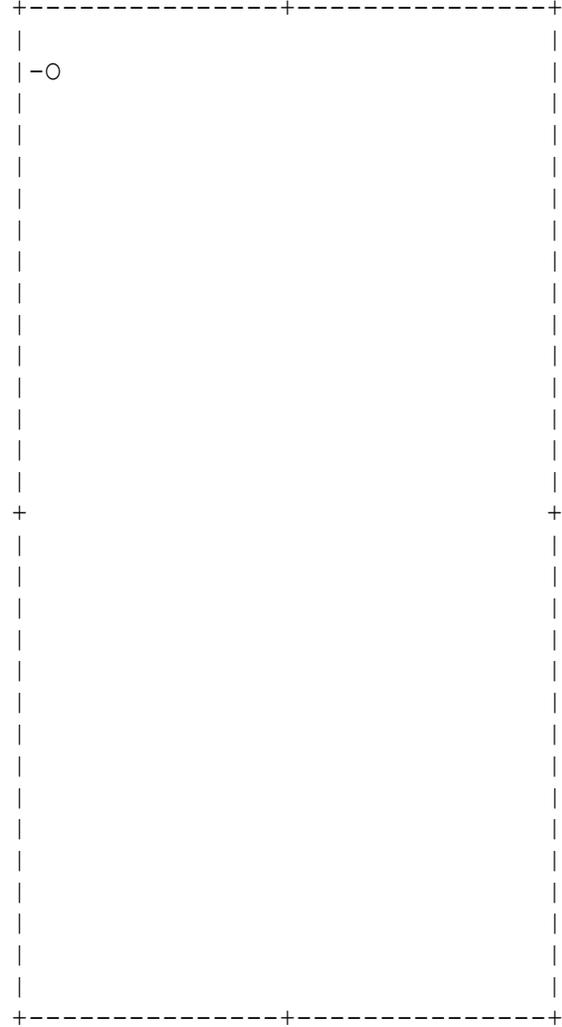




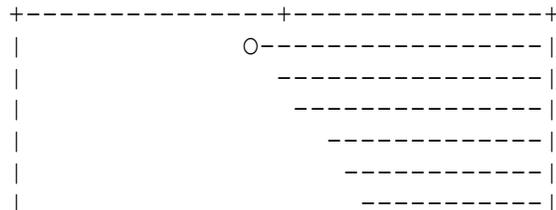
Point #030 at 41-24-01 072-57-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 272 (X)



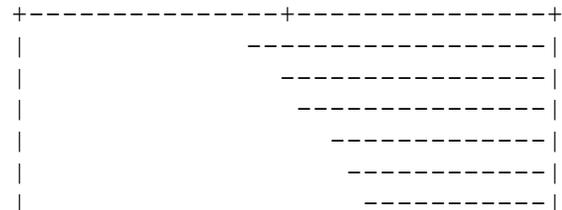
Point #030 at 41-24-01 072-57-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 272 (X)

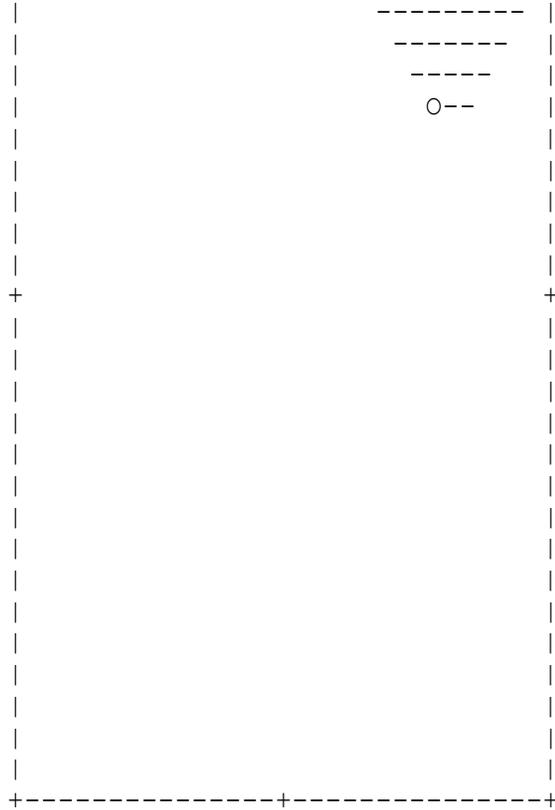
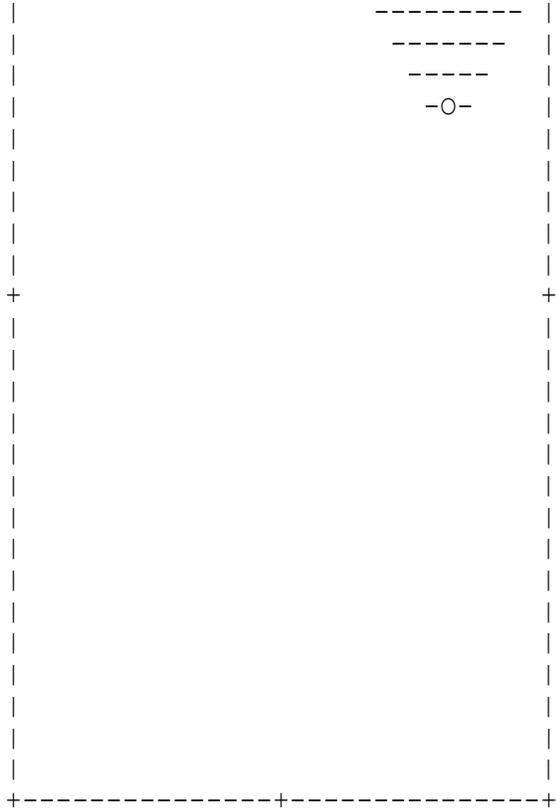


Point #929 at 41-24-01 073-26-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 273 (X)



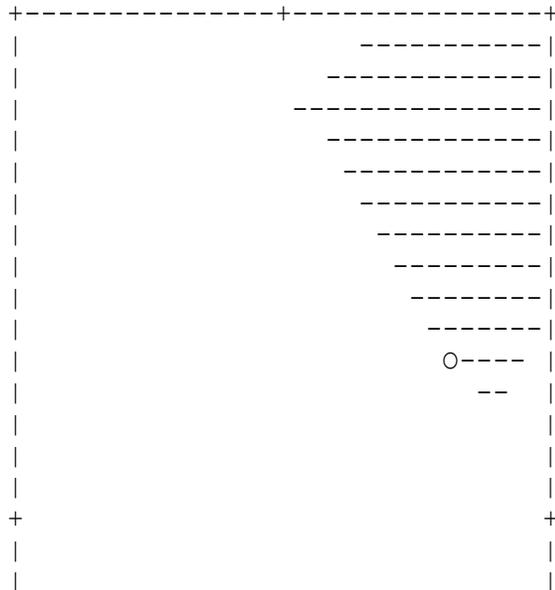
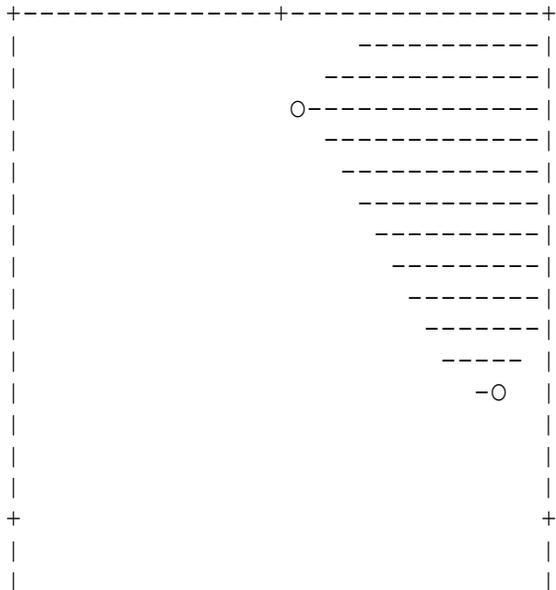
Point #929 at 41-24-01 073-26-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 273 (X)





Point #558 at 41-25-01 073-14-19  
 Point #177 at 41-16-01 073-02-19  
 Bridgeport, CT  
 Latitude 41-10-01  
 Longitude 073-12-19  
 Least preclusive siting  
 Availability of Channel 277 (X)

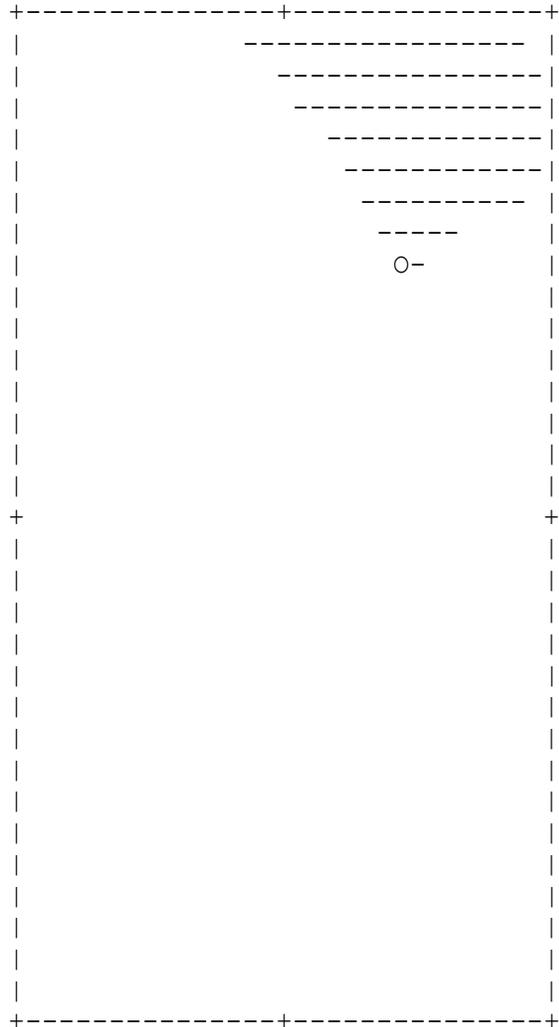
Point #208 at 41-16-01 073-03-19  
 Bridgeport, CT  
 Latitude 41-10-01  
 Longitude 073-12-19  
 Most preclusive siting  
 Availability of Channel 277 (X)





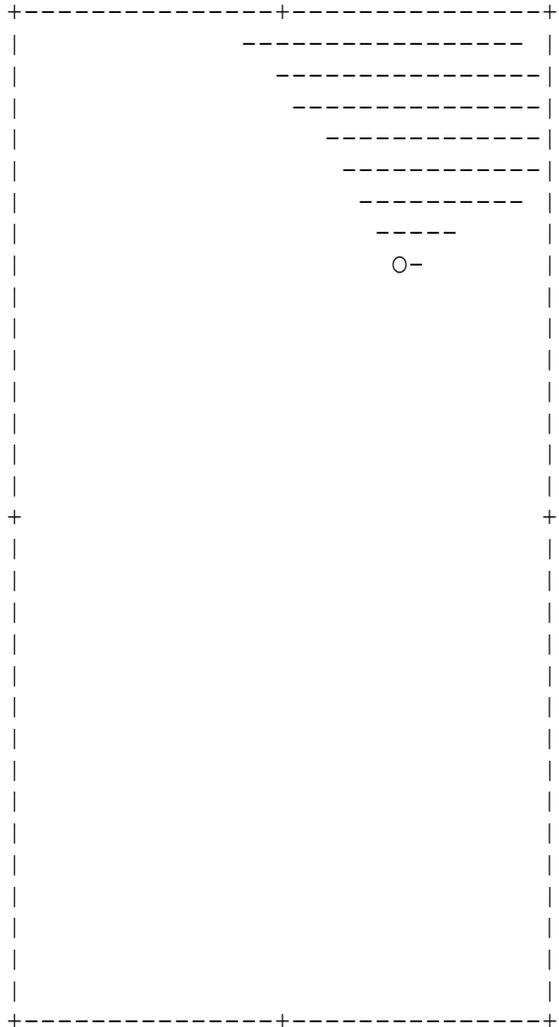
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+-----+

Point #031 at 41-25-01 072-57-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 279 (X)

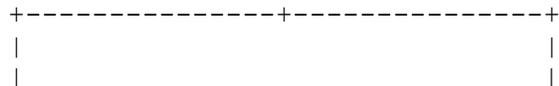


|-----|  
+-----+

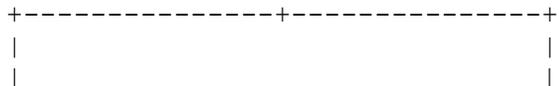
Point #062 at 41-25-01 072-58-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 279 (X)



Point #272 at 41-18-01 073-05-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Least preclusive siting  
Availability of Channel 288 (X)

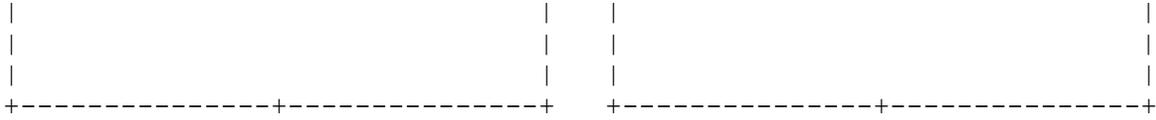


Point #272 at 41-18-01 073-05-19  
Bridgeport, CT  
Latitude 41-10-01  
Longitude 073-12-19  
Most preclusive siting  
Availability of Channel 288 (X)









{End of Figure 1}

FIGURE 2

New Haven, CT  
 Latitude 41-18-29  
 Longitude 072-55-43  
 Grid Size 31 x 31  
 Micro FM 100 Watts at 30m HAAT  
 Co-Channel and 1st Adjacent Protected  
 2nd Adjacent Channel Not Protected  
 3rd Adjacent Channel Not Protected  
 I.F. Not Protected  
 TV Channel 6 Protected  
 CP Records Protected  
 APP Records Protected  
 FM Translators Protected  
 TV Channel 6 Translators/LP Protected  
 Auc83 FX App Records Not Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	0	260	0	280	0
201	0	221	0	241	124	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	0	283	143
204	0	224	0	244	0	264	0	284	0
205	0	225	17	245	454	265	0	285	0
206	0	226	0	246	91	266	0	286	0
207	0	227	25	247	0	267	0	287	104
208	0	228	0	248	0	268	0	288	0
209	0	229	0	249	0	269	82	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	3	271	0	291	0
212	0	232	0	252	0	272	0	292	0
213	0	233	0	253	0	273	384	293	0
214	0	234	0	254	143	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	450	297	243
218	0	238	0	258	5	278	243	298	361
219	0	239	0	259	0	279	195	299	0
								300	0
-----									
Total	3067								

NOTE THAT ACTUAL CHANNEL STUDIES ARE NOT INCLUDED SINCE CHANNEL 295 and 296 SHOWS ZERO AVAILABILITY AND 297 IS ALSO PROTECTED BASED ON THE DISTANCE TO THE GRID. ALTHOUGH CHANNEL 297 SHOWS SOME AVAILABILITY, THE NEAREST NEW HAVEN GRID POINT IS LOCATED MORE THAN 27 KILOMETERS FROM THE PROPOSED TRANSMITTER SITE AND, THEREFORE, NO LPFM POINT ON CHANNEL 297 IS AFFECTED BY THIS CHANNEL 296D PROPOSAL. (THE PROPOSED 60 DBU SERVICE CONTOUR EXTENDS ONLY 5.8 KILOMETERS AND THE FIRST-ADJACENT CHANNEL SEPARATION DISTANCE PURSUANT TO SECTION 74.1204 IS ONLY 15 KILOMETERS.)

{End of Figure 2}

FIGURE 3

Danbury, CT  
 Latitude 41-23-41  
 Longitude 073-27-16  
 Grid Size 31 x 31  
 Micro FM 100 Watts at 30m HAAT  
 Co-Channel and 1st Adjacent Protected  
 2nd Adjacent Channel Not Protected  
 3rd Adjacent Channel Not Protected  
 I.F. Not Protected  
 TV Channel 6 Protected  
 CP Records Protected  
 APP Records Protected  
 FM Translators Protected  
 TV Channel 6 Translators/LP Protected  
 Auc83 FX App Records Not Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	0	260	0	280	0
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	0	283	0
204	0	224	0	244	0	264	0	284	0
205	0	225	64	245	34	265	0	285	0
206	0	226	0	246	0	266	0	286	0
207	0	227	0	247	0	267	0	287	0
208	0	228	0	248	0	268	0	288	0
209	0	229	0	249	0	269	0	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	7	292	0
213	0	233	0	253	0	273	17	293	34
214	0	234	0	254	30	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	0	297	1
218	0	238	0	258	31	278	0	298	28
219	0	239	0	259	0	279	259	299	0
								300	0
-----									
Total	505								

NOTE THAT ACTUAL CHANNEL STUDIES ARE NOT INCLUDED SINCE CHANNEL 295 AND 296 SHOWS ZERO AVAILABILITY AND 297 IS ALSO PROTECTED BASED ON THE DISTANCE TO THE GRID. ALTHOUGH CHANNEL 297 SHOWS SOME AVAILABILITY, THE NEAREST NEW HAVEN GRID POINT IS LOCATED MORE THAN 39 KILOMETERS FROM THE PROPOSED TRANSMITTER SITE AND, THEREFORE, NO LPFM POINT ON CHANNEL 297 IS AFFECTED BY THIS CHANNEL 296D PROPOSAL. (THE PROPOSED 60 DBU SERVICE CONTOUR EXTENDS ONLY 5.8 KILOMETERS AND THE FIRST-ADJACENT CHANNEL SEPARATION DISTANCE PURSUANT TO SECTION 74.1204 IS ONLY 15 KILOMETERS.)

{End of Figure 3}

Figure 4

Hauppauge, NY  
Latitude 40-48-33  
Longitude 073-13-16  
Grid Size 11 x 11  
Micro FM 100 Watts at 30m HAAT  
Co-Channel and 1st Adjacent Protected  
2nd Adjacent Channel Not Protected  
3rd Adjacent Channel Not Protected  
I.F. Not Protected  
TV Channel 6 Protected  
CP Records Protected  
APP Records Protected  
FM Translators Protected  
TV Channel 6 Translators/LP Protected  
Auc83 FX App Records Not Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	0	260	0	280	0
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	0	283	0
204	0	224	0	244	0	264	0	284	0
205	0	225	0	245	0	265	0	285	0
206	0	226	0	246	0	266	0	286	0
207	0	227	0	247	0	267	0	287	0
208	0	228	0	248	0	268	0	288	0
209	0	229	0	249	0	269	0	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	0	292	0
213	0	233	0	253	0	273	0	293	0
214	0	234	0	254	0	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	0	297	0
218	0	238	0	258	0	278	0	298	0
219	0	239	0	259	0	279	0	299	0
								300	0
-----									
Total	0								

Total allotments, least preclusive spacing: 0  
Total allotments, most preclusive spacing: 0

{End of Figure 4}