

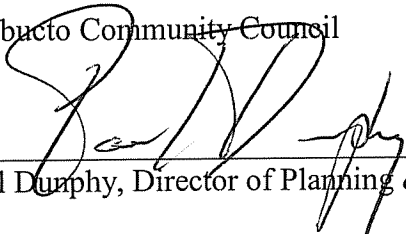


PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

10.1.1

Chebucto Community Council
October 3, 2005

To: Chebucto Community Council

Submitted by: 
Paul Dunphy, Director of Planning & Development Services

Date: September 20, 2005

Subject: Case 00804: Installation of an FM radio broadcast transmission tower at
427 Main Avenue, Halifax

ORIGIN:

Application from Mr. Walter Labucki on behalf of CHUM Limited to construct an additional FM radio broadcast transmission tower at 427 Main Avenue, Halifax (PID No. 00330845), a site with three existing towers (see Map 1).

RECOMMENDATION:

It is recommended that Chebucto Community Council:

1. Forward a negative recommendation to Industry Canada in relation to the proposal by CHUM Limited, as a result of concerns related to the close proximity of multiple unit residential development to the proposed location for a new FM radio broadcast transmission tower at 427 Main Avenue, Halifax (PID No. 00330845) as shown on Map 1 attached to this report.
2. Further recommend that CHUM Limited investigate alternative locations in the vicinity which would allow the FM broadcast tower to be located farther from lands proposed for residential development.

BACKGROUND:

The Application

CHUM Limited wishes to erect a new FM radio broadcast transmission tower on its lands at 427 Main Avenue, Halifax (PID No. 00330845), which is the site of existing radio transmission towers (see Map 1). The company wishes to install the latest antenna technology to improve C-100's signal coverage and provide a location for several other local FM radio stations. A plan illustrating the site layout is appended as Attachment B.

The proposed tower would:

- share a site with three existing towers and an accessory building;
- be approximately 123 metres (400 feet) in height (see Attachment C);
- have an accessory equipment shelter at its base measuring 14.6 metres (48 feet) by 8.5 metres (28 feet) which will accommodate all of the transmitter facilities (see Attachment D);
- be painted red and white and incorporate standard steady red obstruction lighting (not strobes) in accordance with Transport Canada regulations;
- be protected by a 10 foot high chain link fence, with appropriate warning signs, located around the new equipment building and the three tower anchor points; and
- accommodate at least four FM stations to a maximum of six FM stations, including newly licensed stations, while fulfilling a mandate to maximize the use of telecommunication sites.

Municipal Process

Communication towers are a matter of constitutional law. The federal government has jurisdiction over all forms of radio communication (radio and television broadcasting, microwave communication, private radio transmissions, etc.). Provincial and Municipal governments have little constitutional jurisdiction to interfere with or impair radio communication facilities licensed under federal law. Industry Canada is the federal agency which licenses and regulates these facilities under the provisions of the *Telecommunications Act* (S.C. 1993, c.38).

The federal government, however, has recognized that municipal authorities may have an interest in the location of antenna structures and this should be considered in the exercise of its authority. A consultation policy has therefore been instituted. The policy requires that an applicant notify the appropriate municipality of its intentions. The municipality is then given an opportunity to review the proposed antenna structure and site and provide comment. If any objections arise, the municipality is to provide written notice to the local office of Industry Canada. The submissions will be reviewed by Industry Canada, who will then determine whether or not a license is to be granted and/or upon what conditions such license is granted.

Public Information Meeting

In accordance with this consultation policy, the CHUM Limited proposal was discussed at a Public Information Meeting held in the community on September 15, 2005. Seven members of the public attended this meeting. Minutes of the meeting are appended as Attachment A.

Site Features and Surrounding Land Use

The site has the following characteristics:

- The property has been owned by CJCH (CHUM) Limited and operated as a broadcast site since 1957;
- The land was purchased as the ideal location to service Halifax-Dartmouth and surrounding areas due to its unique height above sea level providing maximum coverage;
- The property is wooded and is accessed by a gravel driveway from Main Avenue;
- The existing three towers located at this site comprise:
 - a 90-metre (300 feet) structure used for C100-FM;
 - a 45-metre (150 feet) facility used as C100-FM back-up along with a Microwave dish for C100-FM's audio feed from the studios - this tower also carries mobile antennas for DigiPage Limited and Maritime 2-Way Limited;
 - a 30-metre (100 feet) tower owned by Telus Mobility on land leased from CHUM Limited.
- The future uses of the existing towers include:
 - conversion of the 300 foot tower to back-up the C100-FM signal;
 - removal of the 150 foot tower and re-location of the existing mobile antennas;
 - continued operation of the 100 foot tower.
- The site and surrounding areas are in the Schedule K Zone of the Halifax Mainland Land Use By-law which contemplates residential uses with a mix of housing types;
- Surrounding uses include: the Mainland Common with Halifax West High School to the east; a Halifax Regional Water Commission water reservoir and associated vacant lands to the south; and both vacant and developed lands zoned Schedule K approved or proposed for multiple unit residential development to the west and north.
- An application is presently being reviewed for a 10 storey multiple unit building to be located immediately north of the subject property;
- Additional development parcels located in the near vicinity would be impacted by a new tower at the proposed location.

DISCUSSION:

The Halifax Municipal Planning Strategy does not contain specific guidance with respect to communication towers. Staff's review of this proposal is, therefore, based on general planning principles.

One of the purposes of zoning is to create areas where compatible uses can co-exist while excluding other uses which may not be compatible. From a land use perspective, communication towers do not appear to raise compatibility issues such as hours of operation, noise or traffic generation. However,

the height of FM radio broadcast towers visually contrasts with the scale of nearby residential areas and the physical proximity to existing and proposed residential development raises concerns related to radio frequency impacts and safety in the unlikely event of structural failure of a tower.

The main issues of concern addressed below are:

- the impact of radio frequency overload causing interference with domestic electronic and electrical appliances;
- the visual impact of the communication towers;
- safety from the risk of structural failure of the tower; and
- the impact of the radio frequency emissions on the health and safety of nearby residents.

Radio Frequency Overload

Radio frequency overload is the phenomenon where a large source of radio energy interferes with electrical or electronic devices. Electrical/electronic apparatus in the area will be exposed to high energy fields. Equipment of sounder construction may tolerate the energy field and operate satisfactorily. Less shielded equipment will be susceptible. The area considered susceptible to Radio Frequency Overload is within the 115 dBu Contour and is identified on Map 2. The area includes significant existing development extending to the Bedford Highway.

Industry Canada has a mandate to resolve conflicts between users of the radio frequency spectrum and users of radio-sensitive equipment. CHUM's technical representative has indicated that there have been two complaints from residents over the past ten years of radio frequency interference and both of these were resolved. Based on existing legislation, Industry Canada has identified that existing stations would not be expected to assume responsibility for corrective action for a new development experiencing interference. Should the proposed tower proceed, then any subsequent residential development that is constructed within the 115 dBu Contour may experience equipment malfunction but have no recourse for corrective action. In addition, new multiple residential developments will be required to construct in a manner which provides some shielding for radio frequency emissions which will add to the cost of construction.

Visual Impact

Staff believe there will be some minor visual impact given that the highest existing tower at this location is 300 feet high and the installation of a 400-foot tower represents a noticeable height increase. The visual impact may be most noticeable from the Mainland Common which abuts the property to the east. Visual incompatibility between uses can be addressed through screening or separation of uses. Visual screening of a structure this tall is not feasible so the use of adequate separation should be provided to minimize any potential land use conflicts. Unfortunately this is not possible here.

Physical Proximity

While no formal policy exists to guide the location of communication towers to ensure adequate separation from residential properties, a review of past practice indicates that a minimum separation distance between towers and residential properties has often been established based on the measured height of a proposed tower. However, most towers maintain a much greater separation distance from

residential properties than tower height. The separation distance based on tower height is based on a precautionary principle to minimize risk in the unlikely event of structural failure and is generally applied where aesthetic impact is not a major concern of the residents in the area.

A proposed 10 storey multiple residential building on the property immediately to the north of the subject site is approximately 300 feet (91m) from the base of the proposed tower. Staff advises that the lands of CHUM Limited do not have the potential to support a tower in a manner which maintains an adequate separation distance from future dwellings and this may result in future land use conflicts.

Health and Safety

Aside from land use planning issues, there are often concerns about potential health risks from the placement of telecommunication facilities. Industry Canada requires that such systems are operated in accordance with the safety guidelines established by Health Canada's radiation protection bureau in its publication, *Limits to Radiofrequency Fields at Frequencies from 10kHz - 300 GHz*. This is referred to as Safety Code Six. Prior to receiving a licence from Industry Canada the operator must submit the calculations on the intensity of the radiofrequency fields to ensure that this installation does not exceed the maximum levels contained in the Safety Code Six requirements. Information submitted in support of this proposal indicates no concerns in relation to Safety Code Six. Such matters are within the jurisdiction of Industry Canada.

Regency Park Drive

It should be noted that adequate allowance must be made for the proposed right-of-way for the extension of Regency Park Drive. According to the survey provided with this application (see Attachment B), there is an existing 25 foot easement in favour of HRM along the northeast side of the property. This would allow for the placement of an extension to Regency Park Drive but the easement would have to be acquired by HRM as road right-of-way.

Alternative Locations

Staff believe there are potential alternative locations within the vicinity which would meet locational criteria for the tower while at the same time provide additional separation distance from lands identified for residential development. CHUM Limited should pursue these options in order for the proposed FM radio broadcast tower to be located so as to result in the least impact possible to existing and proposed residential development for the long term. An alternative location would also free up the lands for development purposes through which HRM may be able to secure for the construction of an additional portion of Regency Park Drive.

Conclusion

Industry Canada has indicated that it expects all involved parties to examine the proposal, consider each other's concerns and attempt to arrive at solutions that do not unduly restrict the broadcast tower. In Staff's opinion, more effort should be made to examine alternative locations within the vicinity which would provide an increased separation distance from the tower to residential uses.

Staff have concerns in respect to the proposed 400-foot, free-standing FM radio broadcast transmission tower in the location proposed. The physical separation from residential development

is insufficient and the potential negative impact to future multiple unit residential development from radio frequency overload may be problematic particularly when residents experiencing equipment malfunction have no recourse for corrective action. Staff believe that an alternative location may be found which would assist in addressing the issues identified.

BUDGET IMPLICATIONS:

None

FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN:

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating Reserves, as well as any relevant legislation.

ALTERNATIVES:

The following alternative is presented to Chebucto Community Council for consideration:

1. Inform Industry Canada that Chebucto Community Council objects to the proposal by CHUM Limited to erect a 400 foot free standing FM radio broadcast tower at 427 Main Avenue, Halifax (PID No. 00330845). This is the recommended course of action.
2. Identify additional comments or recommendations with respect to the proposed tower. In this event, staff will notify the local office of Industry Canada of Council's comments or recommendations.
3. Inform Industry Canada that Chebucto Community Council is in favour of the proposal. This is not recommended due to reasons outlined in this report.

ATTACHMENTS:

Map 1 - Location and Zoning Map
Map 2 - 115 dBu Contour - Area of Radio Frequency Overload
Attachment A - Minutes of the Public Information Meeting - September 15, 2005
Attachment B - Site Plan
Attachment C - Tower Profile
Attachment D - Radio Equipment Shelter



Additional copies of this report and information on its status can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report prepared by Randa Wheaton, Planning and Development Services, 869-4499



Map 1 - Location and Zoning

427 Main Avenue
Halifax

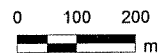
-  Subject property
-  Area of notification

Halifax Mainland
Land Use By-Law Area

Zone

- R-1 Single Family Dwelling
- R-2 Two Family Dwelling
- R-4 Multiple Dwelling
- C-1 Local Business
- C-2 General Business
- K Schedule K
- I-2 Radio Transmitter
- I-3 General Industrial

HALIFAX
REGIONAL MUNICIPALITY
PLANNING AND
DEVELOPMENT SERVICES




This map is an unofficial reproduction of a portion of the Zoning Map for the Halifax Mainland Land Use By-Law area.


HRM does not guarantee the accuracy of any representation on this plan.



Map 2 - 115 dBu Contour - Area of Radio Frequency Overload

427 Main Avenue
Halifax

 Subject property

 Estimated 115 dBu contour as determined by D.E.M. Allen & Associates

Halifax Mainland
Land Use By-Law Area

HALIFAX
REGIONAL MUNICIPALITY
PLANNING AND
DEVELOPMENT SERVICES

0 500
m

This map is an unofficial reproduction of a portion of the Zoning Map for the Halifax Mainland Land Use By-Law area.

HRM does not guarantee the accuracy of any representation on this plan.

16%

BLOCK Z

REGENCY

PARK

DRIVE

(PROPOSED)

Fd. Conc. Monument

Old Anchor

N 57°42'19" E 660.38'

LOT A

(PID 00330845)

CHUM LIMITED

Bk. 1619 Pg. 86 & Bk. 3858 Pg. 714 (Amalgamation)

Rock Outcrop

N 37°46'41" W 680.00'

TOP OF ROCK

Old Anchor Monument E=44574

N 48° E=44257

CHUM TOWER

CHUM TOWER

Building

TELUS TOWER

Underground Electrical & Power Supply

WET AREA

25' Wide Easement (Bk. 1619 Pg. 86 in favour of H.R.M.)

N 32°44'41" W 680.00'

Fd. Conc. Monument

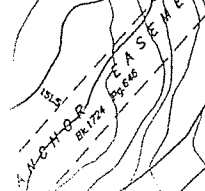
N 57°42'19" E 660.00'

Fd. Conc. Monument

HALIFAX WATER COMMISSION

Bk. 1724 Pg. 646

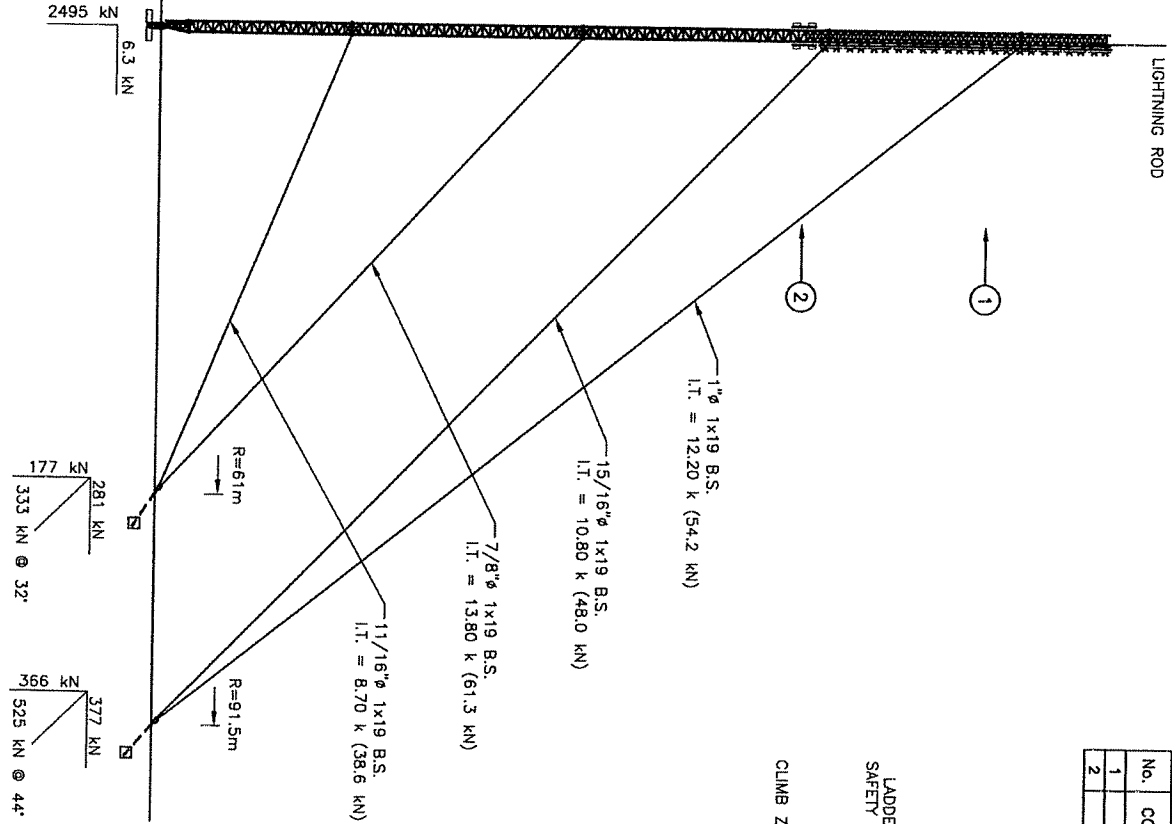
Lot 1619-16



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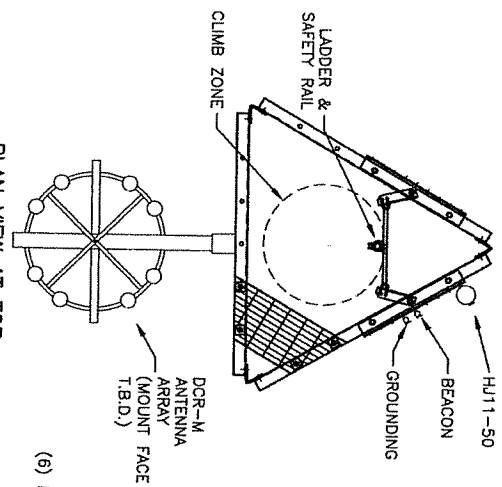
COPYRIGHT, REPLICATION, RECORDING, USE OR DISCLOSURE PROHIBITED WITHOUT WRITTEN AUTHORIZATION OF WestTower Communications Ltd.

LEG SIZE	V 127 x 127 x 16					V 127x127x13					V 102x102x13										
DIAGONAL SIZE	L 64 x 64 x 6										L 51 x 51 x 5										
DIAGONAL TYPE	REGULAR					REGULAR					REGULAR										
HORIZONTAL SIZE	L 51 x 51 x 5																				
INSTALL DWG. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

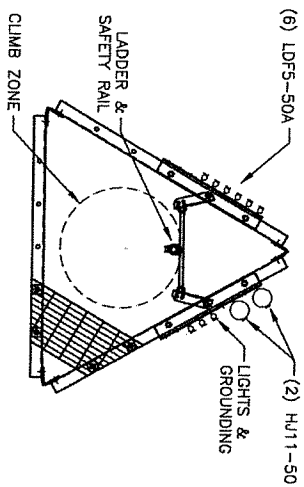


No.	COMPANY	ANTENNA I.D.	ANTENNA TYPE	HEIGHT (m)	AZIMUTH	MECH. SPACE D1 (m)	LINE TYPE	STATUS
1	CHUM	TBD	12 BAY DOR-M W/RADOMES	103m	OMNI	N/A	HJ11-50	INITIAL
2	CHUM	TBD	(9) PARARELECTORS	T.B.D.	OMNI	N/A	LDF5-50A	INITIAL

PLAN VIEW AT TOP
SCALE 1:25



TYPICAL PLAN VIEW
SCALE 1:25



DESIGN SPECIFICATIONS:
 STANDARD: CSA S37-01
 WIND: Qh = 520Pa (SITE SPECIFIC)
 ICE: CLASS IV (50mm)
 STEEL: (LEGS) G40.21,350W
 (ALL OTHERS) G40.21,300W
 OBSTRUCTION MARKING: AS REQ'D.
 LADDER: INTERNAL c/w TRYPOLY SAFETY RAIL
 MAX. TWIST & TILT: 1.72' AT ANTENNAS
 SERVICABILITY FACTOR: 1.0
 IMPORTANCE FACTOR: 1.0
 ALL LOADS ARE FACTORED.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS
 PROVINCE OF ONTARIO
 VALID FOR THE YEAR 1985
 Date: *Timothy H. Ross*
 K. Morrison, P.Eng. 15858
 LICENSE TO PRACTICE

DIMENSIONS ARE IN: mm		FOR CONSTRUCTION		11 JUL 05	LDW	FT	ROM
REV	DESCRIPTION	DATE	BY	CHK	APP		
0							

TOWER PROFILE

123m 14KDG TOWER
 CHUM
 HALIFAX, NS

WESTOWER PROJECT No. 30-0150
 SCALE: 1:600 U.N.O.
 DRAWN BY: LDW
 CHECKED BY: FT
 APPROVED BY: ROM
 DATE: 11 JUL 05
 SHEET: 1 OF 0

WESTOWER
 60 South Field Drive, P.O. Box 187
 Eganville, Ontario, Canada M9B 2Z8
 TEL: (519) 882-4148 FAX: (519) 882-1888
 CA0150A01

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