

TOWNSHIP OF WELLESLEY

Page 1 of 6
October 3, 2011

COUNCIL MEETING MINUTES

Present: Mayor, Ross Kelterborn,
Council – Shelley Wagner, Herb Neher, Paul Hergott
Staff - Susan Duke, Executive Director Corporate/Clerk
- Will McLaughlin, Executive Director Operations
- Sarah Peck, Junior Planner

The regular meeting of the Township of Wellesley was held at the Council Chambers in Crosshill at 6:45 P.M. on October 3, 2011 with all members in attendance except Councillor Olender. The Council meeting opened with Susan Duke leading in prayer and Mayor Kelterborn was in the chair.

Minutes of the Previous Meeting:

230 Moved by: Shelley Wagner – Seconded by: Paul Hergott
That the minutes of the Regular Council Meeting of September 20, 2011 at the Crosshill Council Chambers be adopted as presented. Carried

Petitions: None

231 Moved by: Herb Neher – Seconded by: Paul Hergott
That the Council meeting adjourn in order to hold a Public Meeting in the matter of Zoning By-law Amendment 03/2011, 1020 Molesworth St., Wellesley. Carried

PUBLIC MEETING: Zoning By-law Amendment 03/2011
1020 Molesworth St., Wellesley

Susan Duke, CAO/Clerk advised the method of advertising, as required by the Planning Act, public notice for this meeting on Oct. 3, 2011 was provided by posting a notice on the subject property on Sept. 8, 2011; mailing public notifications to neighbouring properties within 120 m on Sept. 13, 2011 and to applicable agencies on Sept. 7, 2011; and posting the notification in the Elmira Independent on Sept. 16, 2011.

Mayor Kelterborn advised if any persons in attendance would like a Notice of the Passage of the By-law, please complete the sign-in sheet.

Sarah Peck, Junior Planner brought forth the report. See Appendix “A”. See report P. & D. 120/11 for details on the application.

Mayor Kelterborn asked if there are any questions from Council.

Mayor Kelterborn questioned the parking issue which is not detailed on the map submitted. Sarah Peck, Junior Planner responded that a condition of approval will be a detailed site plan addressing the parking issue. Mayor Kelterborn asked where snow will be piled on this property. Sarah Peck responded.

Mayor Kelterborn asked if there are any persons in opposition to this application. Mr. Ron Bisch, 1021 Maple Leaf St., Wellesley provided Council with a letter (see

COUNCIL MEETING MINUTES

Appendix”B”) in opposition to the proposed Zoning By-law Amendment at 1020 Molesworth St., Wellesley, stating parking and snow removal will be an issue.

Mayor Kelterborn asked if there are any persons in support of this application, other than the applicant. No one came forward.

Mayor Kelterborn asked if the applicant would like to speak to this application. Mr. Peter Nijp addressed the snow and parking issues.

Councillor Wagner asked Mr. Nijp to explain why a triplex went up before coming to Council? Mr. Nijp responded he was waiting for a sewer allocation which he now has. Mayor Kelterborn asked “is the shed staying”? Mr. Nijp responded “it can stay, if it is an issue it can be moved”.

- 232 Moved by: Paul Hergott – Seconded by: Herb Neher
That the Public Meeting in the matter of a Zoning By-law Amendment 03/2011, 1020 Molesworth St., Wellesley does now adjourn and the Regular Council Meeting resume.
Carried

Delegations:

- 233 Moved by: Shelley Wagner – Seconded by: Paul Hergott
That the following be received as delegations:
1) Jason & Cynthia Jantzi and Robert Doerner re: Proposed 45 Metre Telecommunications Monopole at Moser-Young and Hessen Strasse. Carried

Cynthia Jantzi, 2277 Moser-Young Rd., Township of Wellesley

Ms. Jantzi submitted to Council a petition with 39 signatures in opposition to the building of the telecommunications tower at Rogers Site C4207 “Weimar-Wellesley”. Ms. Jantzi requested that Council object to the tower. Ms. Jantzi had four (4) main objections to this proposal citing an existing tower could be used, some of which are located within 5km of the proposed site; many people live within a 1km radius, including 9 homes that are situated less than 500m; other areas have the same elevation; possible decrease in property value and the proposed site is on the Cultural Trail, which many cyclist/races and joggers use frequently, detracting from the visual beauty of the landscape.

Dr. Enrique Navarro, visiting Professor at McMaster University

Mr. Navarro provided Council with a document “The Microwave Syndrome: A Preliminary Study in Spain” See Appendix “C”. Councillor Neher questioned if there has been evidence of sickness/illness locally. Mr. Navarro responded.

Mr. Jeff McKay, Rogers Telecommunications

Mr. McKay summarized the process and time lines in which Rogers Communications staff are dealing with the application to Industry Canada.

COUNCIL MEETING MINUTES

Mr. Robert Doerner, 2110 Moser-Young Rd., Township of Wellesley

Mr. Doerner indicated he currently has a Rogers cell phone, which works fine, wondering why a tower is required (at the base) the base of which will be close to his house, further stating he is not convinced that when “looking out my front door, you will not see the tower”.

Susan Duke, Executive Director Corporate/Clerk provided a summary of the verbal discussion she had with staff at Industry Canada earlier today and the 3 options available to the Township of Wellesley. Mayor Kelterborn encouraged the delegation to consult with the Minister of Industry and their local Federal Political representatives.

- 234 Moved by: Shelley Wagner – Seconded by: Herb Neher
That the Council of the Township of Wellesley take no action at this time concerning the objections to the location of a Rogers Telecommunication Tower on Moser-Young south of Hessen Strasse pending completion of the notification process. Carried

Committee of the Whole:

- A Moved by: Paul Hergott – Seconded by: Shelley Wagner
That the Council rise and go into a Committee of the Whole to receive reports and recommendations. Carried

Planning & Development:

Chairperson: Shelley Wagner

P. & D. 114/11 – Planning & Development Committee Minutes from meeting held September 27, 2011

- 235 Moved by: Herb Neher – Seconded by: Paul Hergott
That the minutes of the Planning & Development Committee meeting held on September 27, 2011 at the Crosshill Council Chamber be adopted as presented. Carried

P. & D. 115/11 – GRCA Application for Permission No. 480/11 re: 4440 Hesson Strasse – For information

P. & D. 116/11 – GRCA Application for Permission No. 492/11 re: 7 Chapel St., Hawkesville – For information

P. & D. 117/11 – GRCA Application for Permission No. 451/11 re: 5430 William Hastings Line – For information

COUNCIL MEETING MINUTES

- P. & D. 118/11 – Waste Water Unit Allocation
- 236 Moved by: Paul Hergott – Seconded by: Herb Neher
That the Council of the Township of Wellesley accept this Planning Report P. & D. 118/11 for information; and further,
That the Council of the Township of Wellesley approve the following allocation of individual residential waste water connections for the following situations:

Name	Number of Proposed Units	PPU
Morningstar Family Ministries (3639 Nafziger Rd.)	1	1 x 3.34 = 3.34 ppu
TOTAL	= 1	=3.34 ppu

Carried

Mayor Kelterborn declared a conflict of interest.

- P. & D. 119/11 – Notice of Application, Zoning By-law Amendment & Official Plan Amendment re: 3639 Nafziger Rd., Township of Wellesley
- 237 Moved by: Ross Kelterborn – Seconded by: Herb Neher
That the Council of the Township of Wellesley schedule and advertise a public meeting in the matter of proposed Zoning By-law Amendment 04/2011 and proposed Official Plan Amendment for lands owned by Morningstar Family Ministries and known municipally as 3639 Nafziger Rd., Plan 1148, Lt 66, Pt Lt 65, East Sec. and that the meeting be scheduled for November 7, 2011 at 6:45 p.m. in the Council Chambers at 4805 William Hastings Line, Crosshill. Carried

Mayor Kelterborn indicated this property has historical importance. Susan Duke, Executive Director Corporate/Clerk stated this application will be circulated to WTHHS.

- P. & D.120/11 – Zoning By-law Amendment re: 1020 Molesworth St., Wellesley
- Moved by: Herb Neher – No Secunder – Motion lost
- 238 Moved by: Ross Kelterborn – Seconded by: Paul Hergott
That the Council of the Township of Wellesley defer consideration of Zoning By-law Amendment re: 1020 Molesworth Street pending receipt of appropriate site plans from the applicant that show all required parking and other such matters. Carried

Road & Bridge; Property & Fire:

Chairperson: Paul Hergott

- R. & B.; P. & F. 80/11 – Road & Bridge; Property & Fire Committee Minutes from Meeting held on September 27, 2011
- 239 Moved by: Ross Kelterborn – Seconded by: Herb Neher
That the minutes of the Road & Bridge; Property & Fire Committee meeting held on September 27, 2011 at the Crosshill Council Chamber be adopted as presented. Carried

COUNCIL MEETING MINUTES

Administration/Finance:

Chairperson: Ross Kelterborn

Admin./Finance 79/11 – Administration & Finance Committee Minutes from meeting held September 27, 2011

- 240 Moved by: Paul Hergott – Seconded by: Shelley Wagner
That the minutes of the Administration & Finance Committee meeting held on September 27, 2011 at the Crosshill Council Chamber be adopted as presented. Carried

Admin./Finance 80/11 – Thank you for Support from “A Group of Grandparents for Southern Ontario” – For information

Mayor Kelterborn advised Council about the possibility of the GRCA providing trees for Goderich.

Recreation:

Chairperson: Shelley Wagner

Recreation 45/11 – Recreation Committee Minutes from meeting held September 27, 2011

- 241 Moved by: Herb Neher – Seconded by: Paul Hergott
That the minutes of the Recreation Committee meeting held on September 27, 2011 at the Crosshill Council Chamber be adopted as presented. Carried

Personnel: No report

Chairperson: Herb Neher

- B** Moved by: Shelley Wagner - Seconded by: Paul Hergott
That the Committee of the Whole rise and Council resume and report. Carried

- C** Moved by: Herb Neher - Seconded by: Shelley Wagner
That the report of the Committee of the Whole be adopted as set forth in the motions and actions detailed above. Carried

Accounts: None

Unfinished Business: None

New Business: None

Other Reports: None

COUNCIL MEETING MINUTES

Caucus:

- 242 Moved by: Paul Hergott – Seconded by: Shelley Wagner
That this portion of the meeting be closed to the public in order to consider the following:
X Section 239(2)(b) of the Municipal Act – personal matters about an identifiable individual including municipal or local board employees.
X Section 239(e) of the Municipal Act - litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local boards.
Carried
- 243 Moved by: Paul Hergott – Seconded by: Shelley Wagner
That the Council meeting resume and report. Carried
- Caucus Minutes from meeting held September 27, 2011
- 244 Moved by: Herb Neher – Seconded by: Paul Hergott
That the minutes of the Caucus meeting held on September 27, 2011 at the Crosshill Council Chamber be adopted as presented. Carried

By-Laws:

- D Moved by: Shelley Wagner - Seconded by: Paul Hergott
By-Law No.
35/2011 - Confirming be read a first and second time. Carried
- E Moved by: Shelley Wagner - Seconded by: Herb Neher
That By-Law No. 35/2011 pass first and second readings. Carried
- F Moved by: Herb Neher - Seconded by: Paul Hergott
That By-Law No. 35/2011 be read a third time and passed and the Mayor and Clerk be authorized to sign and seal the By-Laws under the Corporate Seal. Carried

<u>Next Meetings:</u> Regular Council Meeting	October 18, 2011	6:30pm***
Regular Committee Meeting	October 25, 2011	6:45pm
Regular Council Meeting	November 7, 2011	6:45pm

- 245 On a motion by Paul Hergott, the Council meeting adjourned.

Executive Director Corporate/Clerk, Susan Duke

Mayor, Ross Kelterborn

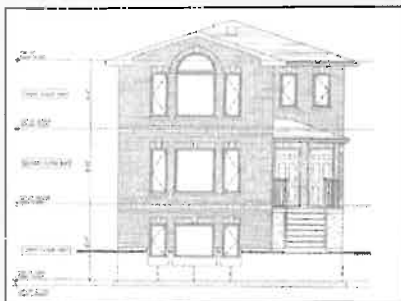
Zoning By-Law Amendment Application: 1020 Molesworth St.

Owner: Peter and Sharon Nijp
Property Roll No: 15-0024-010-001-13500
Agent: N/A
Date of Application: August 23, 2011
Location: 1020 Molesworth St., Plan S21, Pt lot 16, East Sec
Zoning: UR -- Urban Residential
Twp. Official Plan: Residential

1020 Molesworth St. - Location



The Proposal



Key Issues

Density – Zoning By-law

- 'UR' does not list "triplex" as a permitted use

Key Issues

Density – Official Plan

- Net Residential Density
 - a maximum of 60 units per net residential ha
 - The subject property can accommodate a maximum of 3 (3.6 rounded down to 3) units

Key Issues

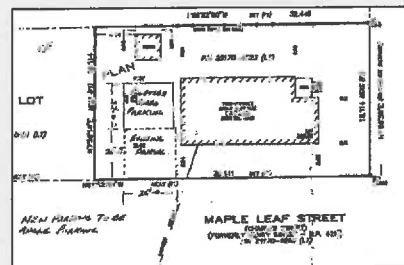
Parking spaces

- Minimum dimensions: 2.7 m x 6 m (9' x 20')
- Multi-unit dwelling: at least 1.5 spaces per dwelling unit
- Triplex requires 5 spaces

Parking Spaces (cont.)



Parking Spaces (cont.)



Parking and Lot Coverage



Public and Agency Comments

Public Comments:

No formal comments received to date.

Agency Comments:

Executive Director of Operations, Township of Wellesley

- No comments or concerns.

Chief Building Official, Township of Wellesley

- A building permit will be required for the creation of the unit in the basement.

Fire Chief, Township of Wellesley

- No comments or concerns.

Waterloo North Hydro

- No comments to date.

Agency Comments (cont.)

Region of Waterloo

The Region has no objections to the subject application.

Region of Waterloo Operations staff must be present when making any new water or wastewater service connections to the subject property. Any issuance of a building permit for future development on the lands will be subject to the provisions of Regional Development Charge By-law 09-024 or any successor thereof.

Union Gas

No comments to date.

Waterloo Catholic School Board

No comments or concerns.

Waterloo Region District School Board

No comments or concerns.

Recommendations:

THAT the Council of the Township of Wellesley accept this planning report and comments;

AND FURTHER THAT the Council of the Township of Wellesley authorize the preparation of a Zoning By-law for ZBA 03/11, subject to the following condition(s):

1. That the owner/applicant complete the proposed work to expand the off-street parking area.
2. That the owner/applicant provide the Township with a diagram clearly delineating no less than five (5) off-street parking spaces on the subject property which conform to Township standards to the satisfaction of the Township of Wellesley. The diagram must clearly demonstrate that the parking spaces are at least 2.7 metres (9 ft) by 6 metres (20 ft). This diagram will be used to form a schedule in the By-law amendment.

Recommendations:

AND FURTHER THAT the Zoning By-law for ZBA 03/11 shall include the following regulations:

Additional permitted uses:

- a) A triplex

Subject to the following regulations:

- i. Off-street parking shall be provided in accordance with Section 4.30 of Zoning By-law 28/2006.
- ii. Parking space lot coverage shall not exceed 31% of the total lot area of the subject property.

Appendix "B"

October 3, 2011

The Council of the Township of Wellesley
4639 Lobsinger Line – R. R. #1
St. Clements, ON
N0B 2M0

Regarding: Proposed Zoning By-Law Amendment for 1020 Molesworth St,
Wellesley

Dear Mayor Kelterborn and Council Members,

We have studied the proposed zoning by-law amendment notice and have some concerns with this proposal.

During the construction of this building, we were told by the applicant that he was building a triplex even though only a duplex was allowed on the site. We notified the building department numerous times regarding the intent of this construction.

Because a triplex requires more parking spaces than currently are available, we would like to see a site plan showing how the parking on this property could possibly be accommodated. We are particularly concerned with the proposed angled parking area and the required driving area needed to negotiate the turns into the parking spots.

If the additional parking is allowed on the property at 1020 Molesworth St, we would like to see a plan regarding snow removal since there will be very little area for it to be stored on this property.

We have also observed that when it rains heavily, water drains naturally over the area currently used for parking on Maple Leaf St. This should be taken into consideration when deciding on additional parking on the site.

If council decides that this property is allowed to use the additional unit and parking spaces are added to the property, we would like the owner to build and maintain an appropriate barricade to preserve the distinction between his property and our own if we find it necessary.

There is also a large tree on the two adjoining properties that does not pose any problems currently, but if the parking is extended to the north of the property, it could cause serious vehicle damage if it were to fall in a wind storm.

The property at 1020 Molesworth St is a very small lot compared to the others in the neighbourhood. This is a residential area and even though the new building is a welcome addition compared to what was there before, we are concerned about the impact of allowing a triplex on this property.

Thank-you for considering our concerns in this matter and we trust that you will keep the best interests of the neighbourhood in mind when making your decision on this matter.

Sincerely,

Ronald Bisch
1021 Maple Leaf St,
Wellesley, ON
N0B 2T0
519-656-2112

Appendix "C"

Re: 1600 Shattuck antennas
From: Shahram Shahrouz

26j 1(3)

CITY OF BERKELEY
CITY CLERK DEPT
03 SEP 26 AM 11:54

ELECTROMAGNETIC BIOLOGY AND MEDICINE
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The Microwave Syndrome: A Preliminary Study in Spain

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ABSTRACT

A health survey was carried out in Murcia, Spain, in the vicinity of a Cellular Phone Base Station working in DCS-1800 MHz. This survey contained health items related to "microwave sickness" or "RF syndrome." The microwave power density was measured at the respondents' homes. Statistical analysis showed significant correlation between the declared severity of the symptoms and the measured power density. The separation of respondents into two different exposure groups also showed an increase of the declared severity in the group with the higher exposure.

Key Words: Public health; Cellular phone; Base stations; Microwave sickness.

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161

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12

INTRODUCTION

The hypothesis that radiofrequency (RF) exposure might produce health damage has been analyzed mainly from several epidemiological studies. Insomnia, cancer, leukemia in children, and brain tumors are the clinical entities more frequently described (Dolk et al., 1997; Hocking et al., 1996; Maskarinec et al., 1994; Minder and Pfluger, 2001; Selvin et al., 1992). Moreover, the clinical consequences of being exposed to microwave radiation such as radar has been evaluated from military and occupational studies (Balode, 1996; Garaj-Vrhovac, 1999; Goldsmith, 1997; Johnson-Liakouris, 1998; Robinette et al., 1980).

A specific symptomatology, linked to radar exposure at low levels of RF, has been termed "microwave sickness" or "RF syndrome." (Johnson-Liakouris, 1998) With few exceptions, functional disturbances of the central nervous system have been typically described as a kind of radiowave sickness, neurasthenic or asthenic syndrome. Symptoms and signs include headache, fatigue, irritability, loss of appetite, sleepiness, difficulties in concentration or memory, depression, and emotional instability. This clinical syndrome is generally reversible if RF exposure is discontinued.

Another frequently described manifestation is a set of labile functional cardiovascular changes including bradycardia, arterial hypertension, or hypotension (Johnson-Liakouris, 1998). This form of neurocirculatory asthenia is also attributed to nervous system influence. More serious but less frequent neurologic or neuropsychiatric disturbances have occasionally been described as a diencephalic syndrome (Johnson-Liakouris, 1998). All these disturbances following low level exposures (of the order of microwatts/cm²) have been reported for many years from Eastern Europe. The exposures have been mainly low level and long term (Goldsmith, 1997; Johnson-Liakouris, 1998).

Also, several articles have found biological dysfunction at very low density of radiation without temperature elevation, favoring the hypothesis of nonthermal biological effects and pointing to the probability of clinical dysfunction below the actual standard of safety norms in the European Union (Arber and Lin, 1985; Baranski, 1972; Byus et al., 1988; Daniells et al., 1998; de Pomerai et al., 2000; D'Inzeo et al., 1988; Dutta et al., 1989; Kues et al., 1992; Lai and Singh, 1995-1997; Lai et al., 1984, 1989; Malyapa et al., 1998; Sanders et al., 1985; Sarkar et al., 1994; Stagg et al., 1997; Wachtel et al., 1975).

Low levels of RF are found around the GSM-DCS cellular phone Base Stations (BS), where antennas are usually located on the roofs or in the top of tall towers. GSM-DCS cellular phones use pulsed microwaves. These signals have a spectral similarity to radar signals. The spectral power distribution of pulsed signals includes low frequency harmonics. Typical pulse duration time ranges from 100 msec to 0.050 µsec in radar, and 576.9 µsec for each slot of GSM-DCS.

From this point of view, the hypothesis of a "microwave sickness" in the neighborhood of the GSM-DCS Base Stations is analyzed in this study. The present analysis tries to evaluate if there is some statistical justification to the complaints and related dysfunction locally associated with RF exposure from the GSM-DCS Base Stations, as has been found in previous studies (Santini et al., 2001, 2002a,b).

MATERIALS AND METHOD

A local team, specially trained for this work, delivered the questionnaires in La Nora, a town of Murcia in Spain during January 2001. This was always introduced to



respondents as a part of a study to evaluate the impact on the area of the cellular phone Base Stations (GSM-DCS). In general, the people were quite prepared to cooperate (the ratio of returned to delivered was about 70%). The questionnaire was a Spanish language adaptation of the Santini publication (Santini et al., 2001). This was composed of 25 different items mainly concerning health information about the respondents.

The respondents scored and marked from 0 to 3 the presence of the suffered health dysfunction: 0 never, 1 sometimes, 2 often, 3 very often.

The asked symptoms were those described in earlier studies of the microwave syndrome: fatigue, irritability, headache, nausea, appetite loss, insomnia, depression, discomfort, difficulty in concentration, memory loss, skin alterations, visual dysfunction, auditory dysfunction, dizziness, gait difficulty, and cardiovascular alterations.

Questions included demographic data: address, sex, and age, distance to the antennas (distance in meters to the Base Station), exposure time in days/weeks, hours/days, and time from the beginning of the emissions. The questionnaire also collected information about proximity to power lines, and the use of personal computer and cellular phone.

More than 5% of the population of La Ñora (around 1900 habitants) answered the questionnaire. Questionnaires from people with a history of deep psychological or neurological disease were excluded. Finally, 101 surveys were considered valid.

The survey was supplemented with electric field measurements, conducted February 24, 2001, and March 10, 2001 (Saturday). Measurements were carried out from 11:00 hr to 19:00 hr each day, in the bedrooms of each respondent. More measurements were carried out in the streets during working days and weekends, to check the possible variability in time of the measurements. The measurements were individually added to the survey of each respondent.

A portable broadband (1 MHz–3 GHz) electric field meter (EFM) was used. The EFM was hand-oriented in order to measure the maximum field strength above the bed. The electric field in each room presented a standing wave pattern because of reflection of the waves from the walls and metallic structures such as windows and metallic furniture. Therefore the EFM was held around 1 m from the walls, 1.2 m above the ground, and was moved around a circle of 25 cm of radius, orienting the antenna to get the maximum electric field strength.

The EFM was calibrated in the anechoic chamber of the University of Valencia with a standard measurement set-up using a network analyzer HP-8510C.

To check the intensity of TV and radio channels, as well as the number of working channels of the GSM-DCS BS, measurements of the spectral power density were carried out with a probe antenna and a portable spectrum analyzer.

The TV and radio channels maintained their intensities during the measurements, but the cellular phone channels presented dramatic differences in amplitude from channel to channel, some of them going on and off the air at random times.

The probe was mounted on a linen phenolic tripod about 1.2 m above the ground. The location of the probe was the same on both days, on a hill next to the town, 20 m from the BS. With the spectrum analyzer we scanned the GSM and DCS bands, at the beginning of the journey, taking the average over a period of 6 min. The measurement of the spectrum was similar on both days, having a difference in the peak estimation (carriers of the channels) of about 1 dB.



RESULTS

The respondents were 47% male and 53% female, with a wide age range: 15–25 years (22%), 26–35 years (22%), 36–45 years (19%), 46–55 years (11%), 56–65 years (13%), and over 65 years (13%).

The exposure time, explained as the time spent in the vicinity of the BS, was more than 6 hr per day, 7 days a week, for 95% of the respondents. The bedroom was where the electric field was measured.

Concerning the attitude of the respondents about the use of cellular phone: 24% of them declared themselves to be active users of mobile GSM-DCS phone for more than 20 min per day.

The measurements were very low compared with European safety guidelines 1999/519/EC DOCE 30/7/99 (1999/519/EC:). Actually the levels were lower than $0.2 \mu\text{W}/\text{cm}^2$. The Spanish legislation established a maximum limit of $450 \mu\text{W}/\text{cm}^2$ at a single frequency (900 MHz), the same as the European safety guidelines 1999/519/EC DOCE 30/7/99. This is one of the characteristics of the present work: the low levels of RF exposures.

Table 1. Average severity of the reported symptoms in two groups having different exposure: higher exposure with average power density $0.11 \mu\text{W}/\text{cm}^2$ (distance < 150 mts), and lower exposure with average power density $0.01 \mu\text{W}/\text{cm}^2$ (distance > 250 mts).

			P value
Respondents	N = 54	N = 47	
Average power density $\mu\text{W}/\text{cm}^2$	0.11 ± 0.19	0.01 ± 0.04	< 0.001
Distance to BS	< 150 m 107 ± 57 m	> 250 m 284 ± 24 m	< 0.001
	Average value of reported severity	Average value of reported severity	
Fatigue	1.11 ± 1.13	0.74 ± 1.07	n.s.
Irritability	1.56 ± 1.08	1.04 ± 1.02	< 0.05
Headache	2.17 ± 0.86	1.53 ± 1.00	< 0.001
Nausea	0.93 ± 0.99	0.53 ± 0.88	< 0.05
Appetite loss	0.96 ± 1.03	0.55 ± 0.88	< 0.05
Discomfort	1.41 ± 1.11	0.87 ± 0.97	< 0.02
Gait difficulty	0.68 ± 0.93	0.94 ± 1.07	n.s.
ASTHENIC symptoms	8.81 ± 4.79	6.21 ± 5.33	< 0.02
Sleep disturbance	1.94 ± 0.92	1.28 ± 1.10	< 0.01
Depression	1.30 ± 1.19	0.74 ± 1.01	< 0.02
Difficulty in concentration	1.56 ± 1.14	1.00 ± 1.06	< 0.02
Memory loss	1.41 ± 1.05	1.04 ± 1.08	n.s.
Dizziness	1.26 ± 1.14	0.74 ± 1.05	< 0.05
DIENCEPHALIC symptoms	7.46 ± 3.90	4.81 ± 4.34	< 0.01
Skin alterations	0.72 ± 0.96	0.45 ± 0.93	n.s.
Visual dysfunction	1.11 ± 1.07	0.96 ± 1.12	n.s.
Auditory dysfunction	1.06 ± 1.12	0.81 ± 1.12	n.s.
SENSORIAL symptoms	2.89 ± 2.72	2.32 ± 2.45	n.s.
Cardiovascular alterations	0.76 ± 1.10	0.49 ± 0.93	n.s.



Table 2. Correlation coefficient between severity of the reported symptoms and the logarithm of the measured electric field.

	Correlation coefficient with power density	<i>p</i> value
ASTHENIC symptoms		
Fatigue	0.438	< 0.001
Irritability	0.515	< 0.001
Headache	0.413	< 0.001
Nausea	0.354	< 0.001
Appetite loss	0.485	< 0.001
Discomfort	0.544	< 0.001
Gait difficulty	0.127	n.s.
DIENCEPHALIC symptoms		
Sleep disturbance	0.413	< 0.001
Depression	0.400	< 0.001
Difficulty in concentration	0.469	< 0.001
Memory loss	0.340	< 0.001
Dizziness	0.357	< 0.001
SENSORIAL symptoms		
Skin alterations	0.358	< 0.001
Visual dysfunction	0.347	< 0.001
Auditory dysfunction	0.163	n.s.
CARDIOVASCULAR symptoms		
Cardiovascular alterations	0.290	< 0.01

Second column is the statistical significance (*p*) of the correlation coefficient.

We divided the surveys into two groups: One group with high exposure, averaging $0.11 \mu\text{W}/\text{cm}^2$, consisted of 47 respondents. These respondents declared themselves to be living less than 150 m from the BS. The second group, with an average exposure of $0.01 \mu\text{W}/\text{cm}^2$, were at a distance greater than 250 m.

Although both groups were obviously at different distances from the BS, there was still the risk of a distance perception that could influence the survey.

Table 1 shows the average declared severity in both groups.

A possible relationship between the declared severity of the symptom and the microwave power density was explored. A mathematical model with logarithmic dependence on the measured electric field (EFM) was used. The SPSS statistical package, with different regression methods, was used for this analysis. The results for the correlation coefficient and statistical significance are presented in Table 2. Correlation coefficients were grouped in four sections: asthenic, diencephalic, sensorial, and cardiovascular symptoms.

DISCUSSION

It is interesting to compare the severity of the reported symptoms between both groups of Table 1: more severe symptoms were reported in the first group. The first group (< 150 m from BS) was exposed to a mean EMF power density 10 times higher



than the second group (> 250 m from BS). Asthenic syndrome was 42% higher in the first group, diencephalic syndrome was 55% higher in the first group, sensorial alterations were 25% higher in the first group, and cardiovascular alterations 55% higher as well.

However, the use of mobile phones was 30% in the first group and 17% in the second group. Use of the personal computer was 16% in the first group and 1% in the second group. Therefore, these differences could bias the health response. The use of the mobile cellular phone implies a considerably higher exposure of the head to microwaves during the phone call, roughly 5 mW/cm^2 , 10,000 times higher than the maximum EMF exposure attributed to the BS. Moreover, the symptomatic response could be influenced by personal or human idiosyncrasy. The exposure to radiation from the computer screen occurs at extremely low frequencies and is under $0.3 \mu\text{T}$, at normal distances. It is therefore not considered significant, but will be the subject of a future work.

Results from Table 2 indicate the correlation between severity of the reported symptoms and the logarithm of the measured electric field (EFM) with $p < 0.001$. We find that discomfort (0.544), irritability (0.515), and appetite loss (0.485) are the most relevant symptoms correlated with exposure intensity. Others symptoms, fatigue (0.438), headache (0.413), difficulty in concentrating (0.469), and sleep disturbances (0.413), also show a significant correlation with exposure intensity. However, other symptoms such as auditory dysfunction, gait difficulty, and cardiovascular, have a lower correlation coefficient, but significant $p < 0.01$.

However, the most interesting aspect of our results is the significance of the dependence between both variables: The declared severity of the symptom and the logarithm of the measured electric field. Another interesting observation is that four of the highly correlated symptoms (Table 2) such as headache, sleep disturbances, concentration difficulty, and irritability also show the most relevant differences between both groups and the highest values in the clinical scale, 2.17, 1.94, 1.56, and 1.56 respectively (Table 1).

The validity and interpretation of the results of Tables 1 and 2 must be analyzed in the proper context, by comparison with results from other researchers, or with our results from previous similar surveys. Actually there are no studies similar to the presented in this communication. However, our work shows a similarity in procedure and results with previous surveys on noise annoyance. Results for the correlation coefficients (Table 2) are similar to those obtained in previous social surveys on noise annoyance, where the maximum correlation coefficient was around 0.35 (Schultz, 1978).

If there is a casual relationship between severity of the symptoms and the measured electric field, it may be that the logarithmic approach is still too approximate, and a more elaborate model would be convenient. The logarithmic model is extended in the analysis of noise annoyance, since the devices used in noise measurements use logarithmic scales (dB_A). Moreover, the used measurement was a spatial-point, time-point, measurement. This would most likely be an improvement in correlation for EMF average levels during days or weeks. However, the existence of appropriate instrumentation is a limitation.

It is worth pointing out that noise is a recognized environmental pollutant, and the social surveys on noise annoyance address its subjective response. Although noise is perceived by the senses, the same is not true for the electromagnetic field. Therefore



biasing is less likely in the present study, and the results are probably more objective than in the surveys on noise annoyance.

Trying to find comparisons between our results and previous work, we can claim a strong similarity with the Lilienfeld study (Johnson-Liakouris, 1998), which showed a dose-response relationship between various neurological symptoms and microwave exposure. These symptoms were grouped under the name "microwave syndrome" or "radiofrequency radiation sickness."

The present results demonstrate a significant correlation between several symptoms of what is called microwave sickness and the microwave power density associated with the Base Station located on a hill at the edge of the town. The severity of the symptoms weakens for people who live far away, at a distance greater than 250 m from the main EMF source and at a power density lower than $0.1 \mu\text{W}/\text{cm}^2$.

As there is a significant difference between both groups in terms of the irradiated power density, a hypothetical relationship between the DCS emission and the severity of symptoms may exist.

There is a large and coherent body of evidence of biological mechanisms that support the conclusion of a plausible, logical, and causal relationship between RF exposure and neurological disease. Hence it is possible that cell sites are causing adverse health effects. Public health surveys of people living in the vicinity of cell site-BSs should be carried out immediately, and continued over the next 2 decades. Prompt effects such as miscarriage, cardiac disruption, sleep disturbance, and chronic fatigue could well be early indicators of adverse health effects.

This is the first social survey concerning the microwave syndrome carried out in Spain, and is a preliminary study. Future surveys in another geographical locations are underway. More research and comparison of statistical results from different areas would be useful.

At present, the electromagnetic/microwave power density is not a recognized environmental pollutant. The reported results are obtained from one of the first social surveys on the health of the population living in the vicinity of a Base Station of GSM-DCS cellular phone.

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**CORPORATION OF THE
TOWNSHIP OF WELLESLEY**

BY-LAW NUMBER 36/2011

**BEING A BY-LAW TO CONFIRM ALL
ACTIONS AND PROCEEDINGS OF COUNCIL.**

WHEREAS Section 8 of the Municipal Act, S.O. 2001, c.25 and amendments thereto provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under the Municipal Act or any other Act; and

WHEREAS Subsection 2 of Section 11 of the Municipal Act, S.O. 2001, c.25 and amendments thereto provides that a lower-tier municipality and an upper-tier municipality may pass by-laws respecting matters within the spheres of jurisdiction described in the Table to Subsection 2 subject to certain provisions; and

WHEREAS Section 5 of the Municipal Act, S.O. 2001, c.25 and amendments thereto provides that a municipal power, including a municipality's capacity, rights, powers and privileges under Section 8 shall be exercised by its council and by by-law unless the municipality is specifically authorized to do otherwise; and

WHEREAS the Council of the Corporation of the Township of Wellesley deems it expedient to confirm its actions and proceedings;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF WELLESLEY hereby enacts as follows:

1. That all actions and proceedings of the Council of the Corporation of the Township of Wellesley taken at its meeting held on the 18th day of October, 2011 be confirmed as actions for which the municipality has the capacity, rights, powers and privileges of a natural person.
2. That all actions and proceedings of the Council of the Corporation of the Township of Wellesley taken at its meeting held on the 18th day of October, 2011 be confirmed as being matters within the spheres of jurisdiction described in Subsection 2 of Section 11 of the Municipal Act, S.O. 2001, c.25 and amendments thereto.
3. That all actions and proceedings of the Council of the Corporation of the Township of Wellesley taken at its meeting held on the 18th day of October, 2011 except those taken by by-law and those required by by-law to be done by resolution are hereby sanctioned, ratified and confirmed as though set out within and forming part of this by-law.
4. That this by-law shall come into force and take effect as of the final passing thereof.

Read a first and second time this 18th day of October, 2011.

Read a third and final time and passed this 18th day of October, 2011.

Mayor Ross Kelterborn

Executive Director Corporate/Clerk, Susan Duke