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#### SURVEY OF CANADIAN ACOUSTICAL CONSULTANTS

#### J.S. Bradley

CANADIAN ACOUSTICS has carried out its first ever survey of Canadian acoustical consultants. The information in this survey was obtained from consultants responses to a questionnaire printed in our January issue. Thus the information is based only on questionnaire responses and CANADIAN ACOUSTICS has not made any attempt to verify its accuracy. The survey was carried out as a service to the Canadian acoustical community, and to provide at least a rough indication of Canadian acoustical consultants and their areas of specialization. It is not intended that CANADIAN ACOUSTICS or the Canadian Acoustical Association endorses any of these consultants as we have no way of judging the accuracy of the information or the abilities, skills, or training of the companies and individuals listed below. We hope that the survey results will at least help people to realize that there are a large number of acoustical consulting companies with quite varied experience here in Canada.

A total of 35 different companies are included in the results. A few responses were not included because they did not represent companies or sections of companies that were primarily involved in consulting in the areas of sound and vibration. That is, they were not judged to be Canadian acoustical consultants.

The companies and their responses are listed alphabetically by region of the of the country. Five regional groupings were created: Atlantic, Quebec, Ontario, Western, and Pacific to provide a convenient break down of the companies. There are two tables of information. The first lists the company name address and telephone number along with a short 3 line description of specialized expertise. This three line description was condensed from usually longer texts provided by the respondents. We have tried our best to include the major points from the original texts.

The second table includes the detailed survey response information again listing the companies alphabetically within each region of the country. The first two columns include (1) the equivalent number of full-time employees working in acoustical activities, and (2) the age of the company. It is not clear that the number of employees was always given as equivalent full time employees, and in some cases fractional responses were rounded up to the next whole number. The age of the company can also be misleading, and does not usually represent the number of years of experience of the principals. The next 14 columns of the table indicate the areas of specialization of each company. The 14 areas are as follows:

- (1) Industrial noise control
- (2) Hearing conservation
- (3) Machinery noise control
- (4) Noise Control in buildings
- (5) Environmental noise
- (6) General acoustical design of interior spaces
- (6) Specialized acoustical design of theatres, studios, etc.
- (7) Electroacoustics and sound system design
- (9) Mechanical vibrations of machinery
- (10) Structural vibrations of buildings
- (11) Underwater and marine acoustics
- (12) Ultrasonics
- (13) Development of instrumentation
- (14) Other

The "other" responses are further explained at the bottom of the main table. It is seen from the table that

most expertise is concentrated in the areas of columns 1, 3, 4, 5, 6, and 7 which can be summarized as noise control and acoustical problems related to buildings and the environment. At the other extreme, only one company reported expertise in ultrasonics.

The last 4 columns of the table indicate special facilities that the companies may have. The four columns represent responses to the following four questions concerning special facilities:

- (1) None
- (2) Instrumentation for conventional measurements
- (3) More advanced instrumentation and computer-based analysis systems
- (4) Special measurement chambers

Although two companies reported having no instrumentation or special facilities, most companies indicated having instrumentation for conventional measurements. The details of special measurement facilities are given at the bottom of the table. It is not always clear that the facilities belong to the consultant or whether he can only obtain access to these facilities.

The information in this survey should be regarded only as a rough guide to a companies capabilities. One should, of course, verify particular details that may be of concern to you by contacting companies directly. We hope at least you will now find it much easier to know where to go to get further information. The survey is a new idea that required some effort to produce. Any comments or criticisms would be most welcome and would be helpful in deciding whether to repeat the survey next year.

# Table I. Canadian Acoustical Consulting Company Addresses by Region ATLANTIC REGION

- (1) Atlantic Acoustical Associates P.O. Box 2520 DEPS Dartmouth, N.S. (902) 425-0044
- (2) H.W. Jones & Associates Ltd. 374 Viewmont Dr., Allen Heights Tantallon, N S., B0J 3J0 (902) 435-4486

Over 25 years experience in architectural and industrial noise and vibration control and sound system design on major projects across Canada and United States.

Over 44 years experience in design and development of ultrasonic apparatus, image processing techniques, non-destructive evaluation, and medical diagonosis.

#### QUEBEC REGION

- (3) Acouscience Inc.
   83 Trenton
   Mt. Royal, Quebec, H3P 1Z1
   (514) 733-2088
- (4) W. Bradley Engineering Suite 502, 3600 Ridgewood Ave. Montreal, Quebec, H3V 1C2 (514) 735-3846
- (5) Groupe-Conseil Roche Ltee 2535 Boul. Laurier Ste. Foy, Quebec, G1V 4M3 (418) 871-9600
- (6) Groupe JMLA Inc. 2900 Quatre-Bourgeois Ste. Foy, Québec, G1V 1Y4 (418) 653-5201

Specializes in architectural acoustics for concert halls, theatres, cinemas, recording studios, film studios, radio and television studios, video studios, etc.

Over 23 years experience in architectural acoustics, noise control, acoustical research and teaching. Consulting services in all aspects of acoustics.

As well as acoustical/vibration engineering dept. company has total of 64 employees in areas including mechanical, electrical, structural, energy engineering.

- (7) Ghislain L'Hereux
   911 Rang St. Antoine
   Ste. Feréol-les-Neiges. G0A 3R0
   (418) 826-2589
- (8) MJM Conseillers en Acoustique MJM Acoustical Consultants 6555 Cote des Neiges, Suite 440 Montreal, Québec, H3S 1A6 (514) 737-9811

(9) Silentec Ltd.785 Plymouth, Suite 304Montreal, Quebec, H4P 1B2(514) 731-3397

(10) SNC Inc.
 1 Complexe Desjardins
 Desjardins Postal Station
 Montreal, Quebec, H5B 1C8
 (514) 282-9551

#### ONTARIO REGION

- (11) APREL Inc.38 Antares Dr.Nepean, Ont., K2E 7V2(613) 727-0334
- (12) Barman Coulter Swallow Assoc.
   1 Greensboro Dr., Suite 401
   Rexdale, Ont., M9W 1C8
   (416) 245-7501
- (13) S.A. Boruschak
   P.O. Box 382
   Oakville, Ont., L6J 1P4
   (416) 842-2451/ 845-5049
- (14) Canadian Astronautics Ltd. 1050 Morrison Dr. Ottawa, Ont., K2H 8K7 (613) 820-8280
- (15) Enviro-Acoustics
   2900 Bathurst St., #1101
   Toronto, Ont. M6B 3A9
   (416) 789-5828
- (16) General Acoustics of Sudbury Ltd. 405-65 Larch St. Sudbury, Ont., P3E 1B5 (705) 675-7901
- (17) Group One Acoustics Inc. 4 Budgell Terrace Toronto, Ont., M6S 1B4 (416) 762-5452

The firm operates in both official languages, and specializes in architectural acoustics and noise control in buildings, particularly multiple residences.

Comprehensive testing and design services, \$200K instrumentation for surveys, intensity, coherence, correlation, modal analysis, active noise control.

Engineering and analysis services to resolve potential or existing acoustical/vibration problems in industrial noise control, environmental noise, building acoustics.

Testing to Canadian, U.S., and international standards. Research in telecommunications electroacoustics and electromagnetics.

Broad engineering experience in instrumentation, engineering analysis, structural and mechanical design. Challenges lead to cost effective designs.

Architectural designs for residences in noisy areas. The firm serves clients primarily but not exclusively in the Golden Horseshoe area of Ontario.

Successful projects in ocean science, arctic acoustics, military systems, signal processing and equipment development. Modern labs and equipment.

Involved in impact of road and rail noise on land development. Environmental noise and vibration monitoring and consulting in general acoustics.

Specializes in acoustic design of recording studios, film, video, and entertainment facilities. Sound system and acoustic design churches, theatres, etc.

(18) Hatch Assoc. Ltd.
 21 St. Clair Ave. East
 Toronto, Ont., M4T 1L9
 (416) 962-6350

Acoustical staff backed up by full service engineering consulting company serving wide range of clients. Industrial backup leads to cost effective solutions.

(19) Hooker Noise Control Inc.270 Enford Rd.Richmond Hill, Ont., L4C 3E8(416) 884-6070

Consulting, designing, and manufacturing facility

(20) Industrial Audiometry Services Ltd.
92 Rutherford Rd. North
Brampton, Ont., L6V 2J2
(416) 453-0097
1 Alayne Cresc.
London, Ont., N6E 2A2
(519) 681-3830

Three mobile facilities serving Ontario clients featuring manual audiometry. Dosimeters and related instrummentation for noise surveys.

- (21) Northern Acoustics Ltd.32 Windsor Cresc.Sudbury, Ont., P3E 1Z5(705) 675-7901
- (22) Spaarg Engineering Ltd. 2173 Vercheres Ave. Windsor, Ont., N9B 1N9 (519) 254-8527

(23) T.U.V. Rheinland
 480 University Ave., Suite 1012
 Toronto, Ont., M5G 1V2
 (416) 596-7607

- (24) S.S. Wilson and Assoc.
  (Division of MHG Eng. Inc.)
  1179 Finch Ave. West
  Downsview, Ont.
  (416) 665-8427
- (25) Valcoustics Canada Ltd.30 Drewry Ave., Suite 502North York, Ont. M2M 4C4(416) 223-8191

On site measurements, predictions, analysis, and recommendations for residential and commercial development, industrial noise control, research.

Canadian office of German consulting and testing organization. Advanced prediction of industrial and traffic noise, ground-borne vibration.

## WESTERN REGION

(26) Arcos Acoustical Consulting Ltd. 2540 Toronto Cresc. Calgary, Alberta (403) 284-9590 Expertise in noise and vibration control for a wide range of architectural and environmental projects. Background in building technology.

(27) Bolstad Engineering Assoc. Ltd.
9249 - 48 Street
Edmonton, Alberta, T6B 2R9
(403) 465-5317

20 years experience in HVAC design, building acoustics and noise control. Wie experience including testing facility development.

(28) Comtec Associates Ltd.
75 Woodbine Rd.
Sherwood Park, Alberta, T8A 4A5
(403) 464-3676

Design, specification, and management of electronic communications and sound systems for broadcast, theatre, and recording industry.

(29) D. Olynyk, Acoustical Engineer
 8403 - 87 Street, #201
 Edmonton, Alberta, T6C 3G8
 (403) 465-4125

Experienced consultant in architectural acoustics, noise control, research studies, and product development.

(30) Paige Engineering Co.19 Trafford ParkWinnipeg, Manitoba, R2M 4Z7(204) 257-6485

The company functions in a businesss network, where some tasks are subcontracted to other Canadian acoustical consultants.

(31) Western Research
 1313 - 44 Avenue, NE
 Calgary, Alberta, T2E 6L5
 (403) 291-1313

Major environmental impact studies for petro- chemical industry, transportaiton noise and vibration studies, building acoustics

#### PACIFIC REGION

(32) Barron and Associates 3284 Heather St. Vancouver, B.C., V7K 1Z8 (604) 872-2508 Established in 1966, specializing in architectural acoustics, theatre consulting, audio/video systems, industrial/community noise control, mechanical vibration.

(33) Brown Strachan Associates 002 - 1290 Homer St. Vancouver, B.C., V6B 2Y5 (604) 689-0514 Professional engineers using specialized software to solve acoustical problems in auditoria, offices, mechanical systems, and environmental noise.

(34) Harford Kennedy Lyzun Ltd. #103 - 3680 East Hastings St. Vancouver, B.C., V5K 2A9 (604) 291-9991 Active in practically all aspects of acoustical consulting Specialized projects such as marine noise control are carried out throughout Canada.

(35) Whicker Associates 1102 Heyward Ave. North Vancouver, B.C., V7L 1H4 (604) 987-2655 Consulting in all aspects of noise and vibration control. Professional firm specializing in architectural, building, and community acoustics noise and vibration control.

Table II. Survey Response Summary

Company Name (by region)	Number of	Age	areas of Specialization	Special Facilities
(-78)	Employees	of Co.	2 3 4 5 6 7 8 9 10 11 12 13 14	1 2 3 4
ATLANTIC _				
Atlantic Acoustical Associates	3	1	* * * * * * *	*
H. W. Jones & Assoc. Ltd.	4	1	* * * * *	*
QUEBEC				
Acouscience Inc.	1	8	* *	*
William Bradley Eng.	2	23	* * * * * * *	* * A
Groupe-Conseil Roche Ltée.	3	10	* * * * * * *	*
Groupe JMLA Inc.	11	29	* * * * * * * a	* *
Ghislain L'Hereux	2	8	* * * * * *	*
MJM Conseillers en Acoustique	2	2	* * * *	*
Silentec Inc.	7	8	* * * * * * b	* * B
SNC INC.	4	75	* * * * * *	* *
ONTARIO				
APREL Inc.	15	4	* * * *	* * C
Barman Coulter Swallow Assoc.	4	6	* * * * * * * * * d	* *
Steven A. Boruschak	1	5	* *	*
Canadian Astronautics	3	12		* D
Enviro-Acoustics	1	12	* *	*
General Acoustics Sudbury Ltd.	2	16	h	
Group One Acoustics Inc.	1	6	* * * *	*
Hatch Assoc.Ltd.	1 1	31	* * * * *	*
Hooker Noise Control Inc.		12	* *   *   *   e   f	*
Industrial Audiometry Services Ltd	4		* *	_ *
Northern Acoustics Ltd.	1 2	12	. *	g * *
	1	16	* * * *	*
Spaarg Eng. Ltd. T.U.V. Rheinland	2	5	· * * * * * * *	* *
S.S. Wilson & Assoc.	1	2-		* *
Valcoustics Canada Ltd.	3 10	11 18#	* * * * * * * * * * * * * * * * * * *	*
valeousties Canada Ltd.	10	10#		
WESTERN			* * * *	*
ARCOS Acoustical Consulting Ltd Bolstad Eng. Assoc. Ltd.	1	3	* * * * * *	* *
Comtec Assoc. Ltd.	1	24	* * *	*
	2	17	* * * * *	*
Donald Olynyk Acoustical Eng.	1	13		*
Paige Eng. Co. Western Research	1	5	* * * * * * * * * * * * * * * * * * *	* *
Western Research	2	20		1, 1,
PACIFIC				
Barron & Assoc.	6	20	* * * * * * * * * *	* *
Brown Strachan Assoc.	2	20	* * * * * * * * * * * * * * * * * * * *	* *
Harford Kennedy Lyzun Ltd.	3	15	* * * * * * *	*
Whicker Assoc.	1	2	* * * * * *	*

## Table II. Survey Response Summary (cont).

- (a) soil mechanics
- (b) applied research
- (c) communications transmission performance electromagnetic capability product reliability
- (d) finite element structural analysis seismic qualification, analysis and testing
- (e) transit system noise
- (f) noise control in offices and data centres
- (g) audiometric calibration
- (h) diagnostic medical hearing testing
- (i) mechanical engineering
- (j) audio-visual systems

- (A) anechoic, reverberation chambers
- (B) acoustic wave guide
- (C) 7500 ft3 anechoic chamber IEC listening room shielded rooms
- (D) ice covered water
  - + 100 years in Germany
  - # 30 years unincorporated

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