

Greater Toronto Airports
Authority

**Lester B Pearson
International Airport
Toronto**

Request for Proposals -
Managed Wireless
Services

January 12, 2001

31861\02\MWS_CO200

**Re-tendered –
November 20, 2001**



ARUP

Greater Toronto Airports Authority

Lester B Pearson International Airport Toronto

Request for Proposals - Managed Wireless Services

January 12, 2001

Re-Tender: November 20, 2001

Ove Arup & Partners Consulting Engineers PC

155 Avenue of the Americas, New York NY 10013

Tel +1 212 229 2669 Fax +1 212 229 1057

www.arup.com

Job number 31861/02

Job title	Lester B Pearson International Airport Toronto			Job number	31861/02
Document title	Request for Proposals - Managed Wireless Services			File reference	
Document ref	31861/02/MWS_CO200				
Revision	Date	Filename	MWS_CO200		
Draft 1	01/04/01	Description	First draft		
			Prepared by	Checked by	Approved by
		Name	Nicos Peonides	Tara Durnin	Al Lyons
		Signature			
Draft 2	1/11/01	Filename	MWS_CO200 Draft 2		
		Description	Second Draft		
			Prepared by	Checked by	Approved by
		Name	Nicos Peonides	Tara Durnin	Al Lyons
		Signature			
Issue	1/12/01	Filename	MWS_CO200		
		Description	Issue		
			Prepared by	Checked by	Approved by
		Name	Nicos Peonides	Tara Durnin	Al Lyons
		Signature			
Re-tender	11/20/01	Filename	Re-tender MWS_CO2001_2_2001		
		Description	Issue		
			Prepared by	Checked by	Approved by
		Name	Nicos Peonides	Gareth Ashley	Al Lyons
		Signature			

Issue Document Verification with Document


 F8.5
 QA Rev 1/00 1 October 2000

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1. EXECUTIVE SUMMARY

1.1 General

Listed in this section is a summary of the systems and activities required in the RFP. Details are provided in the body of the RFP.

1.2 General Scope

The GTAA is seeking qualified companies to submit proposals to act as a Wireless Service Manager (WSM) and to develop a comprehensive Wireless Access System (WAS) to better serve the telecommunications needs of the passengers, visitors, tenants, employees, and patrons of Lester B Pearson International Airport (LBPIA).

The Wireless Services Manager (WSM) will design, install, operate and manage a wireless access system or systems (WAS) to meet the existing and future needs of all airport users including: the GTAA, airlines, airport tenants, commercial service providers, and travelers.

Over the term of an anticipated Agreement, the system will be the exclusive intermediary between participating commercial and non-commercial telecommunications service providers (~~voice, data, and video~~**voice and data**) and their users while they are within the domain of the airport. The system will also be offered to serve the private wireless requirements of airline, public safety and operational groups and must be designed and managed so that interference with these systems is mitigated to the maximum extent possible.

The system must be capable of supporting user access to all available licensed and unlicensed wireless services, operating in the CRTC/ Industry Canada allocated frequency bands between 400 MHz and 40 GHz, in a neutral host, non-discriminatory manner.

Development proposals must be "turn-key" and inclusive of design, supply, installation, operation, marketing and maintenance of the system. System design requirements must be based on the collected technical and coverage requirements of the GTAA, the Commercial Telecommunications Service Providers, and the users of Private Wireless Services who can reasonably be anticipated to use the system. The system should also be capable of supporting the needs of mission-critical and non-mission critical wireless communications needs of the GTAA and the airline tenants of the facilities. The system must be compliant with all applicable rules, regulations and license requirements of the CRTC/ Industry Canada, Nav Canada and the GTAA.

Proposals are requested from qualifying companies that, at a minimum, have developed, operated, marketed and maintained at least one multi-carrier, neutral host, wireless voice **and** data ~~and video~~ WAS in a publicly held airport or similar enclosed facility in Canada or the United States of America. We will consider proposals from individual companies, joint ventures, and other consortiums that together meet these requirements.

This re-tendered RFP requests separate and independent priced proposals for:

- 1. Cellular/ PCS/ iDEN services**
- 2. 2-way/ Trunked radio systems**
- 3. Wireless LAN services based on IEEE 802.11.b. standards**

for Terminals 2 and 3 (both separately and together) at LBPIA. The RFP also requests additional budgetary estimates for IHT (In-field Holdroom Terminal Building), the new Parking Garage building and T1 New.

The proponents are required to provide pricing to reflect savings to the GTAA should the GTAA decide to implement 2 or all 3 of the systems/ services simultaneously.

As part of this RFP scope a proposal for a wireless Local Area Network (WLAN) based on IEEE.802.11.b is solicited which will satisfy the requirements of the GTAA and airport tenants and users. The WLAN in T3 will be implemented first to support wireless Common Use Self Service Kiosks (CUSS). The data collected from the CUSS Kiosks shall be bridged to the LBPIA Campus Area Network (CAN)

1.3 Base Contract

The base contract called for by this RFP shall be between the MWS Contractor/ Developer and the Greater Toronto Airports Authority (GTAA), for the provision of Managed wireless services (MWS) to provide coverage of ~~the entire Lester B Pearson International Airport (LPBIA)~~ Terminals 2 and 3. Additional budgetary estimates are required for IHT (In-field Holdroom Terminal Building), the new Parking Garage building and T1 New.

1.4 Systems

1.4.1 General

Cellular/ PCS/ iDEN/ Paging

The core systems to be supported by the WAS (required as a base bid by this RFP) are: Cellular/ PCS/ iDEN/ Paging. The base bid proposal should include prices for supporting the Cell/PCS/ iDEN/ Paging services for T2 and T3 separately and together.

Additional budget estimates are required for adding Infield Holdroom Terminal (IHT), T1New and the parking garage at a later time.

The proposals should include revenue figures and profit/ loss figures for managing the service for T2 and T3 individually and as a package, as well as a discussion of how these projections would change by adding IHT, T1New and the parking garage.

The profit/ loss categories for these services are:

- Revenue: generated from service providers
- Costs: payments to GTAA, O&M, financing, administration

WLAN & Trunked Radio

These systems / services are required for operational purposes and have limited or no revenue potential. Incremental costs for adding these systems to the WAS network are required as add/ alternates.

Current systems that must be accommodated on the WAS are **listed below. For more detailed information see Section 7.2.:**

1.4.2 Cell (Analog) Network, PCS, GSM, iDEN and Pager Network and GPS distribution (Base Bid)

Purpose: To provide a WAS to enable service providers to provide access to their cell/PCS, paging, GSM, GPRS (as well as other emerging technologies) and GPS networks by airport users.

Users: Commercial service providers whose services will in turn be used by their customers.

GTAA Revenue Objectives: –

- **Commercial Service Providers: Revenue generation**

1.4.11.4.3 UHF, VHF conventional 2 way radio, 800 and 900 MHz Trunked Radio – Alternate 1

Purpose: To provide a WAS to support 2 way radio to GTAA personnel and other terminal and airport users.

Users: GTAA personnel, contracted personnel (AGC, ground transportation, cleaners, security), airlines, other non-airline tenants, government agencies. There is the potential to include the system used by safety services at a future date.

GTAA Revenue Objectives: None.

1.4.31.4.4 Wireless Local Area Network (WLAN) – IEEE 802.11.b (and other wireless technologies operating in the un-licensed/ ISM band – such as Bluetooth)

Purpose: To provide wireless Local Area Network services to GTAA, airlines and other airport tenants. This mobility will support productivity and service opportunities not possible with wired networks. WLANs will also **potentially** be used **in the future** by commercial service providers offering products such as wireless Internet access to passengers and other airport users.

GTAA Revenue Objectives: –

- Airport Operations: ~~Cost recovery either directly or indirectly~~ **None**
- Commercial Service Providers: Revenue generation **(future)**

1.4.4 Commercial Cable TV

~~**Purpose:** To provide a WAS to enable commercial cable TV service providers to provide access to airport users.~~

~~**Users:** Commercial cable TV service providers whose services will in turn be used by their customers.~~

~~**GTAA Revenue Objectives: –**~~

- ~~• Commercial Service Providers: Revenue generation~~

1.5 Access Principles and Mandatory use of WAS

All wireless activities in areas that are not exclusively leased must be via the GTAA infrastructure. No private installations are permitted in common areas. Therefore the WAS must accommodate all users and grant access to all users in a fair, reasonable and non-discriminatory manner.

1.6 Revenue Generating Premise

While the GTAA expects to receive fair compensation for the market provided by the airport, the design of the WAS must be driven by its ability to meet the technical requirements rather than its ability to generate revenues.

1.7 Revenue Sources

Fees for accessing the WAS are the principle source of revenue. There will be revenue generating and non revenue generating users for each system that will be defined by the GTAA. For example trunked/ 2-way radio access for the airlines and concessionaires ~~could~~ will be non revenue generating, as the GTAA has other means of recovering its costs and wishes to promote common system use. Similarly contract cleaners and security services could also be considered as non revenue generating. Where the WAS will be used by commercial service providers, the GTAA expects to be compensated for the market opportunity provided by the presence of the airport. E.g. Cell/PCS service providers.

1.8 Rate Setting

The pricing scheme for access fees and other services related to access to the WAS may be market or cost based, depending on the user(s). All rates are to be approved by the GTAA in consultation with the WSM.

1.9 Term of Agreement

The agreement will be for 10Years with an option to renew for 5 years at the sole discretion of the GTAA.

1.10 Capital Investment

Capital investment will be made by the WSM with buy out options at various times, such as on completion and commissioning of installation at the end of Phase 3 or at anniversary dates. Bidders need to define the formula for determining the buy out cost and increasing revenue payments to GTAA in the event the capital purchase option is exercised.

1.11 Existing Infrastructure

Copper/ fiber for the WAS will be allocated from the common cabling system where this is available. Needs for other types of cabling are to be identified in the response to the RFP

1.12 Existing Revenue Agreements

All existing revenue agreements are expected to expire before the commissioning of Phase 1, therefore, assignments of these agreements to the WSM are not required.

1.13 Revenue Development and Marketing

WSM is expected to develop a plan to maximize use of the WAS and also to maximize revenue from revenue generating users.

1.14 Objectives

This document provides the requirements for the bid and procurement for Managed Wireless Services (MWS) for Lester B Pearson International Airport. The MWS should be a campus wide Wireless Access System (WAS) that provides efficient, cost effective and reliable service to all airport users, as necessary by the respective services.

This Request for Proposals has been issued in order to allow the GTAA to evaluate its options in connection with the design; installation, operation, management and marketing of a wireless telecommunications access systems at the LBPIA. It is the intention of the GTAA to evaluate all proposals with a view toward entering into negotiations with the party who submits the best overall proposal, using proven, state of the art technology to provide wireless ~~voice, data and video~~**voice and data** telecommunications services to the GTAA's customers and the public improving the level of wireless service and with particular emphasis on maximizing revenues to the GTAA.

The WAS should achieve the following objectives of the GTAA :

- Establish reliable, seamless wireless telecommunications coverage through the creation of a distributed antenna system(s) with state of the art network access infrastructure at LBPIA;
- Provide comprehensive wireless telecommunications access systems for use by the public;
- Provide comprehensive wireless telecommunications infrastructure for use by airlines and other facility tenants;
- Provide a management structure that ensures the interoperability of all wireless communications systems while mitigating interference to the maximum extent possible;
- Capitalize on the revenue opportunities that have resulted from emerging technologies and applications in the wireless telecommunications markets;
- Leverage the value of the GTAA's facilities, infrastructure and geographic presence, and maximize potential revenue to the GTAA , in a fashion that anticipates the upside growth of the wireless telecommunications sector;
- Enable equal access to both revenue generating and non-revenue generating users, such as all wireless service providers, concessionaires, airlines, contractors and other airport users within the constraints of space available for communications equipment within the facilities;
- Accommodate the existing technological and capacity requirements for wireless telecommunication services, with the capability to add capacity and support emerging technologies as the need arises, all on a single integrated system, and;
- Provide an efficient administrative interface for the GTAA .

2. **BID-RE-TENDER PROCESS**

Hard copies of the Proposals are due no later than 5pm Eastern Standard Time (EST) on **December 12**, 2001. Bids delivered later than this date and time will be considered non-compliant.

2.1 **Questions Regarding Request For Proposals (RFP) Documents**

For further information regarding the contents of the RFP document, and to submit questions, the sole point of contact shall be:

Ove Arup & Partners
155 Ave. Of the Americas
New York, NY 10013
USA

Contact: Mr. Nicos Peonides, Associate,
Tel: (212) 896 3113
Fax: (212) 229 3991
E-mail: nicos.peonides@arup.com

All correspondence, including E-mail shall be copied to:

Greater Toronto Airports Authority
Lester B Pearson International Airport
P.O. Box 6031
3111 Convair Drive
Toronto AMF, Ontario
Canada L5P 1B2

Contact: Mr. Thomas Tisch, General Manager
Electronic Systems and Technology
Tel: (905) 676 3046
Fax: (905) 676 5694
E-mail: thomas_tisch@msn.com

**Greater Toronto Airports Authority
Lester B Pearson International
Airport
P.O. Box 6031
3111 Convair Drive
Toronto AMF, Ontario
Canada L5P 1B2**

**Contact: Mr. Michael Yee, Manager Wireless
Systems
Tel: (905) 676 7723
Fax: (905) 676 5694
E-mail: michael.yee@gtaa.com**

All E-mail correspondence shall be copied to:

~~Contact: Mr. Al Lyons, Principal Consultant,
Ove Arup & Partners
E-mail: al.lyons@arup.com~~

Contact: ~~Ms. Tara Durnin~~ **Mr. Gareth Ashley,**
Project Manager for IT-systems.
E-mail: ~~tara.durnin@arup.com~~ **gareth.ashley@arup.com**

2.2 Bidder Questions

Bidder questions must be submitted in writing and faxed or e-mailed to Ove Arup & Partners, attention 'nicos.peonides@arup.com' in accordance with the project schedule as described in section 2.1. All correspondence shall also be copied to: "thomas_tisch@msn.com", to **"~~michael.yee@gtaa.com~~"**, to "al.lyons@arup.com" and to **"~~gareth.ashley@arup.com~~"** **"~~tara.durnin@arup.com~~"**. Questions will not be accepted after the date stated in Section 2.12 of this RFP.

Written responses to all questions received before or by that date will be circulated to all Bidders as soon as possible.

2.3 Bid Documents

Each Bidder shall provide four sealed paper copies of the Bid Response.

Two of the four copies shall be delivered to:

Ove Arup & Partners USA
155 Av. Of the Americas
New York, NY 10013

Attention **Mr. Nicos Peonides**
RE: LBPIA MWS RE-TENDER –
DO NOT OPEN

Two of the four copies shall be delivered to:

Greater Toronto Airports Authority
Lester B Pearson International Airport
P.O. Box 6031
3111 Convair Drive
Toronto AMF, Ontario
Canada L5P 1B2

Attention **Mr. Thomas Tisch**
RE: LBPIA MWS RE-TENDER –
DO NOT OPEN

In addition, one electronic copy of the core response, i.e. excluding documentation such as user manual, product data sheets, etc., shall be provided on a CD-ROM (in IBM compatible format) in Microsoft Word format. Price schedules shall be prepared using Microsoft Excel. Project schedules shall be prepared using Microsoft Project. Electronic copy shall be sent to Ove Arup & Partners

2.4 Contract Requirements

The Contractor shall strictly comply with all contract conditions stated in this RFP.

The Contractor shall be an expert in the field of managed wireless services and wireless access systems and provide a complete and fully functional system/solution that meets the intent of this RFP. The Contractor shall review all performance criteria and functional requirements defined in this RFP, and provide a complete solution to service the airport as per intent of this RFP.

2.5 Directions for Completing the RFP

For the purposes of evaluating the financial, technical and organizational capacity of a Bidder to accomplish the objectives of the GTAA, the Bidder shall comply with the requirements listed below with regards to the proposal. All items must be completed and numbered in the order in which they appear. Additional sheets, referenced by task number, should be attached where more space is required for a full answer. Refer to Section 6, RFP Submission Requirements for the required RFP format.

2.6 Proposal Submission Specification

Each Proposal should provide a straightforward, concise description of the Bidder's abilities to satisfy the requirements of this Request for Proposals. In preparing the Proposal, emphasis should be placed on completeness and clarity of content. The Proposal package should total not more than 50 pages, excluding Appendices, financial statements, technical specifications, resumes and other documents listed about under Section 6, RFP Submission Requirements.

The bidders are only required to submit any information in their re-tendered proposals that was changed/ added in comparison to the original proposals submitted. Where the original proposal text has been modified the changes shall be clearly identified, using bold lettering for added and strike-outs for deleted text.

Any written information disclosed to the GTAA in the proposal process shall be considered an integral part of the Proposal. Proposals will not be returned.

A mandatory Bidders conference and site walk-through will be held at LBPIA. We require all potential Bidders to attend the Bidders conference, as the conference is an important forum for requesting clarification or changes.

Potential Bidders are encouraged to submit any questions or requests for clarification concerning this Request for Proposals in writing sufficiently in advance of the Bidders Conference. This will allow the GTAA time to completely prepare the answers prior to the conference. Should the GTAA accept any proposed changes to any specification, stipulation, requirement, procedure or condition, notification will be made to all potential Bidders in the form of a written addendum.

2.7 Interpretation of RFP Documents

If Bidders have questions regarding this Request for Proposals or Proposal Specifications or any form contained herein, they must submit a written request.

~~A written summary, of questions raised during the Initial Question Period and answers to these questions will be issued as an addendum to the Request for Proposal at the Bidders Conference.~~ The GTAA will respond in writing to ~~additional~~ questions raised at the Bidders Conference and during the ~~Final~~ Question Period. Any additional revisions or clarifications of the Request for Proposal made by The GTAA shall be by addendum issue prior to the proposals actual due date.

2.8 General Proposal Requirements

2.8.1 Proposal Submittal

All proposal documents must be securely bound. All proposal documents shall, notwithstanding the outcome of this RFP, become the property of GTAA and will not be returned, except in the case of late proposals.

2.8.2 Compliance with RFP

One objective of this RFP is to establish a single format to be followed by all proponents submitting their proposal and thereby ensure a uniform and impartial ranking of each proposal. This RFP also provides technical background for the Project and sets forth the ground rules in accordance to which the proposals shall be completed.

Each proponent shall submit his proposal in strict accordance with the requirements of this RFP and shall provide all information required. Additional or supplementary information, data,

descriptions and explanations for clarification of the proposal are desirable and shall be considered in its applicable context.

Any deviations from the requirements or instructions of this RFP shall be clearly indicated and explained by the proponent in a separate section of the proposal. Deviations and modifications are discouraged and GTAA reserves the right to reject any proposal as non-compliant in its sole discretion. Alternative approaches, including structures that may reduce GTAA's cost and/or improve performance are encouraged; however, each proponent that submits an alternative bid or bids must also submit a bid in the format proposed by this RFP.

2.8.3 Addenda to RFP

At any time prior to but not later than five (5) days before the Deadline for Submittal of proposals, GTAA may amend or modify the RFP in any respect through the issuance of one or more addenda (each an "Addendum"). A copy of each Addendum issued by GTAA shall be sent to each proponent prior to the date specified in for delivery of a completed Letter of Intention and thereafter, to those proponents who have submitted a Letter of Intention prior to that date. The addressee shall acknowledge receipt of each Addendum in writing, delivered by hand, courier, e-mail or facsimile to the points of contact as described in section 2.1, within two working days, specifically citing the title and date of issuance of the relevant Addendum. All Addenda issued by GTAA shall become part of this RFP.

2.8.4 Late Proposal

Any proposal received after the Deadline for Submittal of proposals shall be declared a "late" proposal. A "late" proposal may be disqualified by GTAA, in its sole discretion, even if it is "late" as a result of circumstances beyond the proponent's control. "Late" proposals that are disqualified by GTAA will be returned to the proponent.

2.8.5 Validity Period of Proposal

The proposal shall remain valid and irrevocable for one hundred and twenty (120) days from the Deadline for Submittal of proposals. A proposal valid for a shorter period may be rejected by GTAA as non-responsive.

GTAA may request the proponent's consent to an extension of the period of validity of the proposal. Both the request for extension and the response shall be made in writing.

2.8.6 Modification of Proposal

The proponent may modify or correct its proposal even after its submittal to GTAA provided that the modification and/or correction is made in writing and is received prior to the Deadline for Submittal of proposals.

No proposal may be modified after the Deadline for Submittal of proposals.

2.8.7 Withdrawal of Proposal

The proponent may withdraw its proposal after its submittal to GTAA provided that written notice of the withdrawal request is received by GTAA prior to the Deadline for Submittal of proposals.

The proponent's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of Section 2.1.

A proposal may be withdrawn in person by the proponent or by its authorized representative, provided the representative's identity is notified to GTAA in writing by the proponent and such representative signs a receipt for the proposal.

No proposal may be withdrawn during the period commencing on the Deadline for Submittal of proposals and ending on the date of expiration of the proposal validity period specified.

2.8.8 Proposal Opening

All proposals received by GTAA will remain sealed and unopened in GTAA's possession until after the Deadline for Submittal of proposals, except as may be required by applicable laws or by a governmental authority having appropriate jurisdiction.

GTAA will open the proposals in closed sessions attended only by persons officially concerned with the process of proposal examination and evaluation.

No information relating to the clarification, determination of responsiveness, evaluation and comparison of proposals and recommendations concerning the award of the Project shall be disclosed to proponents or any other person not officially concerned with such process.

2.8.9 Cost of Bidding

Costs incurred in the preparation of the Proposal and subsequent presentations or any other activities related to the Proposal shall be borne by the Bidder; no compensation shall be made for such activities. The rejection of any Proposal in whole or in part will not render the GTAA liable for incurred cost or damages. The GTAA reserves the right to reject any and/or all proposals for any reason, at its sole discretion.

2.9 Selection Process

2.9.1 Clarification of Proposals

GTAA may request from any proponent additional information, clarification and verification with respect to any item contained within its proposal. Proponents are required to respond in writing to any such request within one week of the making thereof.

To assist in the assessment, evaluation and comparison of proposals, GTAA may also seek the attendance of proponents at clarification meetings to be held at GTAA's offices.

During the evaluation process, no change in the price or substance of the proposal shall be sought, offered or permitted by any proponent. Proponents shall be responsible for all costs associated with submission of their proposals, any additional information requested by GTAA and with the proponents' preparation for and attendance at clarification meetings.

2.9.2 Compliance with RFP

GTAA may waive, in its sole discretion, any non-compliance of a proposal with the requirements of this ~~RFP which~~ **RFP, which** does not, in GTAA's view, significantly impact the scope, quality or performance of the Project or does not affect unfairly the competitive position of other proposals. Anything to the contrary herein notwithstanding, GTAA may at its sole discretion elect to retain for consideration proposals which are non-conforming, and may waive any irregularity, failure to comply or time stipulation required by this RFP. The stipulations herein are for the sole benefit of GTAA and may be waived by GTAA unilaterally.

2.9.3 Determination of Responsiveness and Completeness of Proposal

Subject to GTAA's rights to waive non-conformance as described in section 2.9.2 and GTAA's other rights described in section 2.10, GTAA intends to evaluate and compare only those proposals determined by GTAA to be at a minimum "substantially responsive" to the requirements of this RFP, for possible acceptance. For the purpose of this clause, a "substantially responsive" proposal means a proposal that conforms to all the terms, conditions and requirements of this RFP without material deviations.

GTAA intends to evaluate and compare only those proposals determined by GTAA to be at a minimum "complete" in response to the requirements of the RFP, for possible acceptance, again, subject to GTAA's rights recited in the preceding paragraph. For the purpose of this clause, a "complete" proposal means a proposal that contains all the information as set forth in the requirements of this RFP without material omissions.

2.9.4 Selection Criteria

Proposals will be evaluated based on business and technical merit, conformance to the proposal requirements, and the qualifications of the proposing organization. Proposing organizations should present technical and financial qualifications that, by reference, demonstrate their experience and proven ability to provide telecommunications access systems with the required characteristics and of a scope similar to what would be suitable for the LBPIA .

The successful proposing organization must demonstrate, at a minimum, the successful development and operation of at least one similar multi-carrier/multi-class system in a publicly held airport or similar enclosed facility within Canada or the United States of America. The successful proposing organization must have demonstrated success in negotiating and executing usage and/or revenue based Access Agreements with domestic providers of Commercial Wireless Services in both licensed and unlicensed frequency bands. The successful proposing organization must exhibit a thorough understanding, methodology as well as operational success in managing a similar system serving all classes of service (Commercial, Public, Licensed, Unlicensed) including commercial ~~voice, data and video~~ **voice and data** as well as airport and airline communication needs.

2.10 Notification and Award

2.10.1 Right to Accept or Reject any proposal and Cancel RFP

GTAA reserves the absolute right to, in its sole discretion, accept or reject any proposal or to amend, annul or cancel this RFP and reject all proposals at any time without any liability to the proponents or any other party and without obligation to inform the proponents of the grounds for its action. Further, GTAA reserves the right to accept any Proposal, whether or not it is in compliance with the provisions of this RFP.

2.10.2 Notification of Selected proponent

GTAA will issue a notification to one proponent, informing it that it has been selected for subsequent discussions with a view to entering into an operation and maintenance agreement, failing which discussions or negotiations will be entertained with the next ranked proponent.

Upon selection of the selected proponent, GTAA will promptly notify the remaining proponents.

2.10.3 Negotiation

GTAA reserves the right, at its discretion, to enter into discussions or negotiations with any proponent as GTAA sees fit, or with another proponent or proponents concurrently. In no event will GTAA be required to enter into discussions or negotiations on similar or other terms or offer any modified terms to any or all other proponents prior to entering into an Operation and Maintenance Agreement with the successful proponent. GTAA shall incur no liability to any proponent as a result of such discussions, negotiations or modifications. Such negotiations shall not affect the irrevocability of any proposals, which irrevocably shall remain in full force and effect, until such time as the proposal validity period has expired.

2.10.4 No Liability

Each party submitting a proposal acknowledges and agrees, by submitting a proposal, that the GTAA will have no liability obligation to any proponent and each proponent agrees that GTAA shall be fully and forever released and discharged of any and all liability and obligation in connection with this RFP and all proposal procedures, which have preceded. The only liability or obligation that GTAA will have to any proponent shall be pursuant to the definitive Operation and Maintenance Agreement, if any, executed by GTAA and the successful proponent.

2.10.5 Execution of Agreements

Upon selection of the successful proponent, the successful proponent agrees to immediately work with GTAA in good faith towards timely finalization and completion of a Definitive Agreement and any ancillary documents.

The successful proponent shall be responsible for its costs or expenses incurred in negotiating and executing the Definitive Agreement and in the preparation of originals and copies thereof. GTAA will be under no obligation to reimburse the successful proponent for any such costs or expenses.

2.11 Conflict of Interest

Any proponent or subcontractor to a proponent having a contract with or financial interest in any tenant of the GTAA or operator at Lester B. Pearson International Airport is required to declare the terms of the contract or financial interest. At the sole discretion of the GTAA, any such contract or financial interest may disqualify the proponent from entering into contract with the GTAA. Proponents are required to submit a letter to the person named in section 1.1 declaring any conflict of interest or potential conflict of interest before or with their proposal submission. For letters received prior to the Deadline for Submittal of proposals, the GTAA will endeavor to rule on eligibility of the proponent within two working days, and advise the proponent accordingly. The successful proponent may be considered in default of their contract with the GTAA should they or any subcontractor to them assume a financial interest or undertake a contract that would put them in an actual or potential conflict of interest as defined above.

2.11.1 Media Contact

The proponents shall ensure that none of its staff or agents shall grant interviews or provide information to the media with respect to any aspect of the Project. All media contacts are to be referred to Mr. Steve Shaw, Vice President, Corporate Affairs and Communications, GTAA.

2.11.2 Disclaimer

The information presented in this RFP is furnished solely for the purpose of assisting prospective proponents in making their own evaluation of the Project and does not purport to be all-inclusive or to contain all information that prospective proponents may require. Prospective proponents should make their own investigations, projections and conclusions and consult their own advisors to verify independently the information contained in this RFP, and to obtain any additional information that they may require, prior to submitting a proposal. GTAA and its advisors make no representation or warranty as to the completeness of the RFP nor have they any liability for any representations (express or implied) contained in, or omissions from, this RFP.

2.12 Managed wireless services Project Schedule

The Contractor shall develop an Implementation Plan detailing all phases of the installation including the migration and cutover schedule of events from existing services to new services as described in this RFP. The Contractor also shall maintain a Critical Path Method (CPM) schedule for all contractors' work and any interface work with other vendors.

In order to conform to the overall airport development project schedule, the provision of Managed Services, including procurement, installation, configuration and testing of the systems required to provide the services shall conform to the following schedule of events. The schedule is based on planned GTAA activities and anticipated Bidder delivery capabilities.

The GTAA wishes that the airport users start benefiting from the wireless services as soon as possible. The start/ finish dates are targets that the Bidders should work from to develop proposed project schedules for the implementation of the wireless services. Bidders are encouraged to offer accelerated implementation schedules.

Item	Start*	Finish*
Issue Re-tendered RFP to Bidders	November 20, 2001	
Pre-bid Conference \ Airport Walk-through	November 27, 2001	
Question period ends	November 30, 2001	
Response to Questions	December 5, 2001	
Tenders/ Bids Due	December 12, 2001	
Interviews of Short-listed Bidders	January 15, 2002	
Presentation to GTAA	January 18, 2002	
Contract Award	January 25, 2002	
Contractor's Detailed Implementation/ Migration Plan	February 25, 2002	April 8, 2002
Phase 1		
Provision of T3 operations WLAN for wireless CUSS		February 28, 2002
Provision of Wireless Services to the Terminals 2 and 3		September 2002
Phase 1a: Terminal 3		

Item	Start*	Finish*
Phase 1b: Terminal 2		
Phase 2		
Provision of Wireless Services to GTAA locations in the new Infield \ Cargo Areas		
(a) New Infield Holding Terminal (b) New De-Icing Facility (c)(b) New Cargo Facilities	TBD	TBD
Phase 3		
Provision of Wireless Services to new Terminal (TNew)		
(a) Parking Facility (b) TNew Piers D & E GTAA Locations	TBD	TBD
Phase 4		
Provision of Wireless Services to new Terminal (TNew) Central Processor GTAA Locations	TBD	TBD
**		

* These dates are subject to change with GTAAs prior written approval.

** Future phases to be confirmed

3. BACKGROUND

3.1 General

Lester B Pearson International Airport is Canada's busiest airport, handling 27.8 million passengers in 1999. By the year 2020, the number of annual passengers traveling through the airport is expected to reach 50 million.

On December 2, 1996 the GTAA assumed responsibility for the management, operation and maintenance of Pearson Airport. The mandate of the GTAA is to operate LBPIA within a regional system of airports to enhance the economic growth and development of the Greater Toronto Area.

To meet this goal, the GTAA has developed a comprehensive redevelopment program that will allow Pearson Airport to keep pace with the rapidly growing air travel needs of the Region.

3.2 Airport Development Program Overview

3.2.1 Airport Development Program

The Airport Development Program (ADP) is a 10 year plan, that includes four major projects ;

- Terminal Development
- Infield Cargo Development
- Airside Development
- Utilities and Airport Support

3.2.2 Terminal Development Project

The Terminal Development Project encompasses a number of individual projects including;

- The replacement of Terminals 1 and 2 with a new single terminal
- A 12,600 space parking garage
- The realignment and expansion of associated roadways

3.2.3 Infield Project Development

The Infield Development Project will relocate existing eastside cargo operations and aviation support services to the infield of Pearson Airport. Currently, the cargo facilities are occupying lands required for the new terminal. The primary components of this project consist of ;

- A new infield cargo area
- Construction of an infield access tunnel
- New Infield Hold Room
- New Hangars
- New Flight Kitchens

3.2.4 Airside Development Project

In order to ensure that Pearson Airport is able to accommodate its growing air carrier volume, substantial redevelopment of the airside system will take place. Ultimately improvements to this area will include ;

- Increasing the current four runways to six
- Providing a dual taxiway system to improve aircraft traffic ground flow and access to runways

3.2.5 Utilities and Airport Support

The redevelopment and expansion of Pearson Airport will place increased and expanded demands on its utilities. The Utilities and Airport Support Program includes several projects to improve utility, service and ancillary facilities in support of the ADP. Some of these will result in;

- The construction of a Central Utilities Plant
- An upgraded Communications System
- A new Maintenance Complex
- A new Peel Police\Transport Canada complex

3.3 Construction Schedule

Construction on these projects will be undertaken in stages. This will allow the airport to maintain ongoing operations and cause minimum disruptions to passengers.

Stage 1

The first stage of the Airport Development Project has already begun and is scheduled for completion in 2003. This will include the opening of piers D and E of the new terminal building and the completion of various upgrades and reconfigurations to airport road-ways. Following the completion of this first stage, the demolition of Terminal 1 will also commence. Other ADP projects to be completed during this time include a new east\west runway, and infield tunnel and a variety of buildings within the cargo area.

Stage 2

The second stage of the Airport Development will begin in 2003 and is scheduled for completion by 2005. This will include partial demolition of Terminal 2, and the construction of Pier F onto the new terminal building.

Stage 3

Stage 3 of the Airport Development will commence in 2005 and is scheduled for completion between 2006 and 2007. Long term development, including the fourth stage of the new terminal building, has also been planned and will be phased in as demand dictates. (Please see Appendix B – Airport Development Project Aerial View).

3.4 Airport Statistics

The Table below provides some quantitative information on some **of** the proposed new facilities.

(Table CO100-1)

Item	Existing	Ultimate	Comments
Total number of gates - T1, T2, T3 (new)	86	122	Ultimate numbers reflect facilities available in 2015
Total number of gate lounges docking positions	82	127	Ultimate numbers reflect facilities available in 2015
Total number of mobile lounges docking doors	6	0	
Total number of check-in desks (standard)	331	388	Ultimate numbers reflect facilities available in 2015
Total number of check-in desks (re-check)	8	8	
Total number of check-in desks (odd-sized)	8	10	
Total number of airlines	50	50	
Total number of Handling agents	10	TBD	
Total number of passengers/year	29 million	50 million	Approximately.

4. SCOPE OF WORK

4.1 General

The GTAA is seeking qualified companies to submit proposals to develop a comprehensive Wireless Access System to better serve the telecommunications needs of the passengers, visitors, tenants, employees, and patrons of LBPIA.

Over the term of an anticipated Agreement, the system will be the exclusive intermediary between participating ~~commercial~~ telecommunications **wireless** service providers and their users while they are within the domain of the airport. The system will also be offered to serve the private wireless requirements of airline, public safety and operational groups and must be designed and managed so that interference with these systems is mitigated to the maximum extent possible. The system must be capable of supporting user access to all available licensed and unlicensed wireless services, operating in the CRTC/ Industry Canada allocated frequency bands between 400 MHz and 40 GHz, in a neutral, non-discriminatory manner.

Development proposals must be "turn-key " and inclusive of design, supply, installation, operation, marketing and maintenance of the system. System design requirements must be based on the collected technical and coverage requirements of the GTAA, the ~~Commercial~~ Telecommunications **Wireless** Service Providers, and the users of Private Wireless Services who can reasonably be anticipated to utilize the system. The system should also be capable of supporting the needs of mission-critical and non-mission critical wireless communications needs of the GTAA and the airline tenants of the facilities. The system will be compliant with all applicable rules, regulations and license requirements of CRTC/ Industry Canada, the Nav Canada and the GTAA and should provide:

- The turnkey design, supply, installation, maintenance, marketing and management (collectively, the development) of a single integrated telecommunications ~~-wireless~~ access system for LBPIA. The system will provide wireless ~~voice, data and video~~**voice and data** telecommunications access to airport passengers, tenants, employees, patrons, and visitors while on airport property or within airport facilities, as they occupy or roam through defined authorized access areas. The integrated telecommunications system will consist of multiple systems as required to support the wide range of services, with differing levels of resilience to support mission-critical and non-mission-critical functions;
- A combination of in-kind services and usage/percentage of revenue based economic participation as compensation for use of the public rights-of-way and a method of providing that compensation to the GTAA through a single administrative interface with the developer;
- A methodology or technology that can accurately measure and independently monitor commercial and non-commercial wireless traffic throughout the system;
- A system wherein potential interference within unlicensed frequency bands is effectively managed so that all wireless users, including airlines, tenants, competing providers of commercial services etc. can co-exist within the facilities while providing for adequate bandwidth, capacity, security and reliability for the private wireless needs of airport and airline operations;
- A legal or contractual mechanism by which the diverse and evolving needs of multiple telecommunications service providers as well as those of non-commercial and/ or not-revenue generating users can be addressed in a neutral, non-discriminatory manner. Accommodate existing identified telecommunications infrastructure and access agreements

between the GTAA and Service Providers so as not to duplicate or supersede the intent or effect of those agreements until or unless their term expires or they are otherwise terminated.

- **It is required that for 95% of the areas highlighted in the drawings forwarded to the proponents with this RFP a minimum signal strength of -85 dBm for each of the supported systems is achieved.**

The coverage areas included in this phase of the project are:

- (a) Terminal 2-Arrival, Departure, Baggage Claim, and Mod Q area at Arrivals Level.**
- (b) Terminal 3-Arrival, Departure, and Baggage Claim areas.**
- (c) Terminal 3 Satellite Building Basement and Tunnel.**
- (d) Terminal 3 Transfer Level.**
- (e) Terminal 3 Loading Dock/Chiller Room in Basement.**
- (f) Terminals 2 and 3-Baggage Handling areas.**

To the maximum extent possible the implementation and operation of the WAS should be undertaken so as to minimize disruption to the LBPIA's facilities and operations.

The following general principles shall apply:

- All wireless activities will use the GTAA infrastructure. No private installations are permitted.
- ~~2-Copper/fiber for the WSM will be allocated from the common cabling system where this is available.~~
- While the WSM may offer user wireless access equipment, users can make their own arrangements but all user wireless access equipment must be approved by the WSM
- There will be revenue generating and non revenue generating users for each system that will be defined by the GTAA.
- Rates for revenue generating users to be approved by the GTAA

4.2 Items Included

The Work includes, but is not limited to:

- The design, supply, installation, configuration, commissioning, management and operation of a wireless access system (WAS) and services which satisfies the requirements of the GTAA with sufficient capacity to cater for the needs of other airport tenants and users.
- **The installation and management of the structured cabling system (including fiber optic, CAT5, 5E, 6 etc. cabling) as well as all required co-axial or other specialized cabling (wireline) associated with the WAS.**
- **As alternate 1, the support of 2-way/ trunked radio systems/ services**
- **As alternate 2, the Wireless Local Area Network (s) (WLAN) based on IEEE.802.11.b, which will satisfy the requirements of the GTAA and airport tenants and users. The WLAN in T3 will be implemented first to support wireless Common Use Self Service Kiosks (CUSS). The data collected from the CUSS Kiosks shall be bridged to the LBPIA Campus Area Network (CAN)**

- The WAS will support both revenue generating and non-revenue generating users and a multitude of applications.

The system provided shall include, but not be limited to:

WAS equipment and interfaces

- Hub equipment
- Base station transmitters & receivers
- Mobile handsets for use with the system
- Antenna Systems
- Routers
- Standby power equipment
- Operator consoles
- System management

The provision of managed services including:

- Marketing/ promoting the service
- Invoicing users and collecting fees
- Reporting to the GTAA
- Sharing Revenue with the GTAA
- Maintenance and management of the wireless services
- System re-configuration as required
- System upgrade
- Coordination and interface with telecom service providers for connection to public and private networks, and installation of new trunks.
- Moves, Adds and changes
- Provision of services to tenants and other third parties operating at the airport

The installation of all hardware and software, the test jack frame, connection strips and cabling between the test jack frame and the antenna systems.

The provision of user and staff training, as specified.

The provision of all documentation, as specified.

4.3 Associated Work by Others

The associated work, which will be carried out by others, will include but not be limited to:

~~2 The installation and management of the structured cabling system (including fiber optic cabling) — wireline.~~

- The installation of lighting, power supply, environmental control, fire-detection, fire alarm, fire suppression and security systems.

- The implementation of a common airport trunked radio system.

4.4 Standards

The system and services shall comply with the following ;

- CRTC/ Industry Canada regulations
- All appropriate IEEE standards
- All appropriate NEC codes and requirements
- All appropriate EIA/TIA standards
- Ontario Building Code / Canadian Electrical Code
- National Fire Code
- All applicable regulatory requirements

All equipment installed shall be new and free of defects.

4.5 Day One - Infrastructure Interfaces

The Contractor shall coordinate with GTAA to establish connection requirements between the equipment provided by the Contractor as part of the MWS Contract and existing equipment infrastructure, as well as any other infrastructure requirements.

The Contractor shall provide the GTAA with a list of fiber optic cables, cable patches and patch cords required in all closets and Main Communication Rooms (MCRs). The Contractor will be responsible for providing and recording all patching necessary to implement the new system.

4.6 Day Two – Moves, Adds and Changes Cabling Interfaces

The GTAA will be contracting separately for a Cable Plant Management Service, upon successful implementation of this, the Contractor shall be responsible for notifying and coordinating requirements with the cabling maintenance provider in order to ensure that service level agreements are met. To the GTAA, the Contractor shall be the single point of contact with respect to wireless related issues.

4.7 Equipment & Configuration

4.7.1 Equipment Location

Remote nodes may need to be positioned at other locations in the terminals and throughout the airport. Bidders are requested to propose alternative system configurations. For each alternative configuration provide:

- Diagram(s) describing architecture
- Narrative describing alternative
- Description of advantages and disadvantages
- Pricing

The Contractor will co-ordinate with the GTAA space requirements

Power generator backup and temperature control will be provided by the GTAA.

4.7.2 Space requirements

All space used by the Contractor on site, for equipment and/or storage and/or office shall be rented from the GTAA, at an agreed rent rate per sqft.

Should the Contractor require additional space on site to support service provision to 3rd parties\ tenants located at the Airport or remotely, this space shall be rented from the GTAA at an agreed rental rate.

The bidder shall describe in the bid the requirements for on-site space, including equipment space, storage space and office space.

4.7.3 Equipment to be provided

The Contractor shall be responsible to provide and install all equipment required in order to provide the requested wireless services, including racks, WAS equipment, routers, antenna equipment and systems, switches, termination equipment, test jack frame (TJF), etc.

4.7.3.1 WAS equipment

The bidder shall provide a detailed description of the different antennas, routers, hub equipment, base stations, cards etc. and associate components proposed to be installed/used to provide the requested services, including manufacturer name, component part number, description, software version where applicable, number of ports, etc.

4.7.4 Antenna Systems

The Contractor shall be offering a variety of antennas/ antenna systems to provide wireless services to the LBPIA users.

4.7.5 Capacity

The service proposed shall support growth and have no ultimate limitation on the number of users. If the initial WAS equipment has to be replaced to support new demands, it shall be the Contractor's responsibility to operate such a migration, at no cost for the GTAA. Growth shall be transparent to the user. **Under no circumstances shall one user/ service affect the capacity available to other users/ services.**

4.8 Scope of Services

4.8.1 Overview

The Contractor shall be fully responsible for the management and operation of its services. **Provide a break-up of associated costs.**

The services provided by the Contractor shall include the following.

Planning and consulting services, including:

- Options for Equipment replacement and upgrades, with associated budget cost
- Options for implementing new features/ accommodating new emerging technologies
- Installed Equipment Management
- Coordinate uniform standards across all sites

- Consult on site moves and changes
- Disaster recovery consulting and support
- Assist provisioning Temporary emergency facilities (as applicable)

Project management Services, including:

- Resource planning
- Project scheduling
- Equipment ordering
- Delivery tracking
- Technical Support Services Allocation

Wireless Services Installation Provisioning , including

- Review and evaluate business requirements, discuss options and propose suitable configuration of the system to best support the organizational needs.
- Carry out site radio frequency (RF) surveys prior to initial installation
- Develop site specific configuration(s), to be approved by the GTAA
- Coordinate with architects and GTAA \ GTAA's Representative for specification of antennas, as applicable
- Coordinate with trunked radio services manager/ contractor, as required
- Coordinate with telecom service providers
- **Install WAS cabling and infrastructure as necessary.**
- Install and configure equipment
- Provide training
- Provide customer support
- Provide quality control and coordinate customer satisfaction survey
- Provide maintenance and preventive maintenance of equipment
- Provide equipment inventory tracking and status tracking
- Provide monitoring and tracking of faults, and repair and escalate as required
- Provide helpdesk support and Service Management, as described in this RFP

4.8.2 Implementation

The selected WSM shall be responsible for implementation of the approved system at LBPIA. The installation may occur in phases to accommodate ongoing construction activities at the LBPIA pursuant to WSM's approved Timeline and Project Schedule. As further described below, responses to this RFP should provide a preliminary schedule for the design and installation of the WAS at the LBPIA, including identification of those Facilities and/or properties which will come on line first. Bidders should state any critical assumptions regarding implementation of the WAS (i.e., timely access, time frame for review/approvals, type of materials and equipment to be used, etc.).

4.8.3 Operation

The selected WSM will be solely responsible for operating, maintaining, marketing and upgrading the WAS to provide and continuously enable access to existing and new wireless technologies as they emerge and become commercially viable.. As further discussed below, Bidders are expected to make an allowance for maintenance as well as ongoing capital improvements in their Business Plan. The WSM through the WAS will be expected to provide first class, reliable service at all times. The WSM will be expected to work closely with wireless service providers, other Authorized Sub-Licensees, as well as non-commercial and/ or non revenue generating users to determine and accommodate their on-going system and service needs.

4.8.4 Management

The WSM will be solely responsible for the management of all activities and operations pertaining to the WAS, including implementation, operation, maintenance, marketing and administration. Bidders are expected to demonstrate that their plan will provide the requisite management expertise, sound business practices and competent, trained staff to support all classes of service inhabiting the system. The selected WSM will be expected to develop Operating, Maintenance and Procedures Manual(s) prior to the start of operations, and to address relevant quality assurance, safety, security, system testing, and maintenance issues at initiation of the Project as well as periodically during the Term of the Agreement.

4.8.5 Marketing

Bidders are expected to describe their marketing plan in their proposals, and the selected WSM will be expected to update the marketing plan periodically during the term of the Agreement(s).

4.8.6 Agreements with Wireless Service Providers and other System Users

GTAA anticipates that Sub-License Agreements will be executed by the WSM with wireless service providers who wish to obtain access and use of the WAS. Bidders are expected to provide a financial proposal that will explain the proposed fee structure, including the amount Bidder intends to charge for each service at the LBPIA, the amount of such fee Bidder intends to retain for itself and the amount Bidder intends to pay GTAA under a revenue sharing scheme, taking into consideration both revenue and non-revenue generating services related issues. The GTAA's preferred revenue sharing approach calls for agreements with Sub-Licensees to include provisions for data capture which will enable a "neutral-host" WSM to adequately and reliably report the fees to which the GTAA is entitled, based on an appropriate method of capturing the data-such as call volume, minutes of use, percentage of Revenues, etc. necessary to support the Bidders financial proposal. Bidders are expected to provide in their proposal a discussion of the form of agreement they believe to be appropriate to govern the relationship between WSM and Sub-Licensee(s), and to provide the terms that will govern the Sub-Licensees obligation to report the requisite usage information.

Please note that any agreement(s) between WSM and any Sub-Licensee(s) will be subject to the GTAA's prior review and approval.

4.8.7 Administration & Reporting

GTAA will require the WSM to provide detailed monthly and/or quarterly and annual reports which shall include, without limitation, identification of the Facility, Sub-Licensee (if applicable), details relevant to services offered and appropriate service fees (for both revenue generating and non-revenue generating users), and relevant calculations identifying fees to GTAA . Bidders must provide sample reports, to describe how they will provide adequate

administrative support for delivery of such reports, and describe the nature of any auditing Bidder intends to undertake.

4.8.8 Revenue Development

As noted above, the GTAA has a strong interest in maximizing revenues at its Facilities. Bidders must provide a financial proposal that will demonstrate the Bidder's ability to maximize revenue under a revenue sharing based model/arrangement at the LBPIA pursuant to this RFP. Bidders are expected to explain how the proposal achieves this objective.

Given that telecommunications is a rapidly evolving field, it may not be possible at this time to specify all services or revenue opportunities that might be provided through a fully developed WAS. Therefore, Bidders should identify both existing and potential future opportunities in their Proposals, and provide a description of the opportunity, the technology required to realize the opportunity, and the time frame for the technology to be sufficiently in demand as to warrant its availability on and in the LBPIA.

4.8.9 Project Time Line

Bidder is expected to submit with its proposal a preliminary schedule for design, design review, installation, marketing and start-up of WAS services at the LBPIA. Bidder should state in its proposal any key assumptions regarding the schedule that might reasonably affect Bidder's ability to meet the schedule.

Bidder is expected to propose a schedule, which addresses the development of the proposed WAS at the LBPIA. Design, construction and operation of certain sections of the system may be impacted by construction activities at the LBPIA.

4.8.10 Terms of the Management and Operating Agreement

GTAA expects to enter into a Management and Operating Agreement or Agreements (the "Agreement(s)") with the successful Bidder(s). The term of the Agreement(s) shall be for a period of up to ten (10) years, commencing upon execution of the Agreement(s), to allow the selected WSM to recapture their initial investment, obtain a reasonable return, and develop their target market(s). The GTAA will consider additional five (5) year renewal option terms.

4.8.11 Equal Access

The WAS must be developed under a "neutral host" concept and must be technology neutral, must accommodate existing, emerging and future wireless technologies, and must be able to accommodate the technological and capacity requirements of multiple wireless service providers in a non-discriminatory fashion.

4.8.12 Installation

The Contractor shall be responsible for the installation, configuration and testing of all **cabling and** equipment required to supply the requested services.

The contractor shall coordinate requirements with the GTAA and perform site inspection to ensure that the buildings, including services such as space, power, HVAC, UPS will be ready to accommodate initial installation for each phase.

For subsequent installations, or changes to initial installation, the Contractor shall identify all requirements for supporting services such as power and data receptacles, space, communications /telephone jacks and to ensure that the service can be delivered. The Contractor shall be responsible for conducting site surveys prior to installation, as required, to define these requirements.

4.8.13 Network Capacity

The Contractor shall monitor the WAS capacity (used and spare) and make recommendation on expansion/ enhancements.

4.8.14 WAS Additions

Services offered shall include the reconfiguration of the equipment to additions to the Wireless Access System as necessary to enhance/ expand the service.

The Contractor shall manage the moving of hardware and re-programming of software involved in relocating users inside the airport, where applicable.

4.8.15 Upgrades

The service charge shall include all necessary upgrades required to achieve requested level of service and variety of services. Upgrades and software revisions shall be included in the maintenance service.

The Contractor shall offer the GTAA proposals for new features and services as these are developed or requested by the GTAA.

4.8.16 Maintenance

The Contractor shall be responsible for providing maintenance cover on all equipment and network connections supplied by the Contractor to ensure that agreed service levels are maintained.

The Contractor shall have in place a Preventive Maintenance Plan (PMP) for all aspects of equipment and services provided.

The Bidder shall describe maintenance procedures and PMP proposed.

4.8.17 Planned Outages

Planned outages required for essential maintenance and upgrade of the service shall be kept to a minimum. The Contractor shall provide alternate coverage to avoid a break in service.

Except in case of emergency, or when outside the control of the Contractor, the Contractor shall agree time and duration of any planned work that will affect the availability of the services, and give a minimum of 14 days notice to the GTAA.

The contact details for GTAA representatives to be contacted in case of planned outage shall be agreed with the GTAA at contract award. As a minimum, two GTAA representatives shall be contacted.

4.8.18 Network services Management

The Contractor shall be responsible for liaising with telecom service providers and for connection to public and private networks.

The Contractor shall be responsible for the monitoring of the network connections to telecom service providers. In particular, the Contractor shall be responsible for identifying a fault in a T1 connection from a particular provider, and shall be responsible for reporting the fault to the provider and coordinating with the provider in order to clear the fault.

4.8.19 Spares

The Contractor shall be responsible for storage of spare parts as required to provide the levels of service requested.

4.8.20 Training

System maintenance and configuration is expected to be provided by the Contractor. However the Contractor shall offer to provide training on system administration and management should the GTAA request this. Cost for such training shall be included in the price schedule by the Bidder.

4.8.21 Trouble Handling and Helpdesk

The Bidder shall propose and describe trouble handling procedures that include, but are not limited to, the following functions:

- Centralized trouble reporting
- Determining the cause of and correcting troubles
- Working co-operatively with other contractors and designated GTAA representatives to resolve problems
- Maintaining Audit trails of trouble resolution activities
- Responding to inquiries on trouble resolution status
- Providing trouble escalation for normal and emergency events
- Monitoring trouble reporting management and escalation procedures.
- Providing trouble report and performance information to the GTAA.

A helpdesk function shall be provided and manned by the Contractor, with 24 hour, 100% availability access, to allow users to report faults experienced with the service, and to report requests for changes/re-configuration. Access to the helpdesk shall include an 1800- telephone number, and an access via e-mail.

All calls to the helpdesk shall be logged, and as a minimum the following information shall be recorded:

- Time the call was received
- Time the call was answered
- ID of helpdesk agent who answered the call
- Purpose of call

4.8.22 Support Center

As required to achieve the requested levels of service, a remote monitoring system shall be installed and operated by the Contractor.

The Bidder shall describe proposed provision for a remote monitoring system and describe support center facility offered.

The Bidder shall describe proposed presence on site, at the airport, including number of staff on site at different time and day, and functions and responsibilities.

The bidder shall identify any requirements for support and/or storage space to be provided at the airport for the Contractor's usage.

4.8.23 System Diagnostic

The Bidder shall provide a brief description of the support philosophy of the system being offered and, in particular, of the following items:

- Diagnostics software
- Remote Diagnostics. The Bidder shall describe the range of tests that can be carried out remotely and the additional cost, if any, to provide this facility.

4.9 Service Management

4.9.1 Bid Information

The Bidder shall describe how customer satisfaction levels will be measured.

The Bidder shall describe parameters and criteria proposed to be used to assess quality of service levels achieved. The Bidder shall describe standard processes and service level targets.

The Bidder shall describe the performance / quality standards proposed to be achieved.

Describe how 'time to fix' is recorded.

Enclosed in the bid response typical reports generated as part of the Managed Service contract.

4.9.2 General Procedures

The Contractor shall provide all services as described in this RFP. The Contractor and the GTAA shall review these requirements as a minimum at six months intervals. The review shall check the accuracy of data and the validity of performance measures stated in this RFP. Any subsequent changes to this RFP shall be agreed with the GTAA.

A service review meeting shall be held monthly. The service review meeting shall audit the level of service provided against the parameters established by this RFP, and any subsequent revision of this RFP agreed by the GTAA. The meeting shall be held at LPBIA and chaired by the Service Manager. The Service manager shall record and distribute minutes of each meeting. The meeting agenda shall include the following items, unless agreed with the GTAA:

- Review actions from previous meeting
- Presentation of performance levels achieved over the last 30 days
- Overview of faults and repairs performed
- Overview of configuration changes performed
- Proposed configuration changes / addition of services
- Billing issues
- Commercial issues
- Service management issues
- Review of performance parameters

The Bidder shall describe the service procedures offered.

4.9.3 Performance management

The Contractor shall continuously monitor service levels against the parameters described in this RFP.

The Contractor shall implement a procedure for initiating corrective action when performance falls below the levels specified in this RFP.

The Contractor shall produce a monthly performance report containing, as a minimum, the following information:

- Faults, time and date, type, ticket number
- Time to repair each fault
- % availability for the overall system
- % availability for different categories of components
- Traffic in MBits/s, and in % of total capacity
- Lead time to deliver new services to telecom service providers, the GTAA and 3rd party clients at the airport.

The Contractor shall identify and respond to demand for new capacity or service.

The contractor shall identify opportunities for improving service levels above those specified.

The Contractor shall manage third party suppliers.

4.9.4 Fault Management (reporting and rectification)

The Contractor shall perform, as a minimum, the faults management functions described in this section.

The Contractor shall respond to faults identified by the continuous service level monitoring process described in this RFP.

The Contractor shall respond to faults reported by end-users, and put in place a mechanism to ensure that user can report these faults. It shall be possible to report faults via the helpdesk function, as described in this RFP.

The Contractor shall record all faults. Each fault record shall include the following.

- The time the fault is detected
- Identity of the party who reported the fault
- A unique fault/ticket number
- A timed log of subsequent corrective action
- The time the fault is cleared.

The Contractor shall rectify any faults detected; all action necessary to rectify the fault shall be monitored and controlled.

The Contractor shall provide escalation of service, and mobilize additional resources if required as to ensure that the fault is rectified within the time defined in the service levels.

The Contractor shall liaise with the users to ensure that all users directly or indirectly impacted by a fault are informed of a fault and receive regular progress reports with an estimated time for return of service.

The Contractor shall carry out preventive maintenance including any routine tests necessary to confirm the continued performance of the various components that make up each service.

The Contractor shall provide updates on the progress of a fault at agreed regular intervals unless otherwise agreed at the time of the report.

The Contractor shall provide confirmation that the fault is cleared within 15 minutes of notification from engineering staff that the service is restored.

Faults reported by the telecom service providers, the GTAA and 3rd party users shall only be closed with the agreement of the service providers/GTAA/user.

4.9.5 Escalation Procedures

The Contractor shall provide an escalation procedure, with appropriate time intervals, for each service category provided under the contract. Point of contact names, E-mail addresses and facsimile numbers shall be provided to the designated GTAA representative within 5 business days of award of the contract.

The Bidder shall describe escalation procedures proposed.

4.9.6 Complaints

Complaints shall be reported to the Service Manager identified by the Contractor.

The Contractor shall provide written acknowledgment of receipt of the complaint. Complaints shall be resolved within 5 days.

After 6 working days an unresolved complaint shall be escalated to the Manager of the actioning department.

The bidder shall describe complaint, escalation and resolution procedures proposed.

4.9.7 Change Management

The Contractor shall provide a change management service. This shall include a process by which users can initiate changes in service, capacity or location. Such service will be performed at a fixed price to be defined in the price schedule.

4.9.8 Security Management

The Contractor shall be responsible for preventing illegal access to the system and system configuration.

The Contractor shall provide isolation between clients.

Physical security of the system shall be responsibility of the GTAA.

4.9.9 Inventory Management

The Contractor shall maintain a comprehensive and up-to-date inventory of all services, equipment, configuration and circuits used to provide the managed service, including:

- Antenna systems (including locations, ranges etc.), for each type
- WAS equipment configuration and software version
- WAS equipment hardware inventory, including cards, and configuration
- Install dates

- Warranty and maintenance agreement status

4.9.10 Management information

The system proposed shall be capable of generating the following management reports. These shall be available to the GTAA on a monthly basis.

- Fault listing
- Specific fault report
- Circuit/ service availability reports
- Planned outage report
- Claim rebate status
- Cost control reports; these include:
 - Summary by carrier/ service and area
 - Summary by department and area

Traffic statistic reports; these include

- Summary by antenna
- Summary by area
- Summary by service/ carrier
- Summary by external traffic
- Pictorial RF coverage map by wireless service

4.9.11 Billing

A format for the bills shall be agreed between the Contractor and the GTAA. As additional services are provided the format of the bills will be reviewed with the GTAA.

The Contractor shall provide the GTAA with a specific contact / telephone number for all billing related inquiries. All billing inquiries shall be logged by the Contractor and in general shall be resolved within 10 working days.

The Bidder shall describe in detail the content and format of all invoices proposed to be used under this contract.

The Contractor shall bill in arrears on a monthly basis.

The Contractor shall be capable of delivering invoices and billing support data to the GTAA via paper and electronic format, on a media to be determined by the Contractor and the GTAA.

4.9.12 Service to Telecom Service Providers/ 3rd parties

Under this contract the Contractor will be allowed and encouraged to offer service to 3rd parties, located at the airport.

The full range of service as described in this RFP shall be available to the 3rd parties located at the airport.

Terms and conditions, and service levels for 3rd parties shall be identical as those agreed with the GTAA unless other conditions are agreed with or requested by the 3rd party, and approved by the GTAA.

The GTAA will provide space in the airport required to support 3rd parties operating throughout the terminals. Request for additional space to support remote 3rd parties shall be made to the GTAA; the GTAA may refuse to provide this space depending on space availability at the time in the terminal.

Service provided to third parties shall not impact on the level of service provided to the GTAA. It is the Contractor responsibility to ensure that the equipment provided can support additional users.

All services provided to 3rd parties located at the airport will be provided under a separate contract, direct between the Contractor and the 3rd party, and shall be billed separately and directly to the 3rd party.

4.9.13 Roles

The bidder shall clearly describe the different roles and associated responsibilities of staff who will be assigned to the project, with indication of qualifications, locations, and tasks.

4.9.14 Documentation

Documentation shall include the standard documentation as defined in this RFP, to be produced on a monthly basis, and on request documentation.

Ad-hoc documentation: when configuration has been modified, a report reporting the change shall be issued to the GTAA.

4.9.15 Additional Services

The following services shall be offered to the GTAA, on request. The Bidder shall describe services offered and provide unit cost/charge.

Review of the cost of network services, identify and act upon opportunities for cost reduction.

Provide technical consultancy and project management to end users.

Produce ad-hoc reports for management

Evaluate new products and services.

Identify opportunities for the GTAA organization to improve operations, to enhance airport users experience and to gain competitive advantage through the introduction of new wireless services and applications.

5. SYSTEM USERS/ COMMERCIAL OPPORTUNITIES

In addition to providing services to the GTAA, the Contractor is required to market/ offer the service to all revenue and non-generating users, as will be defined by the GTAA, such as tenants and other 3rd parties throughout the airport. However there will be no obligation for these parties to obtain these services from the Contractor.

These tenants and 3rd parties include the following:

- Cellular Telecom providers
- Airlines
- Wireless LAN (WLAN) and Wireless Internet providers
- Ground Handlers
- Contracted maintenance and security staff
- Federal agencies including Provincial, Municipal, CIS, FIS, INS & RCMP
- Concessionaires/ Retailers
- Construction Contractors/ Consultants/ Project Managers

6. RFP SUBMISSION REQUIREMENTS

6.1 Required Format

All Proposals are to be presented following the designated format as closely as possible. To encourage brevity, the Proposal may contain no more than 50 pages. This 50-page limit does not apply to the required financial statements, forms, resumes, project schedules, sample invoices, or sample reports.

In addition to the narrative that comprises the RFP Response, each Bidder shall complete the forms referenced below and provided in the Appendix to this document.

The bidders are only required to submit any information in their re-tendered proposals that was changed/ added in comparison to the original proposals submitted. Where the original proposal text has been modified the changes shall be clearly identified, using bold lettering for added and strike-outs for deleted text.

6.2 Identification

The Bidder's name and Project name should be listed on each page of the Proposal for ready Identification. Bidder should also attach the Bidder Information Form and related information, as noted below under Bidder Background and under Required Sections of the Proposal.

6.3 Required Sections of Proposal

6.3.1 Section 1: Executive Summary

The executive summary is an important element of the Proposal. The executive summary should provide a clear and concise summary of Bidders background, level of expertise, direct relevant experience and ability to carry out the Project. The executive summary should make the Bidder's case as the best candidate for the Project. Bidder should structure this section in a manner that allows it to serve as a standalone summary when separated from the other sections of the Proposal.

6.3.2 Section 2: Bidder Background

The Bidder is required to provide background information. The Bidder should present an introduction to its firm that details its principal business (es), company size and structure, firm ownership, etc. If a local office will be carrying out the Project, the Bidder should describe the local offices particular expertise. The Bidder should also describe how its professional background, expertise and available resources are most suited toward meeting GTAA's needs and objectives. Bidder data must be provided for all team members if a multiple firm approach is proposed.

In detail provide the following company information:

- One copy of the Company's Annual and financial reports for years ~~1997~~**1998**, ~~1998~~**1999** and ~~1999~~**2000**.
- A description of the company including:
 - Date started

- Ownership
- Company structure
- Number of employees in each group
- Location and size of offices
- A description of the Managed Wireless Services Group, including the following. If the Managed Wireless Services group activities includes other fields such as data networks services and cabling infrastructure management, the Bidder shall list these activities, and possibly provide a breakdown of information for each activity.
 - Date started
 - Number of staff in the wireless services group, with breakdown by types (technicians, engineers, project managers, support/admin/finance, sales and marketing)
 - Company's total annual revenue from managed wireless services, for the years 1998, 1999 and 2000.
 - Quantities and values of contracts of similar nature and size to this described in this RFP that the company was awarded in 1998, 1999, 2000.
 - Describe the Bidding firm's experience and capabilities in providing similar services to those required for this project.
 - Provide confirmation that the Bidding firm intends to continue providing managed services for a period of at least five years.
 - List all current partnerships and alliances involving the Bidding Firm related to the sale, distribution, or development of the proposed products, including the purpose and duration of the collaboration.
 - Submit details and copies of system Installer, Operator, Maintenance or GTAA certification, if applicable.

6.3.2.1 Conflict of Interest

GTAA seeks to avoid any conflict of interest. Accordingly, Bidders are requested to describe any arrangements, which may create or appear to create a conflict of interest. In addition, any Bidder who is proposing to develop a common, technology-neutral WAS for sub-license to wireless telecommunications service providers is requested to describe on-going relationships (client, partnership, etc.) that its firm, has with any telecommunications service provider (including but not limited to wireless service providers/carriers, paging services, etc.) or any contractor or consultant to GTAA.

6.3.3 Section 3: History of Bidder

Bidder must provide a statement of the history of the Bidders (and if applicable, its Joint Venture Partners) qualifications and experience in handling the installation, management and operation of large-scale telecommunications projects in the past five years. Bidder should submit information or material deemed appropriate to demonstrate its qualifications, experience and proven ability to develop, operate and manage a commercial wireless access system with the required characteristics and of a scope similar to the system described in this Request of Proposal.

Provide a brief description identifying the location, organizational structure, development concept, financing methodology, and timetable for each relevant project (to a maximum of 5). Indicate the current status of each project, including the number of years the project has been in operation and provide a landlord/customer contact, address, and telephone number for each project.

6.3.4 Section 4: Understanding the Market and LBPIA

In this section, Bidder should discuss its understanding of the WAS opportunity, including those factors, which are critical to making the opportunity a success, technically, operationally and financially. Bidder should include a discussion of the results of Bidder's market research and other information which demonstrates Bidder's knowledge of the size of this market, the nature of WAS customers and end users, services to be offered and the revenue potential of the WAS at LBPIA.

Bidder must provide a detailed discussion of how Bidder will approach the development of a WAS at the Airport to ensure that the GTAA's goals and objectives will be realized.

Any Bidder who proposes to develop a common technology-neutral WAS is expected to demonstrate that its company or team can and will provide an attractive opportunity to the marketplace on a financial, technical and operational basis, and that Bidder is in a position to negotiate and close agreements with wireless service providers in a time frame sufficient to ensure the financial success of the venture.

Finally, in this section, the Bidder should describe why the Bidder's organization or team is in a strong position to take advantage of this opportunity.

6.3.5 Section 5: Business Plan

Bidder must submit a Business Plan detailing how the Wireless Access System (WAS) will be implemented. The Business Plan should be split in the three discrete services to be supported by the WAS, i.e. the Cellular/ PCS service, the radio/ trunked radio service and the unlicensed band wireless LAN (WLAN)/ Bluetooth etc. services. At the beginning of the Business Plan section, a Business Plan Summary is required, which should explain how the WAS would be financed, managed, staffed, marketed, and operated. Each one of these elements will be treated separately in the following sections; but the highlights of those sections should be provided in an executive summary, the Business Plan Summary, of not more than 4 pages. Bidder should include any information, which it believes is important or relevant to evaluating its Business Proposal, but a summary of the information described below should be included as a minimum.

Bidder should present the master schedule for implementation of the Project, including the major milestones for the Project. Milestones could include financing, design, installation, and initiation of important services, execution of relevant agreements, achievement of specific sales or revenue targets, etc.

The successful Bidder shall be required to submit within thirty (30) days after contract award a detailed project schedule showing time phased milestones, with associated sub-tasks and the resources needed to successfully meet the milestone timelines. Successful Bidder shall also be required to provide weekly updates to the project schedule. Updates shall include a written report highlighting progress, problems and potential solutions thereto. The project schedule shall be in the form of Microsoft project or equivalent.

6.3.6 Section 6: Financial Proposal

Bidder must provide a discussion of the structure and nature of the financial proposal and demonstrate how the Bidder will compensate the GTAA for the WAS license. The financial proposal should include:

6.3.6.1 Revenue Sources

Bidder must identify the services it intends to provide, and should provide a discussion of Bidder's revenue sources as they pertain to the WAS.

6.3.6.2 Compensation to the GTAA

Bidder must describe in detail the proposed mechanism(s) for providing compensation to the GTAA, taking into consideration both the revenue and non-revenue generating users. This description shall include the proposed revenue and expense structure (including a minimum annual guarantee), the payment method, as well as a system buy out price.

Bidder must include, for the airport, a breakdown of revenues/ costs per supported system as per Financial Pro Forma in the Appendix. (**Note:** where the amount under a given category is not applicable to Bidder's financial proposal, Bidder should still complete the Pro Forma, but should enter a zero for that category). In addition to completing attached schedule, the Bidders are invited to provide alternatives.

6.3.6.3 Data Capture

Bidder should provide a detailed description of the method by which the data required to implement the WAS compensation proposal would be captured and reported (a) by and/or to the Operator and (b) to the GTAA. Bidder should also demonstrate the technical feasibility of proposed compensation method, including the method of capturing and reporting the requisite data. To that end, Bidder should submit a sample invoice and sample payment report in the Proposal, both of which should be based on actual operating activities at other locations.

6.3.6.4 Initial Capital Investment and Ongoing Capital and Operating Expenses

For this section, assume the WAS will be 100% WSM financed. An option shall also be provided for a GTAA financed system and how this would affect the pricing structure for the provided services. This section should specify the approximate level of initial investment and sources of financing for the proposed WAS. Bidder should identify the sources of capital for financing the initial development of the WAS infrastructure, as well as any assumptions or preconditions for accessing those sources of financing.

Bidder should discuss financing of equipment maintenance and improvements/upgrade over the term of the Agreement, in order to continuously accommodate emerging and future technologies and services provided by wireless carriers and/or expected by the public.

6.3.6.5 Terms of Sub-License Agreements

Bidders who propose to develop a common technology-neutral WAS should describe the contractual mechanism, which would be used by the Bidder to govern the relationship with, wireless telecommunications carriers and other authorized Sub-Licensees and/or system users. Bidder should state the proposed form, basic terms and essential conditions of the Sub-License agreements.

6.3.6.6 Term of Management & Operating Agreement

This sub-section should briefly state the basis for the proposed term and option term (if any). Bidder should state the proposed initial term, as well as any proposed option term.

6.3.6.7 Other

Bidder should provide any other financial information Bidder believes to be critical to understanding and evaluating the WAS business opportunity and to the GTAA's selection of the best financial proposal.

The GTAA reserves the right to request additional financial information including detailed income and expense pro formas as the GTAA deems necessary to determine the feasibility of any proposed WAS.

6.3.7 Section 7: Management & Staffing Plan

The Bidder must submit a proposed schedule of implementing, operating and maintaining the proposed commercial wireless access system.

6.3.8 Section 8: Marketing Plan

To provide for the maximum revenue potential of the WAS, Bidder shall provide a description of Bidders overall marketing with revenue development strategy.

The marketing plan should reflect Bidder's understanding of the market and market strategy as set forth above in Section 4. The basis of estimate and source thereof must be provided.

6.3.9 Section 9: Operation Plan

In this section, Bidder should describe Bidder's approach to the implementation, operation and maintenance of the WAS, with a focus on operations and maintenance over the term of the WAS Agreement. Bidder should also describe Bidder's approach to safety in the operations of the WAS, as well as Bidder's approach to security in the operations of the WAS. Bidder should include an outline of the security plan for the WAS including but not limited to toll fraud detection and prevention.

6.3.10 Section 10: Technical Proposal

In order the GTAA to understand the Bidders technical approach to the WAS, the Bidder shall provide the following information.

6.3.10.1 Overview

Bidder should provide a functional description of the WAS and the major elements comprising the WAS at the LBPIA. This sub-section should include a description of how the WAS will operate from a technical and operations management perspective using illustrations, renderings and/or schematic plans.

If Bidder intends to develop a "neutral host" WAS, Bidder should address the question of how it will continue to make the WAS competitive and attractive to wireless service providers and users from technical, operational and financial perspectives over the term of the Agreement.

Bidder should provide a quality assurance plan for the project, demonstrating that all proposed equipment will be designed, installed and maintained such as to provide reliable service for wireless service providers (if applicable) and the public/end users. The plan shall detail how the Provider shall minimize adverse impacts to any GTAA facility, and minimize disruption to the GTAA operations and facility maintenance activities.

In completing their conceptual designs and preliminary schedules, Bidders should take into consideration that the GTAA can provide only limited storage space or equipment rooms. Bidders should therefore plan to provide their own storage and equipment rooms, utilities, services, wire lines connections, etc. to support the WAS. The GTAA intends to assist when possible. In making their Technical Proposals as set forth below, Bidder should state as clearly as possible the type of facilities and utilities it will require. The GTAA will work with the WSM in good faith to find appropriate and workable solutions in order to accommodate the infrastructure need of the WAS.

The WAS must be Year 2000 Compliant. That is, the WAS must be able to accurately process date/time data (including but not limited to, calculating, comparing and sequencing) from, into and between the twentieth and the twenty-first centuries, and leap year calculations. The Bidder must assure that other information technology used in combination with the information technology in question (WAS), properly exchanges data with it. The WSM will be required to certify Year 2000 Compliance of the WAS prior to commencement of operations.

6.3.10.2 Network-Wireless Access System-~~g~~, Equipment and Infrastructure

The selected Bidder(s) will be responsible for design of its WAS. Bidder should include a discussion of any existing or proposed industry-wide technology or equipment standards, and all relevant regulatory matters. The design must be in accordance with GTAA design requirements and must incorporate technology-~~and~~, equipment **and infrastructure** appropriate to the facilities in which it will be installed. The system design should take into consideration the operation, security and aesthetic impact of any system component located in a public area.

Proposals shall include discussion of proposed equipment and design parameters, including space requirements, power requirements, environmental/ air-conditioning requirements, signaling requirements proposed wire line connections, security and access requirements, etc. Bidder shall provide preliminary schedule for design and installation.

The intent is that the ~~GTAA-WSM~~ will provide all fiber optic-~~and~~, UTP **and any other r** cabling required for the WAS. Bidders are to describe all requirements for cabling, including any requirements for co-axial, slotted, heliax or other types of cables

Bidder shall also provide a description of the proposed system architecture.

6.3.10.3 Usage Monitoring & Reporting Systems

Bidder is required to describe the wireless services to be provided via the WAS, the fees WAS WSM expects to charge for use of WAS (by service, if applicable to be covered in Bidders Financial Plan) and the proposed basis for compensating the GTAA.

In this section, Bidder should discuss the method(s) by which the Bidder expects to capture the requisite data to support its business proposal, including usage and related data and describe any special equipment or software needed to capture and report such data.

If Bidder intends to develop a “neutral host” WAS, Bidder should discuss the method by which it will bill and receive payment for use of the WAS by wireless service providers and other authorized users. If possible, Bidder should include a sample invoice to carrier, as well as a sample payment report to the GTAA. Bidder should discuss the methods it intends to utilize to report gross revenues and amounts due to the GTAA.

Where a volume-based compensation scheme is proposed, Bidder shall describe in detail its volume/usage monitoring and reporting methodology, systems and documentation. As a minimum, Bidder should describe and should be prepared to demonstrate:

- The technical feasibility of proposed monitoring & reporting systems, including equipment, software, etc.;
- Installations where proposed monitoring & reporting systems are currently in use;
- A typical report, including reference to carrier, location of use, type of use, length of use, and revenue basis.

Bidder should discuss here and/or below any known issues regarding the proposed monitoring/reporting systems and how Bidder intends to resolve such issues.

6.3.10.4 Timeline & Project Schedule

Bidder shall submit a preliminary schedule, which addresses the development of the WAS at the LBPIA. Design and implementation of the System(s) may be impacted by construction activities at the GTAA Facilities. The GTAA anticipates that the GTAA and Bidder(s) will discuss and negotiate such potential impacts during negotiation of the Agreement, but each proposal should reflect Bidders understanding of the construction information provided under separate cover.

Bidder should be aware that various construction projects are or may be on going at LBPIA during the term of the Agreement, including line design and installation periods. The GTAA must approve system design at the LBPIA.

6.3.10.5 Other

Bidder may include here a discussion of other technical matters it believes to be relevant to the technical proposal, including regulatory issues, emerging technologies etc.

6.3.11 Section 11: Administration & Responding Plans

Bidder will be required to provide samples of detailed monthly and annual reports which should identify, without limitation, the GTAA Facility, Sublicense (if applicable), product/service, fee for product/service (based on relevant data, such as call volume, minutes of use, etc.), and calculations of relevant fees to the GTAA. As noted elsewhere in this RFP, Bidder should provide sample reports with its Proposal, and should describe how they will provide adequate administrative support for delivery of such reports. The sample report must be an actual report used or proposed by Bidder at other installation.

Where a volume-based compensation scheme is proposed, Bidder should also discuss in this section how it will deal with “hand-offs, how it will respond to the GTAA’s stated preference of including ‘hand-offs’ in the compensation scheme, and how ‘hand-off’ data will be captured and reported.

Finally, Bidder should discuss the nature of auditing right that the GTAA perform relative to the WAS compensation proposal.

6.3.12 Section 12: Confidentiality & Regulatory Matters

Bidder shall describe in detail its understanding of industry concerns regarding confidentiality and proprietary Information, and how Bidder intends to respond to these concerns.

Where a volume-based compensation scheme is proposed, Bidder shall describe how it intends to maintain confidentiality of subscriber, rate, usage and other sensitive information for each wireless service provider or other Sub-Licensees.

This section should include a discussion of all relevant regulatory matters not discussed elsewhere.

6.3.13 Section 13: Attachments (not included in the page limit, but required):**6.3.13.1 References**

It is a requirement of the bid that the bidding firm has successfully completed at least three previous installations of a similar size and complexity.

Provide, as a part of the bid, a list of at least three organizations, including points of contact (name, address, and telephone number), that can be used as references for work performed in the area of service required.

Provide detailed descriptions of the installed system, equipment quantities, configuration, interfaces installed at and developed for each site. Provide start and completion dates for each reference project.

6.3.13.2 Audited Financial reports

Bidders must provide a copy of its most recent audited financial statement. Bidders that are comprised of more than one entity must include financial statements for each entity. The GTAA reserves the right to accept or reject any financial documentation other than the financial statement requested.

6.3.13.3 Technical Specification**6.3.13.4 Resumes for Key Project Staff**

The Bidder shall submit, for approval, details and copies of certification, training course completion (if applicable), and resumes for the Project Manager, installation, training, operations and staff, and Managers.

These details shall confirm explicitly that the personnel who will be employed on the contract are suitably trained in the management of a project of this nature and size, and in the installation and maintenance of equipment of the type being provided.

6.3.13.5 Sample Reports**6.3.13.6 Sample RF studies****6.3.14 Detailed Pricing Schedules**

The Bidder shall provide complete pricing information to cover all services and related equipment, required to provide full MWS as described in this RFP. It is the Bidder's responsibility to provide pricing for all options identified in this RFP. Items identified below are provided for information only and do not constitute a complete list.

The Bidder shall provide unit price for each component.

The Bidder shall identify any variations to prices over the contract duration, if applicable - for example as a percentage per year.

Base Pricing Structure All New Installation

Base Pricing Structure All New Installation – Recurring Costs

6.3.14.1 Format

Provide anticipated quantities, specification and unit prices **for equipment required in each building** based on previous experience on similar projects:

Item – Facility _____ *	Anticipated Quantities	Unit Price	Total
*: To be completed by proponent			
Antenna – Type 1			
Antenna – Type 2			
Antenna – Type 3			
Antenna – Type 4			
WAS equipment (itemize as per proposed technical solution)			
Complete as necessary			
TOTAL			

6.3.15 Pricing Options

6.3.15.1 Equipment configuration

Provide option for increasing resilience level by addition of redundant WAS equipment or other solutions.

6.3.15.2 Contract terms

Provide base prices for the Managed Wireless Services using all new equipment based on a five year contract.

6.3.16 Buy Out Options

Assume size of system / quantities is as anticipated, provide buy-out prices based on GTAA purchasing outright all equipment and systems at anniversary date of acceptance. The pricing shall be based on WSM providing all new equipment.

6.3.17 Appendix I - Compliance with the RFP

The Bidder shall strictly comply with this RFP in all respects and provide a detailed statement confirming compliance with each sub-paragraph of this RFP (line by line concordance statement).

Where compliance with the RFP requires development of the standard vendor product and/or services, this should be indicated by the Bidder and time and cost of customization shall be identified. Cost shall be identified as a separate item.

Where compliance can not be achieved the Bidder shall note the non-compliance.

Where appropriate the Bidder shall provide the information required and indicate how compliance will be achieved.

The Bidder may propose alternate solutions for consideration.

6.4 Schedule

- The Bidder shall confirm that the works schedule included in this RFP can be achieved.

As part of the bid the Bidder shall provide a proposed schedule for the project, identifying the major milestones with a short description of tasks to be carried out, and associated time frame. A schedule for phases should be provided.

Once approved by the GTAA, the schedules shall not be changed.

6.5 Quality

The Bidder shall state whether the Bidder is registered under ISO 9000 (or equivalent relevant quality control procedures) and, if so, state the date of registration. The Bidder shall describe to which specific activities and services provided these certifications apply to.

The Bidder shall describe the procedures to be used to ensure that the work on site shall be to the required standard.

6.6 Field-proven Equipment

The Bidder shall provide a list of installations and clients in North America, and particularly in Canada, of equipment of a similar design and configuration to the one being proposed in the Bid, and where similar type of managed services are provided. The Bidder shall include the name and telephone number of the customers, brought-into-service date and size, manufacturer's name and model installed, number of extension supported, start and end dates of managed contract, summary of contract conditions and services performed.

The Bidder shall indicate when the proposed equipment was first introduced on the market and first installed.

6.7 Options

The RFP documents contain requirements for the delivery of wireless services. In addition, a number of requirements are described as options in the document. The use of the term 'options' shall indicate that the components or systems described as options may or may not be selected by the GTAA as a part of the initial contract. The same terms and conditions apply to optional items as to the base bid.

The Bidder shall provide details and prices, as requested, for all components or systems described as options. These systems shall not be considered as optional to the Bidder. Any Bid not containing full details and pricing for all requirements, including options, may be considered non-compliant.

6.8 Price Schedules

The Bidder shall provide the pricing information as required in the price schedules of this document. The Bidder shall provide both pre-cut and post-cut pricing, showing the itemized price for equipment when purchased as a part of this contract and for equipment when purchased at a later date. The Bidder shall describe the timeframe where the post-cut pricing will remain valid.

Prices for all components, including options, shall be provided and shall include all applicable prices, taxes, installation, commissioning, programming, configuration and other costs. Each option price shall include all interfaces and associated components to ensure complete integration with the airport infrastructure.

6.9 System Diagram(s)

The Bidder shall provide a complete system diagram for each system provided (where applicable). If any common components can be used for different systems, this should be highlighted on an overall systems schematic. The system diagram(s) shall show the equipment being offered including quantities and part numbers for all items of peripheral equipment, antennas, routers, hubs, system interfaces, Test Jack Frame, system management interface and Operator consoles. The bidder shall provide a brief description of each component, clearly stating, in plain English, its name and function.

6.10 Product Service Literature

The Bidder shall provide product literature, including brochures, user manuals, technical manuals and data sheets, for each item of equipment offered.

6.11 Standard Contract

For information, the Bidder shall include in the response a typical standard contract used by the Bidder for similar projects.

6.12 Marketing Brochures/Information

Bidder shall provide samples of brochures and other materials used to market services to 3rd parties.

6.13 Additional Information

The Bidder shall include in the Bid Response all technical information requested.

6.14 Installation Submittals

The following submittals shall be provided before work commences:

6.15 Verification Documentation

Ten (10) days prior to commencement of work on the project, the Contractor shall submit to the GTAA in writing the information described below:

- Verification that the Contractor has reviewed all relevant Project documentation has surveyed the Airport and is familiar with physical conditions of the Project affecting the work of the Contractor.
- Verification that the project design and construction documents indicate suitable accommodations for integrating the specified systems and equipment. Consideration shall include, but not be limited to, HVAC requirements, space requirements, electrical power, grounding/earthing, power conditioning, cable containment (e.g., conduit), special flooring and mounting hardware for equipment installation. The statement shall include any noted exceptions, concerns and recommended corrections/modifications.
- Verification that the Contractor has inspected existing communications cabling systems and is able to interface with it.
- Verification that the Contractor has reviewed the airport projects schedules, understands when spaces will be made available and is in agreement that the Contractor work can be

completed in conjunction with the schedules for the construction works throughout the airport.

Failure to submit verification document as required will not entitle the Contractor to a delay.

6.16 Proposed Configuration

Before the system is customized, configured and installed the Contractor shall submit to the GTAA, for approval, a complete system specification and engineering design, including but not limited to:

- Proposed system hardware specification and configuration
- Proposed system software specification and configuration
- Location of antennas and other equipment
- All connections including speed and interface between equipment (not including connections to the end user), and connectivity to the common cabling system, where applicable.
- Engineering drawings (floor plans, cable runs, power loading, room layouts, HVAC requirements, communications racks/ cabinets elevations, space requirements etc.)

6.17 Testing and Commissioning Schedule

Submit for approval a complete testing and commissioning specification and schedule including but not limited to:

- Unit/function testing
- System testing
- User acceptance testing
- RF surveys (designed and actual)
- Coverage tests (in tabulated and graphic/ pictorial form)

The Contractor shall be responsible for coordinating testing schedules with all involved parties and for arranging the GTAA's presence at all testing. Failure to do so may result in re-testing at Contractor's expenses.

6.18 Manuals and Training Program Schedules

Submit a complete set of manuals including:

- Operating and maintenance manuals
- Training manuals

Submit a complete training program schedule.

Submissions shall be subject to GTAA's approval and are required prior to final acceptance.

6.19 Post Installation Submittals

The Contractor shall provide the following submittals following the hand over and acceptance of the system by the GTAA. Submissions shall be subject to GTAA's approval and are required prior to final payment/acceptance.

6.20 Documentation

Submit five copies of the following documentation:

- Product literature for each component, including user manuals, technical manuals and data sheets.
- As-built records that include system configuration, system specification including system diagrams, floor plans, cable runs, power loading, room layouts, HVAC requirements, communications racks/ cabinets elevations, space requirements etc.
- Equipment numbers and associated serial numbers.
- Warranty details for each item of equipment.

The Contractor shall provide full documentation of all software and hardware. This shall include user and configuration documentation.

Documentation shall be available online and shall be stored on a Compact Disk.

6.21 Equipment Testing Signoff

A signoff sheet shall be completed and signed by the Contractor's Project Manager and turned over to the GTAA.

6.22 Submittal Table

No	Item	For Information	For Approval	At Bid
1	Organizational capabilities		Yes	Yes
2	Personnel		Yes	Yes
3	References		Yes	Yes
4	Compliance with the specification		Yes	Yes
5	Schedule		Yes	Yes
6	Verification Documentation	Yes		No
7	Proposed System Specification		Yes	No
8	Testing & commissioning schedule		Yes	No
9	WAS equipment and infrastructure schematics/ single line diagrams	Yes	Yes	Yes

No	Item	For Information	For Approval	At Bid
10	WAS equipment and infrastructure construction drawings		Yes	Yes
911	Training programs manuals and schedules		Yes	No
1012	Documentation	Yes		No
1113	Equipment Testing Signoff		Yes	No

7. EXISTING TELECOMMUNICATIONS FACILITIES

7.1 Wireline Telecommunications Facilities/ IT and Communications Infrastructure

As part of the overall Airport Development Program, the GTAA is planning to modify existing cabling conditions and implement new systems that allow for a more effective and manageable network. The GTAA is currently in the process of taking control of all the cable and defining a communications infrastructure which will provide premises-wide “backbone” connectivity that connects Communication Hubs, Communication Entrance Rooms (CERs) and Main Communication Rooms (MCRs) throughout the airport using fiber optic and copper cabling. The Communications Hubs serve as the termination points for the main distribution ring around the airport. The CERs and MCRs are fed from the Communications Hubs and serve as the distribution points for horizontal voice and data station cabling.

There are three Communications Hubs and plans for a fourth Hub that will form the main distribution ring around the airport. From each of the hubs, secondary distribution rings are in place or will be established to serve buildings and terminals within that specific Hub’s geographic location – for details of existing and proposed routes please refer to the Communications Cabling Backbone Schematic in Appendix B.

Within the GTAA Administration Buildings, the Terminals and the other facilities of the LBPIA, there is an existing or plans for the implementation of a Common Cabling System (CCS) which will support voice, data, video, wireless and multimedia applications. The CCS consists of

- Backbone cabling – Multipair Copper (for voice), Fiber Optic (for data) and coax (CATV)
- Horizontal cabling - four pair UTP Category 5 cabling terminated in RJ45 connectors

The station outlets consist of Category 5E RJ45 8 pin connectors, 568A wiring configuration, each individually connected to the nearest telecom closet with one four-pair UTP Category 5E horizontal cable. Horizontal cables are terminated onto 110 wall mounted frames.

Communication Entrance Rooms (CERs) provide the tie in to the outside plant infrastructure (i.e. Communications Hubs). External and wide area services (i.e. service provider equipment) are housed in these rooms.

7.2 Wireless Telecom Facilities

Wireless communications at LBPIA are presently supported by several systems that were installed by the GTAA, Government Agencies, Airlines and other tenants. These include the following:

Type of System	Users	Coverage	Equipment
UHF Radio – non-trunked (460 MHz – 4 Channel Duplex) Utility Radio System (URS)	GTAA, Fire Dept., Emergency Services etc.	Terminals 1, 2 & 3 and GTAA Administration buildings North Fire Hall, South ASDE, Infield Tunnel	Motorola 3 base stations, 2 repeaters and 325 hand-held and mobile units
EDACS Radio – trunked (800 MHz – 4 Channels)	Tenants of Terminal 3	Terminal 3	Ericsson EDACS 1 base system and 210 hand-held and mobile units
Trunked (Note: This system will run on the WAS individually. In the future it may be incorporated in the common trunked radio system. To be advised by GTAA)	Air Canada and GTAA		
VCOM Master Radio system – trunked (800 MHz – 14 channels) (Note: Initially this system is stand-alone and will not be	Peel Police, regional fire departments, emergency services, duty managers and ground transportation (public safety)	Throughout Peel Region.	Motorola simulcast system. 7 transceiver sites throughout Peel Region. Identical site planned for Terminal 2. Approx. 200 hand held and mobile units

Type of System	Users	Coverage	Equipment
served by the WAS, until further notice from the GTAA)			
Trunked UHF radio non-trunked (420 - 430 MHz) (Note: Initially this system is stand-alone and will not be served by the WAS, until further notice from the GTAA)	Federal Agency	Airport	Confidential
800 MHz Cellular/ 1900 MHz PCS/ iDEN (Mike) services	Airport users	Throughout airport	Various
Paging services	Airport users	Throughout airport	Various

The successful Bidder will be furnished with drawings and additional information concerning the existing wireless telecom facilities.

7.3 Existing Telecom Agreements

Currently the following agreements exist with cellular providers:

Provider	System	Type of service
Bell Mobility	CDMA	Cellular/ PCS
Clearnet	CDMA	Cellular/ PCS
Clearnet		2-way radio (Mike) – Serving T1 & T2
Clearnet		2-way radio (Mike) – Serving T3
Rogers Cantel (AT&T wireless)	TDMA	Cellular/ PCS
Rogers Cantel (AT&T wireless)	Antenna all-site	

The successful Bidder will be furnished with additional information concerning the existing wireless telecom agreements.

8. GENERAL REQUIREMENTS

8.1 Personnel

The personnel who will be employed on the contract shall hold current Installer, Maintenance and Operations certification issued by the Manufacturer(s) of the Telecom Equipment to be installed. Personnel shall be suited and experienced in the management of a project of this nature and size and in the installation, development, configuration, testing, maintenance and operation of equipment, systems and services of the type being provided so as to be able to carry out all work in a competent manner.

The names, and function and resumes of all personnel who will be employed on the contract shall be provided to the GTAA.

All sub-contractors and sub-contracted personnel shall be clearly identified in the Bid response, and associated tasks and responsibilities described. The Contractor shall be responsible for all sub-contracted parties. Provide Company information, resumes, etc. for the proposed subcontracted personnel.

Once approved by the GTAA, the personnel shall not be substituted without prior approval by the GTAA.

The GTAA shall have the right to request that unacceptable personnel / sub-contractors be replaced.

The Installation Project Manager will be the single point of contact and will be on site at all times that installation work is taking place, unless agreed in advance with the GTAA.

The Operation / Maintenance Manager shall be the single point of contact after the initial installation is complete, and operation/maintenance phase has started.

The Installation Project Manager must have successfully completed at least three significant projects of a similar nature in the past three years. Provide reference / contact information for these projects.

The Operation Manager shall have successful experience of at least five years in the operation/management of outsourced/managed services similar to those requested in this project, for installations of similar size or larger, and for airport facilities. Provide reference / contact information for these projects.

8.2 Warranty (should only apply if GTAA terminates contract and buys out systems)

The Contractor shall provide one (1) year warranty period during which maintenance of the systems, the replacement of faulty parts and clearance of faults in the software will be provided free of charge. The warranty period shall commence at the completion of phase 3 ("The Warranty Period"). Work associated with subsequent phases shall have separate warranties that commence at completion of each phase. Any use for testing, start-up or beneficial use prior to that date shall not constitute warranty start. If equipment or systems are utilized for beneficial use or early occupancy prior to this date, the vendor/subcontractor shall perform a full service of the equipment. This shall include but not be limited to revisions to hardware, firmware, software, and interfaces as necessary prior to commencement of The Warranty Period.

The Contractor shall make arrangements for any equipment manufacturers' standard warranties that are in excess of The Warranty Period to be transferred at the end of the Contractor's warranty period as directed by the GTAA's Representative.

Where a faulty component has to be replaced during the warranty period, the warranty period for that particular component shall be one year starting from the date when the component was last replaced.

8.3 Training

The Contractor shall provide all services necessary to implement a training program. The training will take place on site unless previously agreed with the GTAA.

The Contractor shall provide all personnel, equipment, and materials except when directed to do otherwise by the GTAA. In addition, the Contractor shall develop and maintain training materials as required. The training materials associated with each course (e.g., training manuals and presentation material) shall be accessible on-line to the GTAA.

8.4 Insurance

8.4.1 General

The Contractor shall, at the Contractor's sole cost and expense provide and maintain the insurance coverages specified herein. Unless otherwise stipulated, the duration of each insurance policy shall be from the date of commencement of the Work until the date of the final completion.

8.4.2 Professional Liability Insurance

Professional Liability Insurance covering the principal Contractor, Consultant(s) and other professional person, firms, and corporation as the GTAA may determine with a limit of liability of not less than \$1,000,000.00 per occurrence and in the annual aggregate. This policy must be maintained until 2 years after substantial performance of the work.

8.4.3 General Liability

General Liability Insurance applying to all operations of the Contractor. This policy shall name the GTAA and Her Majesty the Queen in right of Canada ("Her Majesty") and her Majesty's successors and assignees (including any Department of the Government of Canada, any Ministers of the Crown, any officers, servants, employees, agents or contractors of Her Majesty and any other Person for whom Her Majesty may be responsible in law and any Person who has a right of contribution as against Her Majesty) and any Consultant, other Contractor or Sub-Contractor engaged in the Work as an additional named insured. The limit shall not be less than \$2,000,000 per occurrence. Coverage shall include bodily injury liability (including death), property damage liability, personal injury, products and completed operations, contractor's protective liability, employer's liability and non-owned automobile. All liability coverage shall be maintained for completed operations on an ongoing basis for a period of 24 months following substantial performance of the Work. This policy shall not contain an exclusion for the insured to operate at an Airport, however, it may contain exclusionary language relative to liability incurred while operating within the Airport security fence ("Airside").

8.4.4 Policy Coverage

This policy will be placed and maintained with insurers acceptable to the GTAA; be non-contributing and primary (except when the Contractor is within the Airport security fence

“Airside”); provide for cross liability so that each insured is protected separately by the insurer; contain 30 days prior written notice of material change of cancellation to the GTAA, and waive all rights of subrogation against the GTAA and Her Majesty.

8.4.5 Automobile Liability

Motor Vehicle Liability Insurance in the usual form, including non-ownership use and all like risks, in a combined single limit of not less than \$2,000,000.00 per accident for bodily injury (including death) and property damage on each vehicle that the Contractor, Sub-Contractor or any of their servants, agents or employees may use at any time in connection with the performance of the Work. The Motor Vehicle Liability policy may contain exclusionary language relative to liability incurred while vehicles are operating within the Airport security fence (“Airside”).

8.4.6 Workplace Safety Insurance (if applicable)

Workplace Safety Insurance as required under the Workplace Safety Insurance Act of the Province of Ontario. The Contractor guarantees to the GTAA full compliance with the conditions, regulations and laws relating to Workplace Safety Insurance by itself and by all Sub-Contractors.

8.4.7 Proof of Insurance

The Contractor shall 7 days prior to the commencement of the work furnish to the GTAA certified certificates of insurance signed by an Authorized Representative of the insurer evidencing proof of coverage. Receipt by the GTAA of the certified certificates shall in no way constitute confirmation by the GTAA that the insurance complies with the requirement of IC (1) (2) (3) (4) (5) (6) . Responsibility for ensuring that the insurance coverage outlined are in place rests solely with the Contractor.

8.4.8 Sub-Contractor’s Insurance (if applicable)

The Contractor shall require its Sub-Contractors to provide insurance, where required, and the Contractor is responsible for obtaining and forwarding to the GTAA the appropriate signed certificates.

8.4.9 Approval by the GTAA

Neither the Contractor nor its Sub-Contractors shall begin the work until the necessary proofs of insurance have been furnished and approved by the GTAA.

8.4.10 Maintaining Insurance

If the Contractor or its Sub-Contractors fail to place or maintain insurance as required under section 9.4, the GTAA shall have the right but is not obligated to place and maintain insurance as required under section 9.4. All premiums and other costs incurred by the GTAA will be paid by the Contractor to the GTAA on demand or failing payment may be deducted by the GTAA from any amount then or thereof due to the Contractor.

8.4.11 Additional Insurance

From time to time at its discretion, by written notice to the Contractor, the GTAA may require the Contractor to procure or maintain additional insurance if required.

8.4.12 Contractor's Liability Preserved

The provisions of section 8.4 do not diminish, limit or otherwise effect the liability of the Contractor to the GTAA under or in relation to any other provisions of the contract.

8.4.13 Protection of GTAA's Property

The Contractor shall protect the Work, the GTAA's property and property adjacent to the Work Site from damage. The Contractor is responsible for damage that occurs as the result of the Contractor's operations under the contract, except damage that occurs as the result of acts or omissions by the GTAA, other Contractors or their employees, agents or representatives. If the Contractor, in the performance of the contract, damages the work, GTAA's property or property adjacent to the Work Site, the Contractor is responsible for making good that damage at its expense. The Contractor is responsible for any deductible and any uninsured portion of the GTAA's loss.

8.5 Indemnification

The following provisions shall be included in the agreement between the GTAA and the Contractor.

To the fullest extent permitted by law, the Contractor shall be liable to, and shall indemnify and hold harmless the GTAA, the GTAA's lender, directors, agents and employees or any entity owned or controlled directly by the GTAA (collectively, the "Indemnitees") from and against any and all losses, claims, costs, damages, expenses, penalties, fines or other liabilities (including, without limitation, attorneys' fees and disbursements and liability, if any, for the payment of worker's compensation and disability benefits) arising out of, or resulting from, the Contractor's or its subcontractors', agents' or employees' performance of services hereunder, to the extent any such loss, claim, cost, damage, expense, penalty, fine or other liability is caused, in whole or in part, by the breach of contract, error or negligent act or omission of Contractor, its subcontractors, agents or employees, whether or not in part caused by the Indemnitees, but only to the extent caused by the Contractor, its subcontractors, agents or employees. The Contractor agrees that it shall, at the GTAA's election defend any suit or action brought against the Indemnitees which is based on any loss, claim, cost, damage, expense or liability referred to herein. Such obligations shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity, which would otherwise exist for the benefit of any Indemnitee.

In any and all claims against the Indemnitees by any employee of the Contractor, anyone directly or indirectly employed by the Contractor or anyone for whose acts it may be liable, the indemnification obligation hereunder shall not be limited in any way by any limitation on the amount or type of damages, compensation or other benefits payable by or for the Contractor under worker's or workmen's compensation acts, disability acts or other employee benefit acts.

These provisions shall survive the expiration or earlier termination of the term of the Agreement between the GTAA and the Contractor.

8.6 Confidentiality

The Contractor, and all Bidders, agrees that all Project documents, technical data and other information of whatsoever kind or nature, including this RFP, and any information regarding The GTAA's business operations, and irrespective of whether prepared, furnished or obtained by the Contractor or others or whether in writing, orally, or by observation ("Confidential Information"), shall be deemed The GTAA's property and shall be treated as proprietary information which has a substantial commercial value to The GTAA. Accordingly, The Contractor shall not use (either for itself or others) or disclose (to third parties) in any manner

(including publications in the form of brochures and photographs) any such Confidential Information, except to the extent that such use or disclosure may be necessary, as determined by The GTAA, in its sole discretion, for the performance of the Contractor's services hereunder. The Contractor further agrees that (i) it shall cause its employees, agents and subcontractors to be bound by the provisions of this Paragraph and (ii) the obligations set forth in this Paragraph shall survive the expiration or any earlier termination of the Agreement between the GTAA and Contractor the expiration or any earlier termination of the Contractor's employment or retention of its employees, agents or subcontractors, as the case may be. In addition, The Contractor shall not, without the GTAA's prior written approval (which approval may be withheld in the GTAA's sole discretion), (i) display on or about the Airport or elsewhere any sign, trademark or other advertisement advertising The Contractor's services in connection with the Project or identifying any person, firm or entity concerned with the Project, (ii) use The GTAA's name in any advertising or promotional material, make any news release or take any photographs of the Project, and/or (iii) conduct or allow others to conduct tours of the Project premises or the Project for others to view.

8.7 No Damage For Delay

The Contractor agrees that if and to the extent there are delays in, and/or hindrances to, the performance of the Work (whether foreseen or unforeseen, whether or not within the parties' contemplation and whether or not affecting the Progress Schedule), including, without limitation, delays and/or hindrances that fall within the definition of Delays (as such term is defined in Paragraph below). The Contractor and its subcontractors shall not have a claim against the GTAA for damages of any kind whatsoever or for extra compensation in the form of an increase in the compensation payable to the Contractor hereunder or otherwise. Although the Contractor and its subcontractors shall not be entitled to any damages or any extra compensation for any delays or hindrances including Delays, if and to the extent there are Delays in the performance of the Work, and if the Contractor demonstrates that the Work is actually delayed thereby, and provided that the Contractor shall have given notice to the appropriate members of the Project Team and The GTAA within two (2) business days after the occurrence of any Delay (which notice shall set forth in detail the nature of the Delay, the date or dates upon which each cause of delay or hindrance began and ended and the action taken, or to be taken, by the Contractor to minimize the period of delay or hindrance), and further provided that the Contractor has diligently sought to minimize the period of delay or hindrance, then, in such event, the Contractor's and its subcontractors' shall be entitled to an extension of the Contract Time under the Progress Schedule by the number of days that the Contractor is actually delayed thereby; it being expressly understood and agreed, however, that any such extension of the Contract Time shall be the Contractor's and its subcontractors' sole remedy against the GTAA.

For purposes hereof, the term "Delays" shall be deemed to include only delays and/or hindrances caused by the acts or omissions of The GTAA or any of the members of the Project Team in their performance of their respective obligations for the Project, or their failure to give approvals and/or consents within the time periods set forth in the Progress Schedule; any lawful labor action resulting from the breakdown of regularly scheduled labor contract negotiations affecting the Work or the Airport Development Program of which the Work is a part whether or not related to or involving the Contractor"; the acts or omissions of separate contractors; fire not caused by the acts or omissions of the Contractor or any of its subcontractors; acts of God; or any other similar causes beyond the control of the Contractor or any of its subcontractors.

If the Work is delayed or is threatened to be delayed, as a result of any labor action affecting the Work or the Airport Development Program whether or not related to or involving the Contractor other than that described in paragraph above including, without limiting the generality of the

foregoing, wildcat strikes, work slowdowns, protests, pickets or refusal to cross picket lines, the Contractor shall make such arrangements and take such actions as maybe necessary including pursuit of all legal remedies under applicable laws, such as obtaining of cease and desist orders if necessary, to ensure continuation of Contractor's performance of work. The Contractor shall take action necessary to recover any time lost as a result of such delay at the Contractor's own expense and without additional compensation from the GTAA. The Contractor shall indemnify and save the GTAA harmless from all costs, damages or losses incurred as a result of such labor action by employees of the Contractor or subcontractors of any tier.

If the Contractor or any of its subcontractors falls behind in the Progress Schedule and/or fails to meet the dates scheduled for completion of the Work for any reason (other than a Delay), or if in the GTAA's judgment the Work will not be substantially and/or finally completed by the dates specified in the Progress Schedule for any reason (other than a Delay), then, in such event, the Contractor, at its sole cost and expense and at no cost to the GTAA, shall take whatever steps that may be necessary to improve its progress and shall submit operational plans to demonstrate the manner in which the lost time may be regained.

In addition to, and not in limitation of, the aforesaid requirement, if the Contractor's operational plans demonstrate that the lost time may not be regained without the institution of overtime operations, then, in such event, the GTAA shall have the right to require the Contractor, at its sole cost and expense and at no cost to the GTAA, to perform any and all remaining Work (including work to complete Punch List items) during hours other than regular business hours (including Saturdays, Sundays and holidays).

8.8 Airport Conditions and Ongoing Operations

The Contractor expressly understands and acknowledges (a) that, during the performance of all or any portion of the Work, The GTAA intends to use and occupy the existing buildings to conduct its normal business operations, (b) that the tenants, licensees and/or other occupants of the existing buildings intend to use and occupy the existing buildings to conduct their respective normal business operations, and (c) that, in connection therewith, the existing buildings will be open to and frequented by the employees, agents and guests of The GTAA and such other occupants, as well as by members of the general public. Accordingly, the Contractor agrees to stage, sequence and perform the Work in a manner so as to take into account and not disturb such use and occupancy by the GTAA, its employees, invitees, licensees and others. Without limiting the generality of the foregoing, or any other provisions contained herein, the Contractor hereby expressly agrees that it shall (d) cause the Work to be carried out in such a manner so as not to interfere with, or cause disruption of, the use and occupancy of existing building by the aforementioned persons and entities; (e) take all necessary precautions to ensure the safety and comfort of such persons, which shall include, but not be limited to, taking all necessary precautions to keep noise and vibrations to a minimum; and (f) consult with and advise the GTAA and other appropriate Project Team members regarding, and monitor, any and all necessary provisions for the continuous and uninterrupted operation of all building utilities and services (including, without limitation, telecommunications, electricity, gas, steam, water, sewer, sprinkler, air conditioning, exhaust and ventilation systems and elevators). In addition, if the performance of the Work necessitates the suspension or shutdown of any such building utilities or services, the Contractor shall notify the GTAA of such fact in writing in sufficient time to make all necessary arrangements therefore, which notice shall be not less than one (1) week prior to the date of any such scheduled suspension or shutdown, it being expressly understood and agreed that if any such suspension or shutdown is anticipated to be for longer than one (1) hour, the Contractor shall be required to make all necessary arrangements for alternative sources of such utilities and services (including, without limitation, relocating,

redirecting and otherwise altering other portions of such utilities or systems to accommodate the GTAA's continuous use of the same).

In furtherance of the foregoing, the Contractor expressly agrees (i) that the compensation payable to Contractor is just and reasonable compensation for all of the Work, notwithstanding the GTAA's and such other occupants' use and occupancy of the existing buildings while the Work is in progress, (ii) that it shall not be entitled to any extra compensation in the form of an increase in the compensation payable to Contractor hereunder or otherwise, by reason of the GTAA's and such other occupants' use and occupancy of any Existing Buildings, and (iii) that the Contract Time established under the Progress Schedule is adequate for the performance of the Work taking into account such use and occupancy by the GTAA and others.

8.9 Coordination with other Contractors

The Contractor hereby expressly acknowledges and agrees that, as a part of the Work hereunder and included within its Total Price, it shall coordinate its Work with the work of any separate contractors retained by the GTAA. Accordingly, the Contractor shall (i) cooperate with, and be guided by, the directions of the GTAA \ GTAA's Representative in connection with any coordination issues and (ii) subject to the GTAA's prior written approval in each instance, shall modify the Progress Schedule on an as needed basis so as to integrate the Contractor's Work with the work of any such separate contractors, all to the end that the Project may be fully coordinated and completed within the GTAA's timing requirements. Any and all issues pertaining to the coordination of the Work shall be determined by the GTAA, whose determination shall be final and binding on the Contractor.

The Contractor understands that performance of incomplete portions of the work of separate contractors may have to be performed either before, simultaneously with or after the Contractor's Work and that the Work may have to be stopped, interrupted or suspended temporarily if, in the GTAA's judgment, such stoppage, interruption or suspension is necessary for the timely and efficient completion of the ongoing airport Projects. Accordingly, the Contractor covenants that, upon request by the GTAA, it shall stop or suspend any activity or the Work during any period which, in the GTAA's reasonable judgment, would unreasonably interfere with, or unreasonably delay, prosecution or completion of the aforementioned Projects. If the GTAA shall so request that the Contractor stop, interrupt or suspend any activity or the Work, and if and to the extent that there are delays in, and/or hindrances to, the performance of the Work as a result thereof and the Contractor demonstrates that the Work is actually delayed thereby, then, in such event, the period of time during which the Work shall have ceased shall be recognized as a Delay and disposed of in accordance with the provisions of Section 8.7 hereof.

8.10 Labor Issues

The Contractor shall at all times maintain labor harmony at the Airport. Should personnel employed by the Contractor not work in harmony with other workers performing labor or services at the Airport (whether in whole or in part and without regard to fault or causation) or, without regard to fault, should they engage or participate in or cause any strike, work stoppage, delay, suspension of any work under this Contract or any other interference with the smooth progress of the work under this Contract or other work being performed at the airport by union or non-union labor, or cause any interference with the business of the GTAA as presently conducted at the occupied portions of the Airport, or otherwise fail to perform or are prevented from performing labor or services by reason of labor disharmony, then, in any such event, the GTAA shall have the right, in its sole and absolute discretion and without prejudice to any other rights and remedies it may have elsewhere under this Contract, at law or in equity, to terminate

this Contract in accordance with the provisions of Section 8.11; it being expressly understood, however, that for purposes of this Subsection only, the notice period required by said Section 8.11 shall be 24 hours (as opposed to 10 business days).

In the event of the occurrence or threat of any labor disruption of the types referenced in this paragraph (but without limitation of the GTAA's rights hereunder), the GTAA shall have the right and option immediately to take and pursue all legal actions necessary or appropriate in the GTAA's sole and absolute discretion to secure one or more injunctions or restraining orders, or like relief, against interference with the work under the Contract, work being performed by others at the Airport or the conduct by the GTAA of business at the occupied portions of the Airport. Any such proceedings shall be at the cost and expense of the Contractor, and the Contractor shall indemnify the GTAA for, and hold the GTAA harmless against, any and all costs, expenses and damages incurred by the GTAA in connection with or resulting from any actual or threatened labor disruption (including, without limitation, reasonable attorneys' fees and expenses).

8.11 Termination and Suspension of Services

The GTAA may, at any time and for any reason, terminate the Contract upon not less than ten (10) business days' notice to the Contractor. Under such circumstances, the Contract shall terminate on the date set forth, and in the manner specified, in such written notice and shall be without prejudice to any claims which the GTAA may have against the Contractor and shall be subject to other provisions of the Contract relating to such termination.

In the event that the GTAA terminates the Contract for reasons other than those set forth in the paragraph below, the Contractor shall be entitled only to payment of that portion of the compensation payable to the Contractor hereunder which theretofore has not been paid to the Contractor on account of services satisfactorily performed by the Contractor up to the date of such termination, plus an amount equal to reasonable out-of-pocket costs and expenses incurred by the Contractor and directly attributable to the termination of the Contract and which would not normally have been incurred by the Contractor but for such termination. For purposes of determining the amount payable to the Contractor under this paragraph the Contractor, upon receipt of any such notice of termination, shall submit to the GTAA a certified statement (the "Statement") setting forth the percentage of the services, which it determines, in good faith and in its best judgment, it has performed satisfactorily. If the GTAA disagrees with the amounts set forth in the Statement, and the Contractor and the GTAA cannot agree upon the amount payable to the Contractor under this paragraph, then the GTAA shall pay to the Contractor only the undisputed portions of the amounts set forth in the Statement, and no other amounts shall be payable to the Contractor during the pendency of any proceedings which may be commenced to resolve such dispute.

Anything contained herein to the contrary notwithstanding, if at any time during the performance of the Contractor's services under the Contract, any of the following events shall occur:

- The Contractor shall fail to diligently, timely and expeditiously perform any of its obligations (as specified in the Contract) and such failure shall have continued for ten (10) business days after the GTAA shall have delivered written notice thereof to the Contractor;
- Levels of service required are not met, by 10% or more;
- Levels of service are not met consecutively over a period of 6 months or more;
- Documentation not produced, or produced with a delay of two weeks or more;

- Maintenance and management services requested are not performed;
- Any representation or covenant made or deemed to have been made under the Contract shall prove to be untrue in any material respect;
- The Contractor shall (i) become a party to any insolvency proceeding in a capacity as a debtor (which insolvency proceeding shall include, but not be limited to, (x) the making of a general assignment for the benefit of its creditors, and (y) the appointment of a receiver or trustee on account of the Contractor's insolvency, or (ii) the Contractor shall be or become insolvent or unable to pay their debts as they become due, or a petition under Canadian Insolvency \ Bankruptcy Law shall be filed by or against the Contractor;
- The Contractor otherwise shall be in default under the Contract, including the failure to meet the dates set forth in the Progress Schedule approved by the GTAA and such default shall not have been cured within ten (10) business days after the GTAA shall have given notice thereof to the Contractor;
- If there shall be any act of fraud or misappropriation by the Contractor relating to the Project or the services rendered by the Contractor under the Contract; then, the GTAA may terminate the Contract for cause.

Upon the termination of the Contract pursuant to this Subsection 8.11 the Contractor shall be entitled only to payment of that portion of its compensation which theretofore has not been paid to the Contractor and which shall compensate the Contractor for all services actually and satisfactorily performed by them up to the date of such termination; provided, however, that:

- No allowance shall be included for any out-of-pocket costs and expenses actually incurred by the Contractor attributable to the termination of the Contract; and
- The GTAA shall deduct from any amounts due and payable hereunder all additional costs and expenses which the GTAA may incur over that which the GTAA would have incurred in connection with the Project or the other services for which the Contractor has been retained hereunder if the GTAA had not terminated the Contract for cause, including, without limitation, the expense of engaging another Contractor for the Project.

Nothing contained in the Contract, however, shall limit in any manner any rights or remedies otherwise available to the GTAA by reason of a default by the Contractor of its obligations for the Project, including, without limitation, the right to seek full reimbursement for all costs and expenses incurred or to be incurred by the GTAA by reason of such default which the GTAA would not have otherwise incurred if the Contractor had not so defaulted.

Upon any termination of the Contract in accordance with the provisions of this Section 8.11, the Contractor shall:

- Discontinue all of its services, from and after the date of the notice of termination, and otherwise take actions designed to minimize costs associated with such termination, except as may be required to complete any item or portion of such services to a point where discontinuance will not cause unnecessary waste or duplicative work or cost, for which services the Contractor shall be compensated in the same manner and to the same extent that the Contractor otherwise would be compensated under the terms of the Contract;
- Cancel, or, if so directed by the GTAA, transfer to the GTAA all or any of the commitments and agreements made by the Contractor relating to the Project (including, without limitation, Designer's agreements with any consultants) (and the Contractor's agreements with any such consultants shall so provide); and

- Transfer to the GTAA in the manner, to the extent, and at the time, directed by the GTAA, all supplies, materials and other property produced as a part of, or acquired in the performance of, the Contractor's services in connection with the Project, including, without limitation, plans, specifications, reports, computer tapes, diskettes or other software and any other documents.

The GTAA may, at any time and for any reason, direct the Contractor to delay or suspend the Contractor's services under the Contract for a period of time. Such direction shall be in writing and shall specify the manner and the period during which the services are to be stopped. If the GTAA directs the Contractor to delay or suspend its services under the Contract for a reason other than necessity primarily arising by reason of a (i) failure on the part of the Contractor or any of its subconsultants or any of their respective employees, agents or representatives to carry out their respective obligations for the Project, or (ii) a negligent or willful act or omission of the Contractor or any of its subconsultants, the Contractor shall be entitled to payment of such portion of its compensation which has not been paid to the Contractor to the date of such written direction and which shall compensate the Contractor for the services actually and satisfactorily performed prior to such delay or suspension, plus an amount equal to reasonable out-of-pocket costs and expenses actually incurred by the Contractor and directly attributable to such delay or suspension. The Contractor shall resume performance of its services in the manner and upon the date specified in such direction, or upon such other date as the GTAA may thereafter specify in writing upon reasonable notice to the Contractor. Under such circumstances, if and when the Project, or any other service for which the Contractor has been retained hereunder, is resumed after being so suspended, the period during which its services shall have been stopped shall be deemed added to the time fixed for performance by the Contractor of its services, and the compensation payable in connection with the Project shall be subject to equitable adjustment to account for reasonable costs and expenses incurred by the Contractor by reason of mobilization of its manpower. The Contractor agrees to use its best efforts to minimize any costs and expenses associated with the stoppage and its resumption of its services.

During the period of any delay or suspension of work as referenced in Subsection 8.11 the Contractor and the GTAA shall in good faith, based upon the GTAA's expectation concerning the length of such delay or suspension, negotiate the manner in which personnel shall be temporarily reassigned to other projects, the best methods of, and a reasonable time for, remobilization and other relevant issues for the purpose of minimizing (i) all costs and expenses associated with the delay and (ii) disruption to the Project and timely performance of the Contractor's services for the Project.

9. LEVELS OF SERVICE

9.1 Performance Requirements

9.2 Availability

9.2.1 Base bid:

The MWS shall intend to secure that the services are available for use twenty four hours a day throughout the whole year. This shall be deemed to be satisfied if service availability is no less than 99.9 % of the time, for each month of the year. This percentage shall be calculated as follows:

Availability = (actual hours service was available x 100) / total number of hours in that month

9.2.2 Add/ Deduct Alternates:

Provide quote add/ deduct alternates for the following availability levels

9.2.2.1 99.5%

9.2.2.2 99.995 % availability annually.

At any time, the loss of service shall affect no more than 20 % of the users.

During any complete calendar month, the Contractor shall intend to secure that all elements of the service will be available for more than 99% of the time. In a period of 31 day calendar month service availability shall not be worse than 99.9% (base bid) / 99.5 % (deduct alternate)/ 99.995 % annually (add alternate).

9.3 Lead times

	Service	Lead Time
	System additions	
	Add carrier for existing service	5 business days
	Add additional wireless service	2 months
	Install new antenna, complete with all associated equipment	5 business days
	Additional training	5 working days

9.4 Response to faults

Target parameters for response to faults shall depend upon the severity of the outage.

Severity levels shall be as follows:

- Severity I: 20% or more of the users experience a fault in the service and/ or there is a failure in emergency services radio transmission
- Severity II: between 10% and 20% of the users experience a fault in the service

- Severity III: Up to 10% of the users experience a fault in the service

Target parameters shall be as follows:

Description	Service level targets
Response to calls to fault reporting number	<ul style="list-style-type: none"> • Severity I: 95 % answered within 15 seconds, remaining calls answered within 60 seconds; technician at fault location within 1 hour. • Severity II: 95% answered within 15 seconds; technician at fault location within 2 hours. • Severity III: 95% answered within 1 min; technician at fault location within 4 hours.
Time to fix	<ul style="list-style-type: none"> • Severity I: 95% cleared within 2 hours. • Severity II: 95 % cleared within 4 hours • Severity III: 95 % cleared within 1 day

9.5 Back-up and resilience

The Contractor shall be responsible for implementing back-up procedures and resilience solution as required to provide the requested service level. These are expected to include the following:

- Daily automatic back-up of WAS software configuration
- Redundant WAS equipment necessary to achieve resilience goals

Resilience issues related to external service shall be discussed and agreed upon with the GTAA. The Contractor shall propose different options, and indicate for each options:

- Expected lead time
- Expected cost
- Expected level of resilience achieved.
- Feasibility

These options are expected to include the following:

- Use of multiple carriers for diversity
- Network connections to two central offices from the same carrier, for diversity
- Multiple lines (e.g. use two T1 trunks instead of one, with automatic fall-back)

9.6 Disaster Recovery

The Contractor shall establish disaster recovery plan to respond to severe outages such as:

- Loss of WAS equipment (fire, flood)
- Loss of distribution (cabling cut)
- Loss of wide area connection.

Disaster recovery plans are expected to include the following:

- Bring mobile WAS units on site to provide service

9.7 Network Security

- The Contractor shall provide procedures to detect, minimize and eliminate the possibility of a system security breach. The Contractor shall maintain an active program to address security violations. This shall include toll fraud and network breach.
- The Bidder shall describe the proposed security program.

9.8 Maintenance coverage

In the base Bid the Bidder shall price for a 24 hour maintenance coverage, 365 days per year, for all systems installed, associated interfaces and services.

9.9 Service Level Agreement

The Contract for the Managed wireless services shall be based on a Service Level Agreement, to be developed by the selected preferred Bidder before the contract is awarded.

The Service level agreement shall be agreed with the GTAA.

The Service Level agreement shall reflect all requirements related to Managed Services stated in this RFP.

The Service Level Agreement content shall include, but will not be limited to, the following items:

- Procedures and Measurements
 - Scope
 - Review process
 - Service Features
 - Provision of maintenance
 - Problem Management
 - Escalation
 - Billing
 - Complaint Procedure
 - Management Information
 - Role Statements
- Description of Services
 - Installation of equipment
 - Service Lead Time
 - Order processing

- Service availability
- Quality of Service
- Maintenance window
- Definition of Terms

The Bidder shall include in the bid response a proposed example of service level agreement to be used for the contract.

10. OWNERSHIP OPTIONS

10.1 General

Listed below are three suggested ownership options for the WAS. Bidders can use these or offer additional ownership options in their proposals.

10.2 Option 1: GTAA Owns

Provide pricing based upon GTAA purchasing all systems and equipment at completion of phase 3. The Contractor shall continue to be responsible for providing Managed wireless services and turnkey maintenance of all equipment.

10.3 Option 2: WSM Owns Antennas and Active Equipment

Provide pricing based upon WSM continuing to own all systems and equipment.

10.4 Option 3: GTAA Assumes Ownership

Provide pricing for GTAA purchasing / assuming ownership of all equipment at anniversary of phase 3 acceptance.

10.5 Charges and accounting

The base charge for the provision of the managed wireless services, e.g. monthly charge per user, for a particular service, shall include the following:

- Software upgrades
- Maintenance
- Helpdesk, troubleshooting and repair
- Network access
- Regular management reports

10.6 Services pricing

The Bidder shall provide pricing information for all services that are not included in the base charge, if applicable.

10.7 Discount and profit sharing structure

The Bidder shall describe any proposed discount structure to be applied to the pricing structure, such as:

- Discount on unit charges per users as the number of users increases
- Share of profit for service provision to 3rd parties.

10.8 Performance related pricing

The Contractor shall give the GTAA services credit in the following instances

- Service levels are below those specified
- System additions are not completed within the specified time
- Implementation activities are not completed within the agreed timescales

The bidder shall describe proposed bonus and penalty program based upon Contractor's performance.

Appendix A

Definitions

A1. APPENDIX A - DEFINITIONS

A1.1 DEFINITIONS

Throughout this specification the following definitions shall apply.

A1.2 General

- Works The Scope of Works as defined in this document
- This RFP Document 3181/02/MWS_CO200 issued by Ove Arup & Partners, and all associated documents as listed herein.
- **IHT In-field Holdroom Terminal**
- TNew New Terminal
- Bidder A company invited to bid for the works
- The Contractor The Company awarded the contract for the Managed wireless services works as defined in this RFP.
- Consultant Ove Arup & Partners Consulting Engineers PC.
- Project Team Selected personnel or representative of the GTAA, and selected personnel of Ove Arup & Partners Consulting Engineers PC.

A1.3 Glossary of Terms

- AAC Airport Architect Canada
- Access Point A device that transports data between a wireless network and a wired network (infrastructure).
- AESC Airport Emergency Support Center
- AOCC Airport Operational Control Center
- APCO Association of Public Safety Communications Officials
- ATM Asynchronous Transfer Mode
- Baseband A communications technique in which digital signals are placed onto the transmission line without change in modulation and the full bandwidth of the channel via TDMA.
- Broadband A communications technique which transmits data, voice and video simultaneously by modulating each signal onto a different frequency, using FDMA.
- **CAN Campus Area Network**
- CATV Commercial or Cable Television
- CCS Common Cabling System
- CPU Central Processing Unit

- CDMA Code Division Multiple Access
- CER Communications Entrance Room
- CNE Common Networking Equipment
- CRTC Canadian Radio-Television and Telecommunications Commission
- **CUSS Common Use Self Service Kiosks**
- CUTE Common Use Terminal Equipment
- ECC Emergency Control Center
- EDACS Enhanced Digital Access Communication System
- FDMA Frequency Division Multiple Access.
- GC General Contractor
- GSM Global System for mobile Communication
- GPRS General Packet Radio Service (data service for GSM)
- GPS Global Positioning System
- GTAA Greater Toronto Airports Authority
- GUI Graphical user Interface
- IEEE The Institute of Electrical and Electronics Engineers
- ISM Band Industrial, Scientific, Medical (unlicensed) frequency bands
- ETSI The European Telecommunications Standards Institute
- ISDN Integrated Services Digital Network
- IT Information Technology
- ITU International Telecommunications Union
- IVR Interactive Voice Response
- LAN Local Area Network
- MCR Main Communications Room
- Microcell A bounded physical space in which a number of wireless devices can communicate. Because it is possible to have overlapping cells as well as isolated cells, the boundaries of the cell are established by some rule or convention.
- MTBF Mean Time Between Failure
- Multipath distortion The signal variation caused when radio signals take multiple paths from transmitter to receiver.
- Narrowband A communications technique which transmission rates from 50 bps to 64 Kbps. Earlier uses of the term referred to 2,400 bps or less or to sub-voice grade transmission from 50 to 150 bps.
- PAN Personal Area Network

- PCS Personal Communication Services.
- QoS Quality of Service
- RF (GHz, MHz, Hz): International unit for measuring radio frequency: Hertz (Hz); One Mega-Hertz (MHz) is one million-Hertz. One Giga-Hertz (GHz) is one billion-Hertz.
- RFP Request for Proposals
- Roaming Movement of a wireless node between two microcells.
- SLA Service Level Agreement.
- TIA Telecommunications Industry Association's
- TC Telecommunications Closet.
- TDMA Time Division Multiple Access.
- TJF Test Jack Frame
- UPS Uninterrupted Power Supply
- UTP Unshielded Twisted Pair
- WAS Wireless Access System
- WECA Wireless Ethernet Compatibility Alliance (Wi-Fi is the compliance certificate from WECA).
- Wideband A communications technique in which transmission rates range from 64 Kbps to 2 Mbps.
- WLAN Wireless LAN (i.e., IEEE 802.11(a/b)).
- WSM Wireless Service Manager
- UWCC Universal Wireless Communications Consortium

Definition of Airport Operations related Terms

- Check-in Desk Desk located in Departure Terminals where passengers check-in.
- Transfer Desk Desk where transfer passengers can re-check baggage.
- Gate Counter Desk located at a gate, used for boarding.
- Gate Stand connected to a Terminal used to park the aircraft for loading and un loading of passengers and baggage
- Remote Stand Designated area on the buffer\apron used to park the aircraft. Can be used for parking only, or for loading and un-loading of passengers and baggage.
- Mobile Lounge A bus used to drive passengers from the terminal to the aircraft, or from the aircraft to the terminal, if the aircraft is parked on a remote stand.

- **Mobile Lounge Area** Platform attached to a gate (replaces the fixed bridge) providing access to mobile lounges, via docking gates. The mobile lounge area provides seating and waiting area for departing passengers

Appendix B

Airport Redevelopment (Aerial Overview)

Appendix C

Communications Cabling Backbone (Routes North & South)

Appendix D

Financial Pro Forma

Financial Pro Forma (T2 & T3)										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues (by system)										
1. Cell/PCS/ GPS/ iDEN/ Paging										
Expenses (by system)										
Cell/PCS/ GPSiDEN/ Paging										
GTAA Payments *										
Operating Expenses										
System Maintenance										
System Administration										
Interest & Financing										
Amortization										
2 Way/ Trunked Radio										
GTAA Payments *										
Operating Expenses										
Interest & Financing										
System Maintenance										
System Administration										
Amortization										
WLAN / Other ISM(802.11.b)										
GTAA Payments *										
Operating Expenses										
Interest & Financing										
System Maintenance										
System Administration										
Amortization										
Net Income										
GTAA - Cost to buy out system										
Notes: * - Amount represents guaranteed minimum. Bidders are requested to advise how additional revenue will be shared.										

E

**Requested Price Break-
up and Add/ Alternates**

E1. BASE BID

	T2 WAS (\$CDN)	T3 WAS (\$CDN)	IHT WAS (\$CDN)(budget estimate)	Parking Garage (\$CDN)(budget estimate)	T1New (\$CDN)(budget estimate)
Cellular/ PCS/ Paging/ iDEN					
Associated cabling installation					
Operation					
Maintenance					
Administration					

E2. ALTERNATE 1

	T2 WAS (\$CDN)	T3 WAS (\$CDN)	IHT WAS (\$CDN)(budget estimate)	Parking Garage (\$CDN)(budget estimate)	T1New (\$CDN)(budget estimate)
2 Way/ Trunked Radio					
Associated cabling installation					
Operation					
Maintenance					
Administration					

E3. ALTERNATE 2

	T2 WAS (\$CDN)	T3 WAS (\$CDN)	IHT WAS (\$CDN)(budget estimate)	Parking Garage (\$CDN)(budget estimate)	T1New (\$CDN)(budget estimate)
WLAN (802.11.b)					
Associated cabling installation					

Operation			
Maintenance			
Administration			