THIRD AMENDMENT TO AGREEMENT NO. 33344

33344

THIS THIRD AMENDMENT TO AGREEMENT NO. 33344 (the "Third Amendment") is made and entered, in duplicate, as of April 3, 2018 for reference purposes only, pursuant to a minute order adopted by the City Council of the City of Long Beach at its meeting on March 13, 2018, by and between ARUP NORTH AMERICA LIMITED, a corporation organized under the laws of the United Kingdom ("Consultant"), with a place of business at 560 Mission Street, Suite 700, San Francisco, California 94105, and the CITY OF LONG BEACH, a municipal corporation ("City").

WHEREAS, City and Consultant (the "Parties") entered into Agreement No. 33344 (the "Agreement") whereby Consultant agreed to provide services in connection with the design, construction and development of a new civic center located in downtown Long Beach; and

WHEREAS, the Parties entered into a First Amendment to the Agreement to extend the term and increase the Agreement amount by $2,900,000; and

WHEREAS, the Parties entered into a Second Amendment to the Agreement to add additional services to the Scope of Work and increase the Agreement amount by $4,475,295; and

WHEREAS, the Parties again desire to add additional services to the Scope of Work and increase the Agreement amount by $2,102,000;

NOW, THEREFORE, in consideration of the mutual terms, covenants, and conditions herein contained, the Parties agree as follows:

1. Additional Services. In addition to the services otherwise described in the Agreement and in the Second Amendment, Consultant shall provide technology engineering and consulting services to enable the new Civic Center to be ready, tested, and operational by June 2019 more particularly described in Exhibit "A-2" attached to this Third Amendment and incorporated by this reference ("Additional Services"). The Scope of Work attached as Exhibit "A" to the Agreement and Exhibit "A-1" to the Second

OFFICE OF THE CITY ATTORNEY
CHARLES PARKIN, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

Amendment is hereby amended to include the Additional Services.

2. Compensation for Services. The total amount authorized to be paid for all services provided by Consultant pursuant to the Agreement, as amended hereby, shall not exceed Ten Million Two Hundred One Thousand Seven Hundred Thirty-Three Dollars ($10,201,733).

3. Except as expressly modified herein, all of the terms and conditions contained in Agreement No. 33344 are ratified and confirmed and shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have caused this document to be duly executed with all formalities required by law as of the date first stated above.

ARUP NORTH AMERICA LIMITED, a corporation organized under the laws of the United Kingdom

APRIL 6, 2018

By _____
Name IGNACIO BARANDIARAN
Title PRINCIPAL

April 9, 2018

By _____
Name Aidan Hughes
Title Principal

"Consultant"

CITY OF LONG BEACH, a municipal corporation

4/16, 2018

By _____
City Manager

"City"

This Third Amendment to Agreement No. 33344 is approved as to form on Apr. 10, 2018.

CHARLES PARKIN, City Attorney

By _____
Deputy

OFFICE OF THE CITY ATTORNEY
CHARLES PARKIN, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

EXHIBIT "A-2"

Scope of Work

City of Long Beach

Information Technology Systems Scoping and Definition Phase I

Issue | August 16, 2017

Job number 234257-00

Arup North America Ltd
12777 W Jefferson Blvd, Suite 100
Los Angeles
CA 90066
United States of America
www.arup.com

ARUP

Contents

1 Introduction

Arup North America Ltd (Arup) is pleased to provide this fee proposal for engineering design and consulting services for the new Long Beach Civic Center and Library. These services would be provided as additional services to our current engagement with the City of Long Beach under our current contract arrangement.

Our scope of work will include the following disciplines:

- Information & Communication Technology Consulting
- Audiovisual Consulting & Design
- Electronic Security Systems Consulting & Design

2 Project Description

The City of Long Beach ("City") is building and moving into a new Civic Center in Long Beach, California. This marks a new and exciting time for both the City staff and the community. This will be a big change for both the staff and the residents of Long Beach geographically, operationally and culturally. Arup has been part of this project since the start of the RFP phase in 2013.

The immediate task is to provide definition/confirmation of the scope of technology systems to be provided and their associated budgets.

3 Project Approach

This scoping and project definition exercise will comprise the following elements of work:

1. Review the current list of technology systems proposed for the new building to confirm completeness and identify and close any gaps.
2. Review existing city technology systems for position in depreciation cycle, performance/capability, criticality and uptime requirement.
3. Provide an analysis of current and proposed systems to identify which systems should be procured new and which systems should be transferred to the new facility.
4. Review and confirm procurement budgets for the systems concerned. Budgets to include procurement costs as well as potential professional services costs.
5. Review procurement methods and vendors for analysis on lead times product lifecycles.

At present, we anticipate the systems concerned to be:

- Data Center & Relocation Strategy
- Local Area Network
- Wireless Local Area Network
- Fiber Loop Campus Area Network cabling
- Voice & Telephony Systems
- Audiovisual Systems
- Unified Collaboration & Communications
- Service/Help Desk Systems
- Access Control and Alarm Management
- Video Surveillance Systems
- Visitor & Guest Management Systems
- Printing & Reprographics Systems
- Cellular Distributed Antenna System

Through this initial phase, these and other possible system not listed will be identified for scope, budget and procurement strategies.

4 Project Team

4.1 Owner's Representative

The City of Long Beach will designate an Owners Representative.

4.2 Sub-consultants to Arup

We do not anticipate the need to employ any sub-consultants to Arup for the scope of services under discussion.

4.3 Arup

The work would be carried out by the current Arup team working on the project. Specifically, it will be led by Duncan Jack with support from Justin Trevan and Fernando Neto.

5 Project Schedule

The scope of work will commence immediately and will provide a final report to Long Beach City for the end of September 2017.

6 Project Documentation

We will produce our drawings and documentation using Adobe PDF, Microsoft Visio, Microsoft Word, Microsoft Excel, Microsoft Project and AutoCAD/Revit formats to our office standards. Should you require documentation in other formats we would need to discuss prior to commencing work to ensure compatibility.

7 Fees

As the level of effort required for the various scope items and the scope items themselves are not yet finalized, we propose that these services be provided on a Time and Materials basis.

Arup fees are based on the scope and schedule described in this proposal.

- **IT Consulting - Phase I: Systems Scoping: $ 350,000**

If required, we could discuss and convert this to a fixed price lump sum fee and the completion of the scoping phase of work towards the end of 2017.

8 Terms and Conditions

With regard to terms and conditions, we assume that these services will be provided under our current contractual arrangement with the City of Long Beach as an additional service.

9 Agreement

If you are in agreement with our proposal, please sign below and return a copy to us as our authorization to proceed.

Agreed and accepted by City of Long Beach:

Signature Name [Block Capitals] Date

City of Long Beach

Information Technology Migration and Operational Readiness Phase II

Review R2 | December 19, 2017

Job number 234257-00

Arup North America Ltd
12777 W Jefferson Blvd, Suite 100
Los Angeles
CA 90066
United States of America
www.arup.com

ARUP

Document Verification

ARUP

Job title			Job number
			234257-00
Document title	Information Technology Migration and Operational Readiness		**File reference**
Document ref			

Revision	Date				
Draft 1		**Filename**			
		Description	First draft		
			Prepared by	Checked by	Approved by
		Name	DJ	DJ/CL/JP	JP
		Signature			
		Filename	V8		
		Description	Revisions as discussed with CL		
			Prepared by	Checked by	Approved by
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		Signature			
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		Signature			
		Filename			
		Description			
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		Name			
		Signature			

Issue Document Verification with Document ☐

Contents

1 Introduction

Arup North America Ltd (Arup) is pleased to provide this fee proposal for technology engineering and consulting services for the new Long Beach Civic Center and Library. These services would be provided as additional services to our current engagement with the City of Long Beach under our current contract arrangement. Our scope of work will include the following disciplines:

- IT Program & Migration Management
- Information Technology Design
- Audiovisual Systems Design
- Electronic Security Systems Design

Our engagement in the design and procurement of these services will vary across the systems being procured.

The scope of this effort was outlined during an initial scoping effort that produced the "City of Long Beach - IT Migration Plan", dated current as at November 30, 2017. This document provides the framework for the IT Program Management role as defined herein.

2 Project Description

The City of Long Beach ("City") is building and moving into a new Civic Center in Long Beach, California. This marks a new and exciting time for both the City staff and the community. This will be a big change for both the staff and the residents of Long Beach geographically, operationally and culturally. Arup has been part of this project since the start of the RFP phase in 2013. In the first quarter of 2017, the City of Long Beach requested a proposal for a scope of work to help in the procurement and provisioning of the information technology and communications systems for the new facilities to be ready, tested and operational for June 2019.

3 Project Approach

Incorporating technology into large capital construction projects presents challenges and opportunities. Our approach is to work with the technology systems owners, users, maintainers and other stakeholders to make sure that requirements are identified, understood, documented, communicated and coordinated with the architectural, engineering and construction (AEC) teams; in this case, Clark Construction as the design builder with SOM Architects and Syska Hennessy Group. This is both at a program level (technical standards) and at a project level (facilities requirements). This process facilitates making sure that IT requirements are understood by the AEC and City of Long Beach teams. The objective is to create a facility that will readily support current, emerging and

anticipated future IT systems and business processes. To manage and report on delivery of each system and interface, we track and report on progress against the milestones identified and agreed in the project schedule. To provide more detail about actual progress, we would establish more granular metrics. For example, for individual systems, production curves can be created with plots of actual versus planned progress.

The key to using production curves to report on progress is to define metrics that measure progress on critical systems. For example, most ITC field work can't commence until rooms are ready to receive ITC equipment. This means that they must be built, cleaned, secured, with racks/cabinets installed and provisioned with air and power. To measure progress, we would assign weights to each of these criteria for each room or space. This adds visibility to encourage the Contractor to complete work in these spaces early so that there is adequate time to install and test the systems.

We anticipate developing protocols for joint working in IT spaces which will define the requirements and the process for handing over these spaces to the City of Long Beach. Given the schedule and the need to be fully operational on move in, we would expect there will be a need for the City of Long Beach to do work in most of these spaces while they are still under the control of Clark and that Clark will need to come back into the spaces to complete work after they have been handed over to the City of Long Beach.

In parallel with the whole, procurement process there is an exercise required to ensure that the City and its staff are operationally ready to use the technologies and systems that will be deployed. The City is embarking on a number of technology initiatives including an implementation of a new ERP system, a shift to paperless storage and a revitalization of the information technology components of the organization.

Addressing operational change management, staff training and schedule management will be as important as IT capital planning, procurement, installation and commissioning to the success of the new facility.

4 Project Team

4.1 City of Long Beach

The project team is comprised of City of Long Beach, Technology & Innovation (CLB TI). TI will be represented by Cason Lee - Manager, Infrastructure Services Bureau, TI, with support from CLB Subject Matter Experts (SME's) as assigned.

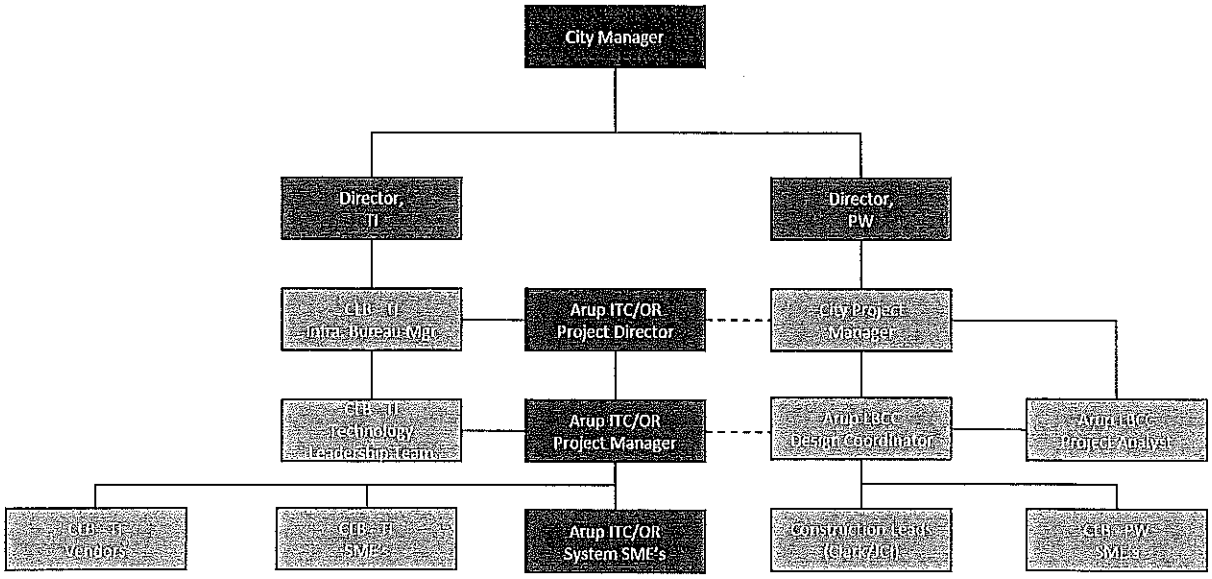
4.2 Arup

Arup's Project Director for the scope of work will be Jon Phillips and Arup's Project Manager will be Duncan Jack.

We do not anticipate the need to employ any sub-consultants to Arup for the scope of services under discussion.

4.3 Governance

We would anticipate the following governance for this work:



Jon Phillips, Principal – Project Director

Jonathan Phillips is a Principal in the Arup Los Angeles office. During his more than 25 years of experience with Arup, he has served as a multi-disciplinary project manager, a senior communications consultant and a lead electrical engineer. As a project manager, Jon has been responsible for the overall organization and coordination of communications and building services design teams for educational facilities, laboratories, galleries, recreation facilities, airport terminals and hospitals.

Jonathan's background in signaling design with mass transit demonstrates his depth of experience within the field. He has a wide range of experience in the design and commissioning of local, campus and wide area data networks, multi-media distribution systems and building cabling systems.

Duncan Jack, Associate – Project Manager

Duncan is a Senior Consultant in the Arup Los Angeles office. He has 15 years of experience in technology consulting in a varying range of projects and technologies. He has assumed responsibilities in project management, overall system design and engineering within various markets including corporate, sports and government and has a proven history excelling in the healthcare and audiovisual industries.

Duncan has successfully designed and managed large-scale commercial and healthcare audiovisual and IT technology projects as a consultant and technology advisor. In addition to preparing design packages for healthcare projects, he has also been responsible for Technical Architecture and oversight of technology implementations. His experience also includes consulting and design for Digital Building technologies for specialty buildings and advanced healthcare projects throughout the United States.

Paul Langer, Associate (Technology)

Paul has specialized experience in designing, developing, and implementing low voltage communications systems with a special focus on convergence of low voltage communications systems, AV systems, security systems, BMS networks, and telemedicine systems.

Paul works with multidisciplinary teams to bring the benefits of systems convergence to the projects with which he is involved. In addition to the systems design and implementation, Paul also has extensive experience in infrastructure to support the deployment of converged low voltage communications systems. He has extensive experience on large scale project IT infrastructure projects and outside plant projects. Paul's past work has also included data center design.

For the last 10 years, the central focus of Paul's work has been developing network architectures and models to provide secure use of network resources for communications systems.

Justin Trevan, M.Eng,C.Eng, CCDA, RFID+, Associate (Technology)

Justin is an Associate and project manager and an experienced IT consultant who brings together technical knowledge of systems and understand of business environments in which they operate to develop strategies, optimize solutions and system development strategies. Justin works across many different industry sectors including government buildings and sports venues, transit, healthcare and aviation. He is based in Toronto and leads a team of IT professionals and business process analysts. He is experienced in the development of strategic plans for variousIT project deliveries and asset classes,development of enterprise architecture and the implementation plans including governance, finances and operations.

Justin is an integral member of the Long Beach Civic Center project from an IT infrastructure and network perspective and has already established a strong understanding of the IT requirements for the new Civic Center.

Craig Leonard, BSc, Senior Business Consultant, Transformational Change Lead

Craig is a Senior Business Consultant at Arup and has broad experience of business process analysis and IT project management across a range of sectors. Craig has had experience leading transformational change projects.

He graduated with a double degree (BSc) in Information Technology and Information Systems and has since worked with a number of global blue-chip clients including banks and professional service institutions.

Craig combines IT and business knowledge, as well as expertise in transformation change management to understand client business needs in detail and translate them into bespoke solutions to suit client requirements and optimize operations in new and existing facilities.

Craig has been involved on the Long Beach Civic Center project, where he conducted research and analysis on current state operations and processes. Craig provided high level recommendations and has familiarity with the structure of the City's departments. Craig is also involved in several transformational change and ORAT projects in Canada and offers a wide range of business analytics, process improvement and project management services.

5 Scope of Work

The ITC scope of work includes the following tracks defined by Long Beach Technology & Innovation:

1. Data Center
2. IT Rooms
3. Council Chambers and Lobby
4. Conference Rooms and Executive Offices
5. Reprographics and Mailroom
6. Operations and Service Desk
7. Access Control Systems
8. Video Surveillance
9. Cable TV
10. PC's and Printers
11. Phone Systems
12. Wireless Network
13. Wired Network
14. Service Providers
15. Fiber Loop
16. Microwave Radio
17. Cellular DAS
18. Applications
19. Decommissioning

The services provided under the IT Migration scope of work include interfacing with the City and the Design Build Contractors team for coordination of the various communications spaces and City's IT systems that the new Civic Center requires.

The buildings structured cabling system will be specified, installed, tested and warrantied by others.

For the various technology areas to be covered, we anticipate the following phases of work will be required:

- Pre-Design Phase
- Design Phase
- Procurement Phase
- Construction Phase

- Migration Phase

In general, within the IT Migration scope, we anticipate the following services will be required:

- Program Definition and Plan
- Identification of critical path items
- Technical Design
- Potential pilots of solutions
- Specification & development of performance specifications
- Bid and procurement
- Contractor/Supplier oversight and interface
- Potential offsite testing and configuration oversight
- Configuration, Testing and Commissioning oversight
- Investigation and documentation of services prior to decommissioning
- Decommissioning support

We assume the various technologies will be designed and procured in individual streams/packages.

Critical to the successful delivery of the project will be the dovetailing together of the City's procurement of ITC systems and equipment with the overall LBCC Project Schedule.

For example, a functioning active network is essential to the delivery of configuring, testing and commissioning of the Building Management System depends on that network to provide connectivity for its devices and applications. In order to achieve a fully functioning active network, the team will need to have;

- Developed the Network Architecture to make the active network complete and produce and vet the network architecture, specification and procurement documents for the enterprise active network.
- Advertised the procurement.
- Run a bid process and selected the preferred solution.
- Present procurement and finance plan to the City Manager and/or City Council.
- Incorporated the lead time on active network equipment into the overall master IT Migration schedule.
- Built and tested the active network off site.
- Completed construction and provided beneficial occupancy of all information technology rooms, including the main data center (completed, powered up, dust free and with functioning cooling).
- Installed and re-tested the active network

5.1 At All Project Stages

5.1.1 General

At all stages of the work, Arup will;

- Provide pro-active project management services from Inception to Full Occupancy to achieve the successful completion of the project within the agreed cost, time and quality
- Provide overall planning, general management and control of the project from inception to completion
- Provide overall coordination of Project between the City of Long Beach, Designers, Engineers, Contractors and Specialty Vendors and Consultants when necessary
- Assist in establishing the project implementation strategy, procedures, developing the needs analysis brief and management of the users input
- Assist with the development of RFP's for procurement
- Assist with consultation with user groups and stakeholders
- Advise on the need for the Client to appoint other consultants and/or to take specialist advice on the services and the conditions of such appointments
- Assist in the selection of other consultants
- Prepare and submit as regularly as is reasonable but no less frequently than monthly, reports for the City of Long Beach to record project progress, key issues, risks, financial status and project forecast. The format and content of the report is to be agreed with the City of Long Beach
- Ensure records of progress meetings and all other activities are documented and maintained
- At all times inform the City of Long Beach and the Consultants of the need to make or give decisions, approvals or recommendations and/or to supply information in relation to all those aspects of the Project in good time to avoid delay to the schedule for Completion of the Works
- Provide procurement strategy advice
- Bid analysis and contract award advice for works packages

5.1.2 Cost Estimating

- Assist in confirming that the designs and specifications for the Project are compatible with the agreed Budget and Schedule for the Project
- Assist in the preparation of an Estimate of the ITC Systems costs

5.1.3 Value Engineering

- Review the design documents as they relate to the overall facility needs, program goals, project Budget and Schedule. Identify and report upon opportunities for increasing value and/or reducing
- Conduct value engineering exercise to review each of the defined ITC procurement packages to determine synergies, savings and potentially applied innovations

5.1.4 Schedule Control

- Assist in ensuring that the ITC team meets all required deadlines in the production of design information.
- Coordinate with the City of Long Beach to identify all project long lead items; manage all Purchase Order requests and track for implementation
- Critical Path Analysis

As part of this process a master list of the responsibilities and dependencies for each undertaking will be developed. The following may be key tasks within this list:

- Project set-up (identify milestones, dependences etc.)
- Data gathering (construction schedules, existing stakeholder readiness etc.)
- Develop and formalise a risk and opportunity management plan and describe how threats and opportunities are to be managed.
- Introduce control measures and monitoring and evaluate the success of these measures.
- Standard Operation Process (SOP) development
- Define predecessors and successors for each activity, irrespective of scope and responsibility to ensure seamless integration and implementation
- Assist the HR Program including providing schedules for conducting staff assessment, stakeholder recruitment, City TI training and familiarisation. Any training is assumed to use a "train-the-trainer" approach.
- Maintenance planning and implementation, including flagging the need for TI training
- Development of the trials program including trials dependency tracking and baseline trails schedule
- Transfer and transition program
- Interface with OR leaders and coordinate the development of individual Stakeholder Transition plans for moving including ongoing tracking and reporting regular interfaces to monitor Stakeholder progress across key OR indicators (recruitment, training, transition, SOPs, Maintenance Plans etc.)

- Establish quantitative probability and impact data for identified opportunities and provide a more detailed analysis, including plan/schedule and cost schedule impact analysis

5.2 Pre-Design Phase

5.2.1 Scoping Document

Arup will continue to refine and develop the "City of Long Beach - IT Migration Plan", dated current as at November 30, 2017. This document defines:

- Tracks of work to be carried out.
- An executive summary of the track scope.
- Key stakeholders using the RACI designations (Responsible, Accountable, Consulted, Informed).
- Success Factors
- Roles and Responsibilities Matrix to define the split between the City and PECP.
- An approach to the track
- Some key criteria for the system to be operationally ready for move.

5.2.2 Workshops

Building on the IT Migration Plan,

- Arup will meet with the City of Long Beach stakeholders to further define the scope of work for each ITC system and will create outline specifications which will be assembled into a Conceptual Design Report.
- Arup will meet with the City of Long Beach to hold a budget definition and verification workshop to define with clarity the various sources of funding for the project tracks.
- Arup will review the Concept Design Report with members of the project team to provide them with an overview of the ITC systems scope and construction schedule. Also, confirm that all ITC infrastructure requirements are well coordinated with the project team.
- There will be dedicated workshops for each of the ITC systems noted.

5.2.3 Workflows

Arup will assist CLB/TI in the planning and change management of technology and technology-related workflows. This scope may include:

- Performing survey analytics
- Providing high level recommendations

- Providing a high-level roadmap for the next steps.

This may be extended to encompass:

- In depth interviews and research on the Cities workflow and processes
- Develop a detailed process flow map/diagram for current and future state for each process
- Provide detailed recommendations for improvements to workflow.

Please note that the investigation of workflows and processes does not include work associated with discussions and negotiations with labor relations.

5.3 Design Phase

5.3.1 Enterprise Architecture

Work with the City of Long Beach to define an overall enterprise architecture which will map systems to departments and display integration to network services. This will assist in the definition of servers to systems, which systems are virtualized etc.

5.3.2 Proof of Concept Trials

Assist in the City of Long Beach in the definition of, specification, procurement and delivery of, proof of concept trials for the ITC systems proposed for the new facilities where required.

5.3.3 Operating Procedures

Develop ITC-specific operating procedures to:

- Understand who owns, operates and maintains the assets and systems to enable maintenance planning and contracts management to develop.
- Ensure operating procedures between various stakeholders, including but not limited to: CLB, TI, Public Works, JCI.
- Form the basis of a detailed operating plan and procedures.
- Validate manpower planning, recruitment targets and enable training needs analysis.
- Identify opportunities for improving operational efficiencies with a beneficial impact on service, safety or financial performance.
- Enable a risk based proving strategy to be developed that addresses key areas needing to be deployed and proved before opening in the new facility.

5.3.4 Specifications

Arup and the City of Long Beach will produce technical specifications for the procurement of the ITC systems described. These specifications will be produced with the City of Long Beach IT department and we anticipate the primary and secondary responsibility for the technical documentation to be as follows in the table below.

Where Arup or CLB TI is listed in the table below is assumed to take the primary lead on that scope. Where not listed, that entity is assumed to be in a support role.

System/Scope Track	Scope Definition	Design & Specification	Bid Package	Bid and Procurement	Contract Admin	Testing Oversight	Transition Management
	Arup						
Data Center	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
IT Rooms	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Council Chambers & Lobby	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP
Conference Rooms & Executive Offices	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP
Reprographics & Mailroom	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Operations & Service Desk Operations	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
ACAMS	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Video Surveillance	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Cable TV	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP
PC's & Printers	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Phone Systems	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Wireless Network	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Wired Network	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Service Providers	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Fiber Loop CAN	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP
Microwave & Radio	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Cellular DAS	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP
Applications	CLB TI	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP
Decommissioning	CLB TI	ARUP	ARUP	ARUP	ARUP	ARUP	ARUP

Review all technical specifications and ensure that the design meets all quality requirements set forward by the design team.

5.3.5 People

Work with the City to prepare people for the transition to the new systems and facilities. Ensure people are completely familiar with the physical and operational elements of the facility in advance of key transitional periods and go live dates.

- Review organizational structure with the respect to the systems and services to be provided within the new Civic Center.
- Develop a training gap analysis for the ITC staff against the systems and services to be provided within the new Civic Center.

- Develop a training gap analysis for the City staff who will be using the new systems and services to be provided in the Civic Center.
- Plan and organize familiarisation training to ITC staff to ensure that they are adequately trained and equipped to respond to situations within the new facility.
- Plan and organize training for City Staff on the new systems and services being provided within the Civic Center.

5.4 Procurement Phase

5.4.1 Contracting Strategy

- Advise the City of Long Beach on methods of procuring the construction of the Project
- Advise on Contract Procurement Strategy
- Where appropriate, produce proposal documentation and prequalify and select bidders and contractors, present for approval

5.4.2 Request for Proposal Preparation

The objective of this phase is to translate The City of Long Beach requirements into contract documents. To achieve this objective, Arup will:

- work with the City of Long Beach to identify logical bundling of systems for procurement.
- work with the relevant departments of the City of Long Beach to produce a complete Request for Proposals (RFPs) package for the ITC systems listed, detailing performance requirements, equipment, installation, and testing requirements. The RFP(s) will include detailed bill of materials and unit pricing schedules to be completed by the vendors proposing on the scope of work.

5.4.3 Proposal Analysis

- analyse, evaluate the responses of the vendors and provide recommendations for the qualified vendors.
- Organize the project team to assess the returned proposals and submit the recommendation to the City of Long Beach
- Assist the City of Long Beach in the negotiation of contracts; evaluate all terms & conditions, preliminaries and preambles, and payment requirements; and report

5.4.4 Contract Award

- Advise in connection with the negotiation of the terms of Third Party Agreements and liaise as appropriate with the City of Long Beach
- Assist in the preparation of contract documents
- Prepare and maintain all Design/Constructions Contracts, project documentation and administrative requirements; upload all documentation to the City of Long Beach designated systems on a regular basis

5.5 Construction Administration

5.5.1 Pre-Construction

- Co-ordinate and administer the contract for the purchase, delivery and installation of the ITC systems as required by the Project
- Co-ordinate and administer the contract for the purchase, delivery and installation of Vendors for the ITC systems required by the City of Long Beach.
- Organize and manage a pre-construction kick off meeting with each contracted vendor to ensure that the project organization, communication requirements, goals, schedule and constraints are understood by all team members.

5.5.2 Progress Meetings

- Organize and chair a weekly ITC Systems progress meeting with the appointed vendors and the City of Long Beach to monitor progress, respond to queries, identify potential risks and issues, identify and discuss mitigation measures and assist in the coordination of the procurement, installation, testing and handover of the ITC systems.
- Attend the Design Builders site progress meetings and prepare and submit site observation reports on the status of the construction work as it relates to the ITC systems.
- Monitor the Design Builders site progress as it relates to the schedule for the ITC systems, identify mitigation measures to avoid / minimize the impact by any potential problems where applicable
- Visit the site weekly during the two months before handover of ITC spaces to provide field observation necessary to assure installation is proceeding in accord with contract documents and the spaces will be ready for handover and acceptance of ITC equipment on schedule.

5.5.3 Requests for Information

- During the procurement and installation phase, Arup will respond to any Requests for Information (RFIs) received from ITC systems contractors as appropriate.

5.5.4 Construction Administration

- Review all requests for changes ("Change Orders"), analyze and have priced all Change Order proposals, and submit recommendations to the City of Long Beach. Keep a thorough record of all Change Orders
- Maintain a register of all Potential Change Orders and give regular update to the Client on their status
- Co-ordinate payment certificates/applications
- Review Vendor/Contractor applications for payment and evaluate against the value of the work in-place
- Track all submittals and monitor the vendor/contractor's submissions and the review and turnaround of submission.
- Assist the City of Long Beach in the review of submittals from vendors/contractors.
- Review "as built" documentation and Operation and Maintenance manuals
- Work with the vendors/contractors and the City of Long Beach to schedule and deliver appropriate training, as specified, in the ITC systems.
- Organize the project team to prepare submissions relating to Completion Certificates
- Organize the handover of the as-built documents, O&M manuals and Warranties to the City of Long Beach
- Organize the handover of the systems to the City of Long Beach

5.5.5 Proving

Develop proving trials to simulate actual operating conditions within the new Civic Center. These trials will bring together people, process, technology and assets to validate that everything is working as intended for a trouble free opening.

Proving trials will be developed from concepts to detailed trials briefs and execution scripts along with logistics plans. Schedules will be aligned with the main construction schedule and the ITC procurement schedule.

Each proving trial will be followed up with a rigorous review period to ensure remedial work is identified and carried out before either a rerun of the trials or the system going live

5.5.6 Migration

Work with the ITC teams to understand:

- Requirements for physical lift and shift of equipment and systems into the new facilities.
- Required arrangements for the movement of assets.
- Requirements for the transition of systems to the new locations
- Decommissioning of existing assets and systems.

5.5.7 Service Level Agreements

Assist the City of Long Beach in the definition of Service Level Agreements for both systems procured under this scope of work and for systems to be provided and maintained by the City of Long Beach and utilized by the development operations and maintenance contractor (JCI).

8 Fees

As the level of effort required for the various scope items and the scope items themselves are not finalized now we would propose that the services be provided on a Time and Materials basis. This would enable staff and scope to be reallocated as required to ensure the delivery meets the needs and direction of the City. If required we could discuss and convert this to a fixed price lump sum fee at the completion of the scoping phase of work towards the end of 2017.

Our T&M fee estimate for this work is $1,752,000.

Refer to the attached fee build-up in Appendix A for further detail of the labor breakdown.

9 Project Documentation

We will prepare appropriate documents for all phases of the project.

We will produce our drawings and documentation using Adobe PDF, Microsoft Visio, Microsoft Word, Microsoft Excel, Microsoft Project and AutoCAD/Revit formats to our office standards. Should you require documentation in other formats we would need to discuss prior to commencing work to ensure compatibility.

Specifications will be produced based on our office standard CSI format specifications.

10 Terms and Conditions

With regard to terms and conditions, we assume that these services will be provided under our current contractual arrangement with the City of Long Beach as an additional service.

11 Agreement

If you are in agreement with our proposal, please sign below and return a copy to us as our authorization to proceed.

Agreed and accepted by City of Long Beach:

Signature	Name [Block Capitals]	Date

APPENDIX A: DETAILED HOURLY BREAKDOWN

ARUP Fiscal Years >>>>
FY 2017/18
FY2018/19 FY2019/2020

Track	Track	Scope Item	Resource	Rate/hr	Hours	Rate/hr	Hours	Rate/hr	Hours	Total Hours	Cost
1	1	Data Center	Senior PM	$ 366	2	$ 377	28	$ 388	0	29	$ 11,057
			Lead Engineer	$ 263	216	$ 271	718	$ 279	9	943	$ 253,435
			Engineer	$ 206	216	$ 212	727	$ 219	9	952	$ 200,608
2	2	IT Rooms	Senior PM	$ 366	7	$ 377	21	$ 388	0	28	$ 10,349
			Lead Engineer	$ 263	95	$ 271	208	$ 279	9	311	$ 83,563
			Engineer	$ 206	104	$ 212	87	$ 219	9	199	$ 41,627
3	3	Council Chambers and Lobby	Senior PM	$ 366	0	$ 377	2	$ 388	0	2	$ 652
			Lead Engineer	$ 263	9	$ 271	78	$ 279	43	130	$ 35,384
			Engineer	$ 206	0	$ 212	52	$ 219	121	173	$ 37,478
4	4	Conf Rooms and Exec Offices	Senior PM	$ 366	0	$ 377	2	$ 388	0	2	$ 652
			Lead Engineer	$ 263	26	$ 271	0	$ 279	0	26	$ 6,816
			Engineer	$ 206	9	$ 212	216	$ 219	35	260	$ 55,227
5	5	Reprographics and Mailroom	Senior PM	$ 366	0	$ 377	2	$ 388	0	2	$ 652
			Lead Engineer	$ 263	17	$ 271	26	$ 279	0	43	$ 11,564
			Engineer	$ 206	9	$ 212	80	$ 219	35	123	$ 26,229
6	6	Operations & Service Desk Systems	Senior PM	$ 366	3	$ 377	0	$ 388	0	3	$ 1,265
			Lead Engineer	$ 263	9	$ 271	69	$ 279	52	130	$ 35,454
			Engineer	$ 206	0	$ 212	130	$ 219	104	234	$ 50,215
7	7	Access Control	Senior PM	$ 366	0	$ 377	0	$ 388	0	0	$ -
			Lead Engineer	$ 263	26	$ 271	52	$ 279	0	78	$ 20,856
			Engineer	$ 206	17	$ 212	78	$ 219	0	95	$ 20,082
8	8	Video Surveillance	Senior PM	$ 366	0	$ 377	0	$ 388	0	0	$ -
			Lead Engineer	$ 263	26	$ 271	17	$ 279	0	43	$ 11,496
			Engineer	$ 206	17	$ 212	43	$ 219	43	104	$ 22,193
9	9	Cable TV	Senior PM	$ 366	0	$ 377	3	$ 388	0	3	$ 1,303
			Lead Engineer	$ 263	0	$ 271	52	$ 279	9	61	$ 16,451
			Engineer	$ 206	0	$ 212	35	$ 219	0	35	$ 7,341
10	10	PC's and Printers	Senior PM	$ 366	2	$ 377	2	$ 388	0	3	$ 1,284
			Lead Engineer	$ 263	17	$ 271	156	$ 279	26	199	$ 53,896
			Engineer	$ 206	0	$ 212	52	$ 219	164	216	$ 46,930
11	11	Phone Systems	Senior PM	$ 366	2	$ 377	5	$ 388	0	7	$ 2,587
			Lead Engineer	$ 263	17	$ 271	26	$ 279	26	69	$ 18,795
			Engineer	$ 206	26	$ 212	104	$ 219	52	182	$ 38,712
12	12	Wireless Network	Senior PM	$ 366	0	$ 377	17	$ 388	0	17	$ 6,516
			Lead Engineer	$ 263	0	$ 271	104	$ 279	0	104	$ 28,081
			Engineer	$ 206	0	$ 212	121	$ 219	26	147	$ 31,366
13	13	Wired Network	Senior PM	$ 366	3	$ 377	21	$ 388	0	24	$ 9,084
			Lead Engineer	$ 263	0	$ 271	208	$ 279	0	208	$ 56,162
			Engineer	$ 206	104	$ 212	500	$ 219	52	656	$ 138,809
14	14	Service Providers	Senior PM	$ 366	0	$ 377	10	$ 388	0	10	$ 3,909
			Lead Engineer	$ 263	17	$ 271	87	$ 279	0	104	$ 27,945
			Engineer	$ 206	17	$ 212	52	$ 219	0	69	$ 14,576
15	15	Fiber Loop CAN	Senior PM	$ 366	7	$ 377	10	$ 388	0	17	$ 6,440
			Lead Engineer	$ 263	104	$ 271	87	$ 279	0	190	$ 50,664
			Engineer	$ 206	43	$ 212	130	$ 219	0	173	$ 36,440
16	16	Microwave and Radio	Senior PM	$ 366	0	$ 377	0	$ 388	0	0	$ -
			Lead Engineer	$ 263	0	$ 271	104	$ 279	35	138	$ 37,722
			Engineer	$ 206	0	$ 212	87	$ 219	0	87	$ 18,354
17	17	Cellular DAS	Senior PM	$ 366	0	$ 377	12	$ 388	0	12	$ 4,561
			Lead Engineer	$ 263	26	$ 271	61	$ 279	0	87	$ 23,196
			Engineer	$ 206	26	$ 212	95	$ 219	17	138	$ 29,315
18	18	Applications	Senior PM	$ 366	0	$ 377	0	$ 388	0	0	$ -
			Lead Engineer	$ 263	0	$ 271	0	$ 279	0	0	$ -
			Engineer	$ 206	0	$ 212	0	$ 219	0	0	$ -
19	19	Decommissioning	Senior PM	$ 366	0	$ 377	5	$ 388	0	5	$ 1,955
			Lead Engineer	$ 263	0	$ 271	69	$ 279	87	156	$ 42,823
			Engineer	$ 206	0	$ 212	121	$ 219	182	303	$ 65,394
		Total Program	Senior PM	$ 366	26	$ 377	138	$ 388	0	161	$62,468
			Lead Engineer	$ 263	606	$ 271	2102	$ 279	294	2902	$809,524
			Engineer	$ 206	588	$ 212	2707	$ 219	848	4018	$880,008
		Annual Hours and Costs			1220		4948		1142		
		Overall Hours and Costs								7309	**$ 1,752, 000**