



CITY OF HOUSTON
HOUSTON AIRPORT SYSTEM
REQUEST FOR PROPOSALS (RFP)
SOLICITATION NO.: H37-OCUCMS-2023-014
OCULUS CONTENT MANAGEMENT SYSTEM (CMS)
FOR HOUSTON AIRPORT SYSTEM (HAS)

Date Issued: March 24, 2023

Pre-Proposal Conference: April 5, 2023, 10:00 A.M., CST

Virtual via MS Teams:

Microsoft Teams Tele-Conference:
bit.ly/3JF9pZw

Questions Deadline: April 11, 2023 @ 2:00 P.M., CST

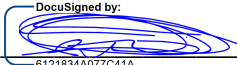
Proposal Due Date: May 9, 2023 @ 2:00 P.M., CST

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Project Summary: As part of the George Bush Intercontinental/Houston Airport (IAH) Terminal Redevelopment Program (ITRP), the Oculus Multimedia Installation will be one of the most visually engaging components of the new architectural environment of the International Central Processor. This large-scale, uniquely designed media feature includes a sophisticated display and control system. This Request for Proposals is to acquire the Oculus Content Management System (CMS) delivery and content display equipment, as well as installation, integration, programming, warranty, and maintenance services. The CMS contractor will be qualified to deliver complex multimedia audio-visual systems for high resolution content.

NIGP Code: 953-13

MWBE Goal: 13%

DocuSigned by:

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Jedediah Greenfield
 Chief Procurement Officer
 City of Houston

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PART I: SOLICITATION

1.0 GENERAL INFORMATION

1.1 Introduction

- 1.1.1 The City of Houston (City) Houston Airport System (HAS), assisted by Technology and Multimedia Systems Specialty Engineering Consultants, intends to engage a Content Management System (CMS) Contractor for the Oculus in the new International Central Processor (ICP) of the George Bush Intercontinental Airport (IAH) as part of the Terminal Redevelopment Program (ITRP).

The IAH Terminal Redevelopment Program (ITRP) will provide an overall modernized facility and improved passenger experience. A significant impact on the passenger experience is the Oculus, one of the most visually engaging and visible components of the architectural environment in the new International Central Processor (ICP). This significant large-scale, uniquely designed media feature includes a sophisticated display and control system.

The Oculus is composed of direct view LED display technology and its supporting video, structural, electrical, communications, and management systems. The media features will include a range of specialized non-standard design elements – for example, curved display surfaces, multi-screen composite display surfaces, and angled display surfaces. An agreement with the successful vendor will require the vendor to acquire the Oculus Content Management System (CMS) technology and related infrastructure, including cabling, software, and licenses. The contractor will design, coordinate, install, and program the media feature management and content delivery system, and provide warranty and maintenance services.

- 1.1.2 The selected vendor will be required to interface with HAS Technology, HAS, and its business partners, such as airlines, other tenants, concessions consultants/contractors (architectural and engineering firms), vendors and or service providers for completion of the assignment(s) and to do so in accordance with the City Charter and the Code of Ordinances of the City of Houston and applicable state and federal regulations. The firm, and its subconsultants, must be able to perform all or part of the services as requested.

1.2 HAS Background

- 1.2.1 HAS provides a safe and dynamic air services network that fosters economic vitality for the transportation industry and the greater Houston region. HAS operates three major airports: (1) George Bush Intercontinental Airport (IAH), (2) William P. Hobby Airport (HOU), and (3) Ellington Airport (EFD).
- 1.2.2 IAH is a large hub airport, and in calendar year 2019, 45.2 million passengers travelled through IAH. IAH is an important international gateway providing services to all 6 inhabited continents and offers more destinations to Mexico than any other airport in the US. IAH is the busiest connecting hub for United Airlines.
- 1.2.3 HOU is a medium hub airport, and in calendar year 2019, 14.4 million passengers travelled through HOU. In October 2015, HOU opened its new international terminal and now provides services to 62 domestic and 11 international destinations. HOU serves as an important domestic and international hub for Southwest Airlines.

1.2.4 EFD is a former U.S. Air Force base that is now operated as a joint civilian-military airport serving businesses and general aviation and is home to the Houston Spaceport.

1.3 The vision for HAS is to establish Houston as a five-star global air service gateway where the magic of flight is celebrated. HAS is seeking Proposals from firms who will partner with HAS to provide a unique media feature that will enhance passenger experience and serve our airline and retail partners.

2.0 PRE-PROPOSAL CONFERENCE

2.1 **A Virtual Pre-Proposal Conference via Microsoft Teams** will be held at the date and time as indicated on the first page of this RFP document. Interested Proposer(s) should plan to attend. It will be assumed that potential Proposer(s) attending the meeting have reviewed the RFP in detail and are prepared to raise any substantive questions not already addressed by HAS.

2.2 The purpose of this conference is to allow potential proposers an opportunity to present questions and obtain clarification relative to any facet of this solicitation. While attendance at the conference will not be a prerequisite to submitting a proposal, proposers who intend to submit a proposal, are encouraged to attend. Make sure you have a copy of the solicitation for reference during the Pre-Proposal Conference. Any changes resulting from this conference will be issued in a written Letter of Clarification (LOC) to the solicitation. Verbal responses will not alter the specifications and terms related to this solicitation.

2.3 Questions are due on Tuesday, April 11, 2023, 2:00 P.M., CST. Please include the phrase **“QUESTIONS: H37-OCUCMS-2023-014; Oculus Content Management System (CMS)”** in the subject line and provide all applicable contact information.

2.4 Communication regarding the Pre-Proposal Conference must be received in writing via email and directed only to:

André Morrow, Sr. Procurement Specialist
Houston Airport System
Supply Chain Management
[Email: Andre.Morrow@houstontx.gov](mailto:Andre.Morrow@houstontx.gov)

3.0 SOLICITATION SCHEDULE

3.1 The following schedule has been established for this solicitation process. HAS reserves the right to modify the schedule during the solicitation process. Changes/updates will be posted on HAS' website via Letter(s) of Clarification.

3.2 HAS reserves the right to extend the due date for this Request for Proposals (RFP) as deemed necessary and in its best interests. Any postponement of the due date will be issued as a Letter of Clarification (LOC) to this RFP. The submission of a Request for Proposals does not, in any way commit HAS to enter into an agreement with that Respondent or any other Proposer. HAS reserves the right to reject any or all Request for Proposal(s) for any reason.

| Table 1: Solicitation Schedule | |
|---|---------------------------|
| Description | Date |
| Advertisement of Solicitation | 03/24/23 |
| Pre-Proposal Conference (Virtual via MS Teams) | 04/05/23 at 10:00 a.m. |
| Deadline for Submittal of Questions | 04/11/23 |
| Letter of Clarification(s) Posted on HAS Website | 04/17/23 |
| Response to RFP Due Date | 05/09/23 |
| Oral Presentations (<i>Estimated - if required</i>) | 06/01/23 |
| Submit to Council for Approval (<i>Estimated</i>) | 07/11/23 |

PART II: GENERAL SOLICITATION INFORMATION

4.0 GENERAL INFORMATION

4.1 Background

4.1.1 The Houston Airport System (HAS) has embarked on the IAH Terminal Redevelopment Program (ITRP) to provide an overall modernized facility. The ICP construction is well underway, with Oculus a main component of the design, highlighting the aesthetic beauty and openness of the architecture.

4.1.2 HAS and their partners for this project are seeking proposals from qualified firms for the Content Management and delivery solution that will drive the Oculus. As part of this Request for Proposal (RFP), the Proposer shall provide the CMS technology, including controllers, media players, power supplies, and related infrastructure, system design, installation, integration with the direct view LED technology, calibration of the high-quality creative content, warranty, and all other required services for the design, implementation, and ongoing maintenance and support of the commissioned system.

4.2 The HAS Vision

4.2.1 This project is intended to provide an immersive and unique experience for passengers travelling to the Houston area, including all required functionality to support airport tenants in the dynamic IAH environment.

4.2.2 The key to this Contract's success is to support HAS's vision to establish Houston as a five-star global air service gateway where the magic of flight is celebrated. Proposers shall embrace the following HAS core values as they relate to the planning, design, implementation, and support of the Oculus at HAS:

| Table 2: HAS Core Values | |
|--|---|
| Relationships | Service |
| <ul style="list-style-type: none"> • We work together with integrity and treat every individual with courtesy and respect. | <ul style="list-style-type: none"> • We WOW our customers through a “can do” attitude and respond quickly to meet and exceed their expectations. |
| <ul style="list-style-type: none"> • We honor our commitments and behave in a manner that earns trust. | <ul style="list-style-type: none"> • We find ways to bring fun and joy into our work and bring customers along for the ride. |
| <ul style="list-style-type: none"> • We promote collaboration and teamwork across the organization. | <ul style="list-style-type: none"> • We respond promptly and effectively. |
| <ul style="list-style-type: none"> • We are reliable and trustworthy; we honor our promises and commitments. | <ul style="list-style-type: none"> • We show respect, compassion and let people know we care. |
| <ul style="list-style-type: none"> • We are open, positive, and constructive in our feedback. | <ul style="list-style-type: none"> • We willingly provide the necessary time and effort to meet the customer's needs. |
| <ul style="list-style-type: none"> • We treat people as they want to be treated. | <ul style="list-style-type: none"> • We are flexible and adaptive in a dynamically changing business environment. |
| <ul style="list-style-type: none"> • We take responsibility for our actions. | <ul style="list-style-type: none"> • We display enthusiasm and passion for our work. |
| <ul style="list-style-type: none"> • We lead by example | |
| Innovative | Excellence |
| <ul style="list-style-type: none"> • We have the courage and willingness to consider new and unconventional ways of thinking. | <ul style="list-style-type: none"> • We strive for quality and skillful execution without compromise. |
| <ul style="list-style-type: none"> • We assume responsibility for learning new things. | <ul style="list-style-type: none"> • We use the power of total employee involvement to achieve our organizational goals. |
| <ul style="list-style-type: none"> • We embrace new ideas. | <ul style="list-style-type: none"> • We foster a culture of shared values that gets things done. |
| <ul style="list-style-type: none"> • We listen with an open mind. | <ul style="list-style-type: none"> • We take calculated risks needed to achieve results. |
| <ul style="list-style-type: none"> • We are future-focused; “I’ve always done it this way” does not exist in our vocabulary. | <ul style="list-style-type: none"> • We look for new and more effective ways to do business. |
| <ul style="list-style-type: none"> • We recognize change as an opportunity. | <ul style="list-style-type: none"> • We encourage continuous improvement. |

5.0 PROJECT DESCRIPTION

- 5.1 Great travel experiences start when passengers leave their homes and arrive at the airport. To make their journey more memorable and highlight the economic and residential growth of the Houston area, Houston Airport System has embarked on the IAH Terminal Redevelopment Program (ITRP) to provide an overall modernized facility with additional gates, capacity to support air service growth, better use of space, enhanced connectivity an improved passenger experience. A large impact on the passenger experience is the Oculus, one of the most visually engaging and visible components of the architectural environment in the new International Central Processor (ICP). This unique media feature – which will include large-scale, uniquely designed media features, a centralized control system, and an inventory of original multimedia content – is an integral part of the new ICP, propelling HAS into the future of air travel and immersive experiences.
- 5.2 At time of writing, the design of the Oculus shape and placement within the ICP has been finalized.
- 5.3 Requirements outlined in this RFP are for the design, procurement, installation, integration, programming, calibration, commissioning, warranty, and maintenance of the Oculus CMS technology, and any coordination services required between HAS, their chosen Owner's Authorized Representative (OAR), the LED Display System Provider (LED DSP), and the Content Production Company (CPC).
- 5.4 A capable team shall be provided to support the work of HAS in achieving the intention and design requirements of the Oculus. Specialized knowledge and industry experience is expected.
- 5.5 **Roles and Responsibilities**
- 5.6 HAS engaged an Owner's Authorized Representative (OAR) to coordinate, manage, and act as executive producer of the Oculus project from design through operational system. As the owner and entity responsible for the operations of the Oculus, all final approvals on any design and installation work must come from HAS.
- 5.7 HAS or its designated OAR will be the principal point of contact for ensuring that the intent of the Oculus design is executed throughout the project and will provide it for the work effort through final acceptance of the Oculus.
- 5.8 HAS and/or their designated OAR will also be the principal point of contact for coordination and any issues related to the Content Management System (CMS) and CMS integration. The CMS will store and manage the multimedia content for the Oculus. The CMS Contractor engaged under this contract will be responsible for supporting the Content Production Company (CPC) in addressing technical matters and ensuring technical compliance for full integration of all content capsules and content inventory and for supporting the LED display system provider to achieve a complete working system that meets specifications.
- 5.9 The OAR will work directly with HAS to address all building systems connectivity and coordination related to required infrastructure (power, data, communications), and will coordinate the installation of the display technology with HAS in alignment with the ITRP ICP construction schedule and requirements related to the base building.
- 5.9.1 HAS will be the point of contact for any coordination efforts required with ITRP for these efforts and any additional requirements, such as adherence to all safety regulations, codes, and standards.

- 5.10 The LED display system provider, engaged under a separate contract, is responsible for the entire display technology system, from the LED tiles to the LED processors, including commissioning of display technology equipment. The LED display system provider will coordinate with the OAR for scope activities related to the CPC and the CMS integration.
- 5.11 The CPC, engaged under a separate contract, is responsible for the creative direction and capture of design intent, capsule production, and validation of an adequate content inventory based on collaboration and final approval from HAS. The CPC shall coordinate with HAS and/or their OAR for scope activities related to the LED display system provider and the CMS integration as outlined in the Scope of Work.

6.0 ESTIMATED PROJECT TIMELINE

- 6.1 This is timed to coincide with the opening of the IAH ICP and must be substantially complete with the ITRP terminal opening currently anticipated for May 2024. Once awarded, the Contractor shall coordinate the schedule for deployment with ITRP and HAS throughout the course of this project.

7.0 SPECIFICATIONS/SCOPE OF SERVICES

- 7.1 **SCOPE OF WORK** – The Contractor shall perform the general Scope of Work described herein and as further discussed in Attachment A – Scope of Services.

PART III: PROPOSAL REQUIREMENTS AND EVALUATION PROCESS

8.0 EVALUATION AND SELECTION PROCESS

- 8.1 The response to this RFP is expected to meet the evaluation criteria outlined in this section, which encompass the design intent and objectives of HAS for the Oculus media installation in the new terminal ICP. The LED display technology and integration process proposed in the response will represent a critical component of the success of the project.
- 8.2 Evaluation Summary – Proposals from Proposers that meet the Minimum Qualifications will be evaluated. HAS, at its sole discretion, may choose to develop a shortlist of proposers for further consideration. Shortlisted Proposers may be scheduled for structured oral presentation and/or interview. Such presentations will be at no cost to HAS. At the end of the oral presentation and/or interview, the evaluation of the shortlisted Proposers will be completed. The Houston Airport System will utilize an evaluation committee to evaluate this RFP.
- 8.3 Selection Process – The award of this contract will be made to the Proposer offering the response that meets the needs of HAS.
- 8.3.1 HAS may make investigations, as it deems necessary, to determine the capabilities of the Proposer to successfully render the Scope of Services anticipated in this RFP. The Proposer shall furnish HAS such data as HAS may require for this purpose. HAS reserves the right to reject any Proposal if the evidence submitted by, or the investigation of, a Proposer fails to satisfy HAS that a Proposer is deemed qualified to provide the services contemplated in this RFP.

- 8.3.2 Upon review of all information provided by Proposers, the evaluation committee will make a recommendation for selection to City officials. The City reserves the right to check references on any projects performed by the Proposer, whether provided by the Proposer or known by the City. Selected Proposal shall be submitted for approval by the appropriate City officials. The City of Houston intends to select a Proposal that best meets the needs of the City and that provides the best overall value. Upon approval of the selected Proposer, a contract shall be executed by the appropriate City officials.
- 8.4 Evaluation Scores – Respondents meeting the Minimum Qualifications of this RFP SHALL BE SCORED AS SHOWN IN TABLE 3 AS FOLLOWS:

| Table 3: Evaluation Criteria Scoring | |
|--|------------------|
| EVALUATION CRITERIA | Max Score |
| Company Profile | 15 |
| Relevant Experience and Demonstrated Ability to Deliver Similar Installations | 15 |
| Project Plan and Schedule | 20 |
| Installation, Programming, Commissioning Approach | 15 |
| Warranty and Maintenance | 20 |
| Proposal Pricing | 15 |
| Total | 100 |
| Minimum Qualifications | Pass/Fail |
| MWBE Compliance | Pass/Fail |
| Financial Capabilities (Separate Envelope) | Pass/Fail |
| Hire Houston First (Bonus Points) | 5 |

- 8.5 Evaluation Criteria – The purpose of these criteria is to assess the degree to which Proposers are qualified, possess the knowledge and have the capability to provide the Scope of Services outlined in this RFP. Proposals must adequately address each and will be evaluated on the following criteria:
- 8.5.1 **Company Profile (15 Points)**
- 8.5.1.1 Provide documentation confirming that the Proposer has been in the business of designing, installing, and integrating complex multimedia AV systems for large installations, including implementation services and support services, for use in high volume public places for a minimum of seven (7) years. The Proposer shall highlight project installations that are similar in nature to the Oculus and any technological innovation, industry leadership, and key competitive advantages.

- 8.5.1.1.1 Complex multimedia AV systems for large installations means it includes coordinated design and engineering efforts for large scale, public facing LED walls displaying frame accurate, synchronized media content at 4K or above resolution and may involve the integration with audio and other devices for show control or other custom applications.
- 8.5.1.2 Provide the location of the company headquarters and any other global offices. Include the address and the number of personnel and their titles for each location. Clearly label the headquarters and offices in North America.
- 8.5.1.3 Describe the organization of the proposing team. Include the point of contact to HAS. Specify the project manager for the project. Specify the on-site installation foreman if different from the project manager. Include the names and brief resumes of key individuals who would be responsible for specific tasks in the Scope of Work. Describe the ability of the proposed project team to initiate the services defined in the Scope of Work in a timely manner, including backup team members in the event of absence of a proposed team member. Indicate any anticipated partnerships and work that may be subcontracted.
- 8.5.1.3.1 The proposed team shall include members with the requisite certifications and proven experience in their field of expertise to properly support the requirements of the Oculus project. The proposed project lead assigned to HAS should have experience serving as a project lead for a similarly positioned role for at least five (5) years.
- 8.5.1.3.2 Any changes to the project lead after contract award require one (1) month advanced notice and written approval from HAS.
- 8.5.1.4 Provide the resources to be allocated to this project during the design and integration periods of this project. Include the names key individuals and an estimate of available time for the individual to dedicate to the tasks in the Scope of Work. Include a list of anticipated projects and their dates that will occur during the Oculus project time frame – from April 2023 to July 2024.
- 8.5.1.5 Provide a minimum of three (3) references from previous clients where the Proposer acted as the responsible entity for the design, implementation, interfacing, configuration, testing, and on-going support for a large multimedia project completed within the last five (5) years. Include a statement of the quality of work. Include project owner, name, title, and current contact information. At least one (1) reference must be from a project where the Proposer acted as the prime Contractor.
- 8.5.2 **Relevant Experience and Demonstrated Ability to Deliver Similar Installations (15 Points)**
- 8.5.2.1 HAS desires to select a business partner who has demonstrated experience with permanent, large scale, architecturally integrated audio video and content management system installations for a large audience. The Proposer shall provide at least three (3) examples of projects delivering large, complex video processing and delivery systems for high quality content of at least 4K resolution. At least one (1) of the provided examples must primarily involve the use of direct view LED. Include the name of the project and description, start and completion dates, project cost (in US \$), description of the collaboration among partners, key subcontractors and their contribution, any images or drawings of media player configuration, explanation of how the design specifically served the space, and any custom elements created. Include the contact information for the Project Owner, including their name, title, and current contact information.

- 8.5.2.1.1 Large, complex video processing and delivery systems projects include projects that involve coordinated design and engineering efforts; large scale, public assembly, entertainment complexes and public facing media features using LED multimedia systems; integration and configuration of video wall display technology for use with 4K or greater resolution content; and control system integration, including media playback systems, show control, and other custom applications.
- 8.5.2.1.2 Identify any installations completed in existing, occupied facilities. Describe how impacts to ongoing operations were minimized.
- 8.5.2.2 The Proposer shall provide qualifications demonstrating the ability of the firm and proposed team to create construction level designs and provide construction level coordination for complex projects. Include examples of past work and a description of the coordination efforts. Include the names of any in-house personnel involved, including any electrical, network, and telecommunications specialists and their roles in construction level design and coordination. If any external partnerships are used, provide a description of their involvement and any previous affiliation.
- 8.5.2.2.1 Qualifications should demonstrate the ability of the firm to provide compliance with equipment specification and design criteria for power and heat loads, mounting details, and signal distribution; coordination with engineering of record for design of building system interfaces; and coordination with the Owner or OAR to bid and procure equipment.
- 8.5.2.3 The Proposer shall provide examples demonstrating the ability of the firm and proposed team to create and deliver shop drawings in Revit. Include examples of shop drawings prepared for previous architecturally integrated projects indicating construction and fabrication details. Include the names of the in-house personnel involved, including any structural, mechanical, electrical, and systems engineering and technical support and their roles in the development and review of shop drawings. If any external partnerships are used, provide a description of their involvement and any previous affiliation.
- 8.5.2.4 The Proposer shall provide examples that demonstrate experience with delivering extensive end-of-project documentation, such as as-built drawings, standard operating procedures, troubleshooting strategies, training manuals, and operation and technical equipment manuals. Include any outlines or standard templates for training manuals.
- 8.5.3 **Project Plan and Schedule (20 Points)**
- 8.5.3.1 Describe the approach to review the proposed CMS design provided in Attachment E – Oculus Design Documents for value engineering and performance. Describe the capability and technique to perform a design review. Describe the approach to technically evaluating and finalizing the design. Describe the approach to involving the other selected Oculus Contractors (CPC and LED DSP). Include any additional technical services that have been proven valuable in past similar projects.
- 8.5.3.2 The Oculus is a complex curved elliptical surface made up of multiple radii and angled at approximately 30-degrees towards the floor. The resulting shape is an approximated truncated elliptical cone made up of three radii with the smallest radius being 9ft. The unique shape may require the use of mixed pixel pitches to account for the bends and angles. The Proposer shall describe the approach to this design challenge and describe, with drawings, any anticipated uncommon techniques and mechanisms that may be required to properly display the media on the display technology via the CMS. Describe any video playback issues specific to angled concave surfaces and tight curves and explain how such issues can be addressed.

- 8.5.3.2.1 Provide relevant details and concerns regarding the mixing of LED pixel pitches, including but not limited to the frame rate accuracy, output synchronization, mechanical issues, and any other issues based on Proposer prior experience.
- 8.5.3.2.2 Provide images and drawings of any previous experience, if any, with LED tile displays installed on complex curved surfaces with varying radii of curvature and angled down.
- 8.5.3.3 Describe ways, if any, to improve the functionality of the CMS design, including any innovation or different approach that may reduce costs, and why it's better. Include any supporting diagrams for clarification.
- 8.5.3.4 Describe any hardware or software product customization capabilities and explain any limitations to the customization. Propose a management strategy for the customized component replacement and how to reduce costs for maintenance, refurbishment, or updating.
- 8.5.3.5 Design development coordination meeting between HAS and the CPC may require interactive and/or real-time content generation capabilities. Describe how the CMS design will support future integration and expansion of the system to include adjustments for interactive and audio components and sensors. Identify any limitations the proposed system may have relative to generative content.
- 8.5.3.5.1 Proposer shall clearly state the limitations of the base system proposed in terms of adding additional servers and end devices. Particular attention should be given to the number of additional end devices that can be added without requiring additional processing power, memory, and/or disk storage.
- 8.5.3.6 Provide an estimation of the lead time for the fabrication of the anticipated products for the Oculus CMS.
- 8.5.3.7 Describe the overall coordination approach, how the project will be managed to ensure that all required timeline, quality control, and budget requirements are met throughout the project. Include any proposed workshops, how schedule updates will be delivered, and how changes will be handled. A high-level narrative shall be provided that addresses the overall project management approach, including communication protocols and methodology from design through operations.
- 8.5.3.8 Describe any capability to perform in-house testing and quality control of CMS components or combination of components. Describe the facilities where the testing will take place. Include location, scale, and testing equipment to be used. Include a description of the quality control techniques and any competitive advantages occurring in facilities relating to testing and validation.
- 8.5.3.9 Describe the quality assurance measures to be taken at multiple steps of the project, including but not limited to factory acceptance testing, video signal chain verification, and installation.
- 8.5.3.10 The Proposer shall provide quality assurance throughout the project. Describe the quality assurance measures taken and the frequency with which it is performed, including activities leading up to the scheduled opening day of the ICP and remaining activities beyond opening, if necessary.

8.5.4 **Installation, Programming, and Commissioning Approach (15 Points)**

- 8.5.4.1 Describe installation capabilities and management approach for the components of the CMS, including video controllers, media players, power supplies, sensors, cabinets, and related infrastructure. Describe how the other CMS Contractors (CPC, LED DSP) will be involved. If external partners are used, describe their involvement and any previous affiliation.
- 8.5.4.2 Describe CMS programming capabilities and management approach for media playback. Describe how the other CMS Contractors (CPC, LED DSP) will be involved. If external partners are used, describe their involvement and any previous affiliation.
- 8.5.4.3 Describe the testing and quality control approach, including Factory Acceptance Testing, functionality and performance testing, and performance verification testing. Include a description of the testing facilities, including location, scale, and testing equipment. Describe the quality control techniques used to verify the equipment and a timeline of the process.
- 8.5.4.4 Describe the calibration process for the video distribution chain, including the factory calibration and on-site calibration processes. Describe the calibration process for replacing equipment in a functioning environment at different stages of the product lifecycle.
- 8.5.4.5 Describe the commissioning process for the video distribution chain on-site after installation. Describe how the other CMS Contractors (CPC, LED DSP) will be involved.
- 8.5.4.6 The Proposer must have experience with systems integration and control engineering. Describe any integration experience, capabilities, and approach for a complete Oculus installation. Describe any adjustments to be made for future integration of audio or motion capture sensors. If external partners are used, describe their involvement and any previous affiliation.

8.5.5 **Warranty and Maintenance (20 Points)**

- 8.5.5.1 Describe any real-time, remote status monitoring and reporting tools that will be incorporated in the preventive maintenance program to proactively monitor the Content Management System.
- 8.5.5.2 Describe the approach to replacement parts and include a recommendation for an inventory of spare parts to meet the required response times of the warranty and maintenance program.
- 8.5.5.3 Warranty Plan – The Proposer shall submit with its Proposal a warranty plan with costs covering the warranty as described in Attachment A – Scope of Services. Include standard warranties along with timeline and pricing. Include premium warranties along with timeline and pricing. The Proposer shall also submit with their proposal information that will allow HAS to evaluate the Proposer's warranty program to ensure reliable operations and a cost-effective approach. Consideration will be given to warranty lengths above and beyond the duration described in Attachment A – Scope of Services.
- 8.5.5.4 The Proposer shall provide operations and maintenance services after commissioning the system. Provide costs and describe the recommended operations and maintenance approach, including recommended preventative maintenance services. Include information that will allow HAS to evaluate the Proposer's maintenance program to ensure continued reliable operations after the completion of the initial warranty period. Include standard terms and conditions.

Include options for extended or premium services. If external partners are used, describe their involvement and any previous affiliation.

- 8.5.5.5 The Proposer shall provide factory authorized service in the event of CMS failure to support requirements of all hardware and software included in Attachment A – Scope of Services and the related Specification Sections. Describe the service facility serving Houston, Texas, including the location and any relevant details. Describe the response options.
- 8.5.5.6 Describe the approach to maintaining or replacing software, hardware, or related system equipment in accordance with the maintenance and support requirements in Attachment A – Scope of Services and the related Specification Sections.
- 8.5.5.7 The selected CMS Contractor will be responsible for managing the warranty and maintenance for the entire Oculus system and act as the Point of Contact to HAS for all warranty and maintenance services as described in Attachment A – Scope of Services. Describe how the LED Display Technology maintenance and warranty will be managed after acceptance of the system using the LED maintenance and warranty information provided in Attachment F – LED Display Technology Maintenance and Warranty. Describe the coordination approach with the selected LED DSP once selected. Include the anticipated cost in the provided pricing response form.
- 8.5.5.7.1 It is anticipated that the LED DSP will be selected prior to the response due date. Upon selection, the LED DSP contact information will be shared via a Letter of Clarification (LOC). If needed, this procurement process will pause until the LED DSP is selected so that a cost can be included in this proposal.

8.5.6 **Proposal Pricing (15 Points)**

- 8.5.6.1 Complete the Required Pricing Form provided in Attachment B – Proposal Pricing Response Form.
- 8.5.6.1.1 Pricing shall include all products and services required to design, install, program, commission, test, warrant, and maintain the Oculus CMS.
- 8.5.6.2 The inventory and details included in the pricing form serve as a basis for comparing value proposals only and do not necessarily reflect the final list of equipment to be used for the project. The final list of all inventory and equipment, including customized products, shall be determined during the design phase of the project in collaboration with HAS, the OAR, the LED Display System Provider, and the CPC.
- 8.5.6.3 Options and Alternates – The Proposer shall submit a detailed narrative of any recommended options and alterations proposed as compared to the functional design requirements included in the RFP Functional Specifications. This narrative should clearly delineate the proposed modifications and include the reason(s) for the proposed modification as well as detailing any cost, interface, or integration impacts.
- 8.5.6.4 Exceptions – Provide a “Matrix of Exceptions” to the requirements of the RFP. Identify the requirement, describe the nature of the deviation, and provide an explanation or an alternative. The Proposer’s “Matrix of Exceptions” shall be for all of the articles and sections of the RFP and technical specifications of the RFP. If no deviations are identified and HAS accepts Proposer’s proposal, Proposer shall conform to all of the requirements specified therein.

9.0 MINIMUM QUALIFICATIONS (PASS/FAIL)

9.1 The Proposer shall have been in the business of designing, integrating, and managing complex content management and delivery systems for large scale displays for a minimum of seven (7) years.

9.2 **RESPONSIVE:** A vendor that responds to all material requirements of any solicitation will be deemed responsive. The Proposal shall be responsive to all material requirements that will enable the evaluation committee to evaluate it in accordance with the evaluation criteria and make a recommendation to City officials.

9.3 **RESPONSIBLE:** A business entity or individual who has the integrity and reliability as well as the financial and technical capacity to perform the requirements of the solicitation and subsequent contract will be deemed responsible. This assessment will include a review of all references on any projects performed by a business entity or individual, whether provided by the business entity or individual or known by the City.

10.0 MWBE COMPLIANCE (PASS/FAIL)

10.1 It is the City of Houston's policy to ensure that Minority and Women Business Enterprises (MWBE) have full opportunity to compete for and participate in City Contracts. Contractor shall comply with the City's MWBE Program as set forth in Chapter 15, Article V of the City of Houston Code of Ordinances, as well as the Policies and Procedures of the Office of Business Opportunity (OBO) found on OBO's website at <https://www.houstontx.gov/ofo/policies-procedures.html>.

10.2 Contractor shall make good faith efforts to award subcontracts and supply agreements in at least 13% of the value of the Agreement to certified MWBEs. If the Contractor is a certified MBE or WBE, Contractor may count its self-performance to meet a portion of the overall goal. Contractor acknowledges that they have reviewed the requirements for good faith efforts on file with OBO, available at <https://www.houstontx.gov/ofo/docsandforms/goodfaiththefforts.pdf>, and will comply with the set forth requirements.

10.3 Contractor shall maintain records of subcontracts and supply agreements with certified MWBEs, containing language required herein. In addition, Contractor shall submit all disputes that may arise with MWBE subcontractors/supplies to mediation provided by OBO if other attempts do not result in a resolution

11.0 FINANCIAL CAPABILITIES (PASS/FAIL)

11.1 The Proposer is required to submit, in a separate, sealed envelope, clearly marked "Financial Statements", one (1) stamped "Original" and one (1) copy of its Financial Statements with its Submittal.

11.2 Submit audited financial statements for the last two (2) years. If audited financial statements are not available, please submit tax returns for the two previous years and two years of unaudited financial statements.

12.0 HIRE HOUSTON FIRST

12.1 Local Reference Points – To be eligible for the preference, a company must be designated as a City Business (CB) or Local Business (LB) under the Hire Houston First Program prior to submittal of proposal. Proposers must provide Declaration of Hire Houston First Designation with proposal submission. At the conclusion of scoring Proposals, Hire Houston First preference points shall be distributed in such a way that grants the highest number of points to a City Business (CB) and the next highest number of points to a Local Business (LB).

- 12.2 Note: At the conclusion of scoring Proposals, preference points shall be distributed in the following manner:
- 12.2.1 5 Points: For Proposer firm designated as a Hire Houston First “City Business” (CB);
- 12.2.2 3 Points: For Proposer firm designated as a Hire Houston First “Local Business” (LB);
- 12.2.3 0 Points: For proposer firm not designated as either a “City Business” (CB) or a “Local Business” (LB).

13.0 INTERVIEWS/ORAL PRESENTATIONS

- 13.1 Following the evaluation of the written proposals, HAS may interview short-listed Respondents at its sole discretion. Submission of a proposal does not guarantee the right to an interview. HAS reserves the right to accept or reject any or all Proposals in response to this Request for Proposals (RFP). Additional information will be provided to those Respondents being interviewed, should this step be required.
- 13.2 The evaluation committee may arrive at a short list of proposers. These short-listed proposers may be scheduled for a structured oral presentation and interview and will be further evaluated based on the proposal and presentation. Short-listed proposers may receive clarifying questions from the evaluation committee in advance of their presentation and interview. Should oral presentations be required, invited proposers may be asked to revise their proposal to reflect things revealed or explicated in the oral presentation and interview. Please note that HAS is not responsible for costs associated with oral presentations and interviews.

14.0 SELECTION PROCESS AND CONTRACT AWARD

- 14.1 Submission of Proposals in response to this RFP indicates Proposer’s acceptance of the selection process and the evaluation criteria described herein.
- 14.2 Responses will be evaluated by an Evaluation Committee consisting of City of Houston personnel. The Evaluation Committee may include non-voting, non-City personnel to observe the process. Selection will be based on the Evaluation Criteria described in Sections 8.0 thru 12.0.
- 14.3 **Step ONE of the selection process:**
- 14.3.1 Based on the number and quality of Proposals to this RFP, the evaluation committee may form a short list of proposers whose proposals provide the most desirable methods for providing the services. In developing the short-list, the committee will consider, among other things, the criteria described in Section 8.0. The Houston Airport System will utilize the consensus scoring methodology to evaluate this RFP.
- 14.3.2 NOTE: If a clear, first-place proposer is identified, the proposers will be notified of such, and there will be no Step TWO. If no oral presentation/interview is required by the evaluation committee, the initial scores will become the final scores. However, in the event the evaluation committee identifies no clear, first-place Proposer, the evaluation committee may request oral presentations/interviews for short-listed Proposers identified in Step ONE.

14.4 **Step TWO of the selection process:**

14.4.1 Proposers will be notified in writing of the date/time and location of their presentation if they have been chosen for further consideration.

14.4.2 After the oral presentations/interviews (if required) are completed, final scores will be established by the evaluation committee. The scores from the oral presentations/interviews will serve as the FINAL scores. Scores from the first round (Step ONE) will not be added or averaged as part of the final scores.

14.4.3 The City reserves the right to request clarifying information from and ask additional questions of any individual proposer at any time during the evaluation process. The City also reserves the right to contact any references provided by the Proposer within its Response.

14.5 **Step THREE of the selection process:**

14.5.1 After Step TWO (or Step ONE if no oral presentation/interview is required), the City will begin contract negotiations with the highest ranked Proposer(s) based upon the sample contract form attached to this RFP. As part of its Step ONE submittal, proposer shall provide the City with any comments it has regarding the sample contract. If negotiations result in agreement, the proposed contract will be submitted to the City Council for approval.

14.5.2 Notwithstanding the foregoing, the City makes no representation that an award will be made as a result of this RFP. The City reserves the right to award a contract for all or any portion of the project requirements addressed in this RFP, award multiple contracts, or to reject any and all proposals if deemed to be in the best interest of the City and to re-advertise. In addition, the City reserves the right to waive any formalities or technical inconsistencies or delete any requirements from this RFP when deemed by the City to be in its best interest. HAS reserves the right to cancel this RFP, accept or reject, in whole or in part any or all Proposal(s) received in the best interest of the HAS.

14.5.3 Any failure by the Proposer to acquaint itself with the available information will not relieve it from the obligation of entering into a contract with the City should it be the successful Proposer. The City shall not be responsible for any conclusions or interpretations made by the Proposer of the information made available by the City in this RFP or independent of this RFP.

PART IV: SUBMITTAL PROCEDURES

15.0 REFERENCES

15.1 The Proposer shall provide a minimum of three (3) qualified reference sites where the Proposer acted as the responsible entity for the design, implementation, interfacing, configuration, testing, and on-going support for a large, architecturally integrated, direct view LED content management and delivery system.

16.0 SUBMITTAL PROCEDURES

16.1 Provide ten (10) printed copies of the Proposal (numbered x of xx), including one (1) printed original signed in BLUE ink, and marked as "Original" on the outside cover. Additionally, provide ten (10) complete copies on a memory stick (USB Thumb drive) labeled with the appropriate Solicitation name and number that includes a complete copy of all information in the printed original. Please submit all items in a sealed envelope or package bearing the assigned Title and RFP Number to:

Cathy Vander Plaats
 Aviation Procurement Officer
 Houston Airport System
 Supply Chain Management
 18600 Lee Road
 Humble, Texas 77338

- 16.2 The envelope or package should clearly identify the name and address of the Proposer and indicate the contents as "Response to RFP # H37-OCUCMS-2023-014; Oculus Content Management System (CMS)".
- 16.3 The deadline for the submittal of the Response to the Houston Airport System (HAS), Supply Chain Management Office is no later than the date and time as indicated on the first page of the Solicitation document. Failure to submit the required number of copies as stated above may be subject for disqualification from the proposal process.
- 16.4 Proposers may elect to either mail or personally deliver their Response to the Supply Chain Management Office. HAS bears no responsibility for submitting Proposals on behalf of any Proposer. Proposer(s) may submit their Proposals to the Supply Chain Management Office any time prior to the stated deadline.
- 16.5 In the event that there are discrepancies among the various Proposals submitted, the "Original" Response signed in BLUE ink shall govern.
- 16.6 All proposals must be labeled on the outside of the envelope or box with the Proposer's name and the name of the Solicitation. Proposers should follow the required format in preparing their Proposal in order to enable HAS to efficiently evaluate the Proposals.
- 16.7 Each copy of the Response shall be bound using GBC or other semi-permanent binding method, to ensure that pages are not lost. Pages shall be no larger than letter-size (8 ½" by 11") or folded to that dimension, twice letter size (11" by 17"). A tabbed divider shall separate each section (defined below). Document text should be in Arial (or similar standard sans serif font) 10 point or Times New Roman (or similar standard serif font) 12 point, but must be consistent throughout the document.
- 16.8 At least one copy must carry the original signature of an officer or individual having legal authority to enter into agreements on behalf of the Proposer. The deadline for submission is on Tuesday, May 9, 2023, 2:00 P.M. (CST). Each envelope or package should be clearly marked "Response to RFP # H37-OCUCMS-2023-014; Oculus Content Management System (CMS)". Proposals received after this date and time will be returned unopened and not considered.

17.0 PROPOSAL OUTLINE AND MINIMUM CONTENT REQUIREMENTS

- 17.1 Each Response shall be organized in the following order and tabbed appropriately:
- 17.1.1 **Outside Cover**
- 17.1.1.1 This shall contain the RFP number and title "H37-OCUCMS-2023-014; Oculus Content Management System (CMS)," the name of the Proposer, and the submittal date. Remember to label the original documents as "ORIGINAL" on the outside cover.

- 17.1.2 Table of Contents
- 17.1.3 **TAB 1 - Transmittal Letter**
- 17.1.3.1 Submit a one (1) page letter transmitting the Proposal to Cathy Vander Plaats, Aviation Procurement Officer, Houston Airport System. The transmittal letter shall state, "This Proposal is valid for 180 days," and that the signer of the document is authorized by the Proposer to sign the document.
- 17.1.3.2 Letter shall contain the names and roles/responsibilities of all individuals proposed for the Team, and the Proposer must certify that each Key Personnel of the Team was selected based on demonstrated competence and qualifications.
- 17.1.3.3 The letter must include a statement committing the availability of the key personnel.
- 17.1.3.4 One copy of the transmittal letter shall contain the original signature of the team lead. NOTE: Acknowledge receipt of all RFP Letter(s) of Clarifications, if any, in this Transmittal Letter.
- 17.1.4 **TAB 2 – Description of Firm**
- 17.1.4.1 Provide a general description of the firm, including systems, services, and staffing offered, number of employees, office locations, and the number of years in business.
- 17.1.5 **TAB 3 – Executive Summary**
- 17.1.5.1 The Executive Summary should provide an overview of the qualifications necessary to accomplish the project, which includes a narrative statement of the Proposer's understanding of the Project and key points in their Proposal. At a minimum, the Executive Summary must contain the following information:
 - 17.1.5.1.1 Complete legal name of the Proposer, the name of the legal entities that comprise the Proposer, and all proposed subcontractors. The Proposer must provide the domicile where each entity comprising it is organized, including entity name, brief history of the entity, contact name, address, phone number, as well as the legal structure of the entity and a listing of major satellite offices. If the Proposer is made up of more than one firm, the legal relationship between these firms must be described.
 - 17.1.5.1.2 Prepare narrative statements that describes the Proposer's understanding of the work involved in performing the Scope of Work that is described in the Functional Specification.
- 17.1.6 **TAB 4 – Response to Firm and Individual Professional Experience and Knowledge** as described in Section 8.5.1.
- 17.1.7 **TAB 5 – Response to Relevant Experience & Demonstrated Ability to Deliver Similar Installations** as described in Section 8.5.2.
- 17.1.8 **TAB 6 – Response to Project Plan and Schedule** as described in Section 8.5.3.
- 17.1.9 **TAB 7 – Response to Installation, Programming, and Commissioning Approach** as described in 8.5.4
- 17.1.10 **TAB 8 – Response to Training, Warranty and Maintenance** as described in Section 8.5.5.
- 17.1.11 **TAB 9 – Response to Proposal Pricing** as described in Section 8.5.6.
- 17.1.12 **TAB 10 – Response to MWBE Compliance** as described in Section 10.0.
- 17.1.13 **TAB 11 – Response to Financial Capabilities** as described in Section 11.0.

- 17.1.14 **TAB 13** – Provide all the Forms to be submitted with the Proposal as described in Section 19.0.

PART V: SPECIAL CONDITIONS

18.0 SPECIAL CONDITIONS

18.1 DRUG DETECTION AND DETERRENCE PROCEDURE

- 18.1.1 Please complete the related drug detection and deterrence procedures City Required Documents (Exhibit I).

18.2 INSURANCE REQUIREMENTS

- 18.2.1 The selected Respondent shall obtain and maintain in effect during the term of the Agreement, insurance coverage as set out below, and shall furnish certificates of insurance, in duplicate form, prior to the beginning of the services hereunder. All such policies except Professional Liability, Workers' Compensation and Employer's Liability shall be primary to any other insurance and shall name the City as an additional insured. All liability policies shall be issued by a company with a Certificate of Authority from the State Department of Insurance to conduct insurance business in Texas or a rating of at least B + with a financial size of Class VI or better according to the current year's Best's rating. The selected Proposer shall maintain the following insurance coverages in the following amounts:

- 18.2.1.1 Professional Liability insurance \$1,000,000 per occurrence; \$2,000,000 aggregate.
- 18.2.1.2 Automobile Liability insurance (including non-owned and hired auto coverage) \$1,000,000 combined single limit per occurrence.
- 18.2.1.3 Commercial General Liability insurance including Contractual Liability insurance: \$1,000,000 per occurrence; \$2,000,000 aggregate
- 18.2.1.4 Workers' Compensation in the amount set by statute.
- 18.2.2 Defense costs excluded from face amount of policy Aggregate limits are per 12-month policy period unless otherwise indicated.
- 18.2.3 All insurance policies required by the Contract shall require on their face, or by endorsement, that the insurance carrier waive any rights of subrogation against the City. Respondent shall give thirty (30) days advance written notice to the City before they may be canceled or materially changed. Within such thirty (30) day period, the selected Respondent shall covenant that it will provide other suitable policies in lieu of those about to be canceled or materially changed, so as to maintain in effect the coverage.

18.3 FAIR CAMPAIGN ORDINANCE

- 18.3.1 The City of Houston Fair Campaign Ordinance (Section 18-36 of the City Code of Ordinances) makes it unlawful for a contractor to offer any contribution to a candidate for City elective office during a certain period of time prior to and following the award of the contract by City Council. The term "contractor" includes sole proprietors, partners of partnerships, and all officers, directors, and holders of ten percent or more of the outstanding shares of corporations. A statement disclosing the names and business addresses of each of those persons will be required to be submitted with the Response. A blank copy of "Contractor Submission List - City of Houston Fair Campaign Ordinance" (Form A) is included in this RFP in Exhibit E (See Chapter 18 of the Code of Ordinances, Houston, Texas, for further information).

18.4 **PAY OR PLAY PROGRAM**

18.4.1 The requirements and terms of the City of Houston Pay or Play policy, as set out in Executive Order 1-7, are incorporated into the Agreement for all purposes. Contractor has reviewed Executive Order No. 1-7 and shall comply with its terms and conditions as they are set out at the time of City Council approval of the Agreement.

18.4.2 Review Document 00840: Pay or Play Program; and fill out Documents 00630 and 00631 for submittal.

18.5 **DELINQUENT TAX**

18.5.1 Prior to consideration by City Council, evidence must be submitted by each owner/operator(s) demonstrating that no delinquent taxes are owed to the City of Houston. Complete form attached as Exhibit A (00455 Ownership Information Form).

18.6 **MISCELLANEOUS**

18.6.1 All Proposals submitted in response to this RFP are the property of the City and are not available for public review or debriefing by any Respondent until after selection and approval of an Agreement by City Council. All information submitted becomes public record and subject to the Texas Public Information Act including information marked proprietary or confidential.

18.6.2 Any cost associated with the submittal of a response to the RFP will be solely the expense of the Respondent.

18.6.3 This RFP is not to be construed as a contract offer or as a commitment of any kind; and receipt by the City of a response by a Respondent in no way obligates the City in any manner whatsoever.

18.6.4 Copies of City Ordinances and Policies noted in the RFP may be obtained from the City Secretary's Office, Plaza Level, City Hall Annex, Room 101, 900 Bagby, Houston, Texas 77001.

18.6.5 It is believed that this RFP contains all the information related to the project that is needed to prepare an adequate response. However, any questions or requests for information that are deemed necessary should be made in writing via e-mail no later than 2:00 p.m. CST on April 11, 2023, to Andre' Morrow, Senior Procurement Specialist – Houston Airport System, Supply Chain Management, andre.morrow@houston.tx.gov. Responses to all questions will be in writing and will be posted on the HAS website, www.fly2houston.com.

18.7 **NO CONTACT PERIOD**

18.7.1 Neither bidder(s) nor any person acting on bidder(s)'s behalf shall attempt to influence the outcome of the award by the offer, presentation or promise of gratuities, favors, or anything of value to any appointed or elected official or employee of the City of Houston, their families or staff members. All inquiries regarding the solicitation are to be directed to the designated City Representative identified on the first page of the solicitation. Upon issuance of the solicitation through the pre-award phase and up to the date the City Secretary publicly posts notice of any City Council agenda containing the applicable award, aside from bidder's formal response to the solicitation, through the pre-award phase, written requests for clarification during the period officially designated for such purpose by the City Representative. However, nothing in this paragraph shall prevent a bidder from making public statements to the City Council convened for a regularly scheduled session after the official selection has been made and placed on the

City Council agenda for action, or to a City Council committee convened to discuss a recommendation regarding the solicitation.

18.8 **EQUAL OPPORTUNITY EMPLOYMENT**

18.8.1 The City of Houston Ordinance Section 15-17 establishes Equal Employment Opportunity Contract Compliance requirements for all City of Houston contracts involving the expenditure of Fifty Thousand Dollars (\$50,000) or more. Any contract that results from this RFP will provide that the failure to carry out the requirements set forth in the City of Houston Equal Employment Opportunity Program shall constitute a breach of contract and may result in termination of the agreement or contract. In addition, the City may take any such additional remedy as deemed appropriate.

18.9 **PROTEST**

18.9.1 Protests should be filed in accordance with the City of Houston Administrative Policy (A.P. No. 5-12) http://www.houstontx.gov/policies/administrative_policies.html.

18.10 **CERTIFICATE OF INTERESTED PARTIES**

18.10.1 In accordance with Texas Gov't Code §2252.908, the successful bidder must complete Form 1295, Certificate of Interested Parties. Form 1295 is available for downloading on the Texas Ethics Commission's (TEC) website: <https://www.ethics.state.tx.us/forms/1295.pdf>.

18.10.2 The successful Proposer must use the application to enter the required information on Form 1295 and print a copy of the completed form, which will include a certification of filing that will contain a unique certification number.

18.10.3 No later than 30 days after the contract's effective date, the City will upload the successful Proposer's completed Form 1295. The Texas Ethics Commission will post the Contractor's completed Form 1295 within seven business days of receipt.

18.11 **COMPLIANCE WITH CERTAIN STATE LAW REQUIREMENTS**

18.11.1 **Ant-Boycott of Israel**

Vendor certifies that Vendor is not currently engaged in and agrees or the duration of the contract not to engage in, the boycott of Israel as defined by Section 808.001 of the Texas Government Code.

18.11.2 **Anti-Boycott of Energy Companies**

Contractor certifies that Contractor is not currently engaged in and agrees for the duration of this agreement not to engage in the boycott of energy companies as defined by Section 809.001 of the Texas Government Code.

18.11.3 **Anti-Boycott of Firearm Entities of Firearm Trade Associations**

Contractor certifies that Contractor does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association or will not discriminate against a firearm entity or firearm trade association for the duration of this agreement, as defined by Section 2274.001 of the Texas Government Code.

18.11.4 **Certification of No Business with Foreign Terrorist Organizations**

For purposes of Section 2252.152 of the Code, Contractor certifies that, at the time of this agreement neither Contractor nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of Contractor, is a company listed by the Texas Comptroller of Public Accounts under Sections 2252-153 or 2270-0201

of the Code as a company known to have contracts with or provide supplies or to a foreign terrorist organization

18.12 EXECUTIVE ORDER 1-56 ZERO TOLERANCE FOR HUMAN TRAFFICKING IN CITY SERVICE CONTRACTS AND PURCHASING

18.12.1 The City has a zero tolerance for human trafficking and, per Executive Order 1-56, City funds shall not be used to promote human trafficking. City vendors are expected to comply with this Executive Order and notify the City's Chief Procurement Officer of any information regarding possible violation by the vendor or its subcontractors providing services or goods to the City. The Executive Order is available on the City's website: www.houstontx.gov/execorders/1-56.pdf

18.13 PRESERVATION OF CONTRACTING INFORMATION

18.13.1 "The requirements of Subchapter J, Chapter 552, Government Code, may apply to this (include "bid" or "contract" as applicable) and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter."

(www.statutes.capitol.texas.gov/Docs/GV/htm/GV.552.htm#552).

PART VI: CITY REQUIRED DOCUMENTS AND ATTACHMENTS

19.0 FORMS TO BE SUBMITTED WITH PROPOSAL

Exhibit A – 00455 Ownership Information Form

Exhibit B – 00457 Conflict of Interest Questionnaire

Exhibit C – 00460 Pay or Play Acknowledgement Form

Exhibit D – 00480 Reference Verification Form

Exhibit E – 00481 Anti-Collusion Statement

Exhibit F – Attachment "A": Schedule of M/WBE Participation

Exhibit F – Attachment "B": M/WBE Letter Of Intent

Exhibit F – Attachment "C": Certified M/WBE Subcontract Terms

Exhibit F – Attachment "D": Mayor's Office of Business Opportunity M/WBE Utilization Report

Exhibit H – 00600 List of Proposed Subs

Exhibit Q – Contact Directory Form

Exhibit R – Statement Of Residency

Exhibit S – Offer And Submittal

Exhibit T – Contract and Contract Exception Chart

Exhibit U – Declaration of Hire Houston First Designation

Attachment B – Required Pricing Response Form

Attachment C – Sample Agreement

Attachment D – Required Submittal Checklist

20.0 FORMS TO BE SUBMITTED AFTER RECEIPT OF NOTICE OF INTENT TO AWARD

(To be provided by the recommended firm)

Exhibit G – 00501 Resolution of Contractor

Exhibit I – 00601 Drug Policy Compliance Agreement

Exhibit J – 00606 No Safety Impact Positions

Exhibit K – 00620 Affidavit of Insurance

Exhibit L – 00621 Certificate of Insurance ACORD Form / A/E Required Insurances

Exhibit M – 00630 Certification of Compliance with Pay or Play Program (POP-2) Program

Exhibit N – 00631 Pay or Play Program List of Subcontractors (POP-3) Program

Exhibit O – 00632 Certification by Professional Service Provider

Exhibit P – 00636 Certificate of Interested Parties Form 1295

NOTE: Exhibits are available at the Houston Airport System website,

<https://www.fly2houston.com/biz/opportunities/solicitations/> or

The City of Houston Office of Business Opportunity Forms website,

<http://www.houstontx.gov/obo/popforms.html>

(<https://www.ethics.state.tx.us/forms/1295.pdf>)

ATTACHMENT A SCOPE OF SERVICES

1.0 General Requirements

- 1.1 Great travel experiences start when passengers leave their homes and arrive at the airport. To make their journey more memorable and highlight the economic and residential growth of the Houston area, Houston Airport System (HAS) has embarked on the George Bush Intercontinental Airport (IAH) Terminal Redevelopment Program (ITRP) to provide an overall modernized facility with additional gates, capacity to support air service growth, better use of space, enhanced connectivity, and an improved passenger experience. A large impact on the passenger experience is the Oculus, one of the most visually engaging and visible components of the architectural environment in the new International Central Processor (ICP). This unique media feature – which will include large-scale, uniquely designed media features, a centralized control system, and an inventory of original multimedia content – is an integral part of the new ICP, propelling HAS into the future of air travel and immersive experiences.
- 1.2 At time of writing, the design of the Oculus shape and placement within the ICP has been finalized.
- 1.3 Requirements outlined in this Request for Proposals (RFP) are for all functional, operational, performance, and redundancy components for the Oculus Content Management System (CMS), including design, engineering, shop drawings, integration, programming, calibration, installation, commissioning, warranty, and maintenance for a complete and working Oculus, in compliance with any codes and regulations required by HAS and ITRP. Additionally, the scope of work outlined in this agreement includes any project management and coordination services required between HAS, the Director of HAS or any person designated by the Director to perform one or more of the Director's duties under this Agreement (the "Director and/or designee"), their designated Owner's Authorized Representative (OAR), the LED Display System Provider (LED DSP), and the Content Production Company (CPC).
 - 1.3.1 This project is intended to provide a uniquely shaped, direct view LED display with high resolution, synchronized content playback for the IAH ICP with the purpose of enhancing the passenger experience.
 - 1.3.2 A capable support team shall be provided to support the work of HAS in achieving the intention and design requirements of the Oculus. Specialized knowledge and industry experience is expected to support multiple areas of the project.
- 1.4 Refer to Houston Airport Technology Specifications, Houston Airports Design Standards, and Contract Documents in addition to the following.
- 1.5 The Contractor shall provide the following services:
 - 1.5.1 Project management and coordination with the Director and/or designee, other system contractors, and any project representatives
 - 1.5.2 Development and maintenance of a detailed project schedule for all phases including design, fabrication, delivery, integration, testing and other project activities

- 1.5.2.1 Project design, coordination, installation, testing, and commissioning shall align to the ICP construction schedule
- 1.5.3 Workshop attendance to confirm functional requirements of the content management system technology (i.e., ventilation, cabling, rack mounting, electrical power, data infrastructure, and similar)
- 1.5.4 Workshop attendance to address design options and technical issues of the CMS design in coordination with the OAR and other system contractors
- 1.5.5 Workshop attendance to support the CPC with content conceptualization in support of proposed content
- 1.5.6 Workshop attendance to support the LED display system provider with validated design criteria to ensure compatibility with CMS functionality
- 1.5.7 Coordination with HAS and other system contractors for any required interfaces to support the seamless delivery of high-resolution content to the Oculus
- 1.5.8 Coordination with other system contractors for specific playback specifications, video processing parameters, and configurations required for the synchronized playback of high-resolution content across multiple outputs
- 1.5.9 Coordination of requirements for power and data to support installation of any performance monitoring equipment and any future installation of sensors, audio equipment, and interactive components
- 1.5.10 Support to the OAR in evaluating and confirming facility requirements for CMS technology functionality, including any infrastructure requirements, such as power, data, and communications
- 1.5.11 Coordination with the LED display system provide for the positioning and installation of LED processors in cabinets located in the ICP IDF's
- 1.5.12 Coordination with the Oculus LED display system provider and CPC to:
 - 1.5.12.1 Support the content design and development work being performed by a third-party
 - 1.5.12.2 Support the display technology set up being performed by a third-party
 - 1.5.12.3 Support synchronized content delivery to the Oculus, incorporating all playback specifications, video processing parameters, and LED display technology requirements
- 1.5.13 Optimization of CMS delivery performance based on content playback requirements and constraints
- 1.5.14 Manufacture of shop drawings and design plans in accordance with HAS requirements
- 1.5.15 Coordination with other contractors for all testing and commissioning activities
- 1.5.16 Development of project plans including but not limited to:
 - 1.5.16.1 Installation plans and schedules
 - 1.5.16.2 Quality assurance plans

- 1.5.16.3 Commissioning schedule
- 1.5.16.4 Testing plans
- 1.5.16.5 Training plans
- 1.5.17 Submittal of project documentation for review by HAS and the OAR, including but not limited to:
 - 1.5.17.1 Component submittal documents
 - 1.5.17.2 Design plans, pixel mapping diagrams, block diagrams, schematics, shop drawings, and installation plans
 - 1.5.17.3 Implementation documents
 - 1.5.17.4 As-built documents
 - 1.5.17.4.1 The Contractor shall deliver as-built drawings and documentation according to specifications found in HAS CAD/Geospatial Data Standards and documentation
 - 1.5.17.5 System administration documents, including but not limited to operations and maintenance documentation
 - 1.5.17.6 Warranty plans and documentation
 - 1.5.17.7 All final documentation should be coordinated with the CPC and LED display system provider to ensure consistency and coherence
- 1.5.18 Pulling and upkeep of required permits and licenses in line with the applicable HAS and ITRP codes and standards
- 1.5.19 Support to the LED display system provider in their presentation of display technology mockups or prototypes to confirm functional or physical aspects of the proposed display technology, including the seamless appearance of content on the curved tiles and transitions between different radii.
- 1.5.20 CMS component fabrication, delivery, installation, configuration, programming, commissioning, testing, and integration
- 1.5.21 On-site integration, testing, and adjustments in alignment with the ICP construction schedule
- 1.5.22 The Contractor shall supply all software and hardware necessary for the system to function as required. In addition, the Contractor shall provide all cabling components for the interconnection of system equipment provided under this agreement.
- 1.5.23 System warranty and warranty management
- 1.5.24 Operations and maintenance training
- 1.5.25 Maintenance and support services as specified in the RFP and related documentation
- 1.6 The Contractor shall provide the highest standards of service prevailing in the industry. These standards will be achieved by continuous improvement through

open communication with HAS and the OAR, regular management reviews, and industry guidelines.

- 1.7 At any time throughout the contract term, the dynamic environment in which HAS operates may require the addition or deletion of devices, peripherals, etc. The Contractor shall be required to adjust its solution to address these needs at the direction of HAS in order to ensure a high level of service is provided at the facilities operated by HAS.
- 1.8 Contractor shall be responsible for providing safe, cost effective and high-quality services using qualified and properly trained employees and shall carry out all the responsibilities under this contract with the fact that he/she has been covenanted a public function which he/she performs as an independent contractor for the City. All services shall be in accordance with the highest standards prevailing in the industry, as well as applicable codes, rules, regulations, laws, and practices governing the said services.
- 1.9 The related documents accompanying this Agreement are the responsibility of the Contractor, including Houston Airport Technology Specifications, Houston Airports Design Standards, Contract Documents, and Attachments to this RFP. Related documents include:
 - 1.9.1 Houston Airports Design Standards
 - 1.9.1.1 The Houston Airport System Design Criteria Manual (HAS Design Manual)
 - 1.9.1.2 Houston Airport System Designs Standards Manual (ITRP Design Manual)
 - 1.9.2 Houston Airport Technology Specifications
 - 1.9.2.1 Specification Section 274224 – Multimedia AV Specialty Systems
 - 1.9.3 Attachment E – Oculus Design Documents
 - 1.9.4 Attachment F – LED Display Technology Maintenance and Warranty
 - 1.9.5 RFP H37-OCUCPC-2023-12 and addenda
 - 1.9.6 RFP H37-OCULED-2023-13 and addenda
 - 1.9.7 The CMS Contractor is responsible for reviewing the information in all the related documents and providing all required associated scope of work and services assigned to the CMS Contractor.
 - 1.10 The specifications applicable to this contract may be found on the fly 2 Houston website at
<https://www.fly2houston.com/biz/resources/building-standards-and-permits>
- 2.0 Oculus Physical Specifications**
 - 2.1 The following section outlines the Oculus design and architectural specifications.

- 2.2 The Oculus is an elliptical shaped cylinder, in the form of a truncated cone, made up of direct view LED panels. It will be integrated into the space separating the lower-level arrivals and upper-level departures of the ICP.



Figure 1 - Oculus rendering, this is an architectural rendering, not necessarily indicative of type of content desired

- 2.3 The surface area of the Oculus is approximately 2000ft². The height of the screens is approximately 9ft and angled down at approximately 30 degrees.
- 2.4 The Oculus design is based on three separate concave radii as depicted in Attachment E – Oculus Design Documents. Assuming a 30-degree angle to the floor, the top and bottom radii that make up the Oculus are as follows:
- 2.4.1 Short End = 9ft top, 12.5ft bottom
- 2.4.2 Transition Section = 25.8ft top, 29.3ft bottom
- 2.4.3 Middle Section = 86.4ft top, 89.9ft bottom
- 2.5 Based on an average adult height of 5'6", multiple viewing distances are considered for the optimal viewing experience. The pixel pitch for the ideal resolution is based on a minimum viewing distance of 15 feet.
- 2.5.1 Although the downward angle of the Oculus lends itself to maximum viewing from the lower arrivals level, consideration should be taken for viewers on the departures level (upper level).

- 2.6 The Oculus has been designed to be an integral part of the architecture of the terminal. The chosen LED display system provider is expected to provide input on the structural requirements for the proposed LED display technology and to ensure an aesthetically pleasing integration.
- 2.6.1 Minor adjustments to the above dimensions may arise as a result of design collaboration discussions between the Contractor, the LED display system provider, HAS, the OAR, and the CPC, to be determined during the LED display technology design phase of the project.
- 2.7 Refer to the Attachment E – Oculus Design Documents for details on the shape and viewing angles of the Oculus and for additional information.

3.0 Content Development Specifications

- 3.1 A Content Production Company (CPC), to be chosen through a separate RFP, will provide the creative content to be displayed on the Oculus. At the time of release of this RFP, the following specifications were given to the CPC for production of content for the Oculus:
 - 3.1.1 Outputs from the CMS to the LED display technology, and related content being developed by the CPC, shall support seamless and time-synchronized display of singular content covering the entirety of the uniquely shaped Oculus.
 - 3.1.2 In the event that content must be broken out into multiple video outputs, the entirety of the system, including content management, content distribution, and LED displays, shall be capable of frame-to-frame synchronization and pixel-to-pixel mapping to achieve a seamless appearance once displayed.
 - 3.1.3 Content shall be developed with a minimum resolution of 4K/UHD at 60Hz, 10bit color depth, uncompressed codec, and minimum 4:2:2 chroma subsampling. If available, provide optional support for 4:4:4 chromatic subsampling. Ability to support 4:4:4 shall not limit other input source specifications.
 - 3.1.4 System shall support high dynamic range (HDR10 or similar)
 - 3.1.5 System shall support a color gamut of 100% NTSC or better
- 3.2 The CPC and the Content Management System (CMS) contractor will work closely to integrate the high-quality creative content and provide a unified image to the display technology.
- 3.3 Refer to RFP H37-OCUCPC-2023-12 and addenda for the scope of work related to the Oculus content.

4.0 LED Display Technology Specifications

- 4.1 An LED contractor, the LED display system provider to be chosen through a separate RFP, will provide the LED display technology for the Oculus. This includes any equipment, cabling, and processing equipment for a functioning Oculus from the LED tiles to the LED processors, and any related coordination to ensure a successful installation. At the time of release of this RFP, the following specifications were given to the LED display system provider for the display technology:

- 4.1.1 LED tile specifications:
 - 4.1.1.1 Front accessible, indoor, SMD LED tile product in the 1.5-2.0mm pixel range for the viewing distances as noted in section 2.0 and in the Attachment E – Oculus Design Documents, with a minimum distance of 15ft to fit the complex concave surface
 - 4.1.1.1.1 Due to the unique shape of the Oculus, customized LED tiles are anticipated.
 - 4.1.1.2 Color depth: minimum color depth of 10 bit / with high dynamic range (HDR10 or similar)
 - 4.1.1.3 Image refresh rate: 3840 Hz or greater
 - 4.1.1.4 Contrast ratio: 6000:1 or greater
 - 4.1.1.5 Color gamut: wide color gamut of 100% NTSC or better
 - 4.1.1.6 Minimum Brightness: 700 nits
- 4.1.2 LED processor specifications:
 - 4.1.2.1 Accept multiple high resolution video inputs and combine inputs to form a continuous image to support full resolution of the Oculus with no distortion
 - 4.1.2.2 Accept a sync signal and integrate multiple video inputs to form a continuous image on a large display surface
 - 4.1.2.3 Support network-based, third-party control
 - 4.1.2.4 Support 4K/UHD at 60 frames per second inputs with one-to-one pixel mapping from video signal to LED display
 - 4.1.2.5 Support input video sources with a minimum resolution of 4K/UHD at 60Hz, 10bit color depth, and minimum 4:2:2 chromatic subsampling, HDCP 2.2 support and EDID management, with sufficient inputs to support the full resolution of the Oculus.
 - 4.1.2.5.1 If available, provide optional support for 4:4:4 chromatic subsampling from source to LED tiles. Ability to support 4:4:4 shall not limit other input source specifications.
 - 4.1.2.6 Support dynamic dimming of LED tiles based on fluctuations in ambient lighting conditions.
 - 4.1.2.7 Support High Dynamic Range (HDR) capabilities (HDR10 or similar) that maintain image dynamic range across all brightness levels. The LED solution (LED tiles and controllers) shall have the ability to manage color gamut, adjust dynamically based on external conditions, and present sufficient color/grayscale gamut necessary to display a high-quality image with no visible banding.
 - 4.1.2.8 Deliver a smooth image and exhibit low latency throughout the entire video distribution pipeline, adjusting overall latency to accommodate high-latency devices or inputs.
 - 4.1.2.9 Support pixel-level brightness and chroma calibration
 - 4.1.2.10 Support remote access to brightness and gamma control

- 4.1.2.11 Color gamut: 100% NTSC or better
- 4.1.2.12 Deliver a smooth image and exhibit low latency throughout the entire video distribution pipeline, adjusting overall latency to accommodate high-latency devices or inputs.
- 4.2 Refer to RFP H37-OCULED-2023-13 and addenda for the scope of work and additional specifications related to the Oculus LED display technology.

5.0 Content Management System Scope

5.1 General

- 5.1.1 The content management and delivery system, to be provided by the CMS contractor for the work outlined in this Agreement and related documents, shall be for the control, media playback, sourcing, signal processing, storage, interfacing, distribution, and delivery of multimedia to the Oculus.
- 5.1.2 The CMS Contractor shall provide all necessary support, recommendations, and coordination with the OAR, the LED DSP, and the CPC to support the work of HAS in achieving the intention and design requirements of the Oculus. Specialized knowledge and industry experience is expected.

5.2 CMS Playback and Control

- 5.2.1 The CMS shall incorporate a video playback engine for video playback and programmable input triggering. The system must be scalable to add future interactive and generative content processing capabilities.
- 5.2.1.1 Design development coordination meeting between HAS and the CPC may require interactive and/or real-time content generation capabilities.
- 5.2.2 The content customized for the Oculus will use either a 1:1 pixel ratio from server to LED tiles with no up or down scaling for LED mapping or scaling within the playback engine for certain creative effects.

5.3 Data and Network

- 5.3.1 Storage of data shall be fault tolerant and highly accessible, incorporating redundancy and access management capabilities for no data loss.
- 5.3.2 The CMS Contractor shall be responsible for providing an Admin/Control and Content Network sized properly to support the proposed CMS and LED display technology network requirements. The requirements noted in the Contract Documents and related Specification Sections are considered preliminary and shall be updated as needed based on the proposed network architecture and requirements.
- 5.3.3 CMS Contractor is responsible for coordinating with HAS IT for procurement, programming, and installation.

5.4 Maintenance Accessibility

- 5.4.1 All CMS equipment shall be localized in intermediate equipment rooms (IDFs) for ease of maintenance and access.

5.4.2 CMS Contractor shall provide remote monitoring capabilities within a centralized location for monitoring performance.

5.5 **Software**

5.5.1 The Contractor shall deliver all the required system and application software for a fully functioning Content Management System.

5.5.2 The CMS software shall do the following, at a minimum:

5.5.2.1 Store, schedule, monitor, and maintain the high-resolution multimedia content for the Oculus and provide a friendly graphic user interface (GUI) to all operators to perform the required actions for complete functionality.

5.5.2.2 Have the capability to handle multiple media servers supplying pre-rendered and generative content.

5.5.2.3 Have the capacity to introduce other forms of video and audio for seamless integration with the Oculus display.

5.5.2.4 Be capable of future expansion to include additional sensors and a module for HAS marketing to develop their own content.

5.5.3 HAS shall retain the ownership and access rights of the source code for all custom system programs and software specifically developed and/or modified as part of this project. Additionally, HAS shall retain ownership of all software licenses for “off the shelf” software furnished and installed as part of this project.

5.6 **Servers**

5.6.1 The Contractor shall provide a server configuration that meets the recommended hardware requirements of the proposed system.

5.6.2 The Contractor shall provide a redundant system to ensure high availability, as described in the Specifications.

5.6.3 Physical servers shall be of a high level of maintenance and service. In the event the manufacturer does not manufacture servers that meet Content Management System recommended system requirements, the contractor must recommend a similar solution to be approved by HAS.

5.6.4 The Contractor shall submit the Content Management System core configuration for review and approval. Core configuration details shall include:

5.6.4.1 Specific hardware specifications and components

5.6.4.2 Commercial off the Shelf software loaded and the configuration

5.6.4.3 Applications and services loaded on each physical server

5.6.4.4 Topology of core system configuration

5.7 **System Redundancy Requirements**

5.7.1 While the Oculus is not critical to the operation of the airport it is nonetheless critical to the passenger experience and reputation of the Houston Airport System. The resulting design of the CMS, active system equipment, and passive infrastructure shall deliver an operational system with limited vulnerability to partial or full system failure.

5.7.2 Minimally, the proposed solution shall meet the baseline redundancy requirements identified in the related Specification Sections.

5.8 **Design and Installation**

- 5.8.1 The Contractor is responsible for adhering to requirements pertaining to the creation of required submittals and drawings, including:
 - 5.8.1.1 Reviewing and updating drawings based on ongoing technical advice as it pertains to the design and integration of the required products.
 - 5.8.1.2 Supporting the LED DSP in the mock-ups of the display technology.
 - 5.8.1.2.1 During mock-up examination, CMS Contractor shall prove the CMS is capable of seamlessly stitching together several pieces of media and adjusting outputs as necessary at the radii transition points of the display technology.
 - 5.8.1.2.2 Coordinate with HAS, LED DSP, and/or OAR for timing.
 - 5.8.1.3 Preparing shop drawings for the Oculus content management technology coordinated through the OAR and ITRP construction documents.
 - 5.8.1.4 Preparing, at a minimum, pixel mapping diagrams, block diagrams, schematics, and cabinet schedules.
- 5.8.2 All drawings should be completed using Revit and delivered in Revit and AutoCAD files.
- 5.8.3 The Contractor shall verify system operability and proper installation.
 - 5.8.3.1 All installation work shall be performed in a manner that will minimize disruption to the airlines, HAS, and the travelling public. The Contractor shall coordinate with the OAR to schedule any work in public areas during times that minimize impact to operations, when required.
- 5.8.4 The Contractor shall utilize data drops and electrical power outlets identified by the OAR. If it is determined that the existing power or data configurations are inadequate to support the new equipment, the OAR shall be notified to determine a course of action for rectifying.

5.9 **Integration**

- 5.9.1 The Contractor shall provide all CMS programming, configuration, data distributors, and support services required for a fully functional Oculus.
- 5.9.2 The Contractor shall configure and program the CMS equipment as required to apply the required pixel mapping, communicate control signals to the LED display technology, communicate the appropriate video signals, and any other service required to fully support the technology and integration with the display technology, including but not limited to adjustments for lighting and environmental conditions and requirements from the CPC.
- 5.9.3 On-site Oculus-specific calibration is required to determine capabilities and constraints of the system. If the system does not perform as expected, the Contractor shall manage all required testing and refinement of the CMS.
- 5.9.4 The Contractor shall perform all necessary coordination with third party vendors, such as the LED DSP and CPC, to ensure all components are properly implemented.

5.9.5 The Contractor shall provide on-site staff for the integration of the CMS with the display technology, to test and adjust for all CPC created capsules, to be determined in accordance with the opening of the ICP and most current project schedule, and with the other chosen vendors. Some on-site testing shall have to be completed during non-business hours and/or on weekends.

5.10 **Testing and Commissioning**

5.10.1 The Contractor is responsible for testing all CMS equipment for a fully operational system, including servers, switches, and other equipment terminating in the IDF. Refer to the related Specification documents for requirements.

6.0 **Out of Scope**

6.1 The Contractor is not responsible for the following items:

6.1.1 Design or construction of the communications rooms that will be used to house the Oculus CMS equipment. However, unique mounting equipment to support the installation of any equipment shall be provided by the Contractor, as necessary.

6.1.2 The public-facing LED display technology, including LED tiles, mounting brackets, LED processors, and field-mounted devices and appurtenances required for a functioning display.

6.1.3 The cabling infrastructure that will be used to interconnect the LED processor components with the LED display tiles. This includes all fiber optic backbone cabling, copper backbone cabling, horizontal cabling, communications room hardware, termination blocks, patch panels, and telecommunication outlets. However, the Contractor shall be responsible for coordination with the OAR and LED display system provider to ensure the physical connectivity requirements are in place and identifying any new requirements for cabling installations.

6.1.4 Design or construction of the electrical distribution panel supporting the Oculus and other related field-mounted equipment. However, coordination by the Contractor shall be required to identify any field-mounted equipment power requirements and to ensure adequate power and circuit breaker space within the panel(s) is available.

7.0 **Personnel**

7.1 The Contractor shall assign a project manager that reports to HAS to support the specific coordination requirements associated with the CMS installation.

7.2 All personnel assigned to work under the Agreement shall have the required certifications where required. Personnel shall also hold a current and valid license for the work they are engaged to perform.

7.3 The Contractor shall provide a Project Manager for the Implementation Phase(s) and a Project Manager for the Basic Services portion of the Agreement.

8.0 PROJECT SUBMITTAL REQUIREMENTS

8.1 GENERAL

- 8.1.1 The Contractor shall keep accurate and detailed records of progress on the project during all stages of development and implementation.
- 8.1.2 The Contractor shall notify HAS in writing within two (2) days of Contractor's awareness of any anticipated changes to the project schedule, including information where schedule slippage may occur or has already occurred, and the Contractor's recommendation to mitigate or eliminate delays.
 - 8.1.2.1 The Contractor shall provide status updates and progress reports as requested by the Director and/or designee noting any key work performed since previous update, upcoming key work to be performed, completion of any milestones, and updates to key phases of development and implementation.
- 8.1.3 The Contractor shall submit for review and evaluation by the Director and/or designee product sheets of each major product and item. The Contractor shall not purchase or install an item prior to receipt of written approval from the Director and/or designee.
- 8.1.4 Major Items required for submittal are identified in the following sections. This list is not considered complete but is a representative sample of the major items required. Unless noted otherwise, one (1) digital copy of all documentation shall be provided, specific format to be coordinated with HAS at time of delivery.

8.2 DESIGN DOCUMENTS

- 8.2.1 The Contractor shall incorporate the validated design technical criteria from the LED DSP into the final Oculus CMS design where required.
- 8.2.2 Shop Drawings
 - 8.2.2.1 The Contractor shall provide shop drawings validated and stamped by a Texas registered engineer for any engineering requirements associated with the CMS technology and in accordance with HAS requirements.
 - 8.2.2.2 The equipment locations shown in the Contract Drawings are illustrative of a possible solution, yet the CMS Contractor is responsible for establishing final equipment arrangements and locations. This includes racks, consoles, equipment mounts, and appurtenances required for any new equipment installed or relocated.
 - 8.2.2.3 Shop Drawings shall show spacing to accommodate arrangement of CMS devices and components, including equipment enclosure elevations.
 - 8.2.2.4 Shop Drawings shall show all fabrication and mounting details required for attachments, including materials, dimensions, attachment methods, and power and data provisions.
 - 8.2.2.5 The Contractor shall provide complete network requirements for data and communication including port counts, port assignments, device lists, IP address requirements, VLAN configurations, Quality of Service (QoS) and other management requirements.

- 8.2.3 The Contractor shall prepare mechanical submittals as required indicating impact to the building, including any related submittals required for coordination with the ICP base building. Plans should clearly show supporting calculations and be of sufficient detail to permit a complete understanding of the work.
- 8.2.4 Final Design submittals include, but are not limited to:
 - 8.2.4.1 Fabrication drawings
 - 8.2.4.2 Location plans and block diagrams illustrating equipment locations and system connectivity
 - 8.2.4.3 Pixel mapping diagrams
 - 8.2.4.4 Engineering drawings, stamped by a licensed Engineer, where applicable
 - 8.2.4.5 Complete schematics of signal flow line drawings detailing all signal paths, equipment connections, cabling, and terminations.
 - 8.2.4.6 Wiring diagrams for equipment and systems.
 - 8.2.4.7 Equipment and cabling labeling list.
 - 8.2.4.7.1 The complete product submittal including all parts, equipment, materials, and related accessories shall be submitted in the same package as the shop drawings.
- 8.2.5 All engineering documents and Shop Drawings shall be reviewed and approved by HAS and the OAR prior to procurement and fabrication.
- 8.3 IMPLEMENTATION DOCUMENTS
 - 8.3.1 Coordinate all schedules with HAS, the LED Display System Provider, the CPC, and the OAR as required for each plan listed below. Unless otherwise outlined, implementation documents shall be submitted and maintained throughout the project. These shall include, but not be limited to:
 - 8.3.1.1 Quality assurance plan
 - 8.3.1.2 Security Plan
 - 8.3.1.3 Installation and coordination plan
 - 8.3.1.4 Factory acceptance test plan and schedule
 - 8.3.1.5 Installation plan
 - 8.3.1.6 Performance verification test plan and schedule
 - 8.3.1.7 Integration schedule and plan
 - 8.3.1.8 Commissioning schedule and plan
 - 8.3.1.9 Operational system test plan
 - 8.3.1.10 Test reports
 - 8.3.1.11 Acceptance plan
 - 8.3.1.12 End user training plan and materials: Supply training plan and materials as defined in this scope of services.

- 8.3.2 Contractor shall submit a Project Baseline Schedule to be approved by HAS. The Baseline Schedule shall not change unless approved by HAS. The Baseline Schedule will be utilized for payment processing according to milestones completed. See Fee Schedule - Attachment B.
- 8.3.3 If Contractor does not meet the Project Baseline Schedule HAS shall apply Liquidated Damages as outlined in Section 23.
- 8.4 SOFTWARE
 - 8.4.1 Contractor shall provide HAS software submittals for all software used in the project, including the manufacturer's/developer's documentation.
 - 8.4.2 Documentation shall include but not limited to
 - 8.4.3 Complete description of software features and functionalities
 - 8.4.4 Software version and revision identification
 - 8.4.5 Software manufacturer's contact information for technical support, including address, telephone numbers, and e-mail addresses
 - 8.4.6 Well-commented source code, delivered in machine readable formats, and an executable version for all custom and special purpose software. All compilers, case tools, utilities, etc. that are needed to create the executable code shall be included.
- 8.5 AS-BUILT DOCUMENTS
 - 8.5.1 At project closeout, the Contractor shall provide HAS with as-built documentation defining the CMS and related information for work performed under this project.
 - 8.5.2 The as-builts shall be built on the initial design details and be further developed based on specific installation details, culminating in a complete set of finalized copies of record documents prior to final acceptance of the project by HAS in accordance with all requirements of HAS and ITRP Specification Sections.
 - 8.5.2.1 At a minimum, the as-built documents shall contain all information, data, and drawings as described in this section 8.0 Project Submittal Requirements as well as all shop drawing requirements of related specification sections.
 - 8.5.3 As-builts shall include finalized equipment locations, room routing notes, line drawings, and installation details. The as-builts shall not be redlined copies but be finalized Revit drawings, delivered as Revit and AutoCAD files.
 - 8.5.4 Legibly mark and record at each specification section a description of actual products installed, including the manufacturer's name and product model number, product substitutions or alternates approved and utilized, and changes made by addenda and modifications.
 - 8.5.5 As-builts shall be delivered according to HAS specifications found in the HAS CAD/Geospatial Data Standards.
 - 8.5.6 The level of detail defined in the as-builts shall be to such a degree that allows any appropriately skilled third party to support the CMS maintenance requirements as well as support future integration and expansion of the CMS, including adjustments for interactive and generative content, audio components, and sensors.
 - 8.5.7 All junction boxes shall be uniquely identified in the field and indicated on the as-built drawings with corresponding schedule identifying all junction box locations.

- 8.5.8 A minimum of two (2) hardcopy sets and an electronic copy set of As Built documentation and drawings shall be provided. Acceptance of as built documentation shall be part of final system acceptance process.
- 8.5.9 The Contractor shall submit certification that all work is in compliance with codes as required by HAS and ITRP, including equipment manufacturing, fire ratings, field-testing and inspection.
- 8.6 SYSTEM ADMINISTRATION DOCUMENTATION
 - 8.6.1 System administration documentation shall be provided to guide operating staff in the operation and procedures required to generate and update the systems, including system software, database, application software and other elements of the system.
 - 8.6.2 All manuals shall be provided in an electronic format. The format shall be a .pdf document that is searchable (i.e., the .pdf document will have recognized text that allows searches to be performed and is not a scanned image).
 - 8.6.3 The Contractor shall provide the following system administration documentation:
 - 8.6.3.1 Operations manuals.
 - 8.6.3.2 Maintenance manuals.
 - 8.6.3.3 Operations and maintenance (O&M) manuals, including system hardware and equipment parts lists.
 - 8.6.4 All operational manuals, warranties, service agreements, including maintenance and operational support agreements are expected to be handed over to HAS after the operational testing period is completed successfully. Training required on the operation, care, and maintenance of the CMS technology and any related operational requirements must be given to the HAS operational team.
 - 8.6.5 Operations Manuals.
 - 8.6.5.1 Provide a clear outline of the sequence of operations that gives the details and information required to operate all equipment and systems.
 - 8.6.5.2 The manuals shall provide detailed programming matrices indicating, at a minimum, all automatic and non-automatic functions for the involved system components and devices being provided.
 - 8.6.6 Maintenance Manuals
 - 8.6.6.1 Manuals including maintenance instructions and other descriptive material as received from the manufacturers shall be provided that will enable designated personnel to maintain and test equipment.
 - 8.6.6.2 As applicable, this documentation shall include descriptions, specifications, theory of operation, layout drawings (showing component types and positions), and back-panel and assembly wiring diagrams.
 - 8.6.6.3 Instructions shall be provided for preventive maintenance procedures that include examinations, tests, adjustments, and periodic cleaning.
 - 8.6.6.4 The manuals shall provide guidelines for isolating the causes of hardware malfunctions and for localizing faults.

- 8.6.6.5 The manuals shall provide instructions on the use of any specialized test equipment needed for hardware maintenance.
- 8.6.7 Operations and maintenance (O&M) manuals
 - 8.6.7.1 Provide a complete as-installed equipment list of active (powered) components, including any HAS furnished equipment, if any. Equipment shall be listed with manufacturers' names, model numbers, serial numbers, and quantities of each item.
 - 8.6.7.2 Provide a complete and correct system schematic, showing detailed connections for all parts of the system, including cable numbers, terminal block numbers and layouts, and other coding and designations (point-to-point diagrams).
 - 8.6.7.3 Provide riser diagrams showing any as-installed conduit with pull boxes, outlet boxes, physical cable layouts, part numbers of cable types used, and number of circuits in each conduit.
 - 8.6.7.4 Provide a repair parts list for each major equipment item furnished.
 - 8.6.7.5 Provide a list of spare parts provided by the Project to be used for replacement with a copy of the Transmittal Sheet showing who took receipt of and where the spare parts are stored.
 - 8.6.7.6 Provide service manuals for each major equipment item furnished as part of the Project.
 - 8.6.7.6.1 Manual(s) shall be bound separately and labeled appropriately.
 - 8.6.7.6.2 Include instructions for adjusting, operating, and extending the system.
 - 8.6.7.6.3 Manufacturer's warranties and operating instructions for each active equipment item furnished.
 - 8.6.7.6.4 Recommended preventive maintenance procedures.
 - 8.6.7.6.5 Provide a record of test results for all copper, metallic, and fiber optic cables installed and tested, or existing cables tested, as defined in the related Specification Sections.
- 8.7 WARRANTY
 - 8.7.1 The Contractor shall provide a joint written warranty of the manufacturer(s) and the installer(s), on a single document. The warranty shall warrant complete installation of the hardware, software, and related equipment to be free from defects in materials and workmanship for a period of no less than twelve (12) months.
 - 8.7.2 The Contractor shall provide standard warranty agreements for review and acceptance as well as extended warranty options in one (1) year increments.
 - 8.7.3 Warranty plans must involve strategies to limit impact to the overall system. As such, warranty periods for equipment may differ.
 - 8.7.4 All warranty elements, including durations and effective dates, apply to all goods and services provided under this Agreement.
 - 8.7.5 Warranty shall list Houston Airport Systems (HAS) as the Owner. Contractor is to manage warranties on behalf of HAS.

- 8.7.6 The starting point for the warranty shall be from final system acceptance.
- 8.7.7 Hardware Warranty
 - 8.7.7.1 All hardware shall have a minimum warranty of three (3) years.
 - 8.7.7.2 The warranty shall allow for replacement or repair of failed items at the discretion of HAS.
 - 8.7.7.3 During the warranty period, replacement parts are not to be taken from stock when feasible but replaced immediately if it is unavoidable.
 - 8.7.7.4 Warranty hardware replacement for items not included in spare parts shall be delivered to the Airport within 72 hours. Warranty hardware replacement for items included in spare stores shall be delivered to the Airport within ten (10) business days.
 - 8.7.7.5 Warranty hardware replacement shall be delivered fully configured.
 - 8.7.7.5.1 The Contractor shall furnish a bill of materials, catalogue numbers, unit prices, and a list of local distribution sources for replacement parts. The Contractor shall propose a recommended spare parts list for approval by HAS to support the system in accordance with the maintenance and support requirements. Required spares shall be on-site at the time of final system acceptance. The parts are to be inventoried at the beginning of the project and accounted for at the end of the warranty and service period.
 - 8.7.7.5.2 The Contractor shall provide spares (quantities based on the Contractor recommendations) of each required component of CMS to be located on-site to allow faulty equipment to be replaced in accordance with the Response Time Matrix (Table 4). At its sole expense, the Contractor shall immediately replenish such inventory are used.
- 8.7.8 Software Warranty
 - 8.7.8.1 All software supplied as a part of this Agreement shall have a minimum of a three (3) year warranty. The warranty shall allow for replacement or repair at the discretion of HAS.
 - 8.7.8.2 Software and firmware updates, including automatic updates, required to maintain all software and firmware to the manufacturers most current revision on all system components installed as part of this project shall be provided and installed at no additional cost to HAS during the warranty period.
 - 8.7.8.3 This upgrade policy shall require the CMS Contractor to install, test, and certify all software and firmware upgrades that become available from the manufacturer for a period of one year from date of final acceptance to the expiration of the warranty.
- 8.7.9 Warranty Service
 - 8.7.9.1 Warranty response times for system failures during the warranty period shall be governed by selected maintenance agreement. However, the following shall be provided during the warranty period, as a minimum:
 - 8.7.9.1.1 24/7/365 on-call support to provide technical assistance to HAS personnel performing troubleshooting of the system/software.
 - 8.7.9.1.2 24-hour onsite response for operational failure, 72-hour total resolution period from help desk call.

8.7.10 The Contractor shall describe any additional elements that are recommended for the base maintenance services agreement.

8.7.11 Failures definitions are provided in the related Specification Section and Basic Services section of this document.

9.0 Operations, Maintenance, and Turnover

9.1 All operational manuals, warranties, service agreements, including maintenance and operational support agreements are expected to be handed over to HAS after the operational testing period is completed successfully. Training required on the operation, care, and maintenance of the Content Management System and any related operational requirements must be given to the HAS operational team.

9.2 Upon acceptance of the Content Management System, the Contractor shall begin:

9.2.1 Warranty as specified in the Agreement and approved Warranty Plan

9.2.2 Maintenance and support services as specified in the approved Maintenance Plan

9.2.2.1 The Contractor shall commit approved support personnel for the duration of the maintenance agreement. Technicians performing installation and maintenance on the proposed system shall meet the following requirements:

9.2.2.2 The Contractor shall provide fully qualified and factory trained service technicians who shall be available during non-working hours to respond to emergency service.

9.2.2.3 Service technicians performing installation and maintenance on the proposed system shall be manufacturer certified on all hardware / software applications. These service technicians shall have the appropriate experience to perform such work, as determined by HAS. Pre-assigned backup technicians shall be available to replace on-site technicians who are on vacation, in training, or who are out sick.

9.2.2.4 The On-site manager and the services technicians shall be approved by HAS.

9.3 All equipment, software licenses, and appurtenances shall be the property of HAS once substantial completion of each installation has been completed.

10.0 Training

10.1 Before Substantial Completion can be awarded, the Contractor shall provide training to the HAS/IAH Operational Team on the operation, care, and maintenance of the CMS equipment, including any operational requirements coordinated with the LED DSP. All operational manuals, warranties, and service agreements, including maintenance and operational support agreements will be turned over to HAS at this time.

10.2 The Contractor shall ensure that all required personnel and substitute personnel are fully trained and certified on the complete system that is currently in service at that time.

10.3 The Contractor shall be solely responsible for all costs associated with the training of personnel and substitute personnel, including training-related travel expenses.

10.4 A Training Plan shall be submitted for approval from HAS and shall include, but not be limited to, training personnel on the installation, operation, renovation, alteration, inspection, maintenance, and service on each system and subsystem

provided, so as to enable troubleshooting and repair to the component level. Maintenance training shall be conducted at a location that is coordinated with HAS.

11.0 Basic Services

11.1 General

- 11.1.1 Upon Oculus in service, the Contractor shall commence Basic Services under this section. Basic Services shall include, but not limited to, all management, supervision, labor, parts/materials/consumables, equipment, diagnostics, tools, permits, safety equipment, reports, inspection, testing, software upgrades/installations, transportation, insurance, sub-contracts, bonds, incidentals, and other related services. In addition, other associated electrical services and licensed personnel for equipment and appurtenances as required to maintain safety, maximum operational efficiency, and to ensure the Content Management System, LED display technology, and all other related components covered under this agreement, adequately supports the HAS mission and vision statements.
- 11.1.2 Basic Services shall include the replacement of failed or defective equipment, hardware, software, or components covered under this Agreement. If the replacement of failed or defective equipment is the result of a verifiable act of force majeure or vandalism as stated in the Agreement, it shall be replaced per Section 19 as applicable.
- 11.1.3 Basic Services shall include software development, application updates, and system migrations that may be required to fix a problem or update security.
- 11.1.3.1 No modifications shall be made to existing equipment or components without written approval from HAS.
- 11.1.4 Basic Services shall include updating scheduled programming for content delivery and display, including loading, scheduling, programming, and activating new or refreshed content.
- 11.1.5 The Contractor shall perform preventative maintenance on all equipment and systems covered under the Agreement in accordance with standards and procedures recommended as required by the Original Equipment Manufacturer (OEM) for keeping the System in First-Class Condition.
- 11.1.5.1 First-Class Condition means the systems and equipment are in working order as expected for their year of manufacture with all maintenance carried out in accordance with the manufacturer's specifications and with no unrepaired damage.
- 11.1.6 Basic Services shall include on-call operational services and performance of certain administrative tasks including preparation of reports, attending meetings, and completing certain housekeeping duties.
- 11.1.7 Contractor shall provide a Warranty Administration program for parts and equipment covered under this Agreement and Attachment F – LED Display Technology Maintenance and Warranty.

11.2 **Preventative Maintenance Services**

- 11.2.1 As a part of Basic Services, the Contractor shall perform Preventive Maintenance (PM) on all systems covered under the Agreement.
- 11.2.2 Contractor shall provide PM services immediately after Substantial Completion, as indicated on the approved Project Schedule.
- 11.2.3 Preventative Maintenance services and associated parts, labor, sub-contracted services and other associated costs shall be considered included in the Basic Services cost unless specifically allowed under a provision of this contract.
- 11.2.4 PM shall include regular inspections, tests, scheduled service routines, detection and correction of potential failures, replacement of parts that fail due to improper maintenance or lack of maintenance, cleaning and adjusting of systems, replenishing consumable items, software updates, establishment of work control systems, records, and reports as required to accomplish the service.
- 11.2.5 Contractor shall keep all related components of the Oculus CMS and LED Display Technology clean and shall maintain work and equipment areas in a clean, neat and organized manner.
- 11.2.6 A Preventative Maintenance plan, to be submitted to HAS for review and approval thirty (30) days before commissioning of the system, shall detail how and when the preventative maintenance services will be conducted on the Oculus CMS and how the display technology PM services will be managed.
 - 11.2.6.1 At a minimum the Preventive Maintenance shall include but is not limited to the following:
 - 11.2.6.2 The Contractor shall conduct a biannual inspection and cleaning of the Oculus display technology, tertiary structure, and any other customer facing elements to help ensure HAS provides our passengers and airline partners a clean, five-star travel environment and experience.
 - 11.2.6.2.1.1 Equipment monitoring, performed at predefined intervals, that indicates any abnormal status conditions. Equipment monitoring can include but is not limited to automatic monitoring, remote system checks, and full system walkthroughs.
 - 11.2.6.2.2 Reporting of any abnormal activity to HAS.
 - 11.2.6.2.3 Backup and archiving of any relevant data.
 - 11.2.6.2.4 System software updates.
 - 11.2.6.2.5 Replenishing of any consumable items.
 - 11.2.6.2.6 Quality control that will assure HAS that the Oculus functions in accordance with the highest standards prevailing in the industry.
 - 11.2.6.2.7 Requirements in the related Specification Sections.
- 11.2.7 The Contractor shall ensure preventative maintenance services on the Oculus CMS and LED display technology are conducted in accordance with standards and procedures recommended as required by the Original Equipment Manufacturer (OEM) for keeping the system in First-Class condition.

11.2.7.1 Appropriate personnel shall be trained by Contractor to implement the preventative maintenance services.

11.2.8 Maintenance Plan

11.2.8.1 The Contractor shall develop a PM plan that meets the targets described by the Original Equipment Manufacturers (OEM) and related Specifications at a minimum.

11.2.8.2 Contractor's PM Plan shall address all services required by the Agreement.

11.2.8.3 The PM plan shall include requirements for routine maintenance, including but not limited to weekly remote system checks, biannual preventative maintenance visits, monthly systems walkthroughs, and biannual video wall cleaning.

11.2.9 Contractor shall provide Maintenance services for a timeframe of five (5) years with two (2) additional one (1)-year options.

11.2.9.1 The PM program shall be reviewed annually for any deficiencies and approved HAS changes are to be incorporated into the PM program for the remainder of the contract.

11.2.10 Contractor must request and receive an approval from HAS before making any changes to the PM schedule.

11.2.11 Once approved the PM plan and its associated checklists shall be uploaded to the HAS IT Service Management Application and shall be utilized by the Contractor unless approved by HAS in advance.

11.2.12 PM checklists should include the following information:

11.2.12.1 Product number

11.2.12.2 System location

11.2.12.3 Maintenance tasks

11.2.12.4 Contractor allotted time for PM completion

11.3 Records and Reports

11.3.1 Contractor is responsible for coordinating with HAS and HAS IT, if necessary, for the frequency of report submittals proposed in the Maintenance Plan.

11.3.2 Every routine maintenance carried out as part of the PM plan shall be accompanied by a report submitted to HAS no later than five (5) days after the action.

11.3.3 Annual Reports, delivered on November 5th of each year, should include, at a minimum,

11.3.3.1 Status of all components in the Oculus environment.

11.3.3.2 Summary of performance for the previous year, including approved and unapproved downtime.

11.3.3.3 Annual Preventive Maintenance (PM) and Clean-down Schedule.

11.3.3.4 Changes to any components during the previous year.

- 11.3.3.5 Other Services Work completed during the previous year.
- 11.3.3.6 Major repair work completed during the previous year.
- 11.3.3.7 A look ahead to work planned during the coming year.
- 11.3.3.8 Recommendations to improve the Content Management System.
- 11.3.3.9 Recommendations to enhance the currently adopted PM program.

11.3.4 Personnel

- 11.3.4.1 As part of the Maintenance Plan, The Contractor shall develop and submit for HAS approval a staffing plan which shall include:
 - 11.3.4.1.1 A Project Manager to oversee all maintenance work performed.
 - 11.3.4.1.2 A qualified number of personnel necessary to successfully meet the performance objectives and ensure Preventative Maintenance services are completed on schedule.
 - 11.3.4.1.3 Contractor or Sub-Contractor staff to comply with the unit cleaning requirements.
- 11.3.4.2 Contractor shall coordinate and provide additional staffing when required to complete the PM services within a suitable amount of time as noted in the Specifications.
 - 11.3.4.2.1 For the equipment cleaning, Contractor shall provide additional staff to complete the cleaning, when necessary.
- 11.3.4.3 For OSR purposes, Contractor shall provide a normal and after-normal hour labor rate for the positions in the fee schedule Attachment B. The normal labor rate shall be used during normal business hours which are Monday through Friday, 7:00 a.m. to 4:00 p.m. The afterhours labor rate shall be used outside of normal business hours and holidays.
- 11.3.4.4 It is a requirement for the Contractor's designated on-site technicians be fully qualified to maintain Content Management System, the LED display technology, and all related components.
- 11.3.4.5 All personnel assigned to work under the Agreement shall the required certifications and years of experience. Personnel shall also hold a current and valid license and certifications issued by OEM and or an organization determined by HAS.
- 11.3.4.6 Contractor shall furnish to the Director and/or designee the required current professional certifications and documentation of on-site personnel qualifications. All on-site and replacement personnel are required to maintain professional certifications valid and current while in the term of the Agreement.
- 11.3.4.7 Contractor may change personnel only with equally qualified personnel and then only after obtaining written approval from the Director and/or designee.
- 11.3.4.8 Contractor shall replace any personnel assigned to provide services under the Agreement whose work product or conduct is not satisfactory to the Director and/or designee.

11.3.5 Contractor Project Manager

- 11.3.5.1 Contractor shall provide a dedicated and qualified Project Manager who shall serve as the main point of contact with HAS and shall be approved by HAS. The Project Manager shall have experience working on large-scale, audio-visual integration implementation projects of a similar nature and scale.
- 11.3.5.2 The Project Manager will be responsible for the work done by technicians receiving after-hour trouble calls from the HAS Technology Service Desk representative. The Project Manager will determine the appropriate response.
- 11.3.5.3 Project Manager shall attend regularly scheduled meetings to discuss the maintenance and operation of the systems. Project Manager shall prepare a typed meeting agenda covering the topics to be discussed and prepare minutes of the meetings in a form satisfactory to the Director. Project Manager shall issue copies of the minutes to all attendees within three (3) business days following each meeting. HAS shall approve the minutes prior to distribution by the Contractor.
- 11.3.5.4 The Project Manager shall not be a working technician.
- 11.3.5.5 The Project Manager shall not be reassigned without prior approval of the Director. Such approval shall not be unreasonably withheld if the replacement Project Manager has equal experience, and skilled in a like position with a contract of similar size and scope.
- 11.3.5.6 HAS reserves the right upon written request, to require the Contractor replace the Project Manager within ten (10) business days. The new Project Manager shall meet all the experience requirements listed in the Agreement.

11.3.6 Response Time

- 11.3.6.1 Contractor must provide 24/7/365 (including Holidays) remote help desk support.
- 11.3.6.2 An acceptable approach to providing the required maintenance and support service is through the provisioning of remote access. If the Contractor desires to provide remote access support, all current HAS security policies and procedures shall be followed.
- 11.3.6.3 The Contractor shall respond to all requests within the following Response Times. The determination of the request classification shall be in the sole judgement of the Director and/or designee.

Table 4: Response Time Matrix

| Type | Time To Respond Remotely | Time To Respond When technicians are on Site | Time to Respond during off-peak hours | Time To Restore |
|--|--------------------------|--|---------------------------------------|-----------------|
| Operational Failure | 15 Minutes | 4 Hours | 8 Hours | 24 Hours |
| Critical Failure | 15 Minutes | 1 Hour | 2 Hours | 24 Hours |
| Emergency Failure | 5 Minutes | 20 Minutes | 1 Hour | 24 Hours |
| Peak hours are from 0400 until 0100 24/7/365 | | | | |
| Off-Peak Hours are from 0101 until 0359 24/7/365 | | | | |
| Remote Support shall be 24/7/365 | | | | |

12.0 Other Work / Services Request

12.1 General

12.1.1 Within the general scope of the Agreement, Other Work/Services may be required for system and equipment to meet desired conditions and/or services not covered in the Basic Services of the Agreement. Other Work/Services shall be performed in accordance with all provisions of the Agreement and any special provisions issued with authorization for work that are consistent with the Agreement. Other Work/Services shall be provided by Contractor on an "as needed" basis and then, only after receipt of a written Other Work/Services Request ("OSR"), signed by the Director and/or designee. Contractor shall perform Other Work/Services to the same standards identified for Basic Services.

12.2 Performing Other Work/Services

12.2.1 Other Work/Services shall be performed in accordance with all provisions of the Agreement and any special provisions issued with the Other Service/Request (OSR)

12.2.2 Before issuing an OSR, the Director will first issue a written notice to the Contractor detailing the specific OSR to be performed by the Contractor.

12.2.3 In response to any such written notice, Contractor shall provide the Director with a written agreement within five (5) business days of receipt of OSR. Contractor shall include a description of the services to be performed, applicable labor rates, estimated labor hours, performance schedule, total estimated cost, and any other requirements set forth in the written notice to the Contractor.

12.2.4 Contractor shall furnish all materials, labor, tools, equipment, transportation, and incidentals for accomplishing the described services or as otherwise specified by the Director. Director will not approve an OSR without a specified completion date. Contractor shall complete all such Other Work/Services within the time specified in the OSR. Contractor can request in writing an extension to the completion date. However, the Director may or may not allow the extension. Director's decision is final

12.2.5 In some situations, HAS may supply parts to Contractor for Other Work/Services Work. HAS will bear full responsibility for the parts.

12.2.6 Upon receipt of the Contractor's agreement, the Director has the option to reject the Contractor's agreement, require resubmission with revised or additional information, or issue an OSR. Should the Director reject the Contractor's agreement and require resubmission, the Contractor shall resubmit a modified agreement within five (5) business days of the rejection.

12.2.7 Upon approval by the Director of the modified agreement, an OSR will be issued. Contractor shall commence as stated in the OSR. Contractor shall diligently work to the completion in accordance with the terms and conditions of the Agreement and the approved OSR.

- 12.2.8 Contractor's labor cost shall not exceed the rate stated in the Fee Schedule. Contractor's labor cost stated in the Fee Schedule only applies to the Contractor's employees who are "not" performing work in conjunction with their regular duties. Labor is inclusive of supervision, transportation, tools, and expendables.
- 12.2.9 Prices for equipment, parts, supplies, and sub-contracted requirements which may be required for authorized Other/Work Services shall be the Contractor's actual cost-plus percent (____%) mark-up proposed on the Fee Schedule (mark-up excludes freight and travel). Copies of invoices from Contractor's suppliers for these items shall be submitted with Contractor's invoices at the time of submittal to HAS for payment. The mark-up percentages stated shall not increase during the term of the Agreement. The quantity of equipment, parts and supplies will depend on the needs of HAS.
- 12.2.10 Should a required service exceed \$5,000, Contractor shall obtain three (3) itemized bids/estimates within five (5) business days from separate/different vendors/suppliers, not affiliated with Contractor, for the required equipment, parts, supplies, and sub-contracted work/items. Contractor shall submit the bids/estimates to the Director and obtain written approval from the Director before proceeding with the Work. Contractor shall be compensated at actual cost-plus percent (____%) mark-up proposed on the Fee Schedule (mark-up excludes freight and travel).
- 12.2.11 If a required service is less than \$5,000, Contractor shall obtain one (1) itemized bid/estimate within five (5) business days, for the required equipment, parts, supplies, and sub-contracted work/items. Contractor shall submit the bid/estimate to the Director and obtain written approval from the Director before proceeding with the Work. Contractor shall be compensated at actual cost-plus percent (____%) mark-up proposed on the Fee Schedule (mark-up excludes freight and travel).
- 12.2.12 After completion of Other Work/Services, a copy of the approved OSR shall accompany the invoice.
- 12.2.13 While performing Work on any OSR, if hidden damage or additional cost is discovered, Contractor shall notify the Director immediately. After determining the extent of hidden damage, a supplemental OSR must be submitted.
- 12.2.14 Contractor shall submit to the Director, copies of original purchase orders and invoices evidencing Contractor's acquisition costs.
- 12.2.15 In the case of emergency services, Contractor may perform Other Work/Services upon the verbal approval of the Director. However, during the next business day, the Director will submit a written Emergency Service Request to the Contractor.
- 12.2.16 If it is determined this scope of work should be covered under Basic Services, any amount paid to the Contractor under Other/Services Request will be reimbursed to HAS by the Contractor. HAS does not waive any of its rights and remedies whether by statute, at law, in equity, or under this Contract.
- 12.2.17 If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, the Contractor shall not receive additional compensation for their labor.

- 12.2.18 Contractor shall be responsible for ensuring all work done under an Other Service Request is in compliance with all regulatory plan review and permitting requirements in effect. Contractors work schedule will not be approved without submitting the appropriate permits to HAS.
- 12.2.19 Contractor shall not subcontract work to companies affiliated with the contractor without prior written approval from the Director.
- 12.2.20 Unless specifically allowed under a section of the Agreement, preventative maintenance parts, tools and services shall not be an OSR candidate.
- 12.2.21 Other/Work Services include, but are not limited to, the following:
 - 12.2.21.1 Optional System Upgrades/Modifications approved by HAS
 - 12.2.21.2 Additional networking equipment, servers, or new technologies as needed for replacements, expansions, or implementations.
 - 12.2.21.3 New software upgrades not included in the Agreement.
 - 12.2.21.4 License/Hardware to implement new features.
 - 12.2.21.5 Peripheral Upgrades/Modifications.
 - 12.2.21.6 Content Management System components including software, licenses, services, and labor.
 - 12.2.21.7 Cabling materials and services for data and video devices.
 - 12.2.21.8 Interfaces with other HAS systems not covered under this Agreement.
 - 12.2.21.9 Repair or replace components damaged by vandalism, force majeure, or other third parties as determined by Section 20 in the Agreement.
 - 12.2.21.10 Provide the services of independent consultants, engineers, or other professionals to perform special studies or investigations of the Content Management System.
 - 12.2.21.11 Provide labor and material to modify or upgrade equipment in accordance with revisions to governing regulations; recommendations by consultants, engineers, or other professionals; or HAS requirements.
 - 12.2.21.12 Proof of Concepts (POC) initiatives related to the Content Management System.
- 13.0 Quality Control**
 - 13.1 The Quality Control requirements described under this section shall apply to the Content Management System and associated equipment.
 - 13.2 The Contractor shall develop, implement, and maintain a Quality Control Program that will assure HAS that the Content Management System Operation & Maintenance Services are in accordance with the highest standards prevailing in the industry and Contractor always adheres to the provisions of the Agreement. The Contractor's QC plan, at a minimum, must include the following:
 - 13.2.1 The QC Program should include an inspection plan that must specify areas to be inspected on a scheduled or unscheduled basis, frequency of inspection, and titles of Contractor's personnel who will be performing the inspections.

- 13.2.2 Contractor's staff conducting Quality Control functions shall have the suitable experience for their position.
- 13.2.3 The inspection plan must specify the type and number of inspections to be conducted, and the types of deficiencies to be targeted.
- 13.2.4 Deficiency Prevention – Contractor shall establish a method of identifying and correcting deficiencies (and their cause) in order to improve the quality of service before the level of performance is impaired.
- 13.2.5 Inspection Files – Inspection files must include documentation on all inspections conducted by the Contractor and the corrective action taken. The documentation must be made available to HAS at any time it is requested during the term of the Agreement.
- 13.2.6 Inventory Files – During the term of the Agreement, the Contractor shall make available to HAS a file of all inventories.
- 13.2.7 Contractor shall develop a QC Inspection sheet in a format acceptable to the Director. The Contractor shall maintain a file of all inspections conducted by Contractor and the corrective actions taken. This file must be made available to the Director immediately upon request.
- 13.3 Contractor shall submit the QC program in writing to HAS for approval before implementation to ensure that the program produces the desired results.

14.0 Exclusion Notice

- 14.1 During the Contract Term, the existing Content Management System equipment or systems may be upgraded and/or new equipment or systems may be added to meet the changing needs of the HAS. At HAS's option, such upgrades or additions may be supplied and installed by the Content Management System services Contractor or others. The Contractor shall be responsible for maintenance of any upgrades and/or new equipment or systems following completion of installation, acceptance, and the warranty period. Such system upgrades, new equipment, or components installed as an integral part of existing systems without increasing overall system requirements more than 5% are to be maintained by Contractor without additional compensation. Cost adjustments for inclusion or exclusion of equipment that increases or decreases overall system requirements by more than 5% shall be at the rates stipulated in the Cost Proposal Form (Attachment B), or if not stated therein, ordinary and reasonable rates as mutually agreed upon between the Director and Contractor.
- 14.2 Any equipment or service that is subject to the Agreement may be excluded from the Agreement by means of an Exclusion Notice. Price adjustment as a result of exclusion shall be mutually agreed upon by both parties. The Exclusion Notice will describe the unit by manufacturer and serial number and include a brief description of the unit to be excluded.

15.0 Test Equipment

- 15.1 The Contractor shall furnish and maintain adequate quantities and types of on-site test equipment as required for diagnostics and repairs of the Content Management System.

16.0 Security and Badging

- 16.1 The Contractor shall refer to www.fly2houston.com/biz/resources/badging for all HAS badging related information, questions, badging application forms, office hours, etc.
- 16.2 All onsite personnel are required to meet the requirements in order to obtain an HAS badge with CBP access and maintain an active status for the badge.
- 16.3 All onsite personnel are required to meet the requirements in order to obtain and HAS badge with SIDA and Air Operations Area (AOA) access and maintain an active status for the badge. AOA driving privileges are not required.
- 16.4 The Contractor shall comply with all applicable Federal rules governing security at the Airport, as may be amended from time to time.
- 16.5 All on-site personnel of the Contractor, including subcontractors, are required to undergo a fingerprint-based criminal history records check.
- 16.6 The Contractor will be required to provide Customs Border Protection Security Access at IAH and HOU airports, which will require the Contractor to purchase a Customs Security Bond for employees requiring access to CBP Security areas.
- 16.7 Costs for the fingerprint-based criminal history records check are reflected in the cost of the badges. Contractor must pay for the cost of badges, including replacements thereof. Contractor personnel losing badges will be charged for lost badge in addition to replacement badges at the then current rate.
- 16.8 Contractor acknowledges that fines or penalties associated with non-compliance with security regulations must be reimbursed to HAS.

17.0 Transportation and Parking

- 17.1 The Contractor shall provide vehicles for onsite personnel for their employee's use and shall park its vehicles in areas designated by the Director and/or designee at its own cost, if any. HAS will provide a limited number of Contractor parking spaces at no charge. All transportation activities and related costs of Contractor, or its sub-contractors, necessary to perform under the Agreement shall be provided by Contractor. All of Contractor's and its sub-contractor's company vehicles shall be clearly identified according to FAA and HAS guidelines and regulations with at a minimum company decals and or magnetic signs as required by the Director and/or designee.

18.0 Personal Protective Equipment

- 18.1 The Contractor shall provide all the essential and necessary personal protective equipment for each member of the on-site personnel and any substitute personnel.

The personal protective equipment that shall be provided shall include, but not limited to, the following:

- 18.1.1 A continuous, adequate supply of disposable medical-grade face masks or face coverings
- 18.1.2 A continuous, adequate supply of disposable gloves
- 18.1.3 A continuous, adequate supply of hand sanitizer for the office to be used by personnel
- 18.1.4 A continuous, adequate supply of sanitizing wipes and/or spray for the office to be used by personnel

19.0 Forced Majeure, Third Party Damage or Vandalism

- 19.1 Any instance of force majeure that is proven by the Contractor and verified by HAS shall be replaced at a cost not to exceed rate proposed through the Other Work Services section.
- 19.2 Any instance of third-party damage or vandalism that is proven by the Contractor and verified by HAS shall be replaced at a cost not to exceed rate proposed through the Other Work Services section.

20.0 Customer Service and Other Requirements

- 20.1 Because the duties will require that Contractor's personnel often interact with airline staff, HAS staff, and our passengers the personnel must:
- 20.2 All on-site personnel will be required to have the company's uniform and the Contractor's personnel will present a clean and neat appearance at all times.
- 20.3 All on-site personnel will be required to maintain a professional, friendly, helpful, and courteous attitude at all times.
- 20.4 The Contractor shall make arrangements for the on-site Project Manager to be on-call 24 hours per day, 7 days per week, 365 days per year, (including all HAS holidays) to respond to urgent/emergency response. When on-site Manager is not available, Contractor must provide equally qualified personnel, must hold an active HAS badge, and must inform HAS in advance.
- 20.5 The Contractor shall make arrangements for a sub-set of "standby", equally qualified substitute technicians who may be called upon to fulfill the duties of assigned on-site technicians during vacations, training, or absences due to illness. Substitute technicians must hold valid HAS badges for the respective airports, and must be included in the airport familiarization process. Contractor may not substitute technicians who are unfamiliar with the airport facilities, tenants, and personnel.
- 20.6 Contractor shall pay all of its Administrative/Overhead Cost including, but not limited to, payroll vacation, sick time, training, etc. processing orders, tracking invoices, sales quotations, and engineering documents. Such costs shall not be billed to HAS.
- 20.7 Maintain a clean, drug-free and safe working environment.

- 20.8 The Contractor shall provide HAS with an Organization Chart complete with names and resumes for each position on the Chart.
- 20.9 If the Director determines that the Contractor's requirements and responsibilities can only be met with additional on-site staff, Contractor shall provide such staff at no additional cost to HAS.
- 20.10 Contractor's personnel shall work additional hours as required to meet Contractor's obligations at the Contractor's expense.

21.0 Invoicing

- 21.1 Contractor shall submit its invoices electronically in accordance with the specifications and shall invoice for work accepted by an HAS representative.
- 21.2 The City shall certify the correctness of each invoice and arrange for payment. The invoice must be identified by the agreement name and agreement number. Certification and/or payment does not preclude the City from indicating that a certification or payment was incorrect. In addition, it does not preclude the City from recovering excess payments.
- 21.3 All work shall be scheduled with HAS representatives and shall be accomplished during the hours scheduled. HAS shall have the right to request work to be performed during regular and non-regular hours.
- 21.4 No payment for services shall be payable by HAS for any services for which the Contractor fails to complete all the scheduled work as specified or fails to obtain an approved work schedule prior to beginning work.
- 21.5 Contractor shall be compensated at the agreed price located in Attachment B (Cost Proposal Form).
- 21.6 Invoices submitted for services performed as the result of Other Work/Services shall include a copy of the Director's written request.
- 21.7 Invoices submitted for services performed as the result of Change Orders shall require copies of the applicable Change Order attached to the original invoice.
- 21.8 Contractor shall provide separate monthly invoices for any completed work at each location and Airport
- 21.9 Invoice Requirements
 - 21.9.1 The Houston Airport System shall only accept invoices submitted electronically along with required support information. Each invoice should be in a PDF or TIFF format. Multiple invoices can be submitted in a single email with one invoice per file. Requirements are as follows:
 - 21.9.1.1 Submit invoices in "PDF" or "TIFF" format.
 - 21.9.1.2 Submit to has.accountspayable@houstontx.gov
 - 21.9.2 Contractor shall make timely payments to all suppliers and/or sub-contractors that furnish labor, materials and/or furnishings related to the Agreement.

22.0 Interlocal Agreement

- 22.1 Under the same terms and conditions hereunder, the Contract may be expanded to other government entities through inter-local agreements between the City of Houston and the respective government entity that encompass all or part of the products/services provided under this contract. Separate contracts will be drawn to reflect the needs of each participating entity.

23.0 Liquidated Damages

- 23.1 Liquidated Damages will be assessed throughout the contract term. Prior to implementing Liquidated Damages, the Contractor and HAS will come to an agreement on the dollar amount of Liquidated Damages. Dollar amount will be agreed up on during RFP negotiations.
- 23.2 If Contractor does not meet the Project Baseline Schedule approved by HAS. Section 8.3.2 of Attachment A. Cost shall range between \$250 and \$500 per day per delay.
- 23.3 If Contractor does not meet the items in the Response Time Matrix (Table 4) Section 11.3.6 of Attachment A. Cost shall range between \$250 and \$500 per hour per occurrence.
- 23.4 If Contractor does not complete open items found during the Project Completion Inspection within the specified timeframe. Cost shall range between \$250 and \$500 per day per delay.
- 23.5 Any other Liquidated Damages agreed during RFP negotiations.

ATTACHMENT B
COST PROPOSAL FORM
(See Attachment)

ATTACHMENT C
SAMPLE AGREEMENT
(Attached Separately)

ATTACHMENT D
REQUIRED SUBMITTAL CHECKLIST

| Item # | REQUIRED SUBMITTAL | Check (√) |
|---------------|---|------------------|
| 1 | Table of Contents | |
| 2 | TAB 1 – 1 – Transmittal Letter | |
| 3 | TAB 2 – Description of Firm | |
| 4 | TAB 3 – Executive Summary | |
| 5 | TAB 4 – Firm and Individual Professional Experience and Knowledge | |
| 6 | TAB 5 – Demonstrated Ability To Produce and Edit Desired Types Of Content | |
| 7 | TAB 6 – Project Plan and Schedule | |
| 8 | TAB 7 – Content Management System (CMS) Integration Capabilities | |
| 9 | TAB 8 – Training, Warranty and Maintenance | |
| 10 | TAB 9 – Other City Ordinances, Policies and Executive Orders (Items 11-26) | |
| 11 | PART VI – City Required Documents (EXHIBITS A – F, H, and Q -U), and ATTACHMENT A | |
| 12 | Exhibit A – 00455 Ownership Information Form | |
| 13 | Exhibit B – 00457 Conflict of Interest Questionnaire | |
| 14 | Exhibit C – 00460 Pay or Play Acknowledgement Form | |
| 15 | Exhibit D – 00480 Reference Verification Form | |
| 16 | Exhibit E – 00481 Anti-Collusion Statement | |
| 17 | Exhibit F – Attachment “A”: Schedule of M/WBE Participation | |
| 18 | Exhibit F – Attachment “B”: M/WBE Letter Of Intent | |
| 19 | Exhibit F – Attachment “C”: Certified M/WBE Subcontract Terms | |
| 20 | Exhibit F – Attachment “D”: Mayor’s Office of Business Opportunity M/WBE Utilization Report | |
| 21 | Exhibit H – 00600 List of Proposed Subs | |
| 22 | Exhibit Q – Contact Directory Form | |
| 23 | Exhibit R – Statement Of Residency | |
| 24 | Exhibit S – Offer And Submittal | |
| 25 | Exhibit T – Contract and Contract Exception Chart | |
| 26 | Exhibit U – Declaration of Hire Houston First Designation | |
| 27 | ATTACHMENT C – Sample Contract | |
| 28 | TAB 10 – Additional Information (If any) | |
| 29 | TAB 11 – ATTACHMENT B - Required Pricing Response Form | |
| 30 | TAB 12 – Financials (To be submitted in separate sealed envelope) | |
| 3 | TAB 13 – ATTACHMENT D - Required Submittal Checklist | |

ATTACHMENT E
OCULUS DESIGN DOCUMENTS
(See Attachment)

ATTACHMENT F
LED DISPLAY TECHNOLOGY MAINTENANCE AND WARRANTY
(See Attachment)