



Milwaukee County

ATTACHMENT A.2 Zoo Humboldt Penguin Exhibit Enhancement

In addition to the requirements stated in the Milwaukee County – AIA Documents B133-2019 (*Attachment O*) and A201-2019 (*Attachment M*) the following specific services are to be included and added to the respective sub-sections numbered below.

Basic Services – PART 1

1a. DOCUMENTATION of EXISTING CONDITIONS

- 3D BIM Model:
 - i) Using a 3D laser scanner capture the existing exterior exhibits within the project scope area, collecting point data with high speed and precision. The device shall have an eye – safe laser rotating at high speed. Existing site conditions shall be recorded as coordinates known as “points”. The cluster of these points are mapped together representing a highly accurate digital picture. Once all the points are gathered, the scanner will colorize it to create a 3D map of the site with multiple viewpoints, referred to as a point cloud scan.
 - ii) The 3D laser scanner shall also capture the existing exterior and interior structure of the Penguin Exhibit including concealed mechanical, electrical, plumbing, and fire protection installations.
 - iii) The next and final stage of the “Scan to BIM” process is to convert the acquired point cloud scan into a 3D BIM model with the as-built condition of the existing site and existing Penguin Exhibit fully documented. This 3D BIM model will be later utilized in the schematic, design development, and construction document phases of design.
- Photogrammetry of the Site:
 - iv) Using a drone pre-programmed with altitude, speed, and flight path to capture hundreds of images of the existing site along a preset grid. Its GPS unit shall record the horizontal and vertical positioning of the drone as well as the angle of the camera. With post-processing software using a process called photogrammetry to create a 3D-Model of the existing site surface. Then, this 3D surface is calibrated and tied to a local coordinate system using ground control points that are surveyed using traditional methods.

1b. STUDY and PROGRAMMING PHASE

Additional Deliverables: Submit for copies each of the drafts and the final report in additions to the deliverables stated in the B133-2019 modified, Standard Form of Agreement Between Owner and Architect, Construction Manager and Constructor Edition (*Attachment O*), for a total of 7 copies each.

- i) Specific Items of Studies – Special Aspects of Humboldt Penguins: The Primary Consultant is expected to have possessed prior basic knowledge of the Humboldt Penguin species, and is required to apply the knowledge to explore, with inputs from Owner, those aspect of the life, tendencies, activities, habits and or motions etc. that can potentially be the bases of Exhibit Narratives, Enrichment Exercises and or Demonstration Routines identified in the Scope of the Project section of the RFP.
- ii) Specific Items of Studies – Other Penguin Exhibits: The Primary Consultant is expected to have possessed prior knowledge of Penguin exhibits at other zoos, studied them, and analyzed them; and had gained insights into the strength and weakness of their designs that can be shared at study meetings with the Owner to guide the work of the design team.
- iii) Specific Items of Studies – Visitor Aspects: The Primary Consultant shall, with input from

Owner, study the interests, tendencies, movements, etc. that can potentially be bases of the motivating and or inspiring if the design.

- iv) Specific Items of Studies –The Primary Consultant shall, with inputs from Owner, study the location options, size, functional requirements, component spaces, service access and other physical requirements etc. for these facilities. Such studies may be in the form of verbal discourses, diagrams and or illustrations, and shall include multiple options for location and layout concepts presented in block diagrams.
- v) Study Meetings: For each item of study list above, at the minimum conduct a one (1) hour long physical meeting with Owner. Such meetings shall be preceded by submissions of meeting agenda and prior studies, and other related materials if any. And shall be followed with minutes and reports etc.
- vi) Responses to Review Comments: The Primary Consultant shall record comments from reviews of meeting minutes and reports and prepare responses detailing how each issue raised is resolved and submit the responses in advance of or with the submission of the subsequent deliverables.

Conclusion of Basic Services – Part 1: At the conclusion Primary Consultant shall prepare a report in a table format indicated the completion status of each task and submit the list along with other deliverables of this phase.

1c. SCHEMATIC DESIGN PHASE

The Primary Consultant shall begin PART 2 with the layout of the Overall Site Plan comprising of the existing exhibit facilities. This site plan study shall include diagrams and/or illustrations and shall include multiple options as needed.

- i) Alternative Deliverables: If and when determined and notified by Owner, the deliverables for this phase may be in electronic files.
- ii) Design Options: For the Overall site plan and each Major Component the Primary Consultant shall with inputs from Owner develop design options for the Owner to consider. Each option shall consist of all component spaces or facilities, exterior design if applicable, and building and or service systems if applicable.
- iii) Major Building Systems: The Primary Consultant shall, with inputs from Owner, study and recommend the optimum building and service systems, including Sustainability solutions, for the Compound and its Major Component Facilities. Such studies may be in the form of verbal discourses, diagrams and or illustrations, and shall include multiple options, except that site layout studies shall be in line diagrams.
- iv) Schematic Design Review Meetings: For each design item list above, conduct a minimum of a one (1) hour long physical meeting with Owner. Such meetings shall be preceded by submissions of meeting agenda and reports, plans and other materials. And, shall be followed with minutes and reports etc.
- v) Study Meetings: Conduct two (2) one (1) hour long physical meetings with Owner. The meetings shall be preceded by submissions of meeting agenda and prior studies, and other related materials if any. And, shall be followed with minutes and reports etc.
- vi) The Primary Consultant shall record comments from reviews of meeting minutes and reports and prepare responses detailing how each issue raised is resolved and submit the responses in advance of or with the submission of the subsequent deliverables.

Conclusion of Basic Services – Part 2:

The Primary Consultant shall deliver a schematic of the overall exterior exhibit site plan, enclosed interior exhibit space and renovations to the existing Penguin Exhibit.

The Primary Consultant will provide one (1) rendering of the proposed Exhibit from the entrance point of view.

Using the 3D BIM model of existing conditions (site and building) create a schematic walk-through of the overall exterior exhibits, enclosed interior exhibit space / viewing areas and renovations to the existing Penguin Exhibit Enhancement.

Basic Services – PART 2

2a. DESIGN DEVELOPMENT

- i) Alternative Deliverables: If and when determined and notified by Owner, the deliverables for this phase may be in electronic files.
- ii) Design Review Meetings: For each Major Components of the Compound, each major Building and or Service Systems, and the Exhibit Narratives, Enrichment Exercises and or Demonstration Routines, conduct a minimum of a one (1) hour long physical meeting with Owner. Such meetings shall be preceded by submissions of meeting agenda, design drawings, and other related materials. And, shall be concluded with minutes and reports etc.
- iii) Responses to Review Comments: The Primary Consultant shall record review comments and prepare responses detailing how each issue raised is resolved and submit the responses in advance of or with the submission of the subsequent deliverables.
- iv) At the completion of design development documents, the Construction Manager shall provide a preliminary cost estimate.

Conclusion of the Design Development Phase:

The Primary Consultant shall review with the Owner a complete set of Design Development drawings of the Penguin Exhibit. Using the 3D BIM model create a final rendered walk-through model of the final design of the Zoo - Humboldt Penguin Exhibit Enhancement.

2b. CONTRACT DOCUMENTS

- i) Alternative Deliverables: If and when determined and notified by Owner, the deliverables for this phase may be in electronic files.
- ii) Cooperating with the Construction Manager: Owner may retain a Construction Manager to assist in scoping multiple bid packages. The Primary Consultant shall cooperate with the Construction Manager in carrying out all Contract Document preparation services.
- iii) Progress Review Meeting: At the conclusion of 80% completion, conduct a minimum of seven (7) one hour long physical meetings with OWNER. Such meetings shall be preceded by submissions of meeting agenda and required deliverables and related materials. And, shall be concluded with minutes and reports etc.
- iv) Responses to Review Comments: For each review listed above, the CONSULTANT shall record review comments and prepare responses detailing how each issue raised is resolved and submit the responses in advance of or with the submission of the subsequent deliverables.
- v) Contract Documents Phase Tasks Checklist and Completion Report: At the start of Contract Documents Phase, the CONSULTANT shall prepare and submit a list of the tasks to be performed. At the conclusion of the phase, the CONSULTANT shall prepare a report in a table format indicated the completion status of each task and submit the list along with other deliverables of the phase.
- vi) Complete Design and Engineering Solutions: The completed design shall include all design and engineering solutions necessary for the Facility to be constructed without additional design or engineering services to be rendered by a third party or by Owner. Except for premanufactured proprietary products or systems, no drawing or specification shall stipulate that additional engineering, determination of quantity of structural members of an assembly, sizing of assembly members, design of connections of an assembly to a member or assembly of a different design are required of the contractor. Where pre-manufactured proprietary products or systems are specified, industry standards stipulating acceptable performance parameters and physical characteristics, other than those stated by the manufacturer, shall be included in the specification.
- vii) Code Compliant Only Solutions: The Design shall contain only solutions and attributes meeting the minimum standards required by applicable building codes. Solution exceeding those minimum standards, if any, shall be clearly declared to the Owner, along with cost and benefit analyses, and be approved by the Owner, prior to adaptation of the high standards.

- viii) At the completion of contract documents the Construction Manager with assistance from the Primary Consultant shall submit a final cost estimate to the Owner for review before contract documents are issued for bidding.

Conclusion of the Contract Document Phase:

The Primary Consultant shall review with the Owner a complete set of final contract documents of the Humboldt Penguin Exhibit Enhancement.

Update the final rendered walk-through model of the final design of the Humboldt Penguin Exhibit Enhancement with any revisions that may have occurred in the construction document phase.

Basic Services – PART 3

3a. BIDDING

- i) Cooperating with the Construction Manager: Owner may retain a Construction Manager to assist in administrating the bidding process, and in scoping multiple bid packages. The Primary Consultant shall cooperate with the Construction Manager in carrying out all bidding phase services.
- ii) The Primary Consultant shall review all submitted bids with Milwaukee County AE&ES and the Milwaukee County Zoo. Provide a written recommendation to the Owner on which an award can be made. If it is the recommendation to reject any one bidder or all bidders, the Primary Consultant shall submit a written justification.

3b. CONSTRUCTION ADMINISTRATION

- i) The number of Primary Consultant visits to site shall be one per week during the projected construction duration indicated in the RFP. Additional visits as may be requested by Owner shall be construed as additional services.
- ii) Construction Meetings and Review of Meeting Minutes: The Primary Consultant shall attend construction meetings, including pre-construction meeting, pre-installation meeting as may be required, and weekly or bi-weekly progress meeting as determined by Owner. Attendance of meetings may coincide with site visits stipulated in section.
- iii) The Primary Consultant shall review meeting minutes prepared by the Construction Manager.
- iv) Cooperating with the Construction Manager: It is anticipated that a Construction Manager will be retained by Owner to lead construction execution. The Primary Consultant shall cooperate with the Construction Manager in carrying out all construction phase services.