IMA Locker Rooms and Pool Upgrades Project No. 205781: Project Governance

**Purpose**: A good project governance structure is critical for making defensible and timely decisions that allow the project to move forward expeditiously. In a complicated organization like a university, this requires a variety of perspectives to ensure the best interest of the University are being served. An appropriate governance structure should balance the potential opportunity any new project represents with the long-term goals and realities of the institution. The governance structure is developed at the very beginning of the project and remains in place throughout the project. It is the project manager’s responsibility to reinforce its role enabling the project to move forward. The governance structure includes the following individuals and entities:

- **Responsible Party** – High level administrator responsible for ensuring that overall institutional objectives are met. This person is accountable for the overall success of the project. Monthly updates will be provided by the Executive Committee, including significant decisions. Any recommendations that may extend the project parameters must be made by the responsible party. The Vice President of Student Life will be the responsible party for this project, ensuring at a high level that all institutional objectives are met.

- **Project Executive Committee** – All major project decisions, recommendations, and trade-offs within the established parameters of the project (site, budget, schedule, financing) will be made by the Project Executive Committee, a small, high-level committee representing broad University perspectives as well as project-specific views. This group may also engage in collaborative design sessions with the Project Management Team and the Project Work Teams. It will include: UW Facilities Associate Vice President, Recreation Director, Project Delivery Group Director, Finance Director, Services and Activities Fee Chair, UW Facilities Chief Operations Officer, and Associate Vice President for Student Life. The Committee will meet on a monthly basis.

- **Project Management Team (PMT)** – Day-to-day project management decisions, such as change order reviews, and minor design changes, will be made by the Project Management Team, consisting of project managers from the University, the architecture firms, and the construction management company. This team should meet at least weekly throughout the delivery of the project.

- **Senior Management Team (SMT)** – A separate team consisting of principals from the architecture and construction company and the project director will meet quarterly to ensure that the team is working and communicating effectively and is being supported appropriately.

- **Project Working Teams** – These subgroups focus on certain design aspects. These teams make recommendations to the PMT and the Project Executive Committee. Members of these teams include the UW project manager, the project architect, the construction project manager, and University representatives with specific expertise to the design aspect.
Members of these teams will also assist in identifying participants for focus groups to better inform the work of the teams. They will also integrate input from University process partners from Campus Engineering, Environmental Health and Safety and Information Technology. Project Work Teams may also involve the Executive Committee in collaborative design sessions.
Safety & Health Qualifications Statement

• Please do not leave blanks on any item except lists; use ‘n/a’ if a field does not apply.
• This form may be completed electronically or by hand (please write legibly).

Legal Name of your Company:

Street Address:        City:        State:        Zip:
Mailing Address:       City:        State:        Zip:
Phone:                Fax:         E-Mail Address:

Is this address the:  □ Main Office  □ Regional Office  □ Branch Office  □ Other _____

1. Please list the trade(s) in which your company performs work:

<table>
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<tr>
<th>CSI Division No.</th>
<th>Description</th>
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2. For work in Washington State (Intrastate), please list your company’s Workers’ Compensation Experience Modification Rate (EMR) for the most recent five years, using the Washington State Department of Labor and Industries ratings: http://www.lni.wa.gov/ORLI/LoGon.asp.

You must provide the EMR for Washington State if your company has performed work in Washington State. However, if your company has not worked in Washington State, proceed to question 3 below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
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<th>Rate</th>
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3. For work in other states (Interstate), please list your company’s Workers’ Compensation Experience Modification Rate (EMR) for the most recent five years.

If your company is unable to provide state specific EMR information, an Interstate EMR reflecting all of the other states in which your company has performed work is acceptable.

<table>
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<tr>
<th>State Name</th>
<th>Year</th>
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4. Does your company employ more than ten (10) persons?  
- Yes  
- No

- If ‘yes’ you must complete the answers to the following items A-G below.
- If ‘no’ proceed to question 5 below.

Using the five most recent years of OSHA No. 300 Logs, please fill in the number of cases for each of the following categories: (please attach a copy of your OSHA No. 300A form)

<table>
<thead>
<tr>
<th>A. Number of deaths (Total column G)</th>
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<tbody>
<tr>
<td>Please provide a brief description of the circumstances surrounding any employee death(s):</td>
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<table>
<thead>
<tr>
<th>B. Number of days away from work and job transfer or restricted workday cases (Total Column H &amp; I)</th>
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<table>
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<tr>
<th>C. Number of other recordable cases (Total Columns J)</th>
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<table>
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<tr>
<th>D. Number of days away from work cases (Total Column H)</th>
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<table>
<thead>
<tr>
<th>E. Employee Hours Worked</th>
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<tr>
<th>F. OSHA Recordable Incidence Rate (See formula below)</th>
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<table>
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<tr>
<th>G. OSHA Lost Workday Incidence Rate (See formula below)</th>
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Notes:
- Items in parenthesis above come from your OSHA No. 300 Log
- Employee Hours Worked = total number of hours worked during the year by all employees
- OSHA Recordable Incidence Rate= [(A+B+C) ×200,000/Employee Hours Worked]
- OSHA Lost Workday Incidence Rate= [(D) × 200,000/Employee Hours Worked]
5. Please provide the following safety information for three construction projects in which the superintendent proposed for this project was the superintendent for your company. The Incidence Rates reported below must include incidences for the contractor and subcontractors of any tier.

<table>
<thead>
<tr>
<th>Project Name and Owner</th>
<th>Superintendent’s Name</th>
<th>Recordable Incidence Rate for the Project</th>
<th>Lost Workday Incidence Rate for the Project</th>
</tr>
</thead>
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6. How many OSHA violation(s) has your Company received in the last five years?

<table>
<thead>
<tr>
<th>Year</th>
<th># of Violations</th>
<th>Year</th>
<th># of Violations</th>
<th>Year</th>
<th># of Violations</th>
<th>Year</th>
<th># of Violations</th>
</tr>
</thead>
</table>

Were any of the OSHA violations considered willful violations:  
☐ Yes  ☐ No

Please give a brief description of all willful violation(s):

The undersigned warrants and represents the data provided is accurate in all respects.

Name of Company:

Prepared by:

Title:

Signature__________________________________________________________Date_______________
Attachment B

Insurance Requirements

A. General Requirements:

1. Prior to undertaking any work under the Preliminary Agreement, the Design-Builder shall procure and maintain continuously for the duration of this Agreement, at no expense to the Owner, insurance coverage as specified below, in connection with the performance of the work of this Agreement by the Design-Builder, its agents, representatives, employees and/or subcontractors.

2. The Design-Builder's insurance shall be primary as respects the Owner, and any other insurance maintained by the Owner shall be excess and non-contributory with Design-Builder's insurance.

3. Except with respect to the limits of insurance, and any rights or duties specifically assigned to the first named insured, the Design-Builder's Commercial General Liability and Commercial Automobile Liability insurance coverage shall apply as if each named insured were the only named insured, and separately to each insured against whom claim is made or suit is brought.

4. Failure of the Design-Builder to fully comply with the insurance requirements of this Agreement will be considered a material breach of contract and, at the option of the Owner, will be cause for such action as may be available to the Owner under other provisions of this Agreement or otherwise in law, including immediate termination of the Agreement.

B. Required Insurance Coverage: The following are the types and amounts of insurance coverage that must be maintained by the Design-Builder during the term of this Agreement. The Design-Builder must provide acceptable evidence of such coverage prior to beginning work under this Agreement.

1. Commercial General Liability Insurance. A policy of Commercial General Liability insurance including bodily injury, property damage, and products/completed operations, written on an occurrence form, with the following minimum coverage:

   $1,000,000 each occurrence, and
   $2,000,000 aggregate

   Subcontractors not covered under Design-Builder’s policy shall have the following minimum coverage:

   $1,000,000 each occurrence, and
   $2,000,000 aggregate
Coverage shall extend to cover the use of all equipment on the site or sites of
the work of this Agreement.

2. **Commercial Automobile Liability Insurance.** A policy of Commercial
Automobile Liability Insurance, including coverage for owned, non-owned,
leased or hired vehicles written on an insurance industry standard form (CA
00 01) or equivalent, with the following minimum coverage:

   $1,000,000 combined single limit coverage

3. **Professional Liability Insurance.** A policy of Professional Liability
Insurance covering professional errors and omissions in an amount of no less
than $2 million. Design-Builder’s design consultants of any tier shall maintain
professional liability insurance in an amount of at least $1 million.

C. **Additional Insured Endorsement:** The Board of Regents of the University of
Washington shall be used to designate Owner on Additional Insured
documentation.

D. **Proof of Insurance and Insurance Expiration:**

   1. The Design-Builder shall furnish certificates of insurance and policy
      endorsements as evidence of compliance with the insurance requirements of
      the Agreement. Such certificates and endorsements must be signed by a
      person authorized by that insurance company to bind coverage on its behalf.

   2. The Design-Builder shall include all subcontractors at any tier as insureds,
      and ensure that the Design-Builder’s coverage of subcontractors under the
      Design-Builder’s policies is not excluded by any policy provision or
      endorsement. Alternatively, the Design-Builder shall:

      a.) Obtain from each subcontractor not insured under the Design-Builder’s
          policy or policies of insurance, evidence of insurance meeting all the
          requirements of this Agreement, and

      b.) Maintain such evidence on file for a period of one year after the
          completion of this Agreement and, upon request, submit such evidence to
          the Owner for examination.

   3. The Design-Builder’s insurance shall not be reduced or canceled without
      forty-five (45) days prior written notice to the Owner. The Design-Builder shall
      not permit any required insurance coverage to expire during the term of this
      Agreement.

   4. The Owner reserves the right to require complete, certified copies of all
      required insurance policies at any time during the term of this Agreement, or
to waive any of the insurance requirements of this Agreement at its sole discretion.

E. Carrier Review and Approval Authority: Insurance policies, deductibles, self-insured retentions, and insurance carriers will be subject to review and approval by the Owner. All insurance shall be carried with companies that are financially responsible. All carriers of insurance or reinsurers must have and maintain a rating of “A” or better as identified in the *A. M. Best Insurance Rating Guide*, most recent edition. Insurance carriers or reinsurers who do not have a rating of “A” or better may not be used without written approval of the Owner.
PRELIMINARY AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER
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This AGREEMENT is made as of the ____________________________ day of __________ in the year of 2019, by and between the following parties, for services in connection with the Project identified below.

OWNER:

University of Washington
UW Facilities | Project Delivery Group
Box 352205
Seattle, WA 98195

DESIGN-BUILDER:
(Name and address)

PROJECT:

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.
Article 1

General

1.1 Duty to Cooperate. Owner and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith.

1.2 Definitions. Terms, words and phrases used in this Agreement shall have the meanings given them in the General Conditions.

1.3 Project Executive Committee. Owner has identified a project/program executive to form the Project Executive Committee (PEC). The PEC will work together to provide supervision, coaching, and management of the PMT. The PEC will make human resource decisions in the interest of the Project and will provide oversight of the decisions made by the PMT. In the event that the PMT cannot reach agreement on an issue, the PEC will collaborate with the PMT to resolve the issue. The decisions will be documented by the PMT. A replacement PEC member may be appointed by written notice and mutual acceptance by the other party.

1.4 Project Management Team. Owner and the Design-Builder shall each identify key members from their teams to form the Project Management Team (“PMT”). The PMT will work together in a collaborative manner to provide management-level leadership throughout the Project. The intent of the PMT will be to make as many project decisions that are needed to successfully complete the Work of the Project. Each member shall be identified in the Work Plan. A replacement of, or additional PMT, members may be appointed by providing written notice, and mutual acceptance, to the other party. The PMT works under the guidance and oversight of the PEC. The PMT reports progress and seeks approval, as necessary, of design, cost, and schedule changes.

1.5 Project Contacts.

1.5.1. Owner’s Representatives.

Owner designates the individual listed below as its Senior Representative (“Owner’s Senior Representative”), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions:

Name
Title
University Facilities Building
Box 352205
Seattle, WA 98195-2205
Phone
Email:

Owner designates the individual listed below as its Owner’s Representative, which individual has the authority and responsibility set forth in Section 3.3 of the General Conditions:

Name
Project Manager
University of Washington
University Facilities Building
Box 352205
Seattle, WA 98195-2205
Phone
Email:
1.5.2. Design-Builder’s Representatives.

Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder’s Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2 of the General Conditions:

[Name of Design-Builder’s Senior Representative]  
[Title of Design-Builder’s Senior Representative]  
[Name of Design-Builder]  
[Address of Design-Builder 1]  
[Address of Design-Builder 2]  
[Phone Number of Design-Builder’s Senior Representative]  
[E-mail of Design-Builder’s Senior Representative]

Design-Builder designates the individual listed below as its Design-Builder’s Representative, which individual has the authority and responsibility set forth in Section 2.1.2 of the General Conditions:

[Name of Design-Builder’s Representative]  
[Title of Design-Builder’s Representative]  
[Name of Design-Builder]  
[Address of Design-Builder 1]  
[Address of Design-Builder 2]  
[Phone Number of Design-Builder’s Representative]  
[E-mail of Design-Builder’s Representative]

**Article 2**

**Design-Builder’s Services and Responsibilities**

2.1 Preliminary Services.

2.1.1 Owner has attached the Owner’s Project Criteria describing Owner’s program requirements and objectives for the Project. Owner’s Project Criteria also includes the Facilities Design Standard. Design-Builder will utilize the Facilities Design Standard and will coordinate with the Owner throughout the Project to determine how the provisions of the Design Standard will be incorporated into the design and construction of the Project. Owner must approve any deviation from the Design Standard. Owner’s Project Criteria shall include Owner’s use, space, price, time, site, performance and expandability requirements. These documents define Owner’s design intent for the Project. Owner’s Project Criteria may also include design documents and specifications, design performance specifications and other technical materials and requirements prepared by or for the Owner.

2.1.2 Upon execution of this Preliminary Agreement the Design-Builder shall review the Project Criteria and prepare Project Performance Criteria keeping the Owner’s Project Criteria as the basis for project key performance indicators and the project definition. The Project Performance Criteria will be used as the project framework to guide the design and construction. The Design-Builder may include recommendations to Owner for different and innovative approaches to the design and construction of the Project. The Owner expects the Design-Builder to maximize opportunities both in state-of-the-art design and construction approaches to realize the intent of project goals and objectives in the most cost effective manner. The parties shall meet to discuss the Project Performance Criteria. The PMT will accept the final Project Performance Criteria by consensus.
2.1.3 The Design-Builder shall develop an overall (design and construction) Project Work Plan ("Work Plan"). The Work Plan shall include, but is not limited to, an overall project schedule, listing all tasks of the project with target milestones listing responsible parties (Design-Builder and Owner) or subject matter experts, Trade Partners, and Specialty Consultants. The Work Plan shall also include, estimated time and cost to administer and support the Project.

2.1.4 The Design-Builder shall also develop, and submit to the Owner for approval, a procurement plan and Business Equity plan (the “Procurement Plan”) for the purpose of procuring all Work on the project including, but not limited to, Trade Contractors and Specialty Consultants necessary to perform the Work in accordance with the Contract Documents. Trade Contractors and Specialty Consultants should be engaged early in the Project to ensure a collaborative team environment which will contribute its best efforts for the complete development and delivery of the Project.

2.2 Schematic Design Documents. Design-Builder shall prepare Schematic Design Documents based on the agreed Project Performance Criteria. The Schematic Design Documents shall include design criteria, drawings, diagrams and specifications setting forth the requirements of the Project. The parties shall meet to discuss the Schematic Design Documents and agree upon what revisions, if any, should be made. Design-Builder shall perform such agreed-upon revisions.

2.2.1 Issues Tracking Log. To aid in the discussion and decision making process the Design-Builder shall develop, maintain, and own a project issues log and decision matrix. The ITL shall articulate all decisions needing to be made, made decisions, the responsible party, as well as all design RFIs, design updates, or similar. The PMT shall ensure that all open items in the ITL are resolved prior to final permitting and/or construction activities begin.

2.3 Design Services. Design-Builder shall, consistent with applicable state licensing laws, provide design services, including architectural, engineering and other design professional services, required by this Agreement and as necessary to fully design the Project. Such design services shall be provided through qualified, licensed design professionals who are either (i) employed by Design-Builder or (ii) procured by Design-Builder. Nothing in this Agreement is intended to create any legal or contractual relationship between Owner and any independent design professional. The Design-Builder is responsible for performing all the required design that is necessary to permit and construct the Work of the Project in accordance with all applicable codes and Project Performance Criteria. The PMT will decide how often to meet to review design, what format design review will be presented and the methods for making decisions regarding design and construction.

2.3.1 Design-Builder shall advise and work with Owner and its representatives to make recommendations for alternate or substitute technologies, construction techniques, methods and practices based on maintainability and durability as well as cost savings, time saving and/or other related efficiencies. Design-Builder’s design services will result in a Project design in accordance with the Contract Documents and suitable for its intended purpose. When the Contract Documents require or Design-Builder causes a Subcontractor of any tier to provide professional design services or certifications related to systems, materials or equipment, Design-Builder shall cause design services or certifications to be provided by properly licensed design professionals and shall ensure that all documents bear such design professional’s written approval. Owner shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals. Design-Builder shall, at no cost to Owner, promptly and satisfactorily correct any of Design-Builder’s design services that are defective or not in conformity with the requirements of the Contract Documents. The obligations of Design-Builder to correct defective or non-conforming design services shall not in any way limit any other obligations of Design-Builder or other rights and remedies available to Owner under the Contract Documents or otherwise by law.
2.3.2 The PMT shall agree upon any interim design submissions the PEC may wish to review, which may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Interim design submissions shall be consistent with the Basis of Design Documents, as the Basis of Design Documents may have been changed through the design process. On or about the time of the scheduled submissions, the PMT shall meet and discuss the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes to the Basis of Design Documents, or, if applicable, previously submitted design submissions. Changes to the Basis of Design Documents. Minutes of the meetings, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review and approve the interim design submissions and meeting minutes in a time that is consistent with the turnaround times set forth in Design-Builder’s schedule.

2.3.3 Design-Builder, consistent with Section 2.3 of the General Conditions, shall submit to Owner Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work, which shall be consistent with the Basis of Design Documents and scope of work set forth in the GMP. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in a design review meeting and recorded in the meetings minutes. The parties shall have a design review meeting to discuss, and Owner shall review and approve, the Construction Documents. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit one set of approved Construction Documents to Owner prior to commencement of construction.

2.3.4 Owner’s review and approval of interim design submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Construction Documents compatible with the requirements of the Work. Neither Owner’s review nor approval of any interim design submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner.

2.3.5 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim design submissions and Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

2.4 Government Approvals and Permits.

2.4.1 The PMT will develop a Permit List, including the responsible party assigned, and review all jurisdictional requirements prior to submitting for government approvals. The Owner is responsible for obtaining permits as necessary, however, will delegate responsibility to the Design-Builder, Trade Partners or Specialty Consultants as subject matter experts where most appropriate. Timing for permits, along with subsequent work, will be agreed on by the PMT.

3.4.1 Except as identified in the Permit List, Design-Builder shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project.

2.5 Guaranteed Maximum Price Exhibit. The PMT will agree when the Project Performance Criteria, Project Definition, and Design has developed enough for the Design-Builder to submit a Cost-plus-fee for a Guaranteed Maximum Price Exhibit which shall include the following unless the parties mutually agree otherwise:

2.5.1 a proposed guaranteed maximum price (“GMP”) for the design and construction of the Project;
2.5.2 a schedule and date of Substantial Completion of the Project upon which the GMP for the Project is based; and

2.5.3 all other information necessary for the parties to enter into Agreement Between Owner and Design-Builder for the GMP.

2.6 Review of the GMP Exhibit. The PMT shall meet to discuss and review the draft GMP Exhibit. The PMT shall discuss any revisions, updates, or additional information needed to develop the GMP Exhibit. The PMT shall then submit to the PEC for consideration and acceptance. The PMT shall take into consideration any feedback, comments, or requests by the PEC for changes or updates to the GMP Exhibit. The PEC will be responsible to accept the GMP.

2.7 Completion of the Preliminary Agreement. Unless otherwise terminated under paragraphs 2.7.1 or 8.7 of this Agreement, Design-Builder’s services under this Agreement shall be deemed completed upon acceptance of the GMP Exhibit. The terms of this Agreement shall terminate upon finalization of the GMP Exhibit and execution of the GMP Agreement by both parties.

2.7.1 Inability to Execute GMP Agreement. This Agreement is solely for the Services defined in this Section 2 and as detailed in the Work Plan. In entering into this Agreement, Owner and Design-Builder recognize that they may not be able to finalize the GMP Exhibit and execute a GMP Agreement for this Project. In the event Owner and Design-Builder do not successfully finalize the GMP Exhibit and execute a GMP Agreement for this project, this Agreement will be terminated and Design-Builder will be paid the value of its services to the date of termination, not to exceed the Contract Price, and will not be entitled to any other compensation, damages, loss of profits or payment of any other kind.

2.8 Additional Services. Design-Builder shall perform any Additional Services pre-approved by Owner by amendment to this Agreement. The cost for such services shall be as mutually agreed upon by Owner and Design-Builder, with the Contract Price for this Agreement, as set forth in Section 6.1 hereof, being adjusted accordingly.

**Article 3**

**Owner’s Services and Responsibilities**

3.1 Performance. Owner shall throughout the performance of this Agreement cooperate with Design-Builder. Owner shall perform its responsibilities, obligations and services, including its reviews and approvals of Design-Builder’s submissions, so as not to delay or interfere with Design-Builder’s performance of its obligations under this Agreement.

3.2 Owner’s Project Criteria. Owner shall provide Design-Builder with Owner’s Project Criteria including the UW Facilities Design Standard. If Owner desires that Design-Builder assist Owner in developing such criteria, Owner shall provide Design-Builder with its objectives, limitations and other relevant information regarding the Project.

3.3 Owner Provided Information. To the extent deemed necessary by the Parties, Owner shall provide, at its own cost and expense, for Design-Builder’s information and use, the following, all of which Design-Builder is entitled to rely upon in performing its obligations hereunder:

3.3.1 Surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

3.3.2 Geotechnical studies describing subsurface conditions at the Site unless Owner elects to have Design-Builder perform such studies as part of its design services;
3.3.3 Temporary and permanent easements, zoning and other requirements and encumbrances affecting land use or necessary to permit the proper design and construction of the Project;

3.3.4 To the extent available, as-built and record drawings of any existing structures at the Site;

3.3.5 To the extent available, environmental studies, reports and impact statements describing the environmental conditions, including, but not limited to, Hazardous Conditions, in existence at the Site; and

3.3.6 UW Facilities Design Standard.

Article 4
Ownership of Work Product

4.1 Instruments of Service. The Drawings (including original Construction Documents), Specifications, materials, models, sketches, renderings, surveys, reports, and other documents, including those prepared as 3D electronic models, using CAD, and existing in other electronic formats, prepared or provided by Design-Builder are instruments of service intended for use solely with respect to the Project. Owner shall be permitted to retain copies, including reproducible and originally stamped copies, of all instruments of service, and is granted an unlimited and royalty free license to utilize instruments of service to communicate about the Project, expand the Project, build or complete the project in the case of a termination for any reason or if the parties do not agree to a Guaranteed Maximum Price, correct any deficiencies, make any renovations or repairs to the Project, or for future projects. Owner agrees to indemnify and hold Design-Builder harmless from any subsequent modification of the instruments of service by Owner and from Owner’s use of the instruments of service on other projects not involving Design-Builder.

4.2 Design-Builder to Convey Instruments of Service to Owner. Upon Owner’s request if made during the Project or within five (5) years of Substantial Completion, Design-Builder shall be required to convey to Owner in whatever format Owner may designate instruments of service for the completion, use, updating, modernizing, and maintenance of the Project, conditioned upon Owner’s agreement to indemnify and hold harmless Design-Builder as set forth above.

4.3 Submission of Instruments of Service Does Not Waive Rights. Submission or distribution of Design-Builder’s instruments of service to meet official regulatory requirements or for similar purposes in connection with the Project shall not be construed as publication in derogation of any rights reserved in this Section.

Article 5
Contract Time

5.1 Commencement Date. Design-Builder shall commence performance of the services set forth in this Agreement within five (5) calendar days of the mutual execution of this Agreement ("Date of Commencement") unless the parties mutually agree otherwise in writing. Design-Builder shall complete such services as stated in the accepted Work Plan.

5.2 Interim Dates. Interim milestone dates, if any, of identified portions of the services set forth in this Agreement shall be achieved as described in a separate exhibit to this Agreement.

Interim Milestone: (Insert milestone)
Article 6

Contract Price

6.1 Contract Price. The Contract Price for this Agreement is as set forth below:

Owner will Award the Design-Builder a sum of Ten Thousand Dollars ($10,000), excluding Washington State sales tax, to begin the services required by this Agreement. After the Work Plan is developed, and accepted by the Owner, this Agreement will be amended to reflect the agreed Contract Price. Such price shall be the full compensation due Design-Builder for the performance of all services set forth in this Agreement. Design-Builder will be paid monthly for its services based on actual time and expenses without markup, not-to-exceed the total compensation set forth above. Any amount that exceeds the total compensation agreed to will be at Design-Builder’s sole cost and expense unless there are scope changes in the Preliminary Services authorized by amendment. All invoicing and payments will be subject to the applicable provisions found in the General Conditions attached to, and referenced herein.

6.2 Payment. Consistent with Article 6 of the General Conditions, on or before the date established by the Owner, Design-Builder shall submit for Owner’s review and approval and Application for Payment requesting payment for all Work performed as of the date of the Application. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents or the PMT. For purposes of this Agreement, the minimum supporting documentation will be an accounting of time at agreed rates, reconciled to the agreed Work Plan.

Article 7

Electronic Data

7.1 Electronic Data.

7.1.1 The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively “Electronic Data”).

7.2 Transmission of Electronic Data.

7.2.1 Design-Builder shall comply with the requirements of UW CAD, BIM and PDF Standards and Requirements, and Owner and Design-Builder shall otherwise agree on all other Electronic Data protocols. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

7.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

7.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

7.3 Electronic Data Protocol.
7.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 7.3.

7.3.2 Electronic Data will be transmitted in the format agreed upon in Section 7.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

7.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information if such information changes prior to Final Completion.

7.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

Article 8
Other Provisions

8.1 Dispute Resolution. The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design-Builder and Owner each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

8.1.1 Design-Builder and Owner will first attempt to resolve disputes or disagreements at the field level through discussions between Design-Builder’s Representative and Owner’s Representative which shall conclude within fourteen (14) days of the written notice provided for in Section 10.1.1 of the General Conditions of Contract unless Owner and Design-Builder mutually agree otherwise.

8.1.2 If a dispute or disagreement cannot be resolved through Design-Builder’s Representative and Owner’s Representative, Design-Builder’s Senior Representative and Owner’s Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Five (5) days prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

8.1.3 If, after meeting, the Senior Representatives determine that the dispute or disagreement cannot be resolved on terms satisfactory to both parties, Owner and Design-Builder may jointly engage a third party neutral who shall assist in addressing and resolving the dispute. Owner and
Design-Builder shall share equally any costs related to engagement of the third party neutral.

8.2 **Assignment.** Design-Builder shall not assign, transfer, or sublet any portion or part of its obligations under this Agreement without the written consent of Owner.

8.3 **Governing Law.** This Agreement and the rights of the parties herein shall be governed by the laws of the State of Washington. Venue shall be in the King County Superior Court.

8.4 **Severability.** If any provision or any part of a provision of this Agreement shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to applicable laws by any authority having jurisdiction, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provisions or parts of the provision of this Agreement, which shall remain in full force and effect as if the unenforceable provision or part was deleted.

8.5 **Amendments.** This Agreement may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of both parties.

8.6 **Entire Agreement.** This Agreement forms the entire agreement between Owner and Design-Builder. No oral representations or other agreements have been made by the parties except as specifically stated in this Agreement.

8.7 **Owner’s Termination for Convenience.** Upon ten (10) days’ written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement or any portion of this Agreement. Upon receipt of the notice, Design-Builder shall immediately discontinue all services. Owner shall pay Design-Builder for services performed up to the date of receipt of the notice. If Owner terminates this Agreement and proceeds to design and construct the Project through its employees, agents or third parties, Owner’s rights to use the Work Product shall be as set forth in Article 4 herein.

8.8 **Business Equity.** The University of Washington is committed to providing optimal opportunity for participation in contracting by **Business Equity Enterprises (BEE).**

The University of Washington has determined that an overall aspirational goal of 20% Business Equity Enterprise (BEE) utilization, inclusive of 15% minority and women-owned business utilization, is practicable and attainable on this project; that goal is negotiable, based upon the specialized nature of the work and the relative availability of BEE to perform the specific work scopes identified in this project. The University of Washington welcomes the participation of all BEE, irrespective of gross revenues, including those that are self-designated and those that are state (OMWBE) certified. Those businesses that wish to apply for OMWBE certification should access the following: omwbe.wa.gov/certification.

The University of Washington defines a **Business Equity Enterprise (BEE)** as “any entity licensed to do business in the State of Washington, including a corporation, partnership, sole proprietorship, or other legal entity that meets any of the following:”

- **Certified Business Enterprise (CBE):** Any business enterprise certified with the Washington State Office of Minority and Women’s Business Enterprises.

- **Lesbian/Gay/Bisexual/Transgender Business Enterprise (LGBTBE):** More than 50% owned and controlled by at least one person who is a member of the LGBT community.

- **Minority Business Enterprise (MBE):** More than 50% owned and controlled by at least one person who is a member of one or more of the following minority groups:
  - Asian Pacific American
  - Black American
- Hispanic American
- Native American
- Subcontinent Asian American

**Minority Women’s Business Enterprise (MWBE):** More than 50% owned and controlled by at least one woman who is a member of one or more of the above minority groups.

**Small Business Enterprise (SBE):** A business entity that:
- Can attest that it is owned and operated independently from all other businesses and
- Conforms to the U.S. Small Business Administration Size Standards of the North American Industry Classification System (NAICS) Codes in which it is to be engaged at the UW; or
- Is certified with the OMWBE.

**Veteran’s Business Enterprise (VBE):** Certified with the Washington State Department of Veteran’s Affairs (DVA)

**Women’s Business Enterprise (WBE):** More than 50% owned and controlled by one or more women.

Prior to the execution of the contract for this project, the UW and the selected firm shall agree on an Inclusion Plan that will stipulate an aspirational BEE goal based upon the various scopes of the work and the anticipated services to be provided, as well as the strategies the Design-Builder will use to achieve optimal equitable BEE utilization on the project. BEE participation may be either as a design-builder, sub-consultant, sub-contractor, or supplier.

**ATTACHMENTS:** The following documents, whether attached hereto or not, are hereby incorporated by reference and made a part of this Agreement, as if set forth herein in full:

1. Owner’s Project Criteria
2. General Conditions Between Owner and Design-Builder
3. Insurance Requirement for Preliminary Agreement
4. Prevailing Wage Information for Preliminary Agreement.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

**UNIVERSITY OF WASHINGTON:**

(Signature) (Signature)

(Printed Name) (Printed Name)

(Title) (Title)

Date: __________________________ Date: __________________________
AGREEMENT BETWEEN OWNER AND DESIGN-BUILDER - COST PLUS FEE WITH A GUARANTEED MAXIMUM PRICE
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AGREEMENT is made as of the ___________________________ day of ____________ in the year of 2019, by and between the following parties, for Work and services in connection with the Project identified below:

OWNER:

University of Washington
UW Facilities | Project Delivery Group
Box 352205
Seattle, WA 98195

DESIGN-BUILDER:

(Name and address)

PROJECT:

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.
**Article 1**

**Scope of Work**

1.1 Already having completed the design to the extent a Guaranteed Maximum Price can be established, the Design-Builder shall continue to perform all previously contracted services, including designing and constructing the Project as described in the Contract Documents, and begin the construction along with the provision of all material, equipment, tools and labor, necessary to complete the Work described in and reasonably inferable from the Contract Documents.

1.2 Design-Builder accepts the relationship of trust and confidence established by the Contract Documents and Agreements with Owner to cooperate with Owner and others involved with the Project and to exercise Design-Builder’s best skill and judgment; to furnish efficient, professional and competent design services and construction administration, management and supervision with sufficient quantities of fully qualified, competent and experienced personnel; and to perform the Work in an expeditious and economical manner consistent with Owner’s interests. The parties will endeavor to promote harmony, cooperation and mutual respect among Project participants to the fullest extent possible in order to further the success of the Project and to effect prompt and successful completion of the Project within the requirements of the Contract Documents.

1.3 The Design-Builder will continue to maintain the Procurement and Equity Plan for the purpose of procuring Trade Contractors and Specialty Consultants necessary to perform the Work in accordance with the Contract Documents. Trade Contractors and Specialty Consultants should be engaged early in the Project to ensure a collaborative team environment which will contribute its best efforts for the complete development and delivery of the Project.

**Article 2**

**Contract Documents**

2.1 The Contract Documents are comprised of the following:

2.1.1 All written modifications, amendments, minor changes, and Change Orders to this Agreement issued in accordance with the General Conditions;

2.1.2 Upon execution, the GMP Exhibit referenced in Section 6.6.2 herein;

2.1.3 This Agreement, including all Attachments to the Agreement (not including the GMP Exhibit);

2.1.4 The General Conditions; and

2.1.5 Construction Documents, and/or other documents necessary to execute the Work, prepared and approved in accordance with Section 2.3 of the General Conditions.

**Article 3**

**Interpretation and Intent**

3.1 This Agreement is authorized by and entered into in accordance with the design-build requirements of RCW 39.10, and shall be interpreted to be consistent with the requirements of those statutory provisions. Design-Builder and Owner, prior to execution of the Agreement (and again, at the time of execution of the GMP Exhibit), shall carefully review all the Contract Documents, including the various documents.
comprising the Basis of Design Documents, for any conflicts or ambiguities. Design-Builder and Owner will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement and prior to execution of the GMP Exhibit.

3.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the GMP. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents are discovered after execution of the Agreement, or after execution of the GMP Exhibit, Design-Builder and Owner shall attempt to resolve any ambiguity, conflict or inconsistency informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 2.1 hereof.

3.3 Terms, words and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions.

3.4 The Contract Documents form the entire, complete, and integrated agreement between Owner and Design-Builder and supersedes prior negotiations, representations or agreements, either written or oral. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents. The Contract Documents shall not be construed to create a contractual relationship of any kind between any Persons other than Owner and Design-Builder.

**Article 4**

**Ownership of Work Product**

4.1 Instruments of service. The Drawings (including original Construction Documents), Specifications, materials, models, sketches, renderings, surveys, reports, and other documents, including those prepared as 3D electronic models, using CAD, and existing in other electronic formats, prepared or provided by Design-Builder are instruments of service intended for use solely with respect to the Project. Owner shall be permitted to retain copies, including reproducible and originally stamped copies, of all instruments of service, and is granted an unlimited and royalty free license to utilize instruments of service to communicate about the Project, expand the Project, build or complete the project in the case of a termination for any reason or if the parties do not agree to a Guaranteed Maximum Price, correct any deficiencies, make any renovations or repairs to the Project, or for future projects other than the construction of another building. Owner agrees to indemnify and hold Design-Builder harmless from any subsequent modification of the instruments of service by Owner and from Owner’s use of the instruments of service on other projects not involving Design-Builder.

4.2 Design-Builder to convey instruments of service to Owner. Upon Owner’s request if made during the Project or within five (5) years of Substantial Completion, Design-Builder shall be required to convey to Owner in whatever format Owner may designate instruments of service for the completion, use, updating, modernizing, and maintenance of the Project, conditioned upon Owner’s agreement to indemnify and hold harmless Design-Builder as set forth above.

4.3 Submission of instruments of service does not waive rights. Submission or distribution of Design-Builder’s instruments of service to meet official regulatory requirements or for similar purposes in connection with the Project shall not be construed as publication in derogation of any rights reserved in this Section.
Article 5

Contract Time

5.1 **Date of Commencement.** The Work shall commence within five (5) days of Design-Builder’s receipt of Owner’s Notice to Proceed (“Date of Commencement”) unless the parties mutually agree otherwise in writing.

5.2 **Substantial Completion and Final Completion.**

5.2.1 Substantial Completion of the entire Work shall be achieved no later than ___________ (DATE) (“Scheduled Substantial Completion Date”) unless otherwise stated in the GMP Exhibit.

5.2.2 Interim milestones and/or Substantial Completion of identified portions of the Work (“Scheduled Interim Milestone Dates”) shall be achieved as follows unless otherwise stated in the GMP Exhibit:

Interim Milestone: ________________

5.2.3 For a minimum of ninety (90) calendar days after Substantial Completion or until Final Completion is achieved, whichever is later, provide adequate qualified on-site staff that is authorized to act on behalf of the Design-Builder to coordinate and insure that any outstanding work items, Punch Lists, testing and commissioning are completed, at no additional cost to the Owner.

5.2.4 Final Completion of the Work or identified portions of the Work shall be achieved as expeditiously as reasonably practicable and within 45 Working days of Substantial Completion, unless otherwise agreed by the PMT. Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in Section 6.5 of the General Conditions.

5.2.5 All of the dates set forth in this Article 5 (collectively the “Contract Time(s)”) shall be subject to adjustment in accordance with the General Conditions.

5.3 **Time is of the Essence.** Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

Article 6

Contract Price

6.1 **Contract Price.**

6.1.1 Owner shall pay Design-Builder for the work of this Agreement in accordance with Article 6 of the General Conditions a contract price ("Contract Price") equal to Design-Builder’s Fee (as defined in Section 6.2 hereof) plus the Cost of the Work (as defined in Section 6.3 hereof), subject to the GMP established in Section 6.6 hereof and any adjustments made in accordance with the General Conditions. The Owner will pay Washington State Sales Tax (WSST) to the Design-Builder based on approved progress payments.

6.2 **Design-Builder’s Fee.**

6.2.1 Design-Builder’s Fee shall be:

______________ %. The Fee will be established based on the percentage fee provided by Design-Builder in response to Owner’s request for proposals.
6.2.2 Design-Builder’s Fee will be adjusted as follows for any changes in the Work:

6.2.2.1 For changes to the GMP, Design-Builder’s Fee will be applied.

6.2.2.2 For deductive changes, Design-Builder’s Fee will not be reduced.

6.3 Cost of the Work. The term Cost of the Work shall mean costs actually incurred by Design-Builder in the performance of the Work. The Cost of the Work shall include only the following:

6.3.1 Wages of direct employees of Design-Builder performing the Work at the Site or, with Owner’s agreement, at locations off the Site; provided, that the employees, their scope of work and costs for those employees with rates are set forth in an Attachment to this Agreement or the GMP Exhibit. Work continuing from the Preliminary Agreement under the Project Work Plan shall be reflected as such under the Cost of the Work.

6.3.2 Travel and per diem expenses incurred per United States General Services Administration ("GSA") guidelines while traveling more than fifty (50) miles in connection with the Work with Owner’s prior written approval. All travel must be approved by the PMT prior to each occurrence.

6.3.3 Payments properly made by Design-Builder to Subcontractors and Design Consultants for performance of portions of the Work, including any insurance and bond premiums incurred by Subcontractors and Design Consultants. Subcontractor and Design Consultant services will be compensated on a Cost-Plus Fee basis with a Guaranteed Maximum Price unless mutually agreed otherwise in writing.

6.3.4 Costs incurred by Design-Builder in repairing or correcting damaged Work (including any warranty or corrective Work performed after Substantial Completion), provided that such Work was beyond the reasonable control of Design-Builder, or caused by the ordinary mistakes or inadvertence, and not the negligence, of Design-Builder or those working by or through Design-Builder. If the costs associated with such Work are recoverable from insurance, Subcontractors or Design Consultants, Design-Builder shall exercise its best efforts to obtain recovery from the appropriate source and provide a credit to Owner if recovery is obtained.

6.3.5 Costs, including transportation, inspection, testing, storage and handling, of materials, equipment and supplies incorporated or reasonably used in completing the Work.

6.3.6 Costs (less salvage value) of materials, supplies, temporary facilities, machinery, equipment and hand tools not customarily owned by workers that are not fully consumed in the performance of the Work and which remain the property of Design-Builder, including the costs of transporting, inspecting, testing, handling, installing, maintaining, dismantling and removing such items.

6.3.7 Costs of removal of debris and waste from the Site.

6.3.8 The reasonable costs and expenses incurred in establishing, operating and demobilizing the Site office, if applicable, including the cost of facsimile transmissions, long-distance telephone calls, postage and express delivery charges, telephone service, photocopying and reasonable petty cash expenses.

6.3.9 Rental charges and the costs of transportation, installation, minor repairs and replacements, dismantling and removal of temporary facilities, machinery, equipment and hand tools not customarily owned by workers, which are provided by Design-Builder at the Site, whether rented from Design-Builder or others, and incurred in the performance of the Work.

6.3.10 Premiums for insurance and bonds required by this Agreement.
6.3.11 All fuel and utility costs incurred in the performance of the Work.

6.3.12 Sales, use or similar taxes, tariffs or duties incurred in the performance of the Work.

6.3.13 Costs for permits, royalties, licenses, tests and inspections incurred by Design-Builder as a requirement of the Contract Documents.

6.3.14 Deposits which are lost, except to the extent caused by Design-Builder’s negligence.

6.3.15 Costs incurred in preventing damage, injury or loss in case of an emergency affecting the safety of persons and property.

6.3.16 Accounting and data processing costs related to the Work.

6.3.17 Other costs reasonably incurred in the performance of the Work to the extent approved in writing by Owner.

6.4 Allowance Items and Allowance Values.

6.4.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in the GMP Exhibit and are included within the GMP.

6.4.2 Design-Builder and Owner have worked together to review the Allowance Items and Allowance Values based on design information then available to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Design-Builder and Owner will continue working closely together during the preparation of the design to develop Construction Documents consistent with the Allowance Values.

6.4.3 No work shall be performed on any Allowance Item without Design-Builder first obtaining in writing advanced authorization to proceed from Owner.

6.4.4 The Allowance Value for an Allowance Item includes the direct cost of labor, materials, equipment, transportation, taxes and insurance associated with the applicable Allowance Item. All other costs, including design fees, Design-Builder’s overall project management and general conditions costs, overhead and fee, are deemed to be included in the original GMP, and are not subject to adjustment, regardless of the actual amount of the Allowance Item.

6.4.5 Whenever the actual direct costs for an Allowance Item is more than or less than the stated Allowance Value, the GMP shall be adjusted accordingly by Change Order, subject to Section 6.4.4. The amount of the Change Order shall reflect the difference between actual direct costs incurred by Design-Builder for the particular Allowance Item and the Allowance Value.

6.5 Non-Reimbursable Costs.

6.5.1 The following shall not be deemed as costs of the Work as they are covered by Design-Builder’s Fee or are otherwise at Design-Builder’s risk:

   6.5.1.1 Compensation for Design-Builder’s personnel not directly supporting the Project.

   6.5.1.2 Overhead and general expenses, except as provided for in Section 6.3 hereof, or which may be recoverable for changes to the Work.

   6.5.1.3 The cost of Design-Builder’s capital used in the performance of the Work.

   6.5.1.4 If the parties have agreed on a GMP, costs that would cause the GMP, as adjusted in accordance with the Contract Documents, to be exceeded.
6.5.1.5 Parking and daily commuting to the job site.

6.6 The Guaranteed Maximum Price ("GMP").

6.6.1 GMP Established Upon Execution of this Agreement.

6.6.1.1 Design-Builder guarantees that it shall not exceed the GMP of ________ Dollars ($_________), excluding Washington State Sales Tax.

Documents used as a basis for the GMP shall be identified in the GMP Exhibit. Design-Builder agrees that it will be responsible for paying all costs of completing the Work that exceed the GMP, as adjusted in accordance with the Contract Documents, without reimbursement by Owner.

6.6.1.2 The GMP includes a Contingency in the amount of ________________Dollars ($__________) which is available for Design-Builder's use for unanticipated costs it has incurred that are not the basis for a Change Order under the Contract Documents. By way of example, and not as a limitation, such costs may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of materials; (d) correction of damaged or nonconforming Work or design errors or omissions, however caused; (e) Subcontractor defaults; or (f) those events under Section 8.2.1 of the General Conditions that result in an extension of the Contract Time but do not result in an increase in the GMP. The Contingency is not available for changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents. Design-Builder shall request all use of the Contingency, and shall provide Owner as part of the monthly status report required by Section 2.1.3 of the General Conditions an accounting of the Contingency, including all reasonably foreseen uses or potential uses of the Contingency in the upcoming three (3) months. Design-Builder agrees that with respect to any expenditure from the Contingency relating to a Subcontractor default or an event for which insurance or bond may provide reimbursement, Design-Builder will in good faith exercise reasonable steps to obtain performance from the Subcontractor and/or recovery from any surety or insurance company. Design-Builder agrees that if Design-Builder is subsequently reimbursed for said costs, then said recovery will be credited back to the Contingency. Any funds remaining in the Contingency Account shall be returned to the Owner and will not be included in the Savings described in Section 6.6.3.

6.6.2 GMP Exhibit.

6.6.2.1 GMP Exhibit. The GMP Exhibit shall include the following, unless the parties mutually agree otherwise:

6.6.2.1.1 The GMP, which shall be the sum of:

i. Design-Builder's Fee as defined in Section 6.2.1 hereof;

ii. The estimated Cost of the Work as defined in Section 6.3 hereof, inclusive of any Design-Builder's Contingency as defined in Section 6.6.1.2 hereof; and

6.6.2.1.2 The Basis of Design Documents, which may include, by way of example, Owner's Project Criteria, which are set forth in detail and are attached to the GMP Exhibit;

6.6.2.1.3 A list of the assumptions and clarifications made by Design-Builder in the preparation of the GMP Exhibit, which list is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the Basis of Design Documents;
6.6.2.1.4 The Scheduled Substantial Completion Date upon which the proposed GMP is based, to the extent said date has not already been established under Section 5.2.1 hereof, and a schedule upon which the Scheduled Substantial Completion Date is based;

6.6.2.1.5 If applicable, a list of Allowance Items, Allowance Values, and a statement of their basis;

6.6.2.1.6 If applicable, a schedule of alternate prices;

6.6.2.1.7 If applicable, a schedule of unit prices; and

6.6.2.1.8 If applicable, a statement of Additional Services which may be performed but which are not included in the GMP and which, if performed, shall be the basis for an increase in the GMP and/or Contract Time(s).

6.6.3 Savings.

6.6.3.1 If the sum of the actual Cost of the Work and Design-Builder's Fee is less than the GMP, as such GMP may have been adjusted over the course of the Project, the difference ("Savings") shall be shared as follows:

Fifty percent (50%) to Design-Builder and Fifty percent (50%) to Owner.

6.6.3.2 Savings shall be calculated and paid as part of Final Payment under Section 7.3 hereof, with the understanding that to the extent Design-Builder incurs costs after Final Completion which would have been payable to Design-Builder as a Cost of the Work, the parties shall recalculate the Savings in light of the costs so incurred, and Design-Builder shall be paid by Owner accordingly.

6.6.3.3 In no event shall Design-Builder's allocation of the Savings exceed two percent (2%) of the GMP. Notwithstanding anything herein to the contrary, Design-Builder shall forfeit and waive any right or eligibility to receive a Savings bonus if it initiates or participates in any litigation against Owner seeking an increase in the GMP.

**Article 7**

**Procedure for Payment**

7.1 Progress Payments.

7.1.1 Progress payments will be made monthly for work duly certified, approved, and performed during the calendar month preceding the Application.

7.1.1.1 Draft Application. On or about the 25th of each month, Design-Builder shall submit to Owner a report on the current progress of the Work as compared to Design-Builder's Construction Schedule, and a draft, itemized application for payment for work performed during the current calendar month on a form supplied or approved by Owner. This shall not constitute a payment request. Design-Builder and Owner shall confer regarding the current progress of the Work and the amount of payment to which Design-Builder is entitled. Owner may on occasion request Design-Builder to provide data substantiating Design-Builder's right to payment, such as copies of requisitions from Subcontractors of any tier, and reflecting retainage as provided elsewhere in the Contract Documents.
7.1.1.2 **Payment Request.** After Design-Builder and Owner have met and conferred regarding the updated draft application, and Design-Builder has furnished all progress information required and all data requested by Owner under 7.1.1.1 above, Design-Builder shall submit to Owner on or before the tenth (10th) day of each month, beginning with the first month after the Date of Commencement, Design-Builder’s Application for Payment for Work completed during the previous month in accordance with Article 6 of the General Conditions on a form supplied or approved by Owner. Among other things, the Application shall state that prevailing wages have been paid in accordance with the pre-filed statements of intent to pay prevailing wages on file with Owner and that all payments due Subcontractors of any tier from Owner’s payment the prior month have been made.

7.1.1.3 **Disputed Amounts.** If Design-Builder believes it is entitled to payment for Work performed during the prior calendar month in addition to the agreed-upon amount, Design-Builder may, also by the tenth (10th) day of the month, submit to Owner along with the approved payment request a separate written payment request specifying the exact additional amount due, the category in the Schedule of Values in which the payment is due, the specific Work for which the additional amount is due, and why the additional payment is due. Furthermore, Design-Builder and all Subcontractors shall file with Owner by the tenth day of the month certified copies of all payroll records relating to the additional amount due.

7.1.1.4 **Validity of Payment Requests.** A payment request shall not be valid unless it complies with the requirements of the Contract Documents.

7.1.2 Owner shall make payment within thirty (30) days after Owner’s receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions.

7.2 **Retainage on Progress Payments.**

7.2.1 Pursuant to Chapter RCW 60.28, and Article 6 of the General Conditions, Owner will retain five percent (5%) of each approved Application for Payment to be retained as a trust fund for the protection and payment of the claims of any person arising under the contract and the state with respect to taxes imposed pursuant to Titles 50, 51, and 82 RCW which may be due from Design-Builder.

7.3 **Final Payment.** Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions. Owner shall make payment on Design-Builder’s properly submitted and accurate Final Application for Payment (less any amount the parties may have agreed to set aside for warranty work) within thirty (30) days after Owner’s receipt of the Final Application for Payment, provided that:

(a) Design-Builder has satisfied the requirements for final payment set forth in Section 6.7.2 of the General Conditions.

(b) Owner shall have the right to withhold all amounts to which Owner is entitled to withhold pursuant to Section 6.3 of the General Conditions.

7.4 **Interest.** Payments due and unpaid by Owner to Design-Builder, whether progress payments or final payment, may bear interest as specified by RCW 39.76.

7.5 **Record Keeping and Finance Controls.** Design-Builder acknowledges that this Agreement is to be administered on an “open book” arrangement relative to Costs of the Work. Design-Builder shall keep
full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of six (6) years after Final Payment, Owner and Owner's accountants shall be afforded access to, and the right to audit, including electronic audit Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to the Work, all of which Design-Builder shall preserve for a period of six (6) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the parties. The provisions shall also apply to any cost-reimbursable subcontractors of any tier and to any subcontractors of any tier that assert a claim.

Article 8
Termination for Convenience

8.1 Upon ten (10) days’ written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement. In such event, Owner shall pay Design-Builder for the following:

8.1.1 All Work executed and for proven loss, cost or expense in connection with the Work;

8.1.2 The reasonable costs and expenses attributable to such termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors and Design Consultants; and

8.1.3 Overhead and profit up to but no more than seven percent (7%) on the sum of items 8.1.1 and 8.1.2 above.

8.2 If Owner terminates this Agreement pursuant to Section 8.1 above and proceeds to design and construct the Project through its employees, agents or third parties, Owner's rights to use the Work Product shall be as set forth in Section 4.1 hereof.

Article 9
Representatives of the Parties

9.1 Owner's Representatives.

9.1.1 Owner designates the individual listed below as its Senior Representative ("Owner Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2 of the General Conditions:

Director
Title
University of Washington
University Facilities Building
Box 352205
Seattle, WA 98195-2205
Phone
Email:

9.1.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 3.3 of the General Conditions:

Name
Project Manager  
University of Washington  
University Facilities Building  
Box 352205  
Seattle, WA 98195-2205  
Phone  
Email:

9.2 **Design-Builder's Representatives.**

9.2.1 Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2 of the General Conditions:

(Identify individual’s name, title, address and telephone numbers)

9.2.2 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.2 of the General Conditions:

(Identify individual’s name, title, address and telephone numbers)

**Article 10**

**Bonds and Insurance**

10.1 **Design-Builder Insurance.**

Design-Builder shall carry the following insurance coverages from insurance carriers acceptable to Owner and which shall be rated no less than A- by A.M. Best. Design-Builder shall give prompt notice to Owner if any carrier falls below this rating. All policies will name the University of Washington as an additional insured, primary and non-contributory basis, with the exception of the Design-Builder’s Professional Liability policy.

For all high-risk Design-Build team members, Specialty Consultants, and/or Trade Contractors, the PMT will convene and evaluate the contract values and risk factors, jointly assigning the level of insurance coverage and bonding limits appropriate for all tiers of work. The Owner does not expect Specialty Consultants or Trade Contractors, or their subcontractors, to carry more insurance or bonds beyond the total liability of their individual work/contract obligation. High-risk team members may share a bigger risk and therefore need insurance coverage greater than their contract/work value. Consistent with the Procurement and Equity Plan, the PMT will develop an Insurance Policy Matrix itemizing the recommended insurance limits by sub-package and present to the PEC for review and approval.

10.1.1 **Coverages and Limits.**

The insurance shall provide the minimum coverages and limits set forth below. Owner shall be provided forty-five (45) days written notice prior to cancellation, ten (10) days written notice for non-payment of premium. Owner does not warrant or represent that such coverages and limits are appropriate or adequate to protect Design-Builder. Neither Owner's specification nor approval of the insurance in this Contract, nor of its amount, nor providing coverage in these stated minimum limits shall be construed to relieve Design-Builder from liability in excess of such limits. Coverages are the minimum to be provided and are not limitations of liability under the Contract, indemnification, or applicable law provisions. Design-Builder may, at its expense, purchase larger coverage amounts. The cost of any claim payments falling within the deductible shall be the sole responsibility of Design-Builder. Design-Builder shall maintain insurance coverage during the Work and for one year after Final Acceptance. Design-Builder shall also
maintain insurance coverage during the performance of any corrective Work required by Section 2.9 of the General Conditions. Design-Builder shall submit upon execution of this Contract Certificates of Insurance as evidence of all insurance required herein:

10.1.2 CGL: A policy of Commercial General Liability Insurance which includes coverage for bodily injury, property damage, premises operations, independent contractors, and broad-form contractual liability, and Stop Gap, unless covered as Employers Liability under Part B of a Worker’s Compensation Insurance Policy with the following minimum limits:

- $2,000,000 General Aggregate
- $2,000,000 Product-Completed Operations Aggregate
- $1,000,000 Per Occurrence
- $1,000,000 Personal and Advertising Injury

10.1.3 XCU: The Contractor’s CGL insurance must not exclude perils generally known as XCU (explosion, collapse, and underground property damage), subsidence, absolute earth movement (excepts as it pertains to earthquake peril only) or any equivalent peril.

10.1.4 Products Completed Operations Additional Insured: The Contractor’s CGL insurance must include the Owner as an additional insured status on the ISO CG 20 10 11 85 or CG 20 37 endorsement, or by an equivalent policy or endorsement provisions. The Products Completed Operations additional insured status for the Owner must remain in effect for not less than 3 years following Final Completion.

Policy shall apply as Primary Insurance with Owner’s Insurance Non-Contributory, include a Waiver of Subrogation in favor of the Owner, and contain a separation of insureds provision.

10.1.5 Employer’s Liability:

- $1,000,000 Each Accident
- $1,000,000 Disease - Policy Limit
- $1,000,000 Disease - Each Employee

10.1.6 Automobile: Commercial Automobile Liability with a combined single limit of not less than $1,000,000 for each accident. Coverage shall include Bodily Injury and Property Damage Liability for all owned, non-owned, leased, and hired automobiles and contain a Waiver of Subrogation in favor of the Owner. If pollutants are to be transported, MCS 90 and CA 99 48 endorsements are required on the Auto Liability policy unless the transportation pollution risk is covered under the Contractor’s Pollution Liability insurance policy.

10.1.7 Excess or Umbrella Liability: The Contractor must provide minimum Excess or Umbrella Liability coverage limits of $4,000,000 each occurrence in excess of the primary CGL and Automobile liability insurance limits specified in Section 10.1.2 and Section 10.1.6. The minimum total limits of $5,000,000 may also be satisfied with primary CGL insurance limits or any combination of primary excess/umbrella limits.

10.1.8 Contractors Pollution Liability: A policy providing coverage for claims involving remediation, on or off site, disposal, or other handling of pollutants, including investigation, arising out of Design-Builder’s operations, or made worse, including vicarious liability of subcontractors at every tier, from the transportation of hazardous materials; or involving remediation, abatement, repair, maintenance or other work with lead-based paint or materials containing asbestos. Such Pollution Liability policy shall provide at least $1,000,000 per claim coverage for Bodily Injury and Property Damage. The Design-Builder may require its first-tier Specialty Trade Contractors performing work described in this section to maintain equivalent insurance coverage.
10.1.9 **Design-Builder's Professional Liability:** Design-Builder and the Architect shall each maintain for three years after Substantial Completion subject to RCW 4.16.310 (or, if earlier, until demolition of the buildings) professional errors and omissions insurance in an amount no less than $2 million. Design-Builder shall promptly notify Owner of any material changes to, interruption of, or termination of, this insurance. Design-Builder may contractually require its Specialty Consultants of any tier to maintain professional errors and omissions insurance in an amount of at least $1 million.

10.1.10 **Worker's Compensation:** Worker's Compensation coverage, as required by Title 51 RCW. If Design-Builder is qualified as a self-insurer in accordance with Chapter 51.14 RCW, Design-Builder shall so certify by letter signed by a corporate officer indicating that it is a qualified self-insured, and setting forth the limits of any policy of excess insurance covering its employees.

10.2 **Self-Insurance.**

At its sole option and in its sole discretion, Owner may accept Design-Builder’s self-insurance for liability coverage in lieu of insurance from a commercial insurer. Design-Builder must provide a letter from its Corporate Risk Manager or appropriate Finance Officer representing and warranting the following minimum information: whether the self-insurance program is actuarially funded; the fund limits; any excess declaration pages to meet the contract requirements; a description of how Design-Builder would protect and defend Owner as an Additional Insured in their Self-Insured layer; and claims-handling directions in the event of a claim. Any amounts due to, sought by, or paid to third party claimants shall be the sole responsibility of Design-Builder, irrespective of whether such amount falls wholly within the level or amount of Design-Builder’s self-insured retention.

10.3 **Builder's Risk.**

10.3.1 Owner will purchase and maintain Builder’s Risk property insurance written on an “all-risk” or “special form” basis with Design-Builder and Specialty Trade Contractors of every tier included as named insureds. Such Builder’s Risk insurance shall be in the amount of the Contract Price, plus Washington State Sales Tax, including all Change Orders for the Work on a replacement cost basis excluding earthquake and flood coverage until Substantial Completion. Design-Builder will pay for the first $5,000 of the policy deductible. The Owner will be responsible for losses to the Work due to Earth Movement and Flood if coverage is not provided under the Builder’s Risk policy.

10.3.2 Owner and Design-Builder waive all subrogation rights against each other, any Subcontractors, and separate contractors. If any, and any of their subcontractors, for damages caused by fire or other perils to the extent covered by property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by Owner as fiduciary. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

10.3.3 If Design-Builder believes it has a loss that is covered by Builder’s Risk Insurance and it is likely to exceed the policy deductible, Design-Builder shall notify the Owner within 24 hours of discovery.

10.4 **Bonds and Other Performance Security.** Design-Builder shall provide the following performance bond and labor and material payment bond or other performance security:

10.4.1 **Performance and Payment Bonds.** Design-Builder shall secure and maintain from a surety company acceptable to Owner, admitted and licensed in the State of Washington, and shall pay for bonds covering the faithful performance of the Contract and payment of obligations
arising under the Contract Documents, each in the full amount of the GMP, including Washington State sales tax, pursuant to Chapter 39.08 RCW.

The form of the Payment Bond and Performance Bond form shall be as published by and available from the American Institute of Architects (AIA) – form A312.

The Bonds must be signed by the principal and notarized; be signed and notarized by an approved Surety or Sureties that:

a. Is registered with the Washington State Insurance Commissioner;
b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner;
c. Has a current rating of at least A-VII in A.M. Best’s Key Rating Guide or is included in the U.S. Department of the Treasury’s Listing of Approved Sureties (Circular 570);

and be accompanied by an original power of attorney document with the same date as the notarization by the Surety.

The scope of the bonds or the form thereof prescribed in these Contract Documents shall in no way affect or alter the liabilities of Design-Builder to Owner as set forth herein.

### Article 11

**Other Provisions**

11.1 Other provisions, if any, are as follows:

11.1.1 Business Equity. Owner is committed to providing the maximum practicable opportunity for participation in contracting by Business Equity Enterprises (BEE). See the General Conditions.

11.1.2 Electronic Data. In addition to the requirements set forth in the General Conditions for electronic data, Design-Builder shall comply with the requirements of Attachment B, CAD, BIM and PDF Standards and Requirements, in the performance of services under this Contract.

**ATTACHMENTS:** In addition to the General Conditions Between Owner and Design-Builder, which are a part of the Contract Documents, the following documents, whether attached hereto or not, are hereby incorporated by reference and made a part of this Agreement, as if set forth herein in full:

- Attachment A: GMP Exhibit and Schedule of Values
- Attachment B: CAD, BIM, and PDF Standards and Requirements

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

**OWNER:**

(Name of Owner)  
(Signature)

**DESIGN-BUILDER:**

(Name of Design-Builder)  
(Signature)
GENERAL CONDITIONS BETWEEN OWNER AND DESIGN-BUILDER
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Article 1

General

1.1 Mutual Obligations

1.1.1 Owner and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith.

1.2 Definitions

1.2.1 Agreement refers to the executed Agreement between Owner and Design-Builder - Cost Plus Fee with for a Guaranteed Maximum Price.

1.2.2 Application for Payment refers to the packet of information submitted by the Design-Builder requesting payment for services or expenses consistent with Article 6 of the General Conditions.

1.2.3 Basis of Design Documents are as follows: The Basis of Design Documents are those documents specifically listed in, as applicable, the GMP Exhibit as being the “Basis of Design Documents.”

1.2.4 Business Equity Enterprises (BEE) are any entity licensed to do business in the State of Washington, including a corporation, partnership, sole proprietorship, or other legal entity that meets any of the following:


Lesbian/Gay/Bisexual/Transgender Business Enterprise (LGBTBE): More than 50% owned and controlled by at least one person who is a member of the LGBT community.

Minority Business Enterprise (MBE): More than 50% owned and controlled by at least one person who is a member of one or more of the following minority groups:

- Asian Pacific American
- Black American
- Hispanic American
- Native American
- Subcontinent Asian American

Minority Women’s Business Enterprise (MWBE): More than 50% owned and controlled by at least one woman who is a member of one or more of the above minority groups.

Small Business Enterprise (SBE): A business entity that:

- Can attest that it is owned and operated independently from all other businesses and
- Conforms to the U.S. Small Business Administration Size Standards of the North American Industry Classification System (NAICS) Codes in which it is to be engaged at the UW; or
- Is certified with the OMWBE.
Veteran's Business Enterprise (VBE): Certified with the Washington State Department of Veteran's Affairs (DVA)

Women's Business Enterprise (WBE): More than 50% owned and controlled by one or more women.

Prior to the execution of the contract for this project, the UW and the selected firm shall agree on an Inclusion Plan that will stipulate an aspirational BEE goal based upon the various scopes of the work and the anticipated services to be provided, as well as the strategies the Design-Builder will use to achieve optimal equitable BEE utilization on the project. BEE participation may be either as a design-builder, sub-consultant, sub-contractor, or supplier.

1.2.5 Construction Documents are the documents, consisting of Drawings and Specifications, to be prepared or assembled by Design-Builder consistent with the Basis of Design Documents unless a deviation from the Basis of Design Documents is specifically set forth in a Change Order executed by both Owner and Design-Builder, as part of the design review process contemplated by Section 2.3 of these General Conditions.

1.2.6 Day or Days shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.2.7 Design-Build Team is comprised of Design-Builder, the Design Consultant, and key Trade Partners or Specialty Sub-consultants as identified by Design-Builder.

1.2.8 Design Consultant is a qualified, licensed design professional who is employed or retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder, to furnish design services required under the Contract Documents. A Design Sub-Consultant is a qualified, licensed design professional who is not an employee of the Design Consultant, but is retained by the Design Consultant or employed or retained by anyone under contract to Design Consultant, to furnish design services required under the Contract Documents.

1.2.9 Facilities Design Standard is intended for use by design and construction professionals to facilitate the design and construction of University facilities. These standards represent proven systems that satisfy the University’s best practice requirements for efficient operation and maintenance. Any deviations to these standards shall be vetted through a documented resolution process.

1.2.10 Final Completion is the date on which all Work is complete in accordance with the Contract Documents, including but not limited to, any items identified in the punch list prepared under Section 6.6.1 and the submission of all documents set forth in Section 6.7.2.

1.2.11 Force Majeure Events are the events of war, floods, labor disputes, or government acts not caused by Design-Builder, earthquakes, epidemics, adverse weather conditions, and/or other acts of God, not reasonably anticipated.

1.2.12 General Conditions refers to this document.

1.2.13 GMP Exhibit means that exhibit attached to Agreement between Owner and Design-Builder – Cost-Plus-Fee with a Guaranteed Maximum Price (GMP), which will have been agreed upon by Owner and Design-Builder prior to the execution of the Agreement.

1.2.14 Hazardous Conditions are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

1.2.15 Legal Requirements are all applicable federal, state and local laws, codes, ordinances,
rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

1.2.16 Owner’s Project Criteria are developed by or for Owner to describe Owner’s program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder’s performance of the Work. Owner’s Project Criteria include the Facilities Design Guide and may include conceptual documents, design criteria, design performance specifications, design specifications, and LEED® or other sustainable design criteria and other Project-specific technical materials and requirements.

1.2.17 Preliminary Agreement refers to the Agreement between the Owner and the Design Builder for the services in the first phase of the Project.

1.2.18 Procurement and Equity Plan refers to the matrix provided by the Owner that is developed and maintained by the Design-Builder that details all the work of the Project into procurement and work packages, track estimated and sub-contracted work, BEE targets and actual spend by work package.

1.2.19 Project Executive Committee (PEC) refers to the project oversight committee, made up of key Owner representatives that is the final decision making authority on the Project.

1.2.20 Project Management Team (PMT) refers to the working team made up of key members of the Owner and Design-Builder team that is the working team for the Project. The PMT will organize and execute the work, tendering all decisions that cannot be made by consensus to the PEC.

1.2.21 Project Performance Criteria refers to the final measures based on the Owner’s Project Criteria, developed by the Design-Builder and agreed to by the PMT as the Project’s key performance indicators.

1.2.22 Site is the land or premises on which the Project is located.

1.2.23 Specialty Consultants refers to the design and support professionals hired by the Design-Builder to subcontract on the Project; also a Subcontractor.

1.2.24 Subcontractor is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers.

1.2.25 Sub-Subcontractor or a Subcontractor of any tier is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor’s Work and shall include materialmen and suppliers.

1.2.26 Substantial Completion or Substantially Complete means the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete in accordance with the Contract Documents so that Owner can occupy and use the Project or a portion thereof for its intended purposes.

1.2.27 Trade Partners refers to the construction and skilled labor businesses and firms hired by the Design-Builder to perform Work on the Project; also a Subcontractor.

1.2.28 Work is comprised of all Design-Builder’s design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.
Article 2
Design-Builder’s Services and Responsibilities

2.1 General Services.

2.1.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Design Consultant.

2.1.2 Design-Builder’s Representative shall be reasonably available to Owner and shall have the necessary expertise and experience required to supervise the Work. Design-Builder’s Representative shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder’s Representative may be replaced only with the mutual agreement of Owner and Design-Builder.

2.1.3 Design-Builder shall provide Owner with a monthly update to the Work Plan and Issues Tracking Log, detailing the progress of the Work, including (i) whether the Work is proceeding according to schedule, (ii) whether discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution, (iii) whether health and safety issues exist in connection with the Work; (iv) status of the contingency account to the extent provided for in the Agreement; and (v) other items that require resolution so as not to jeopardize Design-Builder’s ability to complete the Work for the GMP and within the Contract Time(s).

2.1.4 Unless a schedule for the execution of the Work has been attached to the Agreement as an exhibit at the time the Agreement is executed, Design-Builder shall prepare and submit, at least three (3) days prior to the meeting contemplated by Section 2.1.5 hereof, a schedule for the execution of the Work for Owner’s review and response. The schedule shall, at minimum, indicate the dates for the start and completion of the various stages of Work, including the dates when Owner information and approvals are required to enable Design-Builder to achieve the Contract Time(s). The schedule shall be revised as required by conditions and progress of the Work, but such revisions shall not relieve Design-Builder of its obligations to complete the Work within the Contract Time(s), as such dates may be adjusted in accordance with the Contract Documents. Owner’s review of, and response to, the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.1.5 The parties will meet periodically throughout the Project to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.2 Design Services.

2.2.1 The Design-Builder shall perform design services as described in the Preliminary Agreement, Article 2, as agreed by the PMT. Design Services shall continue through all phases of the Project as necessary to complete the Work.

2.3 Preconstruction Services.

2.3.1 Design-Builder shall schedule and conduct meetings with Owner on a weekly basis, or as otherwise agreed upon, to discuss such matters as procedures, progress, coordination, and
scheduling of the construction work. Design-Builder shall actively and cooperatively advise Owner on proposed site use and improvements, selection of materials, and building systems and equipment. Design-Builder shall also actively and collaboratively provide recommendations consistent with the Project Performance Criteria requirements to Owner regarding constructability; availability of materials and labor; time requirements for procurement, installation and construction; phasing and site work planning; sequencing and scheduling for procurement, installation and construction; traffic planning; factors related to construction quality, maintainability and durability; and factors related to construction cost including, but not limited to, costs of alternative designs and materials, preliminary budgets, life-cycle data, and possible cost reductions.

2.3.2 Design-Builder shall work with Owner to incorporate into the project deliverables, recommendations on constructability, means, and/or methods that may reduce cost, save time, improve quality, reduce risk, and/or improve the overall process of Project delivery. A primary objective of these efforts will be to ensure that the final Cost of the Work does not exceed the GMP and the Project is completed on time.

2.3.3 Design-Builder shall perform site investigations, including but not limited to utility locates, to assist in development of the design and construction planning. Any investigations of hidden or subsurface conditions have been made only for purposes of developing the RFQ/P. The results of these investigations are available for the convenience of Design-Builder but they are not Contract Documents. There is no guarantee, express or implied, that the conditions indicated are representative of those existing throughout the site or that unforeseen developments may not occur. Design-Builder is solely responsible for conducting their own investigations and extrapolating beyond the testing location, including each individual boring, test pit or other location that Design-Builder believes necessary for design or construction.

2.3.4 Design-Builder may provide recommendations with regard to accelerated or fast-track scheduling, procurement, or phased construction. Design-Builder shall take into consideration occupancy needs, cost reductions, cost information, constructability, provisions for temporary facilities and procurement and construction scheduling issues.

2.3.5 Design-Builder shall maintain the Procurement and Equity Plan and present to the Owner updates at least monthly, schedules for long lead items. Design-Builder shall expedite and coordinate the ordering and delivery of long lead materials. If Owner agrees to procure any items prior to the establishment of the GMP, such items will be identified in the Contract Documents and Owner will assign contracts for these items to Design-Builder. Thereafter, Design-Builder shall accept responsibility for them.

2.3.6 The PMT will work on cost estimates throughout the Project, which may occur in phases as the design is completed, as determined by the PMT, the Design-Builder will prepare detailed cost estimates following completion of design-development documents, when Construction Documents are ninety percent (90%) complete. Estimates will include increasing detail and refinement and allow for the further development of the design. Design-Builder will also prepare other necessary cost studies, comparative estimates, and comparative schedules to evaluate alternatives and options.

2.3.7 Owner, Design-Builder, Trade Partners and Specialty Sub-consultants should include target value best practices through all phases of the Project and prior to completion of the design. Changes may be proposed to the design as a result of these practices. The PMT will review all value options. At the completion of its review(s), Design-Builder will provide Owner with a formal record of decisions made.

2.3.8 Throughout the Project, Owner and Design-Builder shall mutually agree on a schedule for Design-Builder to deliver submittals for Owner review and comment. Owner shall have at least fourteen (14) days to review submittals unless otherwise agreed. Design-Builder shall perform no portion of the construction Work for which the Contract Documents require submittals until Owner has accepted and taken action on each required submittal in accordance with the procedure set
forth in the Contract Documents. However, submittals are not Contract Documents. Their purpose is to demonstrate for those portions of the Work for which submittals are required the way that Design-Builder proposes to conform to the Contract Documents. Review and acceptance of submittals by Owner is subject to the limitations of the Contract Documents and shall not constitute an approval of Design-Builder’s means and methods or a waiver or modification of any requirement of the Contract Documents. Design-Builder shall resolve all Owner submittal review comments prior to commencement of the Work.

2.3.9 Design-Builder shall perform no construction Work prior to Owner’s review and concurrence of Design-Builder’s Construction Documents along with the Procurement and Equity Plan. Review and concurrence of Construction Documents by Owner is subject to the limitations of the Contract Documents and shall not constitute an approval of Design-Builder’s means and methods or a waiver or modification of any requirement of the Contract Documents.

2.4 Legal Requirements.

2.4.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

2.4.2 The GMP and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the date of the Agreement affecting the performance of the Work, or if a GMP is established after the date of the Agreement, the date the parties agree upon the GMP. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements.

2.5 Design-Builder’s Construction Phase Services.

2.5.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor, Design-Builder shall provide through itself or Trade Partners and Specialty Sub-consultants, the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.5.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.5.3 Design-Builder shall employ only Subcontractors who are licensed and skilled to perform the Work consistent with their trade, industry best practices, and Contract Documents. Owner reserves the right to approve and firm to the Project and object to Design-Builder’s selection.

2.5.4 Design-Builder assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.6.5 Design-Builder shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner’s control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.6.6 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without
interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.6.7 Materials shall conform to the manufacturer’s standards in effect at the date of execution of the Contract Documents and shall be installed in strict accordance with the manufacturer’s instructions, specifications and directions. Design-Builder shall, if required in writing by Owner, provide satisfactory evidence regarding the kind and quality of any materials identifying thereon the source, and warranting their quality and compliance with the Contract Documents.

2.7 Design-Builder’s Responsibility for Project Safety.

2.7.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing their Project Safety Plan and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder’s Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder’s personnel, Subcontractors and others as applicable.

2.7.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner’s Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.7.3 Design-Builder’s responsibility for safety under this Section 2.7 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work.

2.8 Design-Builder’s Warranty.

2.8.1 Design-Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, performed in a skillful and workmanlike manner, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder’s warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner. Nothing in this warranty is intended to limit any manufacturer’s warranty which provides Owner with greater warranty rights than set forth in this Section 2.8 or the Contract Documents. Design-Builder will provide Owner with all manufacturers’ warranties upon Substantial Completion.

2.9 Correction of Non-Conforming Work.

2.9.1 Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.8 hereof, within a period
of one year from the date of Substantial Completion of the entire Work, or within such longer period
to the extent required by any specific warranty included in the Contract Documents.

2.9.2 Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the
Work is not in conformance with the Contract Documents, take meaningful steps to commence
correction of such nonconforming Work, including the correction, removal or replacement of the
nonconforming Work and any damage caused to other parts of the Work affected by the
nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven
(7) day period, Owner, in addition to any other remedies provided under the Contract Documents,
may provide Design-Builder with written notice that Owner will commence correction of such
nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-
Builder shall be responsible for all reasonable costs incurred by Owner in performing such
correction. If the nonconforming Work creates an emergency requiring an immediate response, the
seven (7) day period identified herein shall be deemed inapplicable.

2.9.3 The one-year period referenced in Section 2.9.1 above applies only to Design-Builder’s
obligation to correct nonconforming Work and is not intended to constitute a period of limitations
for any other rights or remedies Owner may have regarding Design-Builder’s other obligations
under the Contract Documents nor is the one-year period any limitation on Design-Builder’s
Warranty under Section 2.8.

2.10 Apprentice Utilization Requirements

2.10.1 As required by RCW 49.04 the Design-Builder shall ensure that at least 15% of the total
construction labor hours utilized on the project are performed by apprentices registered with the
Washington State Apprenticeship and Training Council.

2.10.1.1 Total labor hours include additional hours worked as a result of change orders.

2.10.1.2 Total labor hours exclude hours worked by foremen, superintendents,
supervisors, owners, and workers who are not subject to prevailing wage requirements.
However, total labor hours shall include the hours worked by supervisors, foremen, and
superintendents if it is determined they are subject to prevailing wage requirements
pursuant to Washington Administrative Code (WAC) 296-127-015.

2.10.1.3 Total labor hours include all hours worked by Design-Builder and all
subcontractors on the Project.

2.10.2 Design-Builder shall prepare an Apprentice Utilization Plan as part of the Procurement and
Equity Plan.

2.10.3 Design-Builder shall include the apprentice utilization requirements of this section in all
subcontracts executed for the Project.

2.10.4 If, during the term of the Agreement, Design-Builder determines that it will be unable to
meet the percentage utilization requirement in Paragraph 1, above, Design-Builder may make a
written request to Owner to reduce the required percentage. The request, at a minimum shall
include documentation of:

2.10.4.1 Design-Builder’s good faith efforts to use registered apprentices; and/or

2.10.4.2 The lack of availability of registered apprentices; and/or

2.10.4.3 A disproportionately high ratio of material costs to labor hours, which makes
infeasible the required minimum level of apprentice participation.
2.10.5 Owner shall evaluate the request, and if appropriate, a change order shall be prepared by Owner reducing the utilization requirement. Owner reserves the right to ask for additional information or supporting documentation.

2.10.6 With its monthly Application for Payment, Design-Builder shall submit the Apprentice and Journey Level Worker Utilization Report on the form provided by Owner. Owner reserves the right to request certified payrolls or other such reporting documentation electronically.

2.11 Business Equity Requirements

2.11.1 General Requirements

The University of Washington is committed to providing optimal opportunity for participation in contracting by Business Equity Enterprises (BEE). The University of Washington defines a Business Equity Enterprise (BEE) as "any entity licensed to do business in the State of Washington, including a corporation, partnership, sole proprietorship, or other legal entity that meets any of the following:


Lesbian/Gay/Bisexual/Transgender Business Enterprise (LGBTBE): More than 50% owned and controlled by at least one person who is a member of the LGBT community.

Minority Business Enterprise (MBE): More than 50% owned and controlled by at least one person who is a member of one or more of the following minority groups:
- Asian Pacific American
- Black American
- Hispanic American
- Native American
- Subcontinent Asian American

Minority Women’s Business Enterprise (MWBE): More than 50% owned and controlled by at least one woman who is a member of one or more of the above minority groups.

Small Business Enterprise (SBE): A business entity that:
- Can attest that it is owned and operated independently from all other businesses and
- Conforms to the U.S. Small Business Administration Size Standards of the North American Industry Classification System (NAICS) Codes in which it is to be engaged at the UW; or
- Is certified with the OMWBE.

Veteran's Business Enterprise (VBE): Certified with the Washington State Department of Veteran's Affairs (DVA)

Women's Business Enterprise (WBE): More than 50% owned and controlled by one or more women.

The University of Washington has determined that an overall aspirational goal of 20% Business Equity Enterprise (BEE) utilization, inclusive of 15% minority and women-owned business utilization, is practicable and attainable on this construction project; that goal is negotiable, however, based upon the specialized nature of the work and the relative availability of BEE to perform the specific work scopes identified in this project. The University of Washington welcomes the participation of all BEE, irrespective of gross revenues, including those that are self-designated.
and those that are state (OMWBE) certified. Those businesses that wish to apply for OMWBE certification should access the following: omwbe.wa.gov/certification.

Prior to the execution of the contract for this project, the UW and the selected firm shall agree on an Inclusion Plan that will stipulate an aspirational BEE goal based upon the various scopes of the work and the anticipated services to be provided, as well as the strategies the Design-Builder will use to achieve optimal equitable BEE utilization on the project. BEE participation may be either as a design-builder, sub-consultant, sub-contractor, or supplier. The Inclusion Plan is then tracked and implemented through the Procurement and Equity Plan.

Design-Builder shall comply with the following requirements: In accordance with Chapter 39.19 RCW, it is the policy of the State of Washington to provide the maximum practicable opportunity for increased participation by minority and women-owned and controlled businesses in public works.

2.11.2 Affirmative Efforts

2.11.2.1 Design-Builder shall:

(a) Breakdown all the Work of the Project into packages that reflects the capabilities and availability in the market of targeted Trade Partners, Specialty Consultants, Service Providers, and Suppliers, regardless of their BEE status.

(b) Provide all firms that express interest in participating on the Project with adequate and timely information about solicitations, plans, specifications, and requirements of the Agreement.

(c) Provide the Owner’s Business Equity team with procurement schedules, communication materials, and sample solicitation packages at least 3 weeks prior to distributing for advertisement and seek feedback from the Business Equity team.

(d) Track all interested parties and “bid pools” by package.

(e) Track the strategies implemented and their success as stated in their Inclusion Plan.

(f) Have all firms and businesses participating on the Project, at any tier, submit the “declaration form” provided by the Owner.

2.11.2.2 Design-Builder is further encouraged to:

(a) Look for opportunities to competitively, but alternatively, select sub-consultants, service providers, and subcontractors or similar through qualifications-based selections or assignments before traditionally bidding packages.

(b) Meet with University personnel to assess insurance requirements by package and develop requirements commensurate with the size and risk of packages.

(c) Reduce bonding requirements where practicable.

(d) Utilize the services of available women/minority community organizations, minority contractor groups, and other organizations that provide assistance in recruitment and placement of BEE and other small business.
2.11.3 Reporting Requirements

2.11.3.1 Prior to Application of First Progress Payment the Design-Builder shall submit their Procurement and Equity Plan on the Owner provided form ("matrix").

2.11.3.2 Prior to Final Acceptance, Design-Builder shall submit a completed Procurement and Equity Plan that includes final utilization and spend data.

2.11.3.3 With the monthly Payment Application, Design-Builder shall submit a their updated Procurement and Equity Plan along with the names and amounts paid to subcontractors, sub-consultants, service providers, and suppliers it has utilized during the preceding month.

2.11.3.4 The Owner reserves the right to request the monthly reporting to be done electronically through an online portal of the Owner’s choosing.

2.11.4 Non-Discrimination

Design-Builder shall not create barriers to open and fair opportunities to all businesses, including BEEs, to participate in University contracts and to obtain or compete for contracts and subcontracts as sources of suppliers, equipment, construction and services. In considering offers from and doing business with subcontractors and suppliers, Design-Builder shall not discriminate on the basis of race, color, creed, religion, sex, age, nationality, marital status, or the presence of any mental or physical disability in an otherwise qualified disabled person.

2.11.5 Sanctions and Enforcement

The Owner reserves the right to withhold payments should it determine the Design-Builder is failing to apply their Inclusion Plan or follow the intent of affirmative efforts. Failure to comply with any of the mandatory requirements of this part of the Agreement may subject Design-Builder to sanctions or damages as provided for by RCW 39.19.090, or by other applicable laws.

2.12 Prevailing Wages.

2.12.1 Pursuant to RCW 39.12, “Prevailing Wages on Public Works,” no worker, laborer, or mechanic employed in the performance of any part of the Work shall be paid less than the "prevailing rate of wage" (in effect as of the date final submissions of the Proposal are due) as determined by the Industrial Statistician of the Department of Labor and Industries. The schedule of the prevailing wage rates for the locality or localities where the Project will be performed is attached to the executed contract and made a part of the Contract Documents by reference as though fully set forth herein; if not attached, then the applicable prevailing wages are determined as of the date proposals were due for King County and are available at http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp. A copy is available for review at Owner’s office, and will be mailed upon request. Design-Builder shall also keep a paper copy at the Project site. To the extent that there is any discrepancy between the attached or provided schedule of prevailing wage rates and the published rates applicable under WAC 296-127-011, or if no schedule is attached, the applicable published rates shall apply with no increase in the GMP. It is Design-Builder’s responsibility to ensure that the correct prevailing wage rates are paid. Design-Builder shall provide Subcontractors with a schedule of the applicable prevailing wage rates. Questions relating to prevailing wage data should be addressed to the Industrial Statistician upon request.

2.12.2 Pursuant to RCW 39.12.060, in case any dispute arises as to the prevailing rates of wages for work of a similar nature, and such dispute cannot be adjusted by the parties in interest, including labor and management representatives, the matter shall be referred for arbitration to the director of the Department of Labor and Industries, and his or her decision shall be final, conclusive and binding on all parties to the dispute.
2.12.3 Design-Builder shall defend, indemnify and hold Owner harmless, including attorneys' fees, from any violation or alleged violation by Design-Builder or any Subcontractor of any tier of Washington’s Prevailing Wages Act or Chapter 51 RCW (“Industrial Insurance”), including without limitation RCW 51.12.050.

**Article 3**

**Owner’s Services and Responsibilities**

3.1 Furnishing of Services and Information.

3.1.1 To the extent they are available and already in existence, Owner shall provide, at its own cost and expense, for Design-Builder’s information and use the following, all of which Design-Builder is entitled to rely upon in performing the Work:

3.1.1.1 Surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

3.1.1.2 Geotechnical studies describing subsurface conditions, and other surveys describing conditions at the Site;

3.1.1.3 Temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the Project and enable Design-Builder to perform the Work;

3.1.1.4 Record drawings of any existing structures at the Site; and

3.1.1.5 Environmental studies, reports and impact statements describing the environmental conditions, including Hazardous Conditions, in existence at the Site.

3.1.5 UW Facilities Design Standard.

3.1.2 Owner is responsible for securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work.

3.2 Submittal Review.

3.2.1 Owner shall review and take action on Design-Builder’s submittals, including but not limited to design documents prepared by Design-Builder, but only for the limited purpose of checking for conformance with information provided and concepts expressed in the Contract Documents. Owner’s action shall be taken with reasonable promptness. Review of submittals is not conducted for the purpose of determining the accuracy and completeness of details, such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Design-Builder. Owner’s review or acceptance shall not be deemed an approval of the Submittals or an agreement to modify the Contract Documents.

3.3 Owner’s Representative.

3.3.1 Owner’s Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Owner.

3.4 Government Approvals and Permits.

3.4.1 In accordance with the Design-Builder prepared Permit Log, Owner shall obtain and pay for all zoning, zoning variances, and master use permits required for the design and construction.
of the Work, as may be required by regulatory agencies having jurisdictions over the Project. All other permits, government charges inspection fees, and licenses required to perform and complete the Work, including but not limited to the plan check fees, building permits, occupancy permit, as well as any renewals and penalties, are intended to be the responsibility of Design-Builder. Owner shall provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder’s responsibility. All responsibilities will be tracked in the Permit Log.

3.5 Owner’s Separate Contractors.

3.6.1 Owner shall require its separate contractors, if any, to cooperate with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

Article 4

Hazardous Conditions and Differing Site Conditions

4.1 Hazardous Conditions.

4.1.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, Design-Builder is not responsible for any Hazardous Conditions encountered at the Site. Upon encountering any Hazardous Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Owner and, if required by Legal Requirements, all government or quasi-government entities with jurisdiction over the Project or Site.

4.1.2 Upon receiving notice of the presence of suspected Hazardous Conditions, Owner shall take the necessary measures required to ensure that the Hazardous Conditions are remediated or rendered harmless. Such necessary measures shall include Owner retaining qualified independent experts to (i) ascertain whether Hazardous Conditions have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that Owner must take either to remove the Hazardous Conditions or render the Hazardous Conditions harmless.

4.1.3 Design-Builder shall be obligated to resume Work at the affected area of the Project only after Owner’s expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all government and quasi-government entities having jurisdiction over the Project or Site.

4.1.4 Design-Builder will be entitled, in accordance with these General Conditions, to an adjustment in its GMP and/or Contract Time(s) to the extent Design-Builder’s cost and/or time of performance have been adversely impacted by the presence of Hazardous Conditions.

4.1.5 To the fullest extent permitted by law, Owner shall indemnify, defend and hold harmless Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them, and their officers, directors, employees and agents, from and against any and all claims, losses, damages, liabilities and expenses, including attorneys’ fees and expenses, arising out of or resulting from the presence, removal or remediation of Hazardous Conditions at the Site for which Owner is responsible and for which the removal or remediation was not the responsibility of Design-Builder.

4.1.6 Notwithstanding the preceding provisions of this Section 4.1, Owner is not responsible for Hazardous Conditions introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner’s officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys’ fees and expenses, arising out of or resulting from those Hazardous Conditions introduced to the Site.
by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.2 **Differing Site Conditions.**

4.2.1 If Design-Builder encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Design Builder shall give written notice to Owner, as described in Article 10. Conditions shall not be disturbed prior to such notice.

4.2.2 If such conditions differ materially and cause a change in Design Builder’s cost of, or time required for, performance of any part of the Work, the Design Builder may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided a request for equitable adjustment is made in accordance with Article 10.

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**Article 5**

**Insurance and Bonds**

5.1 **Design-Builder’s Insurance Requirements.**

5.1.1 Design-Builder is responsible for procuring and maintaining the insurance for the coverage amounts as set forth in the Contract Documents.

5.1.2 Design-Builder’s insurance policies shall not contain any language that could compromise coverages because of the design-build delivery of the Project.

5.1.3 Other requirements are set forth in the Agreement.

5.2 **Owner’s Property Insurance.** Requirements for Owner’s Property Insurance are set forth in the Agreement.

5.3 **Bonds and Other Performance Security.** Requirements for Bonds and Security are set forth in the Agreement.

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**Article 6**

**Payment**

6.1 **Schedule of Values.**

6.1.1 Unless required by Owner upon execution of this Agreement, within ten (10) days of execution of the GMP Agreement, Design-Builder shall submit for Owner’s review and approval a schedule of values for all of the Work. The Schedule of Values will (i) subdivide the Work into its respective parts, (ii) include values for all items comprising the Work and (iii) serve as the basis for monthly progress payments made to Design-Builder throughout the Work.

6.1.2 Owner will timely review and approve the schedule of values so as not to delay the submission of Design-Builder’s first application for payment. Owner and Design-Builder shall timely resolve any differences so as not to delay Design-Builder’s submission of its first application for payment.
6.2 Monthly Progress Payments.

6.2.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner’s review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.5 hereof.

6.2.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that (i) Owner is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location, (ii) the equipment and materials are protected by suitable insurance and (iii) upon payment, Owner will receive the equipment and materials free and clear of all liens and encumbrances.

6.2.3 The Application for Payment shall constitute Design-Builder’s representation that the Work described herein has been performed consistent with the Contract Documents, that all sub-consultants, subcontractors, and suppliers have been paid, less applicable earned retainage, as their interests appeared in the last preceding Application for Payment, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Design-Builder’s receipt of payment, whichever occurs earlier.

6.2.4 Pursuant to Chapter RCW 60.28, Owner will retain five percent (5%) of each approved Application for Payment to be retained as a trust fund for the protection and payment of the claims of any person arising under the contract and the state with respect to taxes imposed pursuant to Titles 50, 51, and 82 RCW which may be due from Design-Builder. The moneys reserved may, at the option of Design-Builder, be retained in accordance with the provisions of Chapter 60.28 RCW. Design-Builder will indicate to the Owner, their retainage option, prior to the execution of the Preliminary Agreement and the Agreement.

6.2.5 Sixty (60) days after Final Acceptance of the entire Work, Owner shall release to Design-Builder all retained amounts in accordance with Chapter 39.12 RCW and Chapter 60.28 RCW, provided that Design-Builder has on file, pursuant to RCW 39.12.040, an "Affidavit of Wages Paid" from Design-Builder and from each Subcontractor of any tier, approved by the Industrial Statistician of the Department of Labor and Industries, with the fees paid by Design-Builder or Subcontractor of any tier, and, pursuant to RCW 60.28.021, Owner has received certificates from the Department of Revenue, the Employment Security Department, and the Department of Labor and Industries. If there are either unpaid taxes or unsatisfied claims of lien against the retained percentage, disbursement of retainage funds will be made in accordance with state law.

6.3 Withholding of Payments.

6.3.1 On or before the date established in the Agreement, Owner shall pay Design-Builder all amounts due. If Owner determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder’s failure to meet its obligations under the Contract Documents, it will notify Design-Builder in writing prior to the date payment is due. The notice shall indicate the specific amounts Owner intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Owner’s concerns. Design-Builder and Owner will attempt to resolve Owner’s concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 hereof.

6.4 Design-Builder’s Payment Obligations.

6.4.1 Design-Builder will pay Trade Partners, Specialty Consultants and Sub-contractors, suppliers, or similar, no later than 10 days after receiving payment from the Owner, all the amounts
Design-Builder has received from Owner on account of their work. Design-Builder will include this same provision for payment on those parties with whom they have contracted. Design-Builder will indemnify and defend Owner against any claims for payment and mechanic’s liens as set forth in Section 7.3 hereof.

Design-Builder, their Trade Partner or Specialty Sub-consultants, shall not withhold any payment from any firm, at any tier, without first providing information as is required under 6.4.1 above.

6.5 Substantial Completion.

6.5.1 Design-Builder shall notify Owner when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is Substantially Complete. Within five (5) days of Owner’s receipt of Design-Builder’s notice, Owner and Design-Builder will jointly inspect such Work to verify that it is Substantially Complete in accordance with the requirements of the Contract Documents. If such Work is Substantially Complete, Owner shall prepare and issue a certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof, (ii) the remaining items of Work that have to be completed before final payment, (iii) provisions (to the extent not already provided in the Contract Documents) establishing Owner’s and Design-Builder’s responsibility for the Project’s security, maintenance, utilities and insurance pending final payment, and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

6.5.2 Owner, at its option, may use a portion of the Work which has been determined to be Substantially Complete, provided, however, that (i) a Certificate of Substantial Completion has been issued for the portion of Work addressing the items set forth in Section 6.5.1 above, (ii) Design-Builder and Owner have obtained the consent of their sureties and insurers, and to the extent applicable, the appropriate government authorities having jurisdiction over the Project, and (iii) Owner and Design-Builder agree that Owner’s use or occupancy will not interfere with Design-Builder’s completion of the remaining Work.

6.7 Final Payment.

6.7.1 After receipt of a Final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement, provided that Design-Builder has achieved Final Completion.

6.7.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information:

6.7.2.1 An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner’s interests;

6.7.2.2 A general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Owner and remaining unsettled at the time of final payment;

6.7.2.3 Consent of Design-Builder’s surety to final payment;

6.7.2.4 All operating manuals, warranties and other deliverables required by the Contract Documents; and

6.7.2.5 Certificates of insurance confirming that required coverages will remain in effect for 1 year after Substantial Completion.

6.7.3 Deficiencies in the Work discovered after Substantial Completion, prior to the end of the
Warranty Period, whether or not such deficiencies would have been included on the punch list if discovered earlier, shall be deemed warranty Work. Such deficiencies shall be corrected by Design-Builder under Sections 2.9 herein, and shall not be a reason to withhold final payment from Design-Builder, provided, however, that Owner shall be entitled to withhold from the Final Payment the reasonable value of completion of such deficient work until such work is completed.

**Article 7**

**Indemnification**

7.1 **Patent and Copyright Infringement.**

7.1.1 Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any applicable patent or copyright, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys’ fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the defense of such actions.

7.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder’s option and at Design-Builder’s expense, (i) modify the Work so as to avoid infringement of any such patent or copyright or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer required by Owner and not offered or recommended by Design-Builder to Owner or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, Owner shall defend, indemnify and hold harmless Design-Builder to the same extent Design-Builder is obligated to defend, indemnify and hold harmless Owner in Section 7.1.1 above.

7.1.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement of violation of any patent or copyright.

7.2 **Tax Claim Indemnification.**

7.2.1 If, in accordance with Owner’s written direction, an exemption for all or part of the Work is claimed for taxes, Owner shall indemnify, defend and hold harmless Design-Builder from and against any liability, penalty, interest, fine, tax assessment, attorneys’ fees or other expenses or costs incurred by Design-Builder as a result of any action taken by Design-Builder in accordance with Owner’s directive. Owner shall furnish Design-Builder with any applicable tax exemption certificates necessary to obtain such exemption, upon which Design-Builder may rely.

7.3 **Payment Claim Indemnification.**

7.3.1 Design-Builder shall indemnify, defend and hold harmless Owner from any claims or mechanic’s liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor,
equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic’s lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic’s lien bond. If Design-Builder fails to do so, Owner will have the right to discharge the claim or lien or retainage and hold Design-Builder liable for costs and expenses incurred, including attorneys’ fees.

### 7.4 Design-Builder’s General Indemnification.

To the maximum extent permitted by law, Design-Builder shall defend, indemnify, and hold Owner harmless from and against all claims, demands, losses, damages, or costs, including but not limited to damages arising out of bodily injury or death to persons and damage to property, caused by or resulting from:

#### 7.4.1 The sole negligence of Design-Builder or any of its Design Consultants or Subcontractors;

#### 7.4.2 The concurrent negligence of Design-Builder, or any Design Consultant or Subcontractor, but only to the extent of the negligence of Design-Builder or such Design Consultant or Subcontractor; and

#### 7.4.3 The use of any design, process, or equipment which constitutes an infringement of any applicable patent presently issued, or violates any other proprietary interest, including copyright, trademark, and trade secret.

#### 7.4.4 In any action against Owner and any other entity indemnified in accordance with this section, by any employee of Design-Builder, its Subcontractors, Sub-subcontractors, agents, or anyone directly or indirectly employed by any of them, the indemnification obligation of this section shall not be limited by a limit on the amount or type of damages, compensation, or benefits payable by or for Design-Builder or any Subcontractor under RCW Title 51, the Industrial Insurance Act, or any other employee benefit acts. In addition, Design-Builder specifically waives immunity as to Owner and A/E only, in accordance with RCW Title 51.

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### Article 8

**Time**

#### 8.1 Obligation to Achieve the Contract Time.

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time in accordance with Article 5 of the Agreement and the GMP Amendment.

#### 8.2 Delays to the Work.

8.2.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom Design-Builder is responsible, the Contract Time(s) for performance shall be reasonably extended by Change Order.

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### Article 9

**Changes to the GMP and Time**

#### 9.1 Change Orders.

9.1.1 A Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon all of the following:
9.1.1.1 The scope of the change in the Work;

9.1.1.2 The amount of the adjustment to the GMP, if any; and

9.1.1.3 The extent of the adjustment to the Contract Time, if any.

9.1.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.1.3 A Change Order shall constitute full payment and final settlement of all claims for time and for direct, indirect, and consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity, related to any Work either recovered or affected by the Change Order, or related to the events giving rise to the request for equitable adjustment.

9.2 Changes in the Work.

9.2.1 A change order proposal is a written order prepared and signed by Owner directing a change in the Work prior to agreement on an adjustment in the GMP and/or the Contract Time(s).

9.2.2 Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.2.3 If Owner and Design-Builder are unable to reach agreement, Design-Builder shall keep detailed records of its costs related to the Work Change Directive and, in the absence of mutual agreement, the parties shall use the definition of the Cost of the Work to determine Design-Builder’s costs.

9.3 Minor Changes in the Work.

9.3.1 Minor changes are changes that cost $10,000 or less. Minor Changes in the Work do not involve an adjustment in the GMP and/or Contract Time(s) and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however, that Design-Builder shall inform Owner, in writing, in advance of the execution of the change, of any such changes and record such changes on the record documents maintained by Design-Builder.

9.4 Amendments.

9.4.1 Changes, including increase or decrease in the GMP resulting from a change in the Work shall be determined by one or more of the following methods:

9.4.1.1 Unit prices as agreed to between the parties;

9.4.1.2 A mutually accepted lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner; or

9.4.1.3 Costs, fees and any other markups as defined as a Cost of the Work and the Fee in the Agreement.

9.4.2 If Owner and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by Owner, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Owner and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Owner...
with a good faith estimate of the costs to perform the disputed services in accordance with Owner’s interpretations. If the parties are unable to agree and Owner expects Design-Builder to perform the services in accordance with Owner’s interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Owner issuing a written order to Design-Builder (i) directing Design-Builder to proceed and (ii) specifying Owner’s interpretation of the services that are to be performed.

9.5 Emergencies.

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the GMP and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9 or in accordance with provisions of the Agreement applicable to Force Majeure events.

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief.

10.1.1 If either Design-Builder or Owner believes that it is entitled to relief against the other for any event arising out of or related to the Work or Project, such party shall provide written notice to the other party of the basis for its claim for relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions. Written notice of Design-Builder shall be given within a reasonable time, not to exceed twenty-one (21) days, after the occurrence giving rise to the claim for relief; otherwise the right to pursue a later Claim is waived. Such notice shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

10.2 Dispute Avoidance and Resolution.

10.2.1 Design-Builder and Owner are committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design-Builder and Owner each commit to resolving such disputes or disagreements in an amicable, professional, and expeditious manner so as to avoid unnecessary losses, delays, and disruptions to the Work.

10.2.2 Design-Builder and Owner will first attempt to resolve disputes or disagreements directly within twenty-one (21) days of the written notice required under Section 10.1 unless Owner and Design-Builder mutually agree otherwise.

10.2.3 If, after direct discussions, the parties determine that the dispute or disagreement cannot be resolved on terms satisfactory to both parties, Owner and Design-Builder may jointly engage a third party neutral who shall assist in addressing and resolving the dispute. Owner and Design-Builder shall share equally any costs related to engagement of the third party neutral.

10.2.4 If a dispute or disagreement cannot be resolved through third party neutral efforts, then a Claim can be submitted. Senior representatives will meet as soon as conveniently possible, but in no case later than twenty-one (21) days after submission of the Claim. No fewer than five (5) days prior to the meeting, Owner and Design-Builder will exchange information relevant to the Claim.

10.3 Mediation.

10.3.1 Any Claim that has not been resolved in accordance with the procedures set forth in Section 10.2, will be subject to non-binding mediation following Substantial Completion. A request
for mediation will be filed in writing with the other party to the Contract, and the parties will promptly attempt to mutually agree upon a mediator. If the parties have not reached agreement on a mediator within thirty (30) days of the request, either party may file the request with the American Arbitration Association or such other alternative dispute resolution service to which the parties agree, with a copy to the other party, and the mediation will be administered by the American Arbitration Association (or other agreed service) in accordance with its Construction Industry Mediation Procedures currently in effect as of the Effective Date. Mediation will proceed in advance of binding dispute resolution proceedings, which will be stayed pending the completion of mediation. The parties to the mediation will share the mediator’s fee and any filing fees equally. The mediation will be held in Seattle, Washington, unless another location is mutually agreed upon. Agreements reached in mediation will be enforceable as settlement agreements in any court having jurisdiction thereof. Representatives of each party with decision-making authority must attend the mediation session with authority to settle any Claim.

10.4 Litigation.

10.4.1 Any Claim that has not been resolved in accordance with the procedures set forth in Sections 10.1, 10.2, and 10.3 will be decided by litigation, unless mutually agreed in writing otherwise. All unresolved Claims of Design-Builder will be waived and released unless Design-Builder has complied with the time limits of the Contract Documents, and litigation is served and filed no later than one hundred twenty (120) days after the Substantial Completion date of the entire Work. This requirement cannot be waived except by an explicit written waiver signed by Owner and Design-Builder. The pendency of mediation will toll these deadlines until the earlier of the mediator providing written notice to the parties of impasse or thirty (30) days after the last mediation session ended with no further sessions scheduled by the mediator. Design-Builder is barred from offering in litigation any evidence of facts or legal theories that Design-Builder did not offer or assert in the written Claim provided prior to the mediation.

10.5 Duty to Continue Performance.

10.5.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any dispute or disagreement between Design-Builder and Owner.

10.6 Consequential Damages.

10.6.1 Notwithstanding Anything Herein To The Contrary (Except As Set Forth In Section 10.6.2 Below), Neither Design-Builder Nor Owner Shall Be Liable To The Other For Any Consequential Losses Or Damages, Whether Arising In Contract, Warranty, Tort (Including Negligence), Strict Liability Or Otherwise, Including But Not Limited To Losses Of Use, Profits, Business, Reputation Or Financing.

10.6.2 In addition, this limitation shall not affect either party’s duty to indemnify the other with respect to claims by third parties arising out of bodily injury or property damage, or the insurance requirements of the Agreement.

Article 11

Stop Work and Termination for Cause

11.1 Owner’s Right to Stop Work.

11.1.1 Owner may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed sixty (60) consecutive days or aggregate more than ninety (90) days during the duration of the Project.
11.1.2 Design-Builder is entitled to seek an adjustment of the GMP and/or Contract Time(s) if its cost or time to perform the Work has been adversely impacted by any suspension of stoppage of the Work by Owner which is not caused by the acts of the Design Builder or its agents, Consultants or Subcontractors.

11.2 Owner’s Right to Perform and Terminate for Cause.

11.2.1 If Design-Builder materially fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Design Consultants or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below.

11.2.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem identified is cured, or commenced to be cured, within seven (7) days of Design-Builder’s receipt of such notice. If Design-Builder fails to cure, or reasonably commence to cure, such problem, then Owner may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Owner may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration.

11.2.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the GMP exceeds the cost and expense incurred by Owner in completing the Work, such excess shall be paid by Owner to Design-Builder. Notwithstanding the preceding sentence, if the Agreement establishes a Guaranteed Maximum Price, Design-Builder will only be entitled to be paid for Work performed prior to its default. If Owner’s cost and expense of completing the Work exceeds the unpaid balance of the GMP, then Design-Builder shall be obligated to pay the difference to Owner. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys’ fees and expenses, incurred by Owner in connection with the re-procurement and defense of claims arising from Design-Builder’s default, subject to the waiver of consequential damages set forth in Section 10.6 hereof.

11.2.4 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Article 8 of the Agreement.

11.3 Design-Builder’s Right to Terminate for Cause.

11.3.1 Design-Builder, in addition to any other rights and remedies provided in the Contract Documents or by law, may terminate the Agreement for cause for the following reasons:

11.3.1.1 The Work has been stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, because of court order, any government authority having jurisdiction over the Work, or orders by Owner under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.
11.3.1.2 Owner’s failure to provide Design-Builder with any information, permits or approvals that are Owner’s responsibility under the Contract Documents which result in the Work being stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, even though Owner has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 hereof.

11.3.1.3 Owner’s failure to cure the problems set forth in Section 11.4.1.2 above after Design-Builder has stopped the Work.

11.3.2 Upon the occurrence of an event set forth in Section 11.3.1 above, Design-Builder may provide written notice to Owner that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Owner’s receipt of such notice. If Owner fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Owner of its intent to terminate within an additional seven (7) day period. If Owner, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Owner of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Owner had terminated the Agreement for its convenience under Article 8 of the Agreement.

11.4 Bankruptcy of Design-Builder.

11.4.1 If Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code, such event may impair or frustrate Design-Builder’s ability to perform its obligations under the Contract Documents. Accordingly, should such event occur.

11.4.1.1 Design-Builder, its trustee or other successor, shall furnish, upon request of Owner, adequate assurance of the ability of Design-Builder to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

11.4.1.2 Design-Builder shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If Design-Builder fails to comply with its foregoing obligations, Owner shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to Owner under this Article 11.

11.4.2 The rights and remedies under Section 11.4.1 above shall not be deemed to limit the ability of Owner to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code.

Article 12

Electronic Data

12.1 Electronic Data.

12.1.1 The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively “Electronic Data”).

12.2 Transmission of Electronic Data.
12.2.1 Owner and Design-Builder shall agree upon the software and the format for the
transmission of Electronic Data. Each party shall be responsible for securing the legal rights to
access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of
the applicable software or electronic program to display, interpret and/or generate the Electronic
Data.

12.2.2 Neither party makes any representations or warranties to the other with respect to the
functionality of the software or computer program associated with the electronic transmission of
Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does
not include ownership of the software or computer program with which it is associated, transmitted,
generated or interpreted.

12.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or
assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article
4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be
deemed to be a sale by the transmitting party of tangible goods.

12.3 Electronic Data Protocol.

12.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or
otherwise, due to occurrences beyond their reasonable control or knowledge, including but not
limited to compatibility issues with user software, manipulation by the recipient, errors in
transcription or transmission, machine error, environmental factors, and operator error. Consequently,
the parties understand that there is some level of increased risk in the use of
Electronic Data for the communication of design and construction information and, in consideration
of this, agree, and shall require their independent contractors, Subcontractors and Design
Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

12.3.2 Electronic Data will be transmitted in the format agreed upon in Section 12.2.1 above,
including file conventions and document properties, unless prior arrangements are made in
advance in writing.

12.3.3 The Electronic Data represents the information at a particular point in time and is subject
to change. Therefore, the parties shall agree upon protocols for notification by the author to the
recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall
also address the duty, if any, to update such information, data or other information contained in the
electronic media if such information changes prior to Final Completion of the Project.

12.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including,
but not limited to, implied warranties of merchantability and fitness for a particular purpose, with
respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data
via electronic means shall not invalidate or negate any duties pursuant to the applicable standard
of care with respect to the creation of the Electronic Data, unless such data is materially changed
or altered after it is transmitted to the receiving party, and the transmitting party did not participate
in such change or alteration.

Article 13

Miscellaneous

13.1 Compliance with Washington Law.

13.1.1 Design-Builder shall abide by the provisions of all applicable Washington statutes and
regulations. Although a number of statutes are referenced in the Contract Documents, these
references are not meant to be a complete list and should not be relied upon as such.
13.1.2 Pursuant to RCW 39.06, “Registration, Licensing of Contractors,” Design-Builder shall be registered and licensed as required by the laws of the State of Washington, including but not limited to RCW 18.27. Design-Builder shall also have a current State unified business identifier number; have industrial insurance coverage for Design-Builder’s employees working in Washington as required in Title 51 RCW; have necessary licenses to perform the design work required by the Contract Documents; have an employment security department number as required in Title 50 RCW; have a State excise tax registration number as required in Title 82 RCW, and; not be disqualified from bidding on any public works contract under RCW 39.06.010 (unregistered or unlicensed contractors) or RCW 39.12.065(3) (prevailing wage violations).

13.2 Assignment.

13.2.1 Design-Builder shall not assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents without the written consent of Owner.

13.3 Successorship.

13.3.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

13.4 Governing Law.

13.4.1 The Agreement and all Contract Documents shall be governed by the laws of the State of Washington. Venue shall be in the King County Superior Court.

13.5 Severability.

13.5.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.6 No Waiver.

13.6.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.7 Headings.

13.7.1 The headings used in these General Conditions, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.8 Notice.

13.8.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement, or (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the facsimile number of the intended recipient.

13.9 Amendments.
13.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

13.10 Information to CPARB.

As required by RCW 39.10.320(1)(e), Design-Builder, Subcontractors of any tier, and the Design Consultant shall submit Project information required by the Capital Projects Advisory Review Board.

13.11 Right to Audit

The Owner reserves the right to request, up to 6 years after project completion, and audit all records, documents, plans, drawings, estimates, or similar created to perform the Work of the Project. Records may be subject to the Public Disclosure Act. It will be at the Owner’s discretion the audit process that will be used. Design-Builder shall provide the records requested within 10 working days, unless and alternative timeframe is agreed by the Parties.

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Executive Summary

Project Statement

University of Washington (UW) Recreation has requested a study be performed to evaluate the potential and efficacy of renovating the Intramural Activities (IMA) Building, in order to increase capacity and better serve the University's current and future demographics. The scope of the project includes the study examines renovations to existing locker room facilities to provide both gendered and gender inclusive accommodations. Maintaining continuous operation of the IMA Building during construction is imperative to the success of any construction effort. The primary purpose for this study is to provide a clear path forward that considers all potential risks for construction of the new design.

Summary of Engineering Reviews

The site was visited by engineering specialists of each affected system. The following is a brief summary of the findings:

1. Architecture suggests two pool size options for cost comparison and phased construction to keep the locker rooms operational as much as possible. Increasing visual access to the pool at the north wall will improve visibility of the amenity from the corridor. Increasing the glazed area of the south wall would also improve access to daylight for the users of the pool.

2. Code review verified acceptable plumbing fixture counts and egress provisions are incorporated into Option 1.

3. Civil review found existing utility systems will generally not be affected by the proposed expansion. Expansion may have impact on minor roof drainage lines and will require bioretention of stormwater from the new roof area.

4. Landscape suggests improving the lighting at the pedestrian pathway, south of the proposed addition, to increase safety.

5. Structural recommendations for the building expansion include: new drilled piers with direct connection to grade beams for support of the pool and new building components, new post and beam support at the existing east and west walls for the new roof, relieving concern for overloading the existing wall construction, and removal of the abandoned concrete stadium seating at the north wall is a feasible approach for increasing visual access to the corridor by replacing the existing concrete wall and slab system with a new lightweight steel framed floor system.

6. Mechanical recommendations include: a new roof mounted air handling unit (AHU) for the natatorium, in order to provide heating, cooling and de-humidification, full replacement of the ductwork over the pool, new ventilation and exhaust fans for the locker spaces, and replacement of hydronic radiators in the locker spaces.

7. Plumbing suggests the systems should be reused, pending visual inspection.

8. Electrical recommendations include: the existing primary service and main switchboard should remain, and all panels, except the main switchboard PCM-00-N00 (PCM = Power Center Main, per UW FSDG) and distribution board PCD-00-N01 (PCD = Power Center Distribution Panel, per UW FSDG), should be replaced with new panels, new step-down transformers, and new feeders to the panels/transformers from the main switchboard.

9. Lighting suggests new light fixtures will employ light emitting diode (LED) light sources. Incandescent, fluorescent, and metal halide sources should not be used on this project. All lighting used on this project needs to conform to all applicable codes and standards, including the Seattle Energy Code (SEC).

10. Fire Alarm suggests new fire alarm devices including speaker-strobes, strobes, manual pull stations, and smoke detectors be provided throughout the reconfigured spaces.

11. Aquatics suggests multiple options, each with their own benefits and liabilities.
Executive Summary

Risk Analysis
The study identifies three key risks to the project:

1. Triggering a substantial alteration per Seattle Existing Building Code (SEBC) Section 304.
2. Variation in market construction costs or system requirements from the date of this study.
3. Structural, environmental, and permitting requirements due to adjacency Montlake Landfill.

Project Cost Estimate
Throughout the predesign process, the design team and stakeholders considered a range of alternative to address the needs identified in this study.

1. Stand-Alone Greenfield Pool and Locker Rooms
2. Phase 0: Mobilization
3. Phase 1: Pool Expansion
   a. Option 1 - 16 Lane Pool
   b. Option 2 - 9 Lane Pool
4. Phase 1 and 2: Gender Inclusive Locker Room and Gendered Locker Rooms
Architectural

Introduction

SRG evaluated the potential and efficacy of an expansion of the existing lap pool in the Intramural Activities (IMA) Building. In addition to an expansion of the pool, the project also seeks to renovate the existing locker rooms by modifying the men's locker room to a gender inclusive locker room, and by modifying the women's locker room to provide segregated locker rooms for both men and women. We provided two pool options for cost estimate and proposed phased construction sequence to minimize impact to activities in the building.

IMA Building

Initial construction in 1966 the building experienced multiple renovations and additions over the years. The basement (first floor) had an approximate area of 62,600 square feet (SF) and the main floor (second floor) had an approximate area of 80,600 SF. The design emphasized four quadrants with each quadrant providing a large multi-purpose gymnasium, with storage rooms on the second floor level. The quadrants were constructed with site-cast concrete columns and beams that provided for an overhang of 16’ from the floor below. The overhang reduces the grade level impact on the east side providing space for public use and paved areas at the north and south for maintenance activities and parking. The building also contained a partial upper story with gallery spaces looking into handball and squash courts.

A six seven-foot lane lap pool and deep dive area is located in the basement level adjacent to men's, women's, and accessible locker rooms. The pool with high ceiling and glazed partition between the room and the lounge make the pool visible from level above. Below the main floor lounge, first aid, office, custodial, and accessible locker room are located between the pool and corridor. Adjacent existing men's, Women's, and accessible locker rooms have direct access to the pool. A sun court located in south of pool allow visual connection to exterior (Figure A-1).

Sustainability

The University of Washington is committed to sustainability and implementing best practices in environmentally responsible construction for every new building and major capital renovation. The $25M budget for this project makes it a major capital renovation; therefore, this project will be required to meet established sustainability goals, generally as follows:

1. Overall Sustainability Rating: LEED Gold; Seattle's Living Building Challenge, or another specific certification.
2. Energy Efficiency: Design to reduce energy use with a minimum threshold of 15% greater efficiency than required by the SEC.
3. Reduced Potable Water: Using current code as a baseline, design to achieve at least 50% reduction for indoor and outdoor potable water use.

The Project Committee has consistently represented the students regarding their expectations for a project that addresses sustainability. The students expect measures be taken to address reduced energy, reduced water use, and rainwater capture.

Measures to capture these energy and water-saving opportunities are being addressed in the Cost Estimate:

1. It is observed from the results of our Aquatics review that altering the filtration system for the pool can greatly reduce water use.
2. New plumbing fixtures can result in water savings.
3. Upgrading the mechanical equipment can result in improved efficiencies.
4. Lighting alterations that utilize the best market value fixtures result in reduced energy use.
5. Alterations to the exterior envelope will capture energy use improvements.
Architecture

Process

The design team worked with UW representatives, including Recreation, Capital Planning and Development, Facilities, and Facilities Project Delivery. The design team engaged in preliminary programming and planning discussions with project stakeholders, gathered existing documentation, studied precedence of gender inclusive locker room design of other major universities, investigated existing site and building conditions, evaluated code requirements, and provided iterative cost estimates to align scope and budget with capital campaign targets. See Appendix for Meeting Minutes and Precedent Studies.

The proposal is designed to meet following primary goals.

1. Provide expanded capacity of the swimming pool.
2. Provide inclusive locker room.
3. Maintain continuous operation of the facility during construction.

Stakeholders reviewed layouts for the pool and locker room upgrades prior to the engineering reviews and agreed to the following proposals:

1. A stand-alone greenfield pool and locker room building at undetermined location within the vicinity of the IMA Building was considered to benchmark the cost of a new facility versus renovation of the existing facility. The proposed building program includes 8 foot wide 10 lane lap pool gender inclusive locker rooms. The locker room also contains “cabana” style single occupant restrooms with shower, lavatory, toilet and dressing area. Gender neutral single use cabana rooms, first aid office, equipment, storage, and support spaces are accounted into the program.

2. Phase 0 (Figure A-2 and A-5): Mobilization
   a. The first stage of the work is temporary construction and intended to be relatively quickly completed to keep the facility operating. It is necessary in order to gain construction access in the existing men's locker room and ancillary pool spaces. During this phase new partitions will divide existing women's locker room into two approximately equal areas to serve as temporary men's and women's locker facilities during phase 1 construction. New doors will be added to exit the locker rooms to meet egress needs. A new entry to the temporary men's locker room will be added. An existing issues equipment room and custodial rooms adjacent to the locker rooms remain operational during the construction. West half of existing women's locker room was added in 1982. The addition provided more lavatory, toilets and gang type shower. The showers needs partitions and curtains for privacy. East half of the locker room is equipped with fewer water-closets and does not have accessible water-closet nor showering facility compliant with current code. Seattle Building Code requires higher plumbing fixture count for female. This provision of toileting suggests the women's locker room be at the west side. Fixture counts during construction shall be verified and may need to be supplemented to in order to serve the needs.

3. Phase 1 (Figure A-3, A-4 and A-5): Pool and ancillary space renovation and remodeling of existing men's locker room to gender inclusive locker room. The bulk of the construction activity will occur during this phase.
   a. Inclusive locker room: The existing men's locker room will be remodeled into a gender inclusive locker room. Entry into the room will be relocated to the end of main corridor for better access. Dry changing rooms will be located along east exterior wall adjacent to main full height lockers. No dead end should be created for safety. Wet area consist of cabana and toilets. All accessible cabana style rooms are at north and south along the locker room perimeter walls. Proposed lockers in wet area will be shorter to allow visibility for cueing and safety. Each toilets in the locker room will be enclosed in full height partitions and doors for privacy. Lockers are assumed to be 12” wide with undermined numbers of tiers. Access to pool will be moved to existing equipment room between cabanas and wet and dry saunas. A layout is provided for the locker room.

   b. Pool deck: Existing north wall is proposed to be removed and replaced with transparent glazing with entry doors, enlarging pool deck area and creates visual connection to facility users in the corridor. For visibility and safety wet and dry saunas, first aid/office with toilet, treatment area, and ice machine will be accessed from pool deck.

   c. Pool expansion: Two options are provided. Both option assumes concrete vassal with updated deck level gutter for safety and access ramp, rather than lifting equipment, into the pool.
i. Option 1 - This is preferred option. The pool expands to sixteen eight-foot wide lanes with deep lanes at south end of pool. This requires an alteration to the existing building envelope. Increasing the glazed area of the south wall will improve access to daylight for the users of the pool (Figure A-6). Four south most lanes will be a deep area, which allows the pool to benefit some programs including but not limited to environmental health and safety, ROTC, Water polo, and aqua jogging. An access ramp will be located at north end. Note this option can provide eighteen seven-foot wide lanes depending on program needs.

ii. Option 2 - Modifies the existing pool configuration but maintains the existing building envelope, resulting in nine, seven-foot wide lap lanes. Note this option can provide eight eight-foot wide lanes depending on program needs.

4. Phase 2 (Figure A-3, A-4 and A-5): Complete locker rooms renovation.

a. Complete the modification to the segregated men’s and women’s locker rooms, west of the pool. Some temporarily partitions and door will be removed. Following revisions are proposed: Removal of the sauna; provision of stand-alone shower stalls; revised toileting provisions; and provide direct access to the pool from both locker rooms.
Figure A-1: Existing Level 1 Plan
LEVEL 1 PLAN - PHASE 0
University of Washington

IMA POOL and LOCKER UPGRADES

Figure A-2: Level 1 Plan- Phase 0
LEVEL 1 PLAN - POOL OPTION 1

University of Washington

IMA POOL and LOCKER UPGRADES

SRG

Figure A-3: Level 1 Plan- Phase 1 And 2 Pool Option 1
LEVEL 1 PLAN - POOL OPTION 2
University of Washington
IMA POOL and LOCKER UPGRADES

Figure A-4: Level 1 Plan- Phase 1 And 2 Pool Option 2
Figure A-5: Phase Diagram
Figure A-6: Option 1 Rendering (View From Level 2 Lounge).
Code Review and Compliance

Holmes Fire has reviewed the provided documentation by SRG Partnership and performed a brief walk-through of the building (4th December 2019) to understand the impact of the expansion and renovations. Additionally, an egress analysis for the existing building documenting the current conditions has been provided separately. See Appendix for Egress Evaluation.

Overview

This Fire Protection and Life Safety Code Review provides a Validation Study level overview of the key issues relating to fire and life safety that are required to be included in the IMA Building, located at the University of Washington in Seattle, Washington.

The applicable code will be the version of the Seattle Building Code (SBC), and the Seattle Existing Building Code (SEBC) in effect at the time of building permit submission. The current 2015 version of the SBC and SEBC will be replaced on July 1 of 2020 with the 2018 version. Final 2018 amendments have not been published by the Seattle Department of Construction and Inspections (SDCI). This summary utilizes the 2015 provisions combined without understanding of the 2018 provisions that will likely be adopted. We do not anticipate any major changes.

This report section is a summary of requirements intended to inform the design team and the University of the code requirements based upon the Validation Study. It is not intended to be a final summary of code requirements or a specification for bidding or construction purposes.

Building Description

The IMA Building is an existing, four-story building that is undergoing a renovation on the first level, which includes an expansion of the pool. The construction type for the original building was Uniform Building Code (UBC) Type I-FR construction. The SBC construction classification that closest matches UBC Type I-FR is SBC Type I-A construction. The building is primarily a Group A-3 Occupancy with indoor activities (without spectator seating) including a swimming pool, squash courts, weight rooms, etc. The total floor area that is being renovated is 47,000 SF, which includes the expansion of the pool by 7,200 SF. The existing building has a total floor area of approximately 265,000 SF, which means that the renovation covers 18 percent of the building area. In accordance with Section 503 of the SEBC, the work falls under the scope of a Level 2 Alteration.

Substantial Alteration

SDCI has the authority to determine if the proposed alterations are potentially classified as a “Substantial Alteration” in accordance with Section 304 of the SEBC. A substantial alteration means any of the following, as determined by the code official:

1. Repair of a building with a damage ratio of 60 percent or more.
2. Remodeling or an addition that substantially extends the useful physical or economic life of the building or a significant portion of the building, other than typical tenant remodeling.
3. A change of a significant portion of a building to an occupancy that is more hazardous than the existing occupancy, based on the combined life and fire risk as determined by the code official.
4. Re-occupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R-3.
5. A significant increase in the occupant load of an unreinforced masonry building.

A substantial alteration is not considered to be triggered by items 1, 3, 4, or 5 in the list above. The building is not undergoing any repair work, change of occupancy, has not been unoccupied for more than 24 months, nor is it an unreinforced masonry building.

The item that has potential to classify the work as a substantial alteration is item 2. The building is undergoing both a renovation and an addition that has the potential to extend the useful physical and economic life of part of the building. SDCI document “Tip 314” states that routine maintenance of a building (painting, replacement of lights or plumbing fixtures), by itself, will not trigger a substantial alteration. However, when routine maintenance has been delayed to the point where the building has suffered significant deterioration and requires expensive restoration, it may be considered a substantial alteration. For the typical project, if the cost is high relative to the value of the building, it will be considered a substantial alteration.
The parts of the renovation that include painting or laying new carpet are not considered to contribute to item 2 with regards to a substantial alteration. SDCI generally utilizes a "two system" rule, where if two or more building systems are altered, a substantial alteration will be discussed. A potential upgrade to the mechanical system on the first level, combined with an alteration to the building facade due to the pool expansion, may contribute to the work being classified as a substantial alteration.

A substantial alteration requires the building to conform with the requirements of the following sections of the SBC:

1. Section 717 Ducts and Air Transfer Openings.
2. Chapter 8 Interior Finishes.
4. Sections 909.20.5, 909.20.6 and 909.21 for Stairway Pressurization, ventilation and hoistway pressurization.
5. Chapter 10 Means of Egress.

Furthermore, the building is required to comply with 305.4.2 of the SEBC for seismic regulations, and Section C503.8 of the SEC.

Classifying the project as a substantial alteration will have some potentially significant implications. Conforming to the relevant requirements of the SBC is not anticipated to have a major impact on the project as the renovations will be designed to comply in the area of work regardless of being a substantial alteration or not. However, complying with Section 305.4.2 of the SEBC and Section C503.8 of the SEC has the potential for significant seismic and energy efficiency implications and will require a study of the existing building in greater detail.

1. Section 305.4.2 requires an investigation and structural analysis of the existing building, followed up with a report which specifies the building's seismic deficiencies and further propose measures that will provide an acceptable degree of seismic safety of the building.
2. Section C503.8 requires an assessment of the energy efficiency of the existing building. A pre-submittal conference with SDCI is required to discuss the compliance path selected for the building. Prior to the conference, the University is required to meet with each energy utility serving the building to determine whether technical assistance or financial incentives are available for energy efficiency upgrades. These meetings are to be documented and submitted prior to the conference.

The final determination is made by the code official. It is recommended to schedule a pre-application meeting with SDCI to discuss the proposed design and how it relates to a substantial alteration.

**Code Review**

A code review of the proposed expansion and renovation has been performed, and the following has been noted:

1. The occupant load on the first level is increased. The egress from the first level will require additional exits.
   a. The pool expansion will have an occupant load greater than 500 and will require three exits. The pool area will be designed to serve half of the occupants from the new men's and women's locker rooms, for a total of 629 occupants. It is proposed that two new exits with access direct to the outside are constructed on the east and west end of the expansion, on gridlines G and O, respectively. The third exit is proposed to be via the existing common passageway and out through one or more of the existing exits on the floor.
   b. The increased occupant load will result in a heavier loading on the main stairway (Stair 8) and the existing exit 100P between the racquetball suite and the exercise rooms. A preliminary review indicates that these exits do not have the capacity to take on a third of the pool occupant load. 1005.5 commentary indicates that it is not required for the egress capacity to equally distributed when more than two means of egress are provided. It is therefore possible to design the new pool exits to take on a larger capacity to alleviate the rest of the exits from the level. A proposed distribution is roughly 40% of occupants to each of the new exits and 20% of occupants to egress through the existing building, which is less than the current design.
2. The Washington Administrative Code (WAC) 246-260-041 for swimming pool design requires the following:
a. that the walking deck surface for pools larger than 1,500 square feet be six feet wide on 50% of the perimeter of indoor pools. The remaining 50% of the perimeter is required to be four feet wide. The existing walking surface on the east side of the pool is approximately four feet seven inches, and four feet nine inches on the west side.

b. that the walking deck surface for pools larger than 1,500 square feet be at least 16 square feet per bather. The number of bathers is calculated differently when compared to the SBC, and the result is approximately 390 bathers. This requires the total walking deck surface to be 6,200 square feet, which is greater than the proposed 5,000 square feet. However, if the owner provides maximum facility occupancy loading less than the 390 calculated, and the occupancy limit is posted and enforced, that loading may be used in lieu of the maximum bather load.

3. A preliminary plumbing fixture count based on the occupant of the building is provided in Table C-1 in accordance with Section 29 in the Seattle Building Code.

4. The number of existing plumbing fixtures in the building is provided in Table C-2. The current number of female WC’s does not meet the code requirements, while the number of male WC’s significantly exceed the code requirements. The proposed design intends to install approximately 12 new gender inclusive WC’s and convert the men’s locker room to a shared locker room which means that nine of the existing male WC’s will be accessible by all genders. It is not confirmed whether or not King County will count the gender inclusive plumbing fixtures as part of the total for the building. It is recommended that a pre-design meeting is scheduled with King County to discuss gender inclusive fixtures and other potential items. Note, locker rooms built within the City of Seattle are currently being reviewed by King County.

5. Table C-3 provides a preliminary plumbing fixture calculation for the building during the construction phase of the project. Phase 1 where the existing men’s locker room is undergoing renovations is considered the worst-case scenario where the largest number of WC’s and lavatories are unavailable to the occupants of the building. Supplementary fixtures will be required during the construction.
### Table C-1: Preliminary Plumbing Fixture Calculations

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<thead>
<tr>
<th>Level</th>
<th>Occ. load</th>
<th>WC</th>
<th>Lavatory</th>
<th>Drinking fountains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>Ratio M</td>
<td># M</td>
</tr>
<tr>
<td>First Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool – A-4</td>
<td>272</td>
<td>272</td>
<td>1:75</td>
<td>3.63</td>
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<tr>
<td>Rest – A-3</td>
<td>574</td>
<td>574</td>
<td>1:125</td>
<td>4.59</td>
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<tr>
<td>Second Level</td>
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<td>1:125</td>
<td>8.74</td>
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<td>Third Level</td>
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<td>187</td>
<td>1:125</td>
<td>1.50</td>
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<tr>
<td>Fourth Level</td>
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<td>145</td>
<td>1:125</td>
<td>1.16</td>
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<tr>
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<td></td>
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<td></td>
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### Table C-2: Existing Plumbing Fixture Count

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<th>Level</th>
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<th># F</th>
<th>Gender neutral</th>
<th># M</th>
<th># F</th>
<th>Gender neutral</th>
<th>Drilling fountains</th>
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<tr>
<td>First Level</td>
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<td>10</td>
<td>3</td>
<td>14</td>
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<tr>
<td>Second Level</td>
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<td>0</td>
<td>4</td>
<td>4</td>
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<td>Third Level</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Fourth Level</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
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<td>20</td>
<td>13</td>
<td>4 = 37</td>
<td>21</td>
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### Table C-3: Preliminary Plumbing Fixture Count During Phase 1 Construction

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<tr>
<th>Occ. load</th>
<th>WC</th>
<th>Lavatory</th>
<th>Drinking fountains</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>Ratio M</td>
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<tr>
<td>First Level</td>
<td></td>
<td></td>
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<tr>
<td>Pool – A-4</td>
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<td>0</td>
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<tr>
<td>Rest – A-3</td>
<td>410</td>
<td>410</td>
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<tr>
<td>Second Level</td>
<td>1,092</td>
<td>1,092</td>
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<tr>
<td>Third Level</td>
<td>187</td>
<td>187</td>
<td>1:125</td>
</tr>
<tr>
<td>Fourth Level</td>
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<td>1:125</td>
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<tr>
<td>TOTAL</td>
<td></td>
<td></td>
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<tr>
<td>Required</td>
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<td>9.18 + 9.18 = 19</td>
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</table>

UNIVERSITY OF WASHINGTON / UW IMA POOL AND LOCKER UPGRADE / VALIDATION STUDY - FINAL DRAFT 25
Civil - Site Infrastructure

This report addresses the potential impacts to existing infrastructure and the requirements for new infrastructure as a result of the proposed IMA Pool Expansion. The pool expansion will occur within the existing walled courtyard immediately south of the IMA pool.

KPFF Consulting Engineers reviewed UW campus utility maps, IMA record documents and walked the site to understand the existing conditions. Our conclusions are as follows:

1. Existing utility systems will generally not be affected by the proposed expansion.
   a. The alley between the IMA and the tennis courts has a high point in its profile at the courtyard so stormwater runoff sheet-flows east and west to catch basins away from the courtyard. Area drains within the courtyard will no longer be necessary and foundation drains adjacent to the exterior IMA footprint will need to re-routed to the exterior of the new building footprint.
   b. Sanitary sewers, water mains and communication duct banks are well clear of the proposed building footprint. Power duct banks are routed within Snohomish Lane for the east-west routing in this vicinity, so we would not anticipate power infrastructure within the proposed building footprint except for minor lighting conduit serving lights within the courtyard that will be removed.
   c. An existing natural gas main is just south of the courtyard wall, which is also outside the proposed building footprint so this utility should be safe to remain as is.
   d. Methane collection piping and venting will be necessary under the new building footprint since it is within the 1000’ buffer of the Montlake Landfill.

2. There are several trees within the existing courtyard that should be identified as to whether or not they are considered an Exceptional tree or other status that would require extra time and expense to obtain permits for removal. See Landscape.

3. The proposed project expansion will create more than 5,000 SF of new or replaced hard surfaces that will trigger on-site stormwater management as required by the Seattle Drainage Code. Typically for this area of campus, the most feasible application is a non-infiltrating bioretention planter. Based on the Option 1 pool expansion beyond the existing envelope, new/replaced hard surfaces would be approximately 15,000 SF requiring a bottom bioretention footprint of 840 SF. This planter would be installed adjacent to the building in raised structured planters so that the roof downspouts could discharge directly to the planters. The size of the bioretention planter required is too large for one, so plan for several (2 or 3) to obtain the required footprint. A surface planter with side slopes is not practical for this site because there is little room available for the required footprint and the surrounding grades are flat and stormwater infrastructure shallow creating a challenging hydraulic condition.

4. Flow control (stormwater detention) is not required for this site as the storm drain discharged directly to Lake Washington. Water quality facilities are not likely required as it appears that new/replaced pollution generating surfaces will not exceed 5,000 SF.

5. The proposed building footprint will need to provide enough width for fire truck access. It appears the building footprint will easily allow the minimum 20’ width with buffers.
**Landscape – Campus Site**

The evaluation of the landscape and campus site addresses issues of physical context, planning context associated with the University Master Plan, programmatic needs such as access for all modes, adjacent relationships and potential opportunities. This is an outgrowth of visiting the site and reviewing planning documents.

**Physical Context**

The site includes the area to the south of the existing IMA Building and while the primary focus of the site is immediately adjacent to the proposed expansion, the extent includes areas to the east and west for purposes of larger campus function. Immediately to the south of the building is an enclosed landscaped and paved courtyard with planting islands including large trees. To the south is a paved east-west access corridor approximately 15’ wide at the most narrow location and defined on it’s southern limit by tennis court fencing. The existing doors exiting into the courtyard are reported to be rarely used and the use of the courtyard is limited. At the minimum, the courtyard serves as a visual extension of the pool area. Other building doors provide access to electrical and the corridor is the only opportunity for pedestrian, service, emergency and fire access on the south side of the IMA.

The existing height of the IMA Building results in partial shade throughout the day and seasons with access to southern light. The majority of the site is relatively level with limited topography and is defined on the western side of the IMA Building by a significant grade change of approximately 15’ to 18’. The topography creates a sheltered corridor from the predominant winds and results in one of many ‘secret’ campus routes. Concurrently, the grade change limits ADA access to the corridor. Vegetation in the area is limited to the previously mentioned trees, lawn areas and the western vegetated slope. Trees may be considered to be significant trees with client to confirm. The character of the area is defined by building, paving and fencing. Lighting is limited to what appears to be security ‘yard lights’, located to address at a minimal level, the immediate need for security lighting without addressing the development of a safe campus pedestrian corridor.

**Campus Planning Context**

The 2017 University of Washington Final Master Plan illustrates the 10-year conceptual plan for the east campus and the major change in the immediate area includes an identified building site with a maximum gross square feet of 150,000 to the south of the IMA Building, replacing the existing tennis courts with the retention of the existing open space connection. The height limit for this building is 65’, which will reduce available sunlight and increase the sense of the existing open space as a tight corridor. See Appendix for UW Campus Master Plan Excerpt.

The Master Plan illustrates pedestrian circulation using existing routes and while it is silent on the existing corridor, the corridor is a valuable example of informal smaller routes that connect the campus in an area of large buildings, which block pedestrian connections. Informal corridors on the campus provide a system of shortcuts and campus networks. The south IMA Building corridor is currently designed as primarily a service – back – of – house area and is not contributing to the campus network.

**Programmatic Function**

The corridor and courtyard immediately north of the expansion area meets multiple functions and provide vehicular access and pedestrian east –west campus connection. Fire access needs requires verification. The current character of the corridor is not pedestrian friendly and is lacking in lighting and other Crime Prevention Through Environmental Design (CPTED) features that would make it a safe evening pedestrian corridor.

The combination of building windows and the courtyard brings light into the building and creates a visual connection between the interior pool area and the courtyard. The courtyard was designed to be used with access from the pool deck. This function is not currently occurring.

**Observations**

The following are observations and conclusions:

1. Campus Corridor:
   a. The existing open space campus corridor will need to remain to serve the existing and future buildings.
   b. Upgrading the east – west corridor with paving, lighting and vegetation to create an identifiable, pedestrian and mix use corridor will serve campus users. Maintain and confirm vehicular and fire access requirements.
Landscape

c. Introduce pedestrian scale lighting to increase pedestrian scale and address CPTED issues.

2. Courtyard and Building Relationship:

a. Confirm existing tree status as exceptional trees.

b. Confirm desirability and need for pedestrian access from building to exterior including code-required access to the public way.

c. Evaluate the size and relationship of the courtyard and exterior space in relationship to the IMA pool and future building to the south. The opportunity exists to create campus exterior spaces, which serve the current needs and the future campus.

d. Include evaluation of changed solar exposure and open space design characteristics with the future building.

e. Integrate storm water management to create a courtyard feature.

f. Confirm desirability and need for pedestrian access from building to exterior including code-required access to the public way.

g. Evaluate the size and relationship of the courtyard and exterior space in relationship to the IMA, pool and future building to the south. The opportunity exists to create campus exterior spaces, which serve the current needs and the future campus.
Structural

Introduction
Thornton Tomasetti has performed a feasibility review of the proposed Options 1 and 2 based on a visit to the site and a review of the available existing drawings, geotechnical reports, and seismic studies. We have concluded that while both options require modifications to the existing structure and installation of new structural elements, they are both structurally feasible. Regarding seismic retrofits, the probability of triggering a code defined substantial alteration and the associated full building analysis and comprehensive retrofits is relatively low. Contained within the sections below are further details regarding the potential structural work required for the two proposed options that were considered for this study.

Existing Conditions
The site is underlain by loose and/or soft materials that slope in depth across the site of approximately 17’ deep in the SW corner of the building to 47’ deep towards the NE corner. Below the loose soils, the soil layers are compact and/or firm glacially overridden sands and silt/clay. Due to these soil conditions, the foundation system of the existing building consists of a deep-pile foundation with 24” diameter reinforced concrete caissons spaced approximately 12’ to 19’ on center. In the pool area, the bottom of the existing caissons bear approximately 30’ to 50’ below the existing first floor slab elevation. Grade beams ranging between 24” to 36” wide and 30” to 32” deep span between caissons. The structural slab on grade is 10” to 12” thick and is mildly reinforced spanning between grade beams.

Figure S-1: Existing Pool Floor Plan
There was no combustible gas observed during the 1965 or 2001 geotechnical testing in the renovation area being considered in this report. Methane gas was detected in areas around the overall IMA building site, however, so the geotechnical engineer recommended venting, sealing, and monitoring to control potential gas at the site during the 2001 renovation. This would require further study and similar precautions may be required for this project.

The perimeter of the pool is lined with 10” to 12” reinforced concrete walls with cast in place concrete gutters. Concrete walls frame all sides of the pool area and vary in thickness from 8” to 10”. The east and west walls support the upper level concrete slabs at the adjacent gyms, steel wide flange columns support the adjacent gym roof trusses, and the roof above the pool consists of a 3” metal deck over steel joists spaced approximately 7’ on center. The north wall of the pool supports the floor above which consists of concrete slabs and beams from the original 1966 construction which was overbuilt with slab on metal deck in a 2004 renovation to provide a constant floor elevation in this area. The south elevation structure of the pool consists of full height concrete wing walls approximately 10’ in length at the east and west ends and concrete columns supporting a deep concrete beam above.

The existing patio south of the pool bears on shallow foundations spaced approximately 5’ to 9’ on center. Timber posts and reinforced concrete knee walls support 4”x10” timber beams and 2”x6” timber decking.

Seismic Considerations

The lateral system for the building is primarily composed of steel and concrete roof and floor diaphragms spanning to concrete shear walls that bear on caissons. The four corner gyms are laterally supported with perimeter steel braced frames bearing on cantilevered beams at the upper floor. See Figures S-2 and S-3 for more information regarding the layout of the building’s lateral system.

One significant code trigger that could have a potentially large cost impact on a renovation project such as this is whether the scope of work will require a substantial alteration designation. If substantial alteration provisions are required to be met, a comprehensive seismic analysis and corresponding retrofit of the whole building is required by code. A meeting between the City of Seattle and the structural engineer of record is ultimately necessary to both confirm whether substantial alteration provisions apply to the project and to negotiate the city’s requirements for design. That being said, the 2015 Seattle Existing Building Code does provide a list of triggers for substantial alteration, which are summarized below:

1. Repair of a building with a damage ratio of 60 percent or more.
2. Remodel or addition that substantially extends the useful life of a significant portion of the building.
3. A change of occupancy of a significant portion of a building to one that is more hazardous that the existing occupancy.
4. Reoccupancy of a building that has been vacant more than 24 months.
5. Significant increase in occupancy load of an unreinforced masonry building.

While Option 1 does have a slightly higher risk of triggering these code provisions, based on our experience working in the City and understanding of the scope of work being proposed for this project, our opinion is that the substantial alteration requirements would not likely be triggered for either Options 1 or 2 being proposed as part of this study. Assuming this is the case, the code has different requirements for seismic analysis and retrofits which is a more localized approach, such that potential seismic retrofits would only be related to the changes made specifically due to the work done in the pool and locker room area.

From our review of the available existing drawings and 1993 seismic report, the building as a whole appears to have a robust lateral system without significant obvious deficiencies. The existing seismic report concluded that the main deficiencies are related to diaphragm connectivity, some of which occurs at the pool and adjacent gym roofs.

For both Options 1 and 2, a more detailed seismic analysis would be necessary to identify what localized retrofits are required due to the scope of work at the pool and locker rooms. From our brief review of the available information at this time, both Options 1 and 2 could possibly trigger seismic strengthening. Possible strengthening scope is shown in Figures S-4 and S-5.

It is likely that many of these retrofits would be minor in scope since the additional mass of the new roof expansion is relatively small compared to the building as a whole. In addition, removing the south elevation wing walls and concrete beam will reduce the building mass slightly. Another potential reduction in mass and corresponding seismic demands would be if the exterior wall panels were removed at the adjacent gym areas where they would be interior to the new pool expansion. This mass reduction would help offset any additional seismic mass added due to the pool extension, thus helping limit any possible seismic retrofits.
**Structural**

**STEEL BRACED FRAMES**

**BEARING ON CANTILEVERED BEAMS AT UPPER FLOOR, TYP.**

**CONCRETE SHEAR WALLS, TYP.**

Figure S-2: Existing Lateral System

**STEEL BRACED FRAME ABOVE CANTILEVERED BEAM**

**CONCRETE FLAT SLAB**

**SHEAR WALL OFFSET FROM BRACE FRAME ABOVE**

Figure S-3: Section at Cantilevered Beam
**Alterations to Existing Gravity Supporting Structure**

With both Options 1 and 2, modifications to the existing gravity supporting structure will be required. All scope items mentioned below would be required for both options unless noted otherwise.

1. Localized cutting and patching of the existing slab on grade will be required to install new plumbing in the existing men’s locker room area. Slab cuts would need to avoid the grade beams and only occur within the flat slab portions. Since the slab is structural, all cut reinforcing would need to be mechanically spliced back for the final condition. See Figure S-6 for the approximate extents and patching detail for this work. Similar work was completed in other portions of the IMA building in 2012.

2. The pool gutter is integrated within the interface of the slab on grade and perimeter pool walls. It is possible the new pool will require a modified gutter system and may require structural modifications to the concrete slab to wall connection.

**RETROFITS TO EXISTING STRUCTURE LEGEND**

E-1: Local strengthening of existing concrete shear walls with fiber wrap or reinforced shotcrete due to removal of existing walls and/or new wall openings
E-2: Strengthening of existing framing member connections with welds and misc. steel in the roof to improve existing load path
E-3: New welded plates or angles to strengthen existing braced frames in the adjacent perimeter gym wall.
E-4: Strengthening of existing cantilevered beams at the upper level of the adjacent gym areas due to increased demand on braced frames above.

**NEW STRUCTURE LEGEND**

N-1: Seismically connecting the new steel roof and portions of the existing roof over the pool with new steel collector beams to the adjacent existing gym roofs, braced frames, and shear walls.
N-2: Addition of a new lateral resisting vertical element, braced or moment frame, at the south end of the new pool expansion.

*Figure S-4: Option 1 Structural Seismic Plan*
3. Where the pool itself will be expanded within the current building footprint and slab on grade occurs, the existing caissons will need to be cut down to the new pool elevation. Existing reinforcing in the caissons would be salvaged and doweled to the new slab system. Capacity of the existing caissons would need to be confirmed due to the added weight of water. See Figure S-8 and S-9 for location of expanded pool for Options 1 and 2 respectively.

4. New openings are proposed in the east and west concrete walls while others are proposed to be infilled. New openings should be kept as small as possible to reduce structural impact. Infilled openings could be performed with CMU or concrete and doweled to the existing wall. New steel channel reinforcing with expansion bolts are likely required at all new openings. Alternatively, a concrete beam could be cast to support the wall above which would provide improved corrosion protection versus a steel channel option. See Figures S-8 and S-9 for locations of prosed new openings.
5. The existing structure may require modifications due to work by other trades such as mechanical, electrical, or plumbing. Potential alterations include catwalk relocation, strengthening for support of new mechanical units or pool equipment, and localized reinforcing for penetrations in walls or roof for routing of ducts, conduits, etc. Coordination with these trades early on in design of an expansion would allow for structural impacts to be minimized.

6. The north wall is proposed to be mostly removed to create an enlarged pool deck. This wall supports existing framing above. Multiple options exist for creating a more open space in this area.
   a. The entire wall and slab system above could be removed back to the columns to the north and replaced with a new lighter weight steel framed floor system with a long span beam creating the full opening between the corner rooms, see Figure S-7.1.
   b. New columns could be installed at similar locations in lieu of salvaging portions of the existing wall, see Figure S-7.1.
   c. The entire wall and slab system above could be removed back to the columns to the north and replaced with a new lighter weight steel framed floor system with a long span beam creating the full opening between the corner rooms, see Figure S-7.2.

Figure S-6: Slab-On-Grade Cut And Patch Extents And Detail
**Pool Expansion Gravity Framing**

See Figures S-8 and S-9 for a general overview of the new gravity structural elements that would be required due to the expansion of the pool. For both Options 1 and 2, new slab on grade and perimeter pool walls would be required at the pool expansion. Slab on grade would match the 10” to 12” of the existing as well would the concrete perimeter walls be 10” to 12” thick. Grade beams would match the existing and be 24” to 36” wide and 30” to 32” deep. New grade beams would be connected to the existing cut down caissons, see item 3 in the previous section of this report. New piles would be required to supplement the existing if they were found to have inadequate capacity.

For Option 1, a similar foundation and slab system including an all new pile foundation would continue towards the south where the existing patio deck and its foundations would be demolished. Pile depths and sizes would likely match those found in the existing pool area mentioned previously. Where the new expanded pool slab and grade beams interface with the existing foundation systems to the east and west, reinforcing would be installed in epoxy grouted holes in the existing concrete to provide continuity.

The expanded roof in Option 1 would consist of a similar framing system to that of the existing with long span steel trusses spanning in the E-W direction spaced at 7’-8’ oc. with a 3” metal roof deck. New trusses would likely be supported by new steel beams and columns bearing on piles at the east and west sides adjacent, but separated, from the existing steel framed gyms. Supporting the new framing with the existing steel framing in the walls of the gym is likely not worth considering due to the potential risks involved of having to do costly retrofits of the existing steel columns, concrete cantilevered beams, and foundations.
**Structural**

- **Stair 1**
- **Stair 2**
- **Stair 3**
- **Stair 4**
- **Stair 5**
- **Stair 6**

**Passage**

- **Life Guard**

**DEEP LANES**

- (16) Lanes @ 8'-0"

**DN DN**

**Scope of work**

- **Ball Court**
- **Below Ball Court**

**Men’s Locker Room**

**Pool Storage**

**Receiving**

**Outdoor Storage**

**Drying**

**Office**

**Inclusive Locker Room**

**Storage**

**Dry Sauna**

**Wet Sauna**

**Life Guard FA/Office**

**Toilet**

**EX. BEAM SUPPORTING SLAB ABOVE**

**EXISTING POOL AND DECK, MINIMAL STRUCTURAL MODIFICATIONS ANTICIPATED**

**RETROFITS TO EXISTING STRUCTURE LEGEND**

- **E-1a**: New Column or Retain Ex. Wall Piers
- **E-1b**: In lieu of columns shown potential for removal of floor above in area shown w/ new framing and long span beam at south edge
- **E-2**: New opening in ex. concrete wall w/ new expansion bolted steel channel reinforcing
- **E-3**: Existing pool walls to be demolished at expansion
- **E-4**: Cut down ex. piles and reuse as possible
- **E-5**: Existing raised patio and foundations to be demolished

**NEW STRUCTURE LEGEND**

- **N-1**: Pool and deck expansion w/ structural slab on grade and grade beams spanning to pile foundation
- **N-2**: New pool walls at pool expansion
- **N-3**: New WF columns bearing on pile foundations, TYP
- **N-4**: New steel roof joist above at 7'-8" OC
- **N-5**: New WF beams above supporting roof joists, TYP
- **N-6**: New built up reinforced concrete ramp

**Figure S-8: Option 1 Structural Gravity Plan**
Figure S-9: Option 2 Structural Gravity Plan

**RETROFITS TO EXISTING STRUCTURE LEGEND**
- E-1a: NEW COLUMN OR RETAIN EX. WALL PIERS
- E-1b: IN LIEU OF COLUMNS SHOWN POTENTIAL FOR REMOVAL OF FLOOR ABOVE IN AREA SHOWN W/ NEW FRAMING AND LONG SPAN BEAM AT SOUTH EDGE
- E-2: NEW OPENING IN EX. CONCRETE WALL W/ NEW EXPANSION BOLTED STEEL CHANNEL REINFORCING
- E-3: EXISTING POOL WALLS TO BE DEMOLISHED AT EXPANSION
- E-4: CUT DOWN EX. PILES AND REUSE AS POSSIBLE.

**NEW STRUCTURE LEGEND**
- N-1: POOL AND DECK EXPANSION W/ STRUCTURAL SLAB ON GRADE AND GRADE BEAMS SPANNING TO PILE FOUNDATION
- N-2: NEW POOL WALLS AT POOL EXPANSION
- N-3: NEW BUILT UP REINFORCED CONCRETE RAMP
Mechanical Systems

Executive Summary

The UW IMA building was originally built in 1966. Renovations in 1982 and 2001 added both square footage and general building services upgrades such as a central cooling plant and additional ventilation air. In general, central mechanical/plumbing systems and their associated equipment have not been upgraded since 1966. As most central equipment is over 50 years old, it is expected that any mechanical or plumbing system that is renovated will be replaced with newer, more efficient and reliable systems. Phase 0 is reserved for mobilization with minimal work while phase 2 will complete the area modified in phase 0. The anticipated equipment and services that may need to be replaced are detailed in the following narrative. All recommendations assume that renovations do not trigger Substantial Alterations per SBC Section 304.1.

The central building heating hot water system is served from campus steam and shell and tube heat exchangers from 1966. Shell and tube heat exchangers serving renovated portions of the building and their associated equipment are expected to be replaced. Cutting and capping existing services and providing new equipment is an alternate option. Distribution piping may be re-used pending visual inspection.

The central building chilled water system is served from an on-site air-cooled chiller plant which was added in 2001. Scheduled capacity of the air-cooled chillers matches the scheduled connected load and no additional capacity is expected. A new chilled water plant will need to be added for cooling and dehumidification of the natatorium.

Ventilation and exhaust air for the building are served from dedicated supply air and exhaust air fans from 1966. Supply fans and exhaust fans serving renovated spaces are expected to need to be replaced. Distribution ductwork may be re-used pending visual inspection.

The building’s original control system was pneumatic. Portions of the building have been switched over to direct digital control (DDC). Any adjustments to existing pneumatic controls will be replaced by DDC controls.

Domestic cold water (DCW) is served from a 6” DCW main with double check valve assembly (DCVA), pressure reducing valve (PRV), and a water meter. Existing service appear to have adequate capacity and can be reused, but available capacity will require confirmation from the designing engineer. Distribution piping may be re-used pending visual inspection.

Domestic hot water (DHW) for the building is served from relatively new steam to hot water heat exchangers and storage tanks. Heating hot water pumps recirculate hot water through each building section. It is anticipated that the steam to DHW system will be re-used. Distribution piping may be re-used pending visual inspection.

Below grade sanitary sewer (SS) was not able to be observed on site. Drawings indicate a 6” SS main from 1966. A second 6” SS main was added in 1982. It is recommended that the storm and sewer systems be scoped and verified to confirm location, size, and condition. Designing engineer to confirm available capacity for New fixtures. New fixtures will require saw cutting of existing slab for installation of new waste lines.

Dedicated Pool equipment such as filtration and circulation systems are to be reviewed by the pool consultant. Heating water for the pool is served from a dedicated steam to water heat exchanger from 1966. The shell and tube heat exchanger and associated equipment are expected to be replaced with new equipment.

Any adjustments to the methane collection system below grade to be reviewed by an environmental consultant.

Heating Systems

Existing Conditions

The building heating source is low pressure campus steam. There is a common steam header in the level 1 mechanical room with multiple shell and tube heat exchangers, with each heat exchanger serving a different portion of the building. The heating water piping is distributed to AHU pre heat coils, zone level duct mounted reheat coils, and baseboard radiant heaters. Dedicated heating water pumps for each system distribute heating hot water throughout the building.

Multiple renovations and additions to the building occurred since 2001. Additional shell and tube heat exchangers, pumps, and buffer tanks were added to handle the additional SF added to the building.
General Conditions
The central buildings heating system serving the base building (prior to building renovations) is currently over 50 years old. Pumps, heat exchangers, and associated equipment for the heating system appear to have not been replaced since the original install from 1966. Existing insulation contains Asbestos.

The men's and women's locker rooms are currently heated by a combination of duct mounted reheat coils and hydronic baseboard radiant heat. The duct mounted reheat coils and the hydronic baseboard heat are the original installed equipment from 1966. Dedicated temperature sensors serve each of the baseboard heaters in addition to temperature sensors for each of the duct mounted heating coils.

The natatorium is heated via a central supply fan with a preheat coil and downstream reheat coils.

A portion of the proposed adjustments to the men's and women's locker room occupy SF associated with one of the building additions. Heating services for project scope that occupy SF from the building additions will tap off the newer systems pending available capacity. Dedicated steam meters for each heating system were not found on site.

Code Issues
There are no anticipated code issues with reuse of the campus steam system as a heat source.

Recommendations
Due to age, efficiency, and safety, all major heating water equipment and accessories from the original 1966 install that serve the proposed renovations should be replaced. This includes but not limited to steam piping insulation, shell and tube heat exchangers, heating water pumps, baseboard radiant heaters, and buffer tanks. Distribution piping may potentially be reused pending visual inspection of pipe.

While the heating water systems from the building additions are newer and appear in fair condition, all associated heating water systems are approaching the end of their ASHRAE anticipated service life and could be replaced with newer more efficient systems. Available capacity of any heating water system must be verified by the design engineer prior to re-use of any existing system.
Cooling Systems

Description
When the building was constructed in 1966, no cooling was provided. A renovation in 2001 added cooling infrastructure for the building for all zones except the natatorium. The existing cooling infrastructure is comprised of air-cooled chillers on the roof, primary chilled water pumps, and secondary chilled water pumps. Chilled water is distributed to AHUs and terminal equipment. The cooling system addition was sized to handle the building addition and provide cooling for all zones except the natatorium. The chilled water is 30% Ethylene Glycol.

The men's, women's, and gender-neutral locker rooms will be provided with cooling off the existing system while the natatorium does not include active dehumidification or cooling.

General Conditions
The central cooling system appears to be in good working order but approaching the end of the ASHRAE anticipated service life.

Code Issues
New chilled water systems will be required to meet the SEC.

Recommendations
The central cooling system can be reused, pending test and balancing measurements demonstrating adequate capacity. It is expected that there is not additional capacity as the scheduled air-cooled chiller capacity matches the scheduled connected load. The chilled water system is provided with meters and should be trended to review available capacity.

Pending available capacity, cooling should be added to the natatorium off the existing system for both comfort and dehumidification. Distribution piping may potentially be reused. If capacity is not available, a dedicated chilled water system should be added consisting of air-cooled chillers, pumps, buffer tanks, air separators, piping, etc.

Figure M-3: Chilled Water Pump Installation
Ventilation Systems

Description
Ventilation for the building is through six (6) central supply fans providing constant volume air to each space. Supply Fans pull air from a built-up mixing box and are not 100% outside air (OSA). Each individual supply fan serves a different portion of the building with Supply Fans 1,3,6 serving the locker rooms and various other spaces while Supply Fan 5 serves the natatorium. There are no variable frequency drives (VFDs) on the supply fans.

Each supply fan is provided with a hot water pre heat coil and downstream reheat coils for each thermal zone. Cooling coils were added downstream of the reheat coils in the 2001 building addition for all SF except SF-5.

The building additions added additional AHUs units on the roof. These new units are a mix of constant volume and variable volume. VFDs are provided on the variable volume systems only.

General Conditions
The existing supply fans appear to be in poor condition and well past their anticipated service life.

Distribution ductwork may potentially be reused for the locker room adjustments pending visual inspection. Ductwork serving the natatorium is in poor condition and should be replaced.

While the supply air systems from the 1982 addition are newer and appear in fair condition, all associated supply air systems are past the end of their ASHRAE anticipated service life and should be replaced with newer more efficient systems.

A portion of the proposed adjustments to the men's and women's locker room occupy SF associated with the 1982 building addition. Ventilation services for new scope that occupy SF from the 1982 addition will tap off the newer systems.

Preliminary calculations show that the building infrastructure has adequate OSA and exhaust cubic feet per minute (CFM) for the natatorium addition and locker room adjustments.

Figure M-4: Typical Supply Fan Installation  
Figure M-5: Natatorium Ductwork Condition
Code Issues

None of the existing ventilation systems are compliant with the SEC. If renovations constitute a Substantial Alteration, then heat recovery will be required to meet the SEC.

Recommendations

Due to age and efficiency, all major ventilation systems (supply fans) from the original 1966 install servicing the renovated sections of the building should be replaced and sized appropriately for the new alterations. Distribution supply air ductwork for the locker rooms should be removed downstream of the mechanical shaft and replaced per the new renovation requirements. Locker room ductwork from the mechanical room to and through the shaft may be reused pending visual inspection of the ductwork. Ductwork serving the natatorium is in poor condition and should be replaced.

The natatorium supply/return fan should be replaced by an air handling unit providing exhaust air, heating, cooling, and dehumidification. The natatorium will be designed with negative pressurization to adjacent zones to reduce chlorine fumes from getting distributed throughout the building.

Exhaust Systems

Description

Exhaust and relief for the building is through a combination of exhaust and return fans, each fan is providing constant volume exhaust/return to each space requiring exhaust/return. Each individual exhaust/relief fan serves a different portion of the building with Relief Fans 1,3,6 serving the locker rooms and various other spaces while Relief Fan 5 serves the natatorium. There are no VFDs on the Exhaust/Return fans.

Return fans pressurize a mixing plenum which the Supply fans pull from. Exhaust fans are ducted directly outdoors.

The building additions added additional air handling units and exhaust fans on the roof and in mechanical rooms. These new units are a mix of constant volume and variable volume. VFDs are provided on the variable volume systems only. Systems serving the proposed renovation locations are all constant volume.
**General Conditions**

The existing exhaust/return fans from the 1966 installation appear to be in okay condition but are well past their anticipated service life. While the exhaust/return air systems from the 1982 addition are newer and appear in fair condition, all associated supply air systems are past the end of their ASHRAE anticipated service life and should be replaced with newer more efficient systems.

A portion of the proposed adjustments to the men's and women's locker room occupy SF associated with the 1982 building addition. Exhaust/return services for new scope that occupy SF from the 1982 addition will tap off the newer systems.

**Code Issues**

None of the existing ventilation systems are compliant with the SEC. If renovations constitute a Substantial Alteration, then heat recovery will be required to meet the SEC.

**Recommendations**

Due to age and efficiency, all major exhaust/return fans servicing our renovation from the original 1966 install in the building should be replaced. Distribution ductwork may potentially be reused for the locker room adjustments. Ductwork serving the natatorium is in poor condition and should be replaced.

The natatorium return fan should be replaced by an air handling unit providing ventilation air, heating, cooling, and dehumidification.

**Control System**

**Description**

The current control system is a mix of pneumatic and DDC controls. A portion of the building was switched over from pneumatic to DDC controls during a renovation in 1979 and 1983. Each temperature sensor serving baseboard heaters and duct mounted reheat coils are wired directly to the control valves and not connected to the building management system (BMS). Flow and British Thermal Unit (BTU) meters are not provided for the steam/heating water system. Flow meters are provided for the cold water and chilled water systems.

**General Conditions**

A portion of the building is still operating under the original pneumatic controls. The pneumatic system is operational but past the end of the anticipated service life and can be replaced with DDC controls.

**Code Issues**

Additional meters may be required per the SEC for steam and hot water systems.

**Recommendations**

Due to age of equipment and future control, any equipment that is currently being served by pneumatic controls and part of the renovation should be switched to DDC controls. Meters on the steam and hot water systems should be added for trending.
Plumbing Systems

Domestic Cold Water System

Description
A 6” city water main enters the building in the lower mechanical room to serve all domestic water needs. A single PRV and water meter are provided once entering the building. Redundant DCVAs are provided on the cold water main. Irrigation water is provided with a dedicated PRV and check valve.

General Conditions
Overall, the DCW system is in working condition. Distribution piping appears to be from the original construction and potentially can be reused. The dual DCVAs were installed in 2001 and can be reused.

Code Issues
Dedicated backflow preventors for irrigation and the pool supply were not found.

Recommendations
The existing cold water service (6”) is anticipated to be large enough for the planned renovations to the domestic system. The Pool consultant will be required to determine the domestic cold-water load from any pool upgrades and determine available capacity. Additional backflow devices should be added for any new domestic branch/system.

As space types are not changing, new plumbing fixtures will tap off existing cold water mains distributed throughout the building. Distribution piping may potentially be reused pending visual inspection of pipe. Available capacity of 6” DCW main should be determined to verify existing systems have capacity for new renovations. Final confirmation of available capacity to come from the design team.

Figure P-1: Domestic Cold Water Header
Figure P-2: Domestic Cold Water Header
Domestic Hot Water System

Description
The building DHW source is low pressure campus steam. There is a common steam header in the level 1 mechanical room with branch steam lines routed to instantaneous steam water heaters and storage tanks. Dedicated heating water recirc pumps for each portion of the building distribute heating hot water throughout the building.

Multiple renovations and additions to the building occurred in 1982 and 2001. Additional heating hot water for the additions tapped off the existing system.

General Conditions
The heating water system from the original installation in 1966 has been removed and replaced with instantaneous steam water heaters. Install date of water heaters and storage tank is unknown but condition appears good and in working order. Downstream distribution piping appears to be the original install piping from 1966.

Code Issues
There are no anticipated code issues with re-use of the existing DHW generation.

Recommendations
The domestic heating water generation system should be re-used as the water heaters and storage tank appear to be in good working order. New dedicated heating water recirc pumps should be added to replace the older pumps. Distribution piping may potentially be reused pending visual inspection of pipe. Available capacity of water heaters and storage tank shall be confirmed to verify existing systems have capacity for new renovations.

Figure P-3: Instantaneous Steam
Sanitary Sewer System

Description
A single 6” SS line is shown on the original 1966 install drawings but could not be verified on site. A second 6” SS main was added in the 1982 building addition. A sump pump is provided to pump waste lines from the basement level and connect to the main SS beneath the building.

General Conditions
SS conditions could not be observed.

Code Issues
Pending available capacity and fixture unit review by the design engineer, the existing 6” SS mains may need to be increased to an 8”.

Recommendations
Existing SS service to the building should be scoped and verified. Due to age of the existing systems, it is expected that the SS system should be replaced where renovations occur. Drainage fixture unit calculation shall be completed to confirm available capacity in the 6” SS mains. New fixtures added to be reviewed by structural engineer for foundation/footing/slab conflicts. It is recommended that new plumbing fixtures be located near previously existing fixtures to limit the amount of saw cutting into existing slabs.

Storm Drain System

Description
Storm drainage from the roofs are a mix of exterior scuppers and roof/overflow drains. There are two 10” storm sewer connections. The two storm sewer connections pick up a combination of roof drains, foundation/footing drainage, and pool drains.

General Conditions
Storm drain conditions could not be observed.

Code Issues
Pending available capacity and additional roof square footage review by the design engineer, one or both of the existing 10” storm mains may need to be increased to 12”.

Recommendations
Existing storm sewer service to the building should be scoped and verified. Due to age of the existing systems, it is expected that the storm sewer system should be replaced where renovations occur. Pending additional roof area, calculations should be complete to determine available capacity in each 10” main.

Specialty System (Pool System)

Description
The existing swimming pool is currently treated by a standalone mechanical system designed by a pool consultant. Heating for the pool is through a dedicated steam to hot water heat exchanger.

General Conditions
Overall, the pool filtration and circulation system are in okay condition. Distribution and equipment appear to be a mix between the original construction and newer Polyvinyl Chloride (PVC) piping. The steam heat exchanger and heating water piping appear to be from the original construction while the pool filtration piping has been replaced with newer PVC pipe. The equipment and piping from the original construction are past the anticipated service life.

The heating hot water system for the pool is from the original construction and in okay condition. Distribution piping and equipment are past the anticipated service life.
**Plumbing Systems**

**Code Issues**
There are no anticipated code issues with reusing the existing system.

**Recommendations**
The pool circulation and filtration system should be reviewed by the pool consultant. Adjustments to the pool size may affect performance of existing systems. The heating water system (heat exchanger, steam traps, piping, control valves, pumps, etc.) should be replaced with new and sized properly for the new pool volume.

**Specialty System (Methane Collection)**

**Description**
Due to existing soil conditions, there is a methane collection system below the building. 4” to 6”, schedule 40 perforated plastic pipe is distributed beneath the original 1966 building construction to collect excess methane gasses. There is no collection system beneath the current floor plan of the pool.

Additional SF from the 1982 and 2001 addition does not appear to have a methane collection system installed.

**General Conditions**
Existing piping for the methane collection system is below grade and condition could not be verified.

Due to age and efficiency, all exhaust fans serving the methane collection system should be replaced as the exhaust fans are past the end of their ASHRAE anticipated service life.

**Code Issues**
Environmental consultant to review code requirements for methane collection system.

**Recommendations**
Existing soil conditions should be reviewed by an environmental consultant to determine the methane collection system requirements for new scope. Any adjustments made to the existing methane collection system to be reviewed by the environmental consultant.
Electrical Systems

Executive Summary
The UW IMA Building was originally built in 1966. Renovations in 1982 and 2001 added both square footage and general building services upgrades. The 2001 renovation work included a new primary switch lineup, service transformer, main switchboard, emergency feeder, automatic transfer switch (ATS), and main emergency panel.

The electrical distribution equipment that is affected from all phases of the renovation has not been upgraded since 1966. As most of the branch panel and motor control center (MCC) distribution equipment is over 50 years old, it is expected that the equipment downstream of the main switchboard PCM-00-N00 and distribution panel PCD-00-N01 will all be replaced. MCCs will not be used by new mechanical and plumbing systems and will be replaced with distribution panelboards or switchboards. The step-down transformers, feeders, and branch circuits should also be replaced with new, code compliant and efficient equipment.

All lighting within the renovation scope area will be new LED fixtures. With the replacement of lights, all lighting and controls will need to meet the SEC.

Although the fire alarm head-end equipment appears to be in good condition, it is likely the head end equipment will need to be replaced to align with the current Campus standard equipment.

Primary Service

Description
The UW IMA Building is served from the campus 13.8kV utility distribution via the underground utility tunnel system. Two feeders leave the tunnel system, terminating at manually operated primary switches, located at the south exterior of the building. A separate 2500kVA transformer, located slightly west of the primary switches, steps the voltage down to 480/277V, 3-phase, 4-wire. It feeds the main switchboard, located in the main electrical room. The feeders from the primary switches to the transformer and from the transformer to the main switchboard are all underground. The main switchboard is named PCM-00-N00 and is 3200A bus (3000A main breaker trip rating), 480/277V, 3-phase, 4-wire.

Figure E-1: Primary Switches
General Conditions
The primary switches, transformer, and main switchboard all appear to be in good condition, as they appear to be manufactured in 2001.

Code Issues
There do not appear to be code issues with re-using the primary service and main switchboard, provided the load added to the building does not cause the total load to exceed the rating of the main switchboard or transformer.

Recommendations
The existing primary service and main switchboard should remain.

Building Distribution
Description
The electrical distribution systems that serve the UW IMA Building are scattered throughout the building. This section focuses on distribution equipment segregated by room and only mentions distribution equipment that serves mechanical equipment, lighting, and systems that are associated with the pool and locker room renovation. See Electrical As-Builts in the Appendix for additional information.

Main Electrical Room (101)
The main switchboard, PCM-00-N00, feeds a distribution panel serving the newer part of the IMA building (~2001), the PV solar inverter for the building, a MCC, and distribution board PCD-00-N01. The MCC and PCD-00-N01 pertain to the portion of the building related to the pool and locker room expansion.

PCD-00-N01 feeds the ATS, MCC-1, and various panels throughout the building. Of the various panels it feeds, of interest to the pool and locker room expansion include OB, J, L2, and L8.

Figure E-2: 2500kVA Transformer
Panels OB and J are in the main electrical room. They are each 208/120V, 3-phase, 4-wire, with OB having a 90A main circuit breaker and J having a 70A main circuit breaker. Panel OB appears to serve mostly outdoor lighting, while panel J appears to feed various mechanical equipment including electrical heaters, pumps, and exhaust fans serving the pool area.

**Electrical Closet nearest Women's Locker Room (196B)**

Panel L2 is in the electrical closet nearest the women's locker room. It is a 225A, 480/277V, 3-phase, 4-wire panel that serves mostly lighting in the women's locker room areas. It feeds panels H and B via a 45kVA transformer. Each of these panels is 225A, 208/120V, 3-phase, 4-wire. Panel H serves pool wall lighting while panel B serves mostly miscellaneous lighting, vending, and general convenience outlets in the adjacent areas.

**Electrical Closet nearest Mechanical Room (109A)**

Panel L8 is in the small electrical closet nearest the SW mechanical room. It is a 225A, 480/277V, 3-phase, 4-wire panel that serves locker room supply fan(s), and locker room exhaust fan(s). It feeds panels P and R via a 112.5kVA transformer. Each of these panels is 225A, 208/120V, 3-phase, 4-wire. Panel P serves mostly hair dryers in the locker rooms while panel R appears to serve sauna heaters, relief fans, and lighting in the locker rooms.

**Electrical Closet nearest Men's Locker Room (101E)**

Panel L1 is in the electrical closet nearest the men's locker room. It is a 225A, 480/277V, 3-phase, 4-wire panel that serves mostly lighting in the men's locker room areas. It's fed via branch distribution panel B, which is located on the third floor. PCD-01-N01 feeds this branch distribution panel. Panel L1 feeds panel A via a 50kVA transformer. Panel A is a 225A, 208/120V, 3-phase, 4-wire panel that serves mostly lighting in the men's locker room areas. It also serves a roll-up door and air compressor for the pool. Panel A-1 is tapped off of the feed to panel A and appears to serve mostly hair dryers.

**Mechanical Room / Pool Storage (103 / 105)**

MCC-1 is in the adjacent mechanical room and feeds circulation pumps, pool sump pumps, condensate pumps, and various other pumps. It appears to be rated for 250A based on as-builts but should be verified by the electrical contractor. It is 480/277V, 3-phase, 3-wire.

There is a small transformer and 100A, 208/120V, 3-phase, 4-wire panel in the pool storage area that serves the pool lights. This transformer and panel are fed via panel L2.

**Fan Rooms at Level 3 (301 / 302)**

MCC-2 is in the south fan room on the third floor and serves exhaust, return, and supply fans in the women's locker room; return and supply fans in the pool area; and various pumps and fans to the mechanical space and NW area of the building. It appears to be rated for 600A based on as-builts but should be verified by the electrical contractor. It is 480/277V, 3-phase, 3-wire. Branch distribution panel A, which is adjacent to it, appears to feed MCC-2 via feed-through lugs. This should also be verified by the electrical contractor. Branch distribution panel A is fed via PCD-00-N01.

MCC-03-NA is also located in the south fan room on the third floor. It serves air handling units and chillers. It's rated for 1600A, 480/277V, 3-phase, 4-wire and is fed via PCM-00-N00. It appears to have been a newer addition in the ~2001 renovation.

MCC-3 is in the north fan room on the third floor and serves exhaust, return, and supply fans in the men's locker room; return and supply fans in the pool area; and various pumps and fans to the mechanical space and racquetball courts of the building. It appears to be rated for 800A based on as-builts. It is 480/277V, 3-phase, 3-wire. Branch distribution panel B, which is adjacent to it, appears to feed MCC-2 via feed-through lugs. This should also be verified by the electrical contractor. Branch distribution panel B is fed via PCD-00-N01.

**General Conditions**

Most of the distribution equipment impacted by this renovation is from the original 1966 construction. Some is from 1982 renovation work, and select panels are from the 2001 renovation work.

The equipment from 1966 appears to be operational but is beyond its typical 25-year service life and replacement parts are no longer available. It is likely this is also the case for the equipment from 1982.
**Code Issues**

There are no apparent code issues with the existing electrical distribution.

**Recommendations**

All panels, except the main switchboard PCM-00-N00 and distribution board PCD-00-N01, are from the original 1966 construction. These panels should be replaced with new panels, new step-down transformers, and new feeders to the panels/transfomers from the main switchboard.

Most of the equipment served by the MCCs is anticipated to be replaced, so the MCCs should be removed and replaced by distribution panels or switchboards. New feeders should also be installed to the new distribution panels or switchboards. The new equipment fed from this distribution is anticipated to have VFD control of the motors or have electronically commutated motors (ECMs), so MCCs are no longer required.

Based on the loads mentioned in the previous section, it is anticipated that new loads may be fed via the existing electrical service. However, this will need to be revisited throughout design to continue to verify that the infrastructure will have enough capacity for additional load.

UW Facilities confirmed meter data from the past year at the campus standard Nexus 1262 meter at the main service switchboard (PCM-00-N00). A maximum demand load of 1169kVA, or 1408A, was recorded. It is therefore anticipated that capacity will be available for the renovation work, since the service is a 2500kVA transformer and 3000A main switchboard. Distribution panel PCD-00-N01 will need to be metered for 30 days (minimum) in accordance with NEC Section 220.87, in order to determine available capacity.
**Emergency Power**

**Description**
Generator power is fed via the campus utility plant. A 480V circuit from the tunnel system is extended into the main electrical room of the building. It terminates at ATS 099AT12 which feeds panel PCD-HE01-E04, at the Hec Edmundson Pavilion (Alaska Airlines Arena). From there, a 480V feeder is extended to ATS 211AT01, which is a 400A, 4-pole ATS, and is considered the life safety branch. This ATS feeds a 480/277V panel, PCB-01-E1 (PCB = Power Center Branch Panel, per UW FSDG), and a 208/120V panel, “X”, via a 25kVA transformer.

**General Conditions**
The feeder, ATS, and panel PCB-01-E01 are all from the 2001 renovation and are in good condition. The step-down transformer and Panel X are from the original 1966 construction and are beyond the normal service life.

**Code Issues**
There are no apparent code issues with the equipment.

**Recommendations**
Due to the age and availability of spare parts for the branch panel and the potential inefficiency of the existing step-down transformer, it is recommended that the panel and transformer are replaced with new, considering branch circuits served from this equipment are being replaced/alterned/modified as part of the renovation.

**Branch Circuits**

**Description**
Branch circuit wiring was not specifically investigated, only observed that branch circuits are wires in conduit throughout.

**General Conditions**
Existing branch circuits, many of which are from the original construction, are likely beyond normal service life and could have insulation integrity concerns.

**Code Issues**
One potential code issue with existing branch circuits is they may have shared neutral conductors. This is not currently allowed by code unless branch breakers of those circuits with shared neutrals have breaker handles tied together.

**Recommendations**
It is recommended that all branch circuits fed by all the panels listed above and that are affected by the renovation work be replaced with new copper conductors and dedicated neutrals. It is also recommended that rigid conduit be used in damp or wet areas, i.e. the pool and pool mechanical rooms. EMT conduit may be used in dry areas.
Electrical Systems

Figure E-4: ATS AT01

Figure E-5: Panel PCB-01-E01

Figure E-6: 25kVA Transformer & Panel X

Figure E-7: 25kVA Transformer & Panel X
**Lighting**

**Interior Lighting**

**Description**
The men’s and women’s locker rooms utilize fixtures with fluorescent sources. They include both surface-mounted wraparound 1x4 fixtures and suspended 1x4 indirect/direct fixtures. Each type contains two 32W T8 fluorescent tubes at 3500K.

The pool area utilizes underwater flood lights at the pool itself with high wattage metal halide 2x2 recessed fixtures overhead. There is a catwalk above the ceiling of the pool area that provides access to the fixtures as well as mechanical systems in this area.

All lighting in scope appears to be controlled via lighting relay cabinets located adjacent to the panel in which they’re served. The relay cabinet provides timeclock control only.

**General Conditions**
The existing lighting in the locker room areas and pool area is anticipated to be demolished and replaced with new LED fixtures and controls.

**Code Issues**
All new wiring and controls to new fixtures and altered circuits and panels is required to be installed in compliance with the SEC, section C503.6.

**Recommendations**
The new light fixtures will employ LED light sources. Incandescent, fluorescent, and metal halide sources should not be used on this project. All lighting used on this project needs to conform to all applicable codes and standards, including the SEC.

All light sources used should have a minimum color-rendering index of 80 CRI. Color temperature (CCT) should be standardized. It’s recommended that it be 3500K nominal, pending selection of interior finishes and review with the design team.

To meet SEC, the lighting control system will require occupancy and vacancy controls, applicable dimming controls, and automatic shutoff controls. Automatic dimming for daylight harvesting is required. Daylight harvesting will dim the luminaires when there is high natural light entering the space in primary, secondary, and skylit daylight zones (as defined in the SEC) and will be adjusted to meet target light levels.

Controls for lighting in the renovated areas should all be new. It should be explored during the design phases whether the new controls should also interface with existing lighting controls (relay cabinets, contactors, etc.) and provide ‘head end’ control of the existing lighting systems, or if the new controls should remain independent.
Table L-1: Illuminance Design Criteria

<table>
<thead>
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<th>Area</th>
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<th>Horizontal Range (fc)</th>
<th>Vertical Average (fc)</th>
<th>Vertical Range (fc)</th>
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<td>2.5 – 10</td>
<td>3</td>
<td>1.5 – 6</td>
</tr>
<tr>
<td>Showers</td>
<td>10</td>
<td>5 – 15</td>
<td>3</td>
<td>1.5 – 6</td>
</tr>
<tr>
<td>Restrooms (General)</td>
<td>5</td>
<td>2.5 – 10</td>
<td>3</td>
<td>1.5 – 6</td>
</tr>
<tr>
<td>Restrooms (Vanities)</td>
<td>15</td>
<td>7.5 – 30</td>
<td>20</td>
<td>10 – 40</td>
</tr>
<tr>
<td>Pool Area (Pool)</td>
<td>75</td>
<td>50 – 100</td>
<td>20</td>
<td>10 – 30</td>
</tr>
<tr>
<td>Pool Area (Deck)</td>
<td>50</td>
<td>30 – 70</td>
<td>10</td>
<td>5 – 15</td>
</tr>
</tbody>
</table>

Figure L-1: Access to Fixtures
Fire Alarm Systems

Description
The existing fire alarm system is Simplex. It appears that the head end equipment was installed as part of the 2001 renovation.

General Conditions
The fire alarm head end equipment appears to be in good working order.

Code Issues
There are no apparent code issues with the fire alarm head end equipment.

Recommendations
New fire alarm devices including speaker-strobes, strobes, manual pull stations, and smoke detectors will be provided throughout the reconfigured spaces.

Although the fire alarm head end equipment appears in good working order and is within the normal service life, it appears to be previous generation equipment than the current campus standard. The head end equipment will likely be replaced to align with current technology deployed on campus.

Figure FA-1: Existing Fire Alarm System
Aquatic Evaluation Report

Introduction

The purpose of this evaluation is to review the present condition of the aquatic amenities and aquatic mechanical systems at the existing UW IMA Building. The evaluation consists of visual examination of the pool and associated mechanical equipment. The report outlines the present condition of the systems, equipment, and components and provides recommendations with respect to future renovations.

The pool serves the UW student body and is currently the only available aquatic amenity on campus. The pool is an “L” shaped vessel with 6 lap lanes, 25 yards long, and a deep water/diving area. According to the depth markers, the pool ranges from 4 feet to 8 feet in the lap lane area, with a maximum depth of 12 feet in the diving area. The total water volume is approximately 246,000 gallons.

The pool was originally constructed in the 60s; record drawings indicate 1966. While some aged components remain, there have clearly been some renovations. There are eyeball returns at the junction of the pool walls and pool floors, which are not represented in the available record drawings and are likely not original. The piping in the mechanical room is schedule 80 PVC and appears to be recently installed.

The pool vessel and gutters are constructed with concrete and the interior finish is tiled. The pool is filtered using dual high-rate sand filters. The pool is disinfected with calcium hypochlorite, and pH is balanced using carbon dioxide. Pool water heat is provided with a heat exchanger on the building boiler system.

Executive Summary

WTI has been commissioned by the University of Washington to report on the current condition of the existing indoor pool located in the IMA Building on the UW campus. WTI visited the facility on January 6, 2020, toured the pool and related amenities, and met with staff to discuss operations. The enclosed report documents the observations from the site visit and outlines recommendations with respect to potential renovations.

The condition of a facility is a major determination of the effort and cost of maintaining the utility and value of the amenities. A deteriorated facility will demand higher annual operating expenses over time as parts break, systems fail, finishes deteriorate, and structures weaken. There are also efficiencies lost when operating aging systems or equipment which are unable to take advantage of current methods and financially sustainable practices. The recommended repairs, replacements and renovations detailed in this report seek to modernize aquatic components and renew the efficient lifespan of the facility.

Recommendations for repair/replacements include the following and are anticipated to occur as part of a broader renovation of the pool:

1. Replace Gutter with Deck Level Gutter
2. Remove All Metal Piping
3. Relocate Chlorine Feeder in Dedicated Chemical Room
4. Install Medium Pressure Ultraviolet Sanitation
5. Install Variable Frequency Drives on All Circulation Pumps
6. Replace Sand Filters with Regenerative Media Filters
7. Install an Automated Thermal Pool Cover System

In addition, a future pool renovation should consider the option to utilize a prefabricated bolted panelized pool vessel. Further discussion of concrete and alternative pool vessels is provided in this report.

Additional discussion of water treatment methods is provided with outlines of advantages and disadvantages of salt chlorine generation versus traditional water treatment.

This report finds the pool to be an appropriate candidate for pool expansion. With some technical and design challenges, this facility can be well adapted for the expansion of the pool and pool systems. Expanding the pool beyond the current southern wall of the natatorium is feasible and programmatically fitting to serve the needs of the members of the IMA.
Aquatic Evaluation Report

**Methodology**

WTI observed the condition of the aquatic elements at the facility. Aquatic elements include pool vessels, water features, pool filtration systems, pool circulation pumps, piping, valves and controls, and water treatment systems. Observations were conducted in a non-destructive manner and did not involve the removal of any structures or disassembly of any equipment.

Included in the report are observations and indications of the condition of the accessible means of pool entry and exit. WTI has endeavored to identify problems with the means of access and potential non-compliance with the Americans with Disabilities Act (ADA). Observations and evaluations included in this report do not constitute certification or verification of compliance with ADA requirements. ADA compliance is a legal opinion, and WTI is not able to anticipate or guarantee judicial interpretation with respect to a facility’s legal compliance. WTI recommendations are based on a current understanding of the technical requirements of ADA regulations on aquatic amenities.

Compliance with Virginia Graeme Baker Pool and Spa Safety Act (VGBA) regulations has not been verified or investigated as a part of this evaluation and report. Any statements regarding drains, suction fittings, or any other component pertaining to VGBA are preliminary observations only, and further inspection to substantiate compliance is necessary.

**Findings**

1. **Pool Vessel**
   a. The pool vessel is reinforced concrete. At the time of observation, the pool was filled with water and several users were swimming laps. No overt signs of a compromised vessel were evident; however, a close visual of the pool vessel and any potential cracking was not possible.
   
   b. Water failed to flow over the rim of the perimeter gutter on the south side of the pool in the deep water area, while there was some rim-flow on the north side of the pool. This is likely a result of slight settling and/or shifting of the pool vessel. Staff report the site has poor soil conditions.

2. **Pool Finishes**
   a. The pool interior is tiled with small format 1x1 tile. The board areas of the pool interior are white tile and the lane lines and borders are accented with a contrasting earth-tone color. At the edge of the pool is a C-701 tile providing a finger grip.
   
   b. The pool interior contains underwater lights, which were not operating at the time of observation.

3. **Pool Circulation System**
   a. The pool water is removed from the pool vessel through both the perimeter gutters at the surface and the main drain at the deepest point of the pool. Water flows from the gutters and main drain to a surge tank. Two vertical 20 horsepower pumps send water from the surge tank through a strainer and to the sand filters. After filtration the water is returned to the pool through floor inlets.
   
   b. The style of perimeter gutter on this pool, common of pools built in its era, is a rollout gutter with large pavers. Gaps between each paver allows water to fall into the gutter trench. The rollout style incorporates a pool deck elevated above the level of the pavers, resulting in a step down from the pool deck onto the pavers before entering the pool.
   
   c. The main drain in this pool is not readily available for inspection as the pool is filled and in use. However, it appears there is one large grate covering the main drain area. This drain must comply with VGBA regulations and, if compliant, the facility will have a certification of compliance from a professional engineer on record. The main drain system as depicted in the available record drawings is not compliant with VGBA.
   
   d. At the time of observation, the flow rate of the circulation system was 761 GPM according to the digital flow meter with read-out on the chemical controller. For the reported volume of the pool, this means the pool is achieving a turnover rate of approximately 5.4 hours, and within the code required 6-hour turnover rate.
   
   e. All exposed pool piping in the mechanical room is schedule 80 PVC and appears relatively new. In fact, date stamps on the piping indicate year 2018. While most of the pool piping is PVC, there are still some areas of metal piping, such as in the surge tank and disposal sump. These areas of metal piping are severely corroded.
f. After passing through the filtration system and water treatment system, the water is returned to the pool. The pool has inlet diffusers on the pool floor, which are also depicted in the record drawings. There are also eyeball inlets on an angled cove between the pool floor and pool walls. These eyeball inlets are not shown on the record drawings. It is suspected the original inlet diffusers failed as some point in time and the eyeball inlet returns were installed as replacements. The angled cove at the union of the pool floor and pool walls is likely constructed to cover the supply piping to the eyeball inlets.

4. Pool Filtration System

a. The pool is filtered with two fiberglass body, horizontal, high rate sand filters. There were no visible markings or data plates on the filters to indicate type or performance specifications. However, filters of this style and size typically have a filter media area of approximately 25 to 30 square feet and a capability to filter up to 20 GPM per square foot. Therefore, the flow rate at the time of observation was likely within the optimal range of operation for this filtration system at approximately 12.7 GPM/SF to 15.2 GPM/SF.

b. The filter influent and effluent pressure gauges are displaying a differential of approximately 5 PSI, indicating the filter is operating within appropriate pressure ranges and is not yet ready for backwashing.

5. Pool Water Treatment System

a. The pool water is treated with two primary chemicals: calcium hypochlorite (Cal Hypo) and carbon dioxide (CO2). It appears there was once equipment for the use of gas chlorine, and the record drawings indicate a gas chlorine and soda ash system. At some point the system was converted, as are many gas chlorine systems, likely for chemical safety reasons.

b. The addition of both Cal Hypo and CO2 is controlled with a BECSys5 automatic chemical controller. The Pulsar Cal Hypo feeder is located adjacent to the sand filters and injection into the circulation system occurs via a booster pump and venturi. Pressure CO2 cylinders are located in a locked area adjacent to the mechanical room.

c. Other common dry pool chemicals were present in the mechanical room for additional water balancing needs and are presumably added to the pool manually as needed.

d. The pool has no secondary sanitation methods; relying solely on primary disinfection with Cal Hypo.

6. Architecture/Building

a. The pool mechanical room was found to be roughly 35 feet by 27 feet with ample areas for movement/circulation free of equipment. The ceiling height is almost 13 feet. This mechanical space will fit additional equipment needed for an expanded pool. Provided the existing equipment is redesigned/rearranged, it is likely this room will accommodate all the pool mechanical equipment needed for an expanded competition pool beyond the southern wall of the natatorium.

b. The deck widths in several areas of the natatorium are short of the code required 6-foot width. It is assumed this code violation has been allowed as a “grandfathered” variance from the time of construction. However, it is very unlikely this grandfathered status will be permitted to remain with any significant renovation of the pool.

Recommendations

The following changes or alterations seek to improve and modernize the aquatic system and should be incorporated into any potential project involving the renovation of the pool.

1. Replace Gutter with Deck Level Gutter

The existing gutter is an older style of gutter with inherent safety risks and inferior water collection capabilities. The step-down onto the gutter pavers is a tripping hazard. Tripping or falling in this area, at the edge of the water, is perhaps one of the most hazardous locations to fall as there is a risk of not only bodily injury from falling but also then drowning if landing in the water.
The large pavers covering the gutter trench allow water to fall into the trench only through small slots on either side of the pavers. This is far less collection capacity than a typical gutter with modern grating, and in a very active/turbulent event in that the pool water could easily reach the back of the gutter. This partly necessitates the step-down, or “roll-out,” design of the original cutter as this step helps prevent pool water from washing across the pool deck. However, a new modern gutter with PVC grating can provide superior water collection and prevent bridging, or pool water washing on the pool deck, without the need for a step down. A new deck level gutter will provide a smooth and safe transition to the edge of the pool water.

2. Remove All Metal Piping

Almost all exposed/visible piping has been replaced with PVC piping. However, there are still large metal piping components in the system and likely some buried metal piping remaining from the original construction. Metal exposed to the pool water, particularly metal materials not formed of a corrosion resistance alloy, will corrode and deteriorate over time in the aquatic environment. This introduces metal ions to the pool water, which cause staining and discoloration in the pool and on pool finish surfaces.

It is likely the remaining metal piping was left in place due to difficulties or expense of removal. Removing this metal piping would involve some destruction of the surge tank as well as excavation. However, if the pool vessel is expanded, the surge tank will very likely need to be renovated/expanded as well and would present an opportune time to remove the remaining metal piping.

3. Relocate Chlorine Feeder in Dedicated Chemical Room

The existing Cal Hypo feeder is located adjacent to the filters in the main room of the pool mechanical equipment. The calcium hypochlorite tablets located in the hopper of the feeder is a flammable, hazardous compound. The fumes/vapor discharged from these tablets are corrosive and hazardous to human health. The hopper holding the Cal Hypo is not air-tight and the room is being exposed to the hazardous vapor.

The Cal Hypo feeder should be located in a dedicated chemical closet, along with storage of the Cal Hypo chemical inventory. This dedicated chemical closet should have its own venting and air exchange, as well as appropriate fire rating.

4. Install Medium Pressure Ultraviolet Sanitation

A primary disinfection chemical, such as Cal Hypo used in this pool, is necessary to disinfect and oxidize contaminates and maintain a residual throughout all areas of the pool water. However, it is almost impossible for even a strong oxidizer to completely remove all bacteria and pathogens from a busy, crowded pool. Further, chloramines and disinfection byproducts, a result of the oxidation process, are also present in pool water and increase as pool occupancy increases. Supplementary sanitation, a secondary method of disinfecting the pool water beyond maintaining a residual of chlorine in the water, is crucial to mitigating these remaining contaminations.

Currently the pool has no method of providing supplementary sanitation. An ultraviolet sanitation system should be installed to provide effective supplementary sanitation. Pool water will pass through a medium pressure ultraviolet light chamber. In this chamber, ultraviolet bulbs will flood the passing pool water with ultraviolet radiation to kill bacteria and breakdown contaminants. Exposure to ultraviolet light inactivates biological contaminants and reduces noxious chloramines, thus providing a means of secondary treatment of pool water.

5. Install Variable Frequency Drives on All Circulation Pumps

The existing pool pumps do not have variable frequency drives (VFD). A VFD controls the output of the pump and enables fine tuning of the pumps power. Operating a pool pump with a VFD provides significant energy efficiencies and the cost-payback of a pool pump VFD is often only 1 or 2 years.

6. Replace Sand Filters with Regenerative Media Filters

The current filtration system is a pressure sand system, which operates by forcing water through a bed of silica sand. Dirt, debris and other particles are trapped in the bed of sand until the flow of water in the filter is reversed (backwashing) and sent to waste. Sand filters are not as efficient or effective of a filtration system as regenerative media filters. High-rate sand filters can capture particle sizes down to approximately 15 to 25 microns (one micron or micrometer is one millionth of a meter). A regenerative media filtration system can capture particle size down to approximately 1 to 2 microns. This means a regenerative media filter is a finer filter able to remove more particles and contamination from a pool.
Regenerative media filters are located on the pressure side of the circulation pump and push water through perlite media. Perlite media is an excellent filtration material and can be commonly found in the beverage industry. The automated “bump” cycle of the system regenerates the used media to extend the lifespan of a media cycle. This process greatly reduces the amount of water consumed to flush the system and provides an automated method of achieving the micron removal levels of a diatomaceous earth filter. A regenerative media filter represents the most energy efficient and water conserving filtration technology of all current readily available commercial pool filtration systems.

7. Install an Automated Thermal Pool Cover System

Almost all energy loss from a pool occurs at the surface, most of which is in the form of evaporation. Applying an insulated cover on the water surface when the pool is not in use provides some of the most significant energy savings of any process/method. However, many public pool facilities forego the use of a thermal pool cover due to the labor burden of installing and uninstalling the cover. To help elevate this task, motor driven cover reels can be installed to help automate the removal and retraction of the cover on the storage reels. But while these motors help automate the process, the covers still need staff to guide them. However, they help to reduce the number of personnel needed and the speed of the installation/retraction.

Considerations

1. Prefabricated Panel Pool versus Concrete Pool Vessel

A traditional pool is constructed with steel reinforced concrete, whether poured in place or pneumatically applied. Most pools in North America are still constructed with concrete. However, an alternative system utilizes bolted stainless steel panels. Myrtha Pools is the premier manufacturer of prefabricated modular pool vessel systems. This system involves stainless steel panels with a laminated PVC membrane for waterproofing and corrosion protection. The panels have an integrated deck level gutter formed from the same stainless steel and PVC membrane. For existing concrete pool vessels, Myrtha has developed the RenovAction system, involving inserting the stainless-steel panels with gutter assembly against the walls of the existing pool. This provides not only a new gutter but also a new pool finish in the form of the PVC membrane.

There are several advantages to employing a bolted panelized system. A Myrtha Pool is capable of being installed with greater dimensional precision and accuracy than forming concrete; particularly important for competition pools. Also, the use of a PVC membrane separates the function of waterproofing from the structural components of the pool vessel. As a concrete pool ages, shifting and cracking can cause leaks and require repairs; the use of a PVC membrane provides a degree of tolerance to these structural movements. The PVC membrane is also highly durable and chemically resistant.

Utilizing the Myrtha system is particularly advantageous for a pool repair or expansion such as this potential project. Expansion of the existing concrete vessel with additional concrete will involve numerous joints and waterproofing strategies. Applying the bolted panel system with membrane will create a cohesive interior for the new renovated pool. The Myrtha system will also provide the new deck-level gutter profile needed to replace the current suboptimal gutter.

2. Salt Pool versus Traditional Chlorine Disinfection

In the public pool market, what is generally referred to as a “Saline Pool” or “Salt Pool” is a pool using a Salt Chlorine In-line Generation System. The use of in-line chlorine generation is recently a growing trend with the highest use and popularity in small, residential applications. Only a small fraction of commercial aquatic facilities currently uses salt chlorine in-line generation. The demands and requirements of a public pool are substantially different from residential pools. Understanding the advantages and disadvantages, as well as the common misconceptions, of this particular disinfection methodology is crucial for a public pool operator to effectively maintain a facility.

A salt chlorine in-line generation system disinfects pool water using the same chemical properties as a traditional water treatment system. However, a salt chlorine in-line generation system uses a very different method of delivering those chemicals to the pool water. A traditional water treatment system injects one of a number of commercially available forms of chlorine; most common are sodium hypochlorite (NaOCl), or “liquid chlorine,” and calcium hypochlorite (Ca[OCl2]), often called “Cal Hypo.” All commercially available forms of chlorine are applied to pools as a means of delivering hypochlorous acid (HOCl) to the pool water. When sodium hypochlorite or calcium hypochlorite mix with water (H2O) a molecular change occurs and hypochlorous acid is produced.

NaOCl + H2O = HOCl + NaOH
Ca(OCl)$_2$ + 2H$_2$O = 2HOCll + Ca(OH)$_2$

Hypochlorous acid maintains a dissociative equilibrium with the hydrogen ion (H$^+$) and the hypochlorite ion (OCl$^-$) when in aqueous solution. Therefore, there are constantly varying amounts of hypochlorous acid and hypochlorite ions in chlorinated pool water, largely dependent on pH level.

HOCll = H$^+$ + OCl$^-$

Hypochlorous acid is the active agent that kills microorganisms and oxidizes contaminants. Both hypochlorous acid and the hypochlorite ion are considered Free Chlorine, with hypochlorous acid as the most active, effective disinfecting and oxidizing agent.

A salt chlorine in-line generation system also uses hypochlorous acid to disinfect and oxidize. Rather than using chemical pumps or tablet feeders to inject a commercially available form of chlorine into the pool, in-line chlorine generators utilize the chloride ion (Cl$^-$) present in common salt, or sodium chloride (NaCl). Simply dissolving sodium chloride in water will not produce hypochlorous acid. The ions present in this salt solution, including sodium (Na$^+$), chloride (Cl$^-$), hydrogen (H$^+$), and hydroxide (OH$^-$), are exposed to electricity through the electrolytic cells of the in-line generation equipment. Electrolysis produces chlorine gas (Cl$2$) in the pool water, which immediately dissolves to produce hypochlorous acid and hydrochloric acid (HCl).

2NaCl + 3H$_2$O = Cl$2$ + 2NaOH + H$_2$

Cl$2$ + H$_2$O = HOCl + HCl

The process of electrolysis also produces sodium hydroxide (NaOH) and hydrogen gas (H$_2$). Under normal atmospheric pressures and temperatures, the hydrogen gas dissipates from the pool in a gaseous state. The influence of sodium hydroxide and hydrochloric acid on the pH of the water counteract, as sodium hydroxide seeks to increase the pH and hydrochloric acid acts to decrease the pH of the water. The result of the in-line chlorine generation process is the presence of hypochlorous acid, and therefore a chlorinated pool.

The chemistry of disinfecting and oxidizing contaminants in pool water after the production of hypochlorous acid is the same for both in-line chlorine generation and traditional water treatment systems. At proper concentrations, hypochlorous acid will kill or inactivate 99.9% of microorganisms, and will oxidize, or react, with contaminants. Hypochlorous acid is not an irritant and is not responsible for the “chlorine smell” often associated with pools. However, hypochlorous acid reacts with some pool water contaminants, such as organic and inorganic nitrogen compounds. These nitrogenous compounds, present in urine and sweat, combined with hypochlorous acid are referred to as combined chlorine, or chloramines. Chloramines are highly irritating to eyes, skin, and mucous membranes, and cause the strong “chlorine odor” as they dissipate into the air above a pool. Chloramines may be produced in any body of water that contains hypochlorous acid and organic or inorganic nitrogen compounds, including pools with either salt chlorine in-line generators or traditional water treatment. Chloramines must be minimized in any type of pool through diligent testing and balancing of all chemical factors, such as pH, alkalinity, calcium hardness, chlorine concentrations, and total dissolved solids.

A common misconception of “salt pools” is a belief in the absence, or even reduction, in chlorine levels. As explained above, proper levels of chlorine are required in the pool water for disinfection and oxidation in “salt pools” and “traditional pools”. The difference between these systems is the process chlorine is delivered to and stored in the aquatic facility. Equally, a misconception exists that “salt pools” do not contain chloramines, which may result in either pool environment. Clearly, a strong benefit to operating an in-line chlorine generator is the ability to store chlorine in the form of sodium chloride. While all other forms of commercially available chlorine, such as sodium hypochlorite and calcium hypochlorite, are all hazardous materials, sodium chloride, quite literally “table salt,” is non-hazardous. Offsetting this benefit, a “salt pool” has the additional challenge of maintaining a chemical balance under a much greater concentration of total dissolved solids (TDS).

TDS is a measurement of the concentration of all soluble matter in the water. It is measured using electrical conductivity and represents the dissolved charged ions present in the water. These dissolved materials do not evaporate or leave the water and may only be removed by replacement with fresh water. Numerous materials contribute to the buildup of TDS, including balance chemicals, disinfection chemicals, clarifiers, dirt/debris, user waste, and minerals, such as salt. TDS is a good indicator of contaminated water; as TDS increases so do uncharged and neutral nitrogenous contaminants from sources like user waste. Buildup of nitrogenous contaminants fuel the growth of algae and bacteria and contribute to increased levels of chloramines. TDS levels should not exceed 1,500 parts per million (ppm) higher than the TDS level of the source water used to fill the pool.
The United States Environmental Protection Agency (EPA) recommends drinking water, sources of which serve as most pool source water, should have no greater than 500 ppm of TDS. “Salt pools” typically contain between 3,000 ppm to 5,000 ppm of salt concentration in the pool water. This concentration contributes to the TDS level of the pool. Ions present as a result of the addition of salt increase the water’s conductivity, and significantly contribute to the corrosion potential of the water.

An informed decision is crucial with respect to water treatment methodologies when planning and developing an aquatic facility. To assist this process, WTI has provided the following outline indicating the benefits and liabilities of a salt chlorine in-line generation system.

a. Salt Chlorine In-Line Generation Benefits

i. Swimmer Experience

Many swimmers and bathers report pool water with a high salt concentration feels “soft” and “smooth,” and is, in general, more pleasing than fresh water. While some swimmers may notice there is salt in the pool water, the concentration is only approximately 10% to 15% of the salt concentration of the ocean.

ii. Reduced Storage of Hazardous Chemicals

Storage in large tanks or pallets of hazardous chemicals are usually no longer necessary, and replaced by bags of salt, when operating an in-line chlorine generator. The offsetting properties of sodium hydroxide and hydrochloric acid during electrolysis make the process largely pH neutral. Therefore, only a small amount of hazardous balance chemicals is typically needed to be used and stored on premise.

iii. Chemical Availability and Cost

Sodium chloride, or “table salt,” is one of the most readily available compounds on the planet. Salt is also relatively inexpensive as an industrial chemical.

b. Salt Chlorine In-Line Generation Liabilities

i. Conductivity

The addition of sodium chloride to the pool water increases conductivity. Higher conductivity makes proper grounding and bonding of all metal components in or near the pool even more crucial. With greater conductivity, there is a greater risk of stray voltage damaging equipment, corroding metals, and staining surfaces.

ii. Corrosion

The addition of sodium chloride to the pool water also increases corrosion potential. Metal surfaces and some forms of stone are susceptible to advanced and premature corrosion when exposed to high concentrations of salt. Metal pump impellers, metal grating, handrails, grab rails, lane anchors, and other hardware are corroded by saltwater and dry salt deposits. Higher grades of metal and stronger metal coatings may be used for this hardware, which may greatly increase the capital cost of the project and will likely still experience corrosion.

iii. Salt Deposits

When water evaporates all quantities of salt remain. Therefore, water splashed out of the pool, carried out by bathers, or droplets from spray features will leave dried salt deposits on the pool deck, or any other surface in close proximity to the pool, including handrails, benches, and windows.

iv. Capital Costs

The capital cost of an in-line chlorine generation system is significantly greater than a traditional water treatment system. The exact cost of either system is contingent on the number of bodies of water and the volume of water to be treated. However, as the size of the pool facility increases this disparity in capital cost also increases.
v. Replacement Expenses

The electrolytic cells, comprised of semi-precious metals, is one of the most expensive components of the in-line chlorine generation system. These electrolytic cells are known to have a limited lifespan, and typically fail in approximately three to five years after installation.

vi. Required Operator Involvement

In-line chlorine generators are frequently sold as “completely automated” and without the need for operator involvement. In-line chlorine generation systems contain automatic monitoring and control of pH levels, chlorine levels, and/or oxidation reduction potential, just as traditional water treatment systems also contain these automated abilities. However, daily involvement of an operator is still necessary for a safe and balanced pool.

vii. Contaminant Reaction Capacity

Many in-line chlorine generation systems are designed to produce chlorine levels within a narrow range. These systems may lack the capacity to make quick adjustments to react to large influxes in contamination, typically from sudden increases in bather loads. Facilities with events such as competitive swim meets, large attendance on weekends or holidays, or strong participation on special promotional days may require manual adjustments with supplemental chemicals.

There is a third option related to Salt Chlorine Generation, which aims to reduce some of the disadvantages of in-line generation while maintaining some of the advantages. Salt Chlorine On-Site Generation uses essentially the same technology and electrolytic process as In-Line Generation. The primary difference is an On-Site Generation system converts a salt solution to usable chlorine in a holding tank separate from the pool. Typical On-Site Generation systems take a supply of salt dissolved in water, and using the electrolytic process, convert the Chloride ions to Sodium Hypochlorite. The Sodium Hypochlorite is held in a separate holding tank and injected into the pool water, as needed, with a chemical pump in the same manner as a traditional chlorine disinfection system. This allows a facility to produce chlorine on-site, store the majority of “chlorine” in the form of salt, and chlorinate the pool without requiring high levels of TDS. These systems are essentially, small, on-premise sodium hypochlorite chemical plants. On-site systems maintain some of the benefits of salt chlorine in-line generation, but also some of the liabilities:

a. Salt Chlorine On-Site Generation Benefits

i. Reduced Storage of Hazardous Chemicals

Storage in large tanks or pallets of hazardous chemicals are usually no longer necessary and replaced by bags of salt.

ii. Chemical Availability and Cost

Sodium chloride, or “table salt,” is one of the most readily available compounds on the planet. Salt is also relatively inexpensive as an industrial chemical.

b. Salt Chlorine On-Site Generation Liabilities

i. Capital Costs

The capital cost of an on-site chlorine generation system is significantly greater than a traditional water treatment system. An on-site chlorine generation system is also slightly greater than a comparable in-line generation system due to the additional equipment necessary.

ii. Replacement Expenses

The electrolytic cells, comprised of semi-precious metals, is one of the most expensive components of any chlorine generation system. These electrolytic cells are known to have a limited lifespan, and typically fail in approximately three to five years after installation.
iii. Required Operator Involvement

While on-site chlorine generators are “completely automated” operator involvement and advanced education in the system is required. Daily involvement of an operator is still necessary for a safe and balanced pool.

Conclusion

Through visual observation of the physical condition of the pool and pool systems in the Intramural Activities Building it is determined some components and aspects of the pool are in need of repair/renovation. The pool in this facility is an appropriate candidate for expansion; the pool is both in need of modernization and improvement and has proper spaces and infrastructure potential to allow for a larger aquatic amenity.

A future renovation of the pool should involve modernizing the pool tank with deck level gutters, and a prefabricated bolted panelized pool vessel, such as a Myrtha Pool system, should be strongly considered. The mechanical systems of the pool should be updated to involve VFDs, UV sanitation, and advanced regenerative media filtration. All remanences of metal piping from the original construction should be removed and energy efficiency practices, such as applying pool thermal covers, should be enacted. A traditional water treatment method, such as the current use of calcium hypochlorite and carbon dioxide, should continue to be employed rather than alternative methods such as salt chlorine generation.

The overall condition of the pool and pool systems, considering the age of the facility, is reflective of many years of proper maintenance and attention. However, even the best managed pools cannot escape the detrimental effects of time and usage, nor avoid the appeal of the advantages and efficiencies of newer, modern methods. There exist several challenges to renovating and expanding the IMA pool, however, if implemented properly there is great potential for the new pool to serve the IMA members well for future decades.
Cost Estimate

Design Options

The Cost Estimate specifically accounts for all required phases of construction for the following:

1. Option 1 – An expanded aquatics environment, including a 16 lane swimming pool and proposed locker room upgrades. Seismic upgrades required for the building expansion; structural requirements for the altered access to the pool; increasing/upgrading the pool equipment; modifications to heating, cooling, ventilation, and dehumidification; lighting requirements for the enlarged natatorium; and the architectural modifications, interior finishes, heating, cooling, ventilation, plumbing, lighting, and electrical requirements for the locker rooms.

2. Option 2 – A pool renovation, squaring off the existing pool, providing a nine lane swimming pool; addressing structural requirements for the altered access to the pool, and accommodating the architectural modifications, interior finishes, heating, cooling, ventilation, plumbing and electrical requirements for the pool and locker rooms.

3. The proposed alteration to the north wall applies to both options. Our proposal to remove the existing concrete stepped seating removes the weight of a concrete structure from the structural system of this area of the building reducing the lateral restraint requirements and provides opportunity for improvement of visual access to the natatorium. The removal of the existing wall and slab system will require the addition of a new lightweight steel framed floor system with a long-span beam with seismic restraint creating a full opening between the corner rooms.

Aquatics Cost Considerations

Followings are aquatics related cost comparisons:

1. A Myrtha prefabricated panel pool vs. the existing concrete vessel: Typically a Myrtha prefabricated pool has a cost premium of about 5% to 10% over concrete. However, a number of factors come into play on each individual project. In this instance, as a renovation we’ve found Myrtha to be very efficient when compared to joining old/new concrete and refinishing the pool interior. Also, the Myrtha vessel system is most efficient with rectilinear pool configurations. Therefore, I would anticipate a Myrtha prefabricated pool be have an equal cost to 5% premium compared to a concrete vessel renovation for this project.

2. Salt pool vs. the traditional chlorine disinfection: There are a few different styles/types of salt chlorine generation systems. There costs typically range from about $50k to $100k over the cost of a traditional chlorine system.

3. Regenerative media methods of pool filtration: Regenerative media filtration has a higher capital cost than the current sand filtration, but a much lower operational expense. To further the capital difference, if they stay with sand filtration they likely could re-use the existing filters and purchase only what is needed to expand the system. Expanding the existing sand filtration system should cost about $75k for the Option 1 – 16 lane pool; and about $50k for the Option 2 – 9 lane pool. A new regenerative media system would be about $150k to $175k.
University of Washington
IMA POOL+LKR RM UPGRADES (CPO #205781)
Seattle, Washington

PRE-DESIGN
COST ESTIMATE R6
January 26, 2020

JMB CONSULTING GROUP
January 26, 2020

Aaron Pleskac
SRG Partnership, Inc.
110 Union Street
Suite 300
Seattle, Washington 98101

Re: University of Washington
Subject: IMA Pool+Lkr Rm Upgrades (CPO #205781)
Seattle, Washington

Dear Aaron:

In accordance with your instructions, we enclose our cost estimate for the project referenced above. This cost estimate is a statement of reasonable and probable construction cost. It is not a prediction of low bid.

We would be pleased to discuss this report with you further at your convenience.

Sincerely,

Jon Bayles

JMB Consulting Group LLC 17-004

Enclosures
BASIS OF COST ESTIMATE R6

Conditions of Construction

The pricing is based on the following general conditions of construction

A start date of January 2021

A construction period of 12 months

There will not be small business set aside requirements

The contractor will be required to pay prevailing wages
EXCLUSIONS

Owner supplied and installed furniture, fixtures and equipment
Loose furniture and equipment except as specifically identified
Furnishing of security equipment and devices
Furnishing of audio visual equipment
Hazardous material handling, disposal and abatement except as identified
Compression of schedule, premium or shift work, and restrictions on the contractor's working hours
Design, testing, inspection or construction management fees
Architectural and design fees
Scope change and post contract contingencies
Assessments, taxes, finance, legal and development charges
Environmental impact mitigation
Builder's risk, project wrap-up and other owner provided insurance program
Land and easement acquisition
Also see detail of each estimate
## OVERALL SUMMARY

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<td><strong>Total</strong></td>
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<td><strong>20,279</strong></td>
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| Phase 0: Mobilization | 299 | 319 |
| Phase 1: Option 2 - 9 Lane Pool | 4,662 | 4,974 |
| Phase 1 and 2: Locker Room Wet Areas | 3,418 | 3,646 |
| Phase 1 and 2: Locker Room Dry Areas | 4,034 | 4,304 |
| **Total** | **12,413** | **13,242** |
Cost Estimate

University of Washington IMA Pool+Lkr Rm Upgrades (CPO #205781) Pre-Design Cost Estimate R6
Alternates January 26, 2020 Seattle, Washington 17-004.130

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<tr>
<td>GCs/GRs</td>
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JMB Consulting Group LLC
### Phase 0: Mobilization

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<td>Add/reconfigure entry</td>
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<td>Add dividing wall including adjust MEP</td>
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Mark ups: 41.94% of total cost is applied as mark up.
## Phase 1: Option 1 - 16 Lane Pool

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<td>Drain pool</td>
<td>By UW</td>
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<tr>
<td>Remove/reset furniture</td>
<td>By UW</td>
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<td></td>
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<tr>
<td>Remove 1M diving board</td>
<td>1.00</td>
<td>ea</td>
<td>525.00</td>
<td>525</td>
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<td>Remove pool deck</td>
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<td>Mobilize drilled piers</td>
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<td>Extend 24&quot; drilled piers, 5'</td>
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<td>Temp barriers/protection</td>
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<tr>
<td>Retrofit structure for seismic</td>
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<tr>
<td>Strengthen shear wall</td>
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JMB Consulting Group LLC
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<th>Description</th>
<th>Quantity</th>
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<th>Rate</th>
<th>Total</th>
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<td>Saunas</td>
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<td>41.94%</td>
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<td>7,931,797</td>
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**Total**: 11,258,570
# University of Washington IMA Pool+Lkr Rm Upgrades (CPO #205781) Pre-Design Cost Estimate R6

Alternates

Seattle, Washington

## Phase 1: Option 2 - 9 Lane Pool

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<th>Rate</th>
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<td>sf</td>
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<td>6,600</td>
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<tr>
<td>Drain pool</td>
<td></td>
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<td>By UW</td>
<td>-</td>
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<tr>
<td>Remove/reset furniture</td>
<td></td>
<td></td>
<td>By UW</td>
<td>-</td>
</tr>
<tr>
<td>Remove 1M diving board</td>
<td>1.00</td>
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<td>525.00</td>
<td>525</td>
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<tr>
<td>Remove pool deck</td>
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<td>1.58</td>
<td>2,205</td>
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<td>CDF at diving well</td>
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<td>Extend 24&quot; drilled piers, 5'</td>
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<tr>
<td>Import fill 5'H</td>
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<td>525.00</td>
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<td>Temp barriers/protection</td>
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<tr>
<td>Retrofit structure for seismic</td>
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<tr>
<td>Strengthen shear wall</td>
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<td>110,600</td>
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## Cost Estimate

### University of Washington IMA Pool+Lkr Rm Upgrades (CPO #205781)

**Pre-Design Cost Estimate R6**  
**Alternates January 26, 2020**  
**Seattle, Washington 17-004.130**

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JMB Consulting Group LLC
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MEETING MINUTES

MEETING NAME: IMA Project Executive Committee
PREPARED BY: Kenny Grist
MEETING DATE: 10/21/2019

PROJECT NAME: IMA Pool/Locker Renovation Validation Study
SRG PROJECT #: 217013 P
REVISION DATE: 10/21/2019

PRESENT:
Scott Carlson, Troy Stahlecker, Matt Newman, Katie Beth, Tracey Andres, Aaron Pleskac, Kenny Grist, Asayo Shiori, Jasmine Dennis
DISTRIBUTION: Attendees

*Denotes part-time attendance

1. Three primary goals as follows: 1) Expand the capacity of the pool. 2) Renovate locker rooms to be primarily gender-inclusive. 3) Maintain continuous operation.

2. Contract Status. Fee proposal sent by SRG to Scott, Troy/UW CPD for review/approval. Comments will be sent to Kenny/SRG in next day or two. Once acceptable will be sent to Matt/IMA.

3. Troy/CPD opened the discussion indicating a desire to have a greenfield benchmark option for a new pool building somewhere within the vicinity of the IMA building. Some concerns with this option include management requirements, staffing the new facility while maintaining staff at the existing facility, but could prove useful to evaluate the investment for our renovation option which is the subject of the Validation Study. SRG understands that greenfield benchmark option is to include a cost estimate for new construction of a pool facility with 16 lanes and sufficient pool deck space, and some toileting and locker facilities in a location in close proximity to the existing IMA building.

4. Kenny/SRG shared sketches of an approach to increase daylight for the enlarged pool option by adding a skylight E-W over the wall connecting the inner corridor with the pool. The newly built South wall would be built of structural curtain wall and extend into the existing courtyard with an 8’ landscape buffer to the drive. The committee commented that it is more important to focus on program improvements rather than building improvements until there is more budget certainty.

5. SRG shared multiple plans showing development options for locker rooms. Discussion by all over functionality, size and layout of toilet, shower and changing rooms, safety, appropriate level of variety of spaces, locker types, finish materials, and pool dimensions.

6. Matt/IMA requested an option be provided that relies entirely on single-occupant restrooms – “cabanas”, which include shower, toilet, and lavatories – throughout the main locker room.

7. It is noted that the Equipment Issue room’s size and location on main corridor is working well.
8. The available existing volume of Equipment Storage in the current men’s locker room shall remain, regardless of the ultimate uses and configuration of this locker room.

9. Programming for the pool and locker room should not flow over into the weight-lifting spaces to the North. Weight room to remain outside limit of work.

10. Sauna. The existing saunas are under-utilized and open into locker rooms. Preference for saunas to open from a more public location (swimming pool) so they could be monitored by pool staff. Size – target to be half of current size and contain both wet and dry saunas.

11. Faculty lockers. Do not provide dedicated rooms. Faculty can be assigned lockers in either the Main, Men’s, or Women’s Locker Rooms.

12. Staff Lockers. Rec Staff will have full-size lockers – approximately 40 – and located in the Main Locker Room.

13. Pool ADA access. It is preferred that accessible access to the pool should be provided with “zero entry” or a ramp rather than a lift due to the potential maintenance concerns of another piece of equipment. It is understood that this may reduce the quantity of swimming lanes.

14. If feasible, maintain a deep area in the pool for programs that require deeper water, such as the scuba program.

15. The next meeting is expected to take place on November 18, 2019.

END OF MEETING MINUTES
1. Three primary goals of the project remain: 1) Expand the capacity of the pool. 2) Renovate locker rooms to be primarily gender inclusive. 3) Maintain continuous operation.

2. Project budget is $24 million +/- . The proposal will be presented to student fee committee after January 2020. January 2021 construction date is expected.

3. SRG presented plan revisions in order to better define scope, spatial organizations and relationships, and discuss and address user and facility concerns to be ready for a starting point for the engineering review. The engineering review includes civil, structural, mechanical, electrical, landscape, building code review, and pool design. The intention of the study is not to set final design, so carrying a couple options simultaneously may allow greater preparation for the project potential.

4. Pool and deck: Option 1 and 2 pools, as shown, are sized to meet code requirements for required ratio of deck to pool area.
   a. Troy/CPD requested a comparable cost analysis of a greenfield option (A greenfield benchmark option for a new pool building somewhere within the vicinity of the IMA building. Refer to 10/21/2019 Meeting Minutes.) and existing pool facility. Also requested is 9-lane and 16-lane pool comparison based on lane per gallon of water analysis for proposed renovation.
   b. 16-lane pool preferred.
   c. Deep diving area (rectangular) is preferred to support following UW activities 1) Environmental health and safety. 2) ROTC. 3) Water polo. 4) Aqua Jogging.
   d. Based on comments during previous meeting, ramp and handrails to the pool is shown on one end of the pool for access ease of maintenance. Josh/IMA shared concern on ramp and handrails along the edge of pool in case of emergency for limited access.
   e. Bulkhead will likely to be utilized to aid flexibility of usage. Bulkhead is approximately 4’-0” wide and comes with weights. Storage space to be considered.
   f. First Aid room is first aid use (does it need privacy and access to plumbing?) and audible connection to the pool and deck. It will not be used to monitor the pool and deck. Josh/IMA recommends three lifeguard stations for 16-
lane pool. 1) In the front at shallow end on deck. 2) Center of the pool on deck. 3) Elevated seat/platform on deep end of pool.

g. Sauna access from pool deck preferred for monitoring. Josh/IMA shared concern that sauna in corner location gets less use.

5. Gender inclusive locker room: Design team developed plans focusing on high degree of visibility and inclusiveness for safety concerns.
   a. All water closet, no urinal, preferred. It will be determined later if urinals are to be added for maintenance and cost.
   b. All accessible cabana option preferred (shown on option 1).
   c. Changing rooms placed along back wall preferred (shown on option 2). Note existing radiator on back wall.
   d. SRG will update plans to generate a single (hybrid) of the options for engineering reviews. Direction has been given to eliminate urinals from the gender inclusive locker room.
   e. Troy/CPD expressed his concern that water will be spread throughout the Cabanas and migrate towards dry areas. SRG has addressed this concern with locating showers and toilets on perimeter wall and sloping floor away from dry areas.
   f. Locker counts, as shown, represent the 12"x12" square locker space on the floor. Final locker configuration and count are to be determined.

6. Men’s/Women’s locker rooms: Mobilization phase was reviewed.
   a. There is a possibility of revisions made during mobilization becoming permanent.
   b. Proposed Women’s Locker Room is located at North half of existing Women’s Locker Room providing more water closets (6). Proposed Men’s Locker Room has (4) water closets. SRG with code consultant will determine if available water closets can be limited during construction to avoid additional work during mobilization.
   c. Katie/IMA points out gang type showers do not work in women’s locker room, so partitions would need to be installed. Troy/CPD expressed concerns for extended mobilization construction period for adding the partitions.
   d. For emergency exit from Men’s locker room, cutting through existing issues storage room should be avoided. SRG to explore other exit options with code consultant.
   e. Emergency exit from Women’s locker room should avoid going through shower area. SRG to explore other options.

7. Matt/IMA will contact and start conversations with other PAC 12/college facilities for gender inclusive locker room lessons learned. Jasmine will follow up the conversation to provide additional information on the precedence study.

8. Aaron/SRG will present to UW All-Staff meeting between 11:45am and 12:15pm on December 3rd. SRG will prepare drawing(s) for the presentation. Note: Presentation material should be more diagrammatical and changing room locations should not be identified.
9. Next meeting for this committee is December 16th at 3:00 pm.

END OF MEETING MINUTES
1. Green Field Option:
   a. Kenny (SRG) - opens the meeting presenting the exercise on the green field study (see attached). He brings attention that there is no exact “green” site to build on and locations next to the IMA building are limited. A 10-lane pool was proposed with proper services and equipment that is needed to operate the pool facility. Plan was provided with areas of total square footage for the purpose of estimating costs for comparison.
   b. Matt (UW) – Says that the Green Field Study exercise was useful, and they will give the information to their committee members to review.

2. Sustainability / Pool:
   a. Tim (UW) discussed the current treatment system for the pool. Sand filtration with chlorine tablets and CO2 are currently how the pool is being treated. Tim would like to continue use of appropriate disinfectant chemicals to treat the pool water.
   b. There may be some potential for UV light to reduce the use of chemicals.
   c. Bromine is not desirable from either Tim’s or Josh’s perspective.
   d. The University’s onsite EHS requires (4) manual tests of the pool daily, so automation is not necessary.
   e. Josh (UW) – likes a “saltwater method” versus the “chlorine method” for pool filtration. Saltwater is easier on the skin than chlorine and is easier on the pool plumbing system.
   f. Matt (UW) – discusses how the pool equipment is out of date. UW will need new pool equipment.
   g. Josh (UW) – discusses how currently, the pool has (outdated) large motors for pool. He thinks UW will also need new large motors for the new swimming pool as the filtration tanks are required to be above grade.
   h. Tim (UW) – discusses how the filtration system is 30 years old.
   i. Tim (UW) – recalled an effort that discovered groundwater at 4’-5’ below the existing finished grade.
   j. Katie (UW) – wants low flow toilets and automatic sinks. Automatic toilets are still up for debate due to potential maintenance concerns. The provision of LED light fixtures with an appropriate lighting level is also desirable. Currently the Men’s Locker Room has about 25% un-used light fixtures.
   k. Kenny (SRG): indicated that new materials introduced into the construction could meet some specific green certification requirements i.e., high-percentage
recycled, sustainably resourced, and should address concerns for indoor air quality.

3. Review Process:
   a. All (UW, SRG) agreed that the process for review would go in the following order:
      - Executive group sees final option
      - Presents to student committee
      - Prepare a refined finalize version for student body

4. Final Comments:
   a. Josh (UW) – Would like to have a multiple treatment system for the pool. First hair basket filtration, then sand filtration, chemical (chlorine and CO2) disinfectant treatment and finally a U.V. light treatment.
   b. Tim (UW) – will gather information on the current cost and usage of the CO2 and chlorine usage. He will also gather information on the current solar panels and the current usage.
   c. Josh and Tim – are open to seeing other unmentioned options of pool filtration from the pool consultant.
   d. Tim (UW), Josh (UW) - dislike gas pool treatment methods, such as bromine
   e. Josh (UW) – Reviewing our submitted options from last month noticed that the First Aid Room needs to be larger. The following are in the current first aid room:
      - Shower
      - Ice machine
      - Electrical outlet (would like more)
      - Treatment Area
      - Non - ADA toilet
   f. Josh (UW) – would like a separation barrier (possibly a curtain) to provide privacy for individuals receiving treatment. He wants the First Aid to be visible and accessible to patrons with possibility of privacy for anyone receiving treatment.
   g. Showers on deck may not be necessary if the pool filtration and equipment is updated. The removal of the showers on deck will be decided by UW as a matter of policy.
   h. Jasmine (SRG) - discusses the process of reaching out to other Universities who have set precedents and the lessons they’ve learned from instituting the Universal Locker Room. She discussed a set of questions, generally as described in the below template.

1. How many people visit the facility a year?
2. In your facility, do you provide a gender-specific locker room? If yes, what is the ratio of usage between your gender- specific and gender-inclusive locker rooms?
3. What is the size of your universal locker room?
4. What type of single occupant room do you provide (cabana, changing room)? What is provided in these single occupant rooms?
5. Do you have multiple types of single occupant rooms? If yes, which single occupant room type do you see getting the most use in your facility?
6. How do you determine the number for single occupant rooms?
7. How do you determine the ratio between single occupant rooms and plumbing fixture count?
8. What works well in your facility that your patrons are responding well to?
9. What concerns have you or your patrons experience that you would like to change?
10. Have you and/or your patrons experienced any security and/or safety concerns?

i. Questions posed to University of Arizona (Michele Schwitzky) and responses (in red):
1. I understand the North Rec Center is fairly new, but how many people visit the UA recreation center a year? Approx 1,000,000
2. I read an article on your locker rooms but I could not find any detailed information about it on the university website. I also couldn’t find any information on gender specific locker rooms. Do you have other locker rooms available in both facilities? We have traditional gender-specific locker rooms (M/W) in the REC. Only cabanas in NorthREC.
4. What does UA classify as a typical cabana? Do you have different types of cabanas? If yes, which cabanas are the most popular in your facilities? REC Cabanas -sink, shower, toilet (7), sink, shower (7)
5. How do you determine the number of cabanas for both Rec spaces? Do you feel like you have enough cabanas or would you like to add more? This number seems to work for showers although more with toilets would be desirable.
6. Do you have dry changing rooms? No. If yes, how do you determine the quantity in each facility.
7. What works well in your inclusive facilities that your user have responded well to? I think simply having more inclusive facilities has been well received. There was a minority of patrons that questioned why inclusive spaces are necessary, but the response has been positive overall.
8. I could not locate any plans for your UA Rec facility or locker room layouts for your North Rec Center. What concerns have you or your users experienced that you would like to change based on inclusive locker room layout you have? Patrons tend to refer to the cabanas as either the “men’s side” or the “women’s side” even though the entire space is intended to be gender inclusive. I understand that they are doing this as a way to help provide direction, but this somewhat defeats the purpose of having a gender inclusive space. The hallways in the cabana space at the Rec are narrow, which makes it challenging for patrons in wheelchairs to navigate.
9. Have you or your users experienced any security or safety concerns? None

j. Questions posed to University of California- Berkeley (Torre Meeks) and responses (in red):
1. How many people visit the recreation center a year? I do not have access to the number of people that come through the turnstiles each year, but we do have over 30,000 student members and over 10,000 non-student members each year.
2. I couldn’t find any information on gender specific locker rooms. Do you have other locker rooms available? If yes, what is the ratio between both gender-specific and gender-neutral locker rooms? Yes, we still have locker rooms designated for "Men" and "Women". It is hard to estimate the use of each locker room since you may enter any of the three after you swipe through the turnstiles. I will say that our Universal Locker Room is a very popular option, and there are still constantly members in all three locker rooms.

3. How is the ratio between shower and changing rooms working for your gender neutral locker rooms? Do you have enough? If not what would you change? So far we have not had any issues with people having to wait too long for individual stalls. I would say if we were to change one thing, we would add more shower stalls as this is the one area where people do have to wait for a room to be available from time to time. I have not seen any waiting for restrooms or changing stalls. I think part of this may be because people sometimes shower and change all in the shower stall which takes longer and may cause a slight wait time for another member.

4. I noticed there are variety of changing room sizes. How are the user responding to the different variety of size of changing rooms? Have you noticed which changing rooms are being used the most? We have a variety of sizes for all of our rooms. We have larger changing rooms, restrooms, and shower rooms that are marked with the accessibility label. This allows for members with specific needs to have more space to change, shower or use the restroom. These rooms also come with additional grab bars and benches for members.

5. What works well in your facility that your users have responded well to? I am not exactly sure what you mean here. I think in general we have received high praise for the universal locker room. We also have installed non slip flooring in all of our locker room to help as members are wet from the pool or shower.

6. What concerns have you or your user experienced that you would like to change based on the locker room layout? I think the biggest challenge is to continue to make all members feel safe and welcomed while using the Universal Locker Room. Some of our members, typically male, have to be reminded that full clothes are required in common areas as they are sometimes shirtless as they move around. Despite our signs, this is something that does come up. We do not want any member to feel uncomfortable because of this.

7. What security or safety issues have you experienced, if any? And have your user addressed any concerns? The only thing that has been brought to our attention is that if someone were to fall or need emergency assistance while in one of the locked rooms, there would be no way to notify staff. I have been working with our UCPD to analyze and identify a solution to this topic. We are looking into emergency pagers or other systems for our members in the event of an emergency.

k. Jasmine (SRG) – discusses the differences between Arizona and UW. Arizona not providing changing rooms, while UW has intention to provide changing room for
the Universal Locker room. Arizona and Berkeley both expressed the popularity and success of their Universal Locker rooms.

1. Jasmine (SRG) - also mentioned additional questions could be added to template questions.

5. Next meeting is to be rescheduled due to MLK holiday conflict.
   a. Scott (UW) will review the committee’s schedules and offer a date.

END OF MEETING MINUTES
MEETING MINUTES

MEETING NAME: IMA Project Executive Committee
PREPARED BY: Kenny Grist
PROJECT NAME: IMA Pool/Locker Renovation Validation
PRESENT: Scott Carlson, Matt Newman, Troy Stahlecker, Katie Beth, Josh Yeager, Tim Taylor, Tracey Andres, Mindy Norris, Aaron Pleskac, Kenny Grist, Jasmine Dennis

MEETING DATE: 1/21/2020
REVISION DATE: Date
SRG PROJECT #: 217013P
DISTRIBUTION: Attendees,
*Denotes part-time attendance

1. Introductions: Mindy Norris joins the team. Mindy is UW account manager for Planning, Design and Space Management. Mindy will be taking over the role of Tracey’s position. This transition will begin in the next few months.
3. Primary concern with the existing draft report is the absence of some components in the Executive Summary. The summary shall be sufficiently complete to represent the points of the validation report on its own and include the following elements:
   a. A Risk Analysis indicating the major risks of the project including:
      i. A summary of potential concerns that could trigger requirements of a Substantial Alteration from the City of Seattle.
      ii. A Cost estimate that reflects items of concern such as structural requirements for lateral reinforcements and bracing, pool construction, and other options.
      iii. A discussion of potential for systems to exceed established cost range.
   b. The Project Cost Estimate:
      i. Cost estimate will be distributed among the disciplines for review and validation.
      ii. Once vetted the cost estimate will be distributed to the committee for their review and comment.
      iii. SRG understands the cost estimate should be used to establish reasonable range for the alternates selected.
4. Key points within the Draft Report were discussed including the following:
   a. Proposed plumbing fixture count meets code requirements.
   b. Egress as proposed meets code requirements.
   c. Due to prescribed occupant loads for Pools the actual count will probably be determined by UW and negotiated with the City and posted.
   d. Landscape consultant suggested improved LED exterior lighting at the pedestrian pathway South of the building.
   e. Mechanical consultant suggested a separate air handling unit (AHU) be provided for the Pool.
5. The study shall include a discussion on the approach for sustainability establishing a new green standard versus the existing conditions. It’s understood that UW Student Committee will want a “Green-Building”. Reference has been made to the “Campus Green-Standard” provided on the UW website. Students will likely focus on the following:
   a. Conserving energy
   b. Capturing rainwater
6. The Aquatics portion of the study discusses options available for the new pool and the cost estimate should reflect these, including:
   a. A Myrtha prefabricated panel pool vs. the existing concrete vessel.
   b. Salt pool vs. the traditional chlorine disinfection.
   c. Regenerative media methods of pool filtration.
7. The Validation study shall be prepared before next UW Executive meeting held on February 28, 2020.
8. Final preparations for the report should include the following:
   a. Revised Executive Summary Including:
      i. Project Statement
      ii. Risk Analysis
      iii. Project Cost
   b. High-Resolution imagery
   c. The final Validation Report shall be developed for ease of legibility and free from discipline specific acronyms.
9. Final draft of the report is expected to be completed February 17, 2020.
10. Next meeting is scheduled to be February 24, 2020 at 3pm.

END OF MEETING MINUTES
This teleconference was held to provide Josh an opportunity to discuss current aquatics design in the region with Ryan Nachreiner, the Aquatics Design Consultant for the Project.

1. The discussion on the upcoming project and its effect on the current pool layout and function began with an agreement that all metal piping should be removed from the system.

2. Discussion on the pro’s and con’s of salt chlorine generation systems vs. traditional water treatment:
   a. Description: Salt Chlorine generation system produces chlorine based on the established requirements of the system; recommended operating at 2-3 ppm free chlorine.
   b. Pros: Ease of material handling as the only inputs into the established system are salt and water. The pool becomes its own chlorine plant; salt concentration is actually only about 10% of ocean water.
   c. Cons: Higher up-front equipment cost for salt-cells; Higher operating costs due to electrical requirements for chlorine generation; more corrosive environment on structures and equipment, requiring higher grade of stainless steel on exposed components. Salt cells need to be replaced consistently depending on the pool use. A pool of 16 lanes will require multiple cells.
   d. Chlor-king is a good example of the cells utilized for college pools - https://www.chlorking.com/

3. The Myrtha pool system provides a PVC finish for the pool vessel which works well in chemical environments. Existing concrete vessels receive PVC wall and floor linings; while new walls are installed as stainless steel panels with a bonded PVC liner. Installing walls of this type for our pool expansion would reduce schedule due to less labor and curing compared to concrete walls.
   a. After the meeting Kenny contacted The Pool Company Inc., Tacoma, WA.; this contractor provided UW with an estimate for upgrading the pool with Myrtha construction back in March, 2017. They are in constant contact with the regional representative for Myrtha and have offered to organize a presentation for the University with touring of local completed projects.

4. Ultraviolet sanitation can reduce chemical use in a properly balanced system; when running the system at 1-2 ppm free chlorine UV light benefits the system. UW is currently running their system at 3 ppm free chlorine.
   a. Exposure of water to UV light
      1. Kills pathogens
2. Breaks down chloramines
   b. UV sanitation improves air handling, due to reduced chloramines; and is also good safety against bacterial infections.

5. Best practices for air-handling in the natatorium:
   a. Exhaust-return air intakes should be set close to water level, as they can capture chloramines at the source improving the indoor air quality. Provision of gutter-integrated evacuators can extend equipment life and reduce operating costs as humidity throughout the space is reduced. If desired this air can be run through a heat-recovery system to further improve efficiencies.
   b. Ryan also mentioned it’s good practice to place low-volume (2 cfm) exhaust fans in the surge tanks to reduce overall airborne chloramine levels.

6. Humidity Control System:
   a. During the Summer it’s a percentage of outdoor air exchange.
   b. During the Winter there is required dehumidification to the system.
   c. Supply air flow should be directed to perimeter flooding with a good air flow across windows and wall surfaces to minimize condensation.
   d. Solid hard-walled ductwork distribution is preferred.

7. Regenerative filter media is also considered best practice:
   a. 70-90% less water used than conventional sand filtration, for cleaning.
   b. This system relies on perlite for a filtration media and removes particles as small as 1-2 microns.
   c. System uses a vessel designed to cleanse the filtering media through vibration.

8. Sand Filtration:
   a. The current sand filtration vessels could also be upgraded to an activated filter media, such as, recycled glass. These media last longer than sand and offer reduced particle size trapping, down to 10 microns vs. the 20 microns for sand.

END OF MEETING MINUTES
All parties are requested to review these minutes. If there are any questions, concerns or discrepancies, please contact this office within (2) days following issue of these minutes, after which these notes will stand as written and be considered a matter of record.
UNIVERSITY OF WASHINGTON
INTRAMURAL ACTIVITIES BUILDING

CURRENT LOCKER ROOM AND POOL PRECEDENTS
UW PROJECT 205781  10/21/2019
GENDER INCLUSIVE FACILITIES

PRECEDEMTS:
- University of Arizona
- University of California - Berkeley
- University of Missouri
- Utah State University
- Princeton University
- Portland State University

PARAMETERS OF DETAIL:
- Low Detail
- Moderately Detail
- High Detail
UNIVERSITY OF ARIZONA

UA Recreation Center
COMPLETED: 2017
SIZE: 4,500 sq'
COST: $5 million
Facility Includes:
- Lockers
- 14 Changing Area
- 14 Showers
- Bathroom
Recreation Center

COMPLETED: 2015

SIZE: 4,500 square feet

COST: $2.7 million

Facility Includes:
- 400 Lockers
- 16 Individual changing rooms
- 7 Private Showers
- 5 Private Bathroom

UNIVERSITY OF CALIFORNIA - BERKELEY

 Locker Room

 Locker Room Entry Rendering

 Locker Room Layout: 3d Model

 Locker Room Rendering
Student Recreation Center

COMPLETED: 2014

SIZE: Over All Facility - 300,000 sq'

COST: N/A

Facility Includes:
- General Locker Rooms
- 2 Assisted changing rooms
  (includes, personal shower and toilet)
Precedent Studies

PORTLAND, OREGON

Dillon Gym
COMPLETED: 2016
SIZE: 9,000 sq'
COST: N/A

Facility Includes:
- 6 Individual shower facilities
- 150 Day lockers
- Male Specific Locker Rooms
- Female Specific Locker Rooms

Facility Includes:
- 6 Individual shower facilities
- 150 Day lockers
- Male Specific Locker Rooms
- Female Specific Locker Rooms

Floor Plan

Entrance Lobby
Precedent Studies

Aggie Recreation Center

COMPLETED: 2013

SIZE: Over All Facility - 105,000 sq ft

COST: Overall $10 - $30 million

Facility Includes:
- Lockers
- Locker Rooms
- Entrance Lobby
- Restroom
PORTLAND STATE UNIVERSITY

Academic and Student Recreation Center

COMPLETED: 2012

SIZE: Over All Facility - 208,000 sq'

COST: Over All Facility $69.5 million

Facility Includes:
- Gender-Identified Locker Rooms
- Private changing spaces (also located in all locker rooms)
AQUATIC FACILITIES:

PRECEDENTS:
- Texas A&M University
- University of Missouri
- Ohio State University
- University of Cincinnati

PARAMETERS OF DETAIL:
- Low Detail
- Moderately Detail
- High Detail

University of Missouri
The Ohio State University
Texas A&M University
University of Cincinnati
Bill and Mae McCorkle Aquatics Pavilion

**COMPLETED:** 2005

**SIZE:** Overall Facility - 600,000 sq ft

**COST:**

Facility Includes:
- 50 Meter by 25 Meter Competition Pool
- Diving Pool
- Whirlpool Spas
- Moveable bulkheads

**OHIO STATE UNIVERSITY**
TEXAS A&M UNIVERSITY

Student Recreation Center

COMPLETED: 2017

SIZE: Over All Facility - 100,000 sq'

COST: Overall $54 million

Facility Includes:
- 50 Meter Competition Pool
- Diving Pool
- Outdoor leisure pool
**Precedent Studies**

**UNIVERSITY OF CINCINNATI**

**Student Recreation Center**

**COMPLETED:** 2005

**SIZE:** Over All Facility - 250,000 sq'

**COST:**

**Facility Includes:**
- 50 Meter Competition Pool
- Moveable Bulkhead
- Lazy River

**PORTLAND, OREGON**

**SEATTLE, WASHINGTON**

**SRG PARTNERSHIP.COM**

**Competition Pool**

**Competition Pool**

**Lazy River**

**Competition Pool**
**Student Recreation Center**

**COMPLETED:** 2005

**SIZE:**

**COST:**

Facility Includes:
- 50 Meter Competition Pool
- Moveable Bulkhead
- Vortex
- Waterfall
- Oversided Whirlpool Spa

**UNIVERSITY OF MISSOURI**

**PORTLAND, OREGON**

**SEATTLE, WASHINGTON**

**SRGPARTNERSHIP.COM**

**Precedent Studies**
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Egress Evaluation

Courtyard/sundeck is provided with two gates. These are currently locked by padlocks and cannot be opened by occupants.

There are two doors here - not four doors, as indicated by the drawings.

Current code 1014.9 restricts available width to 60" due to handrail spacing. Previous code at the time of design (1997) states 88".

No panic hardware provided at exit access door 125 and door swings against direction of escape. Egress from pool area not in strict compliance with 1005.5 and will require attention for the expansion.

Previous code review (2001 extension) provides occupant load of 120 for entire squash and racquetball suite "in accordance with agreement with the City of Seattle".

1 of the 10 courts on this level have been converted to exercise rooms. These occupants have been counted as additional to the original occupant load (60 for this level) for a total of 72 occupants.

First Floor

Occupant load factor (sq ft/person):
- 50 for fitness/exercise rooms, locker rooms, pool
- 15 for pool deck
- 130 for offices

Minimum clear width for doors is 32". Minimum clear width for stairs is 44" (36" if less than 50 occupants).

The office door (EXIT ACCESS 125) located on the egress route leading from the pool through the office is not provided with panic hardware and the door swings against direction of escape.

Common path of egress distance is permitted to be 75' in accordance with Table 1006.2 in the Seattle Building Code.

The existing common path of egress from exercise room 108 is 133'-7" and does not meet the current code requirements.

Exit access travel distance is permitted to be 250' in accordance with Table 1017.2 in the Seattle Building Code.

The existing exit access travel is 215'-5".
Egress Evaluation

It was noted during the site visit that the panic hardware is in need of maintenance.

Second Floor (West)

Occupant load factor (sq ft/person):
- 50 for fitness/exercise rooms
- 130 for offices, rock climbing reception

Minimum clear width for doors is 32".
Minimum clear width for stairs is 44" (36" if less than 50 occupants).

Main exit capacity accounts for the cumulative occupant load from First, Second and Third Level.

Common path of egress distance is permitted to be 75' in accordance with Table 1006.2 in the Seattle Building Code.

The existing common path of egress from exercise room 216 is 130'-1" and does not meet the current code requirements.

Exit access travel distance is permitted to be 250' in accordance with Table 1017.2 in the Seattle Building Code.

The existing exit access travel is 197'-3".

### Table of Calculations

| EXIT STAIRS 9 | 136 | 180 | 54 |
| EXIT ACCESS 200-1 | 113 | 390 | 78 |
| EXIT ACCESS 200M-1 | 116 | 440 | 88 |
| MAIN EXIT 200L | 711 | 960 | 192 |
| EXIT ACCESS 212-3 & 4 | 87 | 575 | 115 |
| EXIT ACCESS 212-2 | 86 | 300 | 60 |
| EXIT ACCESS 212-1 | 87 | 350 | 70 |
| EXIT STAIRS 8 | 87 | 200 | 68 |
| EXIT ACCESS 214-1 | 42 | 320 | 64 |
| EXIT ACCESS 216 | 49 | 320 | 64 |

### Dimensions

- 197'-3" Travel Distance
- 130'-1" Common Path of Travel
- 15'-10" Exit Access Path

---

**SYMBOL LEGEND**

- Exit
- Stairway
- Door
- Exit Sign
- Ceiling Sign
- Wall Sign
- Wall Mirror
- Wall Light
- Wall Sconce
- Wall Bracket
- Wall Outlet
- Wall Switch
- Wall Box
- Wall Panel
- Wall Plate
- Wall Cover
- Wall Box Cover
- Wall Box Faceplate
- Wall Box Faceplate Cover
- Wall Box Faceplate Faceplate
- Wall Box Faceplate Faceplate Cover
- Wall Box Faceplate Faceplate Faceplate
- Wall Box Faceplate Faceplate Faceplate Cover

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Egress Evaluation

Previous code review (2001 extension) provides occupant load of 120 for entire squash and racquetball suite "in accordance with agreement with the City of Seattle".

Four of the 10 courts on this level have been converted to exercise rooms. These occupants have been counted as additional to the original occupant load (60 on this level) for a total of 118 occupants.

Quad D floor area is 11,066 sf when bleachers are not used and 9,628 sf when bleachers are used. Total number of seats = 422. Occupant load = 422+193 = 615.

Minimum clear width for doors is 32". Minimum clear width for stairs is 44" (36" if less than 50 occupants). Common path of egress distance is permitted to be 75’ in accordance with Table 1006.2 in the Seattle Building Code.

The existing common path of egress from the squash courts is 122'-2" and does not meet the current code requirements.

Exit access travel distance is permitted to be 250' in accordance with Table 1017.2 in the Seattle Building Code.

The existing exit access travel from the squash courts is 115'-8"+122'-2" = 237'-10" (travel continues down to the first level via Stair 2).

### Table: Occupant Load Factor and Square Footage

<table>
<thead>
<tr>
<th>Space Name</th>
<th>Square Footage</th>
<th>Occupant Load Factor</th>
<th>Calculated Occupants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quad A 204</td>
<td>204</td>
<td>50</td>
<td>102</td>
</tr>
<tr>
<td>Quad B 242</td>
<td>242</td>
<td>130</td>
<td>316</td>
</tr>
<tr>
<td>Lounge 227</td>
<td>227</td>
<td>15</td>
<td>34</td>
</tr>
<tr>
<td>Conference Room 246</td>
<td>246</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td>Lounge 245</td>
<td>245</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td>Lounge 245A</td>
<td>245A</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td>Quad C 241</td>
<td>241</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>Quad D 203</td>
<td>203</td>
<td>130</td>
<td>260</td>
</tr>
<tr>
<td>Exercise Rooms</td>
<td>192</td>
<td>130</td>
<td>260</td>
</tr>
<tr>
<td>Maintenance Office 206</td>
<td>206</td>
<td>130</td>
<td>260</td>
</tr>
<tr>
<td>Reception Offices 207</td>
<td>207</td>
<td>130</td>
<td>260</td>
</tr>
<tr>
<td>Cafe 205</td>
<td>205</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Cafe Kitchen 205D</td>
<td>205D</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Exercise Rooms</td>
<td>192</td>
<td>130</td>
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<tr>
<td>Cafe 205</td>
<td>205</td>
<td>200</td>
<td>400</td>
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<tr>
<td>Cafe Kitchen 205D</td>
<td>205D</td>
<td>200</td>
<td>400</td>
</tr>
</tbody>
</table>
Egress Evaluation

Third Floor

Occupant load factor (sq ft/person):
- 50 for fitness/exercise rooms
- 130 for offices
- 15 for conference rooms

Minimum clear width for doors is 32”.

Common path of egress distance is permitted to be 75’ in accordance with Table 1006.2 in the Seattle Building Code.

The existing common path of egress from the office workroom is 128’-6” and does not meet the current code requirements.

Exit access travel distance is permitted to be 250’ in accordance with Table 1017.2 in the Seattle Building Code.

The existing exit access travel is 151’-8”.

---

<table>
<thead>
<tr>
<th>EXIT ACCESS</th>
<th>No. Calculated Occupants</th>
<th>Occupant Load Factor (sq.ft/person)</th>
<th>Square Footage of Room or Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>310-L</td>
<td>100</td>
<td>160</td>
<td>32</td>
</tr>
<tr>
<td>311-1</td>
<td>100</td>
<td>160</td>
<td>32</td>
</tr>
<tr>
<td>312-2</td>
<td>100</td>
<td>160</td>
<td>32</td>
</tr>
</tbody>
</table>

EXIT STAIRS:
- Stairs 7: 170 occupants exiting, 270 capacity, width 81 inches
- Stairs 8: 89 occupants exiting, 180 capacity, width 54 inches
- Stairs 9: 114 occupants exiting, 226 capacity, width 68 inches

EXIT ACCESS:
- Access 316-1: 27 occupants exiting, 162 capacity, width 32.5 inches
- Access 316-2: 27 occupants exiting, 370 capacity, width 74 inches
- Access 312-1: 62 occupants exiting, 320 capacity, width 64 inches

**SYMBOL LEGEND**
- 15'-10” Travel Distance
- Common Path of Travel

---
Egress Evaluation

Occupant load factor (sq ft/person):
- 50 for fitness/exercise rooms, running track
- 30 for overlook area

Minimum clear width for doors is 32”.

Exit access travel distance is permitted to be 250 feet in accordance with Table 1017.2 in the Seattle Building Code.

The existing exit access travel exceeds the allowable distance by 8'-9”.

Stairs not wide enough to support occupant load.

<table>
<thead>
<tr>
<th>EXIT STAIRS 9</th>
<th>No.</th>
<th>Calculated Occupants</th>
<th>Occupant Load Factor (sq.ft/person)</th>
<th>Square Footage of Room or Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXIT STAIRS 7</td>
<td>No.</td>
<td>Calculated Occupants</td>
<td>Occupant Load Factor (sq.ft/person)</td>
<td>Square Footage of Room or Space</td>
</tr>
</tbody>
</table>

| EXIT ACCESS | No. | Calculated Occupants | Occupant Load Factor (sq.ft/person) | Square Footage of Room or Space |

SYMBOL LEGEND
- 15'-10” Travel Distance
- Common Path of Travel
- Exit Access Path
Incorporate parking into topography, out of view from Montlake Boulevard and without visually intruding into the Rainier Vista Viewshed.

Protect Mt. Rainier view corridor with no buildings obstructing a clear viewshed.

Respect 30' building height limit within the 200' Shoreline District Overlay.

Improve pedestrian connections and access to the shoreline.

The Climbing Rock remains in its existing location. It is recommended that a minimum of thirty feet remain between the eastern edge of the E85 development site and the west edge of the climbing rock as a buffer to maintain its viability.

Legend
- Existing UW Building
- Potential Building
- Building Envelope
- Significant Open Space
- Existing Uses Relocated
- 200' Shoreline District Overlay

Figure 180. Graphics are for Illustrative Purposes Only.
Appendix A - Electrical Single-line As-built Drawings
### Appendix A - Electrical Single-line As-built Documents

<table>
<thead>
<tr>
<th>Diagram 1</th>
<th>Diagram 2</th>
<th>Diagram 3</th>
<th>Diagram 4</th>
<th>Diagram 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram 1" /></td>
<td><img src="image2.png" alt="Diagram 2" /></td>
<td><img src="image3.png" alt="Diagram 3" /></td>
<td><img src="image4.png" alt="Diagram 4" /></td>
<td><img src="image5.png" alt="Diagram 5" /></td>
</tr>
</tbody>
</table>

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Electrical As-Builts