

**Project Name – UI**

**Project Number**

**Design Phase**

**Date**

DESIGN & CONSTRUCTION

OWNER'S PROJECT   
REQUIREMENTS

The OPR is an inclusive, detailed description of the Owner's goals and requirements for the project, and the Owner's expectations on how the project will be used and operated.

Table of Contents

[Project Team 2](#_Toc565357905)

[Owner’s Project Requirements (OPR) 3](#_Toc304447308)

[Project Information 4](#_Toc1392130827)

[Executive Summary 4](#_Toc218597233)

[College/Unit Strategic Objectives 4](#_Toc1320348697)

[Relation to University Strategic Plan 4](#_Toc1522218112)

[Approach and Process 4](#_Toc864438932)

[Demographics 4](#_Toc2028809271)

[Program Needs 4](#_Toc1416557179)

[Operational Objectives 5](#_Toc439258931)

[Major Project Assumptions 5](#_Toc1778068331)

[Qualitative Issues 5](#_Toc2121638220)

[Abandoned, Transfer or Demolished Space 5](#_Toc1587736653)

[Space Requirements 5](#_Toc2026639806)

[Special Requirements 5](#_Toc1385711450)

[Project Description 6](#_Toc543824762)

[Project Site Considerations 6](#_Toc147020038)

[Parking and Pedestrian Circulation 6](#_Toc64897034)

[Landscape and Hardscape 6](#_Toc1678052147)

[Environmental Compliance 7](#_Toc1830126243)

[Sustainability Goals 7](#_Toc317639073)

[Structural Considerations 7](#_Toc1432727144)

[Architectural Considerations 8](#_Toc420965393)

[Fire Protection Considerations 8](#_Toc1621468481)

[Plumbing Considerations 9](#_Toc1040993183)

[Mechanical Considerations 10](#_Toc1051880424)

[Electrical Considerations 13](#_Toc1288353734)

[Communications Considerations 16](#_Toc139403880)

[Electronic Safety & Security Considerations 17](#_Toc353693416)

[Utilities and Infrastructure Considerations 17](#_Toc66305623)

[Owner Equipment Considerations 18](#_Toc1077490424)

[Implementation 18](#_Toc181239798)

[Total Cost of Ownership 18](#_Toc43742359)

[Appendix A 18](#_Toc288879689)

[Appendix B 19](#_Toc657596847)

# Project Team

*Insert Stakeholder Matrix. Include the role and responsibilities regarding the project for each member.*

# Owner’s Project Requirements (OPR)

*Do not describe requirements as “per UI Design Standards.” If this is the case summarize the Design Standard in the description.*

*The numbering system used in this OPR Template shall remain consistent. Should additional sections be required, these sections shall be added using the same numbering system.*

## Project Information

### Executive Summary

*At a minimum include project address, project site adjacencies, and include the building in which the project is located. Indicate if the project is a new building, addition, or renovation project.*

1. Insert UI Campus Planning or UIHC Transfer Package items when available.

### College/Unit Strategic Objectives

### Relation to University Strategic Plan

### Approach and Process

### Demographics

## Program Needs *(for Campus Planning use only)*

### Operational Objectives

*What are the functions of the building, addition, renovation?*

### Major Project Assumptions

1. Schedule and Sequence *Include durations (number of months, not actual dates) for start of construction, substantial completion, temporary relocation, etc.)*
2. Design and Construction Phasing *Describe project phasing if applicable****, if none, insert the word “None.”***
3. Building Occupancy During Construction *Indicate if building will be occupied during construction and, if so, describe occupancy requirements).*

### Qualitative Issues

### Abandoned, Transfer or Demolished Space

*Provide information on the existing building in which the renovation and/or addition will take place. If existing building(s) are to be demolished in preparation for the project, include a brief description of building(s) slated for demolition and identify any* *significant features. Remove if non‐applicable to project scope.*

### Space Requirements

* Refer to room data sheets for detailed space requirements on a room‐by‐room basis. Room data sheets located in Study Report.

The following additional space requirements, not indicated on the room data sheets, shall be provided: *Include any additional space requirements that cannot be expressed on room data sheets, if none, insert the word “None.”*

1. Provisions for Future Expansion *Describe how project is preparing for future needs (i.e., shell space, increased load‐bearing capabilities, etc.). Should provisions not be part of the project, insert the word “None.”*
2. Enabling Projects *Describe projects that must be completed for this project to proceed. If not applicable insert the word “None.”*

### Special Requirements

FERP Requirements *List and describe* *special requirements. Include unique situations and coordination activities that need to occur before and/or during project construction. For example, FERP requirements, environmental impact, social events around the site and infrastructure. Describe project constraints that may have an impact on the overall design (i.e., existing floor‐to‐floor heights, tight construction schedule, etc.)*

1. FERP Requirements

## Project Description

### Project Site Considerations

1. Building/ Site Relationship *Refer to the Basis of Design for a detailed description of the building and site relationship of the design.*
2. Relationship to Surrounding Environment *List and describe requirements, limitations, and restrictions in response to existing structures, site elements and greenspace on, and around, the project site. Do not include information based on A/E’s design judgement or that is required by UI non‐building users, these should be described in the BOD.*
3. Building Height Restrictions L*ist and describe height requirements and/or restrictions.* ***Do not include information based on A/E’s design judgement or that is required by UI non‐building users, these should be described in the BOD.***
4. Main Entrance Location *Indicate location of main entrance(s) if provided by UI.*

### Parking and Pedestrian Circulation

*Refer to the Basis of Design for a detailed description of the parking and circulation design.*

1. List and describe impacts to roads, sidewalks, right‐of‐way (impacts including traffic and parking, changes in hardscape and projections into the ROW such as canopies, stairs, and rails), bus stop changes/additions, vehicular access, passenger drop‐off, parking space requirements (ADA, service vehicles, van/carpool, etc.), loading docks, etc. Also, when applicable, include major parking features (i.e., under‐ground parking, parking structure, structural connection to parking, drop‐off canopy, etc.). **Do not include information based on A/E’s design judgement or that is required by UI non‐building users, these should be described in the BOD.**

### Landscape and Hardscape

*Refer to the Basis of Design for a detailed description of the landscape and hardscape design.*

1. Describe desired landscape aesthetic. Include description of trees of significance, if relevant, and maintainability and irrigation requirements. Describe requirements for pedestrian walkways, gathering areas, etc.

### Environmental Compliance

*Refer to the Basis of Design for a detailed description of systems.*

1. Complete Preliminary Environmental Review Checklist and attach it as an appendix.
2. National Pollutant Discharge Elimination System (NPDES) Requirements *Indicate if a project is required to meet NPDES requirements and include any goals to exceed NPDES requirements.*
3. Stormwater Requirements *Indicate what specific Best Management Practices are preferred. (i.e., rain gardens, permeable pavers, bioretention cells, swales, etc.)*
4. List other goals as directed by UI Environmental Compliance / UI Campus Planning *Remove section if non‐ applicable to project scope.*

### Sustainability Goals

*Refer to the Basis of Design for a detailed description of how energy conservation goals will be met.*

1. Indicate energy conservation goals (i.e., 20% beyond ASHRAE 90.1 baseline, etc.).
2. Include any other sustainability goals, if none, insert the word “None.”

### Structural Considerations

### Architectural Considerations

Building Massing

*Refer to the Basis of Design for a detailed description of the building massing.*

1. General Massing Requirements/ Goals *Describe shape, form, and scale requirements (i.e., building geometry, orientation of the principal mass of the building, relation of façade(s) and skyline(s) to street edge, roof shape). Include goals related to daylight harvesting, solar shading, solar energy production, etc.*

Building Envelope

*Refer to the Basis of Design for a detailed description of building envelope systems.*

1. General Building Requirements *Provide a summary description of general, Owner specific requirements (i.e., desired building aesthetic, durability, maintainability, percent of glazing, etc.).*
2. Exterior Wall Requirements *Provide thermal performance goals such as R‐values. For renovation projects include existing envelope analysis, reports to be included in Appendix (i.e., adding insulation to existing walls, etc.).*
3. Fenestration Requirements *Provide a summary of areas, room‐types, or activities where particular fenestration types (clerestory, vision, daylight, etc.) are desired. Also, include thermal performance goals such as U‐value, SHGC, VT. For renovation projects include existing fenestration analysis, reports to be included in Appendix.*
4. Roof Requirements *Provide thermal performance goals such as R‐values. For renovation projects include existing envelope analysis, reports to be included in Appendix.*

Interior Architecture

*Refer to the Basis of Design for a detailed description of the building interior architecture.*

1. General Interior Requirements *Provide a summary description of the general, Owner specific requirements (i.e., desired aesthetic, durability, maintainability, etc.).*
2. Circulation Requirements
3. Focal Points
4. Furniture
5. Equipment
6. Special Construction
7. Conveying Equipment
8. Incorporation of Universal Design

Fire Protection Considerations *Where a requirement is still to be determined, indicate TBD.*

*Refer to the Basis of Design for a detailed description of fire protection systems.*

1. Water Source
   * *Identify source*
2. System Types Location and type such as wet type, dry pipe, pre‐action systems
   * Special Fire Protection Requirements *e.g., “clean agent”/dry type systems*

Plumbing Considerations *Where a requirement is still to be determined, indicate TBD.*

Plumbing Systems Requirements

*Refer to Basis of Design for a detailed description of plumbing systems.*

1. Domestic Water (Hot and Cold)
   * Source *Include the utility connection if not known indicate TBD*
   * Temperature
   * Distribution
     + Fixture types and Requirements *e.g., water closets/1.28 GPF/dual flush; urinals/1/8 GPF battery operated flush valve; lavatories/battery operated hands free; repeat for all general fixture types.*
2. Sanitary Waste
   * Source *Include the utility connection if not known indicate TBD*
3. Stormwater
   * *Refer to Project Site Requirements/Goals section for additional Owner requirements related to stormwater management*
   * Source *Include the utility connection if not known indicate TBD*
4. Irrigation

* Source *Include the utility connection if not known indicate TBD*

Special Plumbing Systems

*Provide a description of any special plumbing systems required for the project, including the design criteria for the system. Detailed descriptions of the design provided to meet these requirements shall be reserved for the BOD. Add or delete from the below list as required for the project.*

1. High Purity Water Systems

* Softened Water
* Deionized (ID) Water
* Reverse Osmosis (RO)

1. Special Waste Systems
2. Vacuum
3. Compressed Air
4. Medical Gas Systems
5. Specialty Gases
6. Special Water Systems (e.g., animal, plant, etc.)

Natural Gas

*Describe specific Owner natural gas requirements in this section.*

1. Utility Connection Describe source

Mechanical Considerations *Where a requirement is still to be determined, indicate TBD.*

1. Mechanical System Requirements

*Refer to the Basis of Design for a detailed description of mechanical systems.*

* Cooling Systems/Source *Provide a summary description of the cooling system including Owner specific requirements, e.g., chiller plant located in the building, chilled water from a central chiller plant located in building X, DX, VRF, heat pumps, etc.*
* Heating Systems/Source *Provide a summary description of the heating system including Owner specific requirements, e.g., HHW generated by steam from the university’s system, condensing boilers located in the building, VRF, heat pumps, etc.*
* Humidification Systems/Source *Provide a summary description of the humidification system including Owner specific requirements, e.g., provided by steam from the university’s system, steam boiler in the building, clean steam generator in the building, local self‐contained humidification system, etc.* ***If none, state none.***
* Special Mechanical Systems *Provide a description of any special mechanical systems required for the project, including the design criteria for the system. Detailed descriptions of the design provided to meet these requirements shall be reserved for the BOD****. Add or delete from the below list as required for the project.***
  + Exhaust *Describe if hazardous or other special exhaust systems are required, e.g., fume hood exhaust, general lab exhaust, acid exhaust, kitchen exhaust, including any User specific redundancy or other requirements.*
  + Process Cooling *e.g. lab equipment hydronic cooling. Include design criteria, e.g., required supply water temperature, pressure, water quality requirements, etc. including any User specific redundancy or other requirements.*
  + Smoke Control *Describe what, if any smoke control is required for the building, typically driven by building code. Detailed descriptions shall be reserved for the BOD. If not required, state “not required.”*
    - Building *Including but not limited to a description of any impacts on the HVAC system due to fire zones.*
    - Atrium
    - Stairway
    - Elevator Hoistway
    - Other
  + **Add headings as required.**

1. HVAC Requirements

*Refer to the Basis of Design for a detailed description of HVAC systems.*

* Refer to the room data sheets for the required temperature, humidity, equipment heat gains, air change rates, pressure relationships, air filtration, noise classification level, cleanliness class and any special HVAC requirements, on a room-by-room basis.
* The following additional HVAC requirements, not indicated on the room data sheets, shall be provided:
  + *Any additional HVAC requirements shall be added here, if none, insert the word “None.”*

1. HVAC System Requirements by Space Type

*Refer to the Basis of Design for a description of the HVAC system that will serve each space type) Describe specific Owner HVAC system requirements in this section. Include the subparagraphs shown under the sample space (Offices) for each space type applicable to the project. Add and delete space types as applicable to the project.*

* Offices
  + Hours of Operation *Include the typical hours of operation for weekdays and weekends.*
  + Building User Redundancy Requirements *The objective is to assess the impact of an equipment failure on the building user’s daily operations and then provide a level of redundancy appropriate to the risk. The A/E must help the user understand the type of failures, the probability of each occurring, and an estimate of the time it will take to effect repairs, so that the user can make an informed decision regarding redundancy needs*. ***Do not include redundancy provided based on the A/E’s design judgement or that is required by UI non‐building users, these should be described in the BOD.***
  + Number of Spaces per Thermostatic Control Zone *Describe number of spaces for thermostatic control zone even if per UI Design Standards.*
  + Building User’s Future Capacity Requirement *Include the subparagraphs shown under the sample space for each space type applicable to the project.* ***Add and delete space types as applicable to the project.***
* Classrooms
* Atria
* Kitchens
* Dining Areas
* Residential Rooms
* Laboratories
* Vivaria
* Clinical Spaces
* Procedure Rooms
* Pharmacies / Clean Rooms
* Lobbies
* Loading Docks
* Trash, Recycling, Composting Rooms
* Stairwells
* Data Closets

Laboratory Equipment

*Revise this section to include a description of laboratory systems or equipment that impact the mechanical, plumbing, or fire protection systems. Examples of topics to be covered are provided below. Where a requirement is still to be determined, indicate TBD.* ***Delete this section if it does not apply.***

1. Environmental rooms and cold rooms

* Air or Water‐cooled condenser?
  + - Location of condenser
* Emergency Power requirements
* Cooling backup requirements
* Other special requirements

1. Fume Hoods

* Fume hood types (bench or floor‐mounted)
* Sash types (horizontal, vertical, combination)
* Face velocity
* ASHRAE 110 testing (As Installed)?

1. Bio‐safety cabinets and/or laminar flow hoods

* Types

1. Gas cabinets and cylinders
2. Ventilated animal racks

* Direct connected to house system or with fan packs.
* Fan pack mounted on supply or exhaust of rack.

1. Cage/rack washers

* Steam and condensate
* Chemical treatment

1. Sterilizers, glass washers
2. Other equipment

Special Mechanical Systems

*Revise this section to include a description of* *special requirements or systems that impact the mechanical, plumbing, or fire protection systems. Examples of topics to be covered are provided below. Where a requirement is still to be determined, indicate TBD.* ***Delete this section if it does not apply.***

* BSL‐3 lab
* Laser lab
* Animal bedding dispensing and collection
* Animal watering
  + Central system vs. bottling system
  + Distribution
  + Room level piping, PRV stations, controls
  + Rack water system automatically flushed at each rack or flush valve common to all racks.
* Natatorium
  + Water conditioning concept
  + Air conditioning and dehumidification
* Special lighting
* Greenhouse
* Darkroom
* Laundry
* Paint spray booth
* Radon mitigation
* Hazardous & Non-Hazardous compounding spaces
* Etc.

Control and BAS Strategy

*Provide a summary description of the controls approach for the project, including any special controls.*

* General Building Controls
* Laboratory Controls
* Other Controls
* BAS Requirements

### Electrical Considerations

*Where a requirement is still to be determined, indicate TBD*

Electrical System Requirements

*Refer to the Basis of Design for a detailed description of electrical systems.*

1. Primary Power Distribution

* Source *Identify source of power*
* Redundancy *The objective is to assess the impact of a loss of power on the building user’s daily operations and then provide a level of redundancy appropriate to the risk. The A/E must help the user understand the type of failures, the probability of each occurring, and an estimate of the time it will take to effect repairs, so that the user can make an informed decision regarding redundancy needs.* ***Do not include redundancy provided based on the A/E’s design judgement or that is required by UI non‐building users, these should be described in the BOD.***
  + Unplanned loss of power *Describe issues associated with unplanned loss of power and preferred method to deal with the loss of power (i.e., dual primary feeds, generators, UPS, etc.).*
  + Planned loss of power *Describe issues associated with planned loss of power and preferred method to deal with the loss of power (i.e., single‐end substation, double‐end substations, etc.)*
* Unit substation location
  + Accessibility for replacement *Describe Owner specified requirements. Do not include requirements provided based on the A/E’s design judgment or that is required by manufacturer and/or code, these should be described in the BOD.*
  + Relationship to sensitive areas and/or equipment *Identify locations and/or equipment that would need to be distanced from the substation.*

1. Secondary Power Distribution

* The following additional requirements, not indicated on the room data sheets, shall be provided:
  + - Panelboards and associated equipment *Describe requirements for each space. Add and delete space types as applicable to the project****, if none, insert the word “None.”***
      * + Electrical Rooms
        + Mechanical Rooms
        + Corridors
        + Classrooms
        + Laboratories
    - List equipment requiring special/ non‐standard voltages *Include name of equipment and a description of the special requirement (i.e., DC power, 240VAC, 415VAC, 50HZ, etc.),* ***if none, insert the word “None”.***
* List equipment and/or areas requiring Uninterruptable Power Supply (UPS)
* Metering *List spaces and/or equipment that require dedicated metering and identify the metering needs (i.e., billing, energy usage, etc.)*

1. Emergency/ Standby Power

* Power source preference *(i.e., generator, central battery unit, individual battery packs, etc.)*
  + Fuel source for generator *(i.e., natural gas or diesel).* ***Remove section if non‐ applicable to project scope.***
  + Generator location *Indicate owner’s preferred/tolerant location due to generator sound, vibration exhaust, accessibility, etc.*
* Occupancy, duration, and operational requirements during power outage *Explain anticipated number of occupants that would need to remain, what activities would need to continue and for what duration.*
* List loads requiring stand‐by *power (i.e., power, lighting, mechanical, lab equipment, etc.)*
* Tolerance of power bumps during transition from normal power to generator power during monthly testing and maintenance *(i.e., ATS open or closed transition, by‐pass switch or no by‐pass switch).*

1. Special Loads *Revise this section to include a list of equipment that requires additional consideration and their requirements (i.e., isolation power transformers, harmonic mitigation, stage and performance power, copper‐shielded rooms, mandated lighting levels, RFI/EMI concerns, etc.). Where a requirement is still to be determined, indicate TBD.* ***Delete this section if it does not apply.***

Lighting System Requirements

*Refer to the Basis of Design for a detailed description of lighting systems.*

1. Interior Lighting

*Refer to Room Data Sheets for specific interior lighting and control requirements for each space type.*

* Special Lighting Requirements. *List areas requiring special lighting requirements with a brief description (temperature, CRI, Controls, etc.). Add and delete space types as applicable to the project, if none, insert the word “None.”*
  + Laboratory
  + Classroom
  + Reception

1. Exterior Lighting
   * Facade Lighting *Describe building façade lighting and lighting control needs.*
   * Heightened Security and Safety *Describe areas of concern (example paths of travel to and from the project that require heightened security and safety lighting levels.*
   * Sign Lighting *Describe sign lighting and control needs.*
2. Lighting Controls

*Refer to the room data sheets for occupancy, daylight, and other lighting controls, on a room-by-room basis.*

* The following additional lighting controls, not indicated on the room data sheets, shall be provided:
  + *Any additional lighting control requirements shall be added here, if none, insert the word “None.”*

### Communications Considerations

*Refer to the Basis of Design for a detailed description of Audio/Visual systems.*

Audio/Visual System Requirements

1. Refer to the room data sheets for the required functionality on a room-by-room basis.
2. The following additional A/V requirements, not indicated on the room data sheets, shall be provided:
   * *Any additional A/V requirements shall be added here, if none, insert the word “None.”*
3. AV System Requirements by Space Type

Refer to the Basis of Design for a description of the AV system that will serve each space type, if applicable. *Describe specific Owner AV system requirements in this section****. Include the subparagraphs shown under the sample space (Offices) for each space type applicable to the project. Add and delete space types as applicable to the project.***

* + Offices
  + Conference Rooms
  + Classrooms
  + Auditoriums/ Lecture Halls
  + Multi‐Purpose Rooms
  + Scheduling Systems
  + Digital Signage
  + Etc.

1. Telephone/ Data Systems

*Describe requirements and locations (i.e., Wi‐Fi coverage areas, POTS vs Voice Over IP, Separate telephone system requirements (critical care, emergency use, etc.), etc.)*

1. Healthcare Communications and Monitoring Systems

*Describe requirements and locations*

### Electronic Safety & Security Considerations

1. Fire Alarm System *Indicate if tying into an existing system and if existing system, head-end, or cabling, need to be updated? List areas requiring special devices (i.e., beam detectors).*
2. Security Systems *List required security systems and locations (i.e., Access control requirements (perimeter, interior space, etc.), Camera (CCTV) requirements, Limited access spaces due to types of materials stored, Point of service security requirements, Security telephones/blue light phones, door lock‐ out systems).*

### Utilities and Infrastructure Considerations

### Owner Equipment Considerations

## Implementation

1. Applicable Codes *Name code version used for the codes listed. The edition of building codes is to be as listed in this section as of the beginning of the design development phase of a project unless construction documents are submitted to the university for final review more than a year after adoption of the* *new version of the code. Only list codes applicable to the project scope.*

* UI Design Standards: *Indicate version project is following and any anticipated deviations.*

1. Design Approach
2. Construction Approach
3. Commissioning Approach
4. Budget

* Source of Funds
* Financing Plans
* On-Going Operating Funding

## Total Cost of Ownership

1. Relation to University Master Plan
2. Effect on Other Facilities/Programs
3. Space Opportunities/Backfill
4. Personal/Resources
5. Maintenance Considerations
6. Renewal and Replacement Considerations
7. Emergency Management Considerations
8. Closeout Requirements

* Construction/Operations Turnover Meetings
* Maintenance Document Expectations
* Off-Season Testing
* Training Requirements *List training requirements for new systems and equipment. This is not meant to be a complete list of all training needs.*
* Whole System Training

Appendix A *Delete non‐applicable sections and insert as required.*

1. Room Data Sheets
2. Design Deviations
3. Detailed Program *Include reference to detailed report to support the high-level summary table included in the OPR.*

## Appendix B

1. Sample Cut Sheets *Design Project Manager to determine to what sample cut sheets are to be included in the OPR/BOD.*

* List Cut Sheet Packages included.

Where a requirement is still to be determined, indicate TBD.