## Pre-Design Deliverables
February 2020

In part of the deliverables for formal UM review at the end of Pre-Design, the Design Professional shall indicate the status of each required item (a check mark is interpreted to mean that an item has been included in the deliverables). On or attached to the “Pre-Design Deliverables” document, the Design Professional shall identify all items NOT included in the review package. Note Design Professional shall not contact City of Ann Arbor. Design Manager is the conduit for all communication between Design Professional and user groups, Campus Planning, City of Ann Arbor etc.

### Item Pre-Design Phase Responsibility

#### General Description
1. Develop program for building occupancy, including overall square footage, MBC occupancy classification etc. Design Professional
2. Provide the number of new FTEs, Identify number of building service vehicles, accessible and paratransit vehicles, special events, drop-off and pick-up, busses or other oversized vehicles, mopeds/bikes, pedestrians, and any other modal volumes. Design Professional / UM
3. Review Prevost space use guidelines. Design Professional
4. Provide square footage estimates of each major space type, e.g. wet lab, dry lab, vivarium, office. Design Professional
5. IG 2.1 Owner Project Requirements (OPR) - Outline Owner's Project Requirement and Basis of Design document providing all of the information required in this checklist. Design Professional
6. Identify if building is a ‘High Rise’. Design Professional
7. Determine whether public art will be a component of the design of the site and building. Design Professional / UM
8. Review the Facilities Conditions Assessment (FCA) data base to determine if there are any defiant items to be picked up and funded within project scope. Design Professional / UM

#### Real Estate and Regulatory Review
1. Identify anticipated impacts to adjacent private property (anticipated grading, staging, vegetation removal or trimming, access needs, utility work) to Campus Planning. Prior to proceeding with a design that requires impacts Design Professional
2. Identify deed restrictions or encumbrances that will impact site development. Design Professional / UM
3. Identify anticipated impacts to the City Right of Way (any new or modified drive ways, utility installations or connections at e.g. tree removals?) Consult the City of Ann Arbor Pre-Construction Plan Review Checklist. Design Professional
4. Provide a code review to ensure compliance with applicable regulation for interior and exterior spaces. Design Professional
5. Identify Bureau of Fire Services space requirement and any impacts if applicable. Design Professional
6. Identify any historically significant features that shall be protected and/or restored. Design Professional / UM
7. Use Site Planning Principles and incorporate into Basis of Design (BOD). Design Professional / UM
8. Review and identify applicable state, City, U-M traffic and transportation plans with Campus Planning and incorporate as applicable. Design Professional / UM
9. Meet with Campus Planning to review the U-M Master Plan to ensure compatibility. Design Professional / UM

#### Environmental Review
1. Identify any regulated water bodies of the State, wetland, drains and streams within the site boundary. Design Professional
2. Identify if site is over an aquifer or within 500’ of water of the State. A soil erosion and sedimentation control plan may be required. Design Professional
3. Identify if a post-construction storm water management plan is required. Design Professional
4. Request a Biostic Quality Assessment if applicable. Design Professional
5. Request a Threatened and Endangered Species report if applicable. Design Professional
6. Prepare a Phase 1 Environmental Assessment if applicable. Design Professional
7. Consulted with EHS to determine the presence of contaminated soils or hazardous material. Design Professional
8. Obtain a Tree Survey and Evaluation if applicable. Consult the U-M Tree Preservation Policy. Design Professional

#### Site, Circulation & Utilities
1. Gather information on property lines, utilities, easements, etc from U-M sources. Design Professional
2. Identify the number of existing U-M parking or loading spaces be temporarily or permanently impacted by the project. Design Professional / UM
3. Identify any potential Downtown Development Authority (DDA) metered parking impacts, temporary or permanent, including meter number. Design Professional / UM
4. Provide a conditions assessment of existing utilities on site to remain and those impacted. Design Professional / UM
5. Verify utility capacities, power/data sources, and tunnel structural loading. Design Professional / UM
6. Identify any regulated water bodies of the State, wetland, drains and streams within the site boundary. Design Professional
7. Identify ADA egress and transportation needs. Design Professional / UM
8. Identify any existing memorial trees, donor benches, plaques, sculpture, class gifts or the like on the site. Design Professional
9. Evaluate loading dock location including size and weight of trucks making deliveries. Design Professional / UM

#### Building Exterior Envelope
1. Identify proposed location of major M & E equipment, e.g. penthouse. Design Professional
2. Provide overview of envelope construction, e.g. curtain wall, mass, frame. Percentage using glass. Design Professional
3. Describe envelope enhancements to reduce energy, e.g. additional insulation, overhangs, electro-chromatic glass, trombe walls. Design Professional
4. For existing buildings, describe the approach planned to improve the envelope’s energy performance. Design Professional

#### Building Interior
1. Describe special occupancy environmental requirements: temperature, humidity, vibration control, acoustical separation, etc. List the specific requirements as best known at this stage. Design Professional
2. Define occupancy types. Design Professional
3. Describe how the requirements of U-M DG 3.2 will be attained, in particular to achieve energy goals above code. Design Professional
4. For existing buildings, describe how project will accommodate ASHRAE 90.1 energy code requirements for alterations. Design Professional

#### HVAC
1. Identify potential system types, multiple options are acceptable. Design Professional
2. Identify utilities source: chilled water, gas, steam, etc. Design Professional / UM
3. Identify special HVAC, hydronic, and exhaust systems: process air handlers, process CRW, smoke evacuation systems, laboratory exhaust, etc. Design Professional

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**Complete List of Pre-Design Deliverables:**

- General Description
- Real Estate and Regulatory Review
- Environmental Review
- Site, Circulation & Utilities
- Building Exterior Envelope
- Building Interior
- HVAC
<table>
<thead>
<tr>
<th>Plumbing &amp; Piping</th>
<th>1. Identify major special MEP redundancy requirements, e.g. redundant vivarium AHUs on emergency power with dedicated chillers.</th>
<th>Design Professional</th>
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<tbody>
<tr>
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<td>2. Identify potential systems types, multiple options are acceptable.</td>
<td>Design Professional</td>
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<td>3. Identify special plumbing and process systems: RO/DI, lab gases, acid waste, etc.</td>
<td>Design Professional/ UM</td>
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<td>Fire Protection (Mechanical)</td>
<td>1. Identify if fire suppression is required.</td>
<td>Design Professional</td>
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<td>2. Identify the fire suppression source.</td>
<td>Design Professional</td>
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<td>3. Identify special fire protection systems.</td>
<td>Design Professional</td>
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<td>4. Identify if fire pump is required.</td>
<td>Design Professional</td>
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<tr>
<td>Electrical Power Distribution</td>
<td>1. Conceptually, identify the approximate service size and from where it will be served (i.e. campus loop, DTE, other?) Identify ductbank location in relationship to building.</td>
<td>Design Professional/ UM</td>
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<td>2. Identify location of substations, whether it is in building or adjacent, its accessibility, and if the building needs single-ended, double-ended, or multiple substations.</td>
<td>Design Professional</td>
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<td>3. Note any high voltage or specialty power requirements.</td>
<td>Design Professional</td>
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<td>4. Note emergency and standby power requirements and if emergency generator is needed - consider location and fuel source.</td>
<td>Design Professional</td>
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<td>Fire Alarm and Emergency Communications</td>
<td>1. Determine if a fire alarm system is required.</td>
<td>Design Professional</td>
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<td>2. Note if MOSCAD system will perform the functions as a Central Station Monitoring facility.</td>
<td>Design Professional</td>
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<td>3. Identify building entrance selected for emergency response. Note fire alarm panel location.</td>
<td>Design Professional</td>
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<td>4. Indicate if fire alarm system will be used as a mass notification system.</td>
<td>UM</td>
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<td>5. Identify if toxic/ flammable gas or other special alarm systems are anticipated.</td>
<td>Design Professional/ UM</td>
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<td>Communications (Including voice, data &amp; video systems)</td>
<td>1. Identify Tele/Data service entrance point into building. BE room location and location of communication duct bank in relationship to the building.</td>
<td>Manhole, duct bank, and building entry locations</td>
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<td>2. Allocate space for IT closets.</td>
<td>Preliminary cable tray plans</td>
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<td>Security (including CCTV and Card Access Control Systems)</td>
<td>1. Identify security system needs (security cameras, card access, etc.)</td>
<td>Design Professional/ UM</td>
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<td>LEED and Sustainability</td>
<td>1. Note if project will pursue formal LEED Certification.</td>
<td>UM</td>
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<td>2. Create a &quot;simple box&quot; energy model to identify and document energy and water reduction strategies, to include different building orientations. Provide estimated annual energy, Energy Use Index, and energy cost for the building. For buildings with atriums, break out energy, EUI, and energy cost for the atrium portion. Complete the LEED Integrative Process Worksheet to explain assumptions used in the energy model and describe potential load reduction strategies. Provide preliminary peak diversified cooling and heating loads identified by the model.</td>
<td>Design Professional/ UM</td>
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<td>3. List of project sustainability goals, including LEED, energy conservation measures, and storm water management.</td>
<td>UM</td>
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<td>4. Complete the LEED Site Assessment Worksheet to explain relationships between site features and how the features influenced the project.</td>
<td>Design Professional</td>
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<td>Cost</td>
<td>1. Provide Preliminary Concept design cost estimate.</td>
<td>Design Professional</td>
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<td>Notes</td>
<td>2. Provide design timelines/estimated design phase durations. (If requested by UM)</td>
<td>Design Professional</td>
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