Section 03 | Project Reviews

UNIVERSITY of HOUSTON
FACILITIES PLANNING AND CONSTRUCTION

December 2022

Design Reviews: Method

How? *Follow design review checklists at each required milestone submittal in Programming, SD, DD and CD*

- **Checklists**
  - Use the checklists to guide **minimum deliverables**
  - Publish checklists **signed** by the design team project manager with each submittal
  - Certify **milestone completeness**—or explain missing information

- **Quality Control**
  - Coordinate design disciplines **prior** to each milestone submittal
  - Adhere to **UH design guidelines and master specs**—or identify proposed variances

DESIGN DEVELOPMENT REVIEW PACKAGE CHECKLIST

Check off each item that is included within the submitted Design Development ch
Provide a written explanation for any omissions.

CIVIL

- ☐ SD Comments Incorporated into DD Drawings
- ☐ Site Plans
  - ☐ Site Plan Graphically Fixed and Site Geometry Fixed
  - ☐ All Site Elements Defined (Vehicular and Pedestrian Circulation, Storm Detention, etc.)
  - ☐ Demolition Plan (Paving, Utilities, etc.)
  - ☐ Utility Connections Shown (campus Utility Tunnel, Campus Chilled Wat Piping, Campus Medium Voltage Duct Bank. Coordination with Gas Co.
  - ☐ Domestic and Fire Water Services Shown (Including Connections, Vault Backflow Prevention. Coordination with Water Company Ongoing.)
  - ☐ Temporary Power and Water Sources Identified
  - ☐ Site Detailing Initiated
  - ☐ Site Plan and Utility Connections Coordinated with Architect, Landscap and MEP/FP Engineers
- ☐ Draft Specifications
  - ☐ Division 31 Earthwork
  - ☐ Division 32 Paving
  - ☐ Division 33 Site, Utilities, Including UH Master Specifications
- ☐ Proposed Variances, if any, Identified and Submitted
- ☐ Cost Estimate of Site Work

LANDSCAPE

- ☐ SD Phase Comments Incorporated into DD Drawings
- ☐ Site Plans
  - ☐ Site Plan Graphically Fixed and Site Geometry Fixed
  - ☐ All Site Elements Defined (Vehicular and Pedestrian Circulation, Storm Detention, etc.)
  - ☐ Grading and Drainage Finalized
  - ☐ Site Detaining Initiated
  - ☐ Site Plan and Utility Connections Coordinated with Architect, Landscape Architect and MEP/FP Engineers
- ☐ Hardscape Plan
  - ☐ Paving Patterns, Materials, Paving Details and Site Lighting Delineated
  - ☐ Site Furnishings Shown (Including Seating, Trash Receptacles, Tables, Tree Grates, Drinking Fountains, etc.)
- ☐ Planting Plan
  - ☐ Planting Hierarchy Shown, Plant Schedule Complete

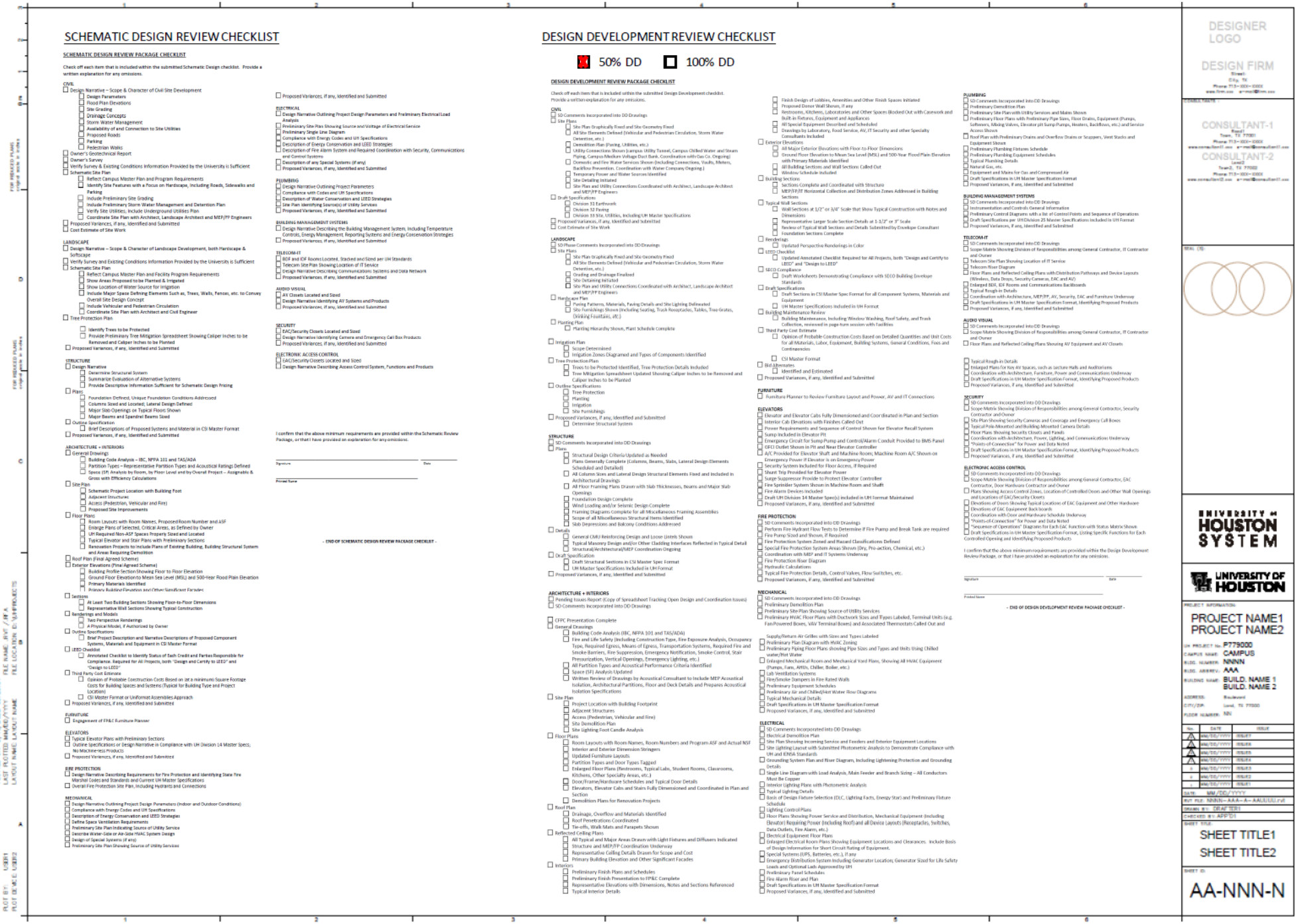
DESIGN DEVELOPMENT REVIEW PACKAGE CHECKLIST

Check off each item that is included within the submitted Design Development checklist.
Provide a written explanation for any omissions.

CIVIL

- ☐ SD Comments Incorporated into DD Drawings
- ☐ Site Plans
  - ☐ Site Plan Graphically Fixed and Site Geometry Fixed
  - ☐ All Site Elements Defined (Vehicular and Pedestrian Circulation, Storm Water Detention, etc.)
  - ☐ Demolition Plan (Paving, Utilities, etc.)
  - ☐ Utility Connections Shown (campus Utility Tunnel, Campus Chilled Water and Steam Piping, Campus Medium Voltage Duct Bank. Coordination with Gas Co. Ongoing)
  - ☐ Domestic and Fire Water Services Shown (Including Connections, Vaults, Meters, Backflow Prevention. Coordination with Water Company Ongoing.)
  - ☐ Temporary Power and Water Sources Identified
  - ☐ Site Detailing Initiated
  - ☐ Site Plan and Utility Connections Coordinated with Architect, Landscape Architect and MEP/FP Engineers

Design review checklists outline the University's minimum expectations for each milestone submittal



SCHEMATIC DESIGN REVIEW CHECKLIST

SCHEMATIC DESIGN REVIEW PACKAGE CHECKLIST

Check off each item that is included within the submitted Schematic Design checklist. Provide a written explanation for any omissions.

CIVIL
- ☐ Design Narrative – Scope & Character of Civil Site Development
  - Design Parameters
  - Flood Plain Elevations
  - Site Grading
  - Drainage Concepts
  - Storm Water Management
  - Availability of and Connection to Site Utilities
  - Proposed Roads
  - Parking
  - Pedestrian Walks
- ☐ Owner's Geotechnical Report
- ☐ Owner's Survey
- ☐ Verify Survey & Existing Conditions Information Provided by the University is Sufficient
- ☐ Schematic Site Plan
  - Reflect Campus Master Plan and Program Requirements
  - Identify Site Features with a Focus on Hardscape, Including Roads, Sidewalks and Parking
  - Include Preliminary Site Grading
  - Include Preliminary Storm Water Management and Detention Plan
  - Verify Site Utilities; Include Underground Utilities Plan
  - Coordinate Site Plan with Architect, Landscape Architect and MEP/FP Engineers
- ☐ Proposed Variances, if any, Identified and Submitted
- ☐ Cost Estimate of Site Work

LANDSCAPE
- ☐ Design Narrative – Scope & Character of Landscape Development, both Hardscape & Softscape
- ☐ Verify Survey and Existing Conditions Information Provided by the University is Sufficient
- ☐ Schematic Site Plan
  - Reflect Campus Master Plan and Facility Program Requirements
  - Show Areas Proposed to be Planted & Irrigated
  - Show Location of Water Source for Irrigation
  - Include Major Space Defining Elements Such as, Trees, Walls, Fences, etc. to Convey Overall Site Design Concept
  - Include Vehicular and Pedestrian Circulation
  - Coordinate Site Plan with Architect and Civil Engineer
- ☐ Tree Protection Plan
  - Identify Trees to be Protected
  - Provide Preliminary Tree Mitigation Spreadsheet Showing Caliper Inches to be Removed and Caliper Inches to be Planted
- ☐ Proposed Variances, if any, Identified and Submitted

STRUCTURE
- ☐ Design Narrative
  - Determine Structural System
  - Summarize Evaluation of Alternative Systems
  - Provide Descriptive Information Sufficient for Schematic Design Pricing
- ☐ Plans
  - Foundation Defined; Unique Foundation Conditions Addressed
  - Columns Sized and Located; Lateral Design Defined
  - Major Slab Openings or Typical Floors Shown
  - Major Beams and Spandrel Beams Sized
- ☐ Outline Specification
  - Brief Descriptions of Proposed Systems and Material in CSI Master Format
- ☐ Proposed Variances, if any, Identified and Submitted

ARCHITECTURE + INTERIORS
- ☐ General Drawings
  - Building Code Analysis – IBC, NFPA 101 and TAS/ADA
  - Partition Types – Representative Partition Types and Acoustical Ratings Defined
  - Spaces (SF) Analysis by Room, by Floor Level and by Overall Project – Assignable & Gross with Efficiency Calculations
- ☐ Site Plan
  - Schematic Project Location with Building Foot
  - Adjacent Structures
  - Access (Pedestrian, Vehicular and Fire)
  - Proposed Site Improvements
- ☐ Floor Plans
  - Room Layouts with Room Names, Proposed Room Number and ASF
  - Enlarge Plans of Selected, Critical Areas, as Defined by Owner
  - UH Required Non-ASF Spaces Properly Sized and Located
  - Typical Elevator and Stair Plans with Preliminary Sections
  - Renovation Projects to Include Plans of Existing Building, Building Structural System and Areas Requiring Demolition
- ☐ Roof Plan (Final Agreed Scheme)
- ☐ Exterior Elevations (Final Agreed Scheme)
  - Building Profile-Section Showing Floor to Floor Elevation
  - Ground Floor Elevation to Mean Sea Level (MSL) and 500-Year Flood Plain Elevation
  - Primary Materials Identified
  - Primary Building Elevation and Other Significant Facades
- ☐ Sections
  - At Least Two Building Sections Showing Floor-to-Floor Dimensions
  - Representative Wall Sections Showing Typical Construction
- ☐ Renderings and Models
  - Two Perspective Renderings
  - A Physical Model, if Authorized by Owner
- ☐ Outline Specifications
  - Brief Project Description and Narrative Descriptions of Proposed Component Systems, Materials and Equipment in CSI Master Format
- ☐ LEED Checklist
  - Annotated Checklist to Identify Status of Each Credit and Parties Responsible for Compliance. Required for All Projects, both "Design and Certify to LEED" and "Design to LEED"
- ☐ Third Party Cost Estimate
  - Opinion of Probable Construction Costs Based on (at a minimum) Square Footage Costs for Building Spaces and Systems (Typical for Building Type and Project Location)
  - CSI Master Format or Uniformat Assemblies Approach
- ☐ Proposed Variances, if any, Identified and Submitted

FURNITURE
- ☐ Engagement of FP&C Furniture Planner

ELEVATORS
- ☐ Typical Elevator Plans with Preliminary Sections
- ☐ Outline Specifications or Design Narrative in Compliance with UH Division 14 Master Specs; No Machine-is Products
- ☐ Proposed Variances, if any, Identified and Submitted

FIRE PROTECTION
- ☐ Design Narrative Describing Requirements for Fire Protection and Identifying State Fire Marshal Codes and Standards and Current UH Master Specifications
- ☐ Overall Fire Protection Site Plan, Including Hydrants and Connections

MECHANICAL
- ☐ Design Narrative Outlining Project Design Parameters (Indoor and Outdoor Conditions)
- ☐ Compliance with Energy Codes and UH Specifications
- ☐ Description of Energy Conservation and LEED Strategies
- ☐ Define Space Ventilation Requirements
- ☐ Preliminary Site Plan Indicating Source of Utility Service
- ☐ Describe Water-Side or Air-Side HVAC System Design
- ☐ Design of Special Systems (if any)
- ☐ Preliminary Site Plan Showing Source of Utility Services
- ☐ Proposed Variances, if any, Identified and Submitted

ELECTRICAL
- ☐ Design Narrative Outlining Project Design Parameters and Preliminary Electrical Load Analysis
- ☐ Preliminary Site Plan Showing Source and Voltage of Electrical Service
- ☐ Preliminary Single Line Diagram
- ☐ Compliance with Energy Codes and UH Specifications
- ☐ Description of Energy Conservation and LEED Strategies
- ☐ Description of Fire Alarm System and Required Coordination with Security, Communications and Control Systems
- ☐ Description of any Special Systems (if any)
- ☐ Proposed Variances, if any, Identified and Submitted

PLUMBING
- ☐ Design Narrative Outlining Project Parameters
- ☐ Compliance with Codes and UH Specifications
- ☐ Description of Water Conservation and LEED Strategies
- ☐ Site Plan Identifying Source(s) of Utility Services
- ☐ Proposed Variances, if any, Identified and Submitted

BUILDING MANAGEMENT SYSTEMS
- ☐ Design Narrative Describing the Building Management System, Including Temperature Controls, Energy Management, Reporting Systems and Energy Conservation Strategies
- ☐ Proposed Variances, if any, Identified and Submitted

TELECOM-IT
- ☐ BDF and IDF Rooms Located, Stacked and Sized per UH Standards
- ☐ Telecom Site Plan Showing Location of IT Service
- ☐ Design Narrative Describing Communications Systems and Data Network
- ☐ Proposed Variances, if any, Identified and Submitted

AUDIO VISUAL
- ☐ AV Closets Located and Sized
- ☐ Design Narrative Identifying AV Systems and Products
- ☐ Proposed Variances, if any, Identified and Submitted

SECURITY
- ☐ EAC/Security Closets Located and Sized
- ☐ Design Narrative Identifying Camera and Emergency Call Box Products
- ☐ Proposed Variances, if any, Identified and Submitted

ELECTRONIC ACCESS CONTROL
- ☐ EAC/Security Closets Located and Sized
- ☐ Design Narrative Describing Access Control System, Functions and Products

I confirm that the above minimum requirements are provided within the Schematic Review Package, or that I have provided an explanation for any omissions.

Signature _____ Date _____

Printed Name _____

- END OF SCHEMATIC DESIGN REVIEW PACKAGE CHECKLIST -

DESIGN DEVELOPMENT REVIEW CHECKLIST

☒ 50% DD ☐ 100% DD

DESIGN DEVELOPMENT REVIEW PACKAGE CHECKLIST

Check off each item that is included within the submitted Design Development checklist. Provide a written explanation for any omissions.

CIVIL
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Site Plans
  - Site Plan Graphically Fixed and Site Geometry Fixed
  - All Site Elements Defined (Vehicular and Pedestrian Circulation, Storm Water Detention, etc.)
  - Demolition Plan (Paving, Utilities, etc.)
  - Utility Connections Shown (campus Utility Tunnel, Campus Chilled Water and Steam Piping, Campus Medium Voltage Duct Bank. Coordination with Gas Co. Ongoing)
  - Domestic and Fire Water Services Shown (including Connections, Vaults, Meters, Backflow Prevention. Coordination with Water Company Ongoing.)
  - Temporary Power and Water Sources Identified
  - Site Detailing Initiated
  - Site Plans and Utility Connections Coordinated with Architect, Landscape Architect and MEP/FP Engineers
- ☐ Draft Specifications
  - Division 31 Earthwork
  - Division 32 Paving
  - Division 33 Site, Utilities, including UH Master Specifications
- ☐ Proposed Variances, if any, Identified and Submitted
- ☐ Cost Estimate of Site Work

LANDSCAPE
- ☐ SD Phase Comments Incorporated into DD Drawings
- ☐ Site Plans
  - Site Plan Graphically Fixed and Site Geometry Fixed
  - All Site Elements Defined (Vehicular and Pedestrian Circulation, Storm Water Detention, etc.)
  - Grading and Drainage Finalized
  - Site Detailing Initiated
  - Site Plans and Utility Connections Coordinated with Architect, Landscape Architect and MEP/FP Engineers
- ☐ Hardscape Plan
  - Paving Patterns, Materials, Paving Details and Site Lighting Delineated
  - Site Furnishings Shown (including Seating, Trash Receptacles, Tables, Tree Grates, Drinking Fountains, etc.)
- ☐ Planting Plan
  - Planting Hierarchy Shown, Plant Schedule Complete
- ☐ Irrigation Plan
  - Scope Determined
  - Irrigation Zones Diagramed and Types of Components Identified
- ☐ Tree Protection Plan
  - Trees to be Protected Identified, Tree Protection Details Included
  - Tree Mitigation Spreadsheet Updated Showing Caliper Inches to be Removed and Caliper Inches to be Planted
- ☐ Outline Specifications
  - Tree Protection
  - Planting
  - Irrigation
  - Site Furnishings
- ☐ Proposed Variances, if any, Identified and Submitted
  - Determine Structural System

STRUCTURE
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Plans
  - Structural Design Criteria Updated as Needed
  - Plans Generally Complete (Columns, Beams, Slabs, Lateral Design Elements Scheduled and Detailed)
  - All Columns and Lateral Design Structural Elements Fixed and Included in Architectural Drawings
  - All Floor Framing Plans Drawn with Slab Thicknesses, Beams and Major Slab Openings
  - Foundation Design Complete
  - Wind Loading and/or Seismic Design Complete
  - Framing Diagrams Complete for all Miscellaneous Framing Assemblies
  - Scope of all Miscellaneous Structural Items Identified
  - Slab Depressions and Balcony Conditions Addressed
- ☐ Details
  - General CMU Reinforcing Design and Loose Lintels Shown
  - Typical Masonry Design and/or Other Cladding Interfaces Reflected in Typical Detail
  - Structural/Architectural/MEP Coordination Ongoing
- ☐ Draft Specification
  - Draft Structural Sections in CSI Master Spec Format
  - UH Master Specifications Included in UH Format
- ☐ Proposed Variances, if any, Identified and Submitted

ARCHITECTURE + INTERIORS
- ☐ Pending Issues Report (Copy of Spreadsheet Tracking Open Design and Coordination Issues)
- ☐ SD Comments Incorporated Into DD Drawings

- ☐ CFPC Presentation Complete
- ☐ General Drawings
  - Building Code Analysis (IBC, NFPA 101 and TAS/ADA)
  - Fire and Life Safety (including Construction Type, Fire Exposure Analysis, Occupancy Type, Required Egress, Means of Egress, Transportation Systems, Required Fire and Smoke Barriers, Fire Suppression, Emergency Notification, Smoke Control, Stair Pressurization, Vertical Openings, Emergency Lighting, etc.)
  - All Partition Types and Acoustical Performance Criteria Identified
  - Space (SF) Analysis Updated
  - Written Review of Drawings by Acoustical Consultant to Include MEP Acoustical Isolation, Architectural Partitions, Floor and Deck Details and Prepares Acoustical Isolation Specifications
- ☐ Site Plan
  - Project Location with Building Footprint
  - Adjacent Structures
  - Access (Pedestrian, Vehicular and Fire)
  - Site Demolition Plan
  - Site Lighting Foot Candle Analysis
- ☐ Floor Plans
  - Room Layouts with Room Names, Room Numbers and Program ASF and Actual NSF
  - Interior and Exterior Dimension Stringers
  - Updated Furniture Layouts
  - Partition Types and Door Types Tagged
  - Enlarged Floor Plans (Restrooms, Typical Labs, Student Rooms, Classrooms, Kitchens, Other Specialty Areas, etc.)
  - Door/Frame/Hardware Schedules and Typical Door Details
  - Elevators, Elevator Cabs and Stairs Fully Dimensioned and Coordinated in Plan and Section
  - Demolition Plans for Renovation Projects
- ☐ Roof Plan
  - Drainage, Overflow and Materials Identified
  - Roof Penetrations Coordinated
  - Tie-offs, Walk Mats and Parapets Shown
- ☐ Reflected Ceiling Plans
  - All Typical and Major Areas Drawn with Light Fixtures and Diffusers Indicated
  - Structure and MEP/FP Coordination Underway
  - Representative Ceiling Details Drawn for Scope and Cost
  - Primary Building Elevation and Other Significant Facades
- ☐ Interiors
  - Preliminary Finish Plans and Schedules
  - Preliminary Finish Presentation to FP&C Complete
  - Representative Elevations with Dimensions, Notes and Sections Referenced
  - Typical Interior Details
  - Finish Design of Lobbies, Amenities and Other Finish Spaces Initiated
  - Proposed Donor Wall Shown, if any
  - Restrooms, Kitchens, Laboratories and Other Spaces Blocked Out with Casework and Built-in Fixtures, Equipment and Appliances
  - All Special Equipment Described and Scheduled
  - Drawings by Laboratory, Food Service, AV, IT Security and other Specialty Consultants Included

- ☐ Exterior Elevations
  - All Major Exterior Elevations with Floor-to-Floor Dimensions
  - Ground Floor Elevation to Mean Sea Level (MSL) and 500-Year Flood Plain Elevation with Primary Materials Identified
  - All Building Sections and Wall Sections Called Out
  - Window Schedule Included
- ☐ Building Sections
  - Sections Complete and Coordinated with Structure
  - MEP/FP/IT Horizontal Collection and Distribution Zones Addressed in Building Sections
- ☐ Typical Wall Sections
  - Wall Sections at 1/2" or 3/4" Scale that Show Typical Construction with Notes and Dimensions
  - Representative Larger Scale Section Details at 1-1/2" or 3" Scale
  - Review of Typical Wall Sections and Details Submitted by Envelope Consultant
  - Foundation Sections Complete
- ☐ Renderings
  - Updated Perspective Renderings in Color
- ☐ LEED Checklist
  - Updated Annotated Checklist Required for All Projects, both "Design and Certify to LEED" and "Design to LEED"
- ☐ SECO Compliance
  - Draft Worksheets Demonstrating Compliance with SECO Building Envelope Standards
- ☐ Draft Specifications
  - Draft Sections in CSI Master Spec Format for all Component Systems, Materials and Equipment
  - UH Master Specifications included in UH Format
- ☐ Building Maintenance Review
  - Building Maintenance, including Window Washing, Roof Safety, and Trash Collection, reviewed in page-turn session with Facilities
- ☐ Third Party Cost Estimate
  - Opinion of Probable Construction Costs Based on Detailed Quantities and Unit Costs for all Materials, Labor, Equipment, Building Systems, General Conditions, Fees and Contingencies
  - CSI Master Format
- ☐ Bid Alternates
  - Identified and Estimated
- ☐ Proposed Variances, if any, Identified and Submitted

FURNITURE
- ☐ Furniture Planner to Review Furniture Layout and Power, AV and IT Connections

ELEVATORS
- ☐ Elevator and Elevator Cabs Fully Dimensioned and Coordinated in Plan and Section
- ☐ Interior Cab Elevations with Finishes Called Out
- ☐ Power Requirements and Sequence of Control Shown for Elevator Recall System
- ☐ Sump Included in Elevator Pit
- ☐ Emergency Circuit for Sump Pump and Control/Alarm Conduit Provided to BMS Panel
- ☐ GFCI Outlet Shown in Pit and Near Elevator Controller
- ☐ A/C Provided for Elevator Shaft and Machine Room; Machine Room A/C Shown on Emergency Power if Elevator is on Emergency Power
- ☐ Security System Included for Floor Access, if Required
- ☐ Shunt Trip Provided for Elevator Power
- ☐ Surge Suppressor Provide to Protect Elevator Controller
- ☐ Fire Sprinkler System Shown in Machine Room and Shaft
- ☐ Fire Alarm Devices Included
- ☐ Draft UH Division 14 Master Spec(s) included in UH Format Maintained
- ☐ Proposed Variances, if any, Identified and Submitted

FIRE PROTECTION
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Perform Fire Hydrant Flow Tests to Determine if Fire Pump and Break Tank are required
- ☐ Fire Pump Sized and Shown, if Required
- ☐ Fire Protection System Zoned and Hazard Classifications Defined
- ☐ Special Fire Protection System Areas Shown (Dry, Pre-action, Chemical, etc.)
- ☐ Coordination with MEP and IT Systems Underway
- ☐ Fire Protection Riser Diagram
- ☐ Hydraulic Calculations
- ☐ Typical Fire-Protection Details, Control Valves, Flow Switches, etc.
- ☐ Proposed Variances, if any, Identified and Submitted

MECHANICAL
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Preliminary Demolition Plan
- ☐ Preliminary Site Plan Showing Source of Utility Services
- ☐ Preliminary HVAC Floor Plans with Ductwork Sizes and Types Labeled, Terminal Units (e.g. Fan-Powered Boxes, VAV Terminal Boxes) and Associated Thermostats Called Out and Supply/Return Air Grilles with Sizes and Types Labeled
- ☐ Preliminary Plan Diagram with HVAC Zoning
- ☐ Preliminary Piping Floor Plans showing Pipe Sizes and Types and Units Using Chilled water/Hot Water
- ☐ Enlarged Mechanical Room and Mechanical Yard Plans, Showing All HVAC Equipment (Pumps, Fans, AHUs, Chiller, Boiler, etc.)
- ☐ Lab Ventilation Systems
- ☐ Fire/Smoke Dampers in Fire Rated Walls
- ☐ Preliminary Equipment Schedules
- ☐ Preliminary Air and Chilled/Hot Water Flow Diagrams
- ☐ Typical Mechanical Details
- ☐ Draft Specifications in UH Master Specification Format
- ☐ Proposed Variances, if any, Identified and Submitted

ELECTRICAL
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Electrical Demolition Plan
- ☐ Site Plan Showing Incoming Service and Feeders and Exterior Equipment Locations
- ☐ Site Lighting Layout with Submitted Photometric Analysis to Demonstrate Compliance with UH and IENSA Standards
- ☐ Grounding System Plan and Riser Diagram, Including Lightening Protection and Grounding Details
- ☐ Single Line Diagram with Load Analysis, Main Feeder and Branch Sizing – All Conductors Must Be Copper
- ☐ Interior Lighting Plans with Photometric Analysis
- ☐ Typical Lighting Details
- ☐ Basis of Design Fixture Selection (DLC, Lighting Facts, Energy Star) and Preliminary Fixture Schedule
- ☐ Lighting Control Plans
- ☐ Floor Plans Showing Power Service and Distribution, Mechanical Equipment (Including Elevator) Requiring Power (including Roof) and all Device Layouts (Receptacles, Switches, Data Outlets, Fire Alarm, etc.)
- ☐ Electrical Equipment Floor Plans
- ☐ Enlarged Electrical Room Plans Showing Equipment Locations and Clearances. Include Basis of Design Information for Short Circuit Rating of Equipment.
- ☐ Special Systems (UPS, Batteries, etc.), if any
- ☐ Emergency Distribution System including Generator Location; Generator Sized for Life Safety Loads and Optional Loads Approved by UH
- ☐ Preliminary Panel Schedules
- ☐ Fire Alarm Riser and Plan
- ☐ Draft Specifications in UH Master Specification Format
- ☐ Proposed Variances, if any, Identified and Submitted

PLUMBING
- ☐ SD Comments Incorporated Into DD Drawings
- ☐ Preliminary Demolition Plan
- ☐ Preliminary Site Plan with Utility Services and Mains Shown
- ☐ Preliminary Floor Plans with Preliminary Pipe Sizes, Floor Drains, Equipment (Pumps, Softeners, Mixing Valves, Elevator pit Sump Pumps, Heaters, Backflows, etc.) and Service Access Shown
- ☐ Roof Plan with Preliminary Drains and Overflow Drains or Scuppers, Vent Stacks and Equipment Shown
- ☐ Preliminary Plumbing Fixtures Schedule
- ☐ Preliminary Plumbing Equipment Schedules
- ☐ Typical Plumbing Details
- ☐ Natural Gas, etc.
- ☐ Equipment and Mains for Gas and Compressed Air
- ☐ Draft Specifications in UH Master Specification Format
- ☐ Proposed Variances, if any, Identified and Submitted

BUILDING MANAGEMENT SYSTEMS
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Instrumentation and Controls General Information
- ☐ Preliminary Control Diagrams with a list of Control Points and Sequence of Operations
- ☐ Draft Specifications per UH Division 25 Master Specifications Included in UH Format
- ☐ Proposed Variances, if any, Identified and Submitted

TELECOM-IT
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Scope Matrix Showing Division of Responsibilities among General Contractor, IT Contractor and Owner
- ☐ Telecom Site Plan Showing Location of IT Service
- ☐ Telecom Riser Diagram
- ☐ Floor Plans and Reflected Ceiling Plans with Distribution Pathways and Device Layouts (Wireless, Data Drops, Security Cameras, EAC and AV)
- ☐ Enlarged BDF, IDF Rooms and Communications Backboards
- ☐ Typical Rough-in Details
- ☐ Coordination with Architecture, MEP/FP, AV, Security, EAC and Furniture Underway
- ☐ Draft Specifications in UH Master Specification Format, Identifying Proposed Products
- ☐ Proposed Variances, if any, Identified and Submitted

AUDIO VISUAL
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Scope Matrix Showing Division of Responsibilities among General Contractor, IT Contractor and Owner
- ☐ Floor Plans and Reflected Ceiling Plans Showing AV Equipment and AV Closets

- ☐ Typical Rough-in Details
- ☐ Enlarged Plans for Key AV Spaces, such as Lecture Halls and Auditoriums
- ☐ Coordination with Architecture, Furniture, Power and Communications Underway
- ☐ Draft Specifications in UH Master Specification Format, Identifying Proposed Products
- ☐ Proposed Variances, if any, Identified and Submitted

SECURITY
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Scope Matrix Showing Division of Responsibilities among General Contractor, Security Contractor and Owner
- ☐ Site Plan Showing Security Cameras and Coverage and Emergency Call Boxes
- ☐ Typical Pole-Mounted and Building-Mounted Camera Details
- ☐ Floor Plans Showing Security Closets and Panels
- ☐ Coordination with Architecture, Power, Lighting, and Communications Underway
- ☐ "Points-of-Connection" for Power and Data Noted
- ☐ Draft Specifications in UH Master Specification Format, Identifying Proposed Products
- ☐ Proposed Variances, if any, Identified and Submitted

ELECTRONIC ACCESS CONTROL
- ☐ SD Comments Incorporated into DD Drawings
- ☐ Scope Matrix Showing Division of Responsibilities among General Contractor, EAC Contractor, Door Hardware Contractor and Owner
- ☐ Plans Showing Access Control Zones, Location of Controlled Doors and Other Wall Openings and Locations of EAC/Security Closets
- ☐ Elevations of Doors Showing Typical Locations of EAC Equipment and Other Hardware
- ☐ Elevations of EAC Equipment Backboards
- ☐ Coordination with Door and Hardware Schedule Underway
- ☐ "Points-of-Connection" for Power and Data Noted
- ☐ "Sequence of Operations" Diagrams for Each EAC Function with Status Matrix Shown
- ☐ Draft Specifications in UH Master Specification Format, Listing Specific Functions for Each Controlled Opening and Identifying Proposed Products

I confirm that the above minimum requirements are provided within the Design Development Review Package, or that I have provided an explanation for any omissions.

Signature _____ Date _____

Printed Name _____

- END OF DESIGN DEVELOPMENT REVIEW PACKAGE CHECKLIST -

DESIGNER LOGO

DESIGN FIRM
Street
City, TX
Phone: 713-XXX-XXXX
www.firm.xxx e-mail@firm.xxx

CONSULTANT-1
Street
Town, TX 77001
Phone: 713-XXX-XXXX
www.consultant1.xxx e-mail@consultant1.xxx

CONSULTANT-2
Street
Level 2
Town, TX 77002
Phone: 713-XXX-XXXX
www.consultant2.xxx e-mail@consultant2.xxx

SEAL (S)

UNIVERSITY of HOUSTON SYSTEM

UNIVERSITY OF HOUSTON

PROJECT INFORMATION

PROJECT NAME1
PROJECT NAME2

UH PROJECT No. P779000
CAMPUS NAME CAMPUS
BLDG. NUMBER NNNN
BLDG. ABBREV. AAA
BUILDING NAME BUILD. NAME 1
BUILD. NAME 2
ADDRESS Boulevard
CITY/ZIP Level, TX 77000
FLOOR NUMBER NN

No.	DATE	ISSUE
1	MM/DD/YYYY	ISSUE1
2	MM/DD/YYYY	ISSUE2
3	MM/DD/YYYY	ISSUE3
4	MM/DD/YYYY	ISSUE4
a	MM/DD/YYYY	ISSUEa
b	MM/DD/YYYY	ISSUEb
c	MM/DD/YYYY	ISSUEc

DATE MM/DD/YYYY
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- ***Include completed, signed checklists in the General sheets at the front of each milestone submittal***
- ***Strike through disciplines that do not pertain to your project***
- ***Include previous milestone checklists to provide a continuous record***
- ***Remove checklists from the final Issued for Construction (IFC) set***

Design Reviews: Timing

When? *Schedule reviews after each required milestone submittal in Programming, SD, DD and CD*

- **Two-Week Owner Review**
  - Post submittal to PMWeb
  - Receive written comments and/or drawing markups from UH reviewers
  - Review design comments and prepare written responses prior to Page Turn meetings

- **Page Turn Meetings**
  - Schedule meetings in advance for third week
  - Conduct Page Turn meetings using Bluebeam or similar program
  - Submit final written responses immediately after Page Turn meetings

- **Notice to Proceed**
  - Receive authorization from UH project manager to proceed to next design phase if progress is satisfactory
  - Make agreed changes and corrections in next phase of design

Sample Page Turn Meetings: Large Capital Project

8 – 9am	**Site**—civil, landscape, site lighting, site utilities, signage
9 – 11am	**Architecture**—building, materials, structure, elevators, fire & life safety
11 – Noon	**Interiors**—layouts, finishes, custodial/waste services, space management, signage
1 – 2pm	**Sustainable Design**—LEED checklist—progress check
2 – 4pm	**Engineering Systems**—mechanical, plumbing, electrical, fire alarm, BMS, Cx
4 – 5pm	**Technology**—IT, security, electronic access control, AV

Note: *Organize page turn meetings by disciplines and consultants. Page turn sessions may be day-long events, or half-days, depending on the design phase, project scope and complexity. Reviews may be virtual or in-person.*

Design Reviews: Variance Management

Why? *Evaluate project conformance with UH design guidelines and master specs*

- **At each milestone submittal,** document if variances are needed—or not:
  - Programming
  - Schematic Design
  - Design Development (50% and 100%)
  - Construction Documents (50% and 90%)

- Propose variances and rationale using **standard request form**

- Support UH project manager's presentation to the **Variance Review Committee,** which meets **monthly**

Note: *Senior leaders from Facilities Planning, Construction Management and Facilities Services must approve variances.*

Design Reviews: Campus Stakeholders

- The **Campus Facilities Planning Committee (CFPC)** is established by MAPP 09.03.02.
- CFPC reviews all projects that affect the **quality and character of the campus,** including new buildings and outdoor spaces, exterior renovations, road relocations, public art installations and non-standard exterior signage.
- CFPC meets **bi-monthly** in January, March, May, July, September and November.
- CFPC members represent a **cross-section** of the University, from students to faculty to staff, from Marketing to Research to Facilities.
- After CFPC approval, **significant changes** to exterior design, exterior materials or exterior public spaces require re-approval by CFPC.
  - Changes requiring re-approval include, but are not limited to, substitution of a new exterior material; significant changes to landscaping and tree protection; changes to public spaces or public circulation.

Best Practice: *Present the project during Design Development, after Schematic Design has been reviewed, cost estimates have been reconciled and the project is "on budget."*