



Schematic Design Phase	Design Development Phase	Construction Documents Phase
<div><p>General Description</p><ol style="list-style-type: none">Review Programming information and verify Owner requirements for site and building functions and spaces<ol style="list-style-type: none">Confirm parking requirements and site circulationConfirm programmed spaces and square footagesConfirm exterior and interior circulation and calculate efficiencyDetermine scope of renovated areas, if applicableDevelop Scope of Work narrative based on Owner/Architect contract<ol style="list-style-type: none">Project phasing requirementsInterior designConfirm Owner's project budget and overall schedule<ol style="list-style-type: none">Include all project costs, total project costsReconcile site and building design program with budgetAdvise Owner of any budget discrepanciesAdvise Owner of any schedule issuesDocument existing conditions and identify issues<ol style="list-style-type: none">Hazardous materials survey and abatementConstruction phasing requirements and occupancy during constructionSelect and involve special consultants (kitchen, A/V, acoustic) and prepare AIA contractsDiscuss type of construction contract and method of construction delivery (competitive bid, negotiated, construction management, prime bid, design/build)Create and distribute project team directory—template<ol style="list-style-type: none">Project contact informationCreate and distribute project schedule to team members<ol style="list-style-type: none">Schematic Design and Owner reviewDesign Development Owner reviewConstruction Documents and Owner review<ol style="list-style-type: none">Identify separate bid package scopesReview periods for Authorities Having JurisdictionBid dateConstruction start dateOccupancy date (space occupancy schedules)Schedule Schematic Design kickoff meeting (owner, design team)Perform building code review describing means of compliance for major code issues and building systems<ol style="list-style-type: none">Identify/determine Authorities Having Jurisdiction (planning and building)Determine applicable building codes, regulations and ordinancesConfirm whether there will be hazardous materials or high piled storageOccupancy classificationsConstruction typeFire protection systemsBuilding height and areaArea separationsOccupant loadsEgress requirements and distancesPlumbing fixture requirementsAccessibility requirementsLife safety egress plans with identification of security and access pointsMeet with Authorities Having Jurisdiction for project introduction and preliminary plan reviewConfirm any special site conditions and anticipated variance requests<ol style="list-style-type: none">Municipal zoningLand use and land development reviewTraffic studiesEstablish sustainability goals<ol style="list-style-type: none">Determine sustainable systems goalsDetermine desired LEED certification levelDevelop LEED checklistVerify items furnished and/or installed by Owner<ol style="list-style-type: none">Work by othersFurniture, fixtures and equipment (FF&E)Confirm site information has been received or ordered<ol style="list-style-type: none">Property surveySoils reportsEnvironmental Site AssessmentPressure and flow testsVerify special equipment and fixture requirements (cranes, lab equipment, food processing equipment, etc.)Schedule DSPS preliminary reviewPreliminary commercial design reviewDetermine documents and materials required by Owner<ol style="list-style-type: none">Construction Document formatPresentation materialsExisting conditions documentsRevit modelExterior finish materials mockup</div>	<div><p>General Description</p><ol style="list-style-type: none">Review Schematic Design Phase comments and responses and incorporate revisions (verify compliance with building design program)<ol style="list-style-type: none">Confirm parking and site requirementsConfirm programmed spaces and circulationReview scope of renovated areas, if applicableReview Owner/Architect contract and update Scope of WorkConfirm Owner's project budgetVerify existing conditions and identify issues<ol style="list-style-type: none">Hazardous materials abatementConstruction phasing requirements and occupancy during constructionDetermine additional discipline or consultant involvement requiredUpdate and distribute project team directoryUpdate and distribute project schedule<ol style="list-style-type: none">Design Development and Owner reviewConstruction Documents and Owner review<ol style="list-style-type: none">Confirm separate bid package scopes and bid datesReview periods for Authorities Having JurisdictionBid date, construction start date and occupancy dateReview and update staff time and production cost projections<ol style="list-style-type: none">Adjust staff participation to achieve scheduleSchedule Design Development kickoff meetingUpdate building code review<ol style="list-style-type: none">Verify City and State submittal requirementsVerify hazardous materials use and storageVerify occupancy classifications and occupant loadsVerify fire protection systems and area separationsVerify egress requirementsVerify accessibility requirementsDevelop description of water and vapor barrier characteristics of roof and exterior wall construction and perform initial energy modelingMeet with Authorities Having Jurisdiction for preliminary plan reviewVerify special site conditions and requirements are reviewed with authoritiesUpdate sustainable systems information<ol style="list-style-type: none">Provide estimates of probable operating costsDocument ASHRAE 90.1 compliance (focus on energy)Confirm and review requirements for Owner's special systems and equipmentReview site information (property survey, soils report, etc.) and request additional information if requiredConfirm all selected building systems with Owner and all disciplines and consultants<ol style="list-style-type: none">Structural (storage locations and rooftop mechanical equipment locations)Mechanical (equipment sizes and locations, mechanical room sizes and locations)PlumbingDrainageFire suppressionElectrical (panel room locations)LightingTechnologySecurity (electronic door hardware, alarm systems)Fire alarmElevatorsSpecial systemsArena rigging replacementSeating layoutDetermine potential long lead time itemsDetermine structural requirements based on geotechnical information and equipment requirements (mechanical and operational equipment, roof loads, etc.)Schedule DSPS final reviewConfirm which toilet room accessories are provided by othersCoordination with Focus on EnergyConfirm documents and materials required by Owner<ol style="list-style-type: none">Presentation materialsExterior finish materials mockupInterior finish materials boardPresent Design Development documents to Owner<ol style="list-style-type: none">Review Design Development documents and other information with OwnerUpdate overall project scheduleObtain Owner's written approval of Design Development documents</div>	<div><p>General Description</p><ol style="list-style-type: none">Review Design Development Phase comments and responses and incorporate revisions (verify compliance with building design program)Review Owner/architect contract and update Scope of WorkConfirm Owner's project budgetConfirm construction phasing requirements and occupancy during constructionUpdate and distribute project schedule<ol style="list-style-type: none">Construction Document and Owner review<ol style="list-style-type: none">Confirm separate bid package scopes and bid datesReview periods for Authorities Having JurisdictionBid date, construction start date and occupancy dateReview and update staff time and production cost projections<ol style="list-style-type: none">Adjust staff participation to achieve scheduleSchedule Construction Documents kickoff meetingFinalize building code review<ol style="list-style-type: none">Code record plansGeneral code dataFinal energy modeling and compliance formsFinalize sustainable systems information<ol style="list-style-type: none">Estimates of probable operating costsASHRAE 90.1 compliance50% Construction Documents review (confirm all selected building materials and equipment with Owner and all disciplines and consultants)Verify structural requirements with design loads and equipment locationsConfirm documents and materials required by Owner95% Construction Documents review with Owner<ol style="list-style-type: none">Review Construction Documents and other information with OwnerReview comments and incorporate revisionsPresent Construction Documents to Owner<ol style="list-style-type: none">Obtain Owner's written approval of Construction DocumentsSubmit documents for plan review to Authorities Having JurisdictionIncorporate responses to AHJ plan review comments</div>

DESIGN DELIVERABLES



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<div><div>f. Interior finish materials board</div><div>20. Determine any special sheet numbering otherwise use company standard</div><div>21. Present Schematic Design documents to Owner</div><div><div>a. Review Schematic Design documents and other information with Owner</div><div>b. Update Scope of Work narrative</div><div>c. Update overall project schedule</div></div></div>		
<div><div>Cost Estimate</div><div><div>1. Develop Estimate of Probable Construction Costs (include all project costs)</div><div><div>a. Design fees</div><div>b. Site costs</div><div>c. Construction costs</div><div>d. Furniture, fixtures and equipment</div><div>e. Soft costs</div><div>f. Design contingency</div><div>g. Construction contingency</div></div></div><div>2. Identify potential bid alternates</div><div>3. For CM projects, compare Architect's estimate and CM's estimate</div></div>	<div><div>Cost Estimate</div><div><div>1. Update Estimate of Probable Construction Costs</div><div><div>a. Identify items not included in SD estimate</div><div>b. Adjust design contingency and construction contingency</div></div></div><div>2. Determine potential cost reduction opportunities</div><div>3. Confirm bid alternates</div><div>4. Develop life cycle cost estimate as Owner requested additional service</div></div>	<div><div>Cost Estimate</div><div><div>1. Updated Estimate of Probable Construction Costs</div><div>2. Finalize bid alternates</div></div></div>
<div><div>Project Manual (if required)</div><div><div>1. Develop outline specification (list of anticipated divisions and sections)</div><div>2. Table of contents or narratives</div><div>3. Assemble Project Manual Workbook with cut sheets and other information for all selected building systems, materials, equipment and fixtures</div></div></div>	<div><div>Project Manual</div><div><div>1. Develop preliminary specifications indicating project specific features of major equipment and component materials</div><div>2. Develop preliminary list of sole source specified items</div><div>3. Review any changes to building design program with Owner to clarify intent</div><div>4. Update Project Manual Workbook for all building systems, materials, equipment and fixtures</div></div></div>	<div><div>Project Manual</div><div><div>1. Complete specification including front end documents</div><div><div>a. Alternates, cash allowances and unit prices, if applicable</div><div>b. Insurance bonds, construction agreements and bidding procedures</div><div>c. General and Supplementary Conditions</div><div>d. Bid documents</div><div>e. Prevailing wage rate statutes, if applicable</div><div>f. Testing and quality control</div><div>g. Special inspections</div><div>h. Commissioning</div><div>i. Contractor prequalification statements</div></div></div><div>2. Complete list of sole source specified items</div><div>3. Update Project Manual Workbook for all building systems, materials, equipment and fixtures</div><div>4. Indicate of proposed sequence of operations for all electrically monitored and controlled door hardware sets, including schematic wiring diagram for each location</div></div>
<div><div>Site</div><div><div>1. Site Plans</div><div><div>a. Property lines w/ dimensions</div><div>b. Setback requirements</div><div>c. Utility easements</div><div>d. Existing conditions</div><div>e. Demolition</div><div>f. Building outlines</div><div>g. Future expansion</div><div>h. Site entrance</div><div>i. Roads and driveways</div><div>j. Parking locations, including those required for operations service vehicles, special user needs, and ADA spaces as determined by transportation services</div><div><div>i. Identify required parking counts based on city requirements</div></div><div>k. Loading dock and service entrance locations with trash compactor access route identified and all service vehicle and janitorial access shown</div><div>l. Bus stop and shelter if required</div><div>m. Waste and recycling collection locations</div><div>n. Walkway locations</div><div>o. Stairway locations</div><div>p. Emergency telephone locations</div><div>q. Site utilities</div><div>r. Emergency vehicle access showing turnarounds, width, code compliance verification and fire department connection point</div><div>s. Security during construction</div></div></div><div>2. Preliminary grading plan</div><div>3. Storm water management plan</div><div>4. Verification of need for WISDOT permits</div><div>5. Listing of utility providers</div><div>6. Transformer and generator location</div><div>7. Detention pond</div></div>	<div><div>Site</div><div><div><div>1. Zoning review</div><div>2. Review flight path for airport with solar panels/ glare</div><div>3. General dimensions and elevations</div><div>4. Permanent exterior signage</div><div>5. Parking and roadway plans and elevations</div><div>6. Vehicular and pedestrian traffic controls</div><div>7. Building elevations (coordinate with architectural floor plan elevations)</div><div>8. Grading plan</div><div>9. Fire hydrant locations</div><div>10. Site lighting plans, simulations, specifications, equipment cut sheets and photometrics</div><div>11. Trash enclosure locations</div><div>12. Conceptual details of site fixtures and equipment</div><div>13. Electrical transformer location</div><div>14. Utility plans, elevations and details for local governing agency approval</div><div><div>a. Water service (domestic and fire protection)</div><div>b. Sanitary</div><div>c. Storm</div><div>d. Gas</div><div>e. Electric</div><div>f. Telephone and cable</div></div></div><div>15. Subsurface drainage (coordinate with architectural and plumbing)</div><div>16. Soil erosion and sedimentation control plan for construction and post occupancy</div><div>17. Service vehicle parking locations</div><div>18. Locations of flag pole, trash collectors, benches and other features</div><div>19. Roof drain locations (primary and secondary)</div><div>20. Temporary fencing/ security during construction</div><div>21. Site logistics plan (contractor mobilization area, preliminary limit of contract, contractor access)</div><div>22. Preliminary site lighting plan</div></div></div>	<div><div>Site</div><div><div><div>1. Retaining wall details</div><div>2. Bollard locations</div><div>3. Site lighting</div><div>4. Final limit of contract</div><div>5. Area traffic plan if major walkways and roadways are impacted</div><div>6. Site development phasing plan</div><div>7. Construction site access provisions</div><div>8. Staging area provisions</div><div>9. Construction signage</div><div>10. Site details including hardscape</div><div>11. Profiles for underground utilities</div><div>12. Pipe sizes</div><div>13. Connection details</div><div>14. Local government review comments on site and utilities, etc.</div></div></div></div>

DESIGN DELIVERABLES



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<div>Landscaping<div>1. Existing conditions</div><div>2. Landscaping concept</div><div>3. Existing irrigation</div></div>	<div>Landscaping<div>1. Planting plan</div><div>2. Irrigation plan</div></div>	<div>Landscaping<div>1. Indicate required protection of existing trees and significant plantings during construction</div><div>2. Soil preparation and planting specifications</div><div>3. Guying diagrams</div><div>4. Piping diagrams</div><div>5. Pipe sizes</div><div>6. Landscape irrigation details and legends</div><div>7. Equipment screening provisions</div></div>
<div>Structural<div>1. Written description, proposed materials, foundation types, design criteria, design loads</div><div>2. Structural schematic drawings</div><div>3. Framing plan</div><div>4. Preliminary structural sizing</div><div>5. Establish grids</div></div>	<div>Structural<div>1. Foundation plan</div><div>2. Typical floor framing plan</div><div>3. Framing plans at unique features</div><div>4. Main member sizes</div><div>5. Structural sections</div><div>6. Roof and slab openings identified</div><div>7. Building expansion joint locations</div><div>8. Verify equipment, fixture, pipe and duct locations are not in conflict with structural elements</div><div>9. Roof anchors/ tie-off points needed to clean exterior windows?</div></div>	<div>Structural<div>1. Location of control joints</div><div>2. Beam, column and slab schedules</div><div>3. Depressed or raised slabs identified and detailed</div><div>4. Roof and slab openings identified and detailed</div><div>5. Verify stair and guard rails meet load requirements</div><div>6. Utilities below/ thru foundations coordinated and detailed</div><div>7. ME housekeeping pads</div><div>8. Foundation details</div><div>9. Structural details</div><div>10. Structural notes</div><div>11. Structural calculations</div></div>
<div>Building Exterior Envelope<div>1. Major exterior elevations</div><div>2. Fenestration layout</div><div>3. Material designations</div><div>4. Overall building cross-sections</div><div>5. Roof layout</div><div>6. Coordinate grid layout method w/ structural</div></div>	<div>Building Exterior Envelope<div>1. 50% DD<div>2. All building elevations</div><div>3. Building sections cut</div><div>4. Typical wall sections cut</div><div>5. Expansion joint locations</div><div>6. Roof and drainage plan and scupper locations</div><div>7. Equipment screening</div><div>8. Construction assemblies</div><div>9. Exterior building signage</div><div>10. Building envelope compliance report</div></div><div>11. 100% DD<div>12. Detail typical exterior door & window details</div><div>13. Typical roof, parapet and coping details</div><div>14. Assembly tags added to wall sections</div><div>15. Typical window details</div><div>16. Miscellaneous typical details</div><div>17. Roof/ equipment guardrails, if required</div><div>18. Window types determined (operable, fixed, storefront, curtainwall)</div></div></div>	<div>Building Exterior Envelope<div>1. 25% CD<div>2. Subsurface drainage (coordinate with civil and plumbing)</div><div>3. Exterior Finish Schedule completed</div><div>4. Roof accessories (gutters, downspouts, snow guards, etc.) modeled & detailed</div></div><div>5. 50% CD<div>6. Control joint locations and details</div><div>7. Detail unique exterior door & window details</div><div>8. Detail unique roof, parapet & coping details</div><div>9. Unique flashing details</div><div>10. Roof walkway pad locations</div></div><div>11. 75% CD<div>12.</div></div></div>
<div>Building Interior<div>1. Building floor plans</div><div>2. Grid lines</div><div>3. Demolition plans</div><div>4. Proposed room numbering scheme</div><div>5. Area use identification and area square footages</div><div>6. Volume analysis</div><div>7. Mechanical, electrical, janitorial rooms, sprinkler service location and other required service rooms</div><div>8. Flexibility for expansion and alterations</div><div>9. Preliminary layout of major spaces with fixed equipment/casework</div><div>10. Restroom locations</div><div>11. Drinking fountain locations/miscellaneous plumbing</div><div>12. Reflected ceiling plan concepts</div><div>13. Duct chase space</div><div>14. Stairs/locations</div><div>15. Kitchen facilities located</div><div>16. Nursing room needed</div></div>	<div>Building Interior<div>1. 50% DD<div>2. Room Names & Numbers finalized</div><div>3. All floor plans</div><div>4. Casework modeled</div><div>5. Important interior elevations</div><div>6. Create enlarged plans</div><div>7. Reflected ceiling plans</div><div>8. Fixed seating layouts</div><div>9. Kitchen equipment layouts</div><div>10. Roof access locations</div><div>11. Equipment and furniture layouts</div></div><div>12. 100% DD<div>13. Casework tagged on all interior elevations</div><div>14. Begin keynoting demo, floor & RCP's</div><div>15. Miscellaneous typical details</div><div>16. Finish tags filled out</div><div>17. Preliminary door hardware types, unique functions added to door hardware schedule</div><div>18. Equipment and MEP chase locations</div><div>19. Wall types (including fire rated wall assemblies)</div><div>20. RCP – ceiling tags (type and height)</div><div>21. Walls tagged on floor plans</div><div>22. Details of fixed equipment</div><div>23. Toilet room accessories, visual displays modeled & tagged</div><div>24. Preliminary finish schedule</div><div>25. Preliminary door schedule</div><div>26. Wayfinding signage</div><div>27. Limits of slab replacement, if necessary</div></div></div>	<div>Building Interior<div>1. 25% CD<div>2. Confirm floor plan dimensions, modular layouts</div><div>3. Dimension floor plans</div><div>4. Furniture layouts (for reference by technology & electrical)</div><div>5. Enlarged plans</div><div>6. Door Schedule filled out</div><div>7. Remainder of interior elevations</div></div><div>8. 50% CD<div>9. Interior details</div><div>10. RCP unique details</div><div>11. Finalize demo, floor & RCP keynotes</div><div>12. Interior elevations</div><div>13. Finish layouts shown</div><div>14. Send plans to door hardware consultant</div></div><div>15. 75% CD<div>16. Casework details</div><div>17. RCP – ceiling finish keynotes</div><div>18. Add door hardware groups to door schedule</div><div>19. Finish schedules finalized</div><div>20. Room signage</div><div>21. Schedule of fixtures and equipment (fixed and moveable)</div><div>22. Toilet room accessories tagged</div></div></div>
<div>Vertical Circulation (Elevators, Stairs, Ramps)<div>1. Elevator location</div></div>	<div>Vertical Circulation (Elevators, Stairs, Ramps)<div>1. 50% DD</div></div>	<div>Vertical Circulation (Elevators, Stairs, Ramps)<div>1. 25% CD</div></div>

DESIGN DELIVERABLES



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<div>2. Equipment room location</div> <div>3. Basis of Design description</div> <div>4. Emergency power determination</div>	<div>2. Elevator shaft size confirmed</div> <div>3. Confirm stair/ramp width meets egress requirements</div> <div>4. Elevator, stair/ramp plans, sections & typical details</div> <div>5. 100% DD</div> <div>6. Elevator equipment description</div> <div>7. Cab materials and lighting description</div>	<div>2. Dimensioned plans</div> <div>3. 50% CD</div> <div>4. Description of shaft sump pits</div> <div>5. Car and equipment support details</div> <div>6. 75% CD</div> <div>7. Description of controls and fixtures</div> <div>8. Door and frame details</div> <div>9. Interior details, including finish materials and lighting for elevator cab and lobby</div>
<div>Accessibility Requirements</div> <div>1. Accessible entrance locations</div> <div>2. Areas of refuge at stairs</div>	<div>Accessibility Requirements</div> <div>1. Verify all elements are in compliance with applicable building code and 2010 ADA Standards<div><div>a. Signage</div><div>b. Curb cuts</div><div>c. Entrances</div><div>d. Stairs and ramps</div><div>e. Plumbing elements and facilities</div><div>f. Kitchens, work surfaces and service counters</div><div>g. Special rooms, spaces and elements</div></div></div> <div>2. Power-operated door locations</div>	<div>Accessibility Requirements</div> <div>1. Final review of all accessible components</div>



Schematic Design Phase

Design Development Phase

Construction Documents Phase

<p>HVAC</p> <ol style="list-style-type: none">1. Mechanical legend2. Basis of Design for all systems3. Initial "shoebox" building envelope energy calculations for envelope performance compliance report4. Single line diagrams for air, hydronic, steam, condensate and all other materials required to describe design concepts for all mechanical systems5. Indication of amount of redundancy for all major pieces of mechanical equipment6. Schematic plans showing major equipment locations and air intake and discharge locations7. Gross HVAC zoning and typical individual space zoning and operating schedules8. Special occupancy zones such as telecommunications and network server rooms	<p>HVAC</p> <ol style="list-style-type: none">1. Chase locations2. Verify duct and piping are not in conflict with structural elements3. Preliminary calculations and load summaries with breakdowns for major areas, subsystems and equipment loads4. Systems design verification using life cycle cost analysis methods5. Overall building air flow diagram showing interrelationships of air handlers, exhaust fans, duct risers, duct mains and primary dampers6. Duct layout for typical spaces (analyze air distribution and noise levels)7. Develop equipment schedules for major pieces of equipment8. Equipment locations with enlarged mechanical room plans, sections and elevations to scale with indication of required service access areas9. ME smoke control schemes10. Meter locations11. Analysis of existing utilities and HVAC infrastructure with summary listing of required upgrades to support new work	<p>HVAC</p> <ol style="list-style-type: none">1. Overall building hydronic and steam system diagrams showing interrelationship of main heating/cooling plant equipment or central utility source, heat exchangers, pumps, pipe risers and mains and primary isolation and control valves2. Locations of air control devices, including damper locations and shaft access requirements3. Floor plans with all components and required service access areas drawn to scale (indicate duct sizes and air flow quantities relative to each room, including CFM in and out of all doors)4. Detailed piping and duct design with all sizes shown, and expansion compensation and structural support requirements coordinated5. Location of control panels, transformers, lab air valves, volume control boxes, thermostats and control valves6. Indication of typical locations of fire dampers, smoke dampers, combination F/S dampers and air control devices with access provisions7. Access panel locations8. Detailed floor plans of mechanical rooms with all components and required service access areas9. Enlarged plans and sections showing coordination of systems in constricted areas10. Equipment details with structural support details and vibrations isolation methods11. Penetration and sleeve details12. Space zoning diagram by system13. Connection to fire alarm and control and security systems14. Installation details15. Final equipment schedules16. Duct construction schedule and material pressure class17. Design calculations18. Final energy modeling19. Final HVAC component of Energy Performance Compliance Report20. Final sound and vibration control analysis, attenuation requirements, and methods for control provisions with calculations documenting compliance with design criteria21. Final Utility Demand and Consumption report, if required
<p>Plumbing and Piping</p> <ol style="list-style-type: none">1. Plumbing legend2. Basis of Design for Plumbing Systems3. Single line riser diagrams for all plumbing systems, including domestic, sanitary, storm, gas, RO/DI, vacuum, processed water and all other materials to describe design concepts for all plumbing systems4. Main water supply, storm and sanitary leads5. Major equipment locations6. Restroom locations7. Drinking fountain locations8. Listing of any special sanitary waste equipment9. Listing of utility providers	<p>Plumbing and Piping</p> <ol style="list-style-type: none">1. Chase locations2. Updated design criteria for each plumbing system including set points, water quality levels, etc.3. Equipment locations with enlarged mechanical room plans, sections and elevations to scale with indication of required service access areas4. Preliminary piping plans with indication of required service access areas5. Meter locations and size requirements6. Fixture schedules for major fixtures7. Equipment schedules for major equipment8. Roof drain locations and overflows9. Hose bib locations10. Subsurface drainage (coordinate with architectural and civil)11. Lawn irrigation service, if applicable	<p>Plumbing and Piping</p> <ol style="list-style-type: none">1. Submit plumbing plan to State for review2. Floor plans with all components and required service access areas3. Verify fixture and piping locations are not in conflict with structural elements4. Fixture mounting heights5. Backflow prevention locations6. Access panel locations7. Detailed piping design with all pipe sizes indicated8. Foundation drain layout9. Typical plumbing details, including structural support requirements10. Equipment piping details11. Penetration and sleeve details12. Water riser diagram, including assumed fixture counts per floor connection13. Waste and vent riser diagrams, including assumed fixture counts per floor connection14. Design calculations
<p>Fire Protection</p> <ol style="list-style-type: none">1. Fire Protection legend2. Basis of Design for Fire Suppression System3. Single line diagrams for each all fire protection systems and all other materials to describe design concepts for all fire protection systems4. Report documenting adequacy of serving utility (contact City to obtain flow measurements)5. Location of main utility connection6. Fire pump need assessment	<p>Fire Protection</p> <ol style="list-style-type: none">1. Chase locations2. Preliminary piping plans3. Equipment locations with enlarged mechanical room plans, sections and elevations to scale with indication of required service access areas4. Location of entrance and sprinkler piping layout5. Proposed locations of fire department connections and test headers	<p>Fire Protection</p> <ol style="list-style-type: none">1. Fire protection plans with header and riser layout with indication of required services access area2. Detailed piping design with major pipe sizes indicated3. Location of all sprinkler zone valves, drains and hose connection points4. Critical zone calculation area5. Fire protection service entrance details6. Typical sprinkler installation details, including structural support details7. Penetration details8. Design calculations9. Head type and finish specification



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<p><u>Electrical Power Distribution</u></p> <ol style="list-style-type: none">1. Electrical demolition2. Basis of Design for Electrical System3. Single line diagrams with anticipated voltage4. Preliminary service size5. Building entrance location6. Exterior equipment locations<ol style="list-style-type: none">a. Transformer location7. Generator and electrical room locations8. Generator and ATS descriptions9. Preliminary generator room plans10. Special systems and equipment listings11. Listing of utility providers	<p><u>Electrical Power Distribution</u></p> <ol style="list-style-type: none">1. Chase locations2. Manhole, duct bank and building entry plans and details3. Normal power riser diagram with circuit breaker, fuse, conduit and wire sizes and updated single line diagram4. Emergency power riser diagram with circuit breaker, fuse, conduit and wire sizes5. Grounding riser diagram6. Preliminary fault current and coordination studies7. Substation standard details8. List of equipment proposed to be on emergency or standby power9. Electrical load calculations10. Preliminary panel schedules11. Typical panel arc flash and color code label12. Electrical equipment location plans13. Typical electrical outlet location plans14. Plan for temporary power during construction	<p><u>Electrical Power Distribution</u></p> <ol style="list-style-type: none">1. Details of power service to building2. Power plans, including primary cable, raceways, feeder conduits, electrical loads, duplex and special receptacles and branch circuitry design3. Coordinate outlets with casework and other interior features4. Emergency power system plans, controls and details5. Connections to other building systems, including fire alarm systems and HVAC systems, BAS systems and utility LAN6. Details of nonstandard electrical installations7. Conduit and wire sizes for services, feeders and special branch circuits8. Notes identifying locations of separate and shared neutrals9. Switchgear and MCC elevations10. Grounding details11. Roof and penetration details12. Settings for Contractor furnished equipment13. Mounting heights of equipment
<p><u>Lighting</u></p> <ol style="list-style-type: none">1. Electrical symbols legend2. General drawing notes3. Proposed light levels4. Fixture, lamp and controls description5. Preliminary interior lighting plans6. Preliminary outdoor lighting plans	<p><u>Lighting</u></p> <ol style="list-style-type: none">1. Typical interior lighting and control plans2. Outdoor lighting and control plans3. Fixture types and schedules4. Control systems and control device descriptions5. Typical photometric calculations6. Dimming and daylighting with calculations and low voltage control zones documentation7. Proposed lighting fixture catalog cuts for review by architectural8. Energy code calculations	<p><u>Lighting</u></p> <ol style="list-style-type: none">1. Interior and exterior lighting plans, including control systems and devices, lighting panels, switching and circuiting2. Lighting control systems detailed sequences of operations3. Lighting control systems schematics and wiring diagrams4. Installation details, including structural support details5. Normal lighting photometric calculations6. Emergency lighting photometrics7. General notes on conduit and wire sizes for lighting branch circuits
<p><u>Fire Alarm</u></p> <ol style="list-style-type: none">1. System description2. Preliminary Fire alarm panel locations3. Preliminary fire alarm device and appliance location plans	<p><u>Fire Alarm</u></p> <ol style="list-style-type: none">1. Riser diagram2. Fire alarm panel, device and appliance location plans	<p><u>Fire Alarm</u></p> <ol style="list-style-type: none">1. Detailed fire alarm panel, device and appliance location plans including<ol style="list-style-type: none">a. duct detectorsb. fire smoke dampersc. sprinkler flow and tamper switchesd. monitor and control modulese. door hold opensf. door lock releases2. Strobe light candela ratings3. General notes on conduit and wire sizes4. Detailed sequences of operations
<p><u>Communications (Voice, Data and Video Systems)</u></p> <ol style="list-style-type: none">1. Building entry locations2. Entry locations and TNS space location plans3. Summary of access and security needs	<p><u>Communications (Voice, Data and Video Systems)</u></p> <ol style="list-style-type: none">1. Backboard locations in TNS spaces2. Raceway and grounding riser diagrams3. Conduit and cable tray layout and sizes4. Material cut sheets5. List of equipment and preliminary layout of telecommunications spaces6. Typical voice data and video outlet locations7. Emergency phone locations and type	<p><u>Communications (Voice, Data and Video Systems)</u></p> <ol style="list-style-type: none">1. Detailed voice data and outlet locations2. Details of service to building3. Floor box schedule4. Conduit, outlet box and floor box installation details5. Power outlet locations in TNS spaces6. Final equipment rack locations in TNS spaces
<p><u>Security (Access Controls, Surveillance and Security Alarms)</u></p> <ol style="list-style-type: none">1. System descriptions2. Panel locations and rack and wall space requirements3. Narrative of security systems needs	<p><u>Security (Access Controls, Surveillance and Security Alarms)</u></p> <ol style="list-style-type: none">1. Riser Diagrams2. Equipment location plans3. Electronic security equipment closet layout4. Emergency phone locations and type	<p><u>Security (Access Controls, Surveillance and Security Alarms)</u></p> <ol style="list-style-type: none">1. Detailed equipment location plans2. Equipment schedules, including all device specifications and electronic security system specifications3. Card readers and locations4. Concealed and exposed raceways5. Wiring diagrams, including quantity, types and splice and termination locations6. Installation details, including field device installation details7. Detailed sequences of operations8. Trade coordination diagrams clearly showing responsibility of each trade contractor responsible for security system installation
<p><u>A/V and Special Systems</u></p> <ol style="list-style-type: none">1. System descriptions2. Panel locations	<p><u>A/V and Special Systems</u></p> <ol style="list-style-type: none">1. Riser diagrams2. Equipment locations3. A/V equipment location plans	<p><u>A/V and Special Systems</u></p> <ol style="list-style-type: none">1. Detailed equipment location plans2. Equipment schedules3. Wiring diagrams4. Installation details, including cabinets, hangers and connection boxes5. Detailed sequences of operations