

# D A S N Y



## Design Professional's Submission Requirements

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## ***Information for Use***

### ***Intent of the Requirements***

The submission requirements contained in this document were compiled to provide direction for Design Professionals when making design submissions on a project as required in the Agreement. The submission requirements are to be viewed as the minimum information to be presented during the submission of each phase of the design. The requirements are not intended to be all-inclusive. The Design Professional should use its best judgment in including additional information to support the design at each phase. During the review of the submission for each design phase, the Dormitory Authority of the State of New York (DASNY) will utilize these requirements as one of the basis for approving the submission for review, or rejecting the submission and requiring a resubmission.

### ***Use of the Requirements***

The requirements are composed as phase specific (30%, 60%, and 100%) with discipline specific requirements listed for each phase. This will allow for use on large capital projects as well as use on smaller renovation or rehabilitation type projects. DASNY will determine the design phase submission schedule that is appropriate for each project. It may include the full 30%, 60%, and 100% submission schedule, or for smaller, less complicated projects, a schedule containing fewer submissions may be utilized. If a design phase submission schedule with fewer submissions is used, each submission shall contain all the necessary information for that phase plus all information required for any of the earlier submissions for the phases that were not included in the schedule. Large, very complex projects may include additional phases and/or submissions that will be defined by DASNY on a project-specific basis.

Not all the requirements apply to every project. It is the Design Professional's responsibility to determine which of the requirements are applicable to the scope-of-work and to utilize them. Requirements or disciplines that do not apply to the scope-of-work of a specific project may be omitted. However, if the scope-of-work includes work represented by the requirements, these requirements should be followed as written. The requirements shall not be modified nor omitted without documented consultation between the Design Professional and the DASNY design phase manager.

It is strongly recommended that the Design Professional review the submission requirements when planning their internal project work schedules so that the necessary resources are allocated for each submission. This would include providing direction to and coordination with sub consultants, testing and investigation firms, and specialty consultants. It is also strongly recommended that these submission requirements be provided to each of the sub consultants and project design team members for their information and use.



## ***Bid Documents***

The Design Professional is responsible for managing the bidding process. The bidding documents are an integral part of the bidding process. The bidding documents consist of the project manual and drawings. Prior to sending the bidding documents to the DASNY printer, the Design Professional shall make sure that the bidding documents are complete and suitable for bidding. The Design Professional shall ensure that the DASNY Front End documents have been edited and included, that the New York State Department of Labor Wage Rates are included as well as the Notice to Bidders. The documents must be signed and sealed prior to transmitting to the printer. At its discretion, DASNY may require that the Design Professional transmit the drawings and project manual to the printer electronically. Electronic file format are as follows:

Project Manual: PDF

Drawings: PDF

Note that electronic documents must also be signed and sealed by the professional.

## ***Signing and Sealing of Documents***

The Design Professional shall sign and seal the construction documents (100% Submission) submitted to DASNY. Each drawing shall be stamped with such seal and shall also be signed on the original with the personal signature of such Design Professional. The project manual cover shall also bear the signature and seal of the Design Professional. The Design Professional shall also sign and seal the bidding documents. The use of electronic seals and signatures is acceptable to DASNY when utilizing electronic documents.

For licensed architects, the professional shall also stamp the documents with the following:

*“It is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If an item bearing the seal of an architect is altered, the altering architect shall affix to his item the seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.”*

For licensed professional engineers, the professional shall also stamp the documents with the following:

*“It is a violation of this law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer. If a document bearing the seal of an engineer is altered, the altering engineer shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.”*





## *Schematic Design Phase (30% Submission)*

### *Submittal Requirements for All Disciplines*

- 1) Narrative
  - a) Provide a written description of the overall scope and extent of the project.
  - b) General description of project indicating project goals, use, architectural concept, conformance to requirements, zoning, lot coverage, codes followed, and material and methods of construction.
  - c) Include general descriptions of all major building components and systems to be incorporated into the project as defined in each specific discipline section.
  
- 2) Codes, Standards and References
  - a) Code analysis for major requirements must be complete, including a description of significant issues to be addressed and proposed solutions.
  - b) List of Applicable Codes and Standards:
    - i) Provide a detailed listing of all applicable codes, design guidelines, national standards, New York State (NYS) Department of Health (DOH) standards, and/or local rules and regulations impacting the design. Include title, year and publishing organization for each Code/Standard indicated. (e.g. NFPA 101-2000 Life Safety Code – National Fire Protection Association, or “Guidelines for Design and Construction of Hospital and Health Care Facilities” – 2010 Ed. The Facilities Guidelines Institute, etc.).
    - ii) Obtain and review any applicable Standards or Guidelines created by, or generated for, DASNY’s client. (e.g. NYS Education Department’s Manual of Planning Standards for School Buildings, the City University of New York’s (CUNY) Consultant Architect/Engineer Guide, the Office of Mental Health’s (OMH) Engineering Guidelines, DASNY College and University Residence Hall Design Guidelines, specific State University of New York (SUNY) campus design or campus planning guidelines, etc.).
  - c) Code Compliance Summary:
    - i) Provide a written summary of the code analysis for each applicable code or standard.
    - ii) Complete DASNY’s Code Compliance Review Form applicable to the Project: New York State Building Code or New York City Building Code.
    - iii) Provide information such as: occupancy classification (include primary and incidental occupancies), construction classification, seismic design category, seismic bracing requirements, fire protection requirements and systems, egress, exiting and separation requirements, etc.
    - iv) Energy Code Analysis:
      - (1) Provide a preliminary energy analysis and narrative of building envelope system demonstrating a pathway to be followed to achieve compliance with the current edition of either the New York State Energy Conservation Construction Code or the New York City Energy Conservation Code, whichever is applicable to the Project.

- (2) Minimum submission to include a listing of applicable thermal design criteria and a statement of the anticipated compliance path whether it is ASHRAE /IESNA 90.1 or the prescriptive requirements of Chapter 4 for residential buildings or Chapter 5 for commercial buildings.
  - d) For projects subject to Executive Order 88 or LEED, submit all compliance information, (examples include; LEED checklist, 10% - 20% energy efficiency improvements, and demonstrating the incorporation of significant attributes of sustainable design concepts). For additional information, refer to: <http://www.nypa.gov/BuildSmartNY/Guidelines.pdf>
  - e) Any variance request information made to all authorities having jurisdiction, as applicable to the project.
  - f) Demonstrate compliance with the Americans with Disabilities Act (ADA) and all applicable accessibility standards and requirements.
  - g) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Commissioning shall be delivered per DASNY’s Building Commissioning Guidelines. DASNY’s Building Commissioning Guidelines reference the Green Building Tax Credit, 6NYCRR Part 638, Section 638.8-Commissioning, and the USGBC’s LEED rating system for commissioning requirements.
  - h) For projects that require New York City (NYC) filing and permits, consult with Dormitory Authority design phase manager to determine additional required documents to be submitted for this phase.
- 3) Drawings
- a) Specific for each discipline, as applicable; a list of the drawings, general notes, abbreviations, legends, key notes, symbol keys, key plans, column lines, north arrow, and coordinated backgrounds.
  - b) The cover sheet and all typical drawings shall include the following: DASNY name, address and logo, consultant name(s) and address, client name, project location, project title, project number, sheet name, sheet number, sheet date, drawing scale, graphic scale, revision block and block for seal and signature, (refer to Design Consultant’s Guide at <http://www.dasny.org/> for standardized title block and drawing sheet title formats).
  - c) All drawings shall indicate the scale to which they are drawn and shall be appropriate for the specific item being represented.
  - d) The preferred size drawing sheet is 24” h x 36”w. The maximum size of all drawings shall be 36”h x 48”w (E size), unless otherwise approved by DASNY.
  - e) The drawings shall be appropriately coordinated with all disciplines.
  - f) The drawings shall incorporate all aspects of Executive Order No. 88, The New York State Green Building Construction Act, and Building Commissioning as required.
- 4) Technical Specifications
- a) Project manual cover sheet, (refer to Design Consultant’s Guide at <http://www.dasny.org/> for standardized format).
  - b) A complete Table of Contents listing all anticipated sections to be used on the project.
  - c) A scope of work description.
  - d) A coordinated list of drawings.

- e) Any component of a system that is proposed to be provided on a proprietary, single-source, or sole-source basis, shall be reviewed with the Owner. The Design Professional shall submit all required justifications and documentation.
- 5) Cost estimate utilizing the DASNY Cost Estimating Workbook, available on the DASNY website. <http://www.dasny.org/construc/dcg/guides/ConsultantCostEst.xls>
- 6) All specific discipline requirements for the Schematic Design Phase (30%).
- 7) Construction Manager's (CM) (if applicable), document review comments.
- 8) Value engineering suggestions, with recommendations including life cycle costs to determine approaches of best value to the client.
- 9) Where design delegation is anticipated, clearly define responsibilities of the delegator and the delegatee in accordance with the Design Professional's Contract and the laws, rules and practice guidelines of the New York State Education Department.

### ***Architectural***

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Life safety plans for each level of the building clearly delineating exiting, egress, fire separation and enclosure requirements, fire ratings of building structural elements and other building construction required to be fire rated including floor and roof construction, occupancy type, and area and number of occupants in each habitable or occupiable room. Indicate the maximum travel distance and path of travel for each primary and/or incidental occupancy shown. Show all applicable or planned areas of refuge, smoke compartments, horizontal exits, vertical exits, exit passageways, exit loads and capacities, and units of egress. Show any temporary means of egress and protection to be utilized during the construction activities.
  - b) Location Plan showing the project location at a minimum scale of 1" = 100'.
  - c) Floor Plans (1/8" = 1' scale minimum, unless otherwise approved by DASNY) – shall include all required spaces, doors, windows, stairs, square footage, planned occupancies, elevators, exits, and major items of fixed equipment, and illustrating reasonable compatibility with routings of mechanical and electrical services. Provide overall dimensions and dimensions of major components. For new buildings and major renovations, provide grid lines identified by letter in the horizontal direction and numerals vertically.
  - d) Roof plan(s) indicating the approximate location of all equipment and accessories. Show roof drainage system and roof slopes.
  - e) Program space numbers shall be used to identify programmed spaces. Programmed and actual areas shall be indicated on the plans.

- f) Sections (1/8" = 1' scale minimum) - shall include major cuts in two directions for all structures with basic vertical dimensions. Include key dimensions and material indications.
- g) Elevations (1/8" = 1' scale minimum) – shall include key dimensions and material indications.
- h) Existing construction and new construction shall be clearly defined.
- i) Indicate all accessible routes and entrances/exits.

3) Technical Specifications: See Requirements for All Disciplines section.

### ***Demolition***

- 1) Include all items listed in the Schematic Phase (30%) Submittal Requirements for All Disciplines.
- 2) Narrative
  - a) Description of the demolition scope of work, including all disciplines as may be applicable.
  - b) List of anticipated waste types to be recycled as part of the Construction Waste management of the project. (i.e. removed ceiling tiles, crushed CMU and brick, etc.)
  - c) List of items to be salvaged, turned over to the facility, or removed by others.
  - d) Description of unacceptable means of demolition (blasting, jack hammers) and disposal.
- 3) Drawings indicating the scope of all demolition work for the project, including site demolition and any other discipline, as applicable, unless incorporated into other drawings.
- 4) Technical Specifications: See Requirements for All Disciplines section.

### ***Electrical***

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.
- 2) Narrative
  - a) Define the proposed electrical systems for each of the following (as applicable, but not limited to):
    - i) Electrical service and distribution.
    - ii) Emergency and standby power.
    - iii) A general description of interior and exterior lighting to be used, lighting levels, and controls.
    - iv) Requirements for seismic bracing including:
      - (1) Building Occupancy Category
      - (2) Seismic Design Category
      - (3) Component Importance Factor
      - (4) Systems and support/bracing requirements
    - v) Any special requirements for grounding.
    - vi) Lightning protection and transient voltage surge protection (TVSS).

- vii) Electrical requirements for fire alarm equipment and fire pumps (NYC only), telecommunications (voice, data, and CATV) outlets, pathways, backbones, and cable types.
  - viii) Security.
  - ix) CCTV.
  - x) Paging and intercommunication.
  - xi) Audiovisual.
  - xii) Other alarm systems.
  - xiii) Electric on-site generation
  - xiv) Energy conservation/efficiency opportunities.
- b) When tying into existing systems:
    - i) Verify and demonstrate that the existing systems have sufficient capacity to support the new work.
    - ii) List all existing major equipment or systems to be reused or salvaged.
    - iii) Verify the access requirements for new equipment.
  - c) Determine the anticipated electrical demand for the building.
  - d) Clearly describe the utility service connection points and how each service will be obtained from the electric, telephone, and CATV utilities.
  - e) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Refer to the Pre-Design Phase Commissioning Plan for confirmation of electrical systems to be commissioned and note electrical systems to be commissioned in the Electrical Narrative.
- 3) Drawings
- a) Preliminary one-line diagram for the normal and emergency power distribution systems.
  - b) Floor plans showing:
    - i) Electrical, telecommunications, audiovisual, and security rooms and closets.
    - ii) Major equipment such as switchgear, switchboards, and transformers.
  - c) A site plan showing (as applicable):
    - i) Utility service connection points, routing of services to the building (new and existing), and the location of major equipment such as switchgear, switchboards, transformers and standby/emergency generators.
    - ii) Site demolition.
- 4) Technical Specifications: See Requirements for All Disciplines section.

## ***Environmental***

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.
- 2) Narrative
  - a) Identify all existing environmental conditions and hazardous materials including, but not limited to, asbestos containing materials (ACM), lead based paint (consult DASNY staff), PCB's, mold contaminated building materials, etc.

- b) Identify known and suspected underground storage tanks, contents, their size and approximate depth below grade, integrity or spill data, and registration status.
- c) Other subsurface contamination known or suspected to be present.
- d) Identify the testing that was conducted to verify these materials (including asbestos).
- e) Description of all proposed remedial actions to be taken as part of this project.
- f) List of all variances and permits required to perform the work.
- g) Description of other environmental considerations including air emissions, ground water, waste water and stormwater discharges, solid, hazardous or universal waste expected.
- h) Discuss disturbances of wetlands or natural resources that may require agency approvals.
- i) Provide a hazard assessment of environmental issues affecting the project, including SEQR impacts from SEQR information available from the DASNY or the Lead Agency.
- j) The report should include the following:
  - i) Services: A description of the services provided.
  - ii) Inventory: An inventory of environmental hazards, conditions, and materials.
  - iii) Quantities: Identify the quantities of environmental hazards, conditions, and materials.
  - iv) Drawings & Diagrams: Provide as applicable to indicate materials and sample locations.
  - v) Remedial actions: A description of proposed remedial actions, including additional testing or borings that may be needed to evaluate the hazards.
  - vi) Permits and approvals: A list of the environmental permits such as air emission, wastewater discharge or tank registrations expected to be required.
  - vii) Estimates: Cost estimates of proposed remedial actions.
  - viii) Appendices: Provide analytical reports, boring logs, Phase I/Phase II reports or Environmental Assessment Forms (EAFs); SEQR summary documents such as Negative Declarations, Cultural Resource assessments or Findings Statements; NYC Documents such as the ULURP or BSA permits or variances; and analytical data including, chains of custody, laboratory certifications, etc. used in the report preparation.

3) Drawings shall indicate all sample/test locations.

4) Technical Specifications: See Requirements for All Disciplines section.

### ***Fire Alarm***

1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.

2) Narrative

- a) Provide fire alarm schematic design narratives describing the fire alarm systems to be incorporated into the project.
- b) Describe all code required fire alarm and fire/smoke detection systems and equipment.
- c) Provide a general description of the overall fire alarm system and interfaces including:
  - i) Type of system, i.e. zoned, addressable, etc.

- ii) Type of initiation and/or detection devices to be used and locations (including but not limited to manual pull stations, fire protection system devices, and smoke, heat, and CO detection).
  - iii) Type of notification appliances and locations.
  - iv) Control panel, transponder, sub-panel, and remote annunciator panel locations, including fire command centers for high rise buildings.
  - v) Information concerning items such as tie-ins to existing fire alarm or building management system.
  - vi) Local fire department notification, supervising station, central station, central campus monitoring system connections.
  - vii) Fan shutdown.
  - viii) Elevator recall and power shunt trip (where sprinklered).
  - ix) Information concerning power supply and system grounding.
  - d) The following list provides an example of the systems and interfaces to be addressed along with a brief description of the information to be contained in the narrative. Please note that not all the systems will be included in every project:
    - i) Manual fire alarm systems.
    - ii) Fire/smoke detection systems.
    - iii) Emergency one and two-way voice communication systems.
    - iv) Smoke control systems.
    - v) Door access control systems.
    - vi) Suppression and extinguishing systems, i.e. wet and dry sprinkler, pre-action, fire pump, clean agent, kitchen hood system, etc.
  - e) Existing conditions (where applicable): A description of the existing fire alarm system that will be utilized to provide service for the project. Information on existing fire alarm equipment including approval by the authority having jurisdiction of the existing equipment/system and verification of spare capacity shall be included.
  - f) Identify the seismic design category and whether seismic restraints are required for the fire alarm system.
  - g) If the proposed system is to be provided on a proprietary, single-source or sole-source basis, review the requirements with the Owner and submit the required justification and documentation.
- 3) Drawings
- a) Preliminary fire alarm riser diagram.
  - b) Floor plans showing:
    - i) Electrical, telecommunications rooms and closets.
    - ii) Major equipment such as fire alarm control panels, sub-panels, transponders, etc.
  - c) A site plan showing (as applicable) the location of central campus fire alarm monitoring stations, connection points, routing of services to the building (new and existing).
  - d) For renovation work, show work required to maintain operation of existing system while under construction.

4) Technical Specifications: See Requirements for All Disciplines section.

### ***Fire Protection***

1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.

2) Narrative

- a) Provide a narrative of the scope of fire protection work.
- b) Include general descriptions of all fire protection systems to be incorporated into the project.
- c) Include drawings, specifications, reports to show scope and extent of project.
- d) Identify anticipated systems:
  - i) Sprinkler including wet and dry systems.
  - ii) Standpipe.
  - iii) Pre-action systems.
  - iv) Clean agent suppression system.
  - v) Kitchen hood suppression systems.
  - vi) Fire pumps.
  - vii) Tanks.
  - viii) Special fire protection systems (e.g. FM200).
- e) Describe all code required fire protection systems and equipment.
- f) Identify the seismic design category and whether seismic restraints are required for the fire protection systems.

3) Drawings

- a) Piping floor plans for each level:
  - i) All risers, mains, and major pieces of equipment shall be located on the floor plans.
  - ii) Existing services located and sized.
- b) Preliminary sprinkler and/or standpipe systems riser diagrams.
- c) Equipment and material schedules set up.
- d) A site plan showing (as applicable):
  - i) Incoming water service, connection points, routing of services to the building (new and existing).

4) Technical Specifications: See Requirements for All Disciplines section.

### ***HVAC***

1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.

2) Narrative

- a) Provide a narrative of the scope of HVAC work including the system design intent.
- b) Include general descriptions of all major building HVAC components and systems to be incorporated into the project and why they were selected as well as the types of energy



plants considered and reasons for selection. The recommended location for the energy plants. Include drawings, specifications, reports to show scope and extent of project. Explicitly delineate systems' zoning and isolation.

- c) Identify and describe anticipated special systems such as (but not limited to):
  - i) Medical equipment/services.
  - ii) Variable frequency drives.
  - iii) Emergency generators and on-site fuel backup.
  - iv) Small chillers for MRI's, data centers, etc.
  - v) Clean steam.
  - vi) Protective environment or airborne infection isolation.
  - vii) Operating rooms.
  - viii) Laboratory exhaust systems.
  - ix) Commercial kitchens.
  - x) High efficiency particulate air (HEPA) filters.
  - xi) Building Management System (BMS) system being proposed and tie into any existing facility BMS system.
  - xii) Smoke evacuation systems.
- d) HVAC Design Criteria
  - i) When tying into existing systems:
    - (1) Verify and demonstrate that the existing systems have sufficient capacity to support the new work (heating, cooling, steam, pumping, specialty systems, etc.
    - (2) List all existing major equipment or systems to be reused or salvaged.
  - ii) System design criteria.
  - iii) Complete set of preliminary heating and cooling load calculations.
    - (1) Building square footage.
    - (2) Heating: BTUs/Sq. Ft.
    - (3) Cooling: Sq. Ft. per ton.
  - iv) Outside air ventilation requirements.
    - (1) Air changes per hour in spaces requiring it such as laboratories, etc.
  - v) Diversity factors used and justification.
  - vi) Safety factor(s) used.
  - vii) Equipment redundancy.
  - viii) Requirements for seismic bracing including:
    - (1) Building Occupancy Category
    - (2) Seismic Design Category
    - (3) Component Importance Factor
    - (4) Systems and support/bracing requirements
  - ix) Pressure relationships.
- e) Energy conservation/efficiency opportunities.
- f) If any component of the system is proposed to be provided on a proprietary, single-source, or sole-source basis, review the requirements with the Owner and submit the required justification and documentation.
- g) For fuel burning equipment or other air emission sources, use the Air Emission Source Permits for DASNY Projects and the Boiler Permit Flow Chart; list permits and approvals required.

- 3) Drawings
  - a) Ductwork floor plans for each level.
    - i) All major pieces of equipment shall be located on the floor plans.
    - ii) Existing services located and sized.
  - b) Piping floor plans for each level.
    - i) All major pieces of equipment shall be located on the floor plans.
    - ii) Existing services located and sized.
  - c) System Schematics.
  - d) Flow Diagrams.
  - e) Equipment schedules set up.
  - f) For renovation work, show existing equipment to be demolished and existing equipment to be reused.
- 4) Technical Specifications: See Requirements for All Disciplines section.
- 5) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Refer to the Pre-Design Phase Commissioning Plan for confirmation of HVAC systems to be commissioned and note HVAC systems to be commissioned in the HVAC Narrative.

## ***Plumbing***

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.
- 2) Narrative
  - a) Plumbing design criteria.
    - i) Delineate design intent. Include all performance criteria and parameters. For example, water temperature in distribution system, final filtration requirements for reverse osmosis systems, fluid design velocities, etc.
    - ii) Types of systems considered and reasons for selection.
    - iii) Verify and document water pressures in building and at the site.
    - iv) Provide calculations to demonstrate proposed fixture count is Code compliant.
    - v) Provide and justify diversity factors and system redundancy for domestic water, laboratory gases, plumbing equipment, etc.
    - vi) Safety factor(s) used.
    - vii) Requirements for seismic bracing including:
      - (1) Building Occupancy Category
      - (2) Seismic Design Category
      - (3) Component Importance Factor
      - (4) Systems and support/bracing requirements
    - viii) List fixtures and locations that will be accessible to the disabled.
    - ix) When tying into existing systems:

- (1) Verify and demonstrate that the existing systems have sufficient capacity to support the new work (sanitary, storm, vent, water, gas, fuel oil, and specialty systems capacities).
  - (2) List all existing major equipment or systems to be reused or salvaged.
  - b) Identify and describe anticipated special systems such as (but not limited to):
    - i) Medical gases/NFPA 99 systems.
    - ii) Booster pump system.
    - iii) Variable frequency drives.
    - iv) Emergency generators and method to comply with NFPA 37/NFPA 110.
    - v) Identify utilities for kitchen equipment.
    - vi) Oil separators and Fats, Oils, and Grease separators.
    - vii) Laboratory waste systems.
    - viii) Reverse osmosis systems.
    - ix) Secondary roof storm water drainage systems.
    - x) Storm water retention system (internal to building).
    - xi) Fuel systems and equipment pressure requirements.
    - xii) Hot water heaters.
    - xiii) Emergency fixtures.
    - xiv) Laundries.
    - xv) Drainage system(s) for elevator shafts.
    - xvi) Connections/alarms to the building management system.
  - c) Delineate cross connection control requirements for the project, consistent with the NYS DOH Guidelines.
  - d) If any component of the system is proposed to be provided on a proprietary, single-source, or sole-source basis, review the requirements with the Owner and submit the required justification and documentation.
- 3) Drawings
- a) Piping floor plans for each level.
  - b) All major pieces of equipment shall be located on the floor plans.
  - c) Existing services located and sized.
  - d) System Schematics.
  - e) Flow Diagrams.
  - f) Equipment and fixture schedules set up.
  - g) For renovation work, show existing equipment to be demolished and existing equipment to be reused.
- 4) Technical Specifications: See Requirements for All Disciplines section.
- 5) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Refer to the Pre-Design Phase Commissioning Plan for confirmation of Plumbing systems to be commissioned and note Plumbing systems to be commissioned in the Plumbing Narrative.

## *Site*

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines.
- 2) Narrative
  - a) Description of the site scope of work and proposed construction staging/storage areas required.
  - b) General description of the site including its past and current uses, geotechnical features, site features, and current surface drainage patterns as applicable to the work to be performed. Include presence of “historic fill” and contamination sources in past and current uses, e.g. “a filling station”, “a manufactured gas site”, or naturally occurring asbestos formations.
  - c) Estimated quantity for rock cuts, earth cuts, and earth fills where applicable.
  - d) Descriptions for the various paving systems where applicable, noting all areas of pervious paving strategies.
  - e) Existing and anticipated loads on utilities, documentation of all utility analyses performed, and documented contact with utility companies where applicable.
  - f) Stormwater impacts, including methods of erosion and sediment control and post construction water quality and water quantity controls.
  - g) Description of existing sewer system (separated or combined) at project location and defined project status regarding State Pollutant Discharge Elimination System (SPDES) regulations and permitting coverage
- 3) Drawings
  - a) Construction Site plan(s), (1” = 40’ scale minimum) – including, but not limited to: construction parking locations, site security and fencing, field offices, staging/storage areas, surface drainage, emergency and firefighting equipment routes, and access routes for trucks, buses, trash compactors and haulers, barriers, gates, sign locations, and any other information as applicable to the work to be performed.
  - b) Site Plan(s) (1” = 40’ scale minimum) - shall include location of building or buildings in relation to the immediate area around it, setback lines if applicable, major dimensions, all existing and/or proposed utility lines, existing and proposed grades, grade elevations, site improvements, lighting, walks, all accessible routes and entrances, roads and parking, locations of stormwater runoff and retention areas, and existing and proposed vegetation.
  - c) Location of major site features including site lighting, exterior stairs, sidewalks, retaining walls, and preliminary planting types including site preparations and locations as applicable to the work to be performed.
  - d) Locations and contours of the rock surface as it impacts the construction, including the type of rock where applicable.
  - e) Existing grade contours and topographical survey data, surface drainage, existing paving and other features where applicable.
- 4) Technical Specifications: See Requirements for All Disciplines section.

## *Structural*

- 1) Include all items listed in the Schematic Design Phase (30%) Submittal requirements for All Disciplines.
- 2) Narrative
  - a) Provide a written description of the basic structural systems to be used on the project (foundations, waterproofing, substructure, superstructure, lateral force resisting system, exterior cladding support, etc). Include a short description of other options that were investigated for each system and why they were not chosen. Provide enough detail to fully describe the system to an experienced engineer for review purposes.
  - b) Software:
    - i) List analysis and design software that will be used on the project.
  - c) Structural Loading Information (include criteria and reference source). Loads shall be per section 1603 of the Building Code and shall include the following:
    - i) Floor and roof live load.
    - ii) Wind load design data. Include basic wind speed, wind importance factor, wind exposure, the applicable internal coefficient and component and cladding design pressure.
    - iii) Snow load design data. Include ground snow load, flat roof snow load, snow exposure factor, snow load importance factor and thermal factor. Define all design intentions with respect to unbalanced loads, snow drift and sliding snow. Seismic design data. Include seismic importance factor, mapped spectral response accelerations, site class, spectral response coefficients, seismic design category, basic seismic force resisting system, design base shear, seismic response coefficients, response modification factor and analysis procedure used..
    - iv) Machinery and equipment loads in accordance with Section 1603.3.1.
    - v) List all load combinations that will be used and their sources.
  - d) Building Performance Design Criteria:
    - i) Maximum allowable drift criteria.
    - ii) Maximum allowable floor LL deflection.
    - iii) Maximum allowable roof deflection (LL, SL, ponding, etc).
    - iv) Floor flatness and levelness numbers.
    - v) Maximum allowable vertical and horizontal deflection for members supporting exterior cladding and materials.
    - vi) Floor vibration criteria.
    - vii) Floor beam cambering or shoring requirements.
  - e) Geotechnical Design Criteria (Geotechnical Report):
    - i) General site plan.
    - ii) Test boring location plan showing the as-drilled location of the test borings.
    - iii) Subsurface exploration logs.
    - iv) Description of the site location, topography and overall condition.
    - v) Summary of historic and relevant existing subsurface data at the site.
    - vi) Summary of the subsurface investigation and laboratory testing services performed specifically for this project.

- vii) A description of the subsurface conditions, including the depth to groundwater and bedrock and a discussion on evidence of contamination or historic fills identified in the test borings.
- viii) Seismic site classification.
- ix) The results of laboratory tests performed, as applicable.
- x) Assessment of the liquefaction potential of site soils per the applicable Building Code.
- xi) Description of foundation analyses performed and summary of shallow or deep foundation design recommendations. Provide recommendations for foundation type, relevant design criteria and allowable capacities required by the structural engineer.
- xii) Expected total and differential settlement for the foundation systems analyzed.
- xiii) Parameters required for the design of below grade basement and retaining walls, including seismic lateral earth pressures where required.
- xiv) Floor slab design recommendations.
- xv) Recommendations for waterproofing, damp proofing, footing and floor slab underdrains, if required.
- xvi) Construction considerations, including recommendations for groundwater control, excavation support, subgrade preparation and backfill materials.
- xvii) Geotechnical considerations related to development of site features, including pavement, utilities, site grading (slopes) and drainage.
- xviii) Recommendations for monitoring and protection of adjacent structures during construction.
- xix) Maximum depth of frost penetration.
- f) Define the following parameters
  - i) Active Earth Pressure / Equivalent Uniform
  - ii) Passive Earth Pressure (as applicable)
  - iii) Surcharge Coefficient
  - iv) At-Rest Earth Pressure (as applicable)
  - v) Unit Weight of Soil(s)
  - vi) Liquefaction Susceptibility
  - vii) Soil Classification (Basis of seismic design)
  - viii) Maximum Allowable Bearing Capacity: prefer NET
    - (1) Shallow: Typically soil
      - (a) Minimum widths for continuous and isolated spread footings
    - (2) Deep: End Bearing, Friction, or Hybrid
      - (a) Minimum Bearing Elevation
      - (b) Installation tolerances: plumbness, on-center spacing, prescribed sequence, heave potential
      - (c) Reinforcement requirements for CIP
      - (d) Load Test Requirements
  - ix) Uplift Capacity
  - x) Lateral Resistance
- g) Material Information
  - i) Concrete
    - (1) Provide basic material properties for concrete to be used in each of the following structural elements. Include compressive strength, entrained air content, maximum

- aggregate size, allowable w/c, unit weight or aggregate type, and anticipated admixtures.
- (2) Identify potential for substitution of fly ash or other suitable replacement for cement.
  - (3) Identify concrete mixtures to be used for footings, foundations walls, slab on grade, elevated slabs, superstructure columns and beams, roof slabs.
  - (4) Rebar – bar and welded wire fabric requirements.
  - (5) Provide the ASTM material designation for rebar to be used. Indicate the anticipated uses and locations for special rebar types (epoxy coated, galvanized, high strength, etc).
- ii) Masonry
- (1) Provide information and ASTM International (ASTM) designations for typical masonry units to be used on the project including bricks, Concrete Masonry Units (CMU), terra cotta, Glass Fiber Reinforced Concrete (GFRC) units, autoclaved aluminum aerated concrete units, and stone.
  - (2) Provide information on the various types of mortar to be used on the project.
  - (3) Provide information on lintel materials, flashing materials and installation, ties and anchors.
  - (4) Provide information on masonry tolerances to be used on the project.
  - (5) Provide information on hot and cold weather installation techniques to be used.
- iii) Steel
- (1) Provide the ASTM material designation for the steel to be used for each of the following items: steel columns, steel beams, base plates, built-up beams or girders, steel truss chord members, lateral bracing system; Itemize by American Institute of Steel Construction (AISC) shape as applicable (W, HP, S, C, L, plate, steel pipe, round, square and rectangular HSS), including material types and sizes.
  - (2) Type of anticipated structural steel connections.
  - (3) Provide the diameter, ASTM material designation, and finish for the typical bolt assembly to be used on the project, including nuts, washers, and bolts.
  - (4) Provide a list of the locations where slip-critical bolts are anticipated.
  - (5) Provide the test method to be used to verify the bolt tension in the slip critical connections.
  - (6) Provide the anticipated type of moment connection to be used on the project.
  - (7) Provide basic information on the welding materials and processes that will be used on the project.
  - (8) Provide information on the type of base plate / anchor rod assembly. Include material type and sizes.
  - (9) Provide basic information regarding priming/painting of steel members including materials, locations, slip coefficients, etc.
- iv) Steel Deck - provide basic information on the anticipated steel decking to be used, including profile and depth, ASTM material designation, span condition, finishes and coatings, and method of attachment. Indicate if shoring will be required. Also indicate any deflection criteria.
- v) Wood and Engineered Wood Products
- (1) Indicate grade and species for all anticipated wood framing products.
  - (2) Indicate engineering design requirements for engineered wood products.
  - (3) Indicate typical spacing for framing members.

- (4) Indicate special treatment requirements (pressure treated, fire resistive).
  - (5) Indicate requirements for wood sheet goods (oriented strand board (OSB), plywood), thicknesses, and locations for use (roof deck, floor deck, exterior sheathing).
- 3) Drawings
- a) Provide schematic drawing of foundation system including walls, footing, and pile locations.
  - b) Provide schematic drawings for the typical steel frame layout including column, beam and girder locations: Indicate lateral bracing system on the layout.
- 4) Technical Specifications: See Requirements for All Disciplines section.

### ***Sustainable Design***

- 1) All DASNY projects shall comply with the New York State Green Building Construction Act and Executive Order 88. Refer to: <http://www.nypa.gov/BuildSmartNY/Guidelines.pdf>
- 2) Sustainable design in an essential component of the integrated design approach: All DASNY projects shall be either LEED™ Projects or contain sustainable design attributes. LEED Projects are those new buildings, additions, and substantial renovations/reconstructions that are registered with the United States Green Building Council (USGBC). Sustainable projects are those projects which are not new buildings, additions, and substantial renovations/reconstructions and are not registered with the USGBC, but the Professional shall integrate sustainable design attributes as they relate to the project scope.
- 3) Submit all compliance information including:
  - a) Provide preliminary Leadership in Energy and Environment Design (LEED) checklist of potential credits, associated costs and potential rating (silver, gold or platinum) or to show sustainable design attributes. Note that this checklist is a tool and selected potential credits should be explained in the Narrative listed in part d.
  - b) Preliminary Modeling Report showing predicted code-compliant energy use and predicted designed energy use. For LEED Projects the Modeling Report shall have a Modeling Summary Sheet which shall contain all the pertinent information pertaining to the building and its model.
  - c) The computer software used. Current acceptable software include:
    - i) U.S. Department of Energy (DOE) 2.1 any version V86 to V110
    - ii) Visual DOE
    - iii) eQUEST
    - iv) Or an equivalent hourly program meeting the requirements of 6NYCRR Part 638, Section 638.7(c) (3) (i) (b).
  - d) Narrative describing the incorporation of significant attributes of sustainable design concepts.
  - e) Strategies to attain sustainable design for all project components/systems.
  - f) Identify potential financial incentives available from New York State Energy Research and Development Authority (NYSERDA) (<http://www.nyserda.org/default.asp>) via NYSERDA



Program Opportunity Notices (PON's), the Long Island Power Authority (LIPA at <http://www.lipower.org>), and the New York Power Authority (NYPA at [www.nypa.gov](http://www.nypa.gov)) or other incentives which may benefit the project.

- 4) Commissioning:
  - a) Identify if commissioning will be part of project. Provide basis for inclusion or exclusion. (i.e. Based on E. O. 88 or the New York State Green Building Construction Act requirements; or Based on Local Law 86 requirements; or Based on project's LEED goals; or Based on DASNY Sustainability Policy; or Based on client request; or Not required based on regulations; or Not applicable because systems, equipment, and components that affect energy consumption will not be part of this project.) Note that commissioning will be delivered in accordance with DASNY's Building Commissioning Guidelines.
  - b) Identify the consultant that will serve as the Commissioning Authority for the project.
  - c) Include the "Pre-Design Phase Commissioning Plan" (initiated/provided by the Commissioning Authority).
  - d) Provide the following as distinct documents in the Schematic Design Phase Report
    - i) *Owner's Project Requirements (OPR)*: For LEED projects only, the OPR is written by the Design Professional, typically the architect, in conjunction with, and on behalf of, the owner, in accordance with the USGBC LEED Reference Guide.
    - ii) *Design Intent*: Written by the Design Professional, typically the mechanical engineer. The Design Intent narrative must include discussion of the following: space temperature and humidity criteria; thermal zoning criteria; level of occupant control over HVAC system; ventilation requirements and related indoor air quality criteria; performance criteria related to energy efficiency; environmental and sustainability criteria; and commissioning criteria. For LEED projects the Owner's Project Requirement document will serve as the design intent and a formal Design Intent document is not required.
    - iii) *Basis of Design*: Written by the Design Professional, typically the mechanical engineer. The Basis of Design narrative must include at a minimum the following: occupancy; space and process requirements; applicable codes, policies, and standards; design assumptions; performance standards, benchmarks of metrics; interaction between systems affecting intended performance; and control system appropriate for the skill of the operations and maintenance staff.
  - e) Provide a plain language draft narrative of the controls strategy and general sequence of operations plan for the project. At a minimum discuss: Whether the project includes a centralized automated control system; Whether existing automated system(s) will be connected to or matched; The type and extent of automated controls; the systems to be controlled; the control criteria and measures; and system interface requirements.
- 5) For projects subject to Executive Order 88 see the BuildSmartNY Executive Order 88 guidelines for additional information: <http://www.nypa.gov/BuildSmartNY/Guidelines.pdf>
- 6) In addition, for projects subject to New York City Local Law 86: [http://www.nyc.gov/html/dob/downloads/pdf/ll\\_86of2005.pdf](http://www.nyc.gov/html/dob/downloads/pdf/ll_86of2005.pdf)
- 7) Information shall be assembled in a three ring binder with tabs indicating appropriate sections.



## ***Design Development (60% Submission)***

### ***Submittal Requirements for All Disciplines***

- 1) This phase shall consist of the development of the approved design scheme, including the mechanical, electrical and other systems required for the project. During the design development phase all design criteria and solutions shall be established and developed within the program requirements and budget as established.
- 2) All required items listed in the Schematic Design Phase (30%) Submittal Requirements for All Disciplines, and each specific discipline, as applicable to the project, and not previously submitted.
- 3) All required items listed in each specific discipline's Design Development Phase (60%).
- 4) Written responses to all previous design review comments from DASNY, the Client, Construction Manager, and other review entities (as applicable), along with the necessary corrections made to the contract documents. Responses shall be made in sufficient detail for verification purposes, such as locations of revised details, specification sections, and updated drawing numbers. Generic responses such as "will comply" are not acceptable.
- 5) Codes, Standards and References
  - a) Energy Code Analysis; include, as applicable, square foot area totals, U-factors, R-values, and glazing shading coefficient values for each major building envelope component.
  - b) Update the DASNY Code Compliance Review form for the project to incorporate any revisions reflecting changes from the previous submission.
  - c) Submit DASNY's Statement of Special Inspections and Tests applicable to the project: New York State Building Code or New York City Building Code. For projects subject to the New York City Building Code, provide a list of all required Special and Progress Inspections on the drawings in accordance with BC 28-104.7.7.
  - d) Executive Order 88 updated and finalized information, including building energy modeling (see 30% Submission, Sustainable Design for acceptable software).
  - e) Any variances received from authorities having jurisdiction, as applicable to the project.
  - f) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Commissioning shall be delivered per DASNY's Building Commissioning Guidelines. DASNY's Building Commissioning Guidelines reference the Green Building Tax Credit, 6NYCRR Part 638, Section 638.8-Commissioning, and the USGBC's LEED rating system for commissioning requirements.
  - g) For projects that require New York City (NYC) filing and permits, consult with Dormitory Authority design phase manager to determine additional required documents to be submitted for this phase.
- 6) Drawings
  - a) The drawings shall be appropriately advanced since the schematic design submission and coordinated with all disciplines.

- b) Specific for each discipline, as applicable; an updated list of the drawings, general notes, abbreviations, legends, key notes, symbol keys, key plans, column lines, north arrow, and coordinated backgrounds.
- c) The cover sheet and all typical drawings shall include the following: DASNY name, address and logo, consultant name(s) and address, client name, project location, project title, project number, sheet name, sheet number, sheet date, drawing scale, graphic scale, revision block and block for seal and signature, (refer to Design Consultant's Guide at [www.dasny.org](http://www.dasny.org) for standardized title block and drawing sheet title formats).
- d) Checked for spelling, grammatical and typographical errors, coordinated with respect to reference symbols, notes, abbreviations, specification sections, schedules and other disciplines.
- e) All drawings shall indicate the scale to which they are drawn which shall be appropriate for the specific item being represented.
- f) The preferred size drawing sheet is 24" h x 36"w. The maximum size of all drawings shall be 36"h x 48"w (E size), unless otherwise approved by DASNY.
- g) The drawings shall incorporate all aspects of Executive Order No. 88, the New York State Green Building Construction Act and Building Commissioning as required.

#### 7) Technical Specifications

- a) An updated Table of Contents listing all anticipated sections to be used on the project.
- b) An updated scope of work description.
- c) Specification sections for all materials and systems proposed for the project.
- d) All specification sections shall be relevant to the project.
- e) Use DASNY standard specifications where developed and where applicable to the Project. The specifications shall be modified and revised to suit the Project parameters and conditions.
- f) All specification sections shall comply with the following:
  - i) Specifications shall be written in standard Construction Specification Institute (CSI) 50 Division three-part format:
    - (1) Part 1 General
    - (2) Part 2 Products
    - (3) Part 3 Execution
  - ii) Specification sections shall have headers on each page, which includes the project title and project number and the date they were printed/revised.
  - iii) Each page shall be numbered at the bottom of the page.
  - iv) Each specification section shall have a submittal section.
  - v) Each specification section shall have a Quality Assurance section, which shall contain, (but not be limited to), the following:
    - (1) Information as qualifications of the material installers.
    - (2) Test standards the products shall be manufactured to.
    - (3) Testing requirements required by Codes.
    - (4) Test requirements the contractor is to execute in the field.
    - (5) Who shall witness such testing.
    - (6) Accept/reject criteria as required for rejecting deficient work or accepting satisfactory workmanship.

- vi) When manufacturer's names are cited in the specifications, the Design Professional shall ensure that all products and manufacturers cited meet the specification, not just the manufacturer used as the basis of design.
  - vii) Specification sections shall detail all source and field quality control requirements for items subject to Special Inspection, including the types of inspections and tests required, their frequency, and relevant reference standards. For project governed by the New York City Building Code, include inspection requirements for all required Progress Inspections.
  - viii) Any component of a system that is proposed to be provided on a proprietary, single-source, or sole-source basis, shall be reviewed with the design phase manager. The Design Professional shall submit all required justifications and documentation.
  - g) A listing of proposed building mock-ups that will be required to be built for approvals.
  - h) Edited General Requirements and General Conditions.
- 8) Cost estimate utilizing the DASNY Cost Estimating Workbook, available on the DASNY website. <http://www.dasny.org/construc/dcg/guides/ConsultantCostEst.xls>
- 9) Value engineering suggestions.
- 10) Proposed Phasing Plan and Project Schedule.

### ***Architectural***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Floor plan(s) indicating the following: dimensions, structural grid system, building cores, stairs, elevators, internal partitions, doors, windows, floor slab and level elevations, built-in furniture items, partition types, door and room numbers, toilet fixtures, keyed detail areas, sections, and elevations.
  - c) Roof plan(s) indicating locations of all mechanical equipment, hatches, skylights, keyed details, slope, and drainage areas.
  - d) Building sections (1/8" scale minimum) shall include major cuts in all required directions for all structures with basic vertical dimensions.
  - e) Building elevations indicating all materials, features and dimensions at 1/8" scale minimum.
  - f) Large scale plans (1/4" scale minimum) of key areas such as lobbies, toilet facilities, public spaces, casework, elevators (including cab finishes, hoistway dimensions and door openings) and stairs.
  - g) Interior elevations of key areas such as lobbies, and toilet facilities.
  - h) Reflected ceiling plans indicating ceiling types, soffits, heights, mechanical, electrical and fire protection components, exit signs, emergency lighting, and access panels, coordinated with all disciplines.
  - i) Door and room finish schedules.

- j) Elevations of all windows, doors and frames, and curtain wall/ribbon window assemblies at 1/4" scale minimum.
  - k) Large scale details (3/4" scale minimum) of exterior wall sections, windows, door jambs, sills and heads, casework, roofing work, typical partition types, seismic bracing (as applicable), stairs, and railings.
  - l) Identify all rated floor and wall assemblies, indicating UL system or other acceptable rating information. Coordinate and detail the wall framing for all mechanical opening protectives, (fire damper and smoke dampers). Address continuity of fire rated construction around membrane penetrations greater than 16 sq. in. such as fire hose cabinets, electrical panels, valve boxes, etc.
- 3) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Firestopping
- a) Indicate in the documents (firestopping specification section and drawing notes) that all perimeter fire containment systems, joint systems, and penetrations through fire rated construction must be firestopped using listed and approved firestop assemblies
  - b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide.
  - c) Provide firestopping details for unique construction or project specific conditions such as curtain wall.
  - d) Reference the applicable architectural life safety drawings that clearly indicate fire rated construction. If no such drawings are to be provided, the architectural/construction drawings must clearly indicate fire rated construction.

### ***Demolition***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Plans of all areas where demolition work is to be performed, indicating specific building and site features to be demolished, existing building and site features to remain, and all required protections.
  - c) Details of existing major construction to be demolished where required delineating the scope of all demolition work.
- 3) Technical Specifications shall be complete and edited for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings, including Construction Waste Management information.
- 4) Show the extent of hazardous materials and/or asbestos-containing materials and sequencing of demolition/abatement activities.

## *Electrical*

- 1) All items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Electrical cover sheet with index of electrical drawings, general notes, abbreviations, and symbols legend.
  - c) Floor plans indicating (as applicable):
    - i) Demolition.
    - ii) Relocation information for existing equipment and systems that are affected by the project.
    - iii) Electrical rooms and closets, indicating all proposed equipment, required clearances, and support requirements (e.g., floor, wall, or ceiling mounted).
    - iv) Telecommunications rooms and closets, indicating all proposed equipment and required clearances.
    - v) Power distribution methods and equipment, showing incoming service, switchboards, transformers, panelboards, transfer switches, generators, motor control centers, feeders, and other associated equipment.
    - vi) Elevator machine rooms, indicating receptacles, motors, disconnects and any other equipment requiring power.
    - vii) Utilization equipment, indicating receptacles, motors, starters, and any other equipment requiring power.
    - viii) Emergency distribution and equipment for lighting and power, including generators and transfer switches.
    - ix) Lighting layout, including fixture types, switching, and control equipment for both normal and emergency lighting.
    - x) Grounding and bonding.
    - xi) Lightning protection and transient voltage surge suppression (TVSS).
    - xii) Telecommunications (voice, data, and CATV) outlets, backbone, cabling, cable trays, raceways, racks, grounding and bonding.
    - xiii) Security devices and equipment.
    - xiv) Audiovisual devices and equipment.
    - xv) Intercommunication and paging devices and equipment.
    - xvi) Other alarm systems devices and equipment.
  - d) Site utility plans (as applicable):
    - i) Electrical service, including utility service point and routing, and the location of major equipment such as switchgear, switchboards, transformers.
    - ii) Telephone service.
    - iii) Other required services such as CATV, security, data, alarm, etc.
    - iv) Site lighting.
    - v) Site grounding.
    - vi) Installation details including manholes, vaults, handholes, ductbanks, trenching, pole bases, and other site features.

- vii) Demolition.
  - e) Power distribution one line diagram, showing incoming service, switchboards, transformers, panelboards, transfer switches, generators, motor control centers, feeders, and other major equipment, with ratings for each (ampacity, voltage, short circuit).
  - f) Riser diagrams for all special systems, identifying equipment type and location, cabling and conduit, and connections to other systems (as applicable):
    - i) Grounding and bonding.
    - ii) Telecommunications (voice, data, and CATV).
    - iii) Security.
    - iv) Audiovisual.
    - v) Intercommunications and paging.
    - vi) Other Alarms.
  - g) Large scale floor plans for areas where the space for mounting of equipment is limited and interferences might occur, such as electric rooms, telecommunications rooms, and mechanical rooms.
  - h) Detail drawings:
    - i) Details and elevations necessary to completely describe the scope of work.
    - ii) Seismic anchorage and bracing requirements based on the seismic design category of the building.
    - iii) Details must be specific for project scope of work.
  - i) Schedules:
    - i) Panel: Indicate rating for voltage, phases, ampacity, short circuit, and features such as main circuit breakers, isolated grounds, oversize neutrals, etc. Note that the branch circuiting does not need to be completed at this phase.
    - ii) Load Calculation: Per the National Electrical Code Article 220, included with the panel schedules.
    - iii) Lighting Fixture: Indicate type, finish, ballasts, voltage, bulbs, accessories, manufacturer and wattage (per fixture).
    - iv) Equipment (e.g., kitchen): Indicate voltage, phases, ampacity, features, and accessories.
- 3) Technical Specifications
- a) Complete and edited specifications for applicable sections in 50 Division CSI format, with applicable section numbers.
  - b) Utility Information: The name of each utility representative with contact information, and a list of applicable utility reference drawings, standards, and documents.
- 4) Firestopping
- a) Indicate in the documents (i.e. Basic Electrical Requirements specification section and drawing notes) that all penetrations through fire rated construction shall be firestopped using listed and approved firestop assemblies.
  - b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide.
  - c) Reference the applicable architectural life safety drawings that clearly indicate the fire rated construction. If no such drawings are to be provided, the electrical drawings must clearly indicate fire rated construction.



- 5) Electrical system information:
  - a) Provide a copy of the load letter to the electrical utility.
  - b) While a short-circuit, coordination and arc-flash hazard analysis study report is not a required submission for this phase, the design engineer should perform a preliminary analysis of the electrical distribution system at this point (i.e. to identify any fatal flaws in the design).

## ***Environmental***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Drawings indicating scope of all environmental remedial work for the project including demolition.
  - c) Floor and site plans of sufficient size and detail to indicate all locations where abatement/remediation is required including estimated area and quantity.
  - d) Field conditions that may impact the project shall be shown.
  - e) Building elevations and sections indicating all materials to be abated/remediated, including features and dimensions.
  - f) Areas of impacted soil or historic fill, as determined during geotechnical and environmental investigations such as SEQR review, or as identified at the 30% design.
- 3) Technical Specifications
  - a) Complete and edited specifications for applicable sections in 50 Division CSI format, with applicable section numbers.
  - b) Use the DASNY standard asbestos abatement, PCB removal, lead abatement and other environmental remediation specifications. The specification shall be modified and revised to suit the project parameters and conditions.
  - c) Additions to the "Scope of Work" and "Special Job Conditions" sections of the standard asbestos abatement and environmental remediation specifications.
- 4) Provide all proposed asbestos variances to be obtained by the Environmental Consultant for review
- 5) Coordination and sequencing of environmental activities with demolition and other construction activities
- 6) Disposal facility permits and transporter permits for wastes identified at the 30% submission
- 7) Permit Applications for petroleum or hazardous material storage tanks, air emission sources, wastewater discharges or other approvals identified at the 30% submission
- 8) Provide authorization requests for stream or wetland disturbances proposed for the project, with mitigation plans if needed

- 9) Provide a list of environmentally controlled or hazardous materials to be used or applied, including but not limited to paint and their VOC content; pesticides or biocides including coatings or cooling tower applications/treatments; coolants, lubricants and hydraulic fluids

### ***Fire Alarm***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Drawings for each level indicating the following:
    - i) Fire alarm initiating devices, notification appliances, equipment, and components.
    - ii) Room names, room numbers, door swings, stairs, windows, etc.
  - c) Indicate a layout of the fire alarm system including:
    - i) Location of initiation and/or detection devices to be used.
    - ii) Location of notification appliances (indicate strobe candela ratings as necessary).
    - iii) Control panel, transponder, sub-panel, and remote annunciator panel locations.
    - iv) Information concerning items such as tie-ins to existing fire alarm or building management system.
    - v) Local fire department notification, supervising station, central station, central campus monitoring system connections.
    - vi) Fan shutdown.
    - vii) Elevator recall, shunt trip and smoke hatch
    - viii) Location of sprinkler water flow and tamper switches
    - ix) Fire pump interconnections.
    - x) Location of Carbon Monoxide detectors or sensors (combination smoke/CO detectors with sounder bases indicate with sub-symbols).
  - d) Provide a fire alarm system riser diagram indicating the following:
    - i) Information concerning power supply and grounding.
    - ii) Floor by floor schematic indicating typical initiating devices and notification appliances.
    - iii) FA Control and data gathering panels, remote annunciators.
    - iv) Relays and modules.
    - v) Typical circuits/loops, including alternating circuits for notification appliances
  - e) The drawings must indicate the following:
    - i) Manual fire alarm systems.
    - ii) Fire/smoke detection systems.
    - iii) Carbon Monoxide detection systems.
    - iv) Emergency one and two-way voice communication systems.
    - v) Smoke control systems including interconnections with fire/smoke dampers and fan controllers and/or building management system.
    - vi) Door access control systems.
    - vii) Suppression and extinguishing systems, i.e. sprinkler, clean agent, kitchen hood system, etc.
    - viii) Fire Command Center (when required) with the following features:

- (1) Elevator monitoring annunciator.
  - (2) Emergency voice/alarm communication system.
  - (3) Fire department communications unit.
  - (4) Status indicators and controls for HVAC systems.
  - (5) Controls for unlocking stair doors.
  - (6) Emergency and standby power status indicators.
  - (7) Telephone for fire department use.
  - (8) Fire Pump status indicators.
  - (9) Fire Alarm annunciator.
  - (10) Public Address system (when required).
  - (11) Generator supervision devices, manual start and transfer features.
  - f) Roof plan(s) indicating locations of all mechanical equipment, hatches, and skylights.
  - g) Reflected ceiling plans indicating ceiling types, soffits, heights, all mechanical, electrical and fire protection components, exit signs, emergency lighting, and access panels.
  - h) Seismic bracing details (as applicable).
  - i) Fire alarm control matrix for all functions with associated devices and systems.
  - j) For renovation work show existing equipment to be demolished and existing equipment to be reused.
- 3) Technical Specifications shall include complete and edited specifications for applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Firestopping
- a) Indicate in the documents (i.e. Basic Fire Alarm/Electrical Requirements specification section and drawing notes) that all penetrations through fire rated construction must be firestopped using listed and approved firestop assemblies.
  - b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide.
  - c) Reference the applicable architectural life safety drawings that clearly indicate fire rated construction. If no such drawings are to be provided, the fire alarm/electrical drawings must clearly indicate fire rated construction.

### ***Fire Protection***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Floor Plans and Key Plans must be provided which clearly identify the work areas and the work to be performed.
  - c) Identify all column lines and a plan north orientation.
  - d) Complete riser diagrams.
  - e) Indicate all fire protection systems and components, including standpipes, wet, preaction, and dry sprinkler systems.

- f) Indicate fire service mains including required backflow protection and post indicator valves or approved exterior control valves.
  - g) Coordinate location of fire department connections with local fire department.
  - h) Pipe runs shall be complete and pipe sizes indicated per the hydraulic calculations, include all mains, cross mains, branch and drain piping.
  - i) Indicate all specialized fire suppression systems, including clean agent, CO<sub>2</sub>, kitchen hood, etc.
  - j) Indicate initiating devices, notification appliances, and control systems for preaction and clean agent systems.
  - k) Locations of all major fire protection equipment, including adequate access space.
  - l) Electrical ratings for fire protection equipment are shown.
  - m) Special equipment entry requirements addressed.
  - n) Sprinkler types indicated.
  - o) Major equipment scheduled.
  - p) Coordination of all major items of work shall be complete.
  - q) Sprinkler layout nearly complete and coordinated with the reflected ceiling plans.
  - r) Details and schematics for incoming fire service, fire pump, alarm and dry valves, preaction systems, floor control valve assemblies, seismic restraints, equipment, etc.
  - s) All backflow preventers indicated.
  - t) Floor plans indicating the following: room names and numbers, building cores, stairs, elevators, interior partitions, doors, windows, built-in furniture items, partition types, doors and door swings, toilet fixtures.
  - u) Roof plan(s) indicating locations of all mechanical equipment.
  - v) Reflected ceiling plans indicating ceiling types, soffits, heights, all mechanical, electrical and fire protection components, exit signs, emergency lighting, and access panels.
  - w) All fire protection system equipment and components must be fully coordinated with all other drawings, including architectural, plumbing, HVAC, electrical, etc.
  - x) Seismic bracing details (as applicable).
  - y) Special construction required for special systems (e.g. sealed construction for FM200 systems).
  - z) For renovation work show existing equipment to be demolished and existing equipment to be reused.
  - aa) If required for clarity, provide full height cross section, or schematic diagram, including structural member information, ceiling construction, soffit construction, and method of protection for non-metallic piping.
- 3) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Provide hydrant flow test results and sprinkler hydraulic calculations.
- 5) Firestopping
- a) Indicate in the documents (i.e. Basic Fire Protection Requirements spec section and drawing notes) that all penetrations through fire rated construction must be firestopped using listed and approved firestop assemblies.

- b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide.
- c) Reference the applicable architectural life safety drawings that clearly indicate fire rated construction. If no such drawings are to be provided, the fire protection drawings must clearly indicate fire rated construction.

## ***HVAC***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Ductwork floor plans indicating:
    - i) All ductwork.
    - ii) All equipment.
    - iii) Registers, dampers, fire dampers, smoke dampers, diffusers, grilles and louvers. Coordinate fire, smoke, and fire/smoke dampers with the life safety plan. If a life safety plan does not exist, coordinate with the rated construction.
  - c) Piping floor plans indicating:
    - i) All piping labeled with system type (HWS, HWR, etc.).
    - ii) All valves.
    - iii) Equipment and fixtures with labels or tags identifying each.
  - d) Roof plan(s) indicating locations of all mechanical equipment, ductwork and piping.
  - e) Equipment elevations and sections indicating all materials, features and dimensions.
  - f) Sections of all congested areas. Sections to show all systems/components of all trades (e.g., interstitial ceiling space showing ceiling grid, insulated and non-insulated pipe, ductwork, sprinkler pipe, conduit, beams with fireproofing, lights, etc.).
  - g) Large scale plans:
    - i) Boiler rooms.
    - ii) Chillers rooms.
    - iii) Mechanical rooms.
    - iv) Cooling towers.
    - v) Steam service.
    - vi) Other similar large equipment.
  - h) Equipment schedules with equipment manufacturers name and model as well as sizing information listed.
  - i) Detail drawings:
    - i) Details and elevations necessary to completely describe the scope of work.
    - ii) Seismic anchorage and bracing requirements, based on the seismic design category of the building.
    - iii) Details must be specific for project scope of work.
  - j) Large scale details for all mechanical equipment not shown in elevations or sections.
  - k) Air system schematic flow diagrams, completely labeled.
  - l) Duct riser diagrams.
  - m) Water system schematic flow diagrams, completely.

- n) Anchorage and bracing requirements for distribution systems and equipment due to seismic forces.
  - o) BMS points schedule.
- 3) Technical Specifications shall include complete and edited specifications for applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
  - 4) Narrative/Other
    - a) Complete set of design development heating and cooling load calculations.
    - b) Hydronic and air systems' pressure drop calculations.
    - c) Calculations demonstrating the equipment (e.g., pumps, tanks, etc.) are appropriately sized.
    - d) Calculations demonstrating adequacy of pipe expansion compensation and stress analysis.
    - e) Provide catalog cuts of major equipment and manufacturer's installation instructions where appropriate.
    - f) Draft copy of the Modeling Summary Sheet.
    - g) A summary of permits and approvals required for fuel burning equipment or other emission sources, as per the 30% level.
  - 5) Firestopping
    - a) Indicate in the documents (i.e. Basic HVAC Requirements specification section and drawing notes) that all penetrations through fire rated construction shall be firestopped using listed and approved firestop assemblies.
    - b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide.
    - c) Reference the applicable architectural life safety drawings that clearly indicate fire rated construction. If no such drawings are to be provided, the fire alarm/electrical drawings must clearly indicate fire rated construction.

## ***Plumbing***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 30% submission.
  - b) Piping floor plans indicating:
    - i) All piping labeled with system type (HWS, HWR, CW, gas, etc.).
    - ii) All valves.
    - iii) Equipment and fixtures with labels or tags identifying each.
    - iv) Coordinate penetrations with Life Safety Plan or rated construction.
  - c) Roof plan(s) indicating locations of all Plumbing vent terminals and HVAC air intake louvers. Show any roof mounted plumbing equipment and piping.
  - d) Equipment elevations and sections indicating all materials, features and dimensions.
  - e) Large scale plans indicating:
    - i) Equipment rooms.

- ii) Gas and fuel oil services.
  - iii) Large equipment and tanks.
  - f) Equipment schedules with equipment manufacturers name and model as well as sizing information listed.
  - g) Large scale details for all plumbing equipment not shown in elevations or sections.
  - h) Gas, fuel oil, reverse osmosis, compressed air, and other specialty gas system schematic flow diagrams, completely labeled.
  - i) Water system schematic flow diagrams, completely labeled and with flow arrows.
  - j) Plumbing riser diagrams for drain, waste, vent, and storm with fixture units.
  - k) All equipment, including equipment furnished by others but connected to a plumbing service (e.g., kitchen equipment) and coordination of contractor responsibilities for all trades.
  - l) Anchorage and bracing requirements for distribution systems and equipment due to seismic forces.
- 3) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Narrative/Other
- a) Revised fixture count calculations.
  - b) Flow/load calculations showing roof drainage and piping systems comply with the Code.
  - c) Calculations demonstrating fuel system(s) is/will be appropriately sized.
  - d) Calculations showing the sizing of specialty gas and water systems (e.g., reverse osmosis, medical gases, etc.).
  - e) Calculations demonstrating the equipment (e.g., pumps, tanks, etc.) are appropriately sized.
  - f) Calculations demonstrating adequacy of expansion compensation.
  - g) Statement of which plumbing fixtures are accessible.
  - h) Statement of which plumbing fixtures are ultra low-water (lower than code required) or no-water use.
  - i) Provide catalog cuts of major equipment and manufacturer's installation instructions where appropriate.
- 5) Firestopping
- a) Indicate in the documents (i.e. Basic Plumbing Requirements spec section and drawing notes) that all penetrations through fire rated construction must be firestopped using listed and approved firestop assemblies.
  - b) Reference the DASNY standard firestopping specification 078400, available through the DASNY Design Professional's Guide. .
  - c) Reference the applicable architectural life safety drawings that clearly indicate fire rated construction. If no such drawings are to be provided, the plumbing drawings must clearly indicate fire rated construction.

## ***Site***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Submission of the preliminary Stormwater Pollution Prevention Plan (SWPPP) for review prior to submission to New York State Department of Environmental Conservation for State Pollutant Discharge Elimination System (SPDES) permit coverage (applicable to projects with a land disturbance greater than one acre).
  - a) The SWPPP shall be prepared in accordance with NYS-DEC Stormwater Management Design Manual for projects requiring compliance with the General Permit GP-02-01 for Stormwater Discharges from Construction Activities.
  - b) Provide hydrologic and hydraulic analysis and calculations for all structural components of the stormwater system, including but not limited to time of concentrations, runoff rates, volumes, velocities, pipe sizing, hydrographs, drainage areas, water surface elevations etc.
- 3) Drawings
  - a) Updated and developed drawings provided at 30% submission
  - b) Preliminary major details for utilities, site work, and paving, as applicable, including:
    - i) utility inverts and pitch
    - ii) typical paving details
    - iii) sections and major details for typical site features such as retaining walls, exterior stairs/ramps, pervious paving, underground retention or treatment systems, and other site amenities
    - iv) areas of contaminated soil identified for removal
  - c) Erosion and Sediment Control Plan prepared in accordance with NYS-DEC Standards and Specifications for Erosion and Sediment Control. Include Best Management Practices that minimize discharge of pollutants from the construction site, including, but not limited to, provisions for dust control, inlet protection, soil stabilization, and stabilized construction entrance(s)
    - i) Locate erosion and sediment control practices and coordinating notes for transferring ownership and maintenance of practices to other contractors under subsequent project phases
  - d) Post construction stormwater management practices for water quality and water quantity
  - e) Landscaping plans for structural stormwater management practices and any site reforestation or re-vegetation
  - f) Preliminary planting plan and planting schedule.
- 4) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.

## ***Structural***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.



## 2) Drawings

- a) Updated and developed drawings provided at 30% submission.
- b) All structural systems need to be defined to the extent that the reviewer can fully understand the intent and can check the design.
- c) The structural load paths for the structure are completed and designed for all loads including gravity and lateral loads; soils and groundwater loads; wind, snow and seismic loads; equipment and live loads.
- d) Deep foundations are defined including:
  - i) Bearing strata is located.
  - ii) Number, size and capacity of piles or caissons.
  - iii) Pile cap sizes are determined.
- e) Foundation system is fully defined including:
  - i) Wall and slab-on-grade thickness are determined.
  - ii) Brick shelf locations are determined.
  - iii) Slab-on-grade construction is shown.
  - iv) Footing steps and elevator pits are located.
  - v) Waterproofing and waterstop systems are defined and shown on the drawings.
  - vi) Insulation materials are shown on the drawings.
  - vii) Footing schedule is completed and shown on the drawings.
  - viii) Typical footing details have been shown.
  - ix) Typical pier details have been shown.
  - x) Grade beams and tie beams have been sized and shown on the drawings.
- f) All building expansion joints are shown. Foundation wall and slab-on-grade construction and control joints are shown.
- g) Fire rated assemblies are determined and listed systems are shown on the drawings.
- h) Concrete superstructure is defined; all beams, columns, piers and elevated slabs are located and sizes/thickness have been determined.
- i) Structural steel superstructure is defined including:
  - i) All columns and beams have been shown.
  - ii) Column sizes and orientation are shown.
  - iii) Beam sizes are shown.
  - iv) Lateral bracing system is indicated.
  - v) Design end reactions, connection moments and axial loads have been designated directly on the drawings in accordance with the AISC Code of Standard Practice.
  - vi) Column schedule is completed.
  - vii) Base plates and anchor bolts are determined and shown on the drawings.
  - viii) Steel beam camber is determined and shown on the drawings.
  - ix) Shear stud type and length has been determined.
  - x) Approximate locations and support for major mechanical equipment are shown. Identify and label equipment and machinery weights over 1000 pounds.
- j) Elevated slab-on-deck has been defined including:
  - i) Slab thickness and typical reinforcing is shown.
  - ii) Steel decking configuration, gauge, and orientation are indicated.
  - iii) Changes in top-of-slab elevation are indicated.
  - iv) Verify thickness is coordinated with Architectural fire rating requirements.

- k) Masonry systems defined including:
    - i) Indicate typical masonry reinforcing and spacing requirements for both load bearing and non-load bearing walls and partitions.
    - ii) Indicate masonry seismic anchorage and lateral support requirements.
    - iii) Indicate masonry bond beam requirements.
  - l) Wood framing systems defined including:
    - i) Non typical wood framing member locations are called out (double joists, multiple wall studs or posts, etc.)
    - ii) Provide nailing and fastener schedule.
  - m) Provide typical section for the project:
    - i) Floor - Typical cross sections; Spandrel sections: Parallel and perpendicular to facade
    - ii) Roof - Typical cross sections; Spandrel sections: Parallel and perpendicular to façade
    - iii) Wall - Foundation wall(s); Retaining wall(s); Load Bearing wall(s)
  - n) Provide standard detail sheet(s) modified to suit the project.
- 3) Technical Specifications
- a) Complete and edited specifications for applicable sections in 50 Division CSI format, with applicable section numbers.
  - b) Provide a Summary of Work section. Identify work under the specific contract as well as related contract work. Define items not included in the specific contract.

### ***Sustainable Design***

- 1) Include all items listed in the Design Development Phase (60%) Submittal Requirements for All Disciplines.
- 2) Submit all compliance information including:
  - a) A revised Leadership in Energy and Environmental Design (LEED) checklist of potential credits, associated costs and potential rating (silver, gold or platinum) or to show sustainable design attributes.
  - b) A revised narrative describing the incorporation of significant attributes of green design concepts.
  - c) Energy modeling reports illustrating assessment for purposes of design advancement of energy effective design strategies.
  - d) Revised strategies to attain sustainable design for all project components/systems.
  - e) Identify potential financial incentives available from New York State Energy Research and Development Authority (NYSERDA) (<http://www.nyserda.org/default.asp>) via NYSEDA Program Opportunity Notices (PON's) and/or the Long Island Power Authority (LIPA at <http://www.lipower.org>) and/or the New York Power Authority (NYPA at [www.nypa.gov](http://www.nypa.gov)) or other incentives which may benefit the project.
  - f) Revised Design Intent, revised Owners Project Requirements, revised Basis of Design & full Sequence of Operations as per NYCRR Part 638.8 as amended by the "DASNY Commissioning Guidelines."
  - g) Design Development Commissioning Specifications.

3) Information shall be assembled in a three ring binder with tabs indicating appropriate sections.



## ***Construction Documents (100 % Submission)***

### ***Submittal Requirements for All Disciplines***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) All required items listed in the Schematic Design Phase (30%), and the Design Development Phase (60%) Submittal Requirements for All Disciplines, and each specific discipline, as applicable to the project.
- 2) All required items listed in each specific discipline's Construction Documents Phase (100%).
- 3) Written responses to all previous design review comments from DASNY, the Client, Construction Manager, and other review entities (as applicable), along with the necessary corrections made to the contract documents. Responses shall be made in sufficient detail for verification purposes, such as locations of revised details, specification sections, and updated drawing numbers. Generic responses such as "will comply" are not acceptable.
- 4) Codes, Standards and References
  - a) Update the DASNY Code Compliance Review form for the project to incorporate any revisions reflecting changes from the previous submission.
  - b) Submit the updated Statement of Special Inspections and Tests. Edit General Requirements Section 014000, Quality and Code Requirements, and include the applicable DASNY Statement of Special Inspections and Tests as an attachment in accordance with Paragraph 1.11.A. For projects subject to the New York City Building Code, update the list of Special and Progress Inspections provided on the drawings.
  - c) For projects subject to Building Commissioning – see Commissioning requirements under Sustainable Design section. Commissioning shall be delivered per DASNY's Building Commissioning Guidelines. DASNY's Building Commissioning Guidelines reference the Green Building Tax Credit, 6NYCRR Part 638, Section 638.8-Commissioning, and the USGBC's LEED rating system for commissioning requirements.
  - d) For projects that require New York City (NYC) filing and permits, consult with Dormitory Authority design phase manager to determine additional required documents to be submitted for this phase.
- 5) Drawings
  - a) The drawings shall be complete and ready for bidding including the professional's seal and signature on each sheet (See Signing and Sealing of Documents, at the beginning of these requirements).
  - b) Specific for each discipline, as applicable; an updated list of the drawings, general notes, abbreviations, legends, key notes, symbol keys, key plans, column lines, north arrow, and coordinated backgrounds.
  - c) The cover sheet and all typical drawings shall include the following: DASNY name, address and logo, consultant name(s) and address, client name, project location, project title, project number, sheet name, sheet number, sheet date, drawing scale, graphic scale, revision

- block and block for seal and signature, (refer to the Design Consultant's Guide at <http://www.dasny.org/> for standardized title block and drawing sheet title formats).
- d) Checked for spelling, grammatical and typographical errors, coordinated with respect to reference symbols, notes, abbreviations, specification sections, schedules and other disciplines.
  - e) Fully coordinated with all disciplines and ready for approval to bid.
  - f) The drawings shall incorporate all aspects of Executive Order No. 88, the New York State Green Building Construction Act and Building Commissioning as required.
- 6) Project Manual
- a) Technical Specifications
    - i) Specifications shall include all Front End Documents, including the General Conditions, edited General Requirements, Schedule of Values, Wage Rates, sections pertinent to construction practices to support the LEED goals, sections to require LEED documentation during construction, and all additional documents and forms organized to resemble the Bid Documents. Each document shall be prefaced with an individualized cover page. Where Bid Document information is to be provided by DASNY at a later date, insert pages appropriately marked "Prepared by DASNY", or as appropriate for the pending information as referenced in the Table of Contents.
  - b) An updated Table of Contents listing all included technical specification sections included and coordinated with all included sections.
  - c) An updated and coordinated list of drawings.
  - d) Technical specifications shall be complete and edited specifically to suit the project.
  - e) Contractor's Submittal Schedule, prepared in accordance with DASNY's Submittal Import Utility Tool in Contract Manager.
  - f) The cover of the Project Manual shall be signed and sealed by the professional (See Signing and Sealing of Documents, at the beginning of these requirements)
- 7) Reconciled cost estimate utilizing the DASNY Cost Estimating Workbook, available on the DASNY website. <http://www.dasny.org/construc/dcg/guides/ConsultantCostEst.xls>
- 8) Project Phasing Plan
- 9) Project Schedule

### ***Architectural***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Completed details for all architectural related work.

- 3) Project Manual shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Firestopping
  - a) All required items not included in the 60% submittal.
  - b) Ensure the General Requirements identify the contract responsible for firestopping.

### ***Demolition***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings – updated and developed drawings provided at 60% submission.
- 3) Project Manual shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.

### ***Electrical***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Electrical Systems: Provide a final layout of the electrical systems.
  - c) Electrical Diagrams, Details, and Schedules: Finalize the electrical diagrams details, and schedules.
- 3) Project Manual
  - a) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings
  - b) Include testing requirements in all specification sections.
  - c) Include commissioning requirements in all specifications. Coordinate technical commissioning specification requirements with the DASNY's Commissioning Authority.
- 4) Firestopping
  - a) All required items not included in the 60% submittal.
  - b) Ensure the General Requirements (section 011200) identify the contract responsible for firestopping.
- 5) Electrical system information:

- a) Provide a short-circuit, coordination and arc-flash hazard analysis study report. The study report shall be as described in NETA ATS 2007 section 6.
- b) Supporting documentation that the utility service configuration and over current devices have been approved by the electrical utility.

### ***Environmental***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings - updated and developed drawings provided at 60% submission.
  - a) Show areas where contaminated soil is to be removed.
- 3) Project Manual
  - a) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
  - b) Include all asbestos variances obtained by the Environmental Consultant.
  - c) Identification of PCBs, lead, or other hazardous materials and potential hazardous waste to be removed and disposed.
  - d) Include application for an EPA ID if hazardous waste will not be accepted by the facility.
  - e) Include copies of Letters of Acceptance from disposal facilities certifying that they have the capacity and authorization to accept the identified wastes, and intended disposition.
  - f) Include copies of receipted Permit Application submittals and responses obtained by Environmental Consultant, or exemptions identified from permitting.
  - g) Include Authorization Requests or exclusions for wetland or waterway disturbances obtained by Environmental Consultant.

### ***Fire Alarm***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
    - a) Fire Alarm System: Provide a final layout of the fire alarm system.
    - b) Fire Alarm Riser Diagram: Finalize the fire alarm system riser diagram.
- 3) Project Manual shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Firestopping
  - a) All required items not included in the 60% submittal.



- b) Ensure the General Requirements identify the contract responsible for firestopping.

### ***Fire Protection***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Fire Protection System: Provide a final layout of the fire protection systems.
  - c) Fire Protection Riser Diagrams: Finalize the fire protection system riser diagram.
- 3) Project Manual shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
- 4) Firestopping
  - a) All required items not included in the 60% submittal.
  - b) Ensure the General Requirements identify the contract responsible for firestopping.

### ***HVAC***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Ductwork floor plans indicating:
    - i) All ductwork, depicted double lines, supply and return indicated, with all sizes shown.
    - ii) All equipment showing connections, flexible connectors, transitions.
    - iii) Registers, dampers, fire dampers, smoke dampers, diffusers, grilles and louvers all labels with appropriate sizing, neck size and flow information (if not shown on a schedule). Scheduled items are to be tagged and referenced to the schedule.
  - c) Piping floor plans indicating:
    - i) All piping labeled with system type (HWS, HWR, etc.) and sizes. Six inch and greater piping depicted with double lines.
    - ii) All valves.
    - iii) Equipment and fixtures with labels or tags identifying each.
    - iv) All anchors, guides, expansion compensation and seismic supports.
  - d) Roof plan(s) indicating locations of all HVAC equipment, ductwork and piping.
  - e) Equipment elevations and sections indicating all materials, features and dimensions.
  - f) Large scale plans completely labeled and all sizes and dimensions indicated for:
    - i) Boiler rooms.
    - ii) Chillers rooms.

- iii) Mechanical rooms.
  - iv) Cooling towers.
  - v) Steam service.
  - vi) Other important HVAC equipment or spaces.
  - g) Equipment schedules with all fields complete.
  - h) Large-scale details for all HVAC equipment not shown in elevations or sections with all components labeled and sizes indicated where appropriate.
  - i) Air system schematic flow diagrams showing CFM of all segments.
  - j) Water system schematic flow diagrams:
    - i) Flow arrows.
    - ii) GPM for all segments.
  - k) BMS points schedule.
  - l) Control diagrams.
- 3) Project Manual
- a) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
  - b) Include commissioning requirements in all specifications. Coordinate technical commissioning specification requirements with the Authority's Commissioning Authority.
  - c) Include permit requirements, timing, and inspections for fuel burning equipment and other air emission sources, as required
- 4) Firestopping
- a) All required items not included in the 60% submittal.
  - b) Ensure the General Requirements identify the contract responsible for firestopping.
- 5) Final Calculations:
- a) Final set of HVAC load calculations.
  - b) Final copy of the Modeling Summary Sheet.

## ***Plumbing***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Piping floor plans indicating:
    - i) All piping labeled with system type (HWS, HWR, G, etc.) and sizes. Six inch and greater piping depicted with double lines.
    - ii) Equipment and fixtures with labels or tags identifying each. Plumbing connections to all equipment, including equipment furnished by others.
    - iii) All anchors, guides, expansion compensation and seismic supports.

- iv) Keyed details as required to properly show the work.
  - c) Roof plan(s) indicating locations of all roof drain, Plumbing equipment, HVAC Equipment (including outside air intake) and associated fuel piping.
  - d) Equipment elevations and sections indicating all materials, features and dimensions.
  - e) Large scale plans completely labeled and all sizes indicated for:
    - i) Plumbing rooms.
    - ii) Gas and fuel oil services.
    - iii) Large equipment and tanks.
    - iv) Other similar large equipment.
    - v) Other important plumbing equipment or spaces.
  - f) Equipment schedules with all fields complete.
  - g) Large-scale details for all plumbing equipment not shown in elevations or sections with all components labeled and sizes indicated where appropriate.
  - h) Air, water, fuel, and specialty gas system schematic flow diagrams showing:
    - i) Flow arrows.
    - ii) Flow rates for all segments.
  - i) Plumbing riser diagrams for drain, waste, vent, and storm with fixture units and sizes.
- 3) Project Manual
- a) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
  - b) Include commissioning requirements in all specifications. Coordinate technical commissioning specification requirements with the DASNY's Commissioning Authority.
- 4) Firestopping
- a) All required items not included in the 60% submittal.
  - b) Ensure the General Requirements identify the contract responsible for firestopping.

### ***Site***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Submission of the final Stormwater Pollution Prevention Plan (SWPPP) and confirmation of SPDES permit coverage (Notice of Intent) from New York State Department of Environmental Conservation for stormwater impacts.
- 3) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Completed details for all site related work.
- 4) Project Manual shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.

## ***Structural***

**(Note: All drawings and specifications are to be fully complete at this submission)**

- 1) Include all items listed in the Construction Documents Phase (100%) Submittal Requirements for All Disciplines.
- 2) Drawings
  - a) Updated and developed drawings provided at 60% submission.
  - b) Deep Foundation Drawings:
    - i) Indicate the final number and size of deep foundation members at each location.
    - ii) Indicate the design depth (tip or bottom of caisson elevation) of each deep foundation member for bidding purposes.
    - iii) Indicate test pile or caisson locations.
    - iv) Provide completed pile cap schedule including top of cap elevations, reinforcing, and anchorage.
    - v) Provide tie-beam information including size, reinforcing, clearances and connection details to pile caps.
  - c) Concrete Foundation/Framing Drawings
    - i) Provide typical details for concrete footings, beams, columns, slabs, and walls as required for the project; do not include details that do not apply to the scope of work.
    - ii) Provide completed concrete column, beam, pilaster, and footing schedules.
    - iii) Indicate information for concrete slab construction including:
      - (1) Slab joint pattern for concrete slabs-on-grade.
      - (2) Slab thickness and top of slab elevations.
      - (3) Slab reinforcing including sizes, spacing, placement, and clearances.
      - (4) Typical slab construction details including construction and control joint details, typical details at slab-column isolation joints, slab-wall joint details, waterstop and waterproofing details, and slab insulation details.
      - (5) Indicate all changes in slab elevations including depressions and pits, sump pits at the bottom of all elevator pits.
      - (6) Indicate all sloped slab locations with both beginning and ending slope elevations.
    - iv) Indicate information for all continuous and isolated footings including:
      - (1) Indicate footing sizes and locations.
      - (2) Top of footing elevations.
      - (3) Step footing locations and the top of footing elevations at each step.
      - (4) Waterproofing and waterstop details and requirements.
      - (5) Footing reinforcing sizes, spacing, and clearances.
      - (6) Required keyways and dowels.
    - v) Indicate information for foundation walls including:
      - (1) Elevation at top of wall.
      - (2) Elevation at top of brick shelf or other supports.
      - (3) Elevation at beam pockets and changes in wall heights.
      - (4) Wall thickness and location to column lines.
      - (5) Wall reinforcing size, direction, spacing, and clearances.
      - (6) Integral pier or pilaster size, location, reinforcing, and elevation.

- (7) Waterproofing, waterstop, and insulation details.
- (8) Wall penetrations including size, locations, and additional reinforcing.
- (9) Locations and details for embedded items such as connection plates or anchors.
- d) Steel Framing Drawings
  - i) Indicate all steel framing member sizes. Include all shear stud and camber information for floor framing members.
  - ii) Indicate all connection design loads including vertical reactions and design moments for moment connections.
  - iii) Indicate column orientation on framing plans.
  - iv) Indicate all locations requiring the installation of slip-critical bolts.
  - v) Indicate all bridging and bracing member sizes, locations, and connections.
  - vi) Indicate metal decking sizes, span criteria, and direction.
  - vii) Provide all relevant typical details. Do not include details that do not apply to the project.
  - viii) Provide a complete column schedule including member sizes, splice locations and types, base plate sizes and orientation, column loads and heights.
  - ix) Provide anchor bolt sizes, hardware, and pattern.
  - x) Provide all non-typical or non-standard connection details.
  - xi) Indicate all dunnage and support steel members. Provide sizes and details.
  - xii) Indicate all lintels (loose and attached) and support angles.
- 3) Project Manual
  - a) Technical Specifications shall include complete and edited specifications for all applicable sections, in 50 Division CSI format, with applicable section numbers and fully coordinated with the drawings.
  - b) Specifications shall be written for the specific project. Generic or unedited standard specifications are not acceptable. Do not include information that is not pertinent to the project.

## ***Sustainable Design***

- 1) Submit all compliance information including:
  - a) Narrative summarizing and documenting changes to the previously submitted plan.
  - b) Provide a final LEED checklist with all credits, associated costs and potential rating (certified, silver, gold or platinum) identified.
    - i) Each credit shall have appropriate supporting documentation included with submission.
    - ii) The LEED checklist shall be used as the Table of Contents with each credit arranged in a three ring binder with strategy and supporting documentation behind each credit in the binder.
  - c) Final computer modeling report complete with all data showing final energy percentages achieved by the design.
  - d) For projects subject to Building Commissioning, submit the following compliance information:
  - e) Final “Design Phase Commissioning Plan” (provided by the CxA, and including the revised Owner’s Project Requirements, Design Intent, and Basis of Design).
  - f) All commissioning review comments and commissioning meeting minutes issued to date.

- g) Final commissioning specification sections coordinated and edited to be project specific.
- h) Confirmation that the construction documents include control specifications and drawings that convey sequence of operation narratives, control point tables, and control diagrams, for all equipment and systems to be controlled.
- i) Confirmation that the construction documents are coordinated to reflect commissioning requirements throughout the specifications. For example: Submittal requirements as they relate to the Commissioning Authority review process; O&M, and warranty requirements as it relates to commissioning; Equipment, component, and system testing requirements; Ducts, piping, mechanical insulation, cleaning and testing, controls, balancing, training, and deferred testing requirements as they relate to commissioning, etc.
- j) Coordination of Indoor Air Quality (IAQ) Construction Management Plan, IAQ Testing and Specifications.
- k) Provide a summary of all incentives from NYSERDA, LIPA, etc. Prepare all incentive applications.