ADDENDUM NUMBER ONE
Science Technology Engineering and Mathematics (STEM) Initiative
July 1, 2013

ADDENDUM DISTRIBUTION: Distribution via email to the following attendees of the site visit held on June 27, 2013. Architects shall verify that consultants have included any and all addenda information in their bid process. Bidders are to acknowledge receipt of this Addendum by listing the addendum number and date in their proposal.

Distribute To:

SMRT Architects & Engineers
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SAS Architects
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Wiemann Lamphere Architects
Truex Cullins Architecture
EYP, Inc.
Heritage Protection Group
Wilson Architects
Scott + Partners

This Addendum forms a part of the Contract Documents and modifies them as follows:

1. The Site Visit Meeting Minutes dated June 27, 2013 are distributed with this Addendum Number One and should be considered part of the Request for Proposals for this project.
2. The attached revised Fee Proposal Matrix dated July 1, 2013 supersedes earlier versions of this document and is to be submitted with proposals for this project.

3. The attached revised Architect-Engineer Checklist of Services dated July 1, 2013 supersedes earlier versions of this document.

** END OF ADDENDUM NUMBER ONE **

Attachments:  Site Visit Meeting Minutes  
Fee Proposal Matrix, revised 7/01/13  
Architect-Engineer Checklist of Services, revised 7/01/13

cc:  Bob Vaughan  
Paula Carlaccini  
Sal Chiarelli  
Antonio Cepeda-Benito  
Doug Dickey  
Lorie Clairmont  
Lani Ravin  
Randy Spooner  

John Evans  
Linda Seavey  
Dave Blatchly  
Joel Goldberg  
Cara Hanson  
Jill Bennett  
Michelle Smith  
Joanne Foell
Science Technology Engineering and Mathematics (STEM) Initiative Site Visit Meeting Minutes

DATE: June 27, 2013

PRESENT: Bob Vaughan, UVM Capital Planning & Management
          John Evans, UVM Interim Vice President for Research
          Paula Carlaccini, UVM Facilities Design & Construction
          Linda Seavey, UVM Campus Planning Services
          Sal Chiarelli, UVM Physical Plant Department
          Dave Blatchly, UVM Physical Plant Department
          Antonio Cepeda-Benito, UVM Dean, College of Arts & Sciences
          Joel Goldberg, UVM Assoc. Dean, College of Arts & Sciences
          Doug Dickey, UVM Asst. Dean, College of Engineering & Mathematical Sciences
          Cara Hanson, UVM Facilities Design & Construction
          Lorie Clairmont, UVM Facilities Design & Construction
          Jill Bennett, UVM Facilities Design & Construction
          Lani Ravin, UVM Campus Planning Services
          Michelle Smith, UVM Capital Planning & Management
          Randy Spooner, UVM Telecomm & Network Services
          Joanne Foell, UVM Telecomm & Network Services
          Paul Lewandowski, SMRT Architects & Engineers
          David Feth, Payette
          Gary Homonai, IDC Architects
          Rob Favali, DuBois & King, Inc.
          Patricia McKee, AECOM
          Dan Rew, HDR Architects & Engineers
          Kenneth Drucker, HOK
          Shari Vaccarella, McLeod Kredell Architects
          Marty Sienkiewycz, SAS Architects
          Peter Ker Walker, Landscape Architecture Planning
          Robert Orr, Landscape Architecture Planning
          Bill Fitzpatrick, Shepley Bulfinch Richardson & Abbott
          Christopher Angelakis, ARC/Architectural Resources Cambridge
          David Boehm, Engineering Ventures
          Paul Boisvert, Engineering Ventures
          Bob Pahl, NBBJ Architects
          Steven Gifford, Perkins Eastman
          Taylor Rogers, Behnisch Architekten
          Andrea Brue, Goody Clancy
          Roxanne Sherbeck, Bohlin Cywinski Jackson
          Marc Carola, HDR Architects & Engineers
          Lynne Deninger, Cannon Design
          Todd C. Sloane, Payette
Meeting Minutes:

1. John Evans gave welcoming remarks and indicated that the University is seeking a partner to assist in developing an interdisciplinary facility with an ability to change over time as new learning technologies become available. New STEM facilities will provide teaching labs, classrooms, research labs, and problem solving labs for the Physics, Chemistry, Psychology, Engineering, and Mathematics and Statistics departments. In developing design options for this
project it will be important to incorporate the intent to provide the University with the best value for the investment.

2. Bob Vaughan made introductions of presenters at the informational meeting and directed attendees to utilize the Facilities Design & Construction web site [(http://www.uvm.edu/~arch/) – Current Projects – STEM] for obtaining available materials for the project, including today’s presentation, floor plans of existing buildings, studies, minutes, attendance lists, etc.

3. The overall project will utilize a phased approach and will involve programs currently occupying (8) buildings moving into (3) buildings (Votey, Cook, and the new STEM Lab Facility). The project scope will not include addressing issues associated with the (5) vacated buildings. Angell Lecture Hall will be demolished in Phase 1 and the new STEM Lab Facility will be constructed. The new building will better utilize the real estate currently occupied by Angell and is anticipated to be approximately 110,000 – 130,000 gross square feet. In Phase 2 Cook will be either renovated, demolished, or some combination of the two to create a STEM classroom/administrative facility. The existing Votey building will be renovated in a phased sequence during Phase 3. The renovated facility will provide teaching and research lab space for the School of Engineering.

4. Joel Goldberg presented pictures of existing facilities in the Cook Physical Sciences Building. Three floors of this building are utilized by Chemistry and two floors are utilized by Physics. Many labs are limited by the lack of controlled spaces for use in sensitive work. Cook is not a climate controlled building which also impacts usage of the facility. Approximately 3,000 students use the existing chemistry teaching labs each year.

5. Doug Dickey presented pictures of existing facilities in the Votey Building. Improvements are required in the undergraduate teaching labs, specifically the Environmental Teaching Lab, the Structures Lab, and the Hydraulics Lab. Computer Sciences currently occupies some space in Votey. Ideally, Computer Science would be relocated to free up additional space for the School of Engineering.

6. Sal Chiarelli reviewed basic information relative to the campus and its infrastructure. Within the context of this project it is important to note that the central chilled water plant is at its maximum capacity. In order to serve STEM facilities additional capacity will be needed.

7. Dave Blatchly discussed the location of existing utility service entrances to Cook and Votey. In 2010 and 2011 steam and chilled water improvement projects left the University well prepared for this type of project in this area of campus by installing several vaults. While the chilled water plant is at maximum, the distribution infrastructure is already in place.

8. Note that the net assignable square footage shown in the RFP for chilled water does not exist today.

9. Linda Seavey provided an overview of Campus Planning Services’ activities relative to this project and reviewed Campus Master Planning principles as they apply to this specific project. Linda also discussed regulatory and land use issues which may impact this project. Currently, the permitting process for this project is anticipated to take approximately 6 months. Firms are instructed not to make direct contact with regulatory agencies with questions regarding this project. All such inquiries must be routed through the University. The memo developed to identify the estimated time which will be required during the preparation of regulatory requirements for the STEM Project can be found on the Facilities Design & Construction web site.
10. Paula Carlaccini emphasized the non-negotiable nature of the contract which will be the AIA B102 & B201 documents as amended by the University. A sample of this document will be available on the Facilities Design & Construction (FD&C) website with other documents pertaining to this project. Firms are encouraged to take particular note of the insurance indemnification requirements in the contract and how they apply to both architects and their consultants, the record document requirements, and the Basic and Additional Services tables. Paula noted several changes that will be made to the contract and the Fee Proposal Matrix and also encouraged firms to thoroughly review the Architect-Engineer Checklist for Services for design phase requirements.

11. Note that the RFP requires non-local architectural firms to partner with a Vermont-based architectural firm. The Vermont firm must make a minimum of 20% effort toward the total architectural fee for the project.

12. The initial contract with the University will be for conceptual design and cost estimating services only. The current intent is to submit the project to the Board of Trustees for funding approval at the meeting scheduled to take place on February 7, 2014. Following Board of Trustees’ approval of the project an amendment to the Architect’s contract will be issued to add other phases to their scope of work.

13. The RFP provided 3 design options as examples. Any options presented will be considered by the University.

14. This will be a 3 phase project. All 3 phases collectively constitute the STEM Initiative Project. While it is not necessary to separate proposed fees by project phase, it is necessary to submit a proposal which includes all phases of the project.

15. Questions after today’s site visit are to be sent to the following email address: arch@uvm.edu All questions must be submitted by 2:00 p.m. on Wednesday, July 3rd to be considered. All of the questions and their respective answers will be posted on the FD&C web site. Interviews with selected finalists will take place between 8:00 a.m. and 12:00 p.m. on Monday, August 26, 2013.

16. Project construction will be by bid. It will not be a CM project. Preconstruction services will be performed at the conceptual design level as well as through the schematic design, design development, and construction documents phases. It will be necessary to provide estimates for all design options. In preparing proposals firms are reminded to make sure the previous project examples provided are of the requested size. In regards to references, information for contacting individuals should be current (person still works there, phone or email addresses are current, etc.). Also, please provide a reference contact who is sufficiently familiar with the work performed to be able to answer questions about that work. Make sure to tab the various sections of the proposal. Bind the proposal in such a way that pages will not fall out and become lost.

Questions and Answers:

Q1) Has space programming for the project been performed and, if so, how far has it progressed?

A1) A number of space programming exercises have been performed over the past several years. However, space programming specific to this project has not been performed, although we would consider the effort to be more of a program validation than a newly developed program.
Note that the University is particularly interested in the synergy possibilities for the disciplines which will be utilizing these spaces.

Q2) Is hazardous material part of the project or will it be performed by the University?

A2) While it will be part of the project cost, it is not considered part of the $75 million construction cost.

Q3) Has a hazardous material survey been performed?

A3) There are surveys available, though they are not specific to this project. Full results are available for Votey. Asbestos is present in both Cook and Votey. The available reports will be added to the documents on the FD&C website.

Q4) Is the cost of increasing chilled water capacity included in the $75 million?

A4) Yes.

Q5) Is the requirement for 20% local involvement for each individual phase or for the project as a whole?

A5) The 20% local involvement can be for the project overall. The University will not dictate how the 20% is assigned over the different phases of the project. The University is confident that firms will find a lot of efficiencies in utilizing local firms for Construction Administration services in particular, but these firms have a great deal to offer beyond those services.

Q6) Is it UVM’s intent that all consultants carry the $5 and $10 million in insurance?

A6) The contract is currently written to require consultants to carry the same insurance levels as the primary architect.

Q7) Can you describe the design review process for the purposes of the proposal?

A7) Internal design review takes place at the end of each design phase and involves the project team meeting with all of the campus stake holders to review the design documents. Feedback from these reviews will be provided to the architect and the cost estimate will be reconciled prior to moving on to the next design phase. This is typically a several day process. The project estimate must fall within the project budget before it will be possible to continue to the next phase.

Q8) In regards to the $5 and $10 million insurance coverages, will the University entertain the possibility of establishing lower limits for the consultants?

A8) Response to follow.

Q9) Does the local presence requirement also apply to sub-consultants?

A9) The local presence requirement does not apply to sub-consultants.

Q10) When will interview notifications be made?
A10) There may be as much as 2 weeks advance notice given. Notifications will be made at the earliest possible date.

Q11) In regard to references, if the individual reference has moved to another firm, is it acceptable to provide that person’s current contact information as a reference for work performed for a previous employer?

A11) As long as the contact information provided is current, that is acceptable.

Q12) Typically, Biology also has animal care facilities. Will Psychology’s animal care facility be separate from other animal care facilities which may already exist on campus?

A12) Yes, Psychology’s animal care facility will remain separate in order to provide the necessary level of controls required by that discipline.

- END OF MEETING MINUTES -

RECORDED BY: Jill Bennett

cc: Attending
The following architectural and engineering checklist defines the requirements for University of Vermont construction project design submissions. It is meant as a guide for obtaining uniformity and coherence in the presentation of design documents.

It is imperative that the A/E and consultants recognize that the UVM reviews are general in nature; that the detailed checking for technical accuracy, sufficiency, and coordination is the sole responsibility of the A/E and his consultants. Not-with-standing UVM approval, the A/E shall remain liable for all damages resulting from design errors and negligent performance by the A/E or its consultants.

All review comments shall be incorporated into the design documents prior to subsequent design phase submissions, unless the reviewer directs the A/E to disregard the comment. In this event, the A/E shall record such a direction in the A/E response column.

The A/E shall provide a written reply to all comments prior to the next submission. If the A/E intends to disregard a comment, the A/E shall provide a written explanation of variance with the comment to UVM within seven (7) days after receipt of the UVM review comments.

Identify phase for each submission: Schematic Design, Design Development, 50% Construction Documents, and 100% Construction Documents.

**Schematic Design (SD) Phase Submission**

The SD documents must be submitted to UVM for design review and approval.

Detailed Information: Schematic design phase submissions at a minimum shall include the following requirements, as applicable to the project. All plan drawings shall indicate the north arrow, column lines and the scale of the drawing.

A. **Site/Landscape**
   All site documentation shall:
   > o  Be coordinated with similar activities in other disciplines

1) **Drawings**
   a) Existing site plan
      > (1) Vicinity Plan
      > (2) Location of benchmark that will control all project elevations
      > (3) Demolition Plan
      > (4) Facilities that may have interruption of any utility
      > (5) Orient north to be the top of the drawings in plan view
      > (6) Major landscaping
         > o  Major trees and memorial vegetation
         > o  Fences and barriers
      > (7) Site features and conditions
o Existing contours, especially at major grade changes
o Building footprint
o Setbacks
o Preliminary geotech information
o Proposed soil boring locations
o Seismic conditions
o Identifiable site constraints
o Utility lines
o Manholes, drains, utility access
o Security features
o Known historic or archaeological impact items
(8) Paved surfaces
  o Major streets
  o Vehicular routes
  o Curbs
  o Walks
  o Pedestrian access routes
  o Bicycle paths and parking
  o Parking with handicapped locations
  o Service areas
  o Other paved areas
(9) Existing structures
(10) Existing buildings
(11) Buildings/Structures/other items to be demolished or removed
(12) Other elements
  o Nuisance land uses
  o Convenience nodes (mass transit, drop off area)

2) Reports/Calculations
   a) Basis of Design report
      (1) Analysis/description of conceptual design
          o Design objectives
          o Environmental determinants
          o Site utilities
          o Land forms
          o Site lighting
          o Pest management
          o Irrigation system
          o Lawns and plantings based on programming
          o Grading
          o Physical site characteristics
          o Impact of building on site
          o Impact of site on building
      (2) Concept plan for drainage and grading
      (3) Demolition requirements
      (4) Alternative materials, systems, and equipment
          o Site utilities
          o Fire protection
          o Paving

B. Architectural
   All architectural documentation shall:
   o Be coordinated with similar activities in other disciplines
   o Update LEED scorecard, provide submissions

   1) Drawings
      a) Floor Plans
         (1) Demolition plan of each level
             o Limit of demolition work
(2) Floor plan of each level – New work
   ◦ Area names
   ♦ Room names
   ♦ Public areas
   ♦ Service areas
   ◦ Column lines
   ◦ North Arrow
   ◦ Capacity information (Number of people, seating, etc.)
   ◦ Departmental assignments, if known
   ◦ Floor elevations in coordination with civil
   ◦ Light wells
   ◦ Mechanical areas
   ◦ Multilevel spaces
   ◦ Partition locations
   ◦ Planning grid or module
   ◦ Preliminary equipment and description
   ◦ Relative wall thickness
   ◦ Security features
   ◦ Skylights
   ◦ Vertical transportation

(3) Fire protection and means of egress plan
   ◦ List features required by code
   ◦ List features required by NFPA Standard 101 and FM Global
   ◦ Fire protection analysis
   ◦ Fire areas
   ◦ Fire walls
   ◦ Smoke zones
   ◦ Travel distances
   ◦ Areas of refuge

b) Interiors
   (1) Interior space allocation and utilization plan
      ◦ Indicate major materials and systems

c) Exterior
   (1) Building exterior elevations
      ◦ Finish grades
      ◦ Major floor elevations above and below grade
      ◦ Exposed mechanical and electrical equipment
      ◦ Description of various design features

d) Sections
   (1) Building section (cross and longitudinal)
      ◦ Relative thickness of floors
      ◦ Relative thickness of walls
      ◦ Major floor elevations
      ◦ Finish grades
      ◦ Major room names
      ◦ Important site easements
      ◦ Significant mechanical and electrical equipment
      ◦ Relationship to site contours
      ◦ Above-ceiling zoning analysis
      ◦ Typical wall sections
      ◦ Set interstitial space dimensions
      ◦ Set floor-to-floor dimensions

2) Reports/Calculations
   a) Basis of Design report
   b) Architectural program
   c) Code analysis
      (1) Define building type
      (2) Define use category
d) Area analysis
   (1) Gross area tabulations
   (2) Area tabulations for net and gross design areas by floor
   (3) Space tabulation of net by room

e) Alternative materials, systems, and equipment
f) Description of Green/Sustainable Design elements included
   (LEED scorecard)

C. Structural
   All structural documentation shall:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Floor Plans
      (1) Demolition plan of each level
      (2) Building outline – plan view with column lines related to architectural plan
      (3) Indicate contemplated column footprint size
      (4) Column lines
      (5) North Arrow
   b) Sections
      (1) Indicate contemplated beam configuration and depth
      (2) Indicate interstitial levels

2) Reports/Calculations
   a) Basis of Design Report
      (1) Systems outlines
      (2) Development of conceptual design solutions in coordination with other disciplines
      (3) Design live loads and design wind loads stated
      (4) Two possible structural systems
   b) Indicate status of obtaining geotechnical data for structural design
   c) Code analysis

D. Mechanical
   All mechanical documentation shall:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Floor Plans
      (1) Demolition plan of each level
         o Limit of demolition work
      (2) New work plan of each level
      (3) Locate new and existing mechanical HVAC equipment
      (4) Layout out major components
      (5) Coordinate locations and size of mechanical rooms with architectural plans
      (6) Coordinate locations and size of vertical shafts with architectural plans
      (7) System flow diagrams indicating the basic arrangement, general distribution concept, and key features of each mechanical system
      (8) Identify connections to major utilities
         o Steam
         o Chilled water
         o Natural gas
      (9) Indicate intakes and exhausts relationships to:
         o Loading docks
         o Emergency generator
         o Adjacent buildings
         o Wind direction

2) Reports/Calculations
   a) Basis of Design report
b) Code analysis

c) Design conditions
   (1) Outside air temperature
   (2) Inside air temperature
   (3) Air changes
   (4) Relative humidity
   (5) Utility pressure
   (6) Methodology for utility demands

d) Requirements for HVAC services

e) Special requirements
   (1) Fume hood
   (2) Biosafety cabinet
   (3) Other local exhaust requirements
   (4) Constant-temperature rooms
   (5) Clean rooms
   (6) Chemical storage

f) Overall HVAC system concepts

g) Equipment type and redundancies

h) Energy recovery systems

i) Preliminary equipment sizes based on building gross square feet area

j) Preliminary energy budget

k) Life-cycle cost analysis

l) Analysis of conceptual design solutions
   (1) Energy source
   (2) Energy conservation
   (3) Heating and ventilating
   (4) Air conditioning

m) Alternative materials, systems, and equipment

n) Design intent and scope of systems

o) Systems outline for proposed projects

p) Systems redundancies

E. Plumbing
   All plumbing documentation shall:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Floor Plans
      (1) Demolition plan of each level
         o Limit of demolition work
      (2) New work plan of each level
      (3) Locate new and existing plumbing equipment
      (4) Layout out major components
      (5) System flow diagrams indicating the basic arrangement, general distribution concept, and key features of each plumbing/piping system
      (6) Coordinate locations and size of vertical shafts with architectural plans
      (7) Identify connections to major utilities
         o Steam
         o Chilled water
         o Natural gas
         o Water
         o Special water (deionized, R.O.)
         o Sewer
         o Specialty gases (systems or tanks)
         o Vacuum
         o Compressed air

2) Reports/Calculations
   a) Basis of Design report
b) Code analysis
c) Basic system arrangement and zoning
d) Primary features
e) General sizing criteria (Flow and Pressure)
f) Equipment type and redundancies
g) Provisions to be included for future loading and flexibility
h) Outline of proposed system materials
i) Present conditions
j) Requirements for plumbing services
k) Special requirements, i.e. booster systems
l) Water supply analysis/test results specific to building site
   (1) Hazardous waste
   (2) Waste recovery
m) Overall plumbing system concepts
n) Analysis of conceptual design solutions
o) Alternative materials, systems, and equipment
p) Plumbing calculations

F. Fire Protection
All fire protection documentation shall:
   o Be coordinated with other disciplines

1) Drawings
   a) Floor Plans
      (1) Demolition plan of each level
         o Limit of demolition work
      (2) New work plan of each level
      (3) Locate new and existing fire protection equipment or systems
      (4) Layout out major components

2) Reports/Calculations
   a) Basis of Design report
   b) Code analysis
   c) Present conditions
   d) Requirements for fire protection
   e) Requirement for a fire pump and preliminary size
   f) Overall system concepts
   g) Analysis of conceptual design solutions
   h) Alternative materials, systems, and equipment
   i) Calculation of the required water supply
   j) Hydrostatic flow test
   k) Preliminary sprinkler water supply calculations
   l) Schematic plans with overall fire protection concepts
   m) Special fire suppression systems
      (1) Descriptions
      (2) Locations
      (3) Justification for use
   n) Integrated fire alarm
   o) Protection analysis report for each alternative

G. Electrical
All electrical documentation shall:
   o Be coordinated with other disciplines

1) Drawings
   a) Site Plans
      (1) Locate connection to medium voltage distribution
      (2) Locate emergency generators
      (3) Indicate demolition work
b) Floor Plans
   (1) Demolition plan of each level
      o Limit of demolition work
   (2) New work plan of each level
   (3) Locate electrical distribution equipment
   (4) Coordinate locations and size of electrical rooms/closets with architectural plans
   (5) Single line indication of major feeder routes
   (6) Tentative layouts of components
   (7) Lighting plans
      o Location of lighting fixtures
      o Type of lighting fixtures
   (8) Coordinate locations of vertical shafts with architectural plans

c) Riser Diagram for normal and emergency power distribution

2) Reports/Calculations
a) Basis of Design report
   (1) Code analysis
   (2) Description of primary service available
   (3) Overall electrical system concept
   (4) Analysis of conceptual design solutions
   (5) Description of all proposed systems
   (6) Description of emergency power system

b) Electrical load calculations

H. Telecommunications
   All telecommunication documentation shall:
   o Be coordinated with other disciplines

1) Drawings
   a) Site Plans
      (1) Locate connection to telecommunication distribution
      (2) Indicate demolition work
   b) Floor Plans
      (1) Demolition plan of each level
         o Limit of demolition work
      (2) New work plan of each level
      (3) Locate new and existing telecommunication equipment
      (4) Coordinate locations and size of telecommunication rooms/closets with architectural plans
      (5) Single line indication of major pathway routes
      (6) Coordinate locations of vertical shafts with architectural plans
   c) Riser Diagram for telecommunication distribution

2) Reports/Calculations
a) Basis of Design report
   (1) Description of telecommunication service available
   (2) Overall telecommunication system concept
   (3) Analysis of conceptual design solutions
   (4) Description of all proposed systems (Public address, audio/visual system, distributed antenna system, etc.)

I. Specifications
1) General conditions of contract coordinated with the University of Vermont’s ‘General Requirements for Working at the University of Vermont’
2) Outline of specifications or itemized list with criteria and quality standards

J. Costs
   Cost analysis
   o Prepared by independent professional estimating firm
   o Cost estimates reconciled with Owner’s independent cost estimator
**Design Development Phase Submission**

The DD documents must be submitted to UVM for design review and approval.

Design development phase submission, at a minimum, shall include following requirements as applicable to the project in addition to the requirements from the schematic design phase. All plan drawings shall indicate the north arrow, column lines, and the scale of the drawing.

The Architect shall coordinate with the University of Vermont’s Campus Planning Services Department for permit submission and presentation.

A. **Site/Landscape**
   
   All site documentation shall:
   - Be coordinated with similar activities in other disciplines

   1) **Drawings**
      
      a) Plans
         - (1) Vicinity Plan updated as required
         - (2) Location of signage
         - (3) Details
         - (4) Existing Site Plan updated as required
            - Facilities that may have interruption of any utility
         - (5) Proposed site plan
            - Existing site information
            - Building footprint
              - Spot elevations at building
            - Proposed contours
            - Key design elements
            - Major landscaping
            - Utility lines
            - Concept plan for drainage and grading
            - Vehicular access routes
            - Parking area
            - Loading dock location and proposed access route
              - Coordinate location of loading docks such that they are not near air intakes
            - Proposed pedestrian access routes
            - Proposed service areas
            - Construction access/lay down information
              - Location for excavated material
              - Site access routes for transporting/delivering project supplies
              - Staging areas
              - Construction office trailer locations
              - Utility hookups, construction trailer
            - Limits of work showing location of site fence
            - Indication of future surrounding improvements

   2) **Reports/Calculations**
      
      a) Basis of Design report
         - (1) Establish final scope
            - Relationships
            - Form
            - Size
            - Appearance
         - (2) Utilities statement: Companies, agencies, individual contact
         - (3) Analysis/description of conceptual design solutions
         - (4) Site safety plan
            - Fire protection
            - Hazardous material handling
(5) Storm water management report
(6) Erosion/sediment control report
(7) Concept plan for drainage and grading
(8) Demolition requirements
(9) Alternative materials, systems, and equipment

**B. Architectural**
All architectural documentation will:
- Be coordinated with similar activities in other disciplines

1) **Drawings**
   a) Plans
      1) Demolition plan of each level
      2) Floor plans of each level
         - Identification of existing and new construction
         - General notes
         - Enlarged plan bubbles
         - Shelving and special features
         - Fixed equipment
         - Portable equipment
         - Other penetrations
         - Access areas/area ways
         - Door schedules
         - Finish schedules
         - Double line plans with precise wall thickness
         - All programmed rooms
         - Equipment rooms
         - Electrical rooms
         - Telephone closets
         - Mechanical rooms
         - Shafts
         - Circulation corridors
         - Stairs
         - Ladders
         - Elevators
   - Number
   - Type
   - Size
   - Automatic conveyances
   - Room names
   - Department or area names
   - Planning grid
   - Structural grid
   - Floor elevations
   - Equipment
   - Furnishings and other space-defining elements
   - Multilevel spaces
   - Light wells
   - Significant mechanical equipment
   - Significant electrical equipment
   - Capacity information (Number of people, seating, etc.)
   - Overall dimensions
   - Plan and layout of typical or repetitive spaces
   - Fire protection
     - Fire walls
     - Smoke walls
     - Smoke zones
      3) Roof plan
         - Major roof elements
- Skylights
- Hatches
- Major mechanical equipment
- Major electrical equipment
- Elevator machine rooms

(4) Reflected ceiling plan
   - Suspended ceiling grids
   - Lighting fixtures
   - Diffusers
   - Registers
   - Sprinkler heads
   - Areas of special interest
   - Major components

(5) Fire protection egress plan
b) Interiors
   (1) Interior space allocation and utilization plan
      - Establish the final scope relative to interior construction
      - Finish Schedule
        - Finishes
        - Colors
        - Special interior design features
      - Furniture and equipment
        - Furnishings
        - Equipment selections
        - Materials

c) Interior Elevations
   (1) Building interior elevations
      - Typical spaces
      - Major spaces
      - Areas of special interest
      - Areas of special complexity

d) Exterior Elevations
   (1) Building exterior elevations
      - Indicate all surface materials for all areas

e) Sections and Details
   (1) Building Sections
      - Set floor-to-floor dimensions
      - Establish floor elevations
      - Set interstitial space dimensions
   (2) Wall sections
      - Typical wall sections
        - At window
        - At solid wall
        - At parapets and roofs
        - At finished grades and footings
   (3) Construction sections
      - Typical stairways
      - Typical elevator shaft and machine room
      - Utility coordination cross-sections

2) Reports/Calculations
   a) Basis of Design Report
   b) Area analysis
   c) Alternative materials, systems, and equipment
   d) Outline of program
   e) Design description narrative
   f) Design concepts and objectives
   g) Tabulation of net and gross areas
   h) Growth potential
i) Description of Green/Sustainable Design elements included
(LEED scorecard can be used to communicate intent even if certification is not intended)
j) Alternate schemes
k) Building envelope analysis
   (1) Recommendations for overall building envelope
   (2) Review of thermal vapor flow and moisture
   (3) Recommendation for vapor barriers
   (4) Recommendation for vapor isolation
   (5) Coordinate with Owner’s Building Envelope Consultant
l) Asbestos report – Provided by the University
m) Vertical transportation recommendations
   (1) Elevators
      o Number
      o Type
      o Size
      o Weight capacity
      o Speed
      o Arrangement
   (2) Other requirements

C. Structural
   All reports and documentation will:
      o Be coordinated with similar activities in each discipline

1) Drawings
   a) Floor plans
      (1) Demolition Plan
      (2) Structural floor plans, each level coordinated with architectural development
         o Indicate soil bearing capacities
         o Indicate potential structural framing system that coordinates with architectural and
           suitable for vibration transmission limitation required by scientific program
         o Fixed column reference lines
         o Basic structural system and dimensions
         o Bearing walls
         o Major bracing locations
         o Locate typical bay – relate to architectural
         o Preliminary sizing of major components
         o Columns
         o All framing members identified
            ♦ Girders
            ♦ Beams
            ♦ Joists
         o Indicate structural framing systems
      (3) Structural foundation plans
         o Footings
         o Foundation walls
         o Retaining walls
         o Grade beams
      (4) Details
         o Foundation details
         o Typical framing details
         o Sub drainage
         o Waterproofing
         o Damp proofing

2) Reports/Calculations
   a) Basis of Design report
      (1) Existing conditions
         o Underlying soil-bearing capacities
b) Calculations for support of Hydronic and hydraulic piping

c) Vibration requirements and analysis

d) Summary of structural systems requirements

e) Fire-resistive construction requirements

f) Development of alternatives
   (1) Foundation design criteria
   (2) Coordination with piping systems that require support
   (3) Laboratory vibration analysis
   (4) Final structural design criteria
   (5) Comparative cost analysis of at least two structural systems

 g) Critical coordination clearances

h) Column schedules

D. **Mechanical**

All mechanical documentation will:

- Be coordinated with similar activities in other disciplines

1) **Drawings**

   a) Floor Plans
      (1) Demolition plan
      (2) Locate associated existing mechanical equipment
      (3) Indicate connection to major utilities
      (4) Block layouts of mechanical spaces
         o Layout of major components in equipment rooms
         o Approximate equipment sizes and capacities
         o Required space for equipment
         o Required chases and clearances
         o Acoustical and vibration control
      (5) Energy conservation measures
      (6) Shafts
      (7) Mechanical Plan showing ducts
      (8) Double line drawing of ducts >150 mm (6 in.)
      (9) Single line drawing of ducts ≤150 mm (6 in.)
      (10) Indicate size of ducts
      (11) Indicate insulation/moisture prevention
      (12) Location of supply diffusers, return and exhaust grilles, coordinated
      (13) Reflected ceiling plan
      (14) Location of all equipment

   b) Legend

c) Special or complex ductwork

d) Drawing sections through equipment rooms

e) Typical ductwork details

f) Details of unique conditions

g) Air conditioning systems

h) Exhaust systems

i) Refrigeration systems

j) Process systems

k) Equipment schedules

l) Air conditioning schedules

m) Ventilation units schedules

n) Refrigeration elements schedules

o) Fans schedules

p) Pumps schedules

q) Specialty system

r) System diagrams (one line flow and control diagrams)

2) **Reports/Calculations**

   a) Basis of Design report
      (1) Plant analysis
(2) Design intent and scope of systems
(3) Systems outline for proposed project
   o Heating source
   o Refrigeration source
   o HVAC systems
   o Energy conservation
   o Redundancies
   o Building & energy management systems
(4) Indoor design conditions U-value calculations
(5) Outdoor design conditions U-value calculations
(6) Theoretical water vapor migration
(7) Dew point and condensation potential
b) Room by room load calculations for space cooling and heating
c) Ductwork sizing in plenums and shafts
d) Energy analysis for at least three HVAC systems
e) Building energy model
f) Life cycle cost analysis
g) Energy recovery analysis
   (1) Energy conservation analysis
h) Connected load requirements
i) Wind analysis and laboratory exhaust plume study
j) Pressurization analysis
k) Energy study
l) Sizing calculations for ducts
m) Combustion air supply calculations
n) Boiler plants
o) Ventilation systems
p) Heating system
q) Calculations for fan pressures and pump heads
r) Calculations for required sound attenuation of major fans
s) Calculations for process systems

E. Plumbing
All plumbing documentation will:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Demolition Plans
   b) Locate associated existing mechanical equipment
   c) Indicate connection to major utilities
d) Floor Plans showing location and size of equipment
e) Locate piping
f) Double line drawing and piping >150 mm
g) Single line drawing and piping ≤150 mm
h) Indicate size of pipes
i) Indicate insulation/moisture prevention
j) Indicate piping system
k) Walk-in coolers, freezers, cold rooms
l) Refrigeration systems
   (1) Schematic piping
   (2) Wiring diagrams
   (3) Automatic controls
m) Plot plan for outside of building underground distribution
n) Riser diagrams
o) Details
p) Detailing of unique conditions and vibration isolation engineering
q) One line flow and control diagrams
r) Chilled water
s) Condenser water
t) Hot water
u) Steam piping (including low quantities)
v) Air conditioning steam
w) Plumbing piping mains
x) Pipes materials
y) Drainage piping mains (waste and storm)
z) Utilities
aa) Distribution piping layouts
bb) Plumbing fixtures
cc) Plumbing riser diagrams
dd) Schedules

2) Reports/Calculations
   a) Basis of Design report
   b) Coordination with structural for support of piping
   c) Provide cut-sheets for plumbing fixtures and equipment, with primary features/anticipated design options identified
   d) Plumbing calculations
      (1) Pump sizing
      (2) Tank sizing

F. Fire Protection
   All fire protection documentation shall:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Floor Plans
      (1) Demolition plans
      (2) Locate new and existing equipment
      (3) New fire protection mains
      (4) Booster system requirements
      (5) Fire pump requirements
      (6) Preliminary equipment layouts
      (7) Required space for equipment
      (8) Block layouts for the fire protection system
      (9) Plan drawings
      (10) Create legends
      (11) Locate piping
      (12) Indicate size of pipes
      (13) Equipment layouts
      (14) Ceiling plan drawings
      (15) Sprinkler locations

2) Reports/Calculations
   a) Basis of Design report
      (1) Strategy for meeting life safety codes
      (2) List any upgrade requirements to achieve fire protection policy
      (3) Sprinkler calculations
      (4) Fire pump calculations
      (5) Fire alarm requirements
   b) Approximate sizes and capacities of major components

G. Electrical
   All electrical documentation will:
   o Be coordinated with similar activities in other disciplines

1) Drawings
   a) Site Plan
      (1) Service transformer location
(2) Location of emergency generators and feeder/conduit routing
(3) Preliminary details for site electrical work
(4) Indication of demolition work

b) Floor Plans
   (1) Demolition plans
   (2) Layout of major components in all electrical equipment rooms
       - Preliminary sizes of major components
       - UPS
       - High-voltage systems
       - Service transformer
       - Emergency generator
   (3) Identify special features
       - Under floor raceways
       - Floor outlets
       - Occupancy sensors

c) Tentative layouts of components where space is critical
d) Lighting plans
   (1) Location of lighting fixtures
   (2) Type of lighting fixtures
e) Updated riser diagram for normal and emergency power distribution with feeder, conduit, and transformer sizes
f) Updated site plan indicating location of:
   (1) Feeder/conduit routing for medium voltage distribution
   (2) Location of emergency generators and feeder/conduit routing
   (3) Transformer vaults
   (4) Other major equipment
g) Lighting fixtures indicated with type, switching and circuiting information
h) Outlets for power with circuiting information
i) Connections for mechanical and plumbing equipment with disconnect and circuiting information
j) One line riser diagram of electrical distribution
k) One line riser diagram of auxiliary power distribution
l) Panel schedules
m) Grounding
n) Fire alarm
o) Telephone
p) All low-voltage systems

2) Reports/Calculations
   a) Basis of Design report
      (1) Criteria for lighting
      (2) Criteria for electrical system
      (3) Lighting control concept
      (4) Systems outline and types of systems
   b) Overall building connected load requirements
      (1) Normal power
      (2) Emergency power
c) Electrical service sizing calculations
d) Preliminary sizing for transformers, generator, UPS, etc.
e) Lighting calculations
f) Load calculations
g) Short circuit calculations
h) Voltage drop calculations

H. Telecommunication
   All telecommunication documentation will:
   - Be coordinated with similar activities in other disciplines

1) Drawings
a) Site Plan
   (1) Conduit routing for telecommunication distribution
   (2) Preliminary details for site electrical work
   (3) Indication of demolition work
b) Floor plans
   (1) Demolition plans
   (2) Layout of major components in all telecommunication equipment rooms
       o Preliminary sizes of major components
   (3) Telephone connections
   (4) Data connections
c) Tentative layouts of components where space is critical
d) Updated riser diagram for telecommunication distribution conduit sizes
e) Layout of major components in all telecommunication equipment rooms
f) Layouts of components where space is critical

2) Reports/Calculations
   a) Updated basis of design report

I. Specifications
   1) General and supplemental conditions of contract
   2) Outline of specifications or itemize list with criteria and quality standards
      a) Significant architectural materials
      b) Engineering systems
      c) Equipment
   3) Outline of project specifications

J. Costs
   1) Cost Analysis
      a) Systems Cost estimate
         (1) Approximate quantities
         (2) Identification of potential items for value engineering
      b) Budget outline
         (1) Construction costs by an independent professional estimating firm, to be reconciled with
             the Owner’s independent cost estimator
         (2) Equipment included in budget
         (3) Equipment by owner

K. Specifications
   1) General and supplemental conditions of contract
   2) Edited project specifications

L. Schedules
   1) Construction schedule and phasing in bar chart form
   2) Project schedule diagram with phases of development

Construction Document Phase Submission

The CD documents must be submitted to UVM for design review and approval.

Detailed Information: The construction documents, at a minimum, shall include the following requirements as applicable to the project.

A. Site/Landscape
   All Site documentation will:
   o Be completed
   o Be coordinated with similar activities in other disciplines
   o Address all comments from Design Development phase

   1) Drawings
a) Floor Plans
   (1) Updated Vicinity Plan
   (2) Updated Existing Site Plan
   (3) Proposed Site Plan
      o Erosion control measures
      o Existing site information
      o Dimension major site features
      o Building footprint
      o Key design elements
      o Major landscaping
      o Utility lines
      o Vehicular access routes
      o Pedestrian access routes
      o Parking
      o Walks
      o Curbs
      o Service areas
      o Staking plan
      o Proposed contours
      o Construction access/lay down information
      o Indications of phasing
      o Limits of work/construction fencing
      o Indication of future surrounding improvements
      o Locate signage
      o Security measures
   (4) Planting plan
      o Location of all trees, shrubs, and lawns
      o Complete planting list
      o Planting details
   (5) Landscape details
   (6) Demolition plans
   (7) Utility plot plan
      o Existing utilities and their connections
      o Proposed trunk sewers
      o Water distribution loop
      o Fire water distribution loop
      o Gas distribution mains
      o Location arrangement of water treatment equipment
   (8) Alternate schemes

2) Reports/Calculations
   a) Site Construction Document Design Report
      o Updated Basis of Design

B. Architectural
   All Architectural documentation will:
      o Be coordinated with similar activities in other disciplines
      o Address and provide responses to all comments from Design Development phase

1) Drawings
   a) Entire project site on one sheet for references
   b) Demolition plan of each level
   c) Floor plans of each level
      (1) Signage location
   d) Roof plan
   e) Reflected ceiling plans
   f) Floor covering plan
      (1) Material type
      (2) Graphics
(3) Patterns

g) Enlarged plans
h) Fire protection egress plan
i) Equipment plan
j) Interior space allocation and utilization plan
k) Interior elevations
   (1) Signage location
l) Exterior elevations
   (1) Signage location
m) Building sections
n) Construction details
   (1) Any unique condition not previously covered
o) Installation plans
   (1) Furniture
   (2) Equipment
p) Updated schedules
   (1) Door schedules
   (2) Finish schedules
   (3) Equipment schedules

2) Reports/Calculations
   a) Architectural Design report
      o Updated Basis of Design
      o Updated Green/Sustainable Design

C. Structural
   All Structural documentation will:
      o Be coordinated with similar activities in other disciplines
      o Address all comments from Design Development phase

1) Drawings
   a) Demolition plan of each level
   b) Structural floor plans for each level and roof
      (1) Column reference lines
      (2) Final dimensions
      (3) All bracing
      (4) Sizing of all components
      (5) Special provisions for installation or removal of equipment
   c) Structural foundation plans
      (1) Locate grades
      (2) Indicate site information, i.e., manholes and important features
      (3) State concrete mix properties, steel reinforcement properties
      (4) Locate terrain features
      (5) State elevation of bottom of footings
      (6) Indicate concrete member
         o Dimensions of footings, foundation walls, grade beams
         o Spacing
         o Reinforcing
      (7) Locate finished and unfinished spaces
      (8) Pipe sleeves through footings
      (9) Pipe sleeves through below grade walls
      (10) Elevations
      (11) Top of slab elevations
      (12) Top of steel elevations
d) Details
   (1) Sections, elevations, and details
   (2) Critical coordination clearances
   (3) Concrete reinforcement splicing details, where critical
   (4) Clarification of lengths or arrangement of reinforcement
2) Structural Load Information
   a) Horizontal (wind and seismic)
   b) Live loads
   c) Dead loads

3) All Structural Members Sized
   a) Girders, beams, joists, slabs, columns, walls, shear walls, pads, and their reinforcing
   b) Beams – steel and concrete
   c) Joists
   d) Open web joists
   e) Concrete joists
   f) Waffle slab
   g) Space frames
   h) Lintels
   i) Type, extent, and direction of framing
   j) Reference structural items to schedule

4) Dimensioned Details
   a) Large openings
   b) Nonstandard beam to column framing
   c) Concrete stairs
   d) Exterior wall construction
   e) Window wash supports
   f) Anchors and ties
   g) Elevator shaft details
   h) Vibration isolation details
   i) Large mechanical equipment and anchorage
   j) Typical framing details
   k) Standard structural steel connections
   l) Sump pump systems
   m) Reference to appropriate schedules
   n) Shear walls

5) Reports/Calculations
   a) Structural report
      (1) Completed computations
      (2) Special condition
      (3) General note
      (4) Boring logs
      (5) Girder diagrams
         o Live loads
         o Uniform loads
         o Concentrated loads
         o Reactions
         o Girder material
         o Stresses

D. Mechanical
   All mechanical documentation will:
   o Be a minimum of 100% complete
   o Be coordinated with similar activities in other disciplines
1) **Drawings**
   a) Demolition plans
   b) Completed floor plans
      (1) Legend
      (2) Mechanical Plan showing ducts and piping
         o Double line drawing of ducts and piping >150 mm (6 in.)
         o Single line drawing of ducts and piping ≤150 mm (6 in.)
      (3) Indicate size of ducts and pipes
      (4) Indicate insulation/moisture prevention
      (5) Fire dampers
      (6) Smoke dampers
      (7) Balancing dampers
      (8) Location of all equipment
      (9) Indicate smoke detectors
         o Within ducts
         o In air handling units
      (10) Special or complex ductwork
      (11) Location of supply diffusers, return and exhaust grilles coordinated with reflected ceiling plan
   c) Completed Sections
      (1) Drawing sections
         o Through equipment rooms
         o Typical ductwork
         o Through tight and congested ceiling spaces
   d) Completed Details
      (1) Details of unique conditions
      (2) Details of component/equipment piping and duct connections
      (3) Control diagrams with points list, legend, and operating description
         o Air conditioning systems
         o Exhaust systems
         o Refrigeration systems
         o Heating systems
   e) Completed Schedules
      (1) Equipment schedules with facility numbers and labeling requirements
         o Air conditioning
         o Ventilation units
         o Refrigeration elements
         o Fans
         o Pumps
         o Boilers/Heat exchangers

2) **Reports/Calculations**
   a) Completed Basis of Design report
   b) Completed Design reports
      (1) Sizing calculation for ducts, piping, and equipment
      (2) Calculations for fan pressures and pump heads
      (3) Calculations for required sound attenuation of major fans

E. **Plumbing**
   All plumbing documentation will:
   o Be coordinated with similar activities in other disciplines
   o Address and provide responses to all comments from Design Development phase

1) **Drawings**
   a) Demolition plans
   b) Completed plumbing system plan drawings
(1) Legends
(2) Show location and size of equipment, fixtures, valves, and accessories
   o Pumps
   o Tanks
   o Heat Exchangers
   o Heaters
   o Compressors
   o Sinks, emergency showers, and eye wash
   o Backflow preventers, pressure reducing valves
   o Lab air outlets and floor drains
   o Isolation valves and access panels
(3) Locate piping
   o Double line drawing and piping >150 mm
   o Single line drawing and piping ≤150 mm
(4) Indicate size of pipes
(5) Indicate insulation/moisture prevention
(6) Indicate piping system
   o Storm water
   o Cold water
   o Condenser water
   o Hot water/recirculation
   o Steam piping (including low quantities)
   o Waste
   o Sanitary
   o Vent
   o Oxygen
   o Compressed air
   o Fuel gas
   o Vacuum air
   o DI/RO water
   o Condensate drain
   o Laboratory water and waste systems
   o Chilled water
   o Additional piping used for the project
   c) Plot plan for outside of building underground distribution
d) Riser diagrams
e) Details
   (1) Detailing
      o Unique conditions
      o Vibration isolation
      o Fixture connection
      o Equipment connection
      o Bench top/utility ledge piping
f) One line flow and control diagrams
   (1) Lab waste and vent
   (2) Sanitary waste and vent
   (3) Hot and cold water/recirculation
   (4) Steam piping (including low quantities)
   (5) DI/RO water
   (6) Natural gas
   (7) Compressed gas
   (8) Chilled water
g) Completed schedules
   (1) Equipment schedules with facility numbers and labeling requirements
      o Water heaters
      o Pumps
      o Compressors
      o Tanks
2) Reports/Calculations
   a) Design report
      (1) Equipment selections based on manufacturer’s catalog data
      (2) Sizing calculations
         o Piping mains and principal branches
         o All equipment

F. Fire Protection
   All fire protection documentation will:
   o Be coordinated with similar activities in other disciplines
   o Address and provide responses to all comments from Design Development phase

1) Drawings
   a) Demolition plans
   b) Plan drawings
      (1) Create legends
      (2) Indicate existing systems
      (3) Show location and size of equipment
      (4) Locate piping
      (5) Indicate size of pipes
      (6) Equipment layouts
   c) Ceiling plan drawings
      (1) Sprinkler locations

2) Reports/Calculations
   a) Fire Protection Design Report
      o Update Basis of Design

G. Electrical and Communication
   All Electrical documentation shall:
   o Be coordinated with similar activities in other disciplines
   o Address and provide responses to all comments from Design Development phase

1) Drawings
   a) Completed site plan with demolition work and indicating location of:
      (1) Location of emergency generators and feeder/conduit routing
      (2) Transformer vaults
      (3) Pad mount transformer location
      (4) Auxiliary power system connection
      (5) Engine generator sets
      (6) Unit substations
      (7) Other major equipment
   b) Demolition plans
   c) Completed floor plans with
      (1) Room numbers
      (2) Room titles
      (3) Area functions
      (4) Lighting, fixtures indicated with type, switching, and circuiting information
      (5) Outlets for power with circuiting information
      (6) Connections for mechanical and plumbing equipment with disconnect and circuiting information
      (7) Layout of major components in all electrical equipment rooms
      (8) Layouts for special systems
   d) One line riser diagram of electrical distribution
   e) One line riser diagram of auxiliary power distribution
   f) Completed panel schedules
   g) Light fixture schedules
   h) Riser diagrams for:
      (1) Grounding
(2) Fire alarm
(3) Telephone
(4) Paging
(5) Television
(6) All low-voltage systems

2) Reports/Calculations
   a) Updated basis of design report
   b) Lighting calculations
   c) Load calculations
   d) Short circuit calculations
   e) Voltage drop calculations
   f) Arc flash analysis

H. Telecommunication
   All telecommunication documentation will:
   o Be coordinated with similar activities in other disciplines
   o Address and provide responses to all comments from Design Development phase

1) Drawings
   a) Update site plan
      (1) Conduit routing for telecommunication distribution
      (2) Details for site electrical work
      3) Demolition work
   b) Demolition plans
   c) Floor Plans
      (1) Layout of major components in all telecommunication equipment rooms
         o Sizes of major components
      (2) Telephone connections
      (3) Data connections
   d) Layouts of components where space is critical
   e) Laboratory planning module
   f) Updated riser diagram for telecommunication distribution conduit sizes

2) Reports/Calculations
   a) Updated Basis of Design report

I. Specifications
   1) General and supplemental conditions of contract
   2) Completed project specifications

J. Summary
   All reports and other documentation will:
   o Be coordinated with similar activities in each discipline
   o Address all comments from the Design Development phase

   1) Basis of Design report
   2) Updated Green/Sustainable Design report
   3) Cost estimates
      a) 50% construction documents cost by an independent professional estimating firm to be reconciled with the Owner’s independent cost estimator.
   4) Specifications
   5) Schedules
   6) All design calculations
   7) Reviews
      o Respond in writing to all Design Development phase review comments
      o Submit all documents for review
      o Attend review meetings as necessary to answer questions
Final Construction Documents Record Submission for UVM Approval

1) All drawings, reports, and other documentation will:
   - Be completed
   - Be coordinated with similar activities in each discipline
2) Final Basis of Design report for all disciplines
3) Final Green/Sustainable Design report for all disciplines
4) Final specifications
5) Drawings (sealed by registered architect, landscape architect, and professional engineers responsible for the design)
6) Final schedules
7) Final design calculations (sealed by registered architect, landscape architect, and professional engineers responsible for the design)
8) Reviews
   - Written responses to all 100% of Construction Document Phase comments
   - Submit all documents for review
   - Attend review conference calls as necessary to answer questions
9) Final deliverable
   - Electronic copy of CADD of PDF drawings
   - Electronic copy of specifications