

## Preamble

### Policies and Procedures

#### Proposed Process for Modifying / Updating PD+CS:

1. Establish a matrix of assigned responsibilities listing specific people responsible for each component: "Topic Shepherds"
2. Each Topic Shepherd is responsible for soliciting input from other University stakeholders, gathering industry best practices relevant to the topic and researching performance issues associated with proposed changes.
  - a. This process of review will include consideration of the specific topic (e.g., the specification section) as well as consideration for each associated "systems" topic.
3. The Topic Shepherd will then present the compiled information and proposed change / update to their director.
4. Prior to December of each year, all proposed changes shall be:
  - a. Completely vetted and researched.
  - b. Have received the sponsorship of at least two senior staff members.
  - c. Be formatted in draft form and coordinated with the existing standards.
5. The directors will meet as a team to review and discuss changes in December of each year.
  - a. UA-OCP will shepherd the process for revising the standards. This includes arranging for the meeting and documenting any conclusions.
  - b. The Director to which the Topic Shepherd reports will have responsibility for speaking to the proposed changes.
  - c. All directors must agree for each change to be adopted.
6. Time sensitive interpretations and/or waivers to these standards must be:
  - a. Supported by at least two Senior Staff members, and submitted to the AVP for inclusion on the agenda for the next Senior Staff meeting.
  - b. Presenting, formatting and coordination shall be the responsibility of those requesting the change.
  - c. Changes shall be noted as a numbered addendum until December, when all changes shall be incorporated into the existing standards.
7. A designated staff administrative assistant will be responsible for compiling the changes into both documents (Word and InDesign).

In the event a project's circumstances require a departure from the UA PD+CS:

1. The UA PM is to review the proposed variance with the appropriate Topic Shepherd(s).
2. The Topic Shepherd will have the authority to determine if it should be brought to the appropriate director for review and approval or
2. After review and discussion between the UA PM and the Topic Shepherd, a final determination on the variance will be issued by the relevant director. The director must inform the other directors of the approved variance.
3. The UA PM will be responsible for documenting and entering approval of the variance into the project record.

### Standards Format

Each subsection of this document is punctuated by three types of annotation: Design Checklists, Lessons Learned and References.

#### ✓ *Design Checklist Items*

These callouts signal a Design Team submission responsibility, coordinated with milestone project submissions.

#### ❖ *Lessons Learned*

For select topics, this document captures the learned experience of campus staff. These vignettes are solely intended to convey institutional memory and prior experiences and may not have a direct bearing on every project. In most instances, such notation has been included to convey the rationale behind specific direction included in the standards.

Many topics also include a list of references, or links to related topics for additional information. For example, Section 10 28 13 Toilet Accessories will refer the reader to Section Toilet Compartments 10 21 13 and 12 36 61 Solid Surface Countertops among others.

### References

1. **UAlbany Project Compliance Verification:** The list contains selected UA guidelines and standards most commonly left uncoordinated by consultants, negatively impacting projects. The completed list shall be submitted to the campus by the A/E at each project delivery phase.

## 00 63 25

### Substitution Request Form

1. The purpose of a contractor-proposed substitution is to materially benefit either the project schedule or the construction budget. Documentation of the benefits of such a substitution to the University is necessary to inform whether or not the substitution should be accepted. To that end the referenced form has been adopted for incorporation into all bid documents.
2. Design Team specifications must require the Contractor to provide certification that the submittal meets campus standards, NYSERDA requirements, the UA Owner's Project Requirements and product and design specifications. Any measure that impacts the energy performance and/or operations and maintenance requirements or that deviates from campus standards shall not be value-engineered or substituted without life cycle cost analyses that include capital investment as well as operating, maintenance and replacement costs. The key values to be used include:
  - a. Life of Building Envelope systems- 50 years
  - b. Life of HVAC&R systems - 25 years
  - c. Life of Lighting systems-20 years
  - d. Life of Electrical Distribution Systems-20 years
  - e. Life of BMS- 10 years
  - f. Discount rate - 3%
  - g. O&M Labor rate - \$80/hour
  - h. Utility escalation rate as provided by the University Energy Office

### References

1. UAlbany Standard Substitution Request Form (00-63-25)

❖ *Substitutions can have an impact on building energy performance and sustainability goals. Submittals must be reviewed in the context of overall energy performance and for consistency with the energy model and LEED or other green building rating systems used on the project. The UAPM should seek signoff from both the Design Team and the Commissioning Agent that substitutions do not negatively impact energy performance.*

## 01 14 00

### Work Restrictions

It is anticipated that each project work site will have a unique set of limitations and restrictions regarding contractor access. That said, each of UAlbany's campuses place common restrictions on contractor access including but not limited to the following:

#### 1. Noise

- a. For the purposes of these standards, construction noise is defined as all activities that exceed 90 dBA. During the times when noise is restricted as described below, the following activities and use of the following is prohibited:
  - i. Equipment such as jackhammers, pile drivers, electric saws, tamping machines, and welding machines.
  - ii. Vehicles including dump trucks, cement mixers.
  - iii. Hand tools such as sledgehammers and drills.
- b. No noise is permitted on Reading Day or during Finals Week.
- c. For all projects taking place in residence halls, work generating noise is only permitted between 9:00 am and 5:00 pm during the fall and spring semesters. There are no work restrictions on work generating noise in residence halls during summer and winter breaks if these facilities have no residents.
- d. For all projects taking place on the Academic Podium, work generating noise is only permitted between 11:00 pm and 7:00 pm during the fall and spring semesters or at any time during an academic recess.

- e. The campus places no restrictions on construction noise during Winter break or Summer session.
2. No work is permitted on Graduation Weekend.
3. All exceptions to work restrictions need to be approved by the UAPM at least 24 hours in advance.
4. UAlbany has a tobacco- and smoke-free campus policy. This comprehensive policy addresses a range of products including e-cigarettes and will apply to all persons on campus, regardless of the purpose for their visit.
5. All interactions with members of the campus community should be limited to project related subjects. Specific meetings should be coordinated through the UAPM.
6. The UAPM is the point of reference for contractors adhering to campus policies on construction projects.

#### References

1. [UAlbany Tobacco and Smoke-Free Campus Policy](#)

## 01 31 26

### Electronic Communication Protocols

1. The UAlbany project manager (UAPM) has been tasked with maintaining clear lines of communication with all relevant campus stakeholders. For this reason, the UAPM should be copied on all project correspondence. All points of clarification and requests for additional information from campus representative shall be routed through the UAPM.
2. During the construction administration phase, design changes must be communicated in such a way that the UAPM can route comments appropriately. Submittal reviews that result in a design change should be flagged as such for the UAPM.

## 01 32 00

### Construction Progress Documentation

1. The University requires the use of [MultiVista](#) at its discretion for Construction Progress Documentation.

#### References

None

## 01 32 33

### Photographic Documentation

1. Contractor progress photos shall be submitted to the UA Project Manager in the following format: ProjectRefNo\_YYYY-MM-DD\_001\_BldgNo.jpg.
2. Format shall be minimum 3200 x 2400 pixels, date and time stamped.
3. Photos should be organized in folders named by the date of the photograph.
4. Photographs should be accompanied by a key plan file.
5. Each photograph should be accompanied by a short description, either in the file name or as a tag.
6. Photos to be submitted using Primavera Submittal Exchange. In the case of smaller projects and at the discretion of the UAPM, it may be acceptable to transmit photographic documentation via FTP or USB drive.

#### References

None

## 01 33 00

### Submittal Procedures

1. The UAPM shall be electronically copied on all transmissions of shop drawing and submittal reviews from the Contractor to the Design Team as well as from the Design Team to the Contractor.
2. The UAPM shall receive one copy of all physical samples required by the Construction Documents.
3. Samples shall be labeled to indicate the specification section that calls for their submission and the location on the project where they are to be installed.
4. Physical copies of drawings and other printed submittals are not required, with the exception of project closeout operations and maintenance documentation.
5. The University requires the use of **Primavera Submittal Exchange** at its discretion for Construction Administration.
  - a. The specifications shall require the Contractor to set up and maintain a web-based submittal service to log, transmit and track (in real time) all project related documents.
  - b. The web-based system, "Submittal Exchange" will be used as the Project Database and the Contractor shall be made responsible for all uploads of documentation in the format established by the Consultant/CM.
  - c. The specifications shall require the Contractor to purchase a license for Submittal Exchange to be used throughout the course of the Project until final close-out.
  - d. The UAPM shall be set as the "Owner" in Submittal Exchange
  - e. The Consultant will be the exclusive administrator for the database. The cost for the license is available under the calculator tab on the website, [SubmittalExchange.com](http://SubmittalExchange.com), as it will be based on the dollar volume of the Project.
  - f. The University has (or will) configure its Primavera interface to track project progress photographs and other project collateral such as existing conditions drawings and progress print submissions.
  - g. At the end of the project the Primavera license closes. However, the contractor is required to provide an electronic copy of all the documents separate from submittal exchange and is required to obtain an archive file for the University's use for each project.
6. Prior to approval or release, the Design Team shall evaluate all submittals for conformance with campus standards, NYSERDA requirements, UA Owner's Project Requirements and project design and specifications. The University requires that any measure that impacts the energy performance and/or O&M requirements or that deviates from the campus standards shall not be value-engineered or substituted without life cycle cost analyses.

### References

1. UA Owner's Project Requirements
2. Section 00 63 25 Substitution Request Form
3. Section 01 77 00 Project Closeout Procedures
4. Section 01 78 23 Operation and Maintenance (O&M) Data

## 01 40 10

### Acoustical Performance of Partition Assemblies

The Family Educational Rights and Privacy Act (FERPA) is a Federal law that protects the privacy of personally identifiable information from student education records. Similarly, the Health Insurance Portability and Accountability Act (HIPAA) requires comparable attention be devoted to patient medical records including mental health information.

1. Appropriate care should be taken in the design of spaces in which applicable student and employee information is handled with campus stakeholders advised of the level of acoustic privacy that can be anticipated from the partition systems designed to support them. Although the Department of Health and Human Services recognizes that reasonable safeguards may be taken to limit incidental disclosures and does not mandate the retrofit of existing structures, UAlbany policy is to respect confidentiality within the context of spaces designated as "private offices" in forthcoming new construction and renovation projects.

It is therefore assumed that spaces programmed as “private offices” in which confidential information may be discussed will be separated from adjoining spaces by an STC rating of no less than 50 and no less than 35 between such spaces and an adjacent corridor or pathway. The Design Team’s detailing and specification of wall assemblies, doors and interior glazing shall provide sufficient direction to the contractor in the manner of achieving such performance and shall not be left to delegated design.

2. UAlbany does not support or recommend the inclusion of sound masking technologies to support acoustic separation.

#### References

1. Section 09 51 23 Acoustic Tile Ceilings
2. Topic Summary: Acoustics

## 01 42 00

#### References

1. The UADCS document does not mandate reference standards such as ASTM for use by the Design Team. It is the Design Team’s responsibility to identify the appropriate reference standards applicable for each specification section.
2. UA EH&S Standards:
  - a. [Hot Work Policy](#)
  - b. [PCB Removal/Disturbance Policy](#)
  - c. [Universal Waste Disposal Policy and Guidelines](#)
  - d. [How to Dispose of Asbestos / PCB / Lead](#)

## 01 51 16

#### Temporary Fire Protection

1. If the existing building is to be partially occupied during the project, all existing exits except those shown for closure, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with all applicable codes. Those portions occupied by the campus must be available for their use 24 hours a day, seven days a week during the contract period unless otherwise approved by the UAPM.
2. **Fire Watch Requirement:** In the event that the contractor disables any fire suppression systems, standpipes systems, fire alarm systems, fire detection systems, smoke control systems and/or smoke vents as defined in Chapter 9 of the Fire Code of New State (FCNYS) or 2) involves welding, cutting, open torches and other hot work as defined in Chapter 26 of the FCNYS and / or 3) involves demolition activities that are hazardous in nature as defined in Chapter 14 of the FCNYS, in accordance with Section 901.7 of the FCNYS, for structures that have campus occupancy, consultant’s specifications are to call for a fire watch or for the Contractor to perform the work during the hours where the building is scheduled by the campus to be closed. In addition, project specifications shall require the Contractor or UAlbany to perform the following tasks:
  - a. Contact the New York State Department of State Office of Fire Prevention and Control (OFPC) at Phone: (518) 474-6746, Fax: (518) 474-3240, by email: [fire@dhses.ny.gov](mailto:fire@dhses.ny.gov) and obtain its currently amended recommendation for fire watch procedures. Review the OFPC recommendations and notify the consultant if there are significant discrepancies with the requirements of this section.
  - b. Review the fire watch procedures with the campus alarm monitoring staff and the fire department prior to disabling a fire protection system. Submit the plan for the fire watch for approval by consultant and campus, and schedule pre-system shutdown meeting with consultant, campus, and Fund or DASNY, as appropriate. Also notify the Power Plant Director.
  - c. Employ, instruct, and maintain fire watch personnel consistent with OSHA requirements. Provide the sufficient number of dedicated personnel that are required to patrol all portions of the means of egress system in the facility in the period of time required.
  - d. Notify the UAPM to notify the campus alarm monitoring staff prior to and at the conclusion of the fire watch.
  - e. Notify the local fire department (via K. Kilts of UAlbany) and Power Plant Director that the system is “Out of Service” and again when the system has been repaired or restored to service.
  - f. Employ competent personnel to fix the fire protection system(s).
  - g. **Fire Watch Duties:** Personnel serving as a fire watch have the following duties:

- i. Conduct periodic patrols of the entire facility as specified below.
  - ii. Identify any fire, life, or property hazards.
  - iii. Notify the campus alarm monitoring staff, the fire department, and the Power Plant Director if a fire is discovered by calling 911 with the exact address and type of emergency.
  - iv. Notify occupants of the facility of the need to evacuate. If the sirens or public address function of the alarm system are still functional, use them to assist with evacuation of the building.
  - v. Have access to at least one means of direct communication with the fire department. A telephone is acceptable.
  - vi. Maintain a written log of fire watch activities.
  - vii. Have knowledge of the location and use of fire protection equipment, such as fire extinguishers. (Note: The fire watch will not perform fire-fighting duties beyond the scope of the ordinary citizen.)
  - viii. Perform no other duties that are not directly part of the fire watch duties.
- h. **Frequency of Fire Watch Inspections:** Fire watch personnel should patrol the entire facility every 30 minutes except in the following situations, where patrols shall be every 15 minutes:
- i. The facility has people sleeping.
  - ii. The facility is an institutional occupancy.
  - iii. The facility is an occupied assembly or educational occupancy.
- i. **Record Keeping:** A fire watch log should be maintained at the facility. The log should show the following:
- i. The address of the facility;
  - ii. The times that the patrol has completed each tour of the facility;
  - iii. The name of the person(s) conducting the fire watch;
  - iv. All records of communication(s) to the fire department and monitoring company; and
  - v. All records of other information as directed by the Consultant and the Fund.

## 01 56 00

### Temporary Barriers and Enclosures

1. Fencing should be outfitted with purple scrim or a solid painted wall surface sufficiently braced to withstand winds.
2. See Reference below for information related to construction fences and locks.

#### References

1. [UAlbany 2006-FD001 Policy for Fire Department Key Boxes](#) (Rev. July 12, 2019)

## 01 56 39

### Tree Protection

Trees should be surrounded by temporary PVC netting or barriers to protect root area below the tree canopy circumference.

## 01 74 19

### Construction Waste Management and Disposal

The University requires a minimum 75% diversion (excluding hazardous materials) and separation at the source.

#### References

1. SUCF Management of Construction Manual (September 20, 2017)

## 01 77 00

### Project Closeout Procedures

The University has articulated a step-by-step procedure for project closeout (see illustration).

? *The comment was made that this flowchart is less than feasible and is not integrated with the SUCF standard project schedule.*

#### References

1. Project Closeout Flowchart
2. Section 01 78 23 Operation and Maintenance (O&M) Data
3. Section 01 78 39 Project Record Drawings
4. Section 01 79 00 Training of Campus Personnel

## 01 78 23

### Operation and Maintenance (O&M) Data

1. Manuals are to be organized into three categories:
  - a. Emergency Manuals
  - b. Operations Manuals
  - c. Product Maintenance ManualsFor each, the project specifications shall require the Contractor to compile manuals and other documentation into three, electronically-indexed files in PDF format with a bookmarked table of contents for each. The PDF version must be fully text searchable.
2. O&M information shall include lists of any items that must be purchased to operate the equipment.
3. The O&M data must not be concealed within equipment boxes; it must be pulled out into separate three-ring binders.
4. Electronic files shall be named as follows:
  - a. Prefix: Job Reference Number\_
  - b. Specification Section: XX-XX-XX\_ (according to CSI MasterFormat 2016)
  - c. Additional Designation / Separator: XX\_
  - d. Name of item or system described
5. UAlbany's standard UA Owner's Project Requirements (OPR) includes direction the Design Team must include in the project specifications detailing Contractor responsibilities and timeframes for the submission of draft and final material.
6. Three (3) physical copies and one (1) electronic copy of all O&M documentation are required.
7. Valve charts must be included as part of O&M documentation.
  - a. Valve charts must include valve location, valve service and valve normal position.
  - b. UAPM to make sure valve chart is laminated and posted in the project's main mechanical space or in a secured binder.

#### References

1. SUCF Consultant Agreement (Nov. 2017) Article 1, Section B(6)n
2. UA Owner's Project Requirements

## 01 78 39

### Project Record Drawings

1. Requirements of the Design Team:
  - a. All rooms to be numbered consistent with UAlbany PSI Standards
  - b. CAD files must be submitted in conformance with UAlbany CAD standards in both .DWG (any version of the three years prior to submission) and .PDF formats.
  - c. BIM file in conformance with UAlbany BIM standards. Any Revit version the prior three versions and above is acceptable.
  - d. Record specifications
  - e. Record submittals

- f. Record full-size prints of all drawings.
2. In addition, the Design Team will require the Contractor to produce as-builts for all relevant trades.
3. At project completion the consultant team is to turn over GIS documentation in conformance for all features modified by the project (see standard reference below)
4. **Site / Utility Record Plan Requirements**
  - a. Mapping
    - i. Full existing condition utility and topography survey in NAVD88 vertical datum and NAD83 horizontal datum, state plane coordinate system in GIS format so it can be incorporated into the existing campus GIS.
    - ii. GIS information and data to be prepared and submitted in accordance with current University at Albany Geographic Information System (GIS) Metadata Standards.
    - iii. Consultants will be responsible for updating the GIS mapping. (Land use, utilities, planimetrics, topography, etc.)
    - iv. Provide record drawings on both electronic and paper, of storm and sanitary sewers including rim elevations, pipe inverts, pipe length and slopes, water system with fitting, materials, valve and hydrant locations, building locations, parking lots, roads, and detention basin grading in AutoCAD and GIS format.
  - b. Stormwater System
    - i. O&M Manual for stormwater management facilities consistent with NYSDEC General Stormwater Permit.
    - ii. SWPPP with HydroCAD files in both paper and electronic format tied to Stormwater Master Plan both project and overall University Stormwater Master Plan. Provide matrix for selection of stormwater treatment method.
    - iii. HydroCAD file should be overlaid onto the AutoCAD drawing, so that the HydroCAD schematic follows the storm sewer system.
    - iv. Basis of design mapping for each storm sewer catch basin and stormwater management area showing existing/proposed topography, storm system with rims, inverts, pipe sizes, pipe slopes, stormwater management areas outlets/inlets, land use, soils (A,B,C,D), runoff curve number, times of concentration, storm routing and drainage areas (does not need to be all on one map).
    - v. Stage/storage/discharge relationships in table format for each stormwater management area.
    - vi. Water quality and green infrastructure calculations with mapping.
  - c. Sanitary Sewer System
    - i. Design parameters used for estimation of wastewater flow projections.
    - ii. Provide SewerGems model and incorporate into the campus model.

#### References

1. SUCF Consultant Agreement (Nov. 2017) Article 1, Section B(6)n
2. SUCF Construction Agreement (Aug. 2018) Article I, Section 2.24
3. [UAlbany AutoCAD Standards Rev 05](#) (published Dec. 4, 2020)
4. UAlbany PSI Standards (Feb. 24, 2014) Sections 2.1 (non-residential) and 2.2 (residential). Note: AutoCAD layer standards take precedent over PSI standards.
5. UAlbany [AECM Building Information Modeling Guidelines](#) (2020)
6. Section 23 00 00 HVAC (General) for required closeout documentation.
7. [GIS Geodatabase Standards](#)

❖ *Although the campus asks for electronic files it also asks for full-size prints of all drawings. There is no UAlbany staff line for a campus archivist and it can be impossible for the UAPM to verify if the electronic files submitted are intact or corrupted. The campus therefore asks for physical prints in addition to the electronic submission.*

## 01 79 00

### Training of Campus Personnel

Training of campus personnel in the use of the work of this Project must be substantially completed before the Project can be used for the purpose for which it was intended.

1. Operation and Maintenance (O&M) Manuals must be provided 30 days before a request is made for training sessions.
2. A minimum of ten days must be provided between the request and commencement of training.
3. Two sessions must be provided to accommodate multiple shift workers.



#### References

1. Project Closeout Flowchart

## 01 91 00

### General Commissioning Requirements

1. UA guidelines follow ASHRAE Guideline 0 and ASHRAE Standard 202.
2. UAlbany Facilities Management will review of pre-functional and functional checklists, must be included on Commissioning Team, invited to Team meetings, and apprised of commissioning and equipment startup schedule. The UAPM will coordinate the work of UAlbany Facilities Management.
3. The Systems Manual must include all Prefunctional, all Performance Tests and all manufacturer startup paperwork.
4. The Commissioning Plan must define the sampling rate of Functional Performance Testing.
5. Commissioning Performance (Functional) Testing must include documenting loop tuning. Induce deviation from setpoint and document loop response graphically and with a .csv file. Each loop performance must be documented for 48 hours.

#### References

1. [SUCF Program Directive 15H-9 \(Commissioning\)](#) refers to the process of retention of a commissioning agent.
2. UA Owner's Project Requirements

## 02 41 00

### Demolition

1. Any campus-wide systems that feed through construction areas must remain functional after the removal of the localized system. These include but are not limited to campus-wide BMS, fire alarm, outdoor roadway, exterior lighting (including building lights) that are all head-ended at the Power Plant.
2. Specifications to call for the following:
  - a. Contractor to obtain from the UAPM a list of blackout dates a minimum of 30 days prior to the start of each semester.
  - b. Contractor obtaining a copy of the UAlbany academic calendar either through the UA website or the UAPM prior to the start of each semester.
  - c. Contractor providing minimum 48 hours' notice to the UAPM prior to any requested shutoff or service interruption.

## 02 42 00

### Removal and Salvage of Construction Materials

1. Select architectural components are to be salvaged for historic preservation purposes. Contractor will crate them and UAlbany will take possession.
- ✓ *A review by OCP of the 60% CD set to determine items to be salvaged; The Project Design Lead is responsible for requesting that list from the UAPM.*
  - ❖ *UAlbany currently has very limited space available to store salvaged items. Nonetheless, the question of whether to salvage and retain any artifacts must be asked as indicated.*

#### References

1. Section 01 74 19 Construction Waste Management and Disposal
2. Campus Heritage Preservation Plan, 2009 ("Getty Heritage Report")

## 02 80 00

### Facility Remediation

1. Consultant to prepare project specifications that require the Contractor to submit HazMat manifests or bills of lading to UAEH&S to allow the campus to respond to inquiries from the EPA.
2. The UAPM will be responsible for coordinating this effort with the University's Chemical Hygiene Officer and Hazardous Waste Specialist.

#### References

1. [UAlbany Hazardous Waste Disposal Program](#) (Oct. 1, 2019)
2. [UAlbany EH&S Contractor Checklist](#) (March, 2018)
3. [SUCF Program Directive 1D-5 Lead Remediation](#)

## 02 82 12

### Asbestos Abatement

#### References

1. SUCF Program Directive 1D-6 Asbestos Abatement and SUCF Specification Section 01 32 80 (contractor notification).

## 02 83 14

### Sealant Removal

- ❖ *Sealant on campus has generally tested positive for PCBs.*

#### References

1. [PCB Removal/Disturbance Policy](#)
2. [Universal Waste Disposal Policy and Guidelines](#)
3. [How to Dispose of Asbestos / PCB / Lead](#)

## 03 01 30.71

### Rehabilitation of Cast-in-Place Concrete

1. Patch material must match existing for texture, surface finish and color.
2. The University standard is Matrix TR by Conproco. The ratio is 6:1 for each of two coats. Canopies will require four coats owing to extensive damage.
3. The specification must require the contractor to submit an Environmental Product Declaration (EPD) for the concrete mix to document its carbon impacts.

#### References

1. Wiss, Janney, Elstner Associates Report

- ❖ *The Matrix TR makes the columns appear seamless so new patches blend away.*

## 03 45 00

### Architectural Precast Concrete

1. The Design Team's documents must call for an outdoor mockup for architectural precast concrete.
  2. The 2009 Campus Heritage Preservation Plan ("Getty Heritage Report") organizes the campus into three zones of historic importance:
    - a. Zone 1: concentrated around the central Academic Podium (excluding the Health and Physical Education Building) but including Building 25 and the three Service Buildings. In this area, architectural precast concrete must match the Campus Center.
    - b. Zone 2 includes the area between the academic podium and the perimeter road (University Drive), not including those buildings noted above that are included in Zone 1. In this area, the look of architectural precast concrete is left to the discretion of the Design Team.
    - c. Zone 3 extends from the perimeter road to the University property lines. In this area, the look of architectural precast concrete is left to the discretion of the Design Team.
  3. Sustainable Design Requirements
    - a. The specifications must not require a minimum amount of cement.
    - b. The specifications should require a higher use of flyash.
- ❖ *For the Campus Center a specific design mix comparable to that used at the Massry Center was provided by UAlbany. That mix did not result in a product that, in fact, matched the Massry Center. UA will therefore not provide a specific mix.*

? *The design team should specify a "higher use of flyash" than what quantity?*

## 03 91 00

### Concrete Cleaning

1. Basis for product consideration: Eco-Wares including Efflorescence Remover, Rust-Stain Remover and Nu-Look Concrete Cleaner
  - a. Pressure wash with only water or environmentally safe cleaners.
  - b. In some instances the University standard is to use only water for concrete cleaning.
2. Execution
  - a. Rope off areas from pedestrian thoroughfare during pedestrian washing.
  - b. Identify deck drains in areas before pressure washing and ensure they are properly functioning.
  - c. Inspect areas on lower floors during use to assure there are no deck leaks.
  - d. Runoff water should be collected and tested.

? *[Need to include last EPA note seen from EHS: UAlbany will contact EPA...]*

- ❖ *UAlbany allows only water to go down storm drains because effluent ends up in the University pond. If maintenance crews use a cleaning solution the contractor must collect the runoff.*
- ❖ *During the renovation of Building 27, the runoff water tested negative for PCBs so the contractor was able to discharge the water to the soil, but not the stormwater system.*

## 03 95 00

### Concrete Sealer

1. For use at exposed concrete slabs where concrete sealer is indicated on drawings.
2. Basis-of-Design Manufacturer: L.M. Scofield Company: [www.scofield.com](http://www.scofield.com)
  - Cure-Seal 100
  - Color: Clear
3. Penetrating Liquid Floor Treatment: clear, chemically reactive, solvent based solution for use on interior and exterior concrete.

## 04 21 13

### Brick Masonry

1. Downtown Campus:
  - a. Although there is no standard brick for the Downtown campus, except for Alumni Quad, new brick installations are to match the mix and pattern of Husted Hall.
  - b. At the Downtown Campus any remaining terracotta cornices are to be replaced with fiberglass equivalents.
  - c. At Alumni Quad new brick installations are to match Sayles and Pierce Halls.
2. There are no brick standards for the East or Uptown campuses.

## 04 72 00

### Cast Stone Masonry

Any new cast stone at the Downtown Campus (e.g., precast lintels or sills) is to match those of Husted Hall.

## 05 52 00

### Functional Metal Railings

1. There is not a campus standard height at which handrails should be set.
2. The campus standard is for a custom Julius Blum handrail in the campus standard bronze finish.
3. Existing steel balustrades and other metal railings in the “Core Campus” are to be preserved and, as appropriate, restored.

#### References

1. Coordinate with Division 32: Exterior Metal Railings including Section 32 31 19 Decorative Metal Fence
2. Drawing / profile of custom Julius Blum Handrail.

## 05 58 19

### Heating Cooling Unit Covers

1. Residence Halls? Dining Halls?

**?** *Note: this section is for covers of interior units such as PTACs. Covers for exterior mechanical equipment is addressed under Section 23 00 00.*

## 05 73 00

### Decorative Metal Railings

There are no campus standards for decorative metal railings.

#### References

1. Coordinate with Division 32: Exterior Metal Railings including Section 32 31 19 Decorative Metal Fence.
2. Section 055200 Functional Metal Railings

## 06 10 00

### Rough Carpentry

1. The campus' preference is for wood that is FSC-certified, formaldehyde-free and obtained within a 500-mile radius.
2. In the event that all three criteria cannot be met, the Design Team should let UAlbany know so that UA can prioritize which criteria are more important.

## 06 40 00

### Millwork

1. **New Millwork:** There are no University standards for millwork details or materials, other than that millwork must be manufactured from FSC-certified, formaldehyde-free woods obtained within a 500-mile radius.
  - a. In pantries and bathrooms, the campus standard is for free-standing waste bins. Custom millwork should not be designed to incorporate waste bins into cabinetry.
  - b. In hallways and public areas, millwork should be designed to incorporate waste, recycling and, where applicable, compost bins.
2. **Refurbishment of Existing Lab Casework:** All cabinets called to be refurbished shall include the following scope:
  - a. Remove and clean existing hardware including locks.
  - b. Fill damaged surfaces with wood filler.
  - c. Sand all wood finished areas.
  - d. Repair and or replace damaged structural areas (drawer supports, interior bases, etc.) with like materials.
  - e. Replace damaged/missing hardware.
  - f. Remove all existing locks and fill with filler cap to match existing hardware.
  - g. Refurbished millwork to be repainted black.

### References

1. Section 09 91 23 Interior Painting
2. Section 12 34 50 Laboratory Casework
3. Section 12 36 53 Counters
4. NYS Finance Law §165(2) (Prohibition of Tropical Hardwoods)

## 06 42 00

### Wood Paneling

1. The campus' preference is for wood that is FSC-certified, formaldehyde-free and obtained within a 500-mile radius.
2. The campus does not have a standard for species or veneer of wood paneling.

### References

1. NYS Finance Law §165(2) (Prohibition of Tropical Hardwoods)

## 07 00 00

### Thermal and Moisture Protection

1. Design must include insulation and air sealing of exterior thermal envelope to provide a continuous thermal, air, and vapor barrier.
2. Special attention must be given to insulation and air sealing detail around windows and openings, behind HVAC terminal units located at exterior walls and any electrical/mechanical penetrations.
3. The Design Team must include drawings at each design phase, starting from schematic, that clearly show the thermal, air and vapor barrier and confirms the continuity of these barriers through various transitions, material changes, etc.

4. The measured air leakage rate of the building envelope shall not exceed 0.25 cfm/ft<sup>2</sup> (2.0 L/s x m<sup>2</sup>) under a pressure differential of 0.3 in. water (75 Pa), with the calculated surface area being the sum of the above and below grade building envelope.
  5. The Design Team must calculate and provide the weighted average assembly U-factors for walls and roofs.
  6. Building envelope commissioning is required on new construction and gut rehab and must include design review as well as construction phase testing and verification including blower door tests to verify the air infiltration rate.
- ✓ *As part of the 60% Contract Documents submission the Design Team is to submit for the UAPM's review documentation tracing continuity of thermal, moisture and air barriers between interior and exterior.*

#### References

1. SUCF Program Requirements 7-1 through 7-3
2. UA Owner's Project Requirements

## 07 33 00

### Natural Roof Coverings

1. As part of stormwater management, green infrastructure practices including green roofs should be considered for incorporation into new projects and renovations to the greatest extent practicable. The Design Team shall propose the soil composition, species, or aesthetics of green roofs for UA consideration and shall meet any available grant funding requirements.
2. The University requires a structural analysis be performed to confirm that existing or proposed roof structures can support the aggregate weight of any proposed natural roof covering.

#### References

1. [Stormwater Coalition of Albany County Joint Stormwater Management Program Plan](#) (SWMP Plan) v3, 2015-2017
2. See additional resources under UAlbany's [Stormwater Pollution Prevention](#) web page.
3. New York State Department of Environmental Conservation Stormwater Management Design Manual, [Chapter 5](#) Section 5.3.8.

## 07 42 13

### Metal Wall Panels

1. There are no aesthetic or material standards for the use of metal wall panels at UA.
    - a. The University requires Kingspan metal panels to be excluded from the specifications.
  2. All metal wall panels set at a height lower than 12' above grade must be reinforced or otherwise designed to prevent contact damage and graffiti.
- ❖ *At the Boor Sculpture Studio panels at grade were not reinforced and consequently damaged from bicycle impacts.*
- ❖ *The University had a very disappointing experience with Kingspan metal panels on its Casey Stadium project. The system was expensive and not of the caliber of quality required.*

## 07 51 50

### Preparation for Reroofing

1. The University does not have a general standard for roofing prep. The specification of products and procedures are left to the discretion of the design team's expertise.
2. However, in repairing the Podium Plaza deck the tie-in is critical. The new roof must overlap the existing at least six inches with liquid membrane (see below for additional details) and, whenever possible, position the tie-in to occur in the middle of a "ribbon" or intermediate zone of finished concrete (as opposed to exposed aggregate concrete).
  - a. The University's preferred products are as follows:

- i. Grace Bituthene Liquid Membrane (5 gal. can)
- ii. Grace Bituthene Deck Prep (5 gal. can)
- iii. Grace Bituthene 3000 Membrane, 36" x 66.7' roll for temperatures above 45 degrees
- iv. Grace Bituthene Low Temperature Membrane, 36" x 66.7' roll for temperatures below 45 degrees
- v. Hydroduct 220 Stone Mat, 4' x 50'
- b. As a first step, the Contractor is to grind, chip, vacuum and blow the surface until completely clean and dry.
- c. There are two conditions to address at the perimeter of the exposed surface,
  - i. Tying into an existing roof
  - ii. Terminating against a building
- d. Liquid membrane is applied at all perimeters and the entire surface is completely covered in Grace Deck Prep.
- e. Once the surface is dry enough to walk on, Grace Bituthene 3000 Membrane or Grace Low Temperature Membrane is applied (depending on the temperature).
- f. Following installation of the membrane, Hydroduct 220 Mat is laid down to protect the membrane.
- g. Treatment of Tie-Ins
  - i. After liquid membrane is applied around the tie-in the University applies a 6-inch strip of membrane over the section where new and old roofs meet.
  - ii. Outside the summer season the University uses Low Laid and places a 9-inch strip over the 6-inch strip providing double protection to the tie-in.
  - iii. All strips of membrane across the tie-in should be rolled by hand for maximum adhesion.
  - iv. During installation of both the 6-inch and 9-inch strips the factory edge must be facing the existing roof and both edges of each strip must terminate onto the liquid membrane.
  - v. After installation of the 9-inch strip, additional liquid membrane is applied on top.
  - vi. Any pieces of membrane that are cut or do not have a factory edge ("laps") must be covered with three inches of liquid membrane.
  - vii. The final step in the process is to apply Hydroduct 220 geocomposite drainage sheet, making sure sheets overlap by a minimum of three inches.

#### References

1. Section 32 13 13 Concrete Paving as the plaza of the Academic Podium is itself a roof for spaces below.
  - ❖ *Prior Podium plaza deck projects have revealed PCB-containing sealant and a liner that has tested positive for asbestos.*
  - ❖ *The reason for positioning the tie-in within the "ribbon" is that it allows tie-in failures to be repaired by simply removing and replacing the ribbon, in lieu of ripping out an entire slab.*
  - ❖ *During repairs, contractors have been known to terminate 6-inch or 9-inch overlap strips on the old or existing roof rather than on liquid membrane resulting in leaks.*

## 07 53 00

### EPDM Roofing

1. The campus standard for flat roofs at both the Uptown and Downtown campuses is EPDM.
2. There are no UA standards for roof color. The Design Team shall propose roof color based on O&M, energy performance, aesthetics, and potential use of roof area for vegetated roof material or solar photovoltaic panels.

#### References

1. Section 07 33 00 Natural Roof Coverings for green roofs
  - ❖ *There have been complaints from occupants of higher floors due to glare from white roofs below.*
  - ❖ *Some white roofs were furnished with a titanium dioxide coating (for reflectivity) that later ran off and clogged the roof drains. Any future white roof must have proper sealant applied so that the coating does not wear off.*
  - ❖ *UAlbany does not entertain the use of TPO roofing.*

## 08 11 13

### Hollow Metal Doors and Frames

1. UAlbany requires all frames to be fully welded consistent with SUCF Program Directives.
2. The project specifications should call for those frames that are not required to be rated to not be supplied with a rating label.
3. Appearance:
  - a. Uptown Campus: for existing buildings in the Core Campus (including residence halls) all doors and frames should be painted black.
  - b. All other locations: the preference is to use hollow metal doors for service functions (janitor's closets, bathrooms, electrical closets, etc.) with doors and frames painted to match surrounding walls so they visually recede.
4. If existing conditions prohibit the installation of welded frames then knock-down/assembled frames are acceptable.

#### References

1. [SUCF Program Directive 8-2 \(Doors and Frames\)](#)
2. Section 08 71 00 Door Hardware
3. Section 09 91 23 Interior Painting

❖ *The manufacturer that provided the welded frames furnished for the Arts & Sciences Building renovation in 2000 included rated labels for all frames whether needed or not. However, the doors that did not require a fire rating were not labeled. The local fire marshal, in reviewing the mismatch between doors and frames, required investigation followed by removal of the labels.*

## 08 14 16

### Flush Wood Doors

Transparent-finished wood doors with steel frames are the standard interior doors at UAlbany.

1. Manufacturers
  - a. Marshfield – Algoma (Wisconsin) [Note: Mohawk is now part of Marshfield – Algoma]
  - b. Eggers Industries (Wisconsin)
  - c. Oshkosh Architectural Door Company (Wisconsin)
  - d. VT Industries, Inc. (Iowa)
2. Construction
  - a. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
  - b. WDMA Industry Standard 1-A Performance Grade: Extra Heavy Duty
  - c. Provide doors with structural composite lumber cores instead of particleboard cores for doors indicated to receive exit devices
  - d. Core: Structural Composite Lumber Core Doors
  - e. Structural Composite Lumber: WDMA Testing Method 10
    - i. Screw Withdrawal, Face: 700 lbf (3100 N)
    - ii. Screw Withdrawal, Edge: 400 lbf (1780 N)
  - f. Five plies. Stiles and rails bonded to core and then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press.
  - g. The University's current basis of design for wood doors at the Downtown Campus is Karona five-panel style & rail in white maple with beech factory finish.
3. Aesthetics
  - a. Grade: Custom (Grade A faces)
  - b. Species: There is not a UA preference for door veneer species. This is left up to the discretion of the designer with the following caveats:
    - i. The goal is to keep door veneers consistent across a single building.
    - ii. The reference standard for the Lecture Center are the doors in Rooms LC10 through LC 15.
  - c. Cut: plain sliced (flat sliced)
  - d. Match between veneer leaves: slip match
  - e. Assembly of veneer leaves on door faces: balance match



- f. Pair and Set Match: Provide for doors hung in the same opening or separated only by mullions.
  - g. Exposed Vertical and Top Edges: Applied wood edges of same species as faces and covering edges of cross bands.
  - h. Transparent finish
4. The preference is to use wood doors for “net assignable” program (offices and classrooms) with metal doors for service functions (janitor’s closets, bathrooms, electrical closets, etc.).

#### References

1. Section 08 71 00 Door Hardware
2. Section 08 11 13 Hollow Metal Doors and Frames
3. Section 08 80 00 Glazing
4. Section 09 91 23 Interior Painting
5. Uptown Campus: Doors in Rooms LC10 through LC15
6. Downtown Campus: Doors in Milne Basement

## 08 16 13

### Fiberglass Doors

1. UAlbany prefers FRP doors at the entrances to buildings. The plaza-level entry doors to the Campus Center can serve as a basis of design.
- ❖ *The University had positive experiences with FRP doors at both the SEFCU Arena and Stadium.*

## 08 41 13

### Aluminum Framed Entrances and Storefronts

1. All aluminum-framed entrances and storefronts to be anodized aluminum, never painted.
2. Basis of design: Vistawall 6” HP-175 1-3/4” x 6” system.
3. Ellison doors should be excluded from specifications.
4. Specifications shall call for doors to be prepped to receive electronic hardware by the door manufacturer and not modified in the field.
5. Specifications/drawings must clearly list the minimum assembly U-value or R-value requirement.
6. An NFRC Bid Report utilizing the Component Modeling Approach (CMA) must be provided to ensure compliance with the specified thermal performance prior to bidding.
7. Design specifications must call for manufacturer to provide NFRC certified and labeled energy performance values for U-factor, Solar Heat Gain Coefficient (SHGC), and Visible Transmittance (VT) for the aluminum windows. The label certificate shall be project-specific and will contain the energy performance values of the manufacturer’s approved framing as used on the project, combined with the job specific glass and glass spacer to be used in the fabrication of the glass.

- ❖ *The University’s experience is that Ellison doors are both pricey and flimsy, particularly the closers. Ellison’s customer service representatives were not proactive in resolving open issues.*

#### References

1. Section 08 71 00 Door Hardware

## 08 44 13

### Glazed Aluminum Curtain Walls

1. In terms of aesthetics there are no UA curtain wall design standards.
2. Design specification should limit products to those manufacturers with extruding facilities within a 1,500 mile radius of the jobsite.
3. An NFRC Bid Report utilizing the Component Modeling Approach (CMA) must be provided to ensure compliance with the specified thermal performance prior to bidding.

4. Design specifications must call for manufacturer to provide NFRC certified and labeled energy performance values for U-factor, Solar Heat Gain Coefficient (SHGC), and Visible Transmittance (VT) for the aluminum windows. The label certificate shall be project specific and will contain the energy performance values of the manufacturer's approved framing as used on the project, combined with the job specific glass and glass spacer to be used in the fabrication of the glass. Certified framing sizes and configurations are defined in NFRC 100-2014 table 4-3.
  5. Specifications should call for on-site testing for air and water leakage.
- ❖ *Delegated design can result in serious post-occupancy problems if sufficient safeguards are not built into the specifications. At University Hall the architect specified the exterior curtain wall as a "delegated design". Mockups were deemed to be deficient and the curtainwall manufacturer's recommendation for bringing the system to the ground wasn't well-implemented. Sufficient time was not set aside during shop drawing review for adequate design iterations resulting in many design decisions made in the field. The final assembly was put together "on the fly. After construction completion, the façade leaked leaving points of air penetration. In certain locations frost developed on the interior resulting in a need to dismantle and reinstall ceilings.*

#### References

1. [SUCF Program Directive 8.6](#)

## 08 51 13

### Aluminum Windows

1. **Operability:** In new construction and large-scale renovation, consider windows sensors tied back to the building management system for operable windows so that the mechanical system can be shut off if a window is open, especially in spaces served by chilled beams or other mechanical systems with condensation issues.
2. **Performance:** Drawings and specifications must clearly list the thermal performance values including assembly U-values, Solar Heat Gain Coefficient and Visible Transmittance required to meet energy performance and daylighting goals on the project.
3. **Materials**
  - a. Insect screens are to be installed at all operable windows.
    - i. GSA FS-RR-W-365 USDC – CS – 138 with 12 x 12 mesh
    - ii. Wire size: 0.023"
    - iii. Adhered with tamper-proof screws secured to window frame. Six screws total: two (2) top, two (2) middle and two (2) bottom.
    - iv. Stainless steel cloth with black epoxy coating.
  - b. Downtown Campus: Downtown windows are to be either vinyl or wood.
  - c. Uptown Campus:
    - i. Finish to be Wausau Bronze
    - ii. Screens to cover entire window opening with a smaller wicket to open the window.

#### References

1. UA Owner's Project Requirements
2. Section 08 52 00 Wood Windows
3. Section 08 53 13 Vinyl Windows

## 08 52 00

### Wood Windows

1. Downtown Campus
  - a. Basis of design: Marvin Ultimate double hung Next Generation 2.0 as used at Milne Hall.
  - b. Both interior and exterior finishes to be white (basis: Marvin "Stone White")
2. There are no campus standards for wood windows at other UAlbany campuses.

? *Is there a standard at the Downtown Campus for locations that require wood windows versus vinyl?*

#### References

1. [SUCF Program Directive 8.4](#)

## 08 53 13

### Vinyl Windows

1. The basis of design for all windows at the Downtown campus is vinyl windows by Paradigm in manufacturer's standard white finish.
2. Glazing and mullion patterns are to match existing with the exception of "half-rounds".

#### References

1. Section 08 51 13 Aluminum Windows

## 08 71 00

### Door Hardware

#### 1. General

- a. See reference standard UAlbany 2006-FD001 Policy for Fire Department Key Boxes for distribution of keys to regional fire department representatives.

#### 2. Hinges

- a. Hinge Schedule
  - i. Classrooms, offices, toilet rooms and storerooms
- b. Interior and exterior hinges
  - i. Butt: 4-1/2" x 4-1/2" HD ball bearing hinges
  - ii. Basis of design: VonDuprin EPT10 (specific to a gauge wire that comes with it. The pre-installed wire gets pulled out and a new UA wire is pulled through it. Capable of supporting (2) 14-gauge wires.
  - iii. Continuous: Select Hinges SL1195CLH (SL11 HD 95" Clear)
- c. 5-Knuckle, Full Mortise Ball Bearing
  - i. Products
    - Stanley: FBB179
    - Hager BB1279
    - Bommer: BB5000
  - ii. All doors taller than 7' to have four hinges, not three
- d. Continuous Hinges: shall be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising.
  - i. The door leaf and jamb leaf shall be geared together for the entire length of the hinge and joined by a channel.
  - ii. Hinge knuckle shall be monolithic in appearance.
  - iii. Continuous hinge with visible knuckle separations are not acceptable.
  - iv. Vertical door loads shall be carried on minimum 3/4" acetyl bearings through a full 180 degrees.
  - v. The door leaf and jamb leaf shall have templated screw hole locations for future replacement needs.
  - vi. All heavy-duty hinges (HD) shall have a minimum of 32 bearings for a 7' length.
  - vii. Products: [Ives](#), [Hager Roton](#) or [Select Hinges](#)
- e. UA prefers continuous hinges installed at the following locations: doors larger than 3'-6" with the exception of exterior locations, at which UAlbany Maintenance prefers not to use continuous hinges.

#### 3. Interior Locksets

- a. Academic: Sargent 8200 with LNL lever handles (function and finish determined by use and location) (this also includes the 8279 series that supports electronic locksets. At the current time only the Sargent 8200 series and Schlage L series extra heavy duty mortise lock can accommodate the required campus cylinders (see below) without modifications.
- b. Dorms:
  - i. State, Indian, Colonial & Dutch: Corbin/Ruswin ML2000 with "Newport" lever handles
  - ii. Alumni: Schlage ND73PD RHO
  - iii. Freedom: Corbin/Ruswin CK4251 GRC 262
    - Schlage:
      - a. Bath: AL40S SAT626
      - b. BedRm: AL53LD SAT626
  - iv. Empire Commons: Suite: Schlage AL70LD SAT626 (Empire Commons)
  - v. Liberty [to be developed]

**? Need to include hardware standards for Liberty Commons**

- c. Electronic controls:
  - i. The campus requires electric locksets over electric strikes unless not otherwise possible.
  - ii. In residence halls, the preference is for electric strikes over electronic mortise locks.
- d. Single-fixture, non-residential bathrooms: Sargent 8225-F13 Dormitory single cylinder with deadbolt with V11 visual status indicator both sides (red occupied / green unoccupied).
- e. Quiet Rooms: Sargent 8265
- f. Note: Sargent locks are not used for Colonial, State, Indian or Dutch Quads.
- g. Lock-Down Devices: UPD is not interested in installing lock-down devices or barricades in classrooms. Locksets should include a push-button locking mechanism to allow people to shelter in place.

**4. Cylinders and Keying:** The University has a single and limited source waivers in place to support the following parameters:

- a. **Exterior**
  - i. Uptown Academic: Sargent Keso I/C
  - ii. (As of Aug. 2010 the Uptown Academic Podium will use Sargent V-10 Dorm Medeco 7-pin SFIC signature series (both renovation and new)
- b. **Interior**
  - i. Uptown Academic: Sargent Keso I/C (As of Aug. 2010 the uptown academic podium adopted the Sargent V-10 Corbin/Ruswin mortise flex head cylinders) Medeco 7-pin SFIC signature series (both renovation and new)
  - ii. Residential: Key way determined by Quad
    - Alumni: Schlage 6-pin E
    - Empire Commons: Schlage Everest
    - Freedom: Corbin/Ruswin 27N I/C cores
    - Liberty: [to come]
- c. **Keying**
  - i. All academic hardware must be 100% compatible with the Medeco Keymark X4 keying systems without any alterations to the cylinder assembly or tail piece.

**5. Exit Devices**

- a. Product: Von Duprin ([OSC Single-Source Approval Letter](#))
  - i. Wired: VonDuprin EL99 or EL33A (called the "QEL" quiet Electric Latching) designed for a lower current draw so more doors can be served from a single power supply. To be used with VonDuprin 906 power supplies with 4RL cards installed that can support eight crash bars or twelve electronic mortises or electronic strikes. This approach saves space.
  - ii. Non-Wired: VonDuprin 99 or 33A
- b. Locks: Locking function devices must be able to accept University cylinders.
- c. Finishes:
  - i. All new gut-renovations on the Academic Podium will be US26D
  - ii. Spot renovations of individual rooms shall be US10B/613

**6. Electric Strikes and Power Supplies**

- a. Von Duprin Electric Strike-6210
- b. Von Duprin EPT hinge
- c. Von Duprin Power Supplies-872-2
- d. HES 1006 Series / Smart Pac II in-line power control (for renovation work to be roughed in by contractor in existing frames when applicable)

**7. Dead Bolts**

- a. Single Use Bathrooms: The campus preference is for a deadbolt with a display indicating occupancy on the unsecured side of the door but that also provides for security access in the event of lockout similar to Schlage B571 (see 3.d Interior Locksets).

**8. Closers**

- a. Both exterior doors and interior: Basis of design: LCN 4040 XP
- b. Must be guaranteed for 10,000,000 cycles or for ten years of use.
- c. Must be made with all steel parts (no aluminum)

**9. Doorstops**

- a. The preference is for overheads with integral stops rather than wall or floor stops.
- b. In all cases no floor stops except where there is no closer (e.g., the Towers).

**10. Kick Plates**

- a. No campus standard on location or size. At the discretion of the project designer.

**11. Foot and Head Bolts**

- a. These should be incorporated into the doors, not a free-standing item.

**12. Removable Mullions:**

- a. Von Duprin: KR 1654
- b. Sargent: L980 & L980A Keyed removable mullion

**13. Hardware Finishes**

**14. Keypad Locks**

- a. The standard is for keypad locks or card access when more than seven keys are to be issued.
- b. Sargent KP Series

**References**

1. [SUCF Program Directive 8-1 \(Door Hardware\)](#)
2. Section 08 11 13 Hollow Metal Doors and Frames
3. Section 08 14 16 Flush Wood Doors
4. Section 08 41 13 Aluminum Framed Entrances and Storefronts
5. Section 28 15 00 Access Control Hardware Devices
6. [UAlbany 2006-FD001 Policy for Fire Department Key Boxes](#) (Rev. July 12, 2019)
7. Topic Category: Materials Finishes
8. Single and Limited Source Request Letter dated May 25, 2017 for ETEC-2020 project

- ❖ *The University provides the head-end electronic equipment and the labor to install it. They ask the contractor to provide the door and the door is manufactured per the drawings for the electronics to work with it.*
- ❖ *The preference is for electric locksets rather than electric strikes because the electric strikes fail over time.*

- ❖ *Many doors on campus, particularly on the Podium, are oversized and very heavy. This is why extra heavy-duty door closers are to be specified. The LCN XP 4040 has the highest available capacity of all door closers and has been proven to perform best on campus, although Sargent also holds up well.*
- ❖ *The University at Albany utilizes a single and proprietary access control system manufactured by CBORD. This system controls the University Card Reader System which provides University specific access control functions in all campus buildings. This system is installed, owned, operated, and maintained by the University, with software support from CBORD via a service contract. To maintain specific functionality requirements of the University, components of the proprietary access control system are only compatible with switchable power supplies that meet specific requirements. The high in-rush power supply must have the ability to be activated by the closure of a dry contact and capable of receiving up to four separate inputs and delivering up to four separate outputs at 12 or 24Volts. Power supplies must also be capable of staggering outputs to protect access system components from damage from in-rush currents up to 16 amps. Also a second power supply capable of handling 6 amps at 12/24VDC having the ability to have 12 independent inputs and 12 independent outputs for non-in-rush door hardware is required. The University has found that only power supplies manufactured by Von Duprin are capable of meeting these requirements and can be successfully interfaced with the University Card Reader System.*

## 08 71 13

### Automatic Door Openers

1. Handicapped Operators: Basis of design: Gyro Tech 710 with hardwired actuators. This model can be tied into the campus' access control system.
2. The campus standard is to not allow battery-operated or wireless actuators.

#### References

1. Section 08 71 00 Door Hardware
2. Section 28 13 00 Physical Access Control Systems

## 08 75 00

### Window Hardware

1. Throughout the Core Campus, window hardware is to be mounted in concealed extruded grooves to avoid penetrating the frame or vent members with fasteners.
2. At all Podium windows, provide two concealed stainless steel hinges conforming to AAMA 904-09 per vent to rotate the vent on its vertical axis.
3. At casement windows, Roto operators are to conform with AAMA 901-00

#### References

1. Topic Category: Materials Finishes
2. Building 27 Specification section 08 51 13 Aluminum Windows

## 08 83 00

### Mirrors

c.f. Section 10 28 13 Toilet Accessories

## 08 87 00

### Glazing Surface Films

1. In general, the University discourages the use of applied films to interior glazing. In the event an interior space with glazing requires privacy, the UA standard is for the application of a film to the inside (room) face in lieu of permanently etched ("frosted") or translucent glass.
2. The current UA standard basis of design is Oracal Series 8510 Silver 3 mil PVC film.
3. The University does not have a standard for cleaning protocols for glass, or glass finished in film. Surface film should be able to withstand a range of cleaning solutions.

## 09 03 00

### Tiling

1. Campus standards for bathroom tiles:
  - a. Floor tiles are to be unglazed porcelain mosaic similar to Daltile's Fabric Art. The campus preference is for neutral color floor tile (e.g., MT53) with matching dark grey (near black) grout.
  - b. Wall tiles to be glazed white porcelain measuring 12" x 24" or larger to minimize grout lines.
    - i. Accent or detail tile may be added for visual interest.
    - ii. Corners to be furnished with metal edge strips (no bullnose tiles at corners)

## 09 51 13

### Acoustical Panel Ceilings

Note: This section covers installed panelized ceilings and ceiling systems. For suspended or surface-applied acoustic panels, see References below.

1. Acoustical panel ceilings are only to be used at locations where there are no equipment to be serviced above them.
  - ❖ *The perforated wood ceiling panels used at the Massry Center Basement have performed well. Even when the cafeteria is in full operation the acoustics are well under control.*
  - ❖ *It is typically impossible to obtain replacements for "one off" acoustical ceiling panels that are damaged by drips, leaks, or other damage.*

### References

1. Topic Summary: Acoustics
2. Section 09 84 36 Sound-Absorbing Ceiling Units

## 09 51 23

### Acoustic Tile Ceilings

1. The only ceilings to be installed beneath equipment that requires service are 2'x2' or 2'x4' acoustical tile ceilings.

### Old Standards (included to match existing installations):

1. Ceiling Tiles: Optima 2'x2' Tegular Edge
2. Grid
  - a. Mains: CMC 211-01
  - b. 4' Tees- CMC 213-01
  - c. 2' Tees - CMC 229-01
  - d. 12' wall angle - CMC 1420-01

### New Standards (adopted as of Building 27):

3. Ceiling Tiles: Ultima Tegular Edge 2' x 2' (model no. 3250) with 0.95 NRC
4. Grid: Prelude XL 15/16" intermediate-duty (model no. 7300) exposed tee system in white finish
5. Specifications must comply with New York State Executive Order 4 approved specifications for acoustical ceiling tiles and panels.

- ❖ *The Podium corridors are 8'-1" wide. Extra-wide end angles help fill the 1" gap and allow the use of standard 2'x2' tiles.*
- ❖ *Ultima tiles have better performance than Optima.*

#### References

1. Topic Summary: Acoustics
2. [New York State EO4 Specification for Acoustic Ceiling Tiles and Panels](#)

## 09 51 33

### Acoustic Metal Pan Ceilings

There are no campus standards related to metal pan ceilings (e.g., for wet installations or in food prep areas).

- ❖ *Slotted metal ceilings were removed from the Campus Center as they made it very difficult to service equipment above the ceilings.*

## 09 54 00

### Specialty Ceilings

Specialty ceilings are only to be installed at locations where there is no equipment requiring service above them.

- ❖ *In the Lecture Center the University installed specialty "Las Vegas Gold ones" that were laser water cut, very expensive and hard to find. There's a need to come up with an acceptable alternative (i.e., don't try to recreate them).*

## 09 65 13

### Resilient Base and Accessories

1. Resilient Base: the UA preference is for rubber base.
  - a. Within the Academic Podium
    - i. the standard is for 6" black cove base; basis of design: Armstrong
  - b. Residence facilities: No standard for color or size.
  - c. Downtown Campus: No standard for color or size.

#### References

1. Diagram of Academic Podium floor colors
- ❖ *Make sure to coordinate the color of resilient base with transition strips.*

## 09 65 16

### Resilient Sheet Flooring

1. Vinyl sheet flooring is the current standard but the University is in the process of evaluating more sustainable options.
2. All Biology and Chemistry classroom and research laboratory floors to be finished with welded-seam sheet vinyl.



## 09 65 19

### Resilient Tile Flooring

1. Across the podium each building has a standardized color of Armstrong Excelon Imperial for VCT as described in the table below:

<b>Building</b>	<b>Theme</b>	<b>Accent</b>	<b>Field</b>	<b>Border</b>
Campus Center	Gold	51878 Golden	51908 Pewter	51910 Classic Black
Earth Science	Light Green	51885 Granny Smith	51908 Pewter	51910 Classic Black
Education	Red	51814 Pomegranate Red	51908 Pewter	51910 Classic Black
Fine Arts	Fuscia	57513 Vicious Violet	51908 Pewter	51910 Classic Black
Humanities	Purple	51944 Tyrian Purple	51908 Pewter	51910 Classic Black
Lecture Center	Dark Green	51947 Basil Green	51908 Pewter	51910 Classic Black
Life Sciences			51858 Sandrift White	51938 Willow Green
New Admin Building				
Performing Arts Center	Grey	51874 Grayed Blue	51908 Pewter	51910 Classic Black
Physics	Orange	51813 Pumpkin Orange	51908 Pewter	51910 Classic Black
Social Sciences	Blue	51820 Marina Blue	51908 Pewter	51910 Classic Black
Physical Education	Brown	57504 Chocolate	51908 Pewter	51910 Classic Black
Chemistry	Gold	51878 Golden	51908 Pewter	51910 Classic Black
Other Schemes				
	Brown	51948 Cinnamon Brown	51908 Pewter	51910 Classic Black
	Light Blue	51882 Serena Blue	51908 Pewter	51910 Classic Black

2. The policy is not to require a turnover of attic stock as the university does not have a place to store it.
3. The preference is to use luxury vinyl tile (LVT) in the residence halls but there is no standard for aesthetics.
4. VCT is the current standard but the University is in the process of evaluating more sustainable options.
5. Except as noted in 09 65 16 Resilient Sheet Flooring VCT is to be used in classroom and research laboratories.

#### References

1. Diagram of Academic Podium floor colors
2. Section 09 65 16 Resilient Sheet Flooring

## 09 66 00

### Terrazzo Flooring

1. Existing terrazzo flooring across the Core Campus is to be preserved and, where applicable, restored.
2. There are no campus standards for new terrazzo installed in Zones 2 or 3.

## 09 68 00 (includes 09 68 13 and 09 68 16)

### Tile Carpeting and Sheet Carpeting

1. If an office is less than 12' in one dimension then the campus standard is to use broadloom in lieu of carpet tile.
2. Color is used as a wayfinding mechanism (on the Podium each building has an assigned accent color) so there is no standard carpet color or pattern across campus.
3. Project specifications:
  - a. Should not require a turnover of attic stock as the University does not have a place to store it.
  - b. Must include a minimum recycled content, sourcing within 500 miles, low VOCs and end-of-life recycling.
4. The campus does not have a standard for cut versus looped pile.

### References

1. 09 65 19 Resilient Tile Flooring for table of colors by Academic Podium building.
- ❖ *The University has had difficult experiences with consultant teams failing to coordinate carpet transitions with office demountable partition systems. Changes in flooring must be aligned with interior partitions; review of partition shop drawings must be coordinated with floor finish drawings.*

## 09 72 00

### Wall Coverings

Their use is discouraged (except for leased buildings) due to cost and maintenance.

### References

None

## 09 72 00.01

### Presentation Dry Erase Wall Covering

1. The basis of design for dry erase wall covering is "Think Board Dry Erase Film". All wall surfaces that will receive dry erase wall covering are to be skim coated to a level 5 finish.
2. In lieu of dry erase wall covering, the University preference is for porcelain enameled white boards.

### References

1. Section 10 10 00 Visual Display Units
- ❖ *Although Walltalkers brand covering has been installed on campus its use is discouraged as the walls must be perfectly smooth to get a good installation. An exception for its use is made in cases when there is a need to encapsulate the material beneath it. The University preference is for "Think Board Dry Erase Film", in part because it can be printed with graphics such as maps or calendars.*

## 09 83 10

### Acoustic Plaster Surfacing

1. The basis of design product is BASWAphon 40mm Classic Fine Finish Sound Absorbing Plaster System by BASWA Acoustic North America, LLC. Or one of the following products:
  - a. SonaKrete Acoustical Finish by International Cellulose Corp.
  - b. Starsilent Seamless Acoustical Plaster System by Pyrok, Inc.
2. Product to achieve a noise reduction coefficient (NRC) of 0.85

### References

None

- ❖ *BASWAphon was installed in both the Massry Center for Business ("Living Room" atrium) and Building 27 (underside of concrete barrel vaults) and has worked well to control sound.*
- ❖ *Although some locations on campus have sisal installed on the underside of concrete barrel vaults and this material is considered to be historic and original to the construction of the Podium, this material has proven too difficult to maintain to warrant restoring or replacing it.*

## 09 84 36

### Sound-Absorbing Ceiling Units

Used for the arched ceilings of the Podium.

1. **Basis-of-Design Product:** Acoustics First Sonora Panels or equivalent
  - a. Alternative manufacturers include:
    - i. Golterman & Sabo: [www.golterman.com](http://www.golterman.com)
    - ii. Kinetics Noise Control: [www.kineticsnoise.com](http://www.kineticsnoise.com)
    - iii. Owens Corning Conwed Designscape: [www.conweddesignscape.com](http://www.conweddesignscape.com)
2. **Fabric-Covered Acoustic Ceiling Baffles:**
  - a. Mounting: Back mounted with manufacturers standard eyehook suspension system secured to substrate
  - b. Core: rigid or semi-rigid fiberglass core with a density between 6 to 7 lbs/cu ft.
  - c. Edge Construction: Manufacturers standard chemically hardened core with no frame
  - d. Edge Profile: Square
  - e. Corner Detail in Elevation: Square with continuous edge profile indicated
  - f. Acoustical Performance. Sound absorption NRC of not less than 1.10 for a 2" panel (when tested in accordance with ASTM C423 for mounting, per ASTM E795)
  - g. Nominal Core Panel Thickness 4 inches minimum.
  - h. Mounting: Vertically suspended from ceiling or structure by one edge of panel.
3. **Fabric Acoustical Panels for Walls**
  - a. Basis of design: Baresque; Zintra Acoustic Textures: [www.baresque.com.au](http://www.baresque.com.au)
  - b. Panel Material: Polyester
  - c. Panel Thickness: 1/2 inch
  - d. Noise Reduction Coefficient (NRC): 0.35 when tested in accordance with ASTM C423 for Type A mounting, per ASTM E795
  - e. Mounting method: Z-clips

#### References

None

## 09 91 00

### Exterior Painting

The University preference is to minimize or eliminate exterior painting. There are no campus standards for paint color or material.

#### References

1. Section 03 01 30.71 Rehabilitation of Cast-in-Place Concrete

## 09 91 23

### Interior Painting

1. Basis of Design Manufacturer: Sherwin Williams
2. All Interior Paints must be GreenGuard Certified
3. **Standard Paint Colors**
  - f. PT-1: Benjamin Moore Suffolk White, semi-gloss finish used for all walls
    - i. Custom formula: N539-1X: Y3 (2x) 2.2500; S1 (0X) 16.2500; W1 (2X) 11.0000; R3 (0X) 1.2500
    - ii. Mechanical units and other painted metal that not painted PT-3 shall be semi-gloss finish.

- g. PT-2: Sherwin Williams Promar 200, SW 706 Extra White, flat finish used for all GWB ceilings and overhead mechanical ducts
  - h. PT-3: Sherwin Williams Promar 200, SW 6258 Tricorn Black, semi-gloss finish used for all doors, door frames, wood wall base and existing base cabinets.
4. Other paint colors may be entertained, but the University's preference is to standardize its "white" and "black", particularly at the Uptown campus.
  5. Paint specifications must comply with New York State's approved Executive Order 4 (EO4) specifications.
- ❖ *The walls should be semi-gloss instead of eggshell because the latter doesn't hold up to wear and tear.*
  - ❖ *The Benjamin Moore color "Suffolk White" for interior walls described above is based on the indicated legacy formula. The campus attic stock has significant quantities of this material and this color has been installed across academic facilities on both campuses. Although Suffolk White is not listed in Benjamin Moore's current fan deck, it is available as a custom-mix color using the formulation cited.*

#### References

1. [NYS Approved Executive Order 4 Specification](#)

## 10 10 00

### Visual Display Units

1. UAlbany does not permit the installation of blackboards. Only glass dry erase boards are permitted.
  2. Basis of Design: Manufacturer Polyvision or equal
  3. Porcelain enamel coating fused to sheet steel, gloss finish
  4. Size 4' x 16' Section maximum.
  5. Map rail consisting of 1" high, continuous cork display rail, integral to map rail, and end caps at each end of map rail
- ❖ *Where size of visual display boards or other conditions require additional support than provided by existing construction, provide structural supports or modify trim from manufacturers structural support accessories to suit conditions.*

#### References

1. UAlbany Classroom Design Guidelines (April, 2014)

## 10 14 00

### Signage

1. Exterior signage (such as building signage) must be minimum 32" off the face of the curb.
  2. The campus standard is to use the New York State Action-Style wheelchair symbol of accessibility ("Modified ISA" or "dynamic disability").
  3. Vinyl lettering is used for overhead sign types and ink-jet printed elements are used in some instances where they can fit behind a protective cover.
  4. Basis of Design Product: APCO Sign's Accord 15 modular extruded signs
- ❖ *For exterior (building) signage, sufficient space must be provided for service equipment such as snow plows or lawn mowers between the signs and buildings.*

#### References

1. [Interior UAlbany Signage Standards](#) (on Office of Facilities Website) and [Exterior](#)

## 10 21 13

### Toilet Compartments

1. Compartments to be solid phenolic-core panels with melamine facing on both sides, fused to substrate (not separately laminated).

2. Panels to be wall hung and/or overhead braced (not floor supported) to facilitate cleaning.
3. Hardware: all hardware to be stainless steel and mounted with through-bolts.
  - a. Brackets shall be full-height (continuous).
  - b. Hinges shall be continuous cam-type that swings to a closed or partially open position and allowing emergency access by lifting the door.
  - c. Latch and keepers to be surface mounted (not recessed dials or knobs).
  - d. Coat hooks centered on the back of each door at a height of 5'-3". In accessible stalls mounting height to be 3'-10" AFF.

#### References

None

## 10 22 19

### Demountable Partitions

UAlbany standard is to not allow the use of demountable partitions on campus. Instead, specify traditional stud-framed walls with GWB facing and batt insulation or aluminum framed storefront.

#### References

1. Section 08 41 13 Aluminum Framed Entrances and Storefronts
- ❖ *At the Massry Center (School of Business Building) there were significant lead time issues associated with the specification of a European demountable partition as well as incompatibilities with the campus locksets. As the campus would rarely (if ever) arrange for the reconfiguration or relocation of demountable partition systems, the conclusion is that the potential flexibility is not worth the added expense.*

## 10 28 13

### Toilet Accessories

1. **Hand Dryers**
  - a. Noise level must not exceed 60 dB
  - b. Must be GreenSpec® approved
  - c. Basis of design: the campus is evaluating the use of Toto HDR 120 and HDR 101 electric hand dryers as both operate at lower noise levels (57 dB).
2. **Bathroom Sinks**
  - a. The preference is for ganged "trough" sinks to minimize traps / drains and to allow soap dispensers to drip into the sink rather than on the counter.
3. **Hand Soap Dispensers**
  - a. Soap dispensers are to be furnished by the owner and installed by the contractor (OFCI).
  - b. Soap dispensers are to be located such that they do not drip on the floor or counter.
4. **Toilet Tissue Dispensers**
  - a. Toilet tissue dispensers are to be furnished by the owner and installed by the contractor (OFCI).
  - b. Podium
    - i. Single roll (basis of design): Wausau Paper Silhouette dispenser, Jumbo Universal model no. 88700
    - ii. Double roll (basis of design): San Jamar Twin Jumbo Toilet Tissue Dispenser
    - iii. All dispensers to be lockable and sized for 9" Jumbo rolls made of break-resistant plastic (not stainless steel)
  - c. Residence Halls (no standard defined)

#### 5. Paper Towel Dispensers

- a. Paper towel dispensers are to be furnished by the owner and installed by the contractor (OFCI)
- b. In general, restrooms are not to be provided with paper towel dispensers to reduce the University's environmental impact.
- c. For limited applications where paper towels are required, the basis of design is the enMotion Automatic Paper Towel Dispenser model no. 59450.
  - i. Dispensers to be outfitted with either hardwire 24v AC adapter kits (model no. 59478) or plug-in AC adapters (model no. 59480)
  - ii. Units powered solely by (4) D cell batteries are not to be specified.
- d. Paper towel dispensers are also to be installed in Quiet Rooms.

#### 6. Waste Bins / Trash Receptacles

- a. University preference is to include a cutout in the counter and position the waste bin below (floor mounted). This approach facilitates cleaning and wiping debris into the waste bin.
- b. 23-gallon, black plastic similar to Carlisle 34202303
- c. In the event a free-standing bin is used (e.g., single-fixtured bathrooms), the bin should be a half-round open top steel waste receptacle in matte black, 12- to 15-gallon capacity.

#### 7. Sanitary Napkin Disposal Bin

- a. Bins are to be stainless steel, surface mounted with lids and a capacity of 1.2 gallons similar to American Specialties 0852

#### 8. Mirrors

The University's preference is for individual, stainless steel framed mirrors similar to American Specialties 0600 Series. However, the campus will accept projects furnished with larger "gang" mirrors that span the entire wall.

#### 9. Baby Changing Table

- a. One (1) should be installed in every non-residential bathroom.
- b. Basis of design: Koala Kare KB200 horizontal wall-mounted baby changing station (no color specified).

#### 10. Grab Bars

- a. Shall be type 316 stainless steel.

#### References

1. Section 10 21 13 Toilet Compartments
2. Section 27 32 00 Voice Communications Terminal Equipment for emergency ("red") phones
3. Section 12 36 61 Solid Surface Countertops

❖ *Both Dyson and Xlerator dryers generate excessive noise when in operation (greater than 80 dB) and are disruptive to neighboring functions.*

**?** *Need to add reference standards for residence halls.*

## 10 40 00

### Safety Specialties

1. University policy is to install a "Safety Station" in each laboratory or shop in which chemicals are used that could cause harm to the eyes or skin.
2. Safety stations should include a fire blanket, fire extinguisher and first aid kit, all of which should be specified as part of the project construction documents.

#### References

1. Section 10 44 00 Fire Extinguishers, Cabinets and Accessories
2. Section 12 34 50 Laboratory Casework (Laboratory Safety Station)

3. Section 22 45 00 Emergency Plumbing Fixtures

## 10 41 16

### Emergency Key Cabinets (Knox Boxes)

All new construction and all renovated construction that includes a new or renovated elevator must be provided with a fire department key box. The key box is to be located near the remote enunciator panel at the entrance to each building. Installations shall be authorized by the fire chief.

1. **Fire Department Key Box Keys**
  - a. Albany Fire Department key: all buildings except Indian Quad, SEFCU Arena, Phys Ed Building
  - b. McKnownville Fire Department key: Indian Quad, SEFCU Arena, Phys Ed Building
2. **Building Fire Department Key Box Standards**
  - a. Basis of design: Knox-Box 4400: black, surface or recessed mount, Dual Lock model.
  - b. Key box to be installed so that the bottom of the box is 5'-6" AFF.
  - c. Tamper switch to be wired to building fire alarm system to notify central station when activated.
  - d. Knox box procurement authorization form to be obtained from UAEH&S.

#### References

1. Section 08 71 00 Door Hardware
2. [UAlbany 2006-FD001 Policy for Fire Department Key Boxes](#) (Rev. July 12, 2019)
3. [Albany Fire Department Requirements for Knox Rapid Entry Systems](#) (no date)

## 10 44 00

### Fire Extinguishers, Cabinets and Accessories

1. New extinguishers, including those in service / support spaces, must be enclosed in a metal cabinet.

#### Reference:

1. Eyewash In-Depth Compliance Guide ANSI Z358.1-2014
2. Section 12 34 50 Laboratory Casework (Laboratory Safety Station)
3. Section 22 45 00 Emergency Plumbing Fixtures

## 10 50 30

### Metal Lockers

1. The University standard is to install metal lockers (not plastic laminate or polyethylene)
  - a. In locker rooms for Division 1 Athletics plastic laminate, wood, or other materials may be acceptable.
2. Where battery-powered "day lockers" are specified locks are to be resettable with alphanumeric keypads that automatically reset on opening or after a preset time.
  - a. Locks must be furnished with an ADA compliant key.
  - b. Locks must be controllable through a mobile device.

## 11 11 36

### Electric Vehicle Charging Equipment

The campus preference is to use [Chargepoint](#) electric vehicle supply equipment (EVSE), purchased through the New York State master bid contract.

## 11 12 00

### Parking Control Equipment

1. The campus standard for parking revenue and access control equipment is [ATI](#) (Access Technology Integration, Inc.).
  2. The campus does not want to incorporate license plate readers (LPR) into the design of new parking lots or campus entries.
- ❖ *The campus used to make use of license plate readers (LPR) but found it was plagued with technology issues and it was since eliminated.*

#### References

1. Section 32 39 13 Manufactured Metal Bollards

## 11 31 00

### Residential Appliances

1. All appliances must be Energy Star listed or CEE Tier 3 certified.
2. All appliances are to be white or black (no stainless steel) except for Empire Commons and Director apartments which shall be stainless steel.
3. Although there are no specific standards for makes/models of equipment, the following parameters have been adopted:

<u>Item</u>	<u>Location</u>	<u>Comments</u>
Refrigerator	Staff Pantry	No water or ice dispensing. No temperature monitoring. Are not to be included in lactation rooms.
Ice Dispenser	Staff Pantry	Not to be furnished.
Cold/Hot Water Dispenser	Staff Pantry	Not to be furnished.
Water Coolers / Chillers	Staff Pantry	Not to be furnished.
Microwave	Staff Pantry	1200 watts
	Dormitory	1200 watts

#### References

1. NYS [Executive Order 4 OGS specifications](#)

## 11 52 00

### Audio-Visual Equipment

[Include lessons learned from recent projects]

1. As organized by the UAPM, the Design Team should consult with the University's Associate Director of Field Support in the Department of Client Support Services. As the shepherd for most audio-visual equipment across the University, that person is familiar with current issues at UA and is familiar with most recent installations.
2. The University encourages the incorporation of active learning in classrooms. As the technologies associated with classroom pedagogy are constantly evolving there is no single standard for equipment in classrooms.
3. The current thinking is to equip all classrooms predisposed to lecture content with video capture technologies and web conferencing. Computer laboratories are not so equipped.
4. Crestron AirMedia is the current campus standard for classroom media switching. Crestron switching should be integrated with lighting controls.
5. There are no University A/V standards for research laboratories.
6. Overhead projectors are not protected by locked cages but UPD recommends the installation of security cables in response to equipment theft.

#### References



1. Section 12 50 00 Furniture for standards for classroom furniture such as lectern.
2. Section 26 09 23 Lighting Controls
3. Section 27 42 19 Public Information Systems
4. UAlbany Structured Cabling Standards Sections 27 15 00 Backbone Cabling and 27 16 00 Horizontal Cabling
5. Illustration: Table of AV/IT Standards (April, 2014)

- ❖ *It has proven more costly to lock down overhead projectors than to replace them. There has never been a theft of an overhead projector.*
- ❖ *PTZ cameras and advanced conferencing components that were installed in conference rooms and group work rooms are rarely used. Even the PCs and flat screen monitors in these spaces are rarely used.*

## 11 52 13

### Front Projection Screens

1. Screens are to be motorized, ceiling recessed if possible, and must permit viewing both the whiteboard and projected image concurrently.

#### References

1. UAlbany Classroom Design Guidelines (April, 2014)

## 11 53 00

### Laboratory Fume Hoods

1. **Operations**
  - a. Fume hoods should be variable volume, low flow (less than or equal to 80 fpm) with BACnet controls.
  - b. Hoods must have sash position limiters and proximity sensors to reduce airflow both during operation and when hood is not in use.

#### References

1. Section 11 53 43 Laboratory Service Fittings and Accessories
2. Section 12 36 53 Laboratory Countertops
3. [SUCF Program Directive 15H-8 \(Laboratory Design\)](#)

## 11 53 43

### Laboratory Service Fittings and Accessories

1. Basis of design: T&S Brass
2. Deck-mounted and fume hood laboratory service fittings for gas, air, vacuum and other specialty gases to be 1/4- turn gas turrets in lieu of gate valves.
3. Cold water and CW/HW mixing fixtures shall be gooseneck profile with minimum 4" clearance outfitted with paddle handles.
  - a. Rigid or swing goosenecks may be specified, depending on the application.

#### References:

1. Section 12 36 53 Laboratory Countertops
2. Section 22 45 00 Emergency Plumbing Fixtures

## 11 71 00

### Steam Sterilizers

1. Manufacturers must reference a service technician within a two-hour radius of the campus.
  2. The campus' preferred manufacturer of steam sterilizers is Consolidated Sterilizers.
- ❖ *UAlbany does not dispose of medical or biological waste using steam sterilizers but rather, temporarily stores it for removal.*
  - ✓ *During 60% Contract Documents submission the Design Team must get signoff confirmation from UAEH&S through the UAPM that the medical / biological waste storage capacity is sufficient.*

## 11 82 00

### Recycling Equipment

1. **Interior**
  - a. Quantities or types of bins required in building interiors must be determined based on need.
  - b. The maximum size is 40 gallons.
  - c. Recycling (and trash) containers should be placed in the hallways, not in classrooms. Students are aware of the policy to "carry in / carry out".
  - d. Hallway niches should be a minimum of 30" deep and 48" wide to accommodate a range of bins that can be anticipated to change over time.
  - e. The preference is to not install custom millwork surrounds as this limits the flexibility.
  - f. Bins do not need to be anchored in place.
  - g. The tops of bins should have a wide mouth and no flap to limit the need for cleaning. They should include a backsplash that guides trash into the container.
  - h. Recycling stations should include a bin for compost / food waste in compliance with New York State's Food Donation and Food Scraps Recycling Law (effective Jan. 1, 2022).
2. **Exterior**

Exterior recycling bins are to be free-standing (not anchored) and can be replaced as campus recycling protocols evolve. Basis of design for exterior trash and recycling bins shall be [Max R](#).

### References

1. Section 32 33 00 Site Furnishings
  2. UAlbany Office Furniture Standards
  3. UAlbany Map of Locations for Recycling/Trash Containers
  4. New York State [Food Donation and Food Scraps Recycling Law](#)
- ❖ *Putting recycling and garbage bins in hallways allows maintenance staff to empty them without interrupting classes. This is important given the quantity of classes that are scheduled in the evenings.*

## 12 24 13

### Roller Window Shades

1. Basis of Design: Mechoshade or Draper
2. Roller Shade Schedule
  - a. Student Rooms:
    - i. Blackout Shades: Manual Mecho5 or equal with Draper ivory fascia Fabric: SB 9070 Oyster
      - Eastman: PW4600 Pewter
  - b. Offices: Shade Type 2: Manual Mecho5 or equal with colonial white fascia and colonial white end caps. Fabric: 1011 Porcelain or equivalent. Opacity of 2%-3%.

- c. Conference Rooms: Blackout shades
  - d. Classrooms: Shade Type 3: Manual Mecho #15 Double Bracket or equal– white fascia and end caps (as noted on drawings) – solar fabric 1011 Porcelain or equivalent with an opacity of 2% - 3%. If blackout fabric is required then it is to be 0705 or equivalent.
3. For all spaces, the shade cloth color facing the exterior must be consistent (although not consistent between buildings across the podium).
  4. Conference rooms to be outfitted with blackout shades. Side tracks are not to be provided unless required by the functional program.

#### References

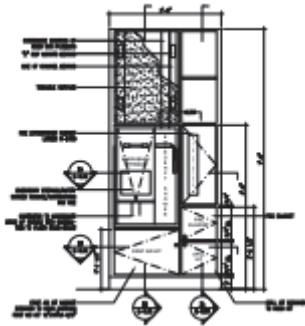
None

- ❖ *The outside-facing face of blackout shades must be consistent across a building but not necessarily across the entire Podium.*

## 12 35 53

### Laboratory Casework

1. Plastic laminate laboratory casework is an acceptable material.
2. Casework to include signage to indicate chemicals must not be dumped down sinks.
3. Wood Laboratory Casework
  - a. All doors to be flush overlay
4. Each teaching laboratory and each research laboratory unit to be provided with a casework safety station as illustrated.



#### References

1. Section 11 53 43 Laboratory Service Fittings and Accessories

## 12 36 53

### Laboratory Countertops

1. Materials
  - a. Countertops 36" AFF or lower
    - i. "Wet Laboratories" in which chemicals will be used: phenolic resin or epoxy resin
      - Provide a 1/4" marine edge minimum three feet around all sinks
    - ii. "Dry Laboratories" Biology Labs and Physics in which no chemicals will be used: high-pressure laminate (HPL) plate (e.g., Trespa) or high-density plastic laminate (HDPL)
  - b. Surfaces 42" AFF or higher (shelving)
    - i. "Wet Laboratories in which chemicals will be used: high pressure laminate (HPL) plate (e.g., Trespa)
    - ii. "Dry Laboratories in which no chemicals will be used: high-density plastic laminate (HDPL)
  - c. Select applications may require the use of stainless steel countertops.
  - d. Both phenolic/epoxy resin and HPL counters to be 1-inch thick

- i. Sidesplashes and curbs to be 4" high and same thickness as countertops and bonded to the tops in the field.
  - ii. Provide a 1/8-inch drip groove on underside of exposed edges set back 1/2-inch from countertop edge.
  - iii. in Laboratory Grade Epoxy Resin Countertops
    - Sinks mounted in handicap accessible counters (at all countertops or work surfaces 2'-10" above finish floor) shall be 6 1/2-inches deep, unless noted otherwise.
    - Sinks mounted in non-handicap accessible counters shall be 10" Deep Minimum, Unless Otherwise noted.
2. Laboratory Sinks
  - a. Cup sinks shall only be used in fume hoods.

#### References

None

## 12 36 61

### Solid Surface Countertops

1. Bathroom counters to be solid surface over plywood backing with integral sinks and integral / joined back and side splashes.
  - a. Provide separate apron of same material
  - b. Basis of design: LG Chemical Hi-Macs.
2. For all solid surface counters provide in-wall flush mounted aluminum brackets. Basis of design: Rakks model EH-1818FM.

#### References

1. Illustration of bathroom layout

## 12 40 00

### Furnishings and Accessories

1. Clocks
  - a. UA standard is for hard wired clocks with wireless signal to synchronize time.
  - b. The University has not yet settled on a standard protocol (WiFi or POE).

## 12 48 13 and 12 48 16

### Entrance Floor Mats and Frames / Entrance Floor Grilles

1. All building entrance floor mats are to be recessed and furnished with drains plumbed into the building's sanitary system and furnished with trap primers.
2. No shims are to be installed. If needed, provide a single piece of type 316 stainless steel secured in place.
3. The University preference is for these to measure a minimum of 10' in the direction of travel (if possible) to account for three paces after entry.

#### References

None

## 12 49 40

### Window Treatments

Omitted

#### References

1. Section 12 24 13 Roller Window Shades

## 12 50 00

### Furniture

1. In class laboratories the preference is for lab stools with rings and no arms.
2. Furniture such as credenzas and desks should include open or accessible backs to access outlets, telephone and data ports without requiring moving furniture.

#### References

1. Reference UAlbany Furniture Standards (October 2019)
2. Illustration: Table of AV/IT Standards (April, 2014)
3. NYS [Executive Order 4](#) "Green Purchasing Requirements"

## 14 20 00

### Passenger Elevators

#### 1. Materials

- a. Door and frame surfaces to be stainless steel with satin no. 4 finish.
  - b. Cab interior wall panels to be removable 16 gauge textured stainless steel.
2. **Lighting:** LED type with serviceable parts accessible from cab or car top without removing ceiling panel.
  3. **Emergency & Firefighter Two-Way Communication:** Flush-mounted, handset-free.
  4. **Rail Guides:** Roller type (shoes not acceptable).
  5. **Hydraulic Oil:** Grade 32 compatible type hydraulic oil.
  6. **Lift Equipment Location:** locate to be easily accessible from floor level for service.
  7. **Traveling Cable:** Must accommodate all elevator needs plus eight (8) additional conductors for a campus installed card reader and one (1) traveling type cable for closed circuit security camera or communication equipment. Provide an additional 10% spare wires for future use.
  8. All buttons and indicators to be lit with LED systems.
  9. Door safety edges to be non-proprietary for ease of stocking and replacement by all service providers.

#### References

1. [SUCF Program Directive 14-1 \(Elevators\)](#)
2. Section 14 24 00 Hydraulic Elevators
3. Section 14 28 16 Elevator Controls

## 14 21 00

### Electric Traction Elevators

No specific standards.

- ❖ *The new Building 27 has a traction elevator and when they lost power on the Podium it didn't recall to the terminal level. It's not on emergency power backup.*

#### References

1. [SUCF Program Directive 14-1](#)

## 14 24 00

### Hydraulic Elevators

No specific standards.

❖ *The University has resleeved all the piston jackets on the hydraulic elevators.*

#### References

1. [SUCF Program Directive 14-1 \(Elevators\)](#)
2. Section 14 20 00 Passenger Elevators
3. Section 14 28 16 Elevator Controls (Cab Key Switch)

## 14 28 16

### Elevator Controls (Cab Key Switch)

1. Standard key cylinder: 5-Pin Medeco high security key and cylinder. General key assignments as follows:
  - a. M100 for University personnel use functions
  - b. M102 for generator use functions
  - c. M117 for elevator service personnel use functions
  - d. FEOK1 for fire service use functions
  - e. Otis-type dog-leg drop key for hoistway access

Note: Medeco key **requires a deep back box** for the car operating panel to accept key cylinder with switch.

Key Switch Function ID	Key Switch Alt Function ID	Key Switch Positions	Key Cylinder Code	Assignment
Service Cabinet Door	In car	open-close	M100	elevator mechanic & plant operations
Access Enable	In service cabinet	on-off	M117	elevator mechanic
Stop	In service cabinet	on-off	M117	elevator mechanic
Inspection	In service cabinet	on-off	M117	elevator mechanic
Hoistway Access	top & bottom hallway landing	up-stop/down-off	M117	elevator mechanic
Lights	In service cabinet	on - off	M100	elevator mechanic & plant operations
Fan	In service cabinet	low - off - high OR off - low - high	M100	elevator mechanic & plant operations
Independent Service	In service cabinet	on-off	M100	elevator mechanic & plant operations
Door Hold	In service cabinet	on-off	M100	elevator mechanic & plant operations
Work Light	In service cabinet	on-off	M100	elevator mechanic & plant operations
Fire Service Phase 1	Main Lobby or fire response floor	on-off	FEOK1	elevator mechanic - plant operations – Fire Department
Fire Service Panel	In car	open-close	FEOK1	elevator mechanic - plant operations – Fire Department
Fire Service Phase 2	In fire service panel	on-off	FEOK1	elevator mechanic - plant operations – Fire Department
generator panel	Main Lobby	open-close	M102	elevator mechanic & plant operations
generator switch	In generator panel	on-off	M102	elevator mechanic & plant operations
generator selector	In generator panel	auto – 1 – 2 – 3	M102	elevator mechanic & plant operations

#### References

1. Section 10 41 16 Emergency Key Cabinets (Knox Boxes)

## 21 00 00

### Fire Suppression Equipment

? *D. Ferris: Need to define access for testing.*

1. **Valves**
  - a. When dry pipe sprinkler systems are specified, the new or replacement dry pipe fire sprinkler valves shall be of the external resetting type only.
  - b. Basis of Design: Tyco DPV-1 or equivalent
2. **Meters and Gauges for Fire-Suppression Systems:** all new meters must connect to and communicate with the existing Powerlogic / ION server (that was upgraded to ION EEM system in 2012) and software to ensure that all utility sub-metering data is located on a single server and can be monitored and managed from within a single software package.

#### Reference

1. Section 25 00 00 Integrated Automation

## 22 00 00

### Plumbing

1. Pressfit copper fittings (e.g., "ProPress") must not be specified on domestic water or heating systems.
2. Specifications to include provision for attic stock for extra seals for each size / service pump.
3. The University standard is for Schedule 40 pipe. No Schedule 10 pipe is to be installed.
4. Pressure gauges shall be 4 or 6 inches in diameter.
5. All new water and sewer meters must connect to and communicate with the University's Indusoft SCADA platform through BACnet or Modbus to ensure that all utility sub-metering data is located on one single server and can be monitored and managed from within a single software package.
  - a. The specifications shall assign responsibility for all SCADA scope associated with plumbing infrastructure to the plumbing subcontractor, not to the SCADA subcontractor.
6. The plumbing system and components shall meet/exceed the latest Energy Code requirements. If there is a discrepancy between the energy code requirements and the UA standards, the design team shall notify UAPM for resolution.

#### References

1. SUCF Program Directives 15P-1 through 15P-5
2. Section 25 00 00 Integrated Automation

## 22 08 00

### Commissioning of Plumbing

[In development]

## 22 11 23

### Domestic Water Pumps (Booster Pump Section)

Triplex Booster set (etc.)

## 22 13 00

### Facility Sanitary Sewerage

1. All sewage ejection pumps must be designed to be 100% redundant with separate discharge piping.

## 22 33 00

### Electric Domestic Water Heaters

In order to minimize distribution losses from HTHW-fired DHW systems and to migrate to beneficial electrification, the University prefers electric point of use instantaneous domestic hot water heaters for seasonal summer loads and smaller loads spread-out throughout the building.

## 22 40 00

### Plumbing Fixtures

1. All fixtures must be WaterSense labeled.
2. Specify BACnet. List all points on BAS specification.
3. **Power Source**
  - a. Provide solar powered battery back-up fixtures that use infrared sensing.
  - b. Bases of Design:
    - i. Faucet – See (5) below.
    - ii. Urinal – Sloan Solis 818
    - iii. Single Flush Flushometers: Sloan Solis 8111
    - iv. Double Flush Flushometers: Sloan Solis 81111
    - v. Retro-fit Flushometer: Sloan Solis RESSC
4. **Utility Hydrants**
  - a. Fire hydrants shall not be used for a non-emergency water supply.
  - b. Shall have a single 2.5" NST outlet.
  - c. Shall not be installed closer than 20' from existing fire hydrants.
  - d. Shall have their own curb valve, with its location not being further than 5 to 10 feet from a utility hydrant. Corporation stops will not be acceptable for use as a curb valve.
  - e. Shall be installed according to Kupferle Foundry Company "Operations and Maintenance Instructions" and AWWA standards and guidelines.
  - f. Shall be painted light blue.
  - g. Work order requirements:
    - i. A work order request shall be submitted and approved for the installation of a new or replacement utility hydrant.
    - ii. A work order request shall be submitted and approved for the repair of an existing utility hydrant.
  - h. Basis of Design: Utility hydrants shall be a MainGuard #77 Post Hydrant, manufactured by John C. Kupferle Foundry Company, 2511 North 9th Street, St. Louis, MO 63102 or equivalent.
5. **Bathroom Fixtures**
  - a. For the Downtown campus, the recently renovated Hawley bathroom should serve as a basis of design.
  - b. For the Uptown campus, for future renovations the recently renovated Humanities bathroom should serve as a basis of design while, for new construction, the bathrooms in E-TEC should serve as an example.

### References

1. Section 11 53 43 Laboratory Service Fittings and Accessories
2. Executive Order 4 Specifications



## 22 42 13

### Commercial Urinals

Waterless urinals are not acceptable.

## 22 45 00

### Emergency Plumbing Fixtures

Note: This section is for emergency showers, eyewashes, drench hoses.

1. The standard is to not include floor drains at safety showers.
2. UA standard is to install a Safety Station in each laboratory (class lab and research lab) in which the eyes or body of any person may be exposed to injurious corrosive materials.
3. **Emergency Eyewash:** The basis of design for deck-mounted emergency eyewash stations is the Bradley S19-465EFW with emergency thermostatic mixing valve under-counter mounted with liquid-filled thermostat and adjustable temperature range between 65 degrees F and 95 degrees F. Provide positive shutoff of hot supply when cold supply is lost, cold water bypass, ANSI and ASSE 1071 certified.
4. **Emergency Showers:** The basis of design for emergency deluge showers is the Acorn Safety Model S2200-BF-PR60 with thermostatic mixing valve with cold water bypass fail safe and adjustable set point and dial thermometer.
  - a. All emergency showers and shower/eyewash combination units are to be plumbed (1-1/4" waste connection to 2" sanitary under slab).

#### References

1. Section 10 40 00 Safety Specialties: Standard Safety Station
2. Section 22 45 00 Emergency Plumbing Fixtures Subsection 1.0

## 22 47 00

### Drinking Fountains and Water Coolers

1. Water fountains should not come equipped with water filters. The water quality of both the Albany municipal water system and the campus' distribution plumbing are adequate. Additional filtration is not required.
2. Water fountains should include bottle filling stations.
3. Basis of design: Elkay EZWGRN8K or Elkay EZWSM8K for recessed locations.

#### References:

None

❖ *When the "replace filter" light is activated people will not use the water fountain.*

## 23 00 00

### HVAC (General)

1. All mechanical pumps to be base-mounted, close-coupled. All HVAC equipment must be designed to be accessible from floor. No pumps are to be suspended from the ceiling.
2. Equipment to be served by 2-position not 3-way valves.
3. Heating equipment to be 100% redundant (Lead and Standby, not Lead and Lag).
4. Pressfit copper fittings (e.g., "ProPress" are not to be specified on domestic water or heating systems.
5. All mechanical rooms are to be painted prior to the installation of equipment. Painted surfaces are to be touched up after installation of equipment.
6. Solar powered thermometers must not be specified in mechanical rooms. Thermometers can be liquid style or bimetal style or electronic sensor style but not battery or solar style.

**7. Meters and Gauges** (Section 23 05 19)

- a. The operating function of a gauge (e.g., pressure) should fall at the midpoint of a gauge's accuracy. If a gauge is accurate between 30% and 70% of its display, then the normal operating temperature or pressure should fall within 50% of its display.
  - b. All new meters must connect to and communicate with the existing Indusoft WebStudio SCADA system via BACnet or Modbus through the building level OPC-UA server to ensure that all utility sub-metering data is located on one single server and can be monitored and managed from within a single software package.
8. Closeout documentation should document the initial test of source water (prior to chemical treatment) used for HVAC systems.
  9. Closeout documentation for all sealed refrigeration systems (particularly those over 50 lbs) should include the initial weight of the equipment when empty (dry) as well as after it is loaded (charge quantity documenting initial refrigerant charge of the unit).
  10. Variable speed drives should be specified under a separate specification section than the air handling units.
    - a. Current protection must be specified as per NEC.
    - b. The drive frequency should be a data point relayed back to the building automation system.
    - c. Drive fault indication and fault code should be relayed back to the building automation system.
  11. Air handling units and AHU rooms should be specified / designed to provide sufficient space to remove (pull) and repair / replace the tube or coil.
  12. Heating coils in air handling units shall be sized to provide for the full heating load without energy recovery wheel in operation.
  13. All butterfly valves on equipment, mains, branches and risers to be High Performance Steel, lugged frame, with offset butterfly valves.
  14. The HVAC system and components shall meet / exceed the latest Energy Code requirements. If there is a discrepancy between the energy code requirements and the UA standards, the design team shall notify UAPM for resolution.
  15. Architectural Enclosures:
    - a. On the Academic Podium (Core 1 as per the Getty Heritage Report) all rooftop mechanical enclosures to be concrete.
    - b. At the Downtown Campus mechanical enclosures to be in line with original roof aesthetics.

**References**

1. SUCF Program Directives 1B-2 (Net Zero Carbon New Buildings and Deep Energy Retrofits of Existing Buildings) and 15H-1 through 15H-10 (HVAC Requirements)
2. UA Owner's Project Requirements
3. Campus Heritage Preservation Plan, 2009 ("Getty Heritage Report")

## 23 05 00

### HTHW Systems

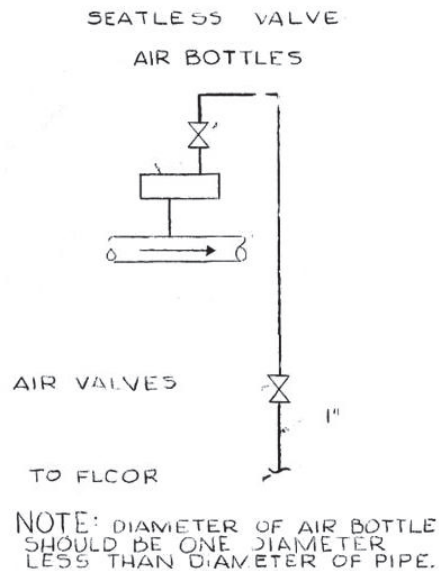
The campus provides 400F, 400psi High Temperature Hot Water (HTHW) to Uptown campus buildings, for space heating and domestic hot water throughout the year, except, during 2 weeks in May when the plant is shut down for maintenance. The heating plant operates as a variable secondary system with pumps in the Central Plant.

1. Systems shall be designed for 550 PSI/450°F operating conditions, including their effect on pipe stress, insulation, and expansion requirements. NOTE: Boiler design and max operating pressure is 575 psig.
2. High temperature gate valves 2" and less should be Class 800 and gate valves over 2" should be Class 300.
3. Materials:
  - a. All pipe joints shall be fully welded.
  - b. All pipe weld joints shall be 100% visually inspected.
  - c. All equipment connections shall be flanged using Class 300 weld neck flanges and gaskets. No threaded connections are permitted.
  - d. All valves shall be Class 300 cast steel Grade WCB. Valves shall have replaceable seats and trim.
  - e. Stop valves: Valves up to 2 inches welded socket end connections forged steel gate valves
  - f. Stop valves: Valves over 2 inches butt weld end connections cast steel gate valves
  - g. Heat exchangers shall be shell and tube with the HTHW on the tube side.
  - h. The HTHW control valve shall be a pneumatically-operated fail closed type and be installed on the return line.
  - i. Piping systems installed in buildings and in tunnels shall be fully supported and insulated using mineral wool and metal jacket system.
  - j. Piping systems shall be chemically cleaned after installation. Design shall include equipment bypasses with provisions for cleaning and flushing.
  - k. Welding, welder qualifications and inspection acceptance criteria shall be per ASME B31.1 "Power Piping".

- l. Air vents shall be Air Bottles as detailed in below figure 1.
- m. Provide drain valves whenever required for complete drainage of piping, including the system side of all pumps.
- n. Double Valving for HTHW - Two (2) valves shall be provided at all mechanical room take-offs. Two valves shall also be provided for each vent or drain, one at the open site drain.
- o. All welding elbows shall be long radius seamless elbows.
- p. With the exception of pipe welded end-to-end all welded joints shall be made by the use of one-piece welding neck flanges, nozzles, elbows, tees, etc. as manufactured by Tube-Turn, Grinnell, Ladish, Taylor-Forge.
- q. Qualification of Pipe welders: Prior to the start of work furnish the names of pipe welders to be employed in the work, together with certification for each welder of qualification tests as prescribed by the National Certified Pipe Welding Bureau, or by other reputable testing laboratory or agency, using procedure approved by the American Society of Mechanical Engineers or the American Welding Society.

#### 4. Metering

- a. Project must include extensive metering and integration with SCADA with the intent of providing a robust tool for automated and continuous commissioning.
- b. Meters must communicate to SCADA via BACnet/IP (preferred) or ModBus and must provide all available data points for mapping into SCADA without the need for a proprietary gateway.
- c. At the minimum, the following systems must be separately metered and provide not less than hourly data:
  - i. Whole building electric, HTHW, CHW, DHW, and potable water.
  - ii. Sub-meters for total energy used by HVAC systems, lighting, and receptacles.
  - iii. Any other system/equipment that uses  $\geq 20\%$  of the building's projected total energy usage
- d. The campus standard for meters is Flexim Fluxus ultrasonic meters for HTHW and CHW metering.
- e. The Commissioning Agent must develop an M&V and Continuous Commissioning Plan to identify meters required and to develop graphical dashboards, trends and analysis reports to proactively analyze building system operation and optimize performance.
- f. The Project must utilize SCADA historian for interval data historization and trending, Dream Reports for reporting, and Tableau for visual dashboards.
- g. The specifications shall assign responsibility for all SCADA scope associated with HTHW infrastructure to the plumbing subcontractor, not to the SCADA subcontractor.
- h. The University will closely monitor performance of the building and its systems based on the M&V plan to optimize performance and may apply for Energy Star certification within 3 years of building occupancy.



### HTHW MANUAL VENTS & AIR BOTTLES DETAIL

- ❖ Need to have 3-valve manual bypass around control valve with globe valve with a control valve equal to the control valve.

#### References

1. SUCF Program Directives 15H-6 and 1C-6. (NOTE: In the event of a discrepancy, campus directive(s) supersedes.)
2. UA Owner's Project Requirements

## 23 05 53

### Identification for HVAC Piping and Equipment

1. Specifications are to be provided for the labeling of all HVAC equipment in conformance with the UA Albany Standards.
2. Access points required should be marked on ceiling drop in acoustic panels.
3. Valve tags and valve charts shall be posted in mechanical and electrical rooms and delivered to the UAPM prior to training.

## 23 05 93

### Testing and Balancing

[In development]

## 23 07 00

### HVAC Insulation

1. HTHW insulation to be heavy density one-piece or sectional pipe insulation suitable for temperatures up to 1200 degrees F.
2. A continuous second field-installed vapor barrier is required on chilled insulated water lines.

## 23 08 00

### Commissioning of HVAC

[In development]

## 23 09 00

### Instrumentation Control for HVAC

1. The University has two Building Management Systems (BMS) on the campus: Honeywell and Siemens. Project must utilize one of the two for controlling all HVAC&R systems.
2. The BMS vendor shall provide the required end devices, controllers, and cabling as required and shall be responsible for programming to meet specified sequence of operations. The BMS vendor will also be responsible for providing commissioning tools (such as loop tuning) and assisting with commissioning of their system and coordinating with the SCADA Integrator to map all data points from their system into the SCADA platform via a building level OPC-UA server and using native BACnet/IP protocol.
3. BMS, lighting, and metering vendors shall provide shop drawings with a list of all physical and known virtual points and associated tags in their system. BMS shall follow the campus standards for point/tag naming to avoid confusion when the points are brought into SCADA. Point schedule must include point name, description, type, sensor range, actuator range, address, BACnet object, associated BIBBS (where applicable), and connection terminal number.
4. The University has an Indusoft WebStudio SCADA system that will serve as the unified head end and graphic user interface for all building level systems including, BMS, Energy Metering Systems, and Lighting Control Systems. All domestic hot water control and monitoring points must be brought in to the Indusoft WebStudio SCADA system via BMS.
5. All monitoring and control functions shall be available at the uptown campus Power Plant in addition to the local operator workstation at the building through the SCADA system.
6. Project must use native BACnet open protocol control system for HVAC&R, VFD, lighting, metering and electrical. Network gateways, protocol interface equipment, and/or proprietary black-box systems are not acceptable.
7. All sequence of operations must be written in plain English and provided to the SCADA integrator to be displayed at the head end.
8. The specifications shall assign responsibility for all SCADA scope associated with plumbing infrastructure to the plumbing subcontractor, not to the SCADA subcontractor.
9. Require a mandatory pre-submittal meeting for BAS, SCADA, mechanical, lighting, and metering subcontractors, University personnel, and Commissioning Agent to review scope of work, integration requirements, and commissioning sequence.
10. BMS vendor shall provide tools required to perform the following tasks:
  - a. create, delete, and modify controller level alarms, including annunciation and routing of these,
  - b. create, delete, and modify controller level point trend logs and graph or print these
  - c. perform peripheral operation and maintenance procedures.
  - d. review/edit program logic
  - e. review/edit setpoints
  - f. download controllers
11. After BMS, lighting, metering installation is complete, responsible vendor shall provide the following and coordinate with SCADA integrator and commissioning Agent to verify that their systems work as intended:
  - a. Point to point testing document verifying readings from all sensors and field devices to the controller and then to building level OPC-UA server with the appropriate read/write access.
  - b. List of virtual points and associated tags that were required to complete programming the specified sequence of operations.
  - c. Loop tuning documents to verify smooth and stable operations.
  - d. Performance Verification Testing report to verify compliance of their system with specifications and required sequence of operations, including confirmation that each controller works properly in stand-alone mode using default values in case of a loss of communication with SCADA.
  - e. Laptop and maintenance personnel interface tools to review/edit program logic, setpoints, and alarms at controllers.
  - f. As built with a complete list of physical and virtual point and tags and sequence of operations

12. Industrial Control System (ICS) Network- University ITS will provide dedicated fibers for use on the project that are connected to the campus-wide ICS network and physically separate from the campus-wide enterprise ITS network. All building level systems, including BMS, metering, and lighting, must use the ICS network to connect to the SCADA. Design must locate adequate ITS/ICS telecom rooms on each floor to accommodate the building level controllers and IT switches and servers as required. Any network jacks provided in the building to access the ICS network must be color coded in green. The construction schedule must allow for the completion of the telecom rooms and installation of the ICS network in time for the SCADA integrator to connect to all building level systems.
  13. Loading Docks and Vestibules must be outfitted with space temperature sensors that read to below 32 F.
  14. Thermostats should be specified as follows:
    - a. To display the set point temperature only, not the current temperature in a space.
    - b. In dedicated spaces (e.g., offices, classrooms, laboratories) provide +/- 2°F manual adjustments from setpoint and a manual override function to turn on heating only in two-hour increments during off hours.
    - c. In common (public) areas to not allow for override or setpoint adjustment.
    - d. If multiple spaces are zoned together using one thermostat, such zones shall consist of spaces with similar thermal loads based on occupancy type, occupancy hours, solar orientation, and other external and internal loads. The location(s) of the shared thermostat will be determined to minimize occupant complaints.
  15. Do not show/display room temperature.
- ❖ *The University does not want to allow occupants to manipulate the temperature in public areas.*

#### Reference

1. Section 25 00 00 Integrated Automation
2. UA Owner's Project Requirements

## 23 21 00

### Hydronic Piping and Pumps

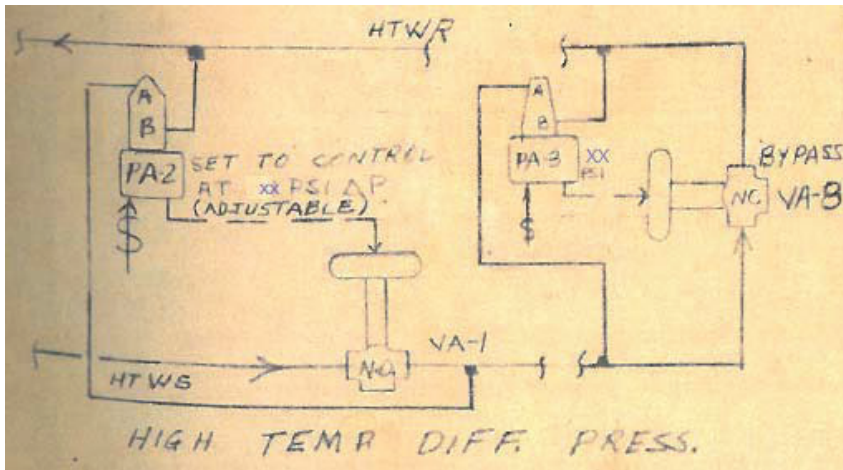
#### 1. General

- a. A removable thermal blanket should be specified for installation at each flange and at each valve.

#### 2. HTHW Pressure Control:

- a. HTHW: Main Pressure Control Valve at main branches for Dutch Quad, Colonial Quad, State Quad, Indian Quad, Podium and Service Buildings:
- b. Main Pressure Control Valves for each complex above shall be sized for approximately 75 psi maximum pressure drop at full flow.
- c. An individual HTHW Pressure Control System is required for each branch off of the HTHW distribution loop located in the Mechanical Equipment Room.
- d. Installed in the HTHW supply line shall be:
  - i. A pneumatically controlled valve modulated by a pneumatic pressure differential controller (typical- Leslie UDDV) with its sensing elements in the supply and return water lines to that MER and it shall maintain a pressure differential between the supply and return lines to that MER in accordance with its setting.
- e. Differential pressure shall be approximately 10% of main system pressure (typically 8 psi) subject to the location of the machine room in relation to the main high temperature hot water circulating pumps.
- f. The typical campus installation includes a differential pressure-controlled bypass valve.
- g. The HTHW pressure differential control valve in each MER shall be sized to reduce the pressure downstream of the valve to the minimum pressure necessary for design flow gpm through the downstream systems.
- h. The HTHW bypass valves, one for each automatic pressure differential control valve at the end of HTHW main to each, shall be sized to pass 5% of building gpm at a pressure drop which is 20% higher than the individual system pressure drop when the valve is wide open.
- i. The pressure control scheme must:
  - i. Allow precise flow control and prevent potential system harmonic oscillation.
  - ii. Pneumatic pressure differential control valve should fail open.

- iii. Typical pressure differential control diagram for a specific campus application, not a generalization:



**2. HTHW Temperature Control:**

- a. Temperature Control valves for each HTHW consuming unit shall be sized to pass design gpm in wide open position with a pressure drop equal to 90% of the effective upstream pressure.
- b. The high temperature hot water throttling valves in the return line from the water to water heat exchanger shall be modulated by a thermostat located in the secondary water line leaving the heat exchanger:
  - i. With its sensing element located about ten (10) feet from the heat exchanger
  - ii. To maintain a constant leaving secondary water temperature.
- c. If rate action is required for the controller to maintain a preset leaving temperature with a 3F +/- variation, it shall be provided.
- d. Whenever the secondary water pump is stopped the high temperature water valve shall close. A hardwired differential pressure switch in the secondary distribution piping at the heat exchanger will vent air from the pneumatic valve and will shut the high temperature water valve.
- e. This pneumatic valve should fail closed.
- f. Whenever, due to malfunction of equipment, the leaving secondary water temperature rises above 240F the secondary water pump shall be started automatically and an alarm shall be indicated. An electric immersion thermostat (in dry-well) shall be used for the above safety control.

**3. High Temperature Hot Water System Control Valves:**

- a. All control valves shall be class 300 or greater with stainless steel trim, flanged connections with flanges finished to an 80 RMS smooth surface with no grooves.
- b. The valves shall have an operator capable of providing sufficient force to close against the system pressure at zero flow.
- c. No single control valve shall be larger than 2 inches. Where capacity requires a valve larger than 2 inches, two (2) valves shall be installed in parallel with the smaller valve sized for a maximum of 1/3 total capacity.
- d. Each HTHW control valve requires a 3-valve bypass arrangement.
- e. The bypass globe valve shall be of the same CV size as the control valve.
- f. The shutoff valves must be located so as to permit maintenance of the control valve, while allowing the use of the heat exchanger.
- g. Flanges and Flanged Fittings shall conform to ASA standard B16.5 and ASTM A181 for 300 lb. class.
- h. All bolts shall be in conformance with ASTM standards A193 Grade B-7 for alloy steel bolts.
- i. Gaskets shall be spiral-wound with compression limiting ring on the outer edges only. Bases of Design: Spirotallic Style 913, Tedit Metalflex 913, Flexitallic Style CG or Garlock Flexseal RWI.
- j. Pneumatic controls to be confined to HTHW control valves. Electronic control valves shall be used in other applications.
- k. Control valves to be linear globe style with appropriate CV.

**4. HTHW / Steam or SHW Converters:**

- a. Converters shall be U-tube construction with HTHW in the tubes, secondary water or steam in the shell.
    - i. Tube side to be designed for 550 psig at 450F.
    - ii. Shell side to be designed for 150 psig at 450F.
    - iii. Unit to be constructed in accordance with ASME Code for Unfired Pressure Vessels and to carry ASME stamp.
    - iv. Tubes shall be 5/8" or 3/4" O.D. X 18BWG Copper-Nickel condenser tubes.
    - v. Tube sheet to be steel ASTM A-285 GR C or ASTM-201 (or current) Grade A or B.
    - vi. Tube sheet holes shall be serrated with two grooves.
    - vii. Tube sheet shall have same outside diameter and girth as shell flange.
    - viii. Bolt/stud hole spacing 2" on center or less
    - ix. Shell and head shall be fabricated steel ASTM A-53 Grade A or B or ASTM A-285 Gr C1 or current standard.
    - x. High temperature hot water nozzles shall be ASA 300# flanges.
    - xi. Baffles and tie rods shall be brass.
    - xii. Pressure vessel must be protected by ASM approved pressure relief valve.
    - xiii. Flanges and Flanged Fittings shall conform to ASA standard B16.5 and ASTM A181 for 150 lb. and 300 lb. class.
      - All flanges for high temperature hot water and shall be finished to smoothness of 80 RMS.
      - Raised surface or grooves will not be permitted.
      - All bolts shall be in conformance with ASTM standards A193 Grade B-7 for alloy steel bolts.
      - Gaskets shall be Johns Manville 913 Spirotallic with compression limiting ring on the outer edges only.
      - Preferred Option: Attach tube sheet to the shell flange with four recessed shoulder bolts allowing the HTW head bonnet to be removed and replaced without disturbing the gasket between the tube sheet and shell flange.
    - xiv. Basis of Design: Exchangers shall be Yula, Kam, JFD, Patterson Kelley or equivalent.
- 5. HTHW Piping: Materials**
- a. All HTHW piping must be Schedule 40 pipe.
  - b. Specifications must call for welds to be 100% radiographically inspected. If any of these inspected weld joints are found unacceptable, they shall be repaired and re-inspected.

## 23 23 00

### Refrigerant Piping

#### 1. Chilled Water Piping: Materials

- a. Chilled water piping to have a second vapor barrier installed at all spaces and installations. Kraft paper is not sufficient.

#### 2. Chilled Water Equipment

- a. The Uptown campus provides 42F Chilled Water (CHW) to all buildings for space and process cooling. The University is currently upgrading the Chiller Plant to provide variable primary year-round cooling. The Chiller Plant operates at 15-16F delta T. Design must not include any additional tertiary booster pumps in the building. Design must not adversely affect the overall campus system or other buildings that are also on the central system.
- b. Chilled water equipment to be sized for 15-degree differential temperature.
- c. Chilled water coils shall never include more than six rows 14 fins per inch (FPI).

## 23 25 00

### HVAC Water Treatment

1. Air handler preheat coils to be 40% propylene glycol.



## 23 35 16

### Variable-Air Volume Units

1. VAV box controllers to have separate damper actuators. Actuators that are integral to the controller are not allowed.
  2. The university requires cascade control on VAV boxes.
  3. Discharge air temperature reset to follow deviation from room setpoint.
  4. CO2 monitoring should be specified to reduce ventilation rates based on actual demand and to prevent overcooling.
  5. Zone level terminal devices, including VAVs and FCUs must have minimum airflow setpoint of 0%, as allowed by ASHRAE Ventilation Standard 62.1. When a space is unoccupied or in dead band mode, the terminal device serving the space shall be reset to zero or minimum airflow setpoint required by code to prevent overcooling and occupant discomfort.
  6. Should pressure independent control valves (PICVs) be specified for VAVs?
- ✓ *At 60% if they have a flushed out sequence of operations what often happens is the mechanical equipment is being selected by 60% but the sequence of operations aren't formulated yet. They should have a clear idea of how the system should be operated if they're specifying the equipment to operate it.*
- ❖ *At the Massry center the system was wildly fluctuating cycling from cooling to heating within a given day. This occurred for a year before they modified the sequence of operation.*
- ❖ *On some projects, CO2 monitoring is used solely as an alarm function and not to assist in controlling the ventilation of a space. As a result, ventilation rates are programmed as a function of theoretical occupancies and, when occupancies are lower, occupants can be left feeling cold.*

## 23 40 00

### Air Cleaning Devices

1. Filters must be specified along with air handling units.
2. Filter Efficiency: For all residential, administrative and academic buildings, the MERV rating on the filters shall be minimum MERV 13. MERV rating shall be reported in accordance with ANSI/ASHRAE Test Standard 52.2. Both MERV and MERV-A rating (tested per Appendix J) shall be reported.
3. Dust Holding Capacity: Filters with higher dust holding capacity, and hence, longer replacement cycles, are preferred unless they negatively impact the differential pressure drop across the filter media over the life of the filter. Specific approval from UAPM referencing this standard is required if longer replacement cycles impact performance.
4. Differential Pressure: Filter design must consider lowering the total pressure drop across filters. Filters with the lowest initial as well as final resistance shall be preferred when comparing filters that meet the required MERV rating.
5. Electrostatically charged filters are not acceptable.
6. The University currently stocks the following types of filters. Filters that match existing stock are preferred for ease of maintenance unless higher performing filters are available.
  - a. 2" pleat filters with MERV 8 rating, reinforced high capacity with 100% synthetic filter media with at least 14 pleats per linear foot and an initial resistance of 0.30" or less at a velocity of 500 fpm.
  - b. 4" pleat filters with MERV 8 rating, reinforced high capacity with 100% synthetic filter media with at least 10 pleats per linear foot and an initial resistance of 0.24" or less at a velocity of 500 fpm.
  - c. Ring panel filters and links rated at MERV 7 and constructed from 100% polyester media with a wire frame and an initial resistance of 0.25" or less at a velocity of 300 fpm.
  - d. Bag filters with MERV 11 efficiency and constructed with synthetic media with an initial resistance of 0.32" or less at a velocity of 500 fpm. The 12" filters have 4 pockets, 20" have 6 pockets and 24" have 8 pockets.
  - e. 12" box filters with MERV 11 efficiency and constructed with at least 100 SF of 100% synthetic media on the 24x24x12 filter with an initial resistance of less than 0.28" at a velocity of 500 fpm and a rigid plastic frame.
  - f. 4" box filters with MERV 14 efficiency and constructed with at least 45 SF from 100% synthetic media and an initial resistance of 0.45" or less at a velocity of 500 fpm and a rigid plastic frame (Used in Science buildings).

7. Monitoring Pressure: Install pressure differential gauge with a range of zero to 1.0 in. w.g. across all filter banks. The gauge should be easily visible from a standing position in an easily accessed location near the air handling unit. It should be tied to the building's BMS system.

## 23 53 00

### Heating Boiler Feedwater Equipment

1. Before 60% design release, high temp hot water (HTHW) system design must be submitted for Campus approval.

## 23 65 00

### Cooling Towers

1. The preference is for dry cooler, evaporative closed circuit fluid coolers. The University would consider adiabatic coolers.
  2. If open tower is specified, cross-flow with gear drive and motor out of airstream.
  3. No piping bypass, but bypass around fill to sump.
- ✓ *At the end of the Design Development phase the Design Team must notify the UAPM of the location and quantity of cooling towers.*
  - ❖ *UAEH&S is required to maintain a database of all cooling towers on campus for review by the NYS Department of Health.*

## 23 73 00

### Indoor Central-Station Air-Handling Units

1. If fan-arrays are used, provide individual current protection and individual drives for each fan, instead of a common drive.
  2. Provide for installation of floor drain adjacent to all air handling units. Do not route floor mounted condensate piping all around floor to drains.
  3. Air handlers to be installed on minimum 6" high curbs to allow the installation of condensate traps.
  4. The design of air handling units must specify sufficient space between the preheat coil and cooling coil to accommodate the freeze stat.
  5. Freeze stats are required at air handlers after the first coil.
  6. Leak testing must be performed both on the factory floor and after field erection.
  7. Factory startup to include controls and opening up and documenting all points to be shared via BACnet.
- ❖ *The University has seen projects in which insufficient space is provided between an air handling unit's heating and cooling coils such that it prohibits the installation of the freeze stat.*

### References

1. UA Owner's Project Requirements

## 23 82 14

### Chilled Beams

1. Chilled beams must include condensate drain pans.
2. Provide sensors tied to the building management system to measure and monitor humidity and dew point and reset chilled water temperatures to prevent condensation.
3. Chilled beams are not preferred in spaces with operable windows due to condensation issues. If chilled beams are specified for use in rooms with operable windows, controls must be installed to automatically shut off the chilled beam unit when the window is open. The head end must visually indicate spaces where the control has disabled a chilled beam due to an open window.

## References

1. Section 08 51 13 Aluminum Windows

## 25 00 00

### Integrated Automation

1. The University has an Indusoft WebStudio SCADA system that will serve as the unified head end and graphic user interface for all building level systems including, BMS, Energy Metering Systems, and Lighting Control Systems. The project must employ a third-party SCADA integrator who is qualified to work on Indusoft.
2. All monitoring and control functions shall be available at the uptown campus Power Plant in addition to the local operator workstation at the building through the SCADA system.
3. The SCADA integrator will bring the points from all building level systems into the SCADA platform through a building-level OPC-UA server and will develop graphical user interfaces, control and command screens, data historization, trending, and alarming in Indusoft per the project specifications.
4. The integrator will also build custom reports, as specified by the University, using existing Dream Reports and custom dashboards for data visualization using existing Tableau.
5. Project must include any upgrades to the existing Indusoft SCADA, Kepware, Dream Reports, and Tableau systems that is required to meet OPR and project specifications. Additional operator licenses, as required, shall be provided to accommodate additional users.
6. Trend reports must be setup for all points in the SCADA based on 15-minute interval data. The system must have adequate storage capacity to store trended data for a period of minimum 3 year.
7. All sequence of operations must be written in plain English and displayed at the head end. The graphics must be approved by the University prior to implementation and adjusted during the first year of operation based on University input.
8. Require a mandatory pre-submittal meeting for BAS, SCADA, mechanical, lighting, and metering subcontractors, University personnel, and Commissioning Agent to review scope of work, integration requirements, and commissioning sequence.
9. Specifications shall be prepared so that the SCADA subcontractor is responsible for the system front end and read outs, but trade subcontractors are responsible for SCADA scope as it relates to their respective trades.

✓ *The 60% Contract Documents must capture:*

- *All required control points. Each point should have a unique ID with an overall, holistic view of how the pieces relate to one another.*
- *A single-line diagram that shows the communications network including how all controllers are communicating with the open platform communications system (OPC).*

- ❖ *In past projects, the specifications have been structured assuming that the General Contractor will coordinate requirements for reporting points across multiple systems but without comprehensively listing all monitoring points in this section. As a result, upon installation that miscoordination between the trades became apparent such that it was too late or too costly to remedy. Listing those points in their respective sections and in this master section is the safest way to ensure coordination. The total number and categories of both points and devices must be defined in the contract documents.*
- ❖ *It is important that the documentation clearly indicate where controllers are to be located and outline the physical requirements for space and access. In prior projects, controllers have been specified in a schematic but not adequately accommodated in real space.*

## References

1. Section 23 09 00 Instrumentation Control for HVAC
2. Section 26 10 10 Medium Voltage Electrical Distribution
3. Section 26 27 13 Low-Voltage Electricity Metering
4. Single and Limited Source Request Letter dated May 25, 2017 for ETEC-2020 project

## 25 05 53

### Identification for Integrated Automation

1. Specifications must call for the labeling of all HVAC equipment in conformance with the UAlbany Standards.
2. Control drawings shall individually and uniquely label each device. There must be no generic labels on process and instrumentation drawings. A point list that meets the campus standard naming convention must be provided.

#### References

1. Section 23 05 53 Identification for HVAC Piping and Equipment

## 26 00 00

### Electrical

1. All electrical lines must be run in conduit through the corridors to junction boxes at each assignable space.
  - a. From that box, metal-clad ("MC") jacketed cabling can be run throughout the individual space to the final destination.
  - b. There is no need to put conduit in stud walls; MC is acceptable.
2. All electrical rooms are to be painted prior to the installation of equipment. Painted surfaces are to be touched up after installation of equipment.
3. Solar-powered thermometers must not be specified in electrical rooms. All thermometers must be connected to a power source.
4. Labeling: All electrical outlets should be labeled to indicate their circuiting.
5. The University does not require the lighting vendor to work through the BMS vendor to connect to the SCADA system.

❖ *The limited floor-to-floor heights on the Podium in both academic and residential facilities means space above hung ceilings is very tight. If conduit above ceilings is run in conduit it can be modified later with minimal disruption or disturbance. The University's goal is to limit the lengths of MC cabling to less than 12' runs so that cabling can be easily pulled back to electrical panels when modifications have to be made.*

## 26 05 43

### Electrical Duct Bank

1. **Underground duct applications:**
  - a. Electrical Utility Service: Plastic utilities duct encased in reinforced concrete.
  - b. Telephone and Data Utility Service: Plastic utilities duct encased in reinforced concrete.
2. **Precast Concrete Utility Structures**
  - a. The University requires a manhole lid min. 36" in clear diameter that is lockable.
  - b. The transition is toward a fiberglass roadbed-standard cover.
3. **Policies and Procedures**
  - a. Minimum conduit size for both power and signal duct banks is 5"
  - b. Minimum number of conduit in a duct bank is 4
  - c. All duct banks will have a minimum of two spare conduits
4. Distribution of MV electrical conductors (13.8 KV) will be via a system of concrete encased ductbank and full height manholes.
5. Utilize manhole and duct banks for medium voltage electrical distribution and signal system distribution.
6. MV Manholes will be sized for separable connectors and parking stations at all building take-offs and main branches.
7. **Materials:**
  - a. Precast reinforced manhole with cast iron manhole frame and gasketed cover, 36-inch diameter round opening for vehicular loading with cast label: HIGH VOLTAGE or SIGNAL as appropriate – Campbell #1012B or equal.
  - b. Include, as defined in the above Design Standard: sump pit with cast iron grating, cable racks, pulling eyes, reinforced bells, ladder rungs, grounding.

- c. Duct bank per Primary Electric Master Plan - Program Study, Design Standards to be encased in reinforced concrete using side forms, including spacers, base material, coated re-bar.
- d. Duct bank to be no less than 18 inches below finished grade or paving.
8. Basis of design for pull boxes and hand holes shall be Quarzite Box with covers labeled for communications or power.

#### References

1. SUCF Management of Construction Manual (September 20, 2017)
2. Uptown Campus, Primary Electric Master Plan (SUCF Project 01832) June 2005; pages 15-19
3. Uptown Campus, SUCF Project 01A87-07 Install Ductbank Project associated with ETEC-2020

## 26 08 00

### Commissioning of Electrical Systems

[In development]

## 26 09 23

### Lighting Controls

1. Lighting must be controlled based on occupancy, daylight, and/or time of day scheduling where applicable.
2. Use dimmable fixtures in daylight spaces for automatic and continuous dimming.
3. Networked lighting control system may be considered for common areas including lobby, hallways, and stairwell.
4. Networked lighting system must use non-proprietary wiring and native BACnet open protocol communication between connected devices and controllers/head ends. Network gateways, protocol interface equipment, and/or proprietary black-box systems are not acceptable.
5. The University has an Indusoft WebStudio SCADA system that will serve as the unified head end and graphic user interface for all building level systems including, BMS, Energy Metering Systems, and Lighting Control Systems.
  - a. Networked lighting control must be integrated with SCADA using native BACnet/IP via the building level OPC-UA server and controlled from the SCADA head end only.
  - b. SCADA must be used for scheduling networked lighting, load shedding by dimming/turning off networked lights, and monitoring and reporting lighting energy usage.
  - c. The Lighting vendor shall provide shop drawings with a list of all physical and known virtual points and associated tags in their system.
  - d. Lighting controls shall follow the campus standards for point/tag naming to avoid confusion when the points are brought into SCADA.
  - e. Point schedule must include point name, description, type, sensor range, actuator range, address, BACnet object, associated BIBBS (where applicable), and connection terminal number.
  - f. The specifications shall assign responsibility for all SCADA scope associated with plumbing infrastructure to the plumbing subcontractor, not to the SCADA subcontractor.
6. Classrooms and conference rooms must have the ability to change lighting scenes via a wall-mounted switch/keypad and/or through the A/V control system.
7. All common area lighting must have a scene for night custodial services.
8. Private offices must have switching for minimum bi-level lighting. Localized ceiling-mounted occupancy/vacancy/daylight-based controls are acceptable for private offices/spaces.
9. Lighting and control system must be user-friendly and simple to operate, modify and re-program.
10. Require a mandatory pre-submittal meeting for BAS, SCADA, mechanical, lighting, and metering subcontractors, University personnel, and Commissioning agent to review scope of work, integration requirements, and commissioning sequence.
11. Lighting vendor shall provide tools required to perform the following tasks:
  - a. create, delete, and modify lighting scenes and sequences,

- b. create, delete, and modify controller level point trend logs and graph or print same
    - c. perform peripheral operation and maintenance procedures.
    - d. download controllers
  12. After lighting installation is complete, responsible vendor shall provide the following and coordinate with SCADA integrator and commissioning agent to verify that their systems work as intended:
    - a. Point to point testing document verifying readings from all sensors and field devices to the controller and then to building level OPC-UA server with the appropriate read/write access.
    - b. List of virtual points and associated tags that were required to complete programming the specified sequence of operations
    - c. List of programmed lighting scenes per zone
  13. Industrial Control System (ICS) Network- University ITS will provide dedicated fibers for use on the project that are connected to the campus-wide ICS network and physically separate from the campus-wide enterprise ITS network. All building level systems, including lighting must use the ICS network to connect to the SCADA.
- ❖ *The existing street lights have a wireless network based on CIMCON.*
- ❖ *The University has installed some wireless lighting controls in the interior of the library.*

#### Reference

1. Section 11 52 00 Audio-Visual Equipment for Crestron integration
2. Section 25 00 00 Integrated Automation
3. Section 26 51 13 Architectural Luminaires, Lamps, Ballasts
4. UA Owner's Project Requirements

## 26 10 10

### Medium Voltage Electrical Distribution

1. **Medium Voltage No-Load Breaks (limited source):** The campus has requested a limited source waiver for consultants to specify only two medium voltage no-load breaks: Cooper and Elastimold. These manufacturers' products are required for compatibility with other campus electrical equipment.
  - a. No-load breaks should be 100% copper.
2. **Medium Voltage Switches (single source):** The campus has received a single-source waiver (see waiver, below) to use S&C switches as they allow for the transfer of electrical loads between campus feeders without shutdowns. S&C switches use SF6 gas which prevents arcing during the switching process minimizing potential hazards.

#### References

1. Uptown Campus, Primary Electric Master Plan (SUCF Project 01832) June 2005; pages 2-7
2. Section 25 00 00 Integrated Automation
3. Single and Limited Source Request Letter dated May 25, 2017 for ETEC-2020 project

## 26 27 13

### Low-Voltage Electricity Metering

1. Project must include extensive metering and integration with SCADA with the intent of providing a robust tool for automated and continuous commissioning.
2. Meters must communicate to SCADA via BACnet/IP (preferred) or ModBus and must provide all available data points for mapping into SCADA without the need for a proprietary gateway.
3. At the minimum, the following systems must be separately metered and provide not less than hourly data:
  - a. Whole building electric, HTHW, CHW, DHW, and potable water
  - b. Sub-meters for total energy used by HVAC systems, lighting, and receptacles.
  - c. Any other system/equipment that uses  $\geq 20\%$  of the building's projected total energy usage

4. The electrical riser layout should allow for metering at system level as required.
5. The campus standard for meters is Schneider ION meters for electricity.
6. Commissioning Agent must develop an M&V and Continuous Commissioning Plan to identify meters required and to develop graphical dashboards, trends and analysis reports to proactively analyze building system operation and optimize performance.
7. Project must utilize SCADA historian for interval data historization and trending, Dream Reports for reporting, and Tableau for visual dashboards.
8. The University will closely monitor performance of the building and its systems based on the M&V plan to optimize performance and may apply for Energy Star certification within 3 years of building occupancy.

#### Reference

1. Section 25 00 00 Integrated Automation

## 26 27 26

### Wiring Devices

1. Color of devices:
  - a. Outlets powered by generators: red
  - b. Switched outlets: green
  - c. Outlets backed up by UPS: blue
  - d. Standard duplex outlets: variable

## 26 51 13

### Architectural Luminaires, Lamps, Ballasts

1. Campus standard for lighting technology is LED for interior and exterior lighting.
2. LED Lighting must be Energy Star qualified and/or DLC approved and from a reputable manufacturer.
3. All LED fixtures must be from a single manufacturer and must be cost-effective to maintain and replace in future.
4. The number of different types of fixtures must be limited to as few as possible to achieve design intent.
5. The University's 2008 Lighting Master Plan, although generally superseded, does provide direction on the relamping of original Edward Durrell Stone "Saucer" fixtures.
6. The standard for lighting temperature is 4000K for interior fixtures. Exterior fixture color temperature must match existing surrounding fixtures.
7. The lighting and lighting control systems and components shall meet/exceed the latest Energy Code requirements. If there is a discrepancy between the energy code requirements and the UA standards, the design team shall notify UAPM for resolution.
8. Retrofit LED fixtures below Podium interior concrete vaults to be Bio 248 fixture.

#### References

1. Lighting Master Plan (2008) by Naomi Miller Lighting Design. Note: this document is included for historical reference but is no longer a valid standard to follow for future projects.
2. University at Albany Landscape Design Guidelines (Fall 2010) page 29 by TWLA
3. Section 26 09 23 Lighting Controls
4. UA Owner's Project Requirements

## 26 53 00

### Exit Signs

1. Under no circumstances will the University at Albany approve the use of self-luminous exit signs containing the radioactive gas tritium.
2. These should be tied into the inverter system like emergency lights.

- ❖ *As exit signs must be tested monthly, there must be a test switch on each floor that kills the power and forces the light to go over to the inverter.*

## 26 56 00

### Exterior Lighting

1. **Parking Lot Lighting Fixture** (basis of design) to be Gardco PureForm **P26** (26") **140L NW-G2** (warm white 4000K Generation 2) **AR** (arm mount) 277 volt **DD** (0-10v external dimming controls) **TLRD7** (twist lock receptacle 7 pin) **RPA** (round pole adapter) **BZ** (bronze finish).
2. **Roadway Lighting Fixture** (basis of design) to be Philips LUMEC RoadFocus RFM (medium) **4K** (4000k) Generation 2 **UNV** (universal voltage 120v-277v) **DMG** (dimming controls 0-10v) PH9 (shorting cap) **RCD7** (Tool less receptacle for twist-lock photocell or shorting cap 7-pin standard) **BR** (bronze finish).
3. **Walkway Lighting Fixture** (basis of design) Quadro H2 LED QH2L **1** (single mounting) **40** (4000k) **BZ** (bronze finish) UNV (universal voltage 120v-277v) **DM** (dimming controls 0-10v) with TLR Option: 7-pin NEMA receptacle (ANSI C136.41) with shorting cap.
4. Campus standards for transformer base connectors are: TB-2 (for the Pedestrian Walkway fixture) and TB-3 (for Parking and Roadway Fixtures)
5. Standard Heights:
  - a. 25' pole for parking and roadway (standard 8" tapered pole)
  - b. See below for Walkway Light Pole Standards

**?** *[Include pole standards for Downtown campus.]*

### References

1. Note: The Lighting Master Plan (2008) by Naomi Miller Lighting Design is now considered obsolete and should be disregarded.
2. Section 26 56 13 Walkway Light Pole Standards
3. UA Owner's Project Requirements

- ❖ *Note: the basis of design fixtures were incorporated into the Summer 2019 NY Power Project.*

## 26 56 13

### Walkway Light Pole Standards

1. Additional material requirements:
  - a. There are three types of poles: 12' and 14' (for walkways) and 25' for roadways)
  - b. Walkways (12' and 14')
    - i. Pole to be constructed from fiberglass reinforced plastic (FRP) as a polyester resin and fiberglass woven roving with more than 75% of reinforcing fiberglass in the axial vertical plane.
    - ii. The pole shall be an anchor base style with a shaft length of 12'.
  - c. For all types of poles must be engineered and manufactured to have an EPA rating of 3 in winds of 100% MPH with a gust factor of 1.3. Design specifications must account for the added wind load from banners (see campus signage standards for banner design).
  - d. The pole shall be a top mount with a 3" OD x 4 5/8" tenon.
  - e. Provide capacity to support two banners (one on each side) measuring 28"x72" (for the larger poles) or 28"x36" (for the smaller poles)
  - f. The anchor base will be a 6061-T6 cast aluminum with a (10" – 12") bolt circle to match transformer base. Four galvanized bolts each with two hex nuts, two flat washers, lock nut and bolt cover to be provided. It shall be round with a classical ENTASIS taper, with a smooth brush acrylic finish.
  - g. The color shall be dark bronze. [reference color materials below]
  - h. Breakaway base must be constructed from cast aluminum alloy and heat treated to T6 temper conditions and must meet AASHTO requirements.
  - i. Top bolt pattern of base to match pole shaft bolt pattern (10" – 12").



- j. Bottom bolt pattern of base to match concrete footing bolt pattern (10" – 12"). Height of base (17").
  - k. Design should call for bolt covers at the base of light poles. The University's preference is for sleeves to cover bolts at 12' and 14' poles but caps for the 25' poles.
  - l. Base to include hinged door of same color (Dark Bronze) height (11.75") bottom width of door (9.75")
  - m. top width of door (9.25");
  - n. Overall base dimensions Height (17") bottom width (13.08" sq.), top width (12.04" sq.)
  - o. Pole base cover must be two-piece units made from elastomeric urethane sized to match pole color (Dark Bronze)
  - p. Uptown Walkway poles (both the 12' and 14') shall be 6" diameter, tapered
  - q. Downtown walkway poles to be fluted (13' overall height), early 20<sup>th</sup> century "Acorn" style fixtures (tool-free maintenance) with dark-sky friendly optics. Lamping to be 70W ceramic metal halide fixture.
2. Basis of Design:
    - a. Fiberglass Pole to be same or equal to: Fiberglass tapered pole model number PLP-A312T-3-S1-HO with 3" OD x 4 5/8" cast iron tenon, High Gloss Hard (Dark Brown) Finish as manufactured by PLP Composite Technologies (or equivalent acceptable).
    - b. Pole base to be same or equal to: United Lighting Standards NO. TB2-17
    - c. Pole Base Cover to be same or equal to Whatley Inc. #BC-105

#### References

1. Lighting Master Plan (2008) by Naomi Miller Lighting Design p. 19 and 34. Although this reference is generally out of date, these specific sections remain applicable.

## 27 00 00

### Basic Communications Requirements

1. The University maintains a robust set of Division 27 requirements available as a separate two volume PDF.

#### References

1. UAlbany Division 27—Communications: Volume 1: Design Guidelines (Feb. 10, 2021) and Volume 2: Standards, Codes and Specifications (Jan. 28, 2021)
2. UAlbany sole source justification for Network Data Jacks (no date)

## 27 03 00

### Communications Administrative Requirements

Hours of work are limited to M-F, 7:30 am – 5:30 pm

## 27 20 00

### Data Communications

1. UPD requires network capability out to light poles and walkways/pathways in parking lots at both the Uptown and Downtown campuses.

## 27 32 00

### Voice Communications Terminal Equipment

1. The current University standard is a Cisco 8841 desk phone (VOIP).
2. The campus' goal is to minimize its analog footprint.
3. **Locations**

- a. Desk phones in administrative areas are installed at the discretion of the department. There is not a campus standard to install a desk phone at each work location.
  - b. Older conference rooms were typically equipped with an analog line with a conference call device (e.g., "Polycom") although new conference rooms fall under the purview of the Associate Director of Field Support in the Department of Client Support Services.
- 4. Emergency Phones ("Red Phones")**
- a. Basis of design: GAI-Tronics 397-001 Red Alert (flush mounted).
  - b. Red phones are to be installed in all bathrooms and in hallways proximate to interior wall-mounted blue lights.
  - c. The red house phone installed in residence halls cannot be installed flush or recessed. It is therefore necessary to construct a niche into which the phone can be set.
  - d. Large lecture halls are furnished with a desk phone at the lectern in addition to a red emergency phone. In large, tiered lecture halls there may be a red phone installed at the lectern as well as at the back of the hall.
  - e. Outside East Campus buildings an emergency telephone is installed (GAI-Tronics 398-001) that includes a keypad to permit calling occupants inside a given building or elsewhere on campus.
  - f. Although the campus currently has a number of Tough Phone (GAI-Tronics 227-005) devices, these are considered legacy items that are being replaced.
  - g. The University maintains analog lines for all emergency phones.
  - h. Activating a red phone automatically dials UPD.
  - i. The red hall phone is connected solely for in-campus calling and connects to the campus VOIP network. This device does not require battery backup.
5. Ring-Down Emergency Telephones (located in areas of refuge)
6. All devices are to be wired (e.g., no cellular coverage for emergency blue lights)

#### References

1. Section 27 36 00 Emergency Blue Light Phones

❖ *In Buildings 25 and 27 areas of refuge include both a blue light phone (that rings directly to UPD) and another, emergency ring-down phone labeled "Emergency" that only rings to the building's fire command station. Those two phones are side-by-side and the effect is confusion.*

## 27 36 00

### Emergency Blue Light Phones

#### 1. Emergency Blue Light Stanchions

##### a. Specifications

- i. Provide freestanding tower, minimum 9'6" high, with mounting accommodations for an Emergency Telephone. Tower shall contain emergency blue strobe light and shall be coated with a durable finish that will not be adversely affected by outdoor weather conditions. Tower shall display the word EMERGENCY on upper four exterior surfaces and fasten to anchor bolts embedded in concrete footing.
- ii. Tower shall be fabricated from 10" square steel tubing with 3/16" minimum wall thickness and be properly designed to the appropriate wind and load factors for the intended geographical area. The internal base plate to be minimum 1/2" thick steel, welded within the column and designed to accommodate 4- 3/4" anchor bolts. A 5"x 8" covered opening shall be located no higher than 8" from the base of stanchion to provide easy access to mounting and wiring connections. All visible hardware to be tamper-resistant requiring special tool for removal.
- iii. Tower to be finished with Graffiti Resistant, Polyester Powder Coating to enhance weatherability. Coating shall have High Impact Resistance and shall withstand 1,000 hr Salt Spray Test per ASTM 117B. Color will be Architectural Bronze.
- iv. Emergency phone panel area shall be illuminated by a lamp contained within the tower structure. Internal conduit shall be provided to separate power and telephone cable.
- v. Tower shall provide suitable mounting accommodations for a single button or a combination button and emergency telephone (specified separately).
- vi. Tower shall provide suitable mounting accommodations for a constant-on beacon with strobe (specified separately).

- vii. Basis of Design Gai-Tronics Model 234 (Free-Stanching Stanchion)

**b. Operations**

- i. There is not a campus standard for wired versus wireless (cellular) communications. However, blue light communications are not to be run over the campus' VOIP network.
- ii. Blue light phones shall have a 90-minute runtime in the event of loss of power and will required UPS backup.
- iii. Blue lights shall ring back to the University's emergency communications dispatch center which has its own 911 operator (i.e., no keypad). The operator can read the location that generates the alarm.

**c. Placement**

- i. UPD recommends a minimalist approach to exterior blue lights. The governing factor should be "line of sight". At E-TEC there is a distance of 1,500 feet between lights along one walkway. This is acceptable as there is visibility between those points.

**2. Wall Mounted Blue Lights (Interior and Exterior)**

a. Bases of Design:

- i. Basis of Design Gai-Tronics Model 297 (Single Emergency Push Button)
- ii. Note: M. Vadney indicates that actual models are as follows:
  - Interior: Edwards 45711641 QBS-0010 110 Blue LED Beacon.
  - Exterior: ETP Talk a Phone ETP-EL-120 volt LED Blue Light, set to flash when phone is being used

b. Interior blue lights are to be paired with red phones.

c. Residence Halls: A wall-mounted blue light and red phone should be installed on each floor of a residence hall.

- i. The blue light will be connected via an analog signal and must be provided with a one-hour battery backup.
- ii. The blue light is typically installed diagonally across the floor from the hall phone. This diagonal arrangement is reversed on each floor.

d. In non-residential facilities one blue light is to be installed at each designated Area of Refuge (as per code) as well as one each on the first and basement levels.

- i. Blue lights are not required in bathrooms and toilet rooms.
- ii. UAlbany has not yet determined if blue lights should be installed in lactation rooms.

e. Interior blue lights are to be installed in locker rooms with the exception of Athletics team facilities.

f. Like blue light stanchions, interior blue lights communicate back to the University's emergency communications dispatch center which has its own 911 operator.

**3. Self-Contained Battery-Operated Lights**

- a. Note: the campus preference is to move away from self-contained lights as all lights should be tied back to a power source. The only time a self-contained system should be installed is when it will prove prohibitive to run dedicated wiring to it.
- b. For applications where a standalone self-contained battery-operated unit is called for emergency light must be capable of a 120/277-volt input and a 6VDC output. Emergency light must be rated at 90 minutes output.
- c. Bases of Design: LumaPro, Manufacturer Grainger GCGL2
- d. The campus does not want lead acid batteries specified, NiCad only.

**References**

- 1. Section 27 32 00 Voice Communications Terminal Equipment for emergency telephones ("Red Phones")
- 2. Sole source justification for Emergency Blue Light Phones (no date)
- ✓ *The UAPM should convene a security design review with UPD following submission of 100% Design Development documentation that includes all facets of safety and security infrastructure.*
- ❖ *Installing interior blue lights behind locked doors (such as meeting rooms in dormitories) makes them less accessible. The campus' preference is to locate all interior blue lights in accessible locations, particularly in residence halls.*

## 27 40 00

### Audio-Video Communications

1. This specification section addresses topics such as video-conferencing and two-way communications systems. See Section 11 52 00 Audio-Visual Equipment.
2. Each office workstation should be able to support web videoconferencing.
3. The current approach to videoconferencing is Skype using webcams.
4. Installed videoconferencing equipment should be “out of reach” such as speakers and microphones recessed in ceilings rather than sound bars.

#### References

1. Section 11 52 00 Audio-Visual Equipment
2. 27 32 00 Voice Communications Terminal Equipment for phones and conference call equipment.

## 27 42 19

### Public Information Systems

1. Visix is the indoor digital signage solution for the University.

❖ *The jumbotron in University Hall is by Christie while the video walls in the new ETEC building will be NEC flat panels with a TVOne controller.*

## 27 51 00

### Distributed Audio-Video Communications Systems

#### Public Address Systems:

1. There are two public address systems in place on campus: one in the Power Plant and one in the Health Center / Counseling Center.
2. Select residence halls have mass notification systems: Tappan, Liberty, Mohawk, Seneca, Onondaga, Oneida, Herkimer, Beverwyck and Schuyler.
3. DAS systems are to be installed at all new construction.

## 27 53 19

### Internal Cellular, Paging and Antenna Systems

The University does not have a standard for provision of Distributed Antenna Network Systems (DANS) or for the provision of cellular service at basement levels.

## 28 10 00

### Access Control / Integrated Control Systems (ICS)

See “Division 28—Security Cameras & Access Control (Campus References).

#### References:

1. Campus Division 28 Standards (undated)

## 28 20 00

### Security Cameras / Video Surveillance

See "Division 28—Security Cameras & Access Control (Campus References).

#### References:

1. Campus Division 28 Standards (undated)

## 28 14 00

### Access Control System Hardware

#### References

1. Section 08 71 13 Automatic Door Openers
2. Section 28 15 00 Access Control Hardware Devices
3. Section 25 00 00 Integrated Automation

## 28 15 00

### Access Control Hardware Devices

[Incorporated former section 08 74 13 Card Key Access Control Hardware into this section]

1. Products (all basis of design):
  - a. Squadron Access Control Panel V1000RX
  - b. Squadron 2 Door Connector Unit V100
    - i. 12vDC @ 4.0A 1 Class 2 if controlling up to a combination of eight (8) Squadron V1000X and V100
    - ii. 12vDC @10A 1 protected output if controlling a combination of V1000RX, V100 and Prox type readers.
  - c. Squadron 8 Fused Power Distribution Block
  - d. MR-5 Ruggedized Swipe Reader TK2, 12v DC with Mounting Bracket, security screw, pigtail cable, electrical grease and 10K resistor.
  - e. MR-5 Wall Plate, 1 gang
  - f. HID Maxi-Prox Magnetic Reader, Mod. # 5375AGN00
  - g. Cabling requirements from V100 to MR5 or Dorado MAG Stripe Reader, 18-gauge AWG wire, shielded with drain, stranded, six (6) conductors minimum
  - h. Preferred (or equivalent):
    - i. Alpha 5386C
    - ii. Beldon 5304FE
    - iii. Carol E2036S
  - i. Cabling for Von Duprin Power Supply electrified locking device, 14 AWG 1 pair shielded with drain, stranded (12 AWG when distances exceed 100 feet)
    - i. Carol E2252S-8 or equivalent
  - j. Communications alarm control cable 20 AWG, 2 pair 4 conductor, shielded with drain, stranded.
    - i. Beldon 5402FE or equivalent
  - k. Exterior Door Hardware needed for Card Reader Install: Von Duprin EL 99L-NL-F 612 299F Panic Device
  - l. Interior Door Hardware needed for Card Reader Install:
    - i. Sargent Mortise Lockset #LC-8271 LNL 24V
    - ii. Assa Abloy Hess Electric Strike 1006 Series (for continues duty requires 200SM3 Smart-PAC 3 (used when new door and frame are not called for)
    - iii. Von Duprin electric strikes (when new doors and frames can be prepped by manufacturer)
  - m. Door Hardware Power Supplies
    - i. Panic Devices: Von Duprin (Ingersol Rand) 914-4RL (see note 1)

- n. Electrified Mortise Locks and Strikes: Von Duprin 906 Power Supply with 900-4R option board (see note 2)
- o. Keypad Locks: Sargent KP8200

**2. Notes:**

- a. Von Duprin 914 Power Supply is for high inrush current devices such as the EL99 Panic Device. It can control up to four devices using one 900-4RL option Board
- b. Von Duprin 906 power supply is a non-in-rush power supply that when used in conjunction with three 900-4R option boards can control up to twelve Electric low current door hardware devices
- c. The specifications are to call for the Contractor to provide all electronic hardware and door power supplies. These are not supplied by the University.

**3. Locations**

- a. All new or large renovation projects must go through a security review with UPD.
- b. Design Consultants shall consult with UPD for location and need for additional security measures on newly designed projects.

✓ *The UAPM will set a time to sit with a UPD representative to conduct a security review.*

❖ *UPD personnel lack a background in architecture and may not be able to read or understand the implications of floor plans, hence the request for a joint or on-board review with the UAPM.*

**References**

- 1. Section 08 71 00: Door Hardware
- 2. Section 28 20 00: Video Surveillance Systems
- 3. Section 25 00 00 Integrated Automation

## 28 20 00

### Video Surveillance Systems

- 1. The specifications are to call for the Contractor to run conduit pathways and cabling, and for the Contractor or a subcontractor to the Contractor that cannot self-perform installing and programming the cameras.
- 2. UPD should conduct a security review based on the 100% Design Development documentation during which they will identify the locations for video surveillance coverage.
- 3. New construction or renovation projects should account for the infrastructure requirements for video surveillance equipment such as the capacity of head end equipment to accommodate additional points of service as well as DVR storage and backup.
- 4. Installation of video surveillance cabling and pathways should be included in the project's construction budget. The University's IT team will install switches and map locations back to the head end while the University's camera vendor will install the cameras. The University has a single source or set contract to furnish and install cameras.
- 5. The design team should prepare a matrix of security infrastructure to be installed. UPD will then work up pricing based on a cost per location basis (that includes infrastructure installation and licensing) and turn that information over to the contractor for inclusion in their bid as an allowance. Mike Dzikowski (Systems Architect, ITS) is the point person for this workflow process.

✓ *The UAPM should conduct an on-board security review of the 100% Design Development documents with UPD. The review of camera locations should also include IT representation.*

**References**

- 1. Section 28 15 00 Access Control Hardware Devices

## 28 31 11

### Fire Alarm Systems

1. System shall be 24 VDC power limited with 120 VAC primary input power. All portions of the system shall operate on stand-by rechargeable battery power in addition to the primary power supply.
2. System shall integrate seamlessly to central plant proprietary supervisory system.
  - a. The University used to have a sole-source waiver to require the use of Simplex equipment. The OGS contract on which that single-source waiver was based is no longer active.
  - b. The campus preference is for either Simplex or Siemens Pyrotronics. fire alarm systems. UAlbany does not have a single source exemption for fire alarm systems.
  - c. The existing campus fire alarm systems report to the head end on dedicated fibers located in the campus duct bank and Power Plant.
3. The system shall include all necessary hardware, software and peripheral devices to perform the following functions, as designer deems applicable to occupancy:
  - a. Fire/smoke detection and alarm
  - b. One way voice evacuation signaling
  - c. System supervision
  - d. Trouble indications
  - e. Control functions, such as but not limited to:
    - i. Elevator recall
    - ii. Egress door release
    - iii. Magnetic hold open release
    - iv. Smoke Control
  - f. Status monitoring of non-system equipment, such as but not limited to:
    - i. Emergency Generator
    - ii. Sprinkler/standpipe system
    - iii. Pre-Action and Clean Agent Suppression system
    - iv. Elevators
    - v. Fans
    - vi. System wiring shall be electrically supervised utilizing:
  - g. Initiating Device Circuits (IDCs), Notification Appliance Circuits (NACs) and Signaling Line Circuits (SLCs) will be designated either Class A or Class B
    - i. Class A SLCs which will be designated as either Style 6 or Style 7
    - ii. If Class A SLC has Alarm Receipt Capability (ARC) with wire-to-wire short, it will be designated a Style 7
  - h. Network Signaling Line Circuits from building to proprietary supervising station shall be Class A Style 7. This provides the most protection for the network.
4. The specifications must call for the Contractor to install fiber to maintain the campus Class X loop on "facilities" multi-mode fiber network, not the IT network. UAlbany requires a fiber test of new panels to existing panels on the loop.
5. Devices must be accessible for testing and servicing. No beam detectors are required, but specifications must provide for an aspirating smoke detection system instead.
6. All fire alarm wiring must be in conduit.

### References

1. Single and Limited Source Request Letter dated May 25, 2017 for ETEC-2020 project
2. UA Owner's
3. Project Requirements
4. Section 25 00 00 Integrated Automation

## 28 47 00

### Mass Notification

1. The University uses Everbridge software, which sends out notifications to users' personal devices.
2. UPD's Emergency Management Coordinator is in the process of developing a more holistic approach to mass notification including a centralized platform to manage information (e.g., 911 and mass notification).

## 28 49 00

### Electronic Personal Protection Systems

The purpose of this section is to treat "panic" buttons or personal alarms/signals for an emergency response.

1. There is not a campus standard for the placement of panic buttons; they are installed at the request of a department or staff member.
  - a. Any request to install a panic button must be approved by UPD following a security review.
2. Current installations consist of an analog line ringing back to UPD.
3. Currently, panic button signals travel over the VOIP network and are not active in case of power loss.
4. Installation of panic buttons should be coordinated with the installation of video surveillance cameras.

✓ *The 100% Design Development submission should include all locations at which panic or duress buttons are requested so that UPD can complete a security review and issue the requisite approval.*

❖ *Although panic buttons signal to UPD that officer assistance is urgently required, in itself it provides responding officers with no information about the situation they will encounter. Video surveillance will provide some needed context that will inform UPD's response.*

## 28 51 00

### Information Management and Presentation

The campus has a central emergency management system tied back to a digital display (VISIX). This system was implemented by ITS with input by Communications and Marketing.

## 32 12 16

### Asphalt Paving

1. Curbs
  - a. At asphalt walkways and sidewalks, concrete flush curbs are to be installed, not granite.
  - b. Any curbs next to roads should be granite.
  - c. At parking lots, granite curbs

? *Is the plan to add shoulders to loop road (like at Hudson)?*

2. Dimensions
  - a. Multi-modal paths are to be 10' wide when there's no side running path.
  - b. Running paths are to be 8' wide when there's a side running path.
3. Materials
  - a. The Purple Path is to be bordered by a volcanic cinder flanked by a high-level steel edging.
  - b. UAlbany Buildings & Grounds installs an ultra-fine top course along the Purple Path for consistency.

### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) by TWLA.



## 32 12 43

### Flexible Porous Pavement

1. The campus standard is to install porous pavement wherever practicable. Full-time inspection must be provided during installation.
  2. The campus' current standard for porous paving is NYS DOT Specification 420.50030110.
  3. Must keep pine needles; grass, etc. a distance from these porous surfaces so they don't clog.
  4. All parking lots should include a border of turf reinforcement/porous pavement system (basis of design: Grasspave2) to allow for snow plowing.
- ❖ *See Building 25 for 2017 installation for lessons learned. It is very important for the mix to be at the right temperature and that the compound be rolled correctly.*
  - ❖ *Because the campus is MS4 the SPDES mandates the campus do everything practicable to evaluate all green infrastructure practices.*

### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) by TWLA.
2. Photograph of Campus Center East

## 32 13 13

### Concrete Paving

1. There are two types of concrete paving on campus: "standard" or typical sidewalk concrete and "exposed aggregate" concrete used for the Podium deck.
  - a. **Sidewalk Paving:** There is no campus standard for "typical" sidewalk concrete.
  - b. **Podium Deck:** The "exposed aggregate" concrete should be a gravel stone mix 4000 psi, special mix for exposed.
    - i. Insert sheets of wire mesh in the aggregate 6"X6" 10 GA (W 1.4) 5' x 10'.
    - ii. Surface retarder should be Top Stop retarder, W.R. Meadows seal tight 5 gal. The retarder should be sprayed on evenly when the concrete no longer shines and no bleed water is present.
    - iii. The installation is then covered with black poly and washed off the next day with a pressure washer.
    - iv. Once the exposed is cleaned and dry, all exposed aggregate is sealed with Polyseal aggregate concrete sealer made by Chem Masters.
    - v. Expansion joints should consist of fiber expansion joint 1/2" x 3" x 10 lf/pc with pieces of expansion joint cap strip 1/2", 10 lf/pc.
    - vi. Caulk to be Master Seal NP1 Limestone High Performance Polyurethane Sealant.
    - vii. Podium deck joints should measure 1/2".
    - viii. For the ribbons of white concrete, the standard is Class D with fiber special state mix.
      - Install two pieces of rebar in each ribbon (1/2" x 20" epoxy coated # 4).
      - After the final finish is applied to the ribbons Vo comp 20 W.R. Meadows concrete sealing and curing compound is sprayed on.
  - c. Specifications are to call for the contractor to provide the Environmental Product Declaration document for any concrete mix.
2. Joints (sidewalk concrete)
  - a. All Downtown joints should be tooled (struck)
  - b. Uptown: The preference is for tooled (struck) joints except in areas adjacent to existing paving that may be saw cut, in which case new pavement should match existing.

### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) by TWLA.
- ❖ *On Building 27 the sidewalk around the building was ripped out during the middle of the winter and not covered. This condition allowed ponds of water to sit on the surface that flooded the Podium basement below. Although outdoors, the plaza deck of the Podium is a roof for spaces below and must be properly protected during construction.*

## 32 13 14

### Granite Curbs

1. All granite curbs to measure 5" in width.
2. Granite curbs at the inside circles of turnarounds to be mountable curbs (see illustration).

#### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) by TWLA.
2. Photograph of Dutch Quad circular turnaround with typical mountable granite curb.

## 32 15 00

### Aggregate Surfacing

1. Stone dust path:
  - a. (6'-0" w) that meanders along the purple path
  - b. Indian Pond [spec to come from J Kersch]
2. River Rock: The original campus included a white river rock as a border feature. The stock for this stone has been exhausted; this material is not to be used at the Uptown campus any longer.
3. The drip edge around the Podium should be a yellow small-grain aggregate stone.
  - a. Buildings on the podium should use the yellow small grain aggregate sone.
  - b. Buildings off the Podium should be similar to ITB.

## 32 17 23

### Pavement Markings

1. The campus standard is to use the New York State Action-Style wheelchair symbol of accessibility ("Modified ISA" or "dynamic disability").

## 32 31 19

### Exterior Decorative Metal Fence

1. Exterior metal fence to match Massry Center for Business (detail 2/L-302).

? D. LaComb to add Casey Stadium Fencing

#### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) pages 26 – 30.

## 32 33 00

### Site Furnishings

- ❖ *Wood benches: At their best they're going to last ten-15 years. Wood benches are very expensive and powder coated metal is poor quality.*

#### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) pages 26 – 30.
2. Section 11 82 00 Recycling Equipment

## 32 39 13

### Manufactured Metal Bollards

1. Uptown Campus:
  - a. Type 1: [The type used at the Podium Stairway Project]
  - b. Type 2: "fold down"
2. Downtown Campus:

## 32 80 00

### Irrigation

#### 1. Products and Support

- a. The campus basis of design is for Rainbird heads, nozzles and clocks. Most (if not all) of the existing campus infrastructure is Rainbird.
- b. Although Rainbow Sprinklers was responsible for the installation of most campus irrigation systems, UAlbany does not have an on-call contract with Rainbow for maintenance of this system.

#### 2. Irrigation Boxes:

- a. The preference is to install irrigation boxes in grass rather than in paved areas. This way they're easier to modify without damaging paving.
  - b. There are no standards relative to the make, models or sizes of boxes.
3. Specifications shall call for rain sensors with weather monitors to automatically turn off irrigation in case the weather forecast is for rain.
  4. **Monitoring:** The University does not currently monitor the quantities of water used for irrigation.
    - a. Although there is a flow meter at the pump house it does not gauge the quantity of water used or relay any information back to a central campus system as there currently is no connectivity between the pump house and the SCADA system.
    - b. In the future, there is a desire to capture data that measures the usage of non-potable water.

#### Reference

1. Campus Irrigation Utility Map (no date) and Irrigation Feature Class List prepared by O'Brien and Gere also available in GIS.
2. [UAlbany Design Guidelines](#) for Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
3. [UAlbany Inspection Maintenance Plan](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
4. [UAlbany Condition Assessment Report](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008 with [Appendices](#)
5. [UAlbany Capacity Assessment Report: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)
6. [UAlbany Capital Improvement Plan: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)

## 32 93 00

### Plants

1. Project specifications to call for a two-year warranty on all plants.

#### References

1. University at Albany Landscape Design Guidelines (Fall, 2010) pages 26 – 30.

## 33 00 00

### Utilities

#### References

1. SUCF Program Directive 16-7 Campus Electrical Distribution System

## 33 10 00

### Water Utilities

#### References

1. [UAlbany Design Guidelines](#) for Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
2. [UAlbany Inspection Maintenance Plan](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
3. [UAlbany Condition Assessment Report](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008 with [Appendices](#)
4. [UAlbany Capacity Assessment Report: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)
5. [UAlbany Capital Improvement Plan: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)

## 33 19 00

### Water Utility Metering Equipment

1. Project must include extensive metering and integration with SCADA with the intent of providing a robust tool for automated and continuous commissioning.
2. Meters must communicate to SCADA via BACnet/IP (preferred) or ModBus and must provide all available data points for mapping into SCADA without the need for a proprietary gateway.
3. At the minimum, the following systems must be separately metered and provide not less than hourly data:
  - a. Whole building electric, HTHW, CHW, DHW, and potable water
  - b. Sub-meters for total energy used by HVAC systems, lighting, and receptacles
  - c. Any other system/equipment that uses  $\geq 20\%$  of the building's projected total energy usage
4. The campus standard for potable water meters is Badger Recordall meters.
5. The Commissioning Agent must develop an M&V and Continuous Commissioning Plan to identify meters required and to develop graphical dashboards, trends and analysis reports to proactively analyze building system operation and optimize performance.
6. Project must utilize SCADA historian for interval data historization and trending, Dream Reports for reporting, and Tableau for visual dashboards.
7. The University will closely monitor performance of the building and its systems based on the M&V plan to optimize performance and may apply for Energy Star certification within three (3) years of building occupancy.

#### Reference

1. Section 25 00 00 Integrated Automation

## 33 30 00

### Sanitary Sewerage

#### References

7. [UAlbany Design Guidelines](#) for Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
8. [UAlbany Inspection Maintenance Plan](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
9. [UAlbany Condition Assessment Report](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008 with [Appendices](#)
10. [UAlbany Capacity Assessment Report: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)
11. [UAlbany Capital Improvement Plan: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)

## 33 40 00

### Stormwater Utilities

#### References

1. [UAlbany Design Guidelines](#) for Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
2. [UAlbany Inspection Maintenance Plan](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008
3. [UAlbany Condition Assessment Report](#): Stormwater, Sanitary Sewer, Water and Irrigation Systems (Uptown Campus) Nov. 2008 with [Appendices](#)
4. [UAlbany Capacity Assessment Report: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)
5. [UAlbany Capital Improvement Plan: Stormwater, Sanitary Sewer, Water and Irrigation Systems \(Uptown Campus\) Nov. 2008](#)
6. See additional resources under UAlbany's [Stormwater Pollution Prevention](#) webpage:
  - a. [Stormwater Coalition of Albany County Joint Stormwater Management Program Plan](#) (SWMP Plan) v3, 2015-2017
  - b. UAlbany Stormwater Management [Organizational Chart](#)
  - c. UAlbany [Stormwater Management Policy](#) (Sept. 2017)
  - d. UAlbany [Stormwater Management Program](#) (undated)
  - e. [Stormwater Management Procedures](#) including the following documents:
    - i. Pre-Construction Instructions of SWPPP Procedures
    - ii. SWPPP Procedures for Construction Projects
    - iii. Concerns and Complaint Procedures

## 33 42 33

### Stormwater Curbside Drains and Inlets

1. Curbside stormwater inlets to include a "no dumping" graphic.

#### References

1. Reference photo of typical curbside drain.

## 34 41 13

### Exterior Signs

1. Most University standards are captured in the reference standard below.
2. Exceptions include:
  - a. Tower signage
  - b. Electronic signage at campus entries
  - c. Athletics (in some cases)
3. All campus maps must have UPD clearly labeled.

#### References

1. UAlbany Signage and Wayfinding Manual published by Corbin Design revised Dec. 5, 2006

❖ *The bases are pulled apart by lawn mowers. There's a need for a base that's replaceable. The current plinths block the views from drivers.*

#### Index of Illustrations

1. Section 05 52 00: Exterior handrails (standard Julius Blum handrail)
2. Section 08 14 16: Photograph of doors in LC10 through LC15
3. Section 09 65 13 Resilient Base and Accessories and 09 65 19 Resilient Tile Flooring: Diagram of Academic Podium floor colors

4. Section 10 40 00 Safety Specialties: Standard Safety Station
5. Section 11 52 00 Table of AV/IT Classroom Lab Standards (April 2014)
6. Section 23 05 51 HTHW Manual Vents and Air Bottles Detail
7. Section 23 05 51 High Temperature Differential Pressure
8. Typical bathroom sink configuration showing location of faucet, soap and hand dryer
9. Bathroom layouts (single and multiple stations), Quiet Room layout
10. Photograph of storm drain
11. Layout of Janitor's Closet

**Prior material needed:**

1. Specification 32 91 13 Soil mix for UA internal use
2. UA Owner's Project Requirements for large projects UA-OPR-ETEC-rev3.pdf (need Word version)

## Abbreviations

ACI	<a href="#">American Concrete Institute</a>
ASME	<a href="#">American Society of Mechanical Engineers</a>
ASTM	<a href="#">American Society for Testing and Materials</a> (ASTM International)
AWI	<a href="#">Architectural Woodworking Institute</a>
CSI	Construction Specifications Institute
DHI	<a href="#">Door and Hardware Institute</a>
EO4	<a href="#">New York State Executive Order 4 Approved Specifications</a>
HMMA	<a href="#">Hollow Metal Manufacturers Association</a>
NFRC	<a href="#">National Fenestration Rating Council</a>
SUCF	<a href="#">State University Construction Fund</a>
UADCS	UAlbany Design and Construction Standards
UAEH&S	<a href="#">UAlbany Office of Environmental Health &amp; Safety</a>
UA-OCP	UAlbany Office of Campus Planning
UAPM	UAlbany Project Manager
UA PD+CS	University at Albany Planning, Design and Construction Standards
UPD	University Police Department
WDMA	<a href="#">Window and Door Manufacturers Association</a>

## Terminology

**Core Campus** Refers to that portion of the podium defined as "Zone 1" in the as defined by the Getty Heritage Report" or Campus Heritage Preservation Plan, 2009

## Systems Thinking Topics

### Acoustics

1. Classrooms should be separated from noisy areas (cafes, open student lounges, places of public gathering and events) by minimum 55 STC construction.
  - ❖ *UAlbany tests of white noise machines have not performed as expected.*
  - ❖ *The University has several public areas that effectively cannot be used for events, as resultant noise prohibits simultaneous use of adjacent spaces (for example, the central atrium in University Hall).*

## High-Performance Building Design

- ❖ *The contractor will necessarily release submittals over a long period of time—rarely in a consolidated manner at the start of construction. In order to assess the performance of proposed substitutions the Design Team will need to receive multiple submittals as a piece. The specifications must place the burden on the contractor to own the ultimate performance of the system as designed.*

### References

1. UA Owner's Project Requirements
2. SUCF Program Directives 1B-2 (Net Zero Carbon New Buildings and Deep Energy Retrofits of Existing Buildings)
3. [UAlbany Sustainability Guiding Principles](#)
4. NYS Executive Orders [EO4](#) (Establishing a State Green Procurement and Agency Sustainability Program) and [EO24](#) (Establishing a Goal to Reduce Greenhouse Gas Emissions Eighty Percent by the year 2050 and Preparing a Climate Action Plan).

## Design Schedule / Process

1. Design contracts shall include Schedule B deliverables.

## Construction Schedule / Process

? *[D. Delp requests the University prepare a draft construction schedule with submission milestones for each project delivery method (e.g., UAlbany-let, SUCF, DASNY)]*

## Door Hardware / Access Control

Access controls must be coordinated with campus video surveillance standards.

### References

1. Section 08 71 13 Automatic Door Openers
2. Section 28 14 00 Access Control System Hardware
3. Section 28 15 00 Access Control Hardware Devices

## Laboratory Design

### References

1. Section 09 65 16 Resilient Sheet Flooring
2. Section 09 65 19 Resilient Tile Flooring
3. Section 12 36 53 Laboratory Countertops
4. Section 22 45 00 Emergency Plumbing Fixtures

## Materials Finishes

1. The University's standard metal finish is "natural bronze" US10  
[Reference RAL number or Dark Bronze ANO-303 by Linetec (Wausau)]  
[Finishes should be consistent across a building]
2. All Uptown campus door hardware to be furnished in US 26D finish (Satin Chrome).
3. Only non-asbestos containing building materials may be specified. Any request for a variance must be obtained from the UAPM and UAEH&S.
4. Must meet Executive Order 4 including identified specifications:
  - a. <https://ogs.ny.gov/greenny/executive-order-4-approved-specifications>
5. Electric Devices
  - a. The standard is for ivory devices with non-breakable matching covers. Stainless steel cover plates are to be specified in laboratories.
  - b. In the case of isoduct [painted metal or aluminum?]

6. Mechanical Rooms
  - a. Mechanical spaces should be finished with epoxy resin flooring.
  - b. Block walls should receive a plaster finish

#### References

1. NYS [Executive Order 4](#) "Green Purchasing Requirements"
- ❖ *The purpose is to specify finishes that do not require maintenance such a polishing or refinishing.*

## Vignettes

### Janitors' Closets

[Include an illustration of the Diversey cleaning supply mixing station]

[Include the B. Dosch diagram of a typical janitor's closet]

### Quiet Rooms

1. Recommended they be called Quiet Rooms instead of Mothers' Rooms or Lactation Rooms
2. A window to the exterior with window shades is preferred but not required.
3. UAlbany standard is for these to include upper cabinets.
4. Must include a sink within the room as well as a paper towel dispenser (c.f. Toilet Accessories)
5. Lighting to be dimmable with a temperature to match the campus standard (4000K).
6. Furniture must include a comfortable chair, a side table and matte black 12-gallon half-round waste receptacle (basis of design: Rubbermaid FGSO1220PLBK).
7. Must include an emergency "red phone" as well as a university phone.
8. Access should be provided to a refrigerator for storage of breast milk, not necessarily in the quiet room.

#### References

1. Section 27 32 00 Voice Communications Terminal Equipment for Emergency ("Red") Phone

### Bathrooms

1. Sinks
  - a. Solid surface countertops are preferred at locations with multiple sink stations.
  - b. At single-use locations such as single-fixture bathrooms, vitreous china, wall mounted stand-alone sinks are preferred.
  - c. Single-hole faucets are to be used throughout.

#### References

1. Section 08 71 00 Door Hardware
2. Section Toilet Compartments 10 21 13
3. Section Toilet Accessories 10 28 13
4. Section Solid Surface Countertops 12 36 51
5. Section Plumbing Fixtures 22 40 00
6. Section Commercial Urinals 22 42 13



## General Notes

1. Please review approved EO4 specs on <https://ogs.ny.gov/greeny/executive-order-4-approved-specifications> to ensure that standards meet the specs. Please reference specs here. This is true for many other specs section. Please ensure addition and reference of EO4 specs in all relevant sections.