



**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
***Office of Construction Planning and Management***  
2 College Street Providence, RI 02903 / Office 173 Benefit Street  
Paul Mullen 401-454-6189 / FAX 401-454-6663  
[pmullen@risd.edu](mailto:pmullen@risd.edu)

RISD STANDARDS FOR PROCEDURES, MATERIALS AND SYSTEMS

March 2015

- RISD Standard Terms and Conditions (11 pages)
- CAD Specifications (2 pages)
- Door and Hardware Specifications (5 pages)
- Typical Custodial Closet (1 page)
- Voice and Data Standards w/ Typical Closet Requirements (11 pages)
- Plumbing Fixtures and Specialties (3 pages)
- Electrical Wiring, Devices and Specialties (5 pages)
- Standard Lighting (2 pages)
- Standard Fire/Life Safety Equipment & Systems (1 page)
- Fire Alarm & Fire Protection Shutdown Procedure (1 page)
- Signage Standards (2 pages)
- HVAC Controls Standards (1 page)
- Standard Bath Accessories (1 page)

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**STANDARD TERMS & CONDITIONS**

March 2015

1. **GENERAL REQUIREMENTS:** All work is to be performed with Federal, State, and Local laws; State Building and Fire Safety Codes; National Plumbing Code; National Electrical Code; and any other prevailing rules, regulations, and best practices.
  
2. **APPROVAL OF MATERIALS:** Contractor shall make written request to the Architect/Owner and obtain his approval of the use of materials, construction, etc., other than those mentioned as standards in the specifications or indicated on the drawings, and of materials, construction, etc., proposed for use when “approved” materials or work are specified, without maintaining any standard by name. The Owner reserves the right to inspect and/or test any materials used, or proposed for use, in any of its buildings.
  - RISD standard materials and products will be incorporated into the project without exception, unless approved otherwise by the Owner. Copies of the RISD Standards are available upon request. Unless otherwise stated, RISD prefers *Taco* HVAC products.
  - The term Owner shall mean the Office of Construction Planning and Management.
  - The terms “approval,” “approved equal,” “other approved,” shall mean approved by Architect/Owner.
  
3. **APPLICATION FOR PAYMENT:** Two (2) copies of the monthly invoice with sufficient detail as required by the Architect/Owner shall be submitted to the office of Construction Planning and Management.
  
4. **CLEANING:** Maintain work & adjacent areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Broom clean areas prior to start of surface finishing, and continue cleaning to eliminate dust. Removal of waste materials, debris and rubbish from site on a weekly or more frequent basis if needed and disposal off-site is the sole responsibility of the contractor.
  
5. **COOPERATION:** The Contractor and subcontractors shall cooperate to expedite the work. Each trade shall afford all other trades every reasonable opportunity for the execution of their work. The Contractor shall be responsible for the progress of the work, and shall schedule, and follow up the work of all trades.
  
6. **COPIES FURNISHED:** Five (5) complete sets of the plans and specifications will be furnished as required free of charge to the Contractor after the award of the contract.
  
7. **DELAYS:** Delays of work and substantial extension of Contract time due to discovery and correction of asbestos, PCBs, lead paint or other similar hazard will only be considered as legitimate delays when correction cannot be made within a reasonable period of time.
  
8. **EQUIVALENTS:** Equivalents for all product brands specified will be considered. Submit substitutions to Architect for approval. The Owner reserves the right to test and/or refuse equivalents.

9. **GUARANTEE:** The General Contractor shall guarantee the work for a period of one year from the date of final Acceptance. The General Contractor shall leave the work in perfect order at completion. Neither the final payment nor any provision of the Contract Documents shall relieve the Contractor of the responsibility for negligence, faulty materials, or workmanship within the extent and period provided by law. Upon written notice he shall remedy any defects due thereto and shall pay all expenses for any damage to other work resulting therefrom
10. **HAZARDOUS MATERIALS:** In the event asbestos, PCB, lead paint, or any other hazardous materials are encountered during the construction periods, the General Contractor shall stop all work in the area of suspected contamination and immediately notify the Owner. Until the area of suspected contamination has been cleared for continued construction activity, work activities shall be directed to other areas of construction. The Owner will attempt to have its Abatement Contractor on site as soon as possible to start the required work after notification by the Contractor.
11. **INSURANCE:** The Contractor shall obtain, pay for, and keep in force the following insurance, effective in all localities where the Contractor may perform any work hereunder.
- **Worker's Compensation and Employer's Liability Insurance**

a. Worker's Compensation	Statutory Requirement
b. Employers Liability	\$100,000 bodily injury each accident
	\$100,000 bodily injury by disease for each employee
	\$500,000 bodily injury/disease aggregate

Statutory worker's compensation covering each and every worker employed in connection with the work as provided in the statutes applicable to worker's compensation.
  - **Commercial General Liability**

a. Limits	\$2,000,000	General Aggregate
	\$2,000,000	Products/Completed Op Aggregate
	\$2,000,000	Personal & Advertising Injury
	\$2,000,000	Each Occurrence

b. There should be no exclusion for:

    - Operations and Premises
    - Products/Completed Operations Liability
    - Limiting Coverages with respect to environmental hazards

c. Completed Operations should be for a minimum of 3 years (applicable all construction, maintenance or installation contractors)

d. Rhode Island School of Design must be named as an additional insured as their interests may appear and a copy of the endorsement should be received by RISD Risk Management before any contract is executed.
  - **Automobile Liability**

a. Bodily Injury/Property Damage	Combined Single Limit of \$1,000,000
b. Coverage must include:	Non-Owned Car, Hired Car and all Owned or Leased Vehicles.

c. Rhode Island School of Design must be named as an additional insured and an insurance certificate should be received by RISD Risk Management before any contract is executed.
  - **Umbrella Liability**

a. Umbrella Liability Limits:	\$5,000,000 each occurrence/aggregate
-------------------------------	---------------------------------------

b. Rhode Island School of Design must be named as an additional insured and an insurance certificate should be received by RISD Risk Management before any contract is executed. Coverage is in excess of General Liability, Automobile Liability, and Employer's Liability.
  - **Professional Liability**

a. Professional Legal Liability Limits:	\$2,000,000 each occurrence/aggregate
-----------------------------------------	---------------------------------------

b. RISD Risk Management should receive a confirming insurance certificate before any contract is executed.
  - **Security and Privacy Liability** (applicable to any party with access to personal identification information and or access to RISD IT systems)

- a. Third Party Liability Limits: \$2,000,000 each occurrence/aggregate
- b. RISD Risk Management should receive a confirming insurance certificate before any contract is executed.

**Carrier Financial Strength** - All insurance carriers must meet a minimum financial rating of A.M. Best's "A- XV" or, as acceptable by review by RISD's Risk Management Office.

**Cancellation or Notice of Non-Renewal** - All insurance carriers must provide a minimum notice of cancellation or non-renewal to the Additional Insured of 30 days.

**Occurrence versus Claims Made Coverage** - Forms Any of the above insurance policies written on a "Claims Made" basis should be clearly identified as such and continuing evidence of this insurance must be provided annually to the office of RISD Risk Management commencing with the effective date of the vendors contract with RISD through the RI statute of repose for bodily injury.

NOTE: Exceptions to these requirements may be made under limited or unique circumstances. Such exceptions must be approved after a thorough review by RISD's Risk Management Office.

*The Certificate of Insurance verifying the above coverage should be submitted to the RISD department who has retained the services of the vendor and a copy should be sent to the risk management department. A vendor will not be able to perform, sell or distribute products and services at RISD until RISD has a valid certificate of insurance.*

- 12. **INTERPRETATIONS:** It shall be the responsibility of the Contractor to procure from the Architect/Owner all necessary interpretation of the contract documents.
- 13. **LIMIT OF WORK:** All work is to be maintained within the property bounds of the designated property.
- 14. **LIST OF MAJOR SUBCONTRACTORS:** Within one week of the award of the contract and prior to the award of the subcontract by the General Contractor, the General Contractor shall submit to the Architect/Owner for approval a complete list by specification of subcontractors proposed for use on the job.
- 15. **MANUFACTURERS' DIRECTIONS:** All manufactured articles and other material or equipment shall be applied, installed connected, erected, used, cleaned, conditioned, etc., as directed by the manufacturer, unless herein or in contract documents specify to the contrary.
- 16. **MATERIALS:** All material delivered to the site that does not meet the standards specified, shall be rejected and removed from the job site. Any finished work built with such defective materials shall be removed, and rebuilt at no expense to the Owner.
- 17. **MEANING AND INTENT:** Omission from the Drawings and Specifications of items that obviously are needed to properly perform the work, such as attachments, bolts, hangers, etc. shall not relieve the Contractor from furnishing and installing them. It is intended that all dimensions and figures on the drawings shall agree. The Contractor shall confirm them before starting the work and shall report in writing all discrepancies to the Architect/Owner for adjustment.

**18. MEASUREMENTS AND PAYMENT:**

- Measurement of work completed shall be subject to the Architect/Owner's approval and shall be based upon percentage of work completed to date plus value of materials on hand less prior payments less percentage retained.
- The Owner shall retain an amount equal to ten percent (10%) from each amount billed. The Owner shall hold the percentage retained until final completion and acceptance.
- Invoices for payment must be accompanied by appropriate lien releases.
- Within one month of the date of Final Payment by Owner, the General Contractor shall provide a list to the Architect and Owner of all liens file

**19. MEETINGS:** After award of the contract, a pre-construction meeting shall be held to establish construction schedule, a schedule of progress meetings, and to clarify any other items in question. Progress meetings shall be held weekly, or as needed. Attendance at these meetings shall include Contractor, his Project Superintendent, each Subcontractor (as requested by the Owner), the Architect, and the Owner. The General Contractor shall record minutes of progress meetings with copies distributed at or before the next scheduled meeting. The monthly construction schedule will be developed during progress meetings and reviewed at subsequent meetings. The contractor is responsible for publishing the schedule.

**20. NOISE AND DUST CONTROL:** Contractor shall provide for noise, dust and debris control to protect other areas within the building and adjacent properties beyond the Work area. All computers and workspaces (desks, tables, chairs, bookshelves, etc.) will be covered by drop cloths or otherwise properly protected from dust and debris. The contractor will provide drop cloths/plastic. The contractor will cease work and advise the owner's representative if a situation should arise where dust might invade an unprepared space.

- All smoke detector heads are to be covered with appropriate protective covers during the restoration work, construction/renovation. The owner is to be notified when smoke detector heads are covered and uncovered. Smoke detectors in occupied buildings must be covered and uncovered daily.

**21. NON-CONFORMING WORK:** Upon written notice from Architect/Owner, the contractor will remove all materials, whether worked or not, and all portions of the work that the Architect/Owner shall condemn as unsound or unsatisfactory.

**22. OBLIGATIONS:** The Contractor will notify the Architect/Owner in writing prior to the use of any materials or construction methods shown or called for, for which he refuses to accept complete responsibility.

**23. OCCUPANCY BY THE OWNER:** The Owner may occupy part or portions of the building during the construction process. However, such occupancy and/or use will not necessarily constitute "Substantial Completion." Means of access and egress are not to be obstructed.

**24. OPERATION AND MAINTENANCE MANUALS:** The Contractor shall collect and turn over to the Owner, at the time of Final Completion two copies of indexed notebooks consisting of the Operation and Maintenance Manuals and/or Owners Manuals for any manufactured articles, materials, and equipment. The Operation and Maintenance Manuals are to be obtained from the manufacturer for all specified items that have them.

25. **ORDER:** Titles to Divisions and Sections in the Contract Documents are introduced merely for convenience and are not to be taken as a complete segregation of the several units of work.
26. **PARKING:** Parking facilities will **NOT** be provided for Contractor's personnel. Job-related materials and equipment may occupy parking spaces within the site only after prior arrangement and approval of the Owner.
27. **PAYMENT:** Payment may be made monthly upon completion of the work as approved by the Architect and the Owner. All materials used for the Rhode Island School of Design are exempt from sales tax. Certificates for Payment must be accompanied by the appropriate lien releases.
28. **PERSONAL CONDUCT:** At no time will there be any fraternization between construction personnel and RISD students. Failure to comply with this requirement will be grounds for immediate dismissal.
29. **PROGRESS SCHEDULE:** The Contractor shall submit a progress schedule and the schedule of values of various parts of the work. Two copies of each such combined progress and payment schedule, reflecting the progress of the work up to and including the period for which the application for payments is made, shall be submitted with each application for payment.
30. **PROJECT SAFETY:** Project Safety as specified in local, state and federal laws, ordinances, rules or regulations and as expected following good construction practices and common sense shall be the sole responsibility of the General Contractor. The contractor will initiate, maintain and supervise all safety precautions and programs in connection with the work of the Project.
- The Architect or Owner's Representative observing a questionable condition at the site shall call it to the Contractor's attention and notify both the Contractor and Owner in writing of the condition. It remains the Contractor's responsibility to correct unsafe conditions.
31. **PROTECTIONS:** The Contractor shall take over and assume responsibility for the portion of the premises being constructed, and shall maintain all existing protections and provide and maintain all additional protections as required by the Architect/Owner.
- Each contractor shall be responsible for his work and installed equipment until finally inspected, tested, and accepted. Materials and equipment that are not immediately installed after delivery to site are to be carefully stored. Close open ends of work with temporary covers or plugs during construction to prevent entry of obstructing material.
  - Each contractor shall protect the work and material of other trades that might be damaged by his work or workmen. Contractor shall make good all damage thus caused.
32. **REFERENCE:** When reference is made in the specifications to federal, ASTM, Commercial or Industrial specifications, standards, or publications, it shall mean the latest one at the time the project is bid.
33. **REGULATORY REQUIREMENTS:** Contractor shall insure compliance with all applicable codes and shall obtain and pay for all applicable fees and permits related thereto. Copies of all permits shall be submitted to the Owner and Architect for the record.

34. **RETAINAGE:** The Owner until Final Acceptance will hold Retainage amounts equal to 10% of the amount due the Contractor.
35. **SAFETY:** Contractor shall provide fire extinguishers in all areas where welding and cutting torches are in use and cover protection for security and the exclusion of the natural elements. Contractor shall notify RISD Public Safety before the use of any cutting torches or welding equipment.
36. **SALES TAX:** The Owner is to provide evidence and certificates of its tax exemption upon request of those concerned.
37. **SCHEDULE OF VALUES:** Within 2 weeks of the award of the contract, the Contractor shall submit to the Architect/Owner a detailed schedule of the values of the job by specification section, including detailed schedule of values from sub-contractors. Schedule of values must be received and approved prior to receipt of first requisition.
38. **SECURITY:** Contractor must protect work and existing premises from theft, vandalism and unauthorized entry. The Contractor must maintain this protection program throughout the construction period until Owner occupancy. The Contractor must limit project admittance to authorized personnel; and must coordinate with Owner's security program to insure that, at a minimum, RISD/Museum Security has keys to enter job site and emergency telephone and beeper numbers for the Contractors job superintendent and project manager.
39. **SHOP DRAWINGS / SUBMITTALS:** All shop drawings and submittals presented by the Contractor conform with the contract documents and RISD Standard Specifications prior to review by the Architect/Owner. The Contractor shall maintain a complete file of all shop drawings at the site until completion of the job. Provide shop drawings at the site as required for all manufactured and fabricated products. The Architect or Designer will provide the Owner with a complete set of as-built drawings on computer disk in a CAD format approved by the Owner.
40. **SITE VISIT:** The Contractor shall visit the site and make him or herself familiar with the existing conditions. No request for extra compensation will be considered as a result of the Contractor being unfamiliar with the existing conditions as related to the new work. Any questions or reservations regarding existing conditions should be resolved during the bid process.
41. **SMOKING:** There is to be no smoking on any construction site. Failure to comply with this requirement will be grounds for immediate dismissal.
42. **SUBSTITUTIONS:** Substitutions may not be made without approval of the Architect and Owner. Substitutions, which increase costs, can only be approved by change order.
43. **SUBSTANTIAL COMPLETION:** The date of substantial completion of the work or designated portion thereof is the date certified by the Architect/Owner when construction is sufficiently complete, in accordance with the Contract Documents, so only minor punch list items remain for final inspection and acceptance. Where guarantees are required, the starting or beginning of the guarantee period shall be the date of substantial completion of the project as certified by the Architect/Owner unless the date of which any particular unit or assembly of equipment starts operating at a later date, in which case this later date will be considered as the beginning of the period. The date set forth above as the beginning of

the period of guarantee supersedes any other date or dates which may be given in the individual sections.

- “Substantial Completion” means completion of the work to the extent that the Owner has uninterrupted occupancy and use of the project for the purpose for which it was intended. Owner and Architect shall mutually agree upon the date of “substantial completion”.

44. **TESTING:** Testing as authorized by the Owner shall be completed by an independent testing laboratory chosen and paid for by the Owner under the supervision of the Contractor. If testing fails, the costs of testing, re-testing, and corrective work shall be the responsibility of the Contractor.
45. **WARRANTIES AND GUARANTEES:** The Contractor shall collect and turn over to the Owner, at the time of Final Completion, two copies of an indexed notebook consisting of all the warranties and guarantees of all products, and fixtures by manufacturers, suppliers and subcontractors. The warranties and guarantees are to be obtained on the Owner’s behalf from the manufacturers as specified.
46. **OWNER TRAINING:** The Contractor will be required to provide adequate training time to ensure that the RISD maintenance and Museum security personnel are thoroughly familiar with the operation and maintenance of all new equipment.
47. **PUNCH LISTS:** Prior to the release of retainage, a punch list shall be established and agreed to by all parties. The value of the items included on the punch list is to be set by the Owner. At its’ discretion the Owner may elect to double the value of the punch list.
48. **CONTRACTOR AVAILABILITY:** Prior to the start of work the contractor shall provide the Owner with the name and telephone number of a contact person who will be available 24 hours a day and shall also provide the Owner with either a cell phone number or pager number for the on-site superintendent.
49. **CONTRACTOR ACCESS:** Arrangements for project access should be coordinated with RISD Construction Planning and Management before the start of the project. In case of an emergency access can be arranged with RISD Public Safety 24 hours a day at 454-6376.
50. **FALSE FIRE ALARMS:** The contractor is responsible for insuring that all necessary precautions are taken to prevent false alarms. A plan for preventing false alarms should be provided for review and approval prior to the start of work. All costs associated with false alarms, due to actions by the contractor, including charges from Providence Fire Department will be charged to the contractor
51. **RISD STANDARDS AND SPECIFICATIONS:** The designer and contractor are responsible for insuring that the most current RISD Standards and Specifications are incorporated into the project. Copies of the RISD Standards and Conditions, and RISD Specifications are available upon request.
52. **AS-BUILT / RECORD DOCUMENTS:** The contractor shall maintain on site a set of as-built drawings and specifications which shall be recorded in colored pencil or ink all substantive changes in the work from the contract documents. Upon reasonable request, said drawings and specifications shall be made available to the Owner / Architect for review. Upon completion of the project the approved as-built drawings and specifications will be provided to the project architect, from which the project architect will complete a set of record documents that incorporate all of the changes noted on the as-built documents.



53. **BIM OBJECTIVES AND DELIVERABLES:** It is RISDs intention to use BIM Models for RISDs space inventory and facilities database management system, to produce square foot takeoffs, furniture layouts, use and occupancy plans, and conceptual designs and visualizations. The Office of Campus Planning uses Autodesk Revit.  
**Where Revit is used as an instrument of service,** information that matures during the construction process is to be captured on an on-going basis throughout the construction phase in the model. Upon substantial completion, the Revit file shall be provided to RISDs Office of Campus Planning.
54. **PERMITS:** The contractor shall provide the Owner with copies of all required permits including those for the sub-trades prior to the start of work. Failure to provide copies of permits will be grounds for withholding payment.
55. **SUBMITTALS:** It shall be the responsibility of the contractor to provide the Owner and or Architect with a list of proposed submittals immediately after the signing of the Contract. The Owner and or Architect will review the submittal list and advise the contractor accordingly. The failure of the contractor to promptly provide the submittal list or the agreed upon submittals will not be allowed as the basis of a delay claim by the contractor.
56. **FORM OF CONTRACT:** The form of contract will be the applicable AIA contract document as agreed to by RISD and the contractor and/or architect. It shall be the responsibility of the contractor and/or architect to supply and complete the contract documents subject to approval by RISD.
57. **DESIGN 2000:** It shall be the responsibility of the contractor to instigate applications with National Grid for all components of the project that qualify for current applicable energy rebates. The contractor shall confirm with the Owner the proper contact person at National Grid for said applications.
58. **CONTRACT DOCUMENTS:** All contract documents related to this project shall be in an electronic format as approved by the Owner.
59. **MUSEUM ACTIVITIES:** Any contractor performing work within the RISD Museum shall also abide by all additional, special stipulations as stated on the following page titled *Rhode Island School of Design Museum- Security and Safety Guidelines for Contractors*.

**RHODE ISLAND SCHOOL OF DESIGN**  
**Museum of Art**  
*Department of Security, Safety, & Facilities*

**SECURITY AND SAFETY GUIDELINES FOR CONTRACTORS**

60. **ACCESS CONTROL:** In order to maintain a high level of security required in the Museum, it is mandatory that all contract personnel abide by the following regulations for entry, existing, and movement throughout all RISD Museum facilities.
- a) **ENTRY:** All entry into the RISD Museum shall be via the “Green Door” located in loading dock area off of N. Main St. Upon entry, all contract personnel will obtain a numbered CONTRACTOR badge. They will sign in on the RISD MUSEUM CONTRACTOR SIGN-IN/SIGN-OUT LOG which will be located at Central Control. The contractor badge is to be work visibly at all times when in the RISD Museum. **Contract employees may only enter the Museum with a security escort.** No food or beverages may be brought into the RISD Museum.
  - b) **EXITING:** All exiting of the RISD Museum shall also be via the “Green Door.” All badges will be returned to security at Central Control at the end of each work day and all employees must sign out on the same log sheet that they signed in on. All packages, containers, and tool boxes are subject to inspection by the RISD Museum Security upon exiting.
  - c) **DELIVERIES & PICK-UPS:** All deliveries and pick-ups shall take place at the Green Door/RISD Museum loading dock. The RISD Museum Manager of Security and Safety shall be given advanced notice of any deliveries or pick-ups that are to take place such that proper arrangement can be made. All items entering and exiting the RISD Museum are subject to inspection and/or refusal by RISD Museum security.
61. **MOVEMENT THROUGHOUT THE MUSEUM:** Contract employees may only travel beyond the confines of the work area with a RISD Museum security escort; security officers will be assigned to accompany contractors while working. Officers are scheduled based on the work schedule agreed upon at job progress meetings. If traveling through gallery spaces, extra care and consideration must be taken to ensure no contact is made with any objects. Use extra care when moving tools or materials through the galleries that they do not contact objects or surfaces.
- In order to cancel security coverage for a planned workday, a message should be left by calling (401) 454-6554 as soon as possible; this is a 24-hour phone number. If a contractor cancels work without providing at least 48 hours advanced notice, the RISD Museum reserves the right to charge back security costs.
62. **PROTECTION OF ARTWORK:** All artwork within the area of work will be removed, covered, or otherwise protected by the RISD Museum staff. No work shall begin in any area of the RISD Museum until all artwork has been properly protected.
63. **SAFETY:** The RISD Museum is a very old infrastructure housing a very high value collection; therefore it is imperative that every measure possible be taken to protect the safety of the collection, the building, and most importantly, the staff and visitors therein from the dangers inherent in construction activities.
- a) **FIRE:** Smoking or any open flames are strictly forbidden anywhere within the RISD Museum. Employees may only smoke outside of the Green Door. Any welding, burning, soldering, or spark producing activities must not be performed without 48 hour advanced notice to the RISD Museum Manager of Security and Safety, such that fire prevention measures can be put into place. No fire detection, evacuation, or suppression equipment will be taken out of service, removed, modified, or its function inhibited in any way without 48 hour advance notice and approval by the RISD Museum Manager of Security and Safety. Any fire detection or suppression equipment taken out of service with the permission of the Manager of Security and Safety shall be restored to its normal function at the end of the work day. Any equipment that is covered to protect it during construction activities shall have the protective coverings removed at the end of the work day. In the event of a fire alarm, all contract personnel shall evacuate the building as per the instruction of the Museum Security personnel.
  - b) **WATER:** No charged water hoses are to be run through Museum spaces without prior approval of the Manager of Security and Safety.

- c) **VIBRATION:** The Manager of Security and Safety shall be notified of any demolition or construction activities that may produce high levels of vibration which could possibly be damaging to the collection in the adjacent areas of the RISD Museum such that protective measures and monitoring can be implemented. The vibration limit is 0.13in/sec at less than 20 hz. Work activity shall stop immediately if this limit is exceeded.
- d) **ODORS/VAPORS/DUST/NOISE:** The contractor shall take all necessary measures to ensure that odors, vapors, dust, and noise resulting from construction activities be completely confined to the work area. Any construction activities or use of materials taking place which pose any threat of odor, vapor, dust or noise infiltration into the adjacent areas of the Museum shall be made aware to the RISD Museum Manager of Security & Safety 48 hours in advance such that proper precautions can be taken to ensure the safety and security of RISD Museum property and the visiting public.
  - **HVAC:** For reasons of dust control, the museum HVAC system will not circulate in designated construction areas. Therefore in the museum, contractor will be responsible for providing own heating, cooling, ventilation, and exhaust.

64. **SECURITY:**

- a) **SECURITY EQUIPMENT:** No RISD Museum security equipment such as video cameras, motion detectors, door contacts, card access readers, or any power or signal transmission lines connection said equipment shall be cut, removed, modified, painted, or moved without the prior notice and approval of the RISD Museum Manager of Security and Safety.
- b) **PHYSICAL SECURITY:** No breaches of the perimeter walls or into spaces beyond the specified work area shall be made without 48 hours advance notice to the RISD Museum Manager of Security and Safety. Any penetrations into the building envelope which could allow unauthorized intrusions will be secured to the satisfaction of the RISD Museum Manager of Security and Safety.

**This document must be signed by the recipient and returned to RISD; failure to do so may result in the delay of payments.**

I acknowledge that I have received and fully understand the preceding RISD Standard Terms and Conditions dated March 2015.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

Company \_\_\_\_\_

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**CAD Specifications**

- I. BASIS OF SPECIFICATIONS:** The purpose of this specification is to obtain a consistency of CAD files used and maintained by the RISD Office of Campus Planning and Office of Construction Planning and Management.
- II. ELECTRONIC FILES:**
- a. Electronic CAD files shared with the RISD shall be able to be opened and read using a recent version of AutoDesk's AutoCAD software.
  - b. All layer names should follow the most recent version of the AIA CAD Layer Guidelines.  
Example: A-WALL\_PLAN\_01
  - c. Drawings must be formatted such that RISD may plot at a 1:1 scale.
- III. DRAWING SHEET SIZE, SCALE, FORMAT, AND TITLE BORDER:**
- a. The preferred drawing size is ARCH D 24" x 36" format. However, the Architect/Engineer may use ARCH E 30" x 42" format with a properly modified title block.
  - b. An acceptable and appropriate color dependent style table file (.ctb) must be used.
  - c. All drawings must use the RISD Title Border as provided by the RISD Office of Campus Planning.



RHODE ISLAND  
SCHOOL OF DESIGN  
PROFESSOR OF ARCHITECTURE  
PROVIDENCE, RHODE ISLAND

VENDOR  
INFORMATION

RESERVED FOR  
STAMP

PROJECT  
TITLE  
BUILDING NAME  
ADDRESS  
LOT #

SHEET CONTENTS

PLAN  
SECTION  
NOTE  
CONCRETE

DATE BLOCK  
REVISION • DATE  
REVISION • DATE



A-1.1

SHEET 1 OF 3

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Doors and Hardware Specifications**

It is the intent of RISD to maintain a standard of quality on all doors, doorframes, hardware, and related accessories. Doors, doorframes, hardware, and related accessories shall not be furnished and or installed without the submittals being approved in writing by RISD. A meeting to review and approve the keying application will be required. RISD shall be notified in writing and approve of any proposed changes to the doors, doorframes, hardware, and related accessories or installation thereof subsequent to the approval of the related submittal.

**Panic Devices**

Sargent 80 Series  
Sargent 12-80 Series  
Trim Lever EBT

**Door Closers**

Exterior: LCN4111  
Sargent 281  
  
Interior: Sargent 281  
Sargent 1431

**Hinges**

Exterior: Solid brass or stainless exterior HW 4.5 x 4.5 NRP  
Continuous: Roton 780-226HD  
Electrified hinges manufacturers: Pemko, ABH, Assa Abloy  
  
Interior: Steel ball bearing interior 4.5 x 4.5 NRP  
Electrified hinges manufacturers: Pemko, ABH, Assa Abloy

**Lockset Mortis**

Sargent 8200 LWIB  
8200 LNB

Lock function to be determined.

**Weather Stripping**

Pemko 306 AV

**Threshold**

As required Aluminum (exterior)  
Door Bottom Pemko 315 CN (exterior)

**Push and Pulls**

Rockwood Manufacturing Company

**Cylinders**

Keso Cylinders are to be provided at Academic Buildings.

Sargent – Removable core at schedule

Sargent – Restricted factory system at Academic Building

Provide proper keyway. Cylinders to be pinned, keyed and installed by contractor, unless prior arrangements are made with RISD project manager.

**Key Management**

All keys to be provided grouped and tagged with a room/door designation as approved by RISD.

Provide a key cabinet sized as required for the project keys and as approved by RISD.

**Finishes**

Finish of all hardware shall be US10, US10B, US26B, US32D; depending on location.

Finish on door closers shall be painted to match.

**Fasteners**

Hardware shall be drilled and tapped to door and frame.

TEK screws shall not be used.



## **Wooden Door Specifications**

All doors shall be 5-ply construction with lifetime warranty for re-hanging and re-finishing.

Door styles shall be hardwood to match face veneer.

Doors shall be 1.75-inch thick beveled 3 degrees both hinge.

Warranty shall be furnished to owner upon completion of contract.

### **Veneer**

Veneer shall be as specified. Rotary cut natural birch, plain sliced red oak, rotary cut natural oak, etc.

### **Glazing**

For wooden doors, glazing shall be ¼" safety laminated glass. Glazing bead shall be flush. Louvers shall be 18 ga. steel. Fire rating shall be as specified. Core shall be mineral or particle for proper fire rating.

### **Finish**

Finish on doors shall be two(2) coats of clear polyurethane. Doors shall be sanded in-between coats. Stain to match as required.

## **HM Specifications**

Exterior doors shall be 16 ga. galvanized baked on primer seamless edge and face. Doors shall be reinforced for all hardware, including panic devices, door closers, push & pull. Doors shall be insulated and close flush at top.

### **Interior Doors**

Shall be 18 ga. seamless, honeycomb, core reinforced as ext. doors.

### **Machining**

Doors shall be furnished with all holes drilled for mortise locksets, cylindrical locksets and panic devices where called for on plans.

### **HM Frames**

Exterior shall be 14 ga. welded construction. Interior shall be 16 ga. KD or welded as per plans.

### **Fasteners**

All wood screws, shields, and masonry anchors shall be furnished with frame. Proper UL fire ratings shall also be ascertained for door and frame openings.

All HM shall meet Steel Door Institute specifications and reinforced for all hardware.

Exterior frames shall have high frequency hinge reinforcement.

## **Aluminum Door Specifications**

**Wide style for exterior** – 5-inch stiles, 6-inch top rail, 6-inch bottom rail.

**Medium style for interior use** – Use 3.5 stiles and rail, 4-inch bottom rail. Aluminum doors shall be 1.75-inch thick (6063-tr) with all exposed surfaces given a 204R1 clear anodized finish or #313 dark bronze anodized finished as specified.

Wall thickness shall be 1/8-inch. Glazing beads shall have neoprene inserts for clean putty less, snap in glazing. Exterior glazing bead shall be non-removable.

### **Hinges**

Exterior doors shall have continuous Roton or Pemko hinges.

Interior Doors shall have three(3) per door leaf for 7'-0" and under; four(4) per door up to 8'-0" NRP. Hinges shall be US 26d finish or as specified.

Frames shall be constructed of seamless extruded aluminum tubes of 6063-t5 with anodized surface. Frames for butt hinge doors shall be furnished with .25 aluminum hinge reinforcement plates and weather-stripped doorstops.

### **Glazing**

.25 safety glass, .25 tempered, or as specified.

### **Hardware**

Closers-LCN aluminum or bronze painted finish installed by contractor as specified.

### **Panic Devices**

Sargent 80 Series to match finish of aluminum.

Single doors surface rim.

Doubled door surfaced mounted with ETB trim.

### **Threshold**

To meet ADA requirements.

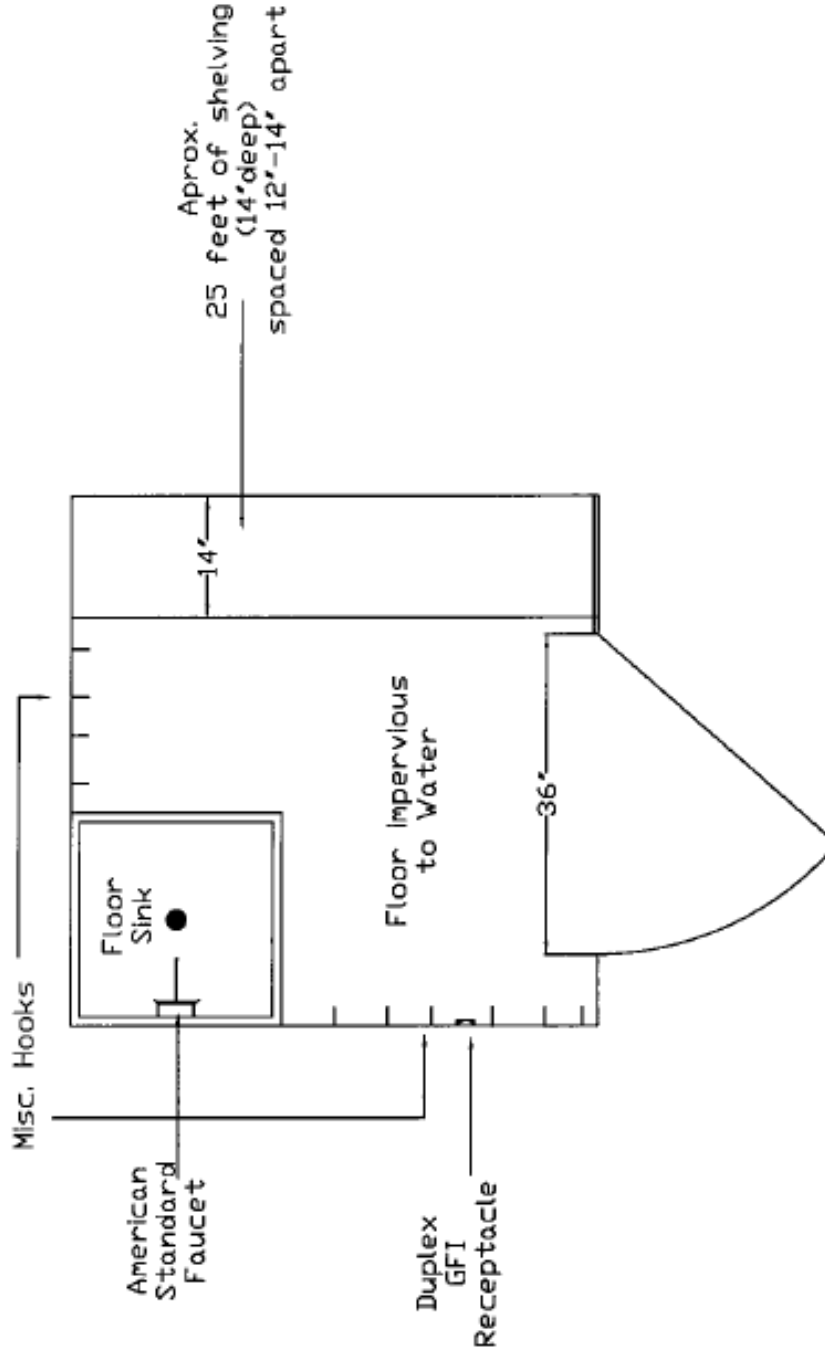
### **Cylinders**

Provide proper keyway. Cylinders to be keyed and installed by the contractor (unless prior arrangements are made with RISD).

Typical Custodial Closet

Typical Custodial Closet  
 RISD

Aprox. 25 sq. ft.



- Faucet - American Standard # 8344.112.002
- Floor Sink - 24" X 24" X 8"D (Flat or Equal) with 18" backplash
- Light Fixture - Fluorescent, GE T8 Ultra lamp and ballast
- 1 GFI receptacle
- Approx. 10 hooks for mops, brooms Etc. Shelving

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Voice and Data Standards**

**GENERAL**

The installer under this section shall provide all required labor and additional material to install, terminate, test and certify the passive cabling infrastructure systems to comply with Industry Standards. All work under this contract / purchase order shall comply with the attached RISD Standard Terms and Conditions.

Provide all additional materials, and the necessary labor and services required to ensure a complete system, installed in accordance with the intent of the Contract Documents. Furnishing and installing all incidental items not actually shown or specified, but which are required by good practice to provide complete functional systems.

Coordinate all activities with the owner, the General Contractor and overall construction schedule.

Develop a bill of materials, perform material management and efficient use of the materials whether they are issued by Owner or purchased by the Installer. Ensure materials in excess of those required to complete the project are kept in their original condition and packaging for restocking.

Information Transport Systems drawings show only general locations of equipment, devices, raceways, cable trays, boxes, etc., unless specifically dimensioned. The Installer shall be responsible for the proper placement and routing of equipment, cable, raceways, cable runway, and related components; according to the Contract Documents and subject to prior review by Owner. If found, refer any conflicts within the Contract Documents to Owner for resolution.

Installer shall obtain all permits and arrange all inspections required by codes applicable to this Division and shall submit written evidence to the Owner that the required permits, inspections, and code requirements have been secured. Coordinate site permits with the Owner and obtain Owner approval before contacting local governmental agencies.

Review, observation, assistance, and actions by the Owner shall not be construed as undertaking supervisory control of the work or of methods and means employed by the Installer. The Owner review and observation activities shall not relieve the Installer from the responsibilities of these Contract Documents.

The fact that the Owner does not make early discovery of faulty or omitted work shall not bar the Owner from subsequently rejecting this work and withholding payment until the Installer makes the necessary corrections.

Regardless of when discovery and rejection are made, and regardless of when the Installer is ordered to correct such work, the Installer shall have no claim against the Owner for an increase in the Subcontract price, or for any payment on account of increased cost, damage, or loss.

**REFERENCES**

All national codes, Building Code of the State of Rhode Island (Latest Adopted Code), Electrical code of the State of Rhode Island (Latest Adopted Code). All other local and State Codes (Latest Adopted Codes). TIA/EIA 568-B Series (Latest Revision), TIA/EIA 569-B Series (Latest Revision), TIA/EIA 598-C Series (Latest Revision), TIA/EIA 606-A Series (Latest Revision), J-STD 607-A (Latest Revision), TIA/EIA 758-A Series (Latest Revision), ANSI/IEEE 802.3 (including sub-sections), and all other Standards related to or referenced by the Standards listed herein.

**DESIGN CRITERIA**

Compliance by the Installer with the provisions of this Specification does not relieve him or her from the responsibilities of providing materials and equipment of proper design, mechanically and electrically suited to meet operating requirements at the specified service conditions. The intent of the Drawings is to restrict the maximum horizontal subsystem cabling length to 295 feet defined as the link between the Main Distribution Frame (MDF) or Intermediate Distribution Frame (IDF) in the METR and each served IT work area outlet.

## **SCOPE OF WORK**

1. Furnish, install, terminate, label and test a complete operating cabling system, as shown on the contract drawings:
2. Provide horizontal cabling from the patch panels to their respective Telecommunication Outlet as shown on the Drawings.
3. Provide adequate cable service loop in order to relocate and re-terminate cables from patch panel to furthest located free standing cabinet within the MTER.
4. Provide approved rated J-hooks hanger systems from all Telecommunication Outlet to their respective IDFs as required for a complete system.
5. Provide fire/smoke proof sealing systems at all penetrations.
  - A. Provide all fire/smoke seals at all penetrations meeting code for the installation of equipment or systems.
  - B. Properly replace all existing structural fireproofing materials disturbed or removed during the installation of equipment or systems. Coordinate with the General contractor and Construction Manager.
  - C. The Installer shall be held responsible to replace fireproofing materials in order to meet code and meet the original fire-proofing installation methods. Fire-proofing materials that have been replaced by the Installer that do not comply shall again be removed and replaced by a fire proofing contractor designated by the Owner at the Installers expense.
9. The Installer shall be responsible for providing and installing access panels as required to facilitate the work. The size and location of all access panels is subject to written approval from the Owner. All access panels shall meet or exceed the fire rating of the assembly that they are installed in.
10. The contractor is responsible for all cutting and patching of all surfaces and assemblies associated with the installation in this scope. All materials used to patch will be similar to the adjacent material subject to fireproofing requirements.

## **WORK SPECIFICALLY EXCLUDED FROM PROJECT**

1. Incoming common carrier services.
2. Private Branch Exchange Systems.
3. Wide Area Network Systems.
4. Local Area Network Systems.
5. Data processing equipment.
  - A. Final connections (cross connects and patching)

B. Painting of any new work including patching will be by Owner.

## **PRODUCT WARRANTY AND APPLICATION ASSURANCE**

A twenty-five (25) year Molex Category 6 extended product warranty and application assurance for this wiring system shall be provided for all new back-bone and horizontal UTP cabling as follows:

A. 25 year extended product warranty:

1. The 25 year extended product warranty shall include providing replacement or repair of defective product(s) and labor for the replacement or repair of such defective product(s) for a twenty-five (25) year period.

B. 25 year application assurance:

1. The 25 year application assurance shall cover the failure of the wiring system to support the application which it was designed to support, as well as additional application(s) introduced in the future for a twenty-five (25) year period.

C. System certification:

1. Upon successful completion of the installation and subsequent inspection, the Owner shall be provided with a numbered certificate, from the manufacturer(s), registering the installation.

## **QUALIFICATIONS**

The Installer shall be a telecommunications cabling Installer that possess all licenses and industry certifications required to install information transport system's (IT) cabling at this specific project location. The installer shall be a **Molex Category 6 Certified** installer. The Installer and all of the Installer's individual personnel on this project shall be trained and certified by the manufacturer whose products are being provided on this specific project.

## **REGULATORY REQUIREMENTS**

Conformance to the latest national, state, and local codes and other legal requirements are the responsibility of the Installer. Installer shall obtain all permits at Installers expense and arrange all inspections required by codes applicable and shall submit written evidence to the Owner that the required permits, inspections, and code requirements have been secured. Coordinate site permits with The Owner and obtain Owner approval before contacting local governmental agencies.

## **SUBMITTALS**

Submit (3) copies of complete product cut-sheet submittal package for approval by Owner prior to providing said products. Submittals shall be complete and sent via electronic mail to the Owner. Allow adequate time for Owner review. Materials cannot be used before results have been submitted to and approved by the Owner or its representative.

## **DEFINITION OF ACCEPTANCE**

System acceptance shall be defined as that point in time when the following requirements have been fulfilled:

1. All submittals and documentation have been submitted, reviewed, and approved.
2. The complete system has successfully completed all testing requirements.
3. All punch list items have been corrected and accepted.

## **PROJECT RECORD DOCUMENTS**

Provide detailed project record documentation within 30 days after completion of the work. The owner reserves the right to request clarification, edits or additional information following review. Provide a list of twisted-pair cable tests equipment with calibration certification. Submit cabling Systems Test reports in the following manner: One copy via email or on compact disk in Microsoft Excel format to Owner for specification conformance. Provide complete "as built" drawing drawings.

## **WORKMANSHIP**

Manufactured products, materials, equipment, and components shall be provided, conditioned, applied, installed, connected, and tested in accordance with the manufacturer's specifications and printed instructions. The installation of all system components shall be carried out under the direction of qualified personnel. Appearance shall be considered as important as mechanical and electrical efficiency. workmanship shall meet or exceed Industry standards.

## **CABLE TERMINATION AND TEST PLANS**

Provide proof of testing technician(s) certification for operation of the specific units of test equipment which is proposed for use. The Installer shall obtain Owner approval for each termination and test plan prior to execution of the work. Provide complete comprehensive test and testing reports for the Horizontal Cabling System as defined by TIA/EIA standards.

Unshielded Twisted-Pair Cable System Testing Permanent Link Test shall be performed using level IV test instruments capable of the following swept/stepped frequency voltage measurements in accordance with the performance parameters required by the latest EIA/TIA 568 series Standards. Perform metered tests on each multi-pair twisted-pair and/or four pair UTP cable through the patch panel and at each end of the cable section and/or IT outlet. The permanent link test shall be undertaken as described in latest ANSI/TIA/EIA-568 series Standards

Any cable links which fail to meet performance test criteria shall be reterminated, reconnected, or replaced by the Installer free of charge (at the discretion of the Owner). Submit final field test documentation in list form, including CM's signature for Owner's approval.

Test Reports: Include field test results for each cable including cable link length in accordance with latest EIA/TIA 568 series Standards. All test parameters shall appear on each test document including graphics and indicating each test parameter result. The individual test data shall include the automated print out produced by the cable scanning equipment.

## **PRODUCTS**

Materials and Equipment shall be new and labeled and/or listed as acceptable to the authority having jurisdiction as suitable for the use intended. Coordinate with Architect and owner to select finish color(s), except where specific color is indicated.

## **IT CABLING SYSTEMS**

Acceptable Manufacturers are Molex or approved equivalent, unless otherwise noted. Horizontal Cables: Plenum rated and clearly factory-labeled at intervals not greater than 1 foot to easily differentiate Category type.

Horizontal Cabling - Type UTP Cat 6-CMP: Category 6,-CMP (Plenum Rated) 4-pair horizontal UTP cable. Molex cable unshielded 100-ohm inside twisted-pair cable for use in the horizontal distribution subsystem shall exceed the requirements of EIA/TIA 568 series Standard. Minimally compliant cable is prohibited. Data cable shall be with a Blue outer jacket and Communication (telcom) shall be with a White outer jacket.



Twisted-Pair Premises Connectors – Molex Category 6, 8-position/8-conductor modular plug without key for use with oval or round four-pair stranded UTP. Provide Molex 6 series connectors. Minimally compliant connectors are not permitted.

Outlet Face Plates – All faceplates shall be Molex “Synergy” series (or approved equivalent) and available in simplex, duplex, triplex, quadplex, or sixplex arrangement in a single gang configuration. Surface mounted outlets shall be available in duplex, triplex, quadplex, or sixplex configuration. Outlets color shall be approved by the Owner. Outlet Face Plates shall be provided with blank module inserts for all unused module locations.

Work Area Outlets – shall consist of single gang utility outlet boxes with plates equipped.

Category 6 jacks – Provide Molex Datagate plus jacks (or equivalent). All category 6 outlets shall exceed Category 6 transmission requirements for connecting hardware, as specified in ANSI/TIA/EIA 568-B commercial building telecommunications cabling standard, horizontal cable section. Minimally compliant connectors are not permitted. Category 6 jacks shall be terminated using TIA/EIA-T568B pin-pair configuration through-out the project.

UTP Patch Panels – provide Molex Datagate plus Category 6, 48 port, modular patch panel with 2 RU mounting height, color coded individual UTP jacks and label strips. Each patch panel must also be accompanied by a Panduit VMPF1E 2U horizontal cable manager.

Patch Cables – The owner shall provide patch cables.

General Cable Management - Provide IT Systems Cable Management Accessories Open and Closed Cable Cable Distribution Rings (J-Hooks, C-Rings, and D-Rings): metallic or plastic (UL Listed for environment in which they are being used). Provide cable hook and loop (Velcro) ties. Provide plenum rated where required.

## **NAMEPLATES AND LABELS**

Utilize Owner approved labeling scheme for all horizontal cables distributed directly from a patch panel or wiring block. Label horizontal cables twice using a laminated preprinted adhesive label attached to the sheath. Place one label inside the IT work area outlet, and the other at the wiring block or patch panel end. Provide adhesive-backed labels suitable for printing and bonding to cables. Handwritten labels are unacceptable.

Patch Panel Labels - Use a label-making machine to construct label tabs from plastic or paper strips installed behind label windows on face of patch panel. Handwritten labels and adhesive labels are not permitted. Prior to labeling, the installer will work with the Owner to determine the labeling convention to be used.

## **FIRE / SMOKE STOPPING**

Provide approved fire / smoke barrier penetration sealing where required by code.

## **UNSPECIFIED EQUIPMENT AND MATERIAL**

Provide any item of equipment or material addresses on the drawings or in this document or required to provide a complete and functioning cable plant installation shall be provided in a level of quality consistent with other specified items.

## **IT WORK AREA OUTLETS**

The installer shall provide all horizontal cabling systems as shown on Drawings. Coordinate outlet types and their locations with Owner.

## GENERAL COMMUNICATION CABLING

Install cable after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed. Before installing cabling, ensure all cable pathways are completely and thoroughly cleaned. Inspect conduit, wireway, cable runways, and innerduct. Swab any additional enclosed raceway and innerduct systems furnished.

Provide Pulltape (muletape) with preprinted foot markers is usually provided when conduit and innerduct are installed; if not, provide pulltape in each empty communications conduit containing a bend or over 10 feet in length.

Install communications cable in accordance with manufacturer's instructions so as not to exceed the manufacturer's specified pulling tension.

Provide service loops and pigtails of adequate length for neat, trained, and bundled connections.

Provide service pigtails of no less than twelve inches at all work area outlets.

Provide protection for exposed cables where subject to damage. Provide abrasion protection for any cable or wire bundles which pass through holes or across edges of sheet metal.

When installing cable, insure that any lengths of cable dressed along the floor are protected from traffic.

**Cable Management Mountings, Hangers, and Attachments:** Hold communications cable firmly in place using independent support. Design and install straps, mountings, hangers, J-hooks, support wires, and other similar fittings adequate to support loads with ample safety factors and so as not to damage, bind, or deflect cable. Do not use plumbers' perforated straps or similar non-compliant supports as a means of support. Do not fasten communications cable supports to steam, water, or other piping, ductwork, mechanical equipment, electrical equipment, electrical raceways, or wires used to support ceiling grid. Do not allow communications cables to make contact with ceiling tiles, ceiling grid support wires, or lighting fixtures.

**Communications Cable Hook and Loop Ties:** Cable ties and other cable management clamps shall be no more than hand tightened and shall fit snugly, but not compress, crimp, or otherwise change the physical characteristics of the cable jacket or distort the placement of twisted-pair components. Replace any cable exhibiting stresses due to over tightening of cable management devices. Use the following types of cable ties:

**Plenum Building Areas:** Where cable passes through open return air space, use plenum rated color-coded and Velcro cable ties. **Non-plenum Building Areas:** Use conventional flame-retardant color coded Velcro ties.

**Exterior and Underground Locations:** Use black Velcro cable ties.

**Cabling:** Utilize continuous unspliced lengths of copper conductors between splice enclosures and/or termination points. Arrange cable and install neatly, cut to proper length, and remove surplus wire or strand. Provide suitable cable slack in boxes, outlets, and at turns to ensure that there is no kinking or binding of the sheath. Where possible, route cables in overhead cable trays and inside wire management systems attached to the equipment cabinets and racks. Use Velcro ties or ducts to restrain cabling installed outside of wire management systems on racks or in cabinets. The number of twisted-pairs specified for each cable shall be terminated and operational.

**Separation from Power Lines:** provide the following minimum separation distances between pathways for copper communications cables and power wiring of 480 volts or less:

**Open or Nonmetal Communications Pathways:** 12 inches from electric motors, fluorescent light fixtures, and unshielded power lines carrying up to 3 kVA. 36 inches from electrical equipment and unshielded power lines carrying more than 5 kVA. 48 inches from large electrical motors or transformers.

**Grounded Metal Conduit Communications Pathways:** 2 1/2 inches from electrical equipment and unshielded power lines carrying up to 2 kVA. 6 inches from electrical equipment and unshielded power lines carrying from 2 kVA to 5

kVA. 12 inches from electrical equipment and unshielded power lines carrying more than 5 kVA. 3 inches from power lines enclosed in a grounded metal conduit (or equivalent shielding) carrying from 2 kVA to 5 kVA. 6 inches from power lines enclosed in a grounded metal conduit (or equivalent shielding) carrying more than 5 kVA.

Review cable routing within communications rooms (MTER, IDF, etc) with the owner prior to installing any cables.

## **UNSHIELDED TWISTED-PAIR INSTALLATION**

Place unshielded twisted-pair (UTP) cable so as to maintain the minimum cable bend radius limits specified by the manufacturer or the following, whichever is larger:

Horizontal Four-Pair Unshielded Twisted-Pair Cables: Termination Points: eight times the cable diameter. Other Locations: four times the cable diameter.

Multipair Unshielded Twisted-Pair Cables: Maintain a minimum bend radius of ten times the cable diameter.

To avoid stretching four-pair horizontal cable conductors during installation, do not exceed a 25-pound force pulling tension (tensile loading).

Place copper cables transitioning between the cable trays and cabinets or racks in a neat and orderly manner per NEC 318.11(b) requirements. Velcro wraps transitioning bundles.

Directly terminate twisted-pair cable on wiring blocks, patch panels, and Telecommunications Outlet in standard WECO color code order.

Use wiring block and/or connector manufacturer's recommended tools with the proper-sized anvils for all copper punch down, wire wrap, and crimp terminations. Stuffer caps are not permitted.

Unshielded twisted-pair connecting hardware and material including wiring blocks, patch panels, connectors, Telecommunications Outlet, cross-connect jumper wire or cables, patch cords, and other components used to connect unshielded 100-ohm twisted-pair cable shall meet or exceed the requirements of EIA/TIA 568-B series Standard specifications for Unshielded Twisted-Pair Connecting Hardware, for the category of use specified in the Contract Documents.

Cable Jackets: To reduce untwisting of pairs, maintain the twisted pair cable jacket as close as possible to the point of termination.

Multipair Cable: Strip back only as much cable jacket as is minimally required to terminate on connecting hardware.

Horizontal Cable: Strip back no more than 1 inch of cable sheathing.

Pair Twist: Observe the EIA/TIA-568-B series Standard recommended practice of preserving wire pair twists as closely as possible to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to connecting hardware shall be no greater than 1 inch for multipair and Category 3 cables, and no greater than 1/2 inch for Category 6 cables. This practice maintains the maximum number of twists in the wire, to minimize signal impairment and reduce potential problems with high-speed transmission.

## **PENETRATIONS**

Cutting and Patching, the contractor is responsible for all cutting and patching of all surfaces and assemblies associated with the installation in this scope.

Seal all raceways entering structures, including conduit and innerduct with cable installed, at the first box or outlet to prevent the entrance of gases, liquids, or rodents into the structure.

Inspect entrance seal installation by others between building structure and/or innerduct and conduit to verify integrity of installation.

Empty Conduits: Install removable screw-tight duct plugs.

Conduit with Innerduct Installed: suitable duct water seal between conduit and innerduct.

After Cable Installed: suitable duct water seal between conduit and cable or between innerduct and cable.

Seal penetrations in fire-rated walls and floors. The following requirements shall apply to the communications contractor:

Inspect fire stopping installation by others between building structure and/or innerduct and conduit, sleeves, wireway, and cable tray to verify integrity of installation.

Sleeves and Fire Barrier Sealing Systems: Before Cable Installation: Unless provided by others, install conduit sleeves with insulating throat bushings or STI EZ Path or equal fire barrier sealing systems in all openings where open cable passes through fire-rated walls and floors. After Cable Installation: Install intumescent fire barrier penetration sealing materials between cables and sleeves or install fire barrier sealing systems.

Raceways: After cable installation, install intumescent fire barrier penetration sealing materials between cables and conduit, innerduct, or wireway at all exposed penetration locations.

Cable Trays: During Cable Installation: Protect fire stopping materials throughout the construction period in a clean and properly protected condition to maintain each assembly without any indication of damage.

After Cable Installation: Restore fire barrier penetration sealing materials to provide required protection.

Provide each conduit passing from a nonhazardous or noncorrosive area to a hazardous area and each conduit entering an enclosure within a hazardous area with a sealing fitting which meets applicable NEC Article 500 requirements. The sealing fitting shall be UL-listed and shall be filled with approved sealing compound of the same manufacture.

Protect adjacent surfaces from damage during seal or fire stop installation. Repair any damage.

## **Relocation and Adds, Removal of telephone system and the data network infrastructure**

All interior cables to the telecommunications/Data jacks (“horizontal cables”), whether intended for immediate or future use, shall be a minimum of quantity 3-four-pair, non-shielded, PVC (plenum rated) , 24 gauge twisted pair cable, with a minimum EIA/TIA certification of Category 6, one to the “voice” outlet and two Category 6 to each of the “data” outlets of each drop, unless specified by RISD OIT. The voice cables shall have an outer jacket that is white in color. The data cables shall have an outer jacket that is blue in color. There shall be no exceptions to cable color code. All riser cables shall be of 24-gauge, sheathed, twisted-pair, color coded and appropriately sized (pair count) for the installation

All jacks must be placed within 295 cable-feet (90 meters) of the MDF or IDF in which such wiring terminates, per EIA/TIA specifications. RISD OIT must review and approve placement of jacks.

All vertical and horizontal cable runs must be independently suspended by approved hangers, trays, ducts or raceways. All telecommunications cables must be placed to avoid electromagnetic interference caused by electrical/electronic devices, such as florescent light ballasts, electric motors, generators, power supplies, radio transmitters, etc.

Any old cabling systems whether they are old technology or redundant cabling if removed location ID's must be documented. They need to be noted either cable ID's or Locations need to be noted for RISD OIT staff to determine what to do with them. No cables should be removed or cut without RISD OIT consent and approval, in advance. At a minimum, the labeling system shall clearly identify all components of the system: racks, cables, panels and outlets. The labeling system shall designate the cables origin and destination and a unique identifier for the cable within the system. Racks and patch panels shall be labeled to identify the location within the cabling system infrastructure. All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme.

All label printing will be machine generated using labeling software and laser printers obtained from cabling system manufacturer. Self-laminating labels will be used on cable jackets, appropriately sized to the cable, and placed within view at the termination point on each end. Outlet labels will be the manufacturer's labels made of white card stock or self-adhesive polyester where applicable.

As-Built Drawings: The installation contractor will be provided with 2 sets of drawings at the start of the project. Each with Location ID's moved or removed from a given location. Anticipated variations from the build-to drawings may be for such things as cable routing and actual outlet placement. Any variations will be permitted with RISD OIT approval only. The Contractor shall provide a floor plan to the owner at the conclusion of the project. The marked up drawing set will accurately depict the as-built status of the system including termination locations, cable routing, and all administration labeling for the cabling system

For Data test documentation shall be provided in electronic format on appropriate media, within three weeks after the completion of the project. The Test documentation shall be clearly marked the date of completion (month and year) also the test equipment by name, manufacturer, model number, serial number and last calibration date should also be provided at the end . Scanner test results (Category 3, 5E, or 6), fiber optic power meter attenuation test results, OTDR traces, and green light test results shall be segregated for easy referencing.

Category 6 data cable shall be performance verified using an automated test set. Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the ANSI/TIA/EIA-568-B.2.1 Standard, and the result shown as pass/fail. Test results shall be printed directly from the test unit or from a download file using an application from the test equipment manufacturer. The printed test results shall include all tests performed, the expected test result and the actual test result achieved.

When repairs and re-tests are performed, the problem found and corrective action taken shall be noted, and both the passed and failed test results shall be recorded the installer shall provide all materials unless otherwise specified by RISD OIT. All necessary labor and services required to ensure complete system, installed in accordance with the intent of the contract documents. Furnishing and installing all incidental items not actually shown or specified, but are required by good practice to provide a complete functional system.

## **Telecommunications Closet Specifications**

### **OVERVIEW**

The telecommunications walk-in closet must provide a safe, environmentally-suitable connection point for backbone cable and horizontal cable. The closet will service equipment, cable terminations, terminal and cross-connect fields.

### **GENERAL REQUIREMENTS**

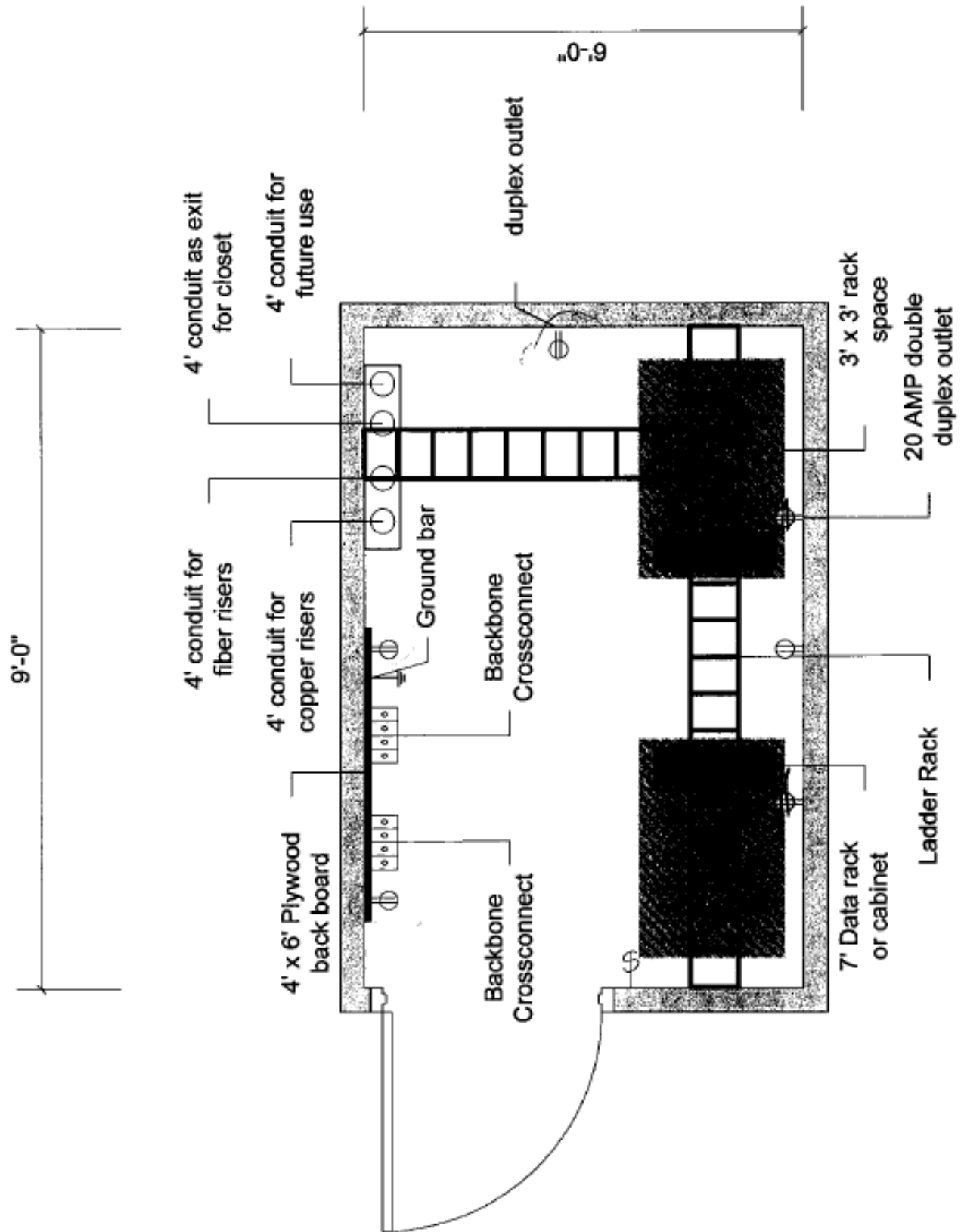
Telecommunications closets should be aligned vertically in multi-story buildings, whenever possible, and located as close as possible to the center of the area that it is intended to serve, keeping average horizontal cable runs to 150 feet (46 meters) or less, with a maximum of 295 feet (90 meters). Closet will vary in size depending on the floor area they serve. For buildings where the floor space to be served is less than 5,000 ft<sup>2</sup>, closets must be at least 4.5 ft by 4.5 ft. For floor space above 5,000 ft<sup>2</sup>, closets must be at least 6 ft by 9 ft. Minimum ceiling height is 8 ft – 6 in. When a ceiling distribution is used, the closet must have adequate conduit or openings through beams and other obstructions into the accessible ceiling space. False ceilings are not permitted.

The closet must have a fully-opening, lockable door which is at least 36 inches wide and 80 inches tall. The closet lighting must have a minimum equivalent of 450 lux (50 footcandles) measured 3 feet above the finished floor level.

The closet must have heating, ventilation, and air conditioning that will maintain a temperature range of 50°F to 95°F, preferably within  $\pm 9^\circ\text{F}$  of the adjoining office space while maintaining positive pressure, with a minimum of one air change per hour. The closet must be equipped with a minimum of two dedicated 20 ampere rated 3-wire 100V AC duplex electrical outlets which are on separate circuits, as well as separate duplex 110V AC convenience outlets (for tools, test sets, etc.) located at least 6 inches above the floor and placed at 6 foot intervals around perimeter walls. Additional outlets or power strips may be required depending on the amount and type of equipment planned for the closet. All conductive pathways, equipment, and cable shields must be properly grounded. Where multiple bonds are required, a copper ground bar must be provided. Use only 6 AWG copper bonding conductors.

Each closet must have a minimum of three 4" conduit joined by a suitable wall mounted pull box with a hinged or removable door for backbone wiring. There must be at least two 4" conduits, or equivalent, for horizontal cable distribution. Locate all slot/sleeve systems in places where pulling and termination will be easy. Sleeves and slots must not be left open after cable installation. Firestop all sleeves and slots in accordance with all applicable building codes.

Typical Telecommunications Closet



**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Plumbing Fixtures and Specialties**

**Fixtures**

**I. FLUSH VALVE WATER CLOSETS (ACADEMIC/OFFICE PROJECTS)**

- A. Water Closet
  - i. Floor Mount
    - a. American Standard Model 2234.001; Kohler Model K-4406 (elongated bowl top spud)
    - b. American Standard Model 3043.001; Kohler Model K-4405 (ADA elongated bowl top spud)
  - ii. Wall Hung
    - a. American Standard Model 2257.103; Kohler Model K-4325 (ADA elongated bowl top spud)
  - iii. All installed water closets to include:
    - a. Bolt covers
    - b. Gaskets
- B. Flush Valves
  - i. Sensor Operated: Sloan Valve Company Model 111-1.6 ES-S TMO
    - a. EL-154 transformer
  - ii. Manual: Sloan Valve Company Royal Model 111
- C. Seat
  - i. American Standard Model 5901.1000 (Solid Plastic Elongated); Kohler Model K-4731-C; Church Model 9500CT
- D. Accessories
  - i. Carrier for wall hung water closet
    - a. Josam

**II. TANK TYPE WATER CLOSETS (RESIDENTIAL PROJECTS)**

- A. Water Closet
  - i. American Standard Model 2467.016 (meets ADA)
  - ii. Kohler Wellworth K-3575
  - iii. Kohler Highline K-3658 (meets ADA)
- B. Seats
  - i. American Standard Rise and Shine Elongated Toilet Seat Model 5324.019 (Solid Plastic)

**III. WALL HUNG URINALS**

- A. Urinals
  - i. Academic Projects: Kohler Dexter Model K-5016-ET-O
  - ii. Office Projects: Kohler Freshman Model K-4989-T
- B. Sensor Operated Flush Valve
  - i. Sloan Valve Company Model 180-1.0 ES-S
    - a. EL-154 transformer Royal/24 VAC 50 VA
- C. Exposed Flush Valve
  - i. Sloan Valve Company Model 186-1.0 Low Consumption (1.0 gpf/3.8 Lpf)



- D. Accessories
  - i. Stainless steel strainer
  - ii. Josam carrier

#### **IV. LAVATORIES**

- A. Vitreous China Wall Hung Basin (Residential, Academic, and Office Projects)
  - i. American Standard Model 03550.12 (4" center set)
- B. Vitreous China Counter Top Basin (Residential, Academic, and Office Projects)
  - i. American Standard Model 0476.028
- C. Supply Faucet Manufacturers
  - i. Academic and Office Projects:
    - a. Push: Moen Metering Faucet (4" centerset), Model 8886
    - b. Sensor Operated: Sloan Optima EBF-650
  - ii. Residential Projects:
    - a. Kohler Triton K-7401-K-CP; Handles: 16010-Y-CP
- D. Accessories
  - i. Carrier for wall hung lavatory
    - a. JOSAM

#### **V. KITCHENETTE SINKS**

- A. Single Compartment Bowl (Residential, Academic, and Office Projects)
  - i. Elkay single bowl Model PSR2522
- B. Double Compartment Bowl (Residential, Academic, and Office Projects)
  - i. Elkay double bowl Model PSR3322
- C. Sink Faucets (Residential, Academic, and Office Projects)
  - i. Chicago Model 201-GN8A-E3-317
  - ii. Approved manufacturers: Chicago, Delta, Kohler
- D. Drains
  - i. Elkay Model LK-35L strainer w/ offset outlet
  - ii. Plain brass continuous waste
  - iii. 2" P-trap with cleanout
  - iv. Stop valves

#### **VI. SERVICE SINKS**

- A. Basins
  - i. Academic Studios: Elkay Model WNSF8124 [R or L, if included on drawings]
  - ii. Custodial:
    - a. Floor Mounted: Fiat Model FL1
    - b. Mop Basin: Fiat Model MSB 3624
- B. Faucet
  - i. Chicago 897-CCP
- C. Drain
  - i. Elkay Model LK24RT
- D. Accessories
  - i. Zurn Model Z1180-ZSS
  - ii. Endura Interceptor (for grease and solids)

## **VII. BATHTUBS AND SHOWERS**

- A. Bathtub/Shower (Residential)
  - i. Lasco, Fiberglass Tub/Shower Model 2603SGL
- B. Bath and Shower Trim (Residential)
  - i. Symmons Tub and Shower Valve Model S-96-2-X

## **VIII. SHOWERS**

- A. Cabinet (Residential)
  - i. Lasco Fiberglass Shower 32" x 34" Model 1323C, White
  - ii. Lasco Fiberglass Shower 36" x 37" Model 1363C, White
  - iii. Lasco Fiberglass Handicapped Shower with Seat and Bars Model 3636BFS, White
- B. Trim (Residential)
  - i. Symmons Shower Valve Model S-96-1-X
  - ii. Symmons ADA Shower Valve Model 96-500-B30-L-L-X

## **IX. DRINKING FOUNTAINS**

- A. Manufacturers
  - i. Elkay Model LZS8WSLK (EZH2O® Bottle Filling Station w/ Single ADA Cooler)
  - ii. Elkay Model LZSTL8WSLK (EZH2O® Bottle Filling Station w/ Versatile Bi-Level ADA Cooler)
  - iii. Elkay Model LZO8 (Single ADA Cooler, no bottle filling)
- B. Installation Requirements
  - i. Fully and securely supported to wall
  - ii. 1-1/2" P-Trap with cleanout
  - iii. Stop valve

## **X. WASH FOUNTAINS**

- A. Manufacturers
  - i. Bradley Corporation Model 2605A-SH-FCV-LSD: 36" circular wash fountain

## **XI. EMERGENCY EYE AND FACE WASH**

- A. Manufacturers
  - i. Haws Corporation Model 7760BT

## **XII. EMERGENCY SHOWERS**

- A. Manufacturers
  - i. Haws Corporation Model 8123H

## **Specialties**

### **I. DRAINS**

- A. Roof Drains
  - i. Josam Roof Drains Model 21000
- B. Parapet Drains
  - i. Josam Parapet/Scupper Drains Model 24700

### **II. HYDRANTS**

- A. Manufacturers
  - i. Josam Wall Hydrants Frost-Free Model 71050

### **III. WATER HEATERS**

- A. Leak Detection w/ Automatic Shut-Off
  - i. FloodMaster FM-094

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Electrical Wiring, Devices, and Specialties**

**Switchgear**

**I. MANUFACTURERS**

- A. Square D
- B. Siemens
- C. (Or other as required for the project and approved by RISD Project Manager)

**Building Wire and Cable**

**II. WIRING REQUIREMENTS**

- A. Wet or Damp Interior Locations: Use only building wire, building wire with Type THWN ART 310-8 insulation in raceway, direct burial cable, armored cable with jacket, or metal clad cable.
- B. Use conductor not smaller than 12 AWG for power and lighting circuits.
- C. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet (25 m).
- D. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet (160 m).

**III. NON-METALLIC SHEATHED CABLE**

- A. Description: NFPA 70, type NMC

**IV. ARMORED CABLE**

- A. TYPE AC ARMORED CABLE **WILL NOT** BE ALLOWED FOR USE IN ANY RISD PROJECTS

**V. METAL CLAD CABLE**

- A. Description: NFPA 70, Type MC
- B. Conductor: Copper
  - i. For sizes smaller than 4 AWG: Copper.
  - ii. For sizes 4 AWG and larger: Copper.

## Conduit

### I. CONDUIT REQUIREMENTS

- A. Conduit Size: Comply with NFPA 70
  - i. Minimum Size: ½ inch (13 mm) unless otherwise specified.
- B. Underground Installations
  - i. More than 5 feet (1.5 meters) from Foundation Wall: Use rigid steel conduit, intermediate metal conduit, plastic coated conduit, thickwall non-metallic conduit, or thinwall non-metallic conduit.
  - ii. Within 5 feet (1.5 meters) from Foundation Wall: Use rigid steel conduit, intermediate metal conduit, plastic coated conduit, thickwall non-metallic conduit, or thinwall non-metallic conduit
  - iii. In or Under Slab on Grade: Use rigid steel conduit, intermediate metal conduit, plastic coated conduit, thickwall non-metallic conduit, or thinwall non-metallic conduit
  - iv. Minimum Size: ¾ inch (19 mm)
- C. Outdoor Locations Above Grade: Use rigid steel conduit, rigid aluminum conduit, intermediate metal conduit, or electrical metallic tubing.
- D. In Slab Above Grade:
  - i. Use rigid steel conduit, intermediate metal conduit, electrical metallic tubing, or thickwall non-metallic conduit
  - ii. Maximum Size Conduit in Slab: ¾ inch (19 mm); ½ inch (13 mm) for conduits crossing each other
- E. Wet and Damp Locations: Use rigid steel conduit, rigid aluminum conduit, intermediate metal conduit, electrical metallic tubing, thickwall non-metallic conduit, non-metallic tubing.
- F. Dry Locations:
  - i. Concealed: Use rigid steel conduit, rigid aluminum conduit, intermediate metal conduit, electrical metallic tubing, thickwall non-metallic conduit, or non-metallic tubing.
  - ii. Exposed: Use rigid steel conduit, rigid aluminum conduit, intermediate metal conduit, electrical metallic tubing, or thickwall non-metallic conduit.
- G. All set screw type box connectors and couplings for thinwall (EMT) conduit shall be of the steel type. **NO** cast connector and couplings shall be allowed.

## Surface Raceways

### I. MANUFACTURERS

- A. Panduit

## Boxes

### **I. OUTLET BOXES**

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
  - i. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include ½ inch (13 mm) male fixture studs where required.
  - ii. Concrete Ceiling Boxes: Concrete type
- B. Non-Metallic Outlet Boxes: NEMA OS 2
- C. Cast Boxes: NEMA FB 1, Type FD aluminum. Provide gasketed cover by box manufacturer. Provide threaded hubs
- D. Wall Plates for Finished Areas: As specified in Section 16140

### **II. FLOOR BOXES**

- A. Floor Boxes: NEMA OS 1, fully adjustable, 1-1/2 inches (38 mm) deep
- B. Material: Cast Metal
- C. Shape: Round
- D. Service Fittings: As specified in Section 16140

### **III. PULL AND JUNCTION BOXES**

- A. Sheet Metal Boxes: NEMSA OS 1, galvanized steel.
- B. Hinged Enclosures: as specified in Section 16139
- C. Surface Mounted Cast Metal Box: NEMA 250, Type 4; flat-flanged, surface mounted junction box:
  - i. Material: Galvanized cast iron
  - ii. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws
- D. In-Ground Cast Metal Box: NEMA 250, Type 6, outside flanged, recessed cover box for flush mounting:
  - i. Material: Galvanized cast iron
  - ii. Cover: Smooth cover with neoprene gasket and stainless steel cover screws
  - iii. Cover Legend: "ELECTRIC"
- E. Fiberglass Handholes: Die molded glass fiber hand holes:
  - i. Cable Entrance: Pre-cut 6 x 6 inch (150 x 150 mm) cable entrance at center bottom of each side.
  - ii. Cover: glass fiber weatherproof cover with nonskid finish.

## Cabinets and Enclosures

### **I. HINGED COVER ENCLOSURES**

- A. Construction: NEMA 250, Type 1 steel enclosure
- B. Covers: Continuous hinge, held closed by flush latch operable by screwdriver
- C. Provide interior plywood panel for mounting terminal blocks and electrical components
- D. Enclosure Finish; Manufacturer's standard enamel.

## **Wiring Devices**

### **I. WALL SWITCHES**

- A. Wall Switches: NEMA WD 1, Heavy Duty, AC only general-use snap switch
  - i. Body and Handle: Ivory plastic with toggle handle
  - ii. Indicator Light: Lighted handle type switch; red handle
  - iii. Locator Light: Lighted handle type switch; red color handle
  - iv. Ratings:
    - a. Voltage: 120 volts, AC
    - b. Current: 20 amperes, minimum
  - v. Ratings: Match branch circuit and load characteristics
- B. Switch Types: Single pole, double pole, and 3-way

### **II. WALL DIMMERS**

- A. Wall Dimmers: NEMA WD 1; Semiconductor dimmer for LED lamps, Type as indicated on drawings.
  - i. Body and Handle: Ivory plastic with linear slide
  - ii. Voltage: 120 volts
  - iii. Power Rating: 600 watts
  - iv. Power Rating: Match load shown on drawings; 600 watts minimum.
  - v. Power Rating: As indicated in schedule.
- B. Accessory Wall Switches: Match dimmer in appearance

### **III. OCCUPANCY SENSORS**

- A. Wall Switch: Wattstopper WS-200 Automatic Wall Switch
- B. Ceiling Mounted: Wattstopper W-500A

### **IV. RECEPTACLES**

- A. Receptacles: NEMA WD 1, Heavy Duty. Minimum 20 amperes
- B. GFCI Receptacles: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements. Minimum 20 amperes.

## **Grounding and Bonding**

### **I. ELECTRODES**

- A. Active Electrodes: Metallic solid steel copper-coated electrode
  - i. Shape: Straight
  - ii. Length: 8 feet (2400 mm)
  - iii. Connector: U-bolt pressure plate

### **II. CONNECTORS AND ACCESSORIES**

- A. Wire: Stranded copper.
- B. Grounding Electrode Conductor: Size to meet NFPA 70 requirements.

## Hangers and Supports

### **I. MATERIALS**

- A. Hangers, Supports, Anchors, and Fasteners – General: Corrosion-resistant materials of size and type adequate to carry the loads of equipment and conduit, including weight of wire in conduit.
- B. Supports: Fabricated of structural steel or formed steel members; galvanized.
- C. Anchors and Fasteners:
  - i. Do not use powder-actuated anchors, spring clips, or beam clamps.
  - ii. Obtain permission from Architect before using powder-actuated anchors.
  - iii. Concrete Structural Elements: Use precast inserts, expansion anchors, powder-actuated anchors, or present inserts.
  - iv. Steel Structural Elements: Use beam clamps, steel spring clips, steel ramset fasteners, or welded fasteners.
  - v. Concrete Surfaces: Use self-drilling anchors or expansion anchors.
  - vi. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use toggle bolts or hollow wall fasteners.
  - vii. Solid Masonry Walls: Use expansion anchors or preset inserts.
  - viii. Sheet Metal: Use sheet metal screws.
  - ix. Wood Elements: Use wood screws.
  - x.  $\frac{3}{4}$ " plywood will be installed where applicable behind the panelboard up to ceiling height so that MC cable, conduit, etc. can be properly fastened in a neat and uniform manner.

## Electrical Identification

### **I. NAMEPLATES AND LABELS**

- A. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- B. Locations:
  - i. Each electrical distribution and control equipment enclosure.
  - ii. Communication cabinets.
- C. Letter Size:
  - i. Use 1/8 inch (3 mm) letters for identifying individual equipment and loads.
  - ii. Use 1/4 inch (6 mm) letters for identifying grouped equipment and loads.
- D. Labels: Embossed adhesive tape, with 3/16 inch (5 mm) white letters on black background. Use only for identification of individual wall switches and receptacles, control device stations, and similar.

### **II. WIRE MARKERS**

- A. Description: Cloth type wire markers
- B. Locations: Each conductor at panelboard gutters, pull boxes, outlet boxes, and junction boxes each load connection.
- C. Legend:
  - i. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.
  - ii. Control Circuits: Control wire number indicated on schematic and interconnection diagrams on drawings.

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Standard Lighting**


**I. INTERIOR LIGHTING**

**A. Tubular Fluorescent Lamps:**

- i. 4-ft T8: Sylvania FO32/25W/841/XP/SS/ECO3, 4100K (item #22234)
- ii. 4-ft T8: Sylvania FO32/25W/830/XP/SS/ECO3, 3000K (item #22232)
  - for use in Woods Gerry & the Fleet Library
- iii. 4-ft T5: Sylvania FP28/830/ECO, 3000K (item #20868)
  - for use in the Fleet Library
- iv. 3-ft T8: Sylvania FO25/21W/841/XP/SS/ECO3, 4100K (item #22396)
- v. 2-ft T8: Sylvania FO17/15W/841/XP/SS/ECO3, 4100K (item #22407)
- vi. 2-ft T8: Sylvania FO17/830/XP/ECO3, 3000K (item #21785)
  - for use in the Fleet Library
- vii. 2-ft T5: Sylvania FP14/830/ECO, 3000K (item #20907)
  - for use in the Fleet Library
- viii. 2-ft U-lamp: Sylvania FBO25/841XP/SS/6/ECO, 4100K (item #22445)

**B. Tubular Fluorescent Ballasts:**

- i. QUICKTRONIC High Efficiency (QHE) 32 T8 Instant Start Universal Voltage (120-277V)

<b>QUICKTRONIC® High Efficiency T8 Systems</b>											
<b>32 T8 Instant Start Universal Voltage (120-277V)</b>											
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS) @120/277V	 Lamp Type <sup>1</sup>	Rated Lamp Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W) @120/277V	System Efficacy (lm/W) @120/277V	BEF <sup>2</sup>
<b>LOW BALLAST FACTOR</b>											
49837	QHE 1x32T8/UNV ISL-SC Banded Pack 10-Pack Pallet Pack	0.21/0.09	F032/XPS	3100	1	0.78	2420	2275	25	97	3.12
49861		0.19/0.08	F028XP/SS	2725	1	0.78	2125	2000	22	97	3.55
49862		0.19/0.08	F028XP/XL/SS	2600	1	0.78	2030	1945	22	92	3.55
49862		0.17/0.08	F032/25W/XP/SS	2475	1	0.78	1930	1815	20	97	3.90
		0.17/0.08	F032/25W/XP/XL/SS	2400	1	0.78	1870	1795	20	94	3.90
49838	QHE 2x32T8/UNV ISL-SC Banded Pack 10-Pack Pallet Pack	0.41/0.18	F032/XPS	3100	2	0.78	4835	4545	48	101	1.63
49863		0.35/0.15	F028XP/SS	2725	2	0.78	4250	3995	42	101	1.86
49864		0.35/0.15	F028XP/XL/SS	2600	2	0.78	4055	3895	42	97	1.86
49864		0.32/0.14	F032/25W/XP/SS	2475	2	0.78	3860	3630	38	102	2.05
		0.32/0.14	F032/25W/XP/XL/SS	2400	2	0.78	3745	3595	38	99	2.05
49839	QHE 3x32T8/UNV ISL-SC Banded Pack 10-Pack Pallet Pack	0.61/0.27	F032/XPS	3100	3	0.78	7255	6820	73/72	99/101	1.08
49865		0.53/0.23	F028XP/SS	2725	3	0.78	6380	5995	63	101	1.24
49865		0.53/0.23	F028XP/XL/SS	2600	3	0.78	6085	5840	63	97	1.24
49866		0.48/0.21	F032/25W/XP/SS	2475	3	0.78	5790	5445	57	102	1.37
		0.48/0.21	F032/25W/XP/XL/SS	2400	3	0.78	5615	5390	57	99	1.37
49840	QHE 4x32T8/UNV ISL-SC Banded Pack 10-Pack Pallet Pack	0.80/0.35	F032/XPS	3100	4	0.78	9670	9090	95	102	0.82
49867		0.71/0.31	F028XP/SS	2725	4	0.78	8500	7990	84	101	0.93
49867		0.71/0.31	F028XP/XL/SS	2600	4	0.78	8110	7790	84	97	0.93
49868		0.62/0.27	F032/25W/XP/SS	2475	4	0.78	7720	7260	76/75	102/103	1.04
		0.62/0.27	F032/25W/XP/XL/SS	2400	4	0.78	7490	7190	76/75	99/100	1.04

**C. Screw-In A-shape Bulbs (LED):**

- i. Philips A-Shape LED: 11A19/END/2700 DIM 6/1
- ii. Philips EnduraLED A19: EnduraLED 12W 2700K A19 Dimm

**D. Fixtures:**

- i. LED Ceiling Downlight: Lithonia Model No. 6BPMW (6" LED Module, 620 lumens, 3000K)
- ii. Dorm Houses: [Home Depot] Commercial Electric 2-Light Brushed Nickel Flushmount [for A-shape LED bulbs]

**E. Track Lighting:**

- i. Track: Lightolier Lytespan
- ii. Track Heads: Lightolier 9021MW
- iii. Track Head Lamp: Solais LED LR30LN/40/30K/1000/GY



F. Switches/Sensors: (see section *Electric Wiring, Devices, & Specialties*, page 5 )

G. **Note:** Pin Lamps are not accepted and shall not be specified or installed on any project, unless specifically authorized in writing by the RISD Project Manager.

## II. EXTERIOR LIGHTING

Any and all exterior lighting shall be project specific and shall approved, prior to design (architects) or ordering (contractors), by the RISD Office of Construction Planning & Management.

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities**  
*Office of Construction Planning and Management*

**Standard Fire Life Safety Equipment & Systems**

**I. FIRE ALARM SYSTEMS**

- a. Manufacturers
  - i. FCI
  - ii. Edwards
- b. Design Specifications
  - i. The fire alarm system shall be designed per code for the specific, individual project
  - ii. All RISD fire alarm systems are to include a voice evacuation system
  - iii. All RISD fire alarm systems must tie into RISD's existing card access system and shall monitor fire alarms and trouble signals.
- c. Programming Requirements
  - i. The following disable functions shall be made available (preferably via a button):
    - 1. City Box
    - 2. AV's
    - 3. Elevator
    - 4. Door Holder Release
    - 5. HVAC Systems
    - 6. Sprinkler Zone(s) bypass
  - ii. The fire alarm system shall allow for the existing program to be extracted from the system to allow for future updates. This function shall be free of any access limitations (i.e. passwords shall be provided to RISD, if necessary).
- d. Project Close-Out Requirements
  - i. The fire alarm installer, in conjunction with fire alarm programmer, shall hand over to RISD the fire alarm system program. The fire alarm system program shall be provided on a USB or CD and shall come without any access limitations (passwords shall be provided to RISD, if necessary).
  - ii. Following the completion of the installation, the fire alarm installer shall submit as-built drawings in .pdf and AutoCAD format. The as-built drawings shall include, at minimum:
    - 1. The exact locations and installation details of all equipment
    - 2. A device list with their address and location description (addressable systems)
    - 3. A zone map (non-addressable systems)
  - iii. The fire alarm installer shall successfully obtain and provide to RISD a signed record of completion form from the local fire alarm inspector.

**II. EXIT SIGNS AND EMERGENCY LIGHTING**

- a. Manufacturers
  - i. Mule Lighting
- b. Design Specifications
  - i. Emergency lighting and signage devices shall match nearby devices.
  - ii. All emergency signage and lighting shall be connected to dedicated emergency light/exit sign branch circuits. The quantity of branch circuits shall be designed and based on actual load.

**III. AUTOMATED EXTERNAL DEFIBRILLATOR (AED)**

- a. Powerheart AED G3 Plus Model 9390A-1001
- b. AED Surface Mount Wall Cabinet w/ Alarm: Part No. 50-00392-30
- c. 3D Wall Sign: Part No. 168-6002-001

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Fire Alarm & Fire Protection Shutdown Procedure**

**RISD FACILITIES MANAGEMENT DEPARTMENT REQUIREMENTS**

RISD's lead electrician or fire sprinkler fitter will notify Facilities Management, Public Safety and the Providence Fire Department upon shutting down any building's life safety system (unless an outside contractor has been granted authority to perform the shutdown – see below).

An email will be sent by the Facilities Management main office staff indicating that a shutdown has taken place. The email will include the building name/address/ID box/ FM Index Number 15438.00 and will be sent to all Facilities supervisors, Public Safety, Risk Management, the insurance broker and insurance carrier. Pertinent details will be provided if available.

A second email will be sent notifying the group that the system is restored once service has been completed.

When placing fire protection (i.e. sprinklers) out of service, the Facilities Management main office shall be notified.

Public Safety will be notified by Facilities or CPM prior to any off-hour shut-downs.

**CONTRACTOR REQUIREMENTS**

All contractors performing any dust producing activities (such as demolition, floor sanding, wall standing, etc.) shall coordinate a fire alarm shut down(s) for the job site with the RISD personnel overseeing the contractor. The RISD personnel will arrange for an in-house fire alarm technician to disarm (and later re-enable) the fire alarm system at agreed-upon times OR grant the contractor permission to perform their own shut-down/re-enable at agreed-upon times.

**If contractor is granted permission to perform a fire alarm shut down...**

- Fire Alarms are to be shut down only by licensed fire alarm technicians.
- The fire alarm technician shutting down the system will notify (via phone call) the RISD Facilities Management Department Main Office, RISD Public Safety, and the Providence Fire Department immediately upon shutting down any fire alarm system, indicating that the fire alarm system has been turned off.
- All smoke detectors located within the job site shall be covered to prevent dust and debris from infiltrating the device.
- All fire alarm systems shall be turned back on and returned to normal operation at the conclusion of the work shift. The fire alarm technician shall notify (via phone call) the RISD Facilities Management Department Main Office, RISD Public Safety, and the Providence Fire Department, informing them that the system has been fully re-enabled. **No fire alarm systems shall be left disarmed in an unattended work site.**
- All fire alarm panels shall remain *locked* at all times.
- Smoke detectors shall remain *uncovered* in an unattended job site.

Fire protection (i.e. sprinklers) shutdowns by a contractor shall be coordinated with the RISD personnel overseeing the contractor.

RISD Facilities Management Main Office: (401) 454-6484 RISD Public Safety: (401) 454-6376 Providence Fire Department: (401) 274-3348
--------------------------------------------------------------------------------------------------------------------------------------------

**System Trouble Broadcast Alert**

If Public Safety has <b>not</b> been notified that a system has been restored to normal before the end of each shift, the Public Safety dispatcher will alert Facilities by broadcasting a system trouble warning over channels 1 and 2. The broadcast message should identify the building by name and also identify what portion of the system is down. A Facilities supervisor, Plumber or Fire Tech will acknowledge the alert.
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Signage Standards**

**I. INTERIOR SIGNAGE (excluding stairway and elevator fire exit signage)**

**A. Informational Signage**

- i. Size: 4" x 10"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: None
- v. Material: Rowmark ADA Alternative (or similar)
- vi. Font: Frutiger



**B. Men's and Women's Room Non-Accessible Signs**

- i. Size: 7" x 8"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)
- vi. Text: "MEN" or "WOMEN"
- vii. Font: Frutiger



**C. Men's and Women's Room ADA Signs**

- i. Size: 7" x 8"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)
- vi. The universal symbol appear to the right of the human silhouette
- vii. Text: "MEN" or "WOMEN"
- viii. Font: Frutiger



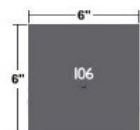
**D. Gender Inclusive Restrooms (lockable doors, single)**

- i. Size: 8" x 8"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)
- vi. If restroom is handicapped accessible, the universal symbol appear to the right of the human silhouette
- vii. Text: "GENER NEUTRAL"
- viii. Font: Frutiger



**E. Room Numbers**

- i. Size: 6" x 6"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)



- vi. Font: Frutiger
- vii. Install on latch side of door between 54"-66" above finished floor

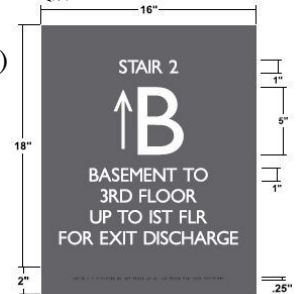
F. Room Numbers with Changeable Occupant Window

- i. Size: 6" x 6"
- ii. Window Size: 1.5"
- iii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iv. Copy Color: White
- v. Braille: Type 2 Dome, Clear
- vi. Material: Rowmark ADA Alternative (or similar)
- vii. Font: Frutiger
- viii. Install on latch side of door between 54"-66" above finished floor

**II. STAIRWAY AND ELEVATOR FIRE EXIT SIGNAGE**

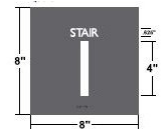
A. Inside Stairwell

- i. Sign shall be mounted within the stair enclosure at approximately 60" above the floor landing and shall be visible when the door is in the open or closed position.
- ii. Size: 16" x 20"
- iii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iv. Copy and Pictograph Color: White
- v. Braille: Type 2 Dome, Clear
- vi. Material: Rowmark ADA Alternative (or similar)
- vii. Font: Frutiger



B. Outside Stairwell

- i. Size: 8" x 8"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)
- vi. Font: Frutiger
- vii. Install on latch side of door between 54"-66" above finished floor



C. Elevator

- i. Size: 8" x 8"
- ii. Body Color: Cinder (PMS Pantone Matching System Equivalent #411)
- iii. Copy and Pictograph Color: White
- iv. Braille: Type 2 Dome, Clear
- v. Material: Rowmark ADA Alternative (or similar)
- vi. Font: Frutiger
- vii. Install on latch side of door between 54"-66" above finished floor



**III. EXTERIOR SIGNAGE**

A. The following exterior building signs shall be **blue and white**:

- i. Directional Signs (signs directing individuals to an accessible entrance)
- ii. Informational Signs (sign offering information or assistance to handicapped individuals)
- iii. Accessible Symbol (the universal symbol (wheelchair) designating an accessible entrance (excluding restrooms). All arrows directing individuals to the accessible entrance.

B. Generally, all exterior signs are not required to have braille or raised characters.

C. All other exterior signs will be approved per project.

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**HVAC Control Standards**

**I. AUTOMATIC TEMPERATURE CONTROLS**

A. Basic Components and Systems

- i. General: Provide control products in sizes and capacities indicated, consisting of dampers, thermostats, clocks, sensors, controllers, and other components as required for completion of installation. Except as otherwise indicated, provide manufacturer's standard materials and components as published in their product information, designed and constructed as recommended by manufacturer and as required for application indicated. All equipment and systems shall be installed by factory trained contractors with the following functional and construction features.
- ii. Electrical Wiring
  - a. All electrical wiring and wiring connections, either line voltage or low voltage, from the main electric panels to the ATC panels, and from the ATC related panels to the individual control devices (i.e. VAV boxes, valves, dampers, etc.) required for the installation of the control system, as herein specified shall be provided by the control contractor unless specifically shown on the electrical drawings or called for in the electrical specifications. The wiring installation shall be in accordance with National and Local Codes and with the electrical portion of these specifications. All wiring shall be run in raceways. Raceways shall be Wiremold 200 series with all elbows, raceways, covers, mounting stops, box extensions, and wiring for a complete and neat installation. All wiring located in mechanical spaces, boiler rooms, fan rooms, etc. shall be installed in metal conduit.
  - b. All wiring above ceilings, in boiler rooms, and all mechanical spaces shall follow routing of piping and where not possible shall be in conduit. All exposed wire shall be bundled and wire tied and shall be supported to adjacent piping. Draped and free-floating wire will not be allowed.
  - c. All terminations of wire at control devices shall be looped and supported adequately.
  - d. All wiring shall comply with the requirements of the electrical section of the specification.

The building ATC/BMS system shall be an open protocol (BACNet), web accessible and addressable direct digital control system. The building automation system shall be based on the Tridium Niagara AX platform. Tridium provides an open automation infrastructure that integrates diverse systems and devices (regardless of manufacturer, communication standard or software) into a unified platform that can be easily managed in real time using a standard Web browser. Systems not developed on the Tridium Niagara AX platform are unacceptable. Acceptable manufacturers subject to compliance with specifications include American Automating or approved equal.

Any workstation with a web browser shall have remote access to the system, and must provide the same view of the graphics as that provided by the central workstation. Systems that require purchase of additional software or licenses at each new workstation shall not be permitted.

**II. ATC Contractor Qualifications**

The ATC contractor shall be fully licensed at the time of bid to do business in the job site area. Wholesalers, dealers, or any firm whose principal business is not that of installing DDC controls will not be acceptable.

**Special Note:** Johnson Controls, Inc. products and employees are prohibited on Rhode Island School of Design projects.

**RHODE ISLAND SCHOOL OF DESIGN**  
**Facilities Management**  
*Office of Construction Planning and Management*

**Standard Bathroom Design and Construction Details**

The following materials, fixtures, equipment and construction details shall be incorporated into all new and renovated RISD bathroom projects. Any deviation or exception to these details must be approved in writing by the RISD CPM office.

- All plumbing fixtures and accessories must be RISD standard (see RISD standard plumbing fixtures).
- All lighting fixtures must comply with the RISD standard performance specifications and must be submitted to the CPM office for review.
- All lighting and electrical power accessories must comply with RISD standard electrical specifications.
- All bathrooms will have dedicated exhaust ducted to the exterior. Final design must be submitted to the CPM office for review.
- All bathrooms will have a floor drain.
- All bathroom floors will have a waterproofing system that is integral to the floor drain.
- All bathrooms will have ceramic or porcelain tile floors with epoxy grout and sanitary cove base.
- All bathrooms will have at a minimum half height ceramic tile “wet walls”.
- All ceramic and porcelain tiling with grout shall receive one coat of grout sealer.
- All bathrooms will have RISD supplied and contractor installed toilet paper, paper towel and soap dispensers. The number and location of dispensers to be determined by the designer / contractor. Mounting templates for RISD supplied bath accessories will be supplied by RISD upon request.
- All other required bathroom accessories to be supplied and installed by the contractor.
- All bathrooms to have a hose bib.
- All bathrooms to meet ADA requirements unless specifically waived by RISD.

**RISD Standard Bathroom Accessories**

- A. Toilet Paper Dispenser
  - Georgia-Pacific Compact Quad Vertical 4-Roll Tissue Dispenser
    - MFG part #56744 (different color options allowed)
- B. Paper Tower Dispenser
  - Georgia-Pacific enMotion® Splash Blue Wall Mount Automated Touchless Towel Dispenser,
    - MFG part #59460 (different color options allowed)
- C. Soap Dispenser
  - Spartan Chemical Company Lite n' Foamy Soap Dispenser

*Standard bathroom accessories will be provided by RISD and installed by the contractor, unless specifically agreed to otherwise.*