STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

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February 29, 2012

ADDENDUM NUMBER SEVEN

RFQ # 7449435

TITLE: RENOVATIONS TO THE ART CENTER AT RI COLLEGE

Closing Date and Time: 3/6/12 at 1:45 PM

Per the issuance of this ADDENDUM # 7
(80 pages, including this cover sheet)

[X] **Specification Change /Addition / Clarification**

ADDENDUM NUMBER 7
TO CONTRACT DOCUMENTS FOR

Art Center Renovation – Rhode Island College
600 Mount Pleasant Avenue
Providence, Rhode Island

DESIGN PARTNERSHIP OF CAMBRIDGE
500 Rutherford Avenue
Charlestown, MA 02129

ADDENDUM DATE

2012 February 27

TO ALL BIDDERS:

This Addendum modifies, amends and supplements designated parts of the Contract Documents for the subject project, and is hereby made a part thereof by reference and shall be as binding as though inserted in its entirety in the locations and designated herein. It shall be the responsibility of each General Bidder to notify all Sub-Contractors and suppliers he proposes to use for the various parts of the work of any changes or modifications contained in this Addendum. No claim for additional compensation because of lack of knowledge of the contents of this Addendum will be considered. Except as the bid documents are modified by this and other numbered Addenda, no representation by the Architect or others may be taken as modifying the Contract Documents for the purpose of bidding.

The number of this and all other Addenda shall be acknowledged on the Proposal.

This Addendum, Number 7 consists of:

Changes to the Project Manual & Written Changes to the Drawings

Changes to the Project Manual:	ADDENDUM #7-2 through #7-27
Phasing Written Changes to the Drawings:	ADDENDUM #7-28
Architectural Written Changes to the Drawings:	ADDENDUM #7-28
HVAC Written Changes to the Drawings:	ADDENDUM #7-29
Electrical Written Changes to the Drawings:	ADDENDUM #7-29 through #7-33

Substitution Requests: ADDENDUM #7-33

Sketch Changes / Additions to the Drawings:

Phasing:	**Revised Phasing Sheets PH1.1 and PH1.2**
Architectural:	SKA-A-087 through SKA-A-088
HVAC:	SKA-H-023 through SKA-H025
Electrical:	SKA-E-023 through SKA-E-025

Addenda-1 Appendix:

- *Revised Specification Section 00 4113 Bid Form (2 pages)*
- *Revised Specification Section 01 2200 Unit Prices (3 pages)*
- *Specification Section 02 6100 Removal and Disposal of Contaminated Soils (including Soils Management Plan - 9 pages)*
- *Revised Specification Section 07 6200 Sheet Metal Flashing And Trim (8 pages)*
- *Bidding RFI Log & Bidder's RFI's (7 pages)*
- ***LIST OF OWNER-FURNISHED EQUIPMENT AND OWNER-FURNISHED A/V TECHNOLOGY (6 pages)***
  These lists of owner-furnished equipment and owner-furnished A/V technology are for CONTRACTOR coordination and informational purposes only. Items are furnished and installed by Owner unless otherwise noted on the Drawings.

CHANGES TO THE PROJECT MANUAL:

00 0110 TABLE OF CONTENTS

ITEM 1: At Page 00 0110-2, under DIVISION 2, add the following:
"02 6100 – *Removal and Disposal of Contaminated Soils* ……9"

ITEM 2: At Page 01 2200 Unit Prices, change page quantity from "2" to correctly read "3".

00 1116 INVITATION TO BID

ITEM 1: **CHANGE TO ADDENDA #1** - At Page 00 1116-1, Under Project/Purchaser/Owner/Architect information, change second paragraph to read as follows:
"The entire project shall be substantially complete in no more than **597** calendar days."

00 2116 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

ITEM 1: At Page 00 2116 – 2, after Paragraph 1.6.C.1, add Paragraph 1.7 that reads as follows:

"1.7 ARTICLE 9 - LIQUIDATED DAMAGES

A. Add new Article 9 LIQUIDATED DAMAGES as follows:

1. 9.1 The Work shall commence at the time stated in the notice to the Contractor to proceed and shall be substantially completed in accordance with the schedule provided in the Contract Documents. Notice to proceed may be given to the Contractor on any date after the Contractor has executed the contract and furnished the performance and payment bonds with all insurance therein requested. The Owner and Contractor recognize that time is of the essence to this Agreement and that the Owner will suffer financial loss if the Work is not substantially complete within the time specified, plus any extensions thereof allowed via Change Orders as a result of changes in the Work. The Contractor agrees to pay the Owner for any delay in the Work the full amount of damages incurred by the Owner for every calendar day beyond the specified dates of Substantial Completion; said amounts shall be deemed payment for liquidated and ascertained damages for such delay. Liquidated damages for not completing the Work within the time limit specified will be assessed to the Contractor. Liquidated damages will be in the amount stipulated in Document 00 5213 Standard Form of Agreement Between Owner and Contractor. The liquidated damage amount per calendar day is not a penalty but rather is the minimum amount required to compensate the Owner for administrative costs for added services by the Architect, the Architect's Consultants and the Owner's Project Representatives and does not limit in any way the liability of the Contractor for damages in excess of the specified liquidated damages amount for other damages, including other damages for breach of contract. Refer to General and Supplementary Conditions of the Contract and Section 01 1115 Project Phasing Requirements for further information."

00 4113 BID FORM

ITEM 1: Refer to Appendix this Addenda for revised Bid Form, including the corrected order of Alternates.

00 5213 AGREEMENT FORM

ITEM 1: At Page 00 5213 – 1, after Paragraph 1.1.A.1, add Paragraph 1.2 that reads as follows

"1.2 Add the Following Article 3.3 to Document AIA 101-1997:

Article 3.3

3.3.1 The Contractor agrees to pay the Owner for any delay in the Work the full amount of damages incurred by the Owner for every calendar day beyond the specified dates of Substantial Completion for each Phase of construction; said amounts shall be deemed payments for liquidated and ascertained damages for such delay. The dates of Substantial Completion for each Phase are fixed as follows, each of which, if not met, establishes the beginning of incurring damages for delay:

Phase 1: 11/30/12

Phase 2: 11/15/13

3.3.1.1 The Contractor shall compensate the Owner for liquidated damages incurred a fixed lump sum amount of $2,000.00 per calendar day to cover the cost of certain on-going construction administration expenses including the services of the Architect, the Architect's Consultants and the Owner's Project Representatives.

3.3.1.2 In addition to liquidated damages, the Contractor shall also compensate the Owner for all other ascertained actual damages, excluding the cost of on-going construction administration expenses described above."

00 7300 SUPPLEMENTARY CONDITIONS

ITEM 1: At Page 00 7300 – 14, after Paragraph 8.3.5, add Article 8.4 that reads as follows:

"8.4 TIME FOR COMPLETION AND LIQUIDATED DAMAGES

8.4.1 It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the Contract Documents of the Work to be done hereunder are essential conditions of this Contract; and it is further mutually understood and agreed that the Work embraced in the Contract shall be commenced on a date to be specified in the Notice to Proceed.

8.4.2 The Contractor agrees that the Work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

8.4.3 If the Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extensions thereof granted by the Owner, that the Contractor does hereby agree, as a part consideration for the awarding of this contract, to pay to the Owner (1) the amount specified in the Contract Documents, not as a penalty, but as liquidated damages for such breach of contract as herein set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents for completing the work and (2) any excess cost for ascertained actual damages the Owner incurs as a result of the Contractor's failure to complete the Work on time.

8.4.4 The Contractor agrees that time is of the essence of each and every portion of the Contract Documents and wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract.

8.4.5 Liquidated damage amounts and any excess ascertained actual damage amounts shall be retained from time to time by the Owner from current periodic estimates.

8.4.5.1 The Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner.

8.4.5.2 The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work has been approved in writing by the Owner and is due to unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes and freight embargoes.

8.4.6 The Contractor shall within five (5) days from the beginning of any such delay notify the Owner, in writing, of the causes of the delay. The Owner shall then ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter."

01 1115 PROJECT PHASING REQUIREMENTS

ITEM 1: At Page 01 115 – 4, After Paragraph 1.06.B., add Paragraph 1.06.C. that reads as follows:

"C: If the contractor fails to achieve substantial completion of Phase 1 per the contract date of substantial completion for phase 1, and the phase 1 areas cannot be furnished and occupied by the Owner in time for the start of the already scheduled semester in January of 2013, the Owner may at their sole discretion, elect to postpone the commencement of phase 2 until the end of that semester in June of 2013. In this instance, the Contractor shall bear all costs, including but not limited to, de-mobilization, re-mobilization, escalation, wage rate increases, seasonal weather protection requirements, additional services of the owner's Architect, Consultants and Construction Manager, etc. The project schedule date of substantial completion for Phase 2, would then become March 15, 2014."

01 2200 UNIT PRICES

ITEM 1: Refer to Appendix this Addenda for revised Section 01 2200 Unit Prices.

01 2300 ALTERNATES

ITEM 1: At Page 01 2300-1, under Paragraph 1.4D, add Paragraph E that reads as follows:
"The Owner reserves the right to include or delete one or more alternates identified herein to/from the scope of the project; provided, however, that said alternates shall only be selected by the Owner in the order in which they are listed in this addendum. Bidders are required to submit a bid price for each and every alternate. Failure to submit a bid price for each and every alternate will result in the entire proposal being deemed to be non-responsive to the solicitation.

Alternates are listed in numerical sequence in order of Owner's priority. In determining the lowest responsive bid the awarding authority shall consider alternates in descending numerical sequence such that no individual alternate shall be considered until every alternate preceding it on the list has been added to or subtracted from the base bid price."

02 6100 REMOVAL AND DISPOSAL OF CONTAMINATED SOILS

ITEM 1: Add specification section "02 6100 REMOVAL AND DISPOSAL OF CONTAMINATED SOILS". Refer to Appendix this Addenda for added section.

05 4000 COLD-FORMED METAL FRAMING

ITEM 1: At Page 05 4000-1, change 1.2A Summary, to read as follows:
"A. Section Includes:

1. Exterior non-load-bearing wall framing. (May be identified on Drawings as "Metal Stud" at exterior wall assemblies.)
2. Soffit framing. (May be identified on Drawings as "Metal Stud" at exterior soffit assemblies.)"

07 5419 POLYVINYL-CHLORIDE (PVC) ROOFING

ITEM 1: At Page 07 5419-4, AT Paragraph 2.1A, remove text at end of sentence that reads "felt backed."

07 6200 SHEET METAL FLASHING AND TRIM

ITEM 1: Refer to Appendix this Addenda for revised Section 07 6200 Sheet Metal Flashing And Trim.

26 0000 ELECTRICAL

ITEM 1: Modify this section to incorporate the attached Rhode Island College Telecommunication Cabling Standards as follows. Note that the below Standards modifies several paragraphs within Part 1, 2 and 3 of this specification section:

Rhode Island College Telecommunications Standards

1. Add the following requirements to 1.03 Submittals ad 1.06 Quality Assurance.

   A. The contractor shall provide a 15 year Panduit Certification Plus warranty, and a 25 year Mohawk Channel/Mate warranty on all installed copper and fiber optic links. This warranty shall provide a complete system warranty to guarantee premium end to end performance.

   B. Submit all telecommunications equipment to the RIC project manager for approval before any work is started on project.

   C. At project start contractor must provide proof of license for all technicians working on campus. The documentation should include a photo copy of each technician's license. Contractor will provide (2) copies of the documentation. One copy will be for the college, and the other will be kept at contractor's onsite operations center.

   D. Contractor must be a certified installer of any cable, or electronic systems installed under project scope. A copy of certification must be provided.

   E. Contractor must have a Minimum of 10 years experience in the communication structured cabling business.

   F. Contractor must supply 3 references for communications projects of similar size and scope.

   G. Contractor shall hold proper state telecommunications, and if needed electrical licenses.

   H. Contractor shall use RIC approved subcontractors for any part of project. The subcontractor will need to furnish all information requested above.

   I. Telecommunication system installed must meet National Electrical Code, and ANSI/TIA/EIA guidelines.

2. Add the following requirements to 2.11 Communication Cabling.

   A. All cabling shall be manufactured by Mohawk Cable as required to obtain the 25 year Mohawk Channel/Mate warranty.

   B. All outlets and distribution equipment shall be manufactured by Panduit as required to obtain the 15 year Panduit Certification Plus warranty.

   C. Refer to Outlet Types below for Mohawk and Hubbell cabling unless otherwise indicated.

   D. Delete Paragraphs 2.11.M & N and provide the following for the main distribution frame (MDF) indicated in Tele-Data Room 004. Provide two (2) Ortronics/Legrand OR-MM10716 Racks and the following wiring management equipment, two (2) Ortronics/Legrand OR-MM6VMD706, one (1) Ortronics/Legrand OR-MM10VMD712, two (2) Ortronics/Legrand OR-MM6HMF2RU, one (1) Ortronics/Legrand OR-MM6HMF4RU.

   E. Delete Paragraphs 2.11.N Telephone/Voice Punch blocks. Horzontal voice cabling shall terminate on Cat 6 patch panels.

   F. Paragraph 2.11.G. Change from "BNC" to "F" connector.

G. Paragraph 2.11.B. For fiber optic service between this building and room 225 in Henry Barnard School, provide loose tube fiber assemblies both 62.1/125-micrometer multimode and 50/125-micrometer singlemode. Refer to Cabling Application below. Fiber optic connectors shall be LANscape Unicam Pretium LC Style.

H. Delete 2.11.E Copper Backbone. Instead include 100 pair, 24 AWG, outdoor, plant telephone cable, jelly filled cable is UV resistant jacket and suitable for direct bury applications without conduit.

I. The cable specifications in Paragraph 2.11.F COAX Backbone (RG11/U) shall be used for the coax service between this building and room 225 in Henry Barnard School. All other Coax or TV outlets within the building shall utility RG6/U.

J. Add 2.11.S Emergency Phone: One button auto-dial phone with custom silk screen logo for Rhode Island College, mounted on square stainless steel column. Column shall have the following characteristics:
   1. Equal to Ramtel emergency phone with LED lights, all campus alert option, Ramtel PLC-8-ACA column and Ramtel RR-733 phone.
   2. 1/8" thick x 11" square x 9' tall stainless steel.
   3. Vandal and graffiti resistant.
   4. 50 watt sodium vapor blue light with integral dusk to dawn ON/OF controls.
   5. Strobe light housed in polycarbonate Fresnel lens located under sodium vapor lamp. Strobe light flashes when Emergency call button is pressed and stops flashing when called party hangs up.
   6. 5 watt compact fluorescent lamp to light Phone Panel.
   7. Phone shall be one button, hands free, flush mounted in column enclosure, ADA compliant, voice and location identification signal, emergency button external output control.
   8. Column and phone shall be manufactured by same manufacturer and must be prewired for all controls and indicator lights.

3. Add the following paragraph 3.15 Telecommunication Cabling.

A. All telephone station cables shall be terminated on the network rack, and shall be cross wired to OSP cable.

B. Conduits providing pathways for telecommunication system cables including wall/floor sleeves shall not exceed 40% fill ratio.

C. Where empty conduits are provided, provide pull strings labeled in accordance with ANSI/TIA/EIA 606-A.

D. Provide plywood to line two walls of Tele-Data Room 004 with pre-painted black, ¾" FRT plywood.

E. Provide two (2) floor mount racks and including side, vertical, and center management in Tele-Data Room 004. Provide one (1) equipment cabinet.

F. Contractor shall use factory fittings for surface mounted raceway and conduit. If other options are required they need approval from RIC PM.

G. Contractor is responsible for any faceplates needed for custom or modular furniture. Coordinate with General Contractor when ordering.

H. Cables shall be uniquely identified at both ends with typed labels.

I. All telecommunications cables installed shall be labeled in accordance with ANSI/TIA/EIA 606-A Class 4 requirements.

J. Contractor shall provide a cable identification plan to be approved by RIC project manager.

K. All cables must be installed with proper vertical and horizontal cable management approved by Rhode Island College.

L. All cables shall be installed in neat and orderly bundles. Contractor will provide an installation plan to be approved by RIC project manager. When cables are strapped contractor shall use Velcro, or optional approved method. Tie wraps will not be accepted.

M. All cables shall be installed in a method that protects them from physical harm when appropriate.

N. Contractor shall install a fiber enclosure to support all station fiber in project scope.

O. All fiber shall be terminated using LC style connectors.

P. Contractor will terminate 10% of station fibers run. After fiber installation RIC project manager will identify drops to be terminated and tested.

Q. All telecommunications cables unless stated otherwise shall be terminated in Tele-Data Room 004.

R. Conduit sleeves installed over an in-assessable area shall have an additional empty conduit installed for future installations.

S. Conduits sealed with fire stop shall be sealed in a manner that allows them to be accessed for additional cabling.

T. All station cables shall be direct runs, no consolidation or transition points will be permitted.

U. Contractor shall install CATV system to support all coaxial cables installed. System needs to be balanced and all jacks need to have 0db to 5db signal strength at outlet location. RIC project manager will need to approve all final levels.

V. Bond the bus bar indicated Tele-Data Room 004 to the main building service according to J-STD-607-A guidelines using a minimum #2AWG bare copper grounding conductor. Bond all cable tray and conduits within the room to the grounding bar.

W. The gauge of the connecting ground cable, known as the Telecommunications Bonding Backbone (TBB) will follow J-STD-607-A guidelines, as is shown in the table below.

X. The metallic components are bonded to the TGB with a grounding (bonding) conductor using two-hole lugs. Code requires all clamp and compression connections to be UL 486A listed.

Y. All components of the telecommunication system that are metal need to be grounded. This includes, but is not limited to racks, ladders, enclosures, equipment such as patch panels, routers, and switches, surge protection devices, and metallic cable tray.

Z. The telecommunications grounding system is to follow J-STD-607-A guidelines.

4. Add the following paragraph 3.16 Telecommunication Outlets Types and Cabling Application.

A. Provide the following outlet types where indicated on the drawings. Unless otherwise noted the Tel/Data Outlet indicated on the Electrical Legend E0.00 (shown as a half filled in triangle symbol) shall be a Type 2 Outlet as described below.

B. Refer to outlet types below for cabling termination points. Prior to organizing and dressing cables, meet with RIC to coordinate cable termination layout on racks and outlets. Contractor shall not terminate on racks until rack layout is approved by RIC.

C. For all F connector or CATV jacks provide a RG-6U coax cable from the jack to a coaxial splitter in Tele-Data Room 004.

D. For all fiber optic outlets, provide 2 Strand multimode fiber cable from the jack to a fiber optic patch panel in Tele-Data Room 004.

E. Provide 48 port rack mounted Category 6 patch panels with a total capacity equal to the number of data and voice cables on the project plus 10% spare capacity.

F. Provide 24 strand rack mounted fiber patch panels with a total capacity equal to the number of fiber optic outlet cables on the project plus 10% spare capacity.

G. Provide Panduit faceplate labels C125X030FJJ (single gang) and C379X030FJJ (double gang) for all data, telephone and AV outlets

H. Provide Panduit wire labels LJSL4-Y3 and label all cabling ends according to cabling legend.

I. Provide the following telecommunication services into the building:

a. Provide (1) 100pr 24g phone cable, (1) 12 strand single mode fiber optic cable, (1) 12 strand multimode fiber optic, and (1) RG11/U coax hardline from the Tele-Data Room 004 to room 225 in Henry Barnard School. Assume a distance of 300' between Tele-Data Room 004 to room 225 in Henry Barnard School.

b. Contractor shall install outside plant phone feeder with protection on the wall, and with a tail terminating to (2) Panduit DP5e Patch Panels mounted on rack. Terminate telephone service cable in room 225 in Henry Barnard School as directed by RIC. Telephone protectors shall equal to Circa Telecom #1880ECA1-100 with Circa Telecom 4B1FS-240 750035 240VDC gold black modules

c. Contractor shall leave 6' service loops when entering or leaving any manhole or building location.

d. All fiber connections are to be fusion spliced onto connector housing pigtail modules. Use splice and connector housings listed in specification.

e. Contractor shall use MaxCell inner-duct when installing cables in outside duct banks.

f. Provide 2, rack mounted 24 strand fiber optic patch panels in Tele-Data Room 004 and terminate fiber optic service cables. Terminate fiber optic service cables in room 225 in Henry Barnard School as directed by RIC.

g. Terminate coax service cable in Tele-Data Room 004 and room 225 Henry Barnard School as directed by RIC.

J. All catalogue and part numbers indicated below shall be from Panduit Corporation except Hubbell shall be used for selected AV devices where indicated.

OUTLET TYPES:

Type 1 Outlet

1 Voice Outlet with Cat 6, Mohawk M58291 cable to MDF.
2 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF.
1 Coaxial RG-6U cable to MDF for CATV

PARTS

QTY	PART #	DESCRIPTION
2	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE

2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
1	CMFBAIW	MINCOM RG-6 F-TYPE INSERT
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
2	CHSRE2IW	MINICOM 2 POSITION SLOPED 1/2 INSERT
2	CHB2IW-X	MINICOM 1/2 BLANK INSERT BLANK
1	CMDSLCEI	MINICOM LC MODULE MM FIBER

Type 2 Outlet
2 Copper Voice Outlets with Cat 6, Mohawk M58291 cables to MDF.
2 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.

PARTS

QTY	PART #	DESCRIPTION
2	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE
2	CJ688TGEI	MINCOM TXS6 PLUS JACK ELECTRIC IVORY
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
2	CHSRE2IW	MINICOM 2 POSITION SLOPED 1/2 INSERT
2	CHB2IW-X	MINICOM 1/2 BLANK INSERT BLANK

Type 3 Outlet
1 Voice Outlet with Cat 6, Mohawk M58291 cable to MDF.
2 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF.

PARTS

QTY	PART #	DESCRIPTION
2	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
2	CHSRE2IW	MINICOM 2 POSITION SLOPED 1/2 INSERT
2	CHB2IW-X	MINICOM 1/2 BLANK INSERT BLANK
1	CMBEIW-X	MINICOM BLANK MODULE INSERT
1	CMDSLCEI	MINICOM LC MODULE MM FIBER

Type 4 Outlet
4 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.

PARTS

QTY	PART #	DESCRIPTION
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
2	CJ688TGBL	MINCOM TXS6 PLUS JACK BLACK
2	CJ688TGRD	MINCOM TXS6 PLUS JACK RED
1	CCBEIWY	SINGLE GANG EXECUTUVE FACEPLATE FRAME
2	CHSRE2IW	MINICOM 2 POSITION SLOPED 1/2 INSERT

Type W (Wall Phone outlet)
1 Wall mounted voice outlet with Cat 6, Mohawk M58291 cable to MDF.

PARTS

QTY	PART #	DESCRIPTION
1	KWP6PY	KEYSTONE WALL JACK CAT6 FOR IP/WALL PHONE
1	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE

Type TV Outlet
1 Coaxial RG-6U cable to MDF for CATV
1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.

PARTS

QTY	PART #	DESCRIPTION
1	CFPE2IW	SINGLE GANG MINI-COM VERTICAL FACEPLATE ACCEPTS (2)
1	CMFBAIW	MINCOM RG-6 F-TYPE INSERT
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE

Notes:
1. Coordinate exact location of outlets with College prior to final placement and termination.

Type C Outlet (CCTV Camera Outlet – Interior)
1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.

PARTS

QTY	PART #	DESCRIPTION
1	CFPE1IW	SINGLE GANG MINI-COM VERTICAL FACEPLATE ACCEPTS (1)
2	CJ688T GBU	MINCOM TXS6 PLUS JACK BLUE

Notes:
2. Coordinate exact location of outlets with College prior to final placement and termination.

Type C-O (CCTV Camera Outlet – Exterior)
2 Copper Data Outlet with Cat 6, Mohawk M58292 cables to MDF.
1 Copper 16/2 stranded power cable for heater/blower to MDF.
** Coordinate exact placement with RIC PM.
** At each outlet, provide junction box test point inside of building before exiting to exterior.

PARTS

QTY	PART #	DESCRIPTION
1	CFPE2IW	SINGLE GANG MINI-COM VERTICAL FACEPLATE ACCEPTS (2)
4	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE

Notes:
3. Coordinate exact location of outlets with College prior to final placement and termination.
4. Provide a junction box for test point inside building before exiting to exterior.

Type AP or WAP Outlet
2 Copper Data Outlet with Cat 6, Mohawk M58885 cables to MDF **mounted above/at ceiling level. Coordinate exact placement with College.

PARTS

QTY	PART #	DESCRIPTION
1	CFPE1IW	SINGLE GANG MINI-COM VERTICAL FACEPLATE ACCEPTS (1)
4	CJ6X88TGVL	MINCOM TX6A 10GIG JACK VIOLET

Notes:
5. Cat 6 cable is Augmented Cat 6.
6. Mount outlet above or at ceiling level. Coordinate exact location with College.

Type HDMI
2 Copper Data Outlets Un-terminated. Cables will be Cat 6, Color orange
1 16/2 stranded cable for power
1 PROVISION FOR 2 GANG AV DEVICE
Notes:
1. All cables routed to in MDF.

Type USB (Smartboard Outlet)
1 Orange CAT6 line for AV use
1 16/2 cable for power

PARTS

QTY	PART#	DESCRIPTION
1	M58288	Cat 6, Color orange
1		16/2 stranded cable for power
2	CJ688TGGR	MINCOM TXS6 PLUS JACK GREEN (USB)

**All cables will run from wall mounted smart board to AV floor box in room

Type PROJ (Projector Outlet)
1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.
3 Orange CAT6 Mohawk M58288 cables to AV outlet in room (wall or floor).
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF. (Left unterminated)
1 VGA cable, Hubbel VGA6100BK to AV outlet in room (wall or floor).
1 Coaxial RG-6U cable to MDF for CATV

PARTS

QTY	PART#	DESCRIPTION
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGOR	MINCOM TXS6 PLUS JACK ORANGE FOR HDMI
2		RJ-45 end crimped onto one of the orange CAT6 for serial conn
1	VGA6100BK	HUBBELL 100' ISTATION CABLE FOR VGA
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR

AV Outlets and FLOOR BOXES

Type AV0
1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.
2 Orange CAT6 Mohawk M58288 to Type Proj outlet in room (ceiling projector) for AV use

PARTS

QTY	PART#	DESCRIPTION
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
1		CAT6, Color Blue
2		CAT6, Color orange
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGOR	MINCOM TXS6 PLUS JACK ORANGE FOR HDMI
2		RJ-45 end crimped onto one of the orange CAT6 for serial conn
1	VGA6100BK	HUBBELL 100' ISTATION CABLE FOR VGA
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR

Type AV2
1 Voice Outlet with Cat 6, Mohawk M58291 cable to MDF.
6 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF.
1 Coaxial RG-6U cable to MDF for CATV
4 16/2 Speaker cables run to ceiling mounted speakers
1 18/3 Cable run to powered screen

PARTS

QTY	PART#	DESCRIPTION
1	RFB11	11-Compartment floor box (coated for on-grade)
11	RFB-DR	Duplex mounting plate
1		Flanged cover assembly black
10	CF1064IWY	Panduit Duplex module frame
4	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
4	CJ688TGBL	MINCOM TXS6 PLUS JACK BLACK
2	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE
1	CMDSLCEI	MINICOM LC MODULE MM FIBER
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR

1	CMFBAIW	MINCOM RG-6 F-TYPE INSERT
2		120V, 20A, Duplex receptacles

Notes:

2. Allow for 4 speakers to be placed in ceiling anywhere within the room. Speakers provided by others.
3. Refer to Projector outlet for cabling between projector and AV2.
4. Where AV2 is indicated on first floor in slab on grade construction, provide Hubble RFB11-0G (On Grade) floor box.

Type AV2-W (wall mounted version of AV-2)

1 Voice Outlet with Cat 6, Mohawk M58292 cable to MDF.
5 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF.
1 Coaxial RG-6U cable to MDF for CATV
4 16/2 Speaker cables run to ceiling mounted speakers
1 18/3 Cable run to powered screen

PARTS

QTY	PART#	DESCRIPTION
1		4 gang outlet box
1		2 gang outlet box
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
4	CHSRE2IW	MINICOM 2 POSITION SLOPED 1/2 INSERT
4	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
2	CJ688TGBL	MINCOM TXS6 PLUS JACK BLACK
2	CJ688TGRD	MINCOM TXS6 PLUS JACK RED
2	CJ688TGWH	MINCOM TXS6 PLUS JACK WHITE
1	CMDSLCEI	MINICOM LC MODULE MM FIBER
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR
1	CMFBAIW	MINCOM RG-6 F-TYPE INSERT

Notes:

1. Allow for 4 speakers to be placed in ceiling anywhere within the room. Speakers provided by others.
2. Refer to Projector outlet for cabling between projector and AV2.
3. Mount outlets at 48” AFF.

Type AVF

1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.
2 Orange CAT6 Mohawk M58288 to AV2 outlet in room (wall or floor) for AV use
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF. (Left unterminated)
1 Hubbell VGA6100BK cable for VGA to AV2 outlet in room (wall or floor) for AV use.
1 16/2 Audio cable with stranded ground to AV2 outlet in room (wall or floor) for AV use.

PARTS

QTY	PART#	DESCRIPTION
1	RFB4	4-Compartment floor box
4	RFB-DR	Duplex mounting plate (Quantity 4 per box)
1	S38BBTCBK	Flanged cover assembly black
2	CF1064IWY	Panduit Duplex module frame
1		CAT6, Color Blue
3		CAT6, Color orange
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGOR	MINCOM TXS6 PLUS JACK ORANGE FOR HDMI
2		RJ-45 end crimped onto one of the orange CAT6 for serial conn
1	VGA6100BK	HUBBELL 100’ ISTATION CABLE FOR VGA
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR
1		120V, 20A duplex receptacle

Notes:

1. Where AVF is indicated on first floor in slab on grade construction, provide Hubble RFB4-CI-1 (On Grade) floor box.

Type AVW
1 Copper Data Outlet with Cat 6, Mohawk M58292 cable to MDF.
2 Orange CAT6 Mohawk M58288 to AV2 outlet in room (wall or floor) for AV use
1 2-Strand Fiber Outlet with Mohawk M94004 cable to MDF. (Left unterminated)
1 Hubbel cable for VGA for VGA to AV2 outlet in room (wall or floor) for AV use.
1 16/2 Audio cable with stranded ground to AV2 outlet in room (wall or floor) for AV use.

QTY	PART#	DESCRIPTION
1	CBEIW-2GY	DOUBLE GANG EXECUTIVE FACEPLATE FRAME
1		CAT6, Color Blue
3		CAT6, Color orange
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGOR	MINCOM TXS6 PLUS JACK ORANGE FOR HDMI
2		RJ-45 end crimped onto one of the orange CAT6 for serial conn
1	VGA6100BK	HUBBELL 100' ISTATION CABLE FOR VGA
2	15A6P1	HUBBELL ANGLED VGA CONNECTOR

Type Floor4
4 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.

PARTS

QTY	PART#	DESCRIPTION
1	RFB4	4-Compartment floor box
4	RFB-DR	Duplex mounting plate (Quantity 4 per box)
1	S38BBTCBK	Flanged cover assembly black
2	CF1064IWY	Panduit Duplex module frame
4	CMBEIW-X	MINICOM BLANK MODULE INSERT
2	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
2	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
2	CJ688TGBL	MINCOM TXS6 PLUS JACK BLACK
2	CJ688TGRD	MINCOM TXS6 PLUS JACK RED
2		120V, 20A duplex receptacle

Type Floor8
8 Copper Data Outlets with Cat 6, Mohawk M58292 cables to MDF.

PARTS

QTY	PART#	DESCRIPTION
1	RFB4	4-Compartment floor box
4	RFB-DR	Duplex mounting plate
1	S38BBTCBK	Flanged cover assembly black
2	CF1064IWY	Panduit Duplex module frame
4	CJ688TGBU	MINCOM TXS6 PLUS JACK BLUE
4	CJ688TGYL	MINCOM TXS6 PLUS JACK YELLOW
4	CJ688TGBL	MINCOM TXS6 PLUS JACK BLACK
4	CJ688TGRD	MINCOM TXS6 PLUS JACK RED
2		120V, 20A duplex receptacle

Notes:
1. Where Floor4 or Floor8 is indicated on first floor in slab on grade construction, provide Hubble RFB4-CI-1 (On Grade) floor box.

1. Add the following paragraph 3.17 Telecommunication Testing.

   A. Contractor shall provide end to end db loss test results for all fiber installed.

B. Contractor shall provide TDR, and end to end continuity tests for outside plant telephone cable.

C. Contractor shall provide station cable tests at category 6 TIA-568 requirements.

D. Contractor shall test all CATV locations, and record signal level readings and lengths.

E. Contractor shall test CATV outside plant run with TDR from BDF back to building 1.

F. When repairs and re-tests are performed, the problem found and corrective action shall be documented, and both failed and passed test data shall be documented.

G. Testing document shall include a record of test frequencies, cable type, conductor pair and cable/outlet ID, measurement direction, and technician name(s). The test equipment name, manufacturer, model number, serial number, software version, and last calibration date will also be provided. An annual calibration cycle is required for all test equipment used on the project unless the manufacture requires a more frequent cycle.

H. Contractor shall provide pair sheets for all telephone station, riser, and outside plant cables. This documentation needs to be provided to RIC personal as soon as cable cross wires are installed.

I. Rhode Island College may request that a 5% random field re-test be conducted. If findings contradict the documentation submitted by the contractor, Rhode Island College may request a 100% re-test at no additional cost.

J. Documentation will be submitted within (10) working days of project completion.

K. As-built drawings are to include all cable routes, and outlet locations. The numbering used in the installation shall identify outlet locations. Any numbering, icons, and drawing conventions shall stay consistent throughout the document. The owner may provide paper or electronic floors plans on which as-built construction information can be added.

L. Upon completion of the installation, contractor shall provide 1 full set of documentation in electronic and paper format to be approved by RIC. When approved, 2 additional sets of documentation will be provided by contractor.

ITEM 2: Delete Paragraph 2.25 Security System and provide the following new sections:

2.25. INTEGRATED SECURITY SYSTEM

A. The security systems shall consist of Access Control and Intrusion Detection. All systems referenced below shall be connected to a standalone security network. Contractor is responsible for programming installed system back to existing control server.

B. Acceptable Manufacturers: No Substitutions
Access Control System: DSX
Intrusion Detection System: Bosch

ACCESS CONTROL SYSTEM

A. Provide a complete and operational security management system. The Security Information Management System shall be a modular networked access control system. The access control system shall have the ability of handling facilities with multiple remote sites, controlled access with various reader technologies supported simultaneously, alarm monitoring, Photo Call-Up, Photo ID Badging, and CCTV switcher control that allows for easy expansion or modification of readers, inputs, and outputs. The system control at the central computer location shall be under a single software program control, shall provide full integration of all components, and shall be alterable at any time, depending upon the facility requirements. Reconfiguration shall be accomplished on-line through system programming, without hardware changes.

B. Provide a photo badging software module, graphical maps software module and image verification software module in the base bid.

C. Provide a software package which shall be a turnkey integration between the access control system and the video management platform which includes DVRs and NVRs. The software shall operate without the need for revisions of either the access software or the video management software. The software integration shall operate on a access control workstation and/or separate computer. The software shall allow for automatic video switching where the following will occur; access control alarm events shall cause related camera video to 'pop up" over any application; a camera identifier shall be displayed; alarm related video shall be recorded on a local database, the alarm related video shall stop recording when an alarm is cleared, and alarm related video window shall have the ability to minimize when all alarms are cleared. The software shall also allow live control of PTZ type cameras.

D. The system shall support both manual and automatic responses to alarms entering the system. Each alarm shall be capable of initiating a number of different actions, such as camera switching, activation of remote devices and door control.

E. Access control functions shall include, validation based on time of day, day of week, holiday scheduling, automatic or manual retrieval of cardholder photographs, and access validation based on positive verification of card, card/PIN, and PIN.

F. The System shall have the ability to interface to the CCTV matrix control system through a serial software interface, simulating alarm inputs. The CCTV system shall be programmed to respond to the alarm input, switching the appropriate camera/s to the appropriate monitor/s and/or recording devices. All control of camera selection, position, zoom, focus, iris, pre-position, etc. shall be controlled by the CCTV system's keyboard/joystick controls or the Velocity computer keyboard. Advanced switcher programming shall be performed through the switcher and associated keyboard or software programming interface.

G. Utilizing assigned passwords, it shall be possible to define the levels of system operation for each individual Operator. Operator Actions range from basic monitoring to full control of the system databases.

H. The system programming shall be user-friendly Windows environment (use conventional "Title Bar", "Menu Bar", "Tool Bar" and "Status Bar") and allow mouse control of key functions. The programming shall be MENU driven and include on-line "Documentation", "Help" or "Tutorial" information, as well as on-line data entry examples. The software shall utilize combo boxes for all previously entered system-required data. The system shall provide supervised alarm point monitoring. Upon recognition of an alarm, the system shall be capable of displaying alarm information in text format, on a graphic floor plan, and switching CCTV cameras that are associated with the alarm point. The system shall be capable of arming or disarming alarm points both manually and automatically, by time of day, and day of week.

I. The method of communication from remote locations to the central components shall be transparent to the user.

J. After installation, the OWNER shall be able to perform hardware configuration changes as desired without the services of the MANUFACTURER.

K. Equipment repair shall be able to be accomplished on site, by module replacement, utilizing spare components.

L. All control components shall utilize "Distributed-Processing" concepts. The distributed processing shall include the ability to down-load operating parameters to any field panel, thus allowing the field panel to provide full operating functions independent of any other system component.

M. Communications between the computer and the controller shall be accomplished by Scramble*Net Communications and shall be encrypted using a 64-bit cipher feedback method. The encryption shall be full time and not require any programming or key setting to operate. The system shall utilize RS232 up to 50' for hardwired applications. The system shall utilize RS485 up to 4000' (4-wire hardwired). Longer distances are allowed with a communications multiplexer / amplifier, if applicable.The system shall utilize TCP/IP for communicating over computer networks. All of the communications protocols shall be supported simultaneously on the system.

N. Communications between the computer and the controller shall be able to use any or all of the following methods: Hardwired. Fiber Optic. Ethernet. Access Control Panel

O. Provide DSX 1040 series 2 access control panels with modules. Provide door access controller capable of controlling all doors indicated on the drawings. Please provide (6) additional ports for future expansion. The access control panel shall have the specified features detailed in the following sections.

1. Controller Board: The controller board shall be microprocessor based, incorporating Flash ROM (firmware) downloadable from the Host Computer, RAM (User Information, System Setups, Event Transaction Buffer) and a Clock/Calendar. The ROM shall be modularly upgradeable in the field for enhancements to system features. All powered connections to the controller board shall be protected by fuses. All wiring connections to the controller board shall be to "Phoenix" type screw terminals. Each door connection shall consist of terminals for two readers, one 10 Amp rated Form C dry output relay for lock control, and one input for monitoring a status switch, a request-to-exit device, and a tamper switch. There shall be status indicator lights for active relays, as well as diagnostic indicator lights to aid in system troubleshooting. There shall be dedicated alarm output relay/s for external reporting of the following conditions: Alarm; Duress; Tamper; and Trouble.
2. Enclosure: The controller enclosure shall be a NEMA style metal cabinet designed for surface mounting. It shall have a tampered, removable hinged door with a high security key lock. It shall have conduit knockouts to allow from 1/2" to 1" EMT conduit to be used for wire entry into the cabinet.
3. Internal Power Supply: The controller shall have an internal power supply that will accept 50 Hz/ 200 - 240 VAC, or 60 Hz/100 - 120 VAC. The primary side of the power supply shall be protected with a fuse. The power supply shall provide 28 VDC power to the controller board, internal battery charger, selected card readers, and reader interface boards.
4. Standby Battery: The controller shall have an internal standby battery that is capable of running the system during AC power interruptions. It shall be recharged by a charging circuit incorporated into the controller board.
5. Expansion Options: A maximum of 5 expansion boards can be installed in the controller. A SNIB Board is included with each controller and takes up one of the available expansion slots.
6. Alarm Inputs: The controller shall be capable of accepting up to 32 additional supervised alarm inputs, in increments of 8. The alarm expansion boards shall be mounted in the controller cabinet and connect to the controller board via an expansion bus cable. Provide a minimum of 2 boards per door controller.
7. Relay Outputs: The controller shall accept up to a maximum of 24 additional Form C, 2 Amp rated relay outputs in increments of 8. The relay expansion boards shall be mounted in the controller cabinet and connect to the controller board via an expansion bus cable. Provide a minimum of 2 relay boards per door controller.
8. CODE/Buffer: The controller shall be capable of expanding the CODE database up to a maximum of 64,000 Users with the addition of a memory expansion board. The board shall be mounted in the controller cabinet and connect to the controller board via an expansion bus cable. Expansion Board shall expand the Buffer capacity as well as the Code record capacity.
9. Event Transaction Buffer: The controller shall be capable of expanding the event transaction buffer up to a maximum of 20,000 events and 2,000 alarms with the addition of a

memory expansion board. The board shall be mounted in the controller cabinet and connect to the controller board via an expansion bus cable.

P. Access Control Firmware: The software for the controller shall reside in Flash ROM (firmware) and be located on a plug removable module on the controller board to facilitate easy field upgradability of the features. All of the necessary software for a fully functional System is located in the controller. The controller firmware shall include the following general features at a minimum and be fully supported by the software head-end.
1. 150 Time Zones for access restriction and automatic event control.
2. 128 Access Zones for access management.
3. 256 Control Zones for alarm and relay management.
4. Automatic daylight savings time clock adjustment.
5. 27 different functions for Code's and cards, e.g. access, unlock, re-lock, alarm mask, relay control.
6. Add user records.
7. Tag users for annunciation at host computer.
8. 4,000 Users.
9. 750event, 750 alarm transaction buffer.

Q. Alarm Management Features: The controller shall include the following alarm management features at a minimum.
1. Momentarily mask alarm by CODE and/or card.
2. Mask/unmask alarm by CODE and/or card or by Time Zone.
3. Alarm device supervised while masked.
4. Tamper switch on alarm device monitored while masked.
5. Tamper Input may be configured to operate as a "Latch Monitor" with the appropriate door lock hardware.
6. Entry/Exit delay per alarm input.
7. Alarm input triggers relay/s.

R. Relay Control Features:The controller shall include the following relay control features at a minimum.
1. CODE and/or card, input, or other relay triggers relay/s.
2. Trigger relay/s by time zone.
3. Relay may be normally de-energized or energized.
4. Disable relay/s during time zone.
5. Clear relay at end of time zone

O. Card Readers
1. Provide proximity card readers as shown on the drawings.
2 Each reader shall operate on a 125khz transmit frequency.
3. The reader shall have a Weigand output.
4. The readers shall have both an audio and visual notification for access granted and access denied.
5. The reader shall be suitable for indoor and outdoor applications.
6. The reader shall operate up to 500ft on 22AWG cable.
7. Provide HID ICLASS RP-15 multiclass proximity readers or approved equal.
8. Provide HID MaxiProx readers for long range readers as shown on the drawings.

P. Proximity Cards
1. The card shall be Photo ID compatible so the user can print directly to the card with a direct image or thermal transfer printer.
2. The smart card shall have an operating temperature of -40 to 158 degrees Fahrenheit, and shall have an operating humidity of 5-95% noncondensing.
3. Provide HID DuoProx® II Card or approved equal.
4. Provide 100.

Q. Door Contacts

1. Provide 3/4" recessed magnetic door contacts as shown on the drawings.
2. Provide Sentrol/GE 1078C or equal.

R. Request-to-exit devices
1. Provide motion request-to-exit sensors as shown on the drawings and as required. Devices shall mount directly above the each door. Utilize doors that have hardware which have integral request-to-exit switches as required. Coordinate with door hardware.
2. Provide DS 150i or equal with trim plate.

S. Auxiliary Power Supply: Provide an auxiliary power supply for REX sensors, local audible devices, etc as required. Provide Altronix or approved equal.

T. Electric strike/magnetic locks power supply: Furnish and install electric strikes and magnetic locks power supplies as needed and required. The units shall have the following characteristics: Coordinate with door hardware contractor on proper current draws. Power supplies shall be interfaced to the fire alarm system as required. Provide Altronix model AL600ULACM or approved equal.

1. 8 or 16 outputs, individually programmable for: Fail safe, Fail secure, Form "C' relay contact, Constant voltage for auxiliary devices, Fire Alarm Interface (FAI), Negative or open collector trip, Positive trip, Isolated trip.
2. Lock output current: 6A/output, fuse protected
3. Lock input trip current: .03A per input
4. Lock relay contacts rated @ 28 VDC, 12A
5. Visual status indicators : Input Activation: Red LED per input, Control Voltage Presence: Green LED, Fire Alarm Interface (FAI) status: Green LED
6. Input voltage: 120 VAC
7. Input current: 4.1A
8. Output voltage: 12/24 VDC, Field selectable
9. Output current rating: 10A continuous
10. 1 Standard uncontrolled output
11. 1 Fire Alarm Interface (FAI) controlled output
12. Ripple: < 0.240VAC
13. Operating temperature : 0°C to 50°C
14. Humidity : 85% @ 30°C
15. Maximum Battery Capacity : 17 AH
16. Electronically regulated and filtered output
17. Visual fault indicators: AC presence: Green LED; DC presence: Red LED
18. Fault reporting: AC Loss, Low Battery, High/Low DC.

INTRUSION DETECTION SYSTEM

A. Provide an intrusion system as required and as shown on the plans. System shall be BOSCH D9412GV4. The cost of monitoring the facility at a UL listed central station shall be included for a period of one year. Provide all labor, materials, equipment, and services to perform all operations required for the complete installation and related work as shown in all contract documents.

B. All motion detectors, roof hatches and exterior doors shall report and be individually annunciated on the intrusion alarm system. For locations that are exterior access control doors, each door contact shall be double pole, double throw. One pole shall be wired to the intrusion alarm system and the other shall be wired to the access control system and programmed in accordance with the access control specification. Each exterior door shall be wired and individually reported to the intrusion alarm system.

C. Keypads shall be able to arm and disarm the intrusion alarm system.

D. Local audible sounders and keyswitches shall be included to sound upon designated doors opening. The alarm shall be silenced via the keyswitch or a timed sequence.

E. A graphics software package shall be included to annunciate alarms via the RIC wide area network.

F. Security equipment providers must be an authorized/certified dealer by the factory. Provide certification letter in the submittal package.

G. System Description:

1. Once armed, any motion detector, door contact, glass break, etc shall both cause the audible sounder to sound and call the central station.
2. Each keypad shall have the ability to arm/disarm any or all zones/points.
3. Each keypad shall have the ability to arm/disarm any or all partitions/areas (at least 32).
4. The system areas and zones shall be programmable, and the system shall store, log, display, and transmit specific custom designations for system areas, zones, and user names.
5. To ensure continued, one-call support, the system shall be constructed of sensing components provided directly by the system manufacturer, such as power supplies, motion detectors, door and window position switches, glass break detectors, or other sensing devices that the manufacturer offers.
6. The system shall support user interaction by way of a keypad, web browser, system software, key switch, or radio frequency wireless control, using integrated or auxiliary devices provided by the system manufacturer.
7. The system shall support controller zone input connections, system keypads, system zone expansion modules, and wireless zone input modules, and must support zone input connections by way of at least two competitive products.
8. The system shall be capable of offering at least five zone expansion buses, each of which can support the connection of up to 15,000 feet of four-wire cable. System will require 18awg sized wire with six twists per a foot. Zone expansion and keypad data buses that exceed 2,500 feet of cable must include splitter/repeater modules to boost data voltage and maintain data integrity.
9. The system shall provide a seamless capability to provide a minimum of 200 addressable relays, which can be located at any connection location upon a zone expansion bus.
10. System relay outputs shall have the capability of being triggered as a result of a command from the user interface, changes in system status, changes in zone status, or by a programmable schedule.
11. System relay output states shall be programmable for momentary, maintained, pulsed, or must follow the state of an associated system zone input.
12. The system shall be completely programmable either locally from a keypad or remotely through a standard dial-up, and network connections by way of a LAN, WAN, and/or by way of the Internet.
13. The control unit shall be completely programmable remotely using remote annunciators, and/ or using upload/ download software that communicates using SDLC 300 baud, 2400 baud, or IP Addressed data network. On-site programming from a personal computer shall also be permitted.
14. The control unit shall be equipped with an anti-reversing circuit breaker to prevent damage due to accidental reversal of battery leads.
15. The actuation of any alarm initiating device shall cause the following to happen:
    a) All audible security alarm annunciators shall sound. These annunciators shall be sirens.
    b) Centrally located visual annunciation shall take place at all control stations/keypads showing the particular partition and/or point in alarm.
    c) Contact the central station via integral digital communicator as specified in this specification. Contractor shall provide the first year at no additional cost to the contract. A telephone line shall be provided for communication to the alarm company central station. Activate each control keypad and display in English language text the exact device that has alarmed.

H. Control Panel Capability

1. 574 zones/points per panel.

2. Sixteen (16) separate and distinct partitions/areas.
3. Expansion to a total of at least 10,000 user codes with 99 user profile definitions.
4. Sixteen (16) independent door/keypad addresses, each with four zones.
5. Twenty (20) Holiday Dates for custom holiday scheduling by area.
6. A total door access granted event buffer of at least 10,000 events.
7. Anti-passback access control selectable by area and user.
8. Four (4) shift schedules per area.
9. A total of at least 100 programmable output relay schedules.
10. Thirty-two (32) individual reporting areas.
11. Built-in bell and telephone line supervision.
12. Require two-man access code or credentials.
13. Support programming to require the same or different access code entered within a programmed delay time of 1 to 15 minutes after disarming before activating a silent ambush alarm.
14. Support area programming that disables schedule and time-of-day changes while system is armed so that area can only be disarmed during scheduled times.
15. All of the basic and network features listed above.
16. Built-in Encrypted Alarm Router.
17. Certified operation that meets 128 Bit AES Rijndael Encryption communications.

I. Input/Output Capacity
1. This system shall be capable of monitoring a maximum of 574 individual zones and controlling a maximum of 502 output relays.
2. The control panel shall have, as an integral part of the assembly, 2 SPDT Form C relays rated at 1 Amp at 30 VDC and four open collector 12 VDC outputs rated at 50mA each. It shall also have the capacity of a maximum of 125 output expander modules with 500 switched ground, open collector outputs, 50mA maximum and 502 auxiliary relays (Form C rated at 1.0 Amp at 30 VDC).
3. The panel shall also provide 100 programmable output schedules, and include an integral bell alarm circuit providing at least 1.5 Amps of steady, pulsed, or temporal bell output. Output type shall be programmable by zone type. Relays and voltage outputs shall be capable of being independently programmed to turn on and/or off at selected times each day.

J. User/Authorization Level Capacity: The system shall be capable of operation by 10,000 unique Personal Identification Number (PIN) codes with each code having one (1) of ninety-nine (99) custom user profiles. This allows for limitation of certain functions to authorized users. The operation of all keypads shall be limited to authorized users.

K. Keypad Functionality
1. The system shall support a maximum of sixteen (16) keypads with alphanumeric display. Each keypad shall be capable of arming and disarming any system area based on a pass code or Proximity key authorization. The keypad alphanumeric display shall provide complete prompt messages during all stages of operation and system programming and display all relevant operating and test data.
2. The system user shall be capable of selectively arming and disarming any one or more of 32 areas within the intrusion detection system based on the user PIN code and/or keypad used. The system shall be capable of having up to a sixteen (16) character length name programmed for each area.
3. The system user shall be capable of assigning an opening and closing schedule to all areas or to each of the 32 areas separately. Each area shall be able to arm or disarm automatically by a schedule. The system shall have the capacity for common areas that automatically disarm when any other area disarms and that automatically arm when all others areas arm.
4. Communication between the control panel and all keypads and zone expanders shall be multiplexed over a non-shielded multi-conductor cable, as recommended by the manufacturer. This cable shall also provide the power to all keypads, zone expanders, output expanders, and other power consuming detection devices.

5. If at any time a keypad does not detect polling, the alphanumeric display shall indicate "SYSTEM TROUBLE". If at any time two devices are programmed for the same address, the alphanumeric keypad shall display “4 WIRE BUS TROUBLE”. If at any time a keypad detects polling but not for its particular address, the alphanumeric display shall indicate "NON POLLED ADDR". The system shall display all system troubles at selected keypads with distinct alphanumeric messages.
6. The keypad shall include self-test diagnostics enabling the installer to test all keypad functions: display test, key test, zone test, LED test, relay test, tone test, and address test.
7. The keypad shall provide an easy-to-read English text display. The text shall exactly match the text seen in all software reports, keypad displays, and central station reports.
8. The keypad user interface shall be a simple-to-use, menu-driven help system that is completely user friendly.
9. The control panel shall support a keypad interface accessible on the World Wide Web in a browser window. The web-accessible keypad interface shall provide at least five (5) programmable hyperlinks for camera access or other use.
10. The system shall support sub-control keypads with four (4) built-in zones and capable of functioning in the following modes:
11. Panel monitors all four (4) keypad zones independently with a maximum of 125 keypads attached to the control panel
12. Stand-alone mode allowing keypad to operate as a self-contained security system independent of the control panel.

L. Zone Configuration
1. A minimum of 4 Class B ungrounded zones shall be available at each keypad or zone expander on the system. The system shall have the capacity for a maximum of sixteen (16) keypads and a maximum of 125 four (4) zone expanders or 500 single zone expanders. It shall also have the capacity of a maximum of 125 supervised relay output expanders. All Class B zones shall be 2-wire, 18 AWG minimum, supervised by an end-of-line (EOL) device and shall be able to detect open and short conditions in excess of 500ms duration.
2. Each zone shall function in any of the following configurations: Night, Day, Exit, Fire, Supervisory, Emergency, Panic, Auxiliary 1, Auxiliary 2, Fire Verification, Cross Zone, Priority, and Key Switch Arming.
3. The digital SLCs and the annunciator/keypad bus shall be able to operate at a maximum wiring distance of 2500 feet from the control panel on unshielded, non-twisted cable. This distance may be extended to a total of 15,000 feet when bus repeater modules are installed.
4. The system shall have the capability to incorporate up to 200 zone expander POPIT™ points.

M. Communication
1. The system shall be capable of signaling to two remote monitoring station receivers, four telephone numbers of 32 digits each using two separate switched telephone network lines such that if two unsuccessful attempts are made on the first line to the first number, the system shall make two attempts on first line to the second number. If these two attempts are unsuccessful, the system shall make two further attempts on the first line of the first number. After the tenth unsuccessful attempt, dialing shall stop and the alphanumeric keypad shall display trouble. Should another event occur that requires a report to be transmitted, the dialing process shall be repeated. The system shall have a programmable option to dial a second set of telephone numbers after the first ten attempts using the same sequence.
2. The system shall be capable of communication using the IBM Synchronous Data Link Control format, and at least two other standard industry formats.
3. The system shall be capable of supporting Network communication with digital dialer backup, existing Ethernet or token ring data networks, satellite communication, fiber optic networks, local area networks, wide area networks, cellular communication, and retail data networks.

N. Network Communication: The control panel shall be capable of supporting Dynamic Host Communication Protocol (DHCP) Internet Protocol (IP) addressing.

O. Equipment

1. Intrusion Alarm Control Panel: Provide BOSCH D9412GV4 series with enclosure, power supply, lock, etc. or approved equal. Provide with battery back up and battery harness for a minimum of 4 hours.
2. Software Package: Provide a software package the will be able to see alarms on a remote workstation connected via the RIC network. Network and workstation shall be provided by others. Provide BOSCH end user software. The contractor is responsible to assist in the loading and testing of the software.
3. Keypad: Provide 32 character platinum keypad as shown on the drawings.
4. PIR Motion Detectors
   a) Provide motion detectors of "home run" type as shown on the drawings. Sensors shall process their signals independently and shall have coverage patterns individually adjustable.
   b) Provide long range detectors as shown on the plans.
   c) Wiring connections shall be made in equipment cabinets. Conductors other than that of detector will not be allowed at each device. Detectors shall not be wired in series or with door contacts. There shall be no exposed wiring leading to/from detectors.
   e) Detectors shall be mounted on ceiling type wiremold box.
   f) Fields of view that are directed at heat sources such as fans, radiators and other areas that may cause false alarms shall be masked out.
   g) Provide one (1) input module per device.
5. Door Contacts/switches
   a) Provide recessed door contacts (switches) as shown on the drawings. Contacts shall be 3/4 inch and have wire leads of sufficient length for splices to be made in wiremold box or mud type box located adjacent to door. Provide GE model #1078C or approved equal for interior doors. Provide DPDT contacts for all exterior doors, GE model #1076-D.
   b) In event that circumstances prevent the use of recessed contacts in some locations, surface contacts may be used, subsequent to approval of Architect.
   c) Wiring for door contacts shall be concealed.
   d) Door contacts shall not be wired in series with exception of double doors which may be wired to panel as single door location.
   e) There shall be no splices in door frames or jambs. Door contact connections shall be made in wiremold or mud switch box located adjacent to door.
   f) Provide one (1) series input module per device.
6. Overhead Door Contacts. Provide Sentrol 2200 series overhead door contact as shown on the drawings. Provide one (1) input module per device.
7. Indoor Security Siren. Provide a BOSCH interior security siren as shown on the drawings.
8. Outdoor Security Siren: Provide an Ademco 748LC outdoor siren as shown on the drawings. The horn shall draw 550ma at 12VDC.
9. Interface Adapter Module. Provide one (1) BOSCH loop adapter bus card per system.
10. Loop/Zone expansion interface card. Provide a minimum of two (2) BOSCH zone expansion cards per system. Provide a sufficient amount of zone cards to handle 574 points as required.
11. Dual Phone Line Module. Provide one (1) BOSCH module per system.
12. Eight Input Module. Provide one (1) BOSCH module per system.
13. Zone Expansion Module. The individual zone expansion module shall be used to monitor door contacts, motion detectors, glass break detectors, and other monitor points15) Relay Output Module. Provide one (1) BOSCH relay output module per system. Provide with four (4) relays.

3.16. SECURITY SYSTEM INSTALLATION

A. Verify the exact location prior to bid of all items that may be indicated and determine exact location of all electrical items that are not indicated on the Drawings.

B. Include the cost of all work including sub-letting of any work that may be required to complete the work indicated in order to avoid work stoppages and jurisdictional disputes. The work to be sublet shall conform with precedent agreements and decisions of record. Jurisdictional assignment shall be a responsibility under this Section's contractual obligation.

C. Do not install equipment and materials which have not been reviewed by the Architect. Equipment and materials which are installed without the Architect's review or without complying to comments issued with the review shall be removed from the project when so instructed by the Architect. No payment will be made for unapproved or removal if it is ordered removed. The Installer shall be responsible for any ancillary costs incurred because of its removal and the installation of the correct equipment and materials.

D. Obtain detailed information on installation requirements from the manufacturers of all equipment to be furnished, installed or provided. At the start of construction, check all Contract Documents including all Drawings and all Sections of the specifications for equipment requiring electrical connections and service and verify electrical characteristics of equipment prior to roughing.

E. Refer to all Drawings (including architectural and site) associated with the project, prior to the installation or roughing-in of the electrical outlets, conduit and equipment, to determine the exact location of all outlets.

F. Securely mount equipment racks, cabinets and wall mounted relay brackets to the building structure. Proper supports such as 3/8" lag screws and expansion anchors shall be used. Proper quantity of supports shall be utilized. Dry wall screws and other types of supports not specifically approved to support equipment are specifically prohibited. Submit mounting supports for approval before installation.

G. Provide cable tray over each rack and cabinet as required to facilitate a neat and orderly installation of cables and to secure the top of the racks to the structure. Cables shall drop straight down to equipment racks. Cable trays shall be secured at both ends to the structure and connected together as required for a complete contiguous installation. Utilize proper supports to support the cable tray to the building structure as well as the equipment rack and cabinet. Submit mounting supports for approval before installation.

H. Cable Management: All cables shall enter the wiring closet to within the equipment racks and/or brackets. Secure the bundle(s) to the rack strain relief and wire management behind the patch panels and cross connect block panels. Install horizontal and side-mounted vertical cable management panels and brackets for routing and management of patch cables. Maintain EIA/TIA and BICSI standards on bundling, supporting and bend radii.

I. All copper or fiber conductors of every cable shall be completely terminated at both ends.

J. All pathways provided under this Section shall comply with fill capacities as per Code, EIA/TIA 569A and BICSI. Cable bending radius shall not be less than minimum required by EIA/TIA and BICSI. Cabling installed concealed shall be supported from the building structure (e.g. cable trays, J-Hooks, snake tray, etc.). Cables shall be installed no closer than 12 inches (305mm) to electrical equipment and wiring. When cables are required to cross power wiring, they shall only do so perpendicular to the power wiring. Telecommunications cabling and power wiring shall only cross each other the minimal number of times as required due to building design limitations. Clearances between cabling and other building systems as required by EIA/TIA 569A and BICSI shall be maintained throughout the building.

K. All cables shall be installed in a neat and workman-like manner. Cables shall be installed parallel and perpendicular to building elements.

L. Provide expansion fittings and adequate cable slack at all building expansion joints.

M. Provide seals on raceways exposed to widely different temperatures, as in refrigerated or cold storage areas. Install seal to prevent circulation of air from warmer to colder sections through the

raceway. Provide seals under device plates for outlets on walls between conditioned and non-conditioned spaces. Provide outlet plate gasket seals at all work area outlets on interior and exterior walls. Provide a seal around raceways or cables penetrating full height walls (slab to slab), floors or ventilation or air handling ducts so that the spread of fire or products of combustion shall not be substantially increased.

N. Provide hook and loop (Velcro) cable wraps at all panels, equipment racks and cabinets. Cable ties are specifically prohibited. Cable ties for horizontal cables shall be secured with minimum required compression in order to secure the cables properly without impeding the signal transmission rating (geometry) of the cable. Hook and loop (Velcro) cable wraps may be used in lieu of cable ties for copper cables only. Cable-ties are specifically prohibited for fiber optic cables.

O. When pathways are not provided or specified, provide J-Hook supports from the building structure as required for cable runs to the cable drop location. Maximum distance between supports shall be five feet (1 500mm) depending on the structural elements of the building. Maximum number of cables per support shall be thirty. Provide additional supports as required when cable quantities exceeds thirty and to maintain required bending radius of cables. Cables installed exposed or in areas subject to abuse (below 10 feet (3m) above finished floor) or in P.

P. All cables shall be supported directly from building structure. Under no circumstance shall cable be installed using cross bracing, plumbing/sprinkler pipes, ceiling systems or any other system that is not a specifically approved method to independently support cables. Cables shall not be allowed to rest on ceiling tiles, duct work, piping, etc. Supports shall be provided as required in order for cables to avoid contact with any other building system. Bundle cables in groups by Room.

Q. Cabling Application:
1. Install wiring, per manufacturers recommendations.
2. Door Access System: For each car reader, utilize composite cable consisting cabling for proximity ready, door contacts, low voltage door power, request to exit, and spare 16/2 unshielded twisted pair. Provide composite cable between door and access control panel in Tele-Data Room 004.
3. For all door contacts indicated for intrusion detection, provide dedicated 16/2 twisted pair back to instruction detection control panel in Tele-Data Room 004.
4. Install control circuits in accordance with NFPA 70 and as indicated. Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.
5. All housings are to be located as specified and shown on drawings.
6. Make installation in strict accordance with approved manufacturer's drawings and instructions.
7. The Installer shall provide necessary transient protection on the AC power feed, all station lines leaving or entering the building, and all central office trunks. All protection shall be as recommended by the equipment supplier and referenced to earth ground.

R. Splices, Taps, and Terminations:
1. Make splices, taps and terminations on numbered terminal punch blocks in junction, pull, and outlet boxes, terminal cabinets and equipment enclosures.
2. Identification of Conductors and Cables:
a) Use color coding of conductors and apply wire and cable marking tape to
3. designate wires and cables so all media are identified in coordination with system wiring diagrams.

S. Weatherproofing:
1. Provide weatherproof enclosures for items to be mounted outdoors or exposed to weather.

3.17 SECURITY SYSTEM LABELING

A. Labeling procedure shall meet EIA/TIA 568B Series standard and 606 and BICSI Standards and shall be pre-approved by the Architect. Hand-written and embossed type labels are specifically prohibited.

B. Permanently label, using pre-printed labels, all cables and terminations exactly as defined herein:

1. Label each equipment rack and cabinet.
2. Label patch panels and cross connect blocks numerically, top-to-bottom
3. Label patch panel and cross connect blocks ports numerically.
4. Label the cable segments as indicated on Drawing Schedules. Each outlet will be designated by the incoming cable, and will be labeled accordingly.
5. Label each equipment rack, panel and cross connect block uniquely.
6. Refer to Administration section for specific labeling requirements.

C. Use industry standard EIA/TIA and BICSI color codes as specified herein and maintain consistent color coding throughout the building.

3.18 SECURITY SYSTEM TESTING

A. Security Management and Intrusion Systems
   1. Test in accordance with manufacturers security management systems testing procedures.

3.19 SECURITY SYSTEM TRAINING

A. As a minimum training sessions shall consist of the following:
   1. General project information and review shall be by the General Foreman or Superintendent of the Trade.
   2. Specific system training shall be by a Factory Trained Representative.
   3. Provide a complete review of the project and systems including, but not limited to, the following:
      a) In a classroom environment review each Record Drawing (use of typicals is acceptable).
      b) Note equipment layouts, locations and control points.
      c) Review each system.
      d) Review system design operation and philosophy.
      e) Review alarms and necessary responses.
      f) Review standard troubleshooting techniques for each system.
      g) Review areas served by equipment.
      h) Identify color codes used.
      i) Review features and special functions.
      j) Review maintenance requirements.
      k) Review operation and maintenance manuals.
      l) Respond to questions (record questions and answers).
   4. After classroom training, walk the entire project, review each equipment room and typical locations. Explain equipment and proper operation.

B. During the instruction period the Owner and Maintenance Manual shall be used and explained.

C. The Owner and Maintenance Manual material shall be bound in 3-ring binders and indexed. On the edge of the binder provide a clear see-through plastic holder with a typed card indicating the Project name, the Architect's name, the installer's name and the Volume number (e.g., Vol. No. 1 of 2).

D. Provide name, address and telephone number of the manufacturer's representative and service company for all items supplied so that the source of replacement parts and service can be readily obtained.
   1. Include copies of manufacturer's and installer's warranties and maintenance contracts and performance bonds properly executed and signed by an authorized representative.
   2. Include copies of all test reports and certifications.

E. Providers of the Integrated Security System shall provide training as part of their package. This comprehensive training plan shall addresses the following areas:
   1. Training, providers of the Integrated Security System shall provide (16) hours of training as part of their package, this comprehensive training plan shall addresses the following areas:
      a) System Orientation for all involved staff members.

b) Small group hands-on training sessions for all media center staff focusing on system-wide hardware and troubleshooting.
c) Small group hands-on software training sessions for all media center staff.
d) Small group hands-on sessions covering classroom media control equipment for all instructional staff.
e) Small group hands-on software training sessions for all instructional staff.
f) Follow-up training for media center staff.
g) Follow-up training for all instructional staff.
h) System Orientation for all Involved Staff Members, providers of the Media Management System shall provide a two-hour orientation session for the entire school community prior to the system turnover date. This orientation session shall include a full demonstration of the systems working capabilities. The demonstration shall only include those features and functions that were specified. The equipment demonstrated shall be exactly the equipment installed at the facility.

F. The Security Management System Integrator shall coordinate with the System Administrators for two 8 hour Operator training sessions on the Operational System to be conducted on-site on the actual running system.

3.20 SECURITY SYSTEM ACCEPTANCE DEMONSTRATIONS

A. Systems installed under this Section shall be demonstrated to the Owner and Architect. Demonstrations are in addition to necessary testing and training sessions. Notify all parties at least 7 days prior to the scheduled demonstration. Schedule demonstrations in cooperation with and at times convenient to all parties and so as to not disturb ongoing activities.

B. Systems shall be tested prior to the demonstrations and each system shall be fully operational and tested prior to arranging the Acceptance Demonstration. Final payments will be withheld until a satisfactory demonstration is provided for all systems indicated or requested.

C. If the demonstration is not totally complete, performing all functions, features and connections or interfaces with other systems, or if there is a failure during the demonstration, additional demonstrations shall be arranged. Provide and pay for all costs, labor and expenses incurred for all attendees for each additional demonstration required for acceptance and demonstration of complete system operation.

D. Demonstrations shall be scheduled in ample time to complete all activities prior to final acceptance and Owner occupancy. Demonstrations shall take place at least 30 days prior to the scheduled project completion date and 30 days prior to owner’s use and occupancy.

E. As a minimum, provide demonstrations for systems indicated under "Work Included" under Part One of the Specifications. Provide demonstrations of additional systems as requested by the Owner, or Architect.

3.21 SECURITY SYSTEM OWNER COORDINATION

A. Prior to Substantial Completion of the project and in ample time to address and resolve any coordination issues, request and arrange meetings between the Owner, Owner's Vendors and Consultants, Architect and General Contractor to discuss the Scope of Work for each system being provided and the interface required for a fully functional and operational system upon project completion. Initial meetings shall be scheduled three months prior to the scheduled Substantial Completion date or as soon as Submittals are submitted and reviewed for projects with shorter schedules.

B. At these meetings the required interface with the Owner shall be reviewed, requests for information required to complete programming or for coordination shall be presented and system operation and philosophy shall be discussed.

C. Additional meetings shall be held as requested by any party so that all issues are resolved and with the goal and intent being that all systems are fully operational and functional upon project Substantial Completion and that the responsibility for all components required is clearly established.

ITEM 3: Delete Paragraph 2.10.B and replace with the following:

B. Refer to the **Rhode Island College Telecommunications Standards** under the Outlet Types for floor boxes used for AV devices. Floor boxes indicated shall be based on Wiremold RFB flush series with all components, faceplates, and covers necessary to mount devices indicated. Unless otherwise indicated, provide RFB4 series, 4 gang boxes. Provide RFB-11 series boxes with 11 gang boxes where indicated. Floor boxes shall be stamped steel except where installed on grade (or indicated with "OG" designation), boxes shall be cast iron.

ITEM 4: Delete Paragraph 2.10.C

ITEM 5: Add Paragraph 2.26

2.26 ASTRONOMICAL TIME SWITCH

A. The electronic time switch shall be a programmable solid state digital electronic type capable of controlling 4 circuits independently from a central location. A manual control shall be provided for each circuit to enable switching any of the circuits "ON" and "OFF". Load indicators shall be provided for monitoring each circuit independently.

B. The time switch shall provide for full year control by providing automatic leap year and automatic daylight saving time adjustment and provide the capability of being programmed for holidays by month and date assignment. The time switch shall provide 8 day control fro programming the 7 week days and 1 additional day, which can be assigned to any of the available holidays.

C. A total of 320 set points shall be provided and shall be assignable in any combination to on times, off times, daylight saving time dates and holidays. The time switch shall provide for cycling the loads "ON" and "OFF" for each circuit independently. All scheduling and cycling control shall be accurate t0-the-minute and shall be displayed by means of a vacuum fluorescent display.

D. A solid state circuit shall maintain program data and time keeping for a minimum of 24 hours. This circuit shall be an integral part of the time switch and shall require no batteries. This circuit shall automatically recharge, upon return of supply power, to full capability within 5 minutes.

The time switch shall provide for an optional lithium coil cell battery powered carryover, which , in the event of a long-term power outage, shall maintain program data and time keeping for a minimum of 125 days (3000 hours).

The time switch is to be powered by a 277 volt 60 hertz source. Switch configuration to be SPDT for each circuit. The time switch shall be as manufactured by Intermatic Model ET7415C or approved equal.

CHANGES TO THE DRAWINGS:

PHASING

PH1.1 PHASING PLAN – SEE REVISED DRAWING SHEET THIS ADDENDA

ITEM 1: At Drawing #1 Phasing 1, along east side of building along existing 4th Avenue, add construction trailer location(s), add temporary fencing for temporary site and contractor entrances, and change location of building temporary entrance on east side of the building. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 2: At Drawing #1 Phasing 1, at bottom of drawing, add general note for contractor parking. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 3: At Drawing #1 Phasing 1, at bottom of drawing, add general note for staging areas. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 4: At Drawing #1 Phasing 1, along west side of building along existing 5th Avenue, add temporary fencing and note for contractor to maintain vehicular traffic on 5th avenue. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 5: At Rhode Island College Art Center – CONSTRUCTION PHASING SCHEDULE, in upper right corner of the sheet, add Site Segment 2A to Phase 2. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 6: **CHANGE TO ADDENDA #1 -** At Rhode Island College Art Center – CONSTRUCTION PHASING SCHEDULE, change scheduling in Phase 1. **See revised drawing sheet PH1.1 this Addenda.**

ITEM 7: **CHANGE TO ADDENDA #1 -** At Rhode Island College Art Center – CONSTRUCTION PHASING SCHEDULE, in upper right corner of schedule, change construction duration. **See revised drawing sheet PH1.1 this Addenda.**

PH1.2 PHASING PLAN & CONSTRUCTION PHASING SCHEDULE – SEE REVISED DRAWING SHEET THIS ADDENDA

ITEM 1: At Drawing #1 Phasing 1, along west side of building along existing 5th Avenue, AND SOUTH SIDE OF BUILDING AT sidewalk of College Road West, add note for Site Segment 2A (SS2A). Also, add temporary fencing and notes for contractor to maintain vehicular traffic and sidewalk access at these locations. **See revised drawing sheet PH1.2 this Addenda.**

ITEM 2: At Drawing #1 Phasing 1, along east side of building along existing 4th Avenue, add construction trailer location(s).. **See revised drawing sheet PH1.2 this Addenda.**

ARCHITECTURAL

A1.2 FIRST FLOOR PLAN

ITEM 1: At Drawing #1 First Floor Plan, in lower right corner of plan, at Outdoor Work Court E101, add sand pit with steel plate cover. See SKA-A-087.

ITEM 2: At Drawing #1 First Floor Plan, in lower right corner of plan, at room 106D Sculpture Metals Studio/ Welding, add note to dashed lines above welding area "WELDING CURTAINS AND SUSPENDED TRACK PROVIDED BY OWNER, INSTALLED BY GC." See SKA-A-087.

ITEM 3: In top center of drawing sheet, add general note that reads as follows: "GENERAL NOTE: GC SHALL COORDINATE INSTALLATION BY OTHERS OF OWNER FURNISHED ITEMS, INCLUDING FURNITURE, FIXTURES, EQUIPMENT, KILNS AND AUDIO/ VISUAL TECHNOLOGY."

A2.1 ROOF PLAN

ITEM 1: At Drawing #1 Roof Plan, in lower right corner of plan, at roof above Sculptures Work Court E101 (roof system C), immediately west of column line intersection V and 18.4, add exhaust fan "EF-10", (refer to HVAC drawings). At added exhaust fan, add the following roof detail tags: "9/A2.3 SIM., TYP." at tie-down supports, "18/A2.2 SIM., TYP." at exhaust fan curb, and "9/A2.2 SIM., TYP." at duct penetration.

A9.4 MISC DETAILS.

ITEM 1: Add detail 20 Sand Pit Section & add detail 21 Sand Pit Plan. See SKA-A-088.

HVAC

ITEM 1: SKA-H-023 – Clarification to the First Floor Ductwork Plan, Dwg. H2.1.

ITEM 2: SKA-H-024 – Clarifications to the Roof Plan, Dwg. H2.3

ITEM 3: SKA H-025 – Changes to Exhaust/Supply Fan Schedule, Dwg. H8.2.

ELECTRICAL

E0.00 DRAWING ELECTRICAL BASEMENT POWER PLAN

ITEM 1: Modify this drawing according to attached sketch SKA-E-024

E2.00 DRAWING ELECTRICAL BASEMENT POWER PLAN

ITEM 1: Add type 3 tele/data outlet on wall along column line 12 just east of column line C. Refer to amended specification SECTION 26 0000 of the specifications for type of wiring

E2.01 DRAWING ELECTRICAL FIRST FLOOR POWER PLAN

ITEM 1: Change note #9 from: "Electrical Contractor shall run 2-1" empty conduits with pull wire from podium to wall and up to ceiling space for IT/AV control and power wiring." to " Electrical Contractor shall run 2-1 1/4" conduits from podium to wall and up to ceiling space and install IT/AV control and power wiring. Control wiring shall also be run to all ceiling mounted projectors. .Refer to SECTION 26 0000 of the specifications for type of wiring.

ITEM 2: Add the following as note #11: "Electrical Contractor shall run 2-1 1/4" conduits from podium to table and install IT/AV control wiring. Refer to amended specification SECTION 26 0000 of the specifications for type of wiring

ITEM 3: At ceiling height in corridors add "AP" Wireless Access Points at the following locations;
Column line 4, 7, between 11.5 & 12, and 16 west of column line C.
Column line 13 west of column line L.
Column line 2.8 and column line O.
For type "AP" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 4: At ceiling height in the following rooms provide as specified "AP" Wireless Access Points at the following locations;
Room #136 at column lines 2.8 and I.
Room #138 at column lines 7 and J.
Room #134 at column lines 6 and E.
Room #147 at column lines 7 and Q
Room #102 at column lines 11.5 and Q
Room #E101 at column lines 18.4 and T.2.
Room #106 at column lines 18.5 and XU
Room #108A at column line XH between 18.3 and 18.5
Room #E103 at column line 18.5 between A.4 and A.6.
For type "AP" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 5: **"**AVF" type tele/data outlets shall be provided under tables in the following rooms;
Room #134A, 135, 136 and 140. For type "AVF" and connection/wiring requirements refer to amended specifications. For type "AVF" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 6: Delete combination tele/data and receptacle floor boxes from the following rooms: Room #104, 105E, 135, 134, 134A, 135, 136, and149.

ITEM 7: The floor boxes indicated in Room #104, 105E, 107, and149 shall be Type Floor4.

ITEM 8: Delete type “W” tele/data at the entrance to the following rooms and install and wire **“**AVO” and “W” type tele/data outlets to the left of projector screens in the same rooms: Room #104, 105E, 106, 117 and 121. For type “AVO” and “W” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 9: Delete type “W” tele/data at the entrance to the following rooms and install and wire **“**AVO” and “W” type tele/data outlets at the following locations.
Room 103 at column lines “12” and “T”.
Room 105E at column lines “”16” and “Q”
Room 105J between column lines “15” & “16” along “XX.
Room 107 south of column line “15” at “G”
Room 108 north of column line “18” between “XJ & “XK”.
For type “AVO” and “W” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 10: Type “2” tele/data are denoted on the drawings by a half filled triangle symbol. All tele/data devices shall be type “2” unless noted otherwise on the drawings. For type “2” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 11: **“**AV2” and “W” type tele/data outlets shall be provided at the following locations;
Room #135 on the east wall along column line 2.8 near column line D.
Room #136 on the east wall along column line 2.8 near column line I.
Room #140 on the east wall along column line 2.8 near column line L.
Room #134 on the east wall along column line 5 near column line D.
Room #138 on the east wall between column lines 5 and 6 near column line M.
Room #134A on the east wall along column line 8 and E.
For type “AV2” and type “W” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 12 In room #134 add “AVW” to west wall on column line “C” near”8”. For type “AVW” connection/wiring requirements refer to amended specification SECTION 26 0000. Change conduit from between from “AVW” and floor box under table to run from “AVW” to “AV2” now located on east wall of room #134. For type “AVW” and “AV2” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 13: Type “1” tele/data outlets shall be provided at the following locations;
Room #134A on the west wall along column line C near column line 8.
Room #134E on the east wall at column lines H and 7.
Room #134F on the east wall along column line J between column lines 8 and 9.
Room #138 on the north wall along column line 7 at column I.
Room #106 on the north wall along column line 19 near column line XS.
Room #108 on the east wall along column line XQ between column lines 18.4 and 18.6.
Room #108A on the west wall at column lines XF and X28.
Room #108B on the east wall at column line 18 near column line XJ.
Room #108F on the north wall at column lines XC and 19.
Room #108C on the north wall near column lines 18.3 and XE.
Room #110 on the north wall near column line 16 between XH and XF.
Room #117 on the west wall along column line C and near column line 13.
Room #104 on the west wall along column line G near column line 14.
Room #107 on the east wall along column line L near column line 16.
Room #105A on the north wall at column lines 17 and Q.
Room #121 on the west wall at column lines C and 11.5
For type “1” connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 14: **“**W” type tele/data outlets shall be provide at the following locations.
Room #E101 on west wall along column line XXC near column line 18.4.
Room #106D at door near column lines 18 and XZ.
For type “W” connection/wiring requirements refer to amended specification SECTION 26 0000

ITEM 15: Type “3” tele/data outlets shall be provide at the following locations.
Room #135 in tw0 locations on the west wall on column line B near column line 2.
Room #136 in two locations on the west wall on column line E near column line 2.
Room #140 on the south wall on column line 2 near column line L.
Room #141A on the west wall between column lines M and N near column 2.
Room #141 on the east wall along column line M near column line 2.8.
Room #134 in two locations on the west wall on column line C between column lines 4 and 5.
Room #134 in three locations on the east wall on column line E. between column lines 5 and 6.
For type “3” connection/wiring requirements refer to amended specification SECTION 26 0000

ITEM 16: Type “4” tele/data outlets shall be provide at the following locations.
Room #135 in three locations on the west wall on column line B near column line 2.
Room #136 in three locations on the west wall on column line E near column line 2.
Room #134, in 8 locations on the west wall on column line C between column lines 5 and 8.
Room #134, in 9 locations on the east wall on column line E. between column lines 6 and 8.
Room #150on the east wall near column line I and 10.
For type “4” connection/wiring requirements refer to amended specification SECTION 26 0000

ITEM 17: “SB” type tele/data outlets shall be removed from rooms 103, 105J, 106, 107, 108, 117, 121, 134, 134A and 140.

ITEM 18: Add to room #138 provide power for an additional motorized projector screen and control switch adjacent to current screen and wire to panelboard P211-45. Locate projector screen switches adjacent to one another and label as “PROJECTOR SCREEN #1” and PROJECTOR SCREEN #2”. In addition add one ceiling mounted tele/data and receptacle for ceiling mounted projector. Wire receptacle to panelboard P211-47. Refer to attached sketch SKA-E-023

ITEM 19: Add a “W” type tele/date on wall near podium in room 138. For type “W” connection/wiring requirements refer to amended specification SECTION 26 0000

ITEM 20: All tele/data receptacle adjacent to ceiling receptacle and notes as “Projector, Ceiling Mounted” shall be provided with Type PROJ outlet. For Type PROJ outlet connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 21: Type C and Type C-O outlets shall be provide at the following locations. Refer to amended specification SECTION 26 0000
Provide Type C-O outlets at all exterior locations at column intersections V/18.9, XA/16.8, XA/10, XA/0.5, T/0.5, T/8.
Provide Type C outlets at all interior Middle Corr 158, Middle Lounge 159, Middle Lobby 160, two (2) in Corr 155 at Rm 122, two (2) in Corr 154 @ Rm 110B, Corr 153 @ Rm 103, and Corr 103A.

ITEM 22: Type AV0 and “W” outlets shall be provide at the following locations. Refer to amended specification SECTION 26 0000
Room #103 on wall adjacent to projector screen
Room #104 on wall adjacent to projector screen
Room #106 on wall adjacent to projector screen
Room #107 on wall adjacent to projector screen
Room #117 on wall adjacent to projector screen
Room #121 on wall adjacent to projector screen
Room #105E on wall adjacent to projector screen
Room #105J on wall adjacent to projector screen

E2.02 DRAWING ELECTRICAL SECOND FLOOR POWER PLAN

ITEM 1: **"**AV2" and "W" type tele/data outlets shall be provided at the following locations;
Room #210 along column line "J" near "7"
Room #203 along column line "J" near "7"
Room #203 on the east wall along column J near column 7.
Room #206 on the west wall along column line B at column line 2.
Room #207 on the north wall near column line 2.8 and h.
Room #208 on the west wall along column line 2 at column line H.
Room #212 near column line Q between column lines near 6.
For type "AV2" and "W" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 2: **"**AVO" and "W" type tele/data outlets shall be provided at the following locations.
Room #212 on the west wall along column line Q near Column line 6.
Room #201 on the west wall along column line J at column line 7.
For type "AVO" and "W" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 3: Type "1" tele/data outlets shall be provided at the following locations.
Room #208A on the south wall near column line M between column lines 2 and 2.8.
Room #203 on the east wall along column line J near column line 7.
Room # 212 on the east wall along column line U near column line 7.
Room #209 on the north wall along column line 3 near column line S.
For type "1"connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 4: Type "3" tele/data outlets shall be provide at the following locations.
Room #207 on the west wall along column D lined between columns 2 and 2.8.
Room #207 on the west wall along column H lined between columns 2 and 2.8.
Room #208 on the east wall along column line M at column line 2.
Room #204 on the south wall near column lines B and 6.
For type "3" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 5: Type "4" tele/data outlets shall be provide at the following locations.
Room #206 3 locations on the north wall near column line 2.8 between column lines C and D and 5 locations along column line 2.8 near column line B.
Room #207 6 locations on the north wall near column line 2.8 between column lines H and J.
For type "4" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 6: **"**W" type tele/data outlets shall be provide at the following locations.
Room #209 on the west wall along column line M near column line 2.8. For type "W" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 7: Delete 17 combination tele/data receptacle floor boxes in room #206. Replace two rows of 6 desks with one Type Floor8 floor tele/data/receptacle box per row and row of four desks with one Type Floor4 floor tele/data/receptacle box. For Type Floor8 and Type Floor4 connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 8: Delete 16 combination tele/data/receptacle floor boxes in room #208. Replace three rows of 5 desks with one Type Floor8 floor tele/data/receptacle box per row. For Type Floor8 connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 9: Delete "SB" from the following rooms #201, 203, 206, 207, 208 and 212.

ITEM 10: At ceiling height in the following rooms provide as specified "AP" Wireless Access Points at the following locations;
Room #203 between column lines 4, 5 and E, F.
Room #213 between column lines 3, 4 near "M".
For type "AP" connection/wiring requirements refer to amended specification SECTION 26 0000.

ITEM 11: Provide two (2), Type C two outlets in Middle of Corr 214. Refer to amended specification SECTION 26 0000.

ITEM 12: On roof between column lines T.2 and V near column line 18.6 provide and install combination motor starter/disconnect switch and conduit and wiring for EF-10. Refer to sketch SKA-E-25.

E4.01 DRAWING ELECTRICAL PANELBOARD SCHEDULES 1 0F 2

ITEM 1: Panelboard "P4G1" change circuit breaker numbers 31, 33, 35 from SPARE 20A-3P to EF-10, 20A-3P.

E7.00 DRAWING ELECTRICAL DETAILS

ITEM 1: Modify the Communication Faceplate Details to incorporate the cabling and devices as indicated in the **Rhode Island College Telecommunications Standard** instead of the cabling and devices called out on the drawing. Note the following:

1. The half-filled triangle shall be a Type 2 outlet.
2. Delete the requirements for the half-filled triangle with a "2" superscript.
2. The half-filled triangle with a "WAP" superscript shall be a Type AP or Wireless Access Point outlet.
3. The solid filled triangle with a "W" superscript shall be a Type W or wall phone outlet.
4. The half-filled triangle with a "SB" superscript shall be a Type USB or Smart Board outlet.

SUBSTITUTION REQUESTS:

SECTION 07 2713 Modified Bituminous Sheet Air Barriers

ITEM 1: **Product:** Polyguard 400 Membrane **Status**: **"Approved"**
Submitted By: Polyguard Products, Inc.
Notes: N/A

SECTION 07 2726 FLUID APPLIED MEMBRANE AIR BARRIERS

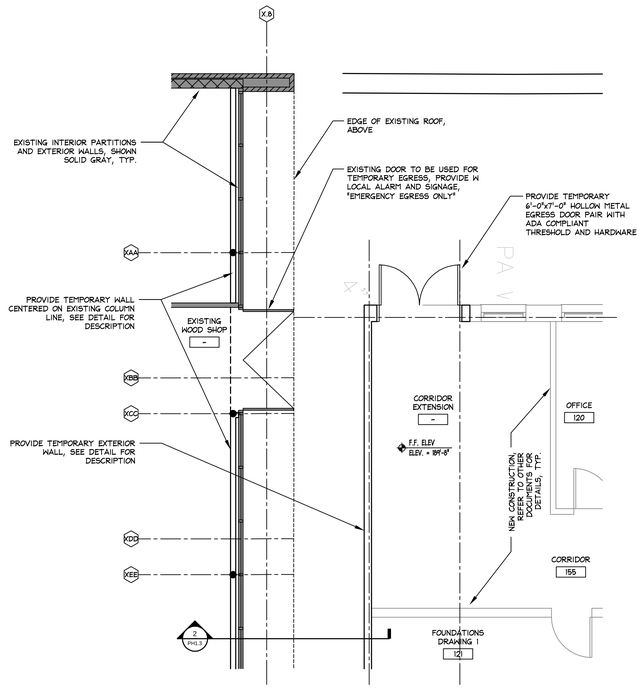
ITEM 1: **Product:** PolyWall Airlok Flex VP **Status**: **"Approved"**
Submitted By: Polyguard Products, Inc.
Notes: N/A

SECTION 08 6300 METAL-FRAMED SKYLIGHTS

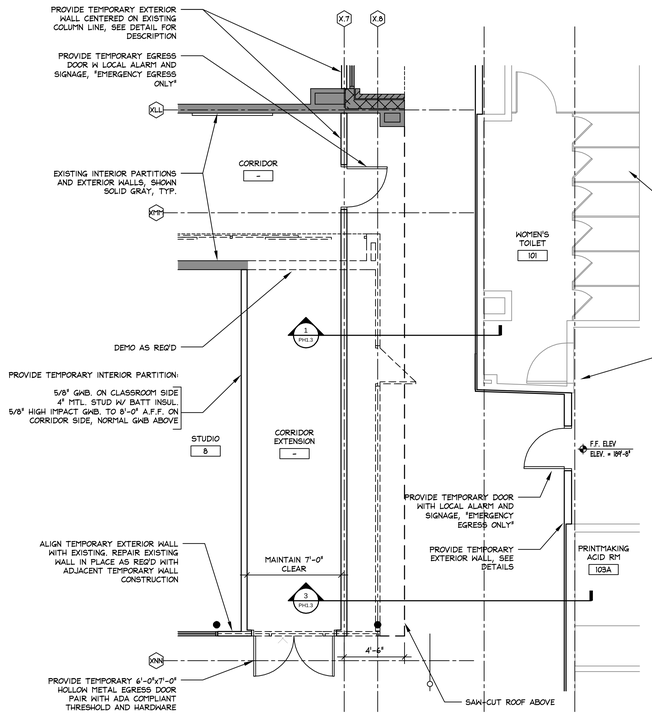
ITEM 1: **Product:** Acurlite Structural Skylights **Status**: **"Approved"**
Submitted By: Acurlite Structural Skylights
Notes: N/A

SECTION 09 5413.33 DECORATIVE WOOD CEILING AND WALL PANELS

ITEM 1: **Product:** Norton Industries Wood Ceiling and Wall Panels **Status**: **"Approved"**
Submitted By: Norton Industries
Notes: N/A



3 TEMPORARY EGRESS CORRIDOR - WEST
1/4" = 1'-0"



2 TEMPORARY EGRESS CORRIDOR - EAST
1/4" = 1'-0"

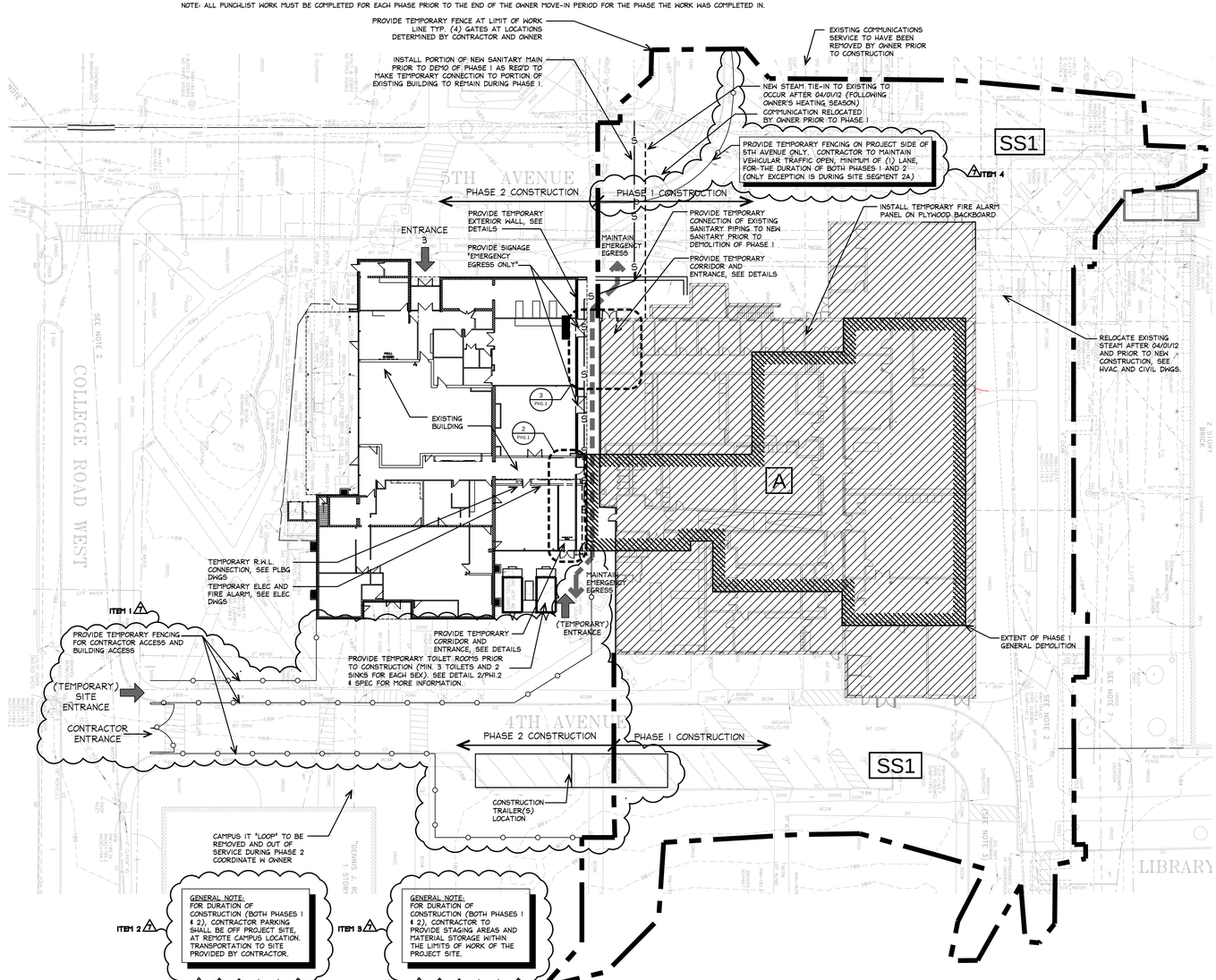
RHODE ISLAND COLLEGE ART CENTER - CONSTRUCTION PHASING SCHEDULE

TOTAL CONSTRUCTION DURATION: 597 DAYS

PHASE	STEP	AREA DESCRIPTION	NOTES	PORTIONS OF WORK AVAILABLE TO CONTRACTOR: BUILDING SECTION	SITE SEGMENT	DESIGNATION NO. (PORTION) (SITE SEGMENT-SS)	DURATION: CALENDAR DAYS	BEGIN	COMPLETE
PRE-CON.	0.1	NOTICED TO PROCEED / MOBILIZATION	4/02/12 IS THE APROX. DATE OF LETTER OF AWARD FROM STATE PURCHASING				12	4/2/12	4/13/12
	0.2	10 DAY NOTICE TO DEP. G.C. TO PLACE 10-DAY NOTICE TO D.E.P. IMMEDIATELY UPON RECEIPT OF LETTER OF AWARD SO THAT HAZ-MAT CAN BEGIN IMMEDIATELY UPON RECEIPT OF THE CONST. PURCHASE ORDER	4/20/12 IS THE APROX. DATE OF ISSUANCE OF A CONSTRUCTION PURCHACE ORDER				(10+/-)	4/16/12	4/30/12
PHASE 1	1.1	SITE SEGMENT 1			●	SS1	224	4/30/12	11/30/12
	1.2	BUILDING PORTION A	INCLUDES HAZ-MAT ABATEMENT ASSUME ACCELERATED SCHEDULE AND DOUBLE SHIFTS, IF NECESSARY	●		A	224	4/30/12	11/30/12
		SUBSTANTIAL COMPLETION - PHASE 1		●	●	SS1 / A	-	-	11/30/12
	1.3	CONTRACTOR & OWNER INSTALL FURNITURE & EQUIPMENT		●		A	14	12/01/12	12/20/12
	1.4	OWNER MOVE-IN PERIOD		●		A	29	12/21/12	01/18/13
PHASE 2	2.1	SITE SEGMENT 2			●	SS2	271	01/21/13	10/18/13
	2.2	BUILDING PORTION B	INCLUDES HAZ-MAT ABATEMENT	●		B	300	01/21/13	11/15/13
	2.2A	SITE SEGMENT 2A			●	SS2A	46	06/01/13	07/15/13
		SUBSTANTIAL COMPLETION - PHASE 2		●	●	SS2 / B	-	-	11/15/13
	2.3	OWNER/CONTRACTOR INSTALL FURNITURE & EQUIPMENT		●		B	35	11/16/13	12/20/13
	2.4	OWNER MOVE IN PERIOD		●		B	29	12/21/13	01/18/14

2012: JANUARY, FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER
2013: JANUARY, FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER
2014: JANUARY
ITEM 1, ITEM 7, ITEM 5

NOTE: ALL PUNCHLIST WORK MUST BE COMPLETED FOR EACH PHASE PRIOR TO THE END OF THE OWNER MOVE-IN PERIOD FOR THE PHASE THE WORK WAS COMPLETED IN.



1 PHASE 1
1" = 20'-0"

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SCHWARTZ / SILVER ARCHITECTS INC.
75 Kneeland Street
Boston, Massachusetts 02111
Telephone 617/542-6650
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www.schwartzsilver.com

ART CENTER RENOVATION
RHODE ISLAND COLLEGE
PROVIDENCE, RI

PHASING LEGEND
- OWNER OCCUPIED NO WORK
- DEMOLITION / NEW CONSTRUCTION CONTRACTOR HAS FULL POSSESION
- OWNER OCCUPIED, WORK SUBSTANTIALLY COMPLETED PRIOR

1 02/10/2012
5 02/17/2012
7 02/27/2012

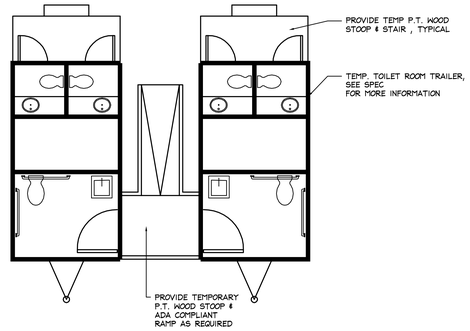
PROJECT NORTH N

Drawn By: CS / LHM
Checked By: DC/SG
Scale: AS SHOWN
Date: DECEMBER 21, 2011
Professional Seal

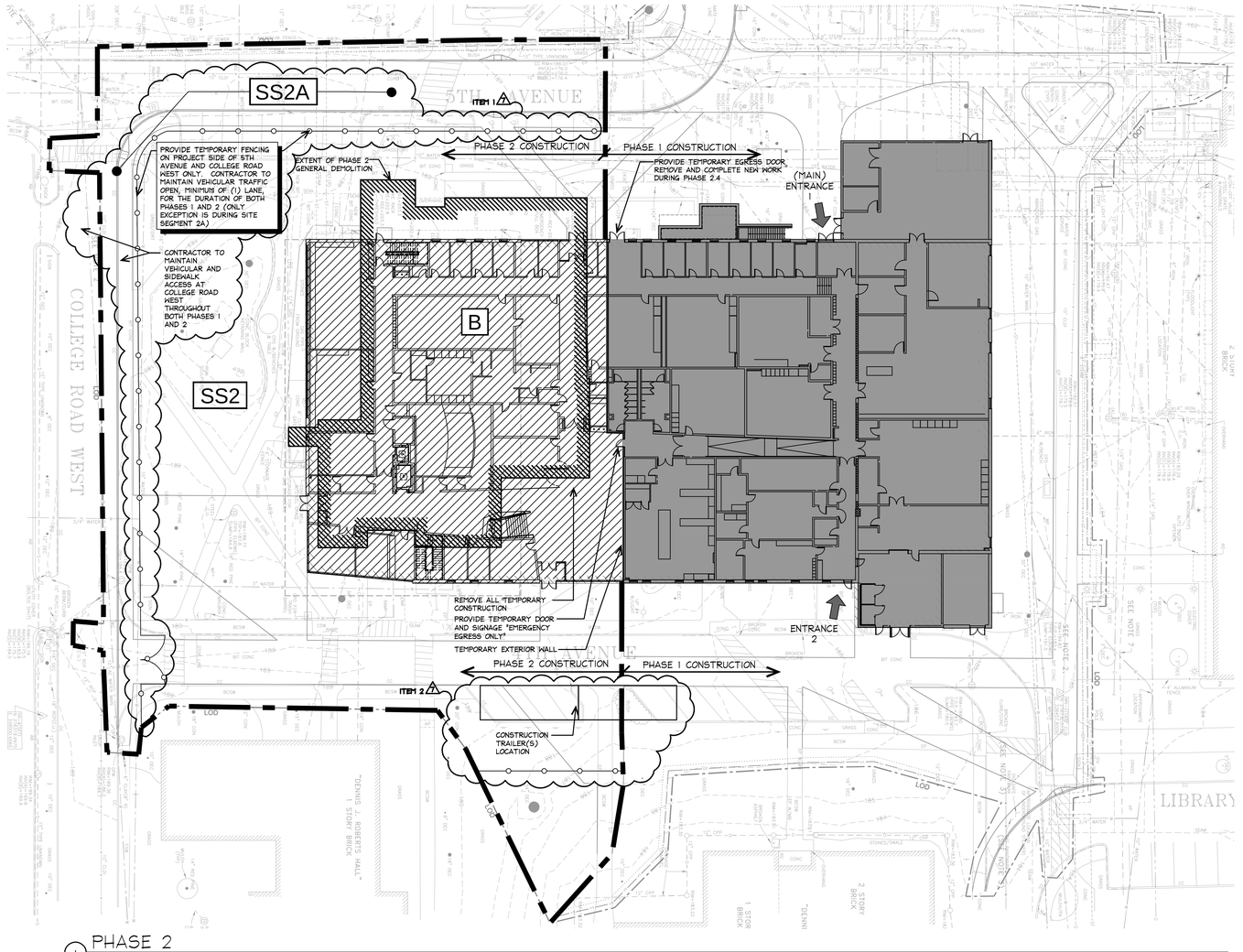
RHODE ISLAND No. 12018 REGISTERED ARCHITECT

PHASING PLAN

PH1.1 4



2 TEMP TOILET ROOM (TRAILERS)
1/4" = 1'-0"



1 PHASE 2
1" = 20'-0"

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ART CENTER RENOVATION
RHODE ISLAND COLLEGE
PROVIDENCE, RI

PHASING LEGEND
- OWNER OCCUPIED NO WORK
- DEMOLITION / NEW CONSTRUCTION CONTRACTOR HAS FULL POSSESION
- OWNER OCCUPIED, WORK SUBSTANTIALLY COMPLETED PRIOR

1 02/10/2012
5 02/17/2012
7 02/27/2012

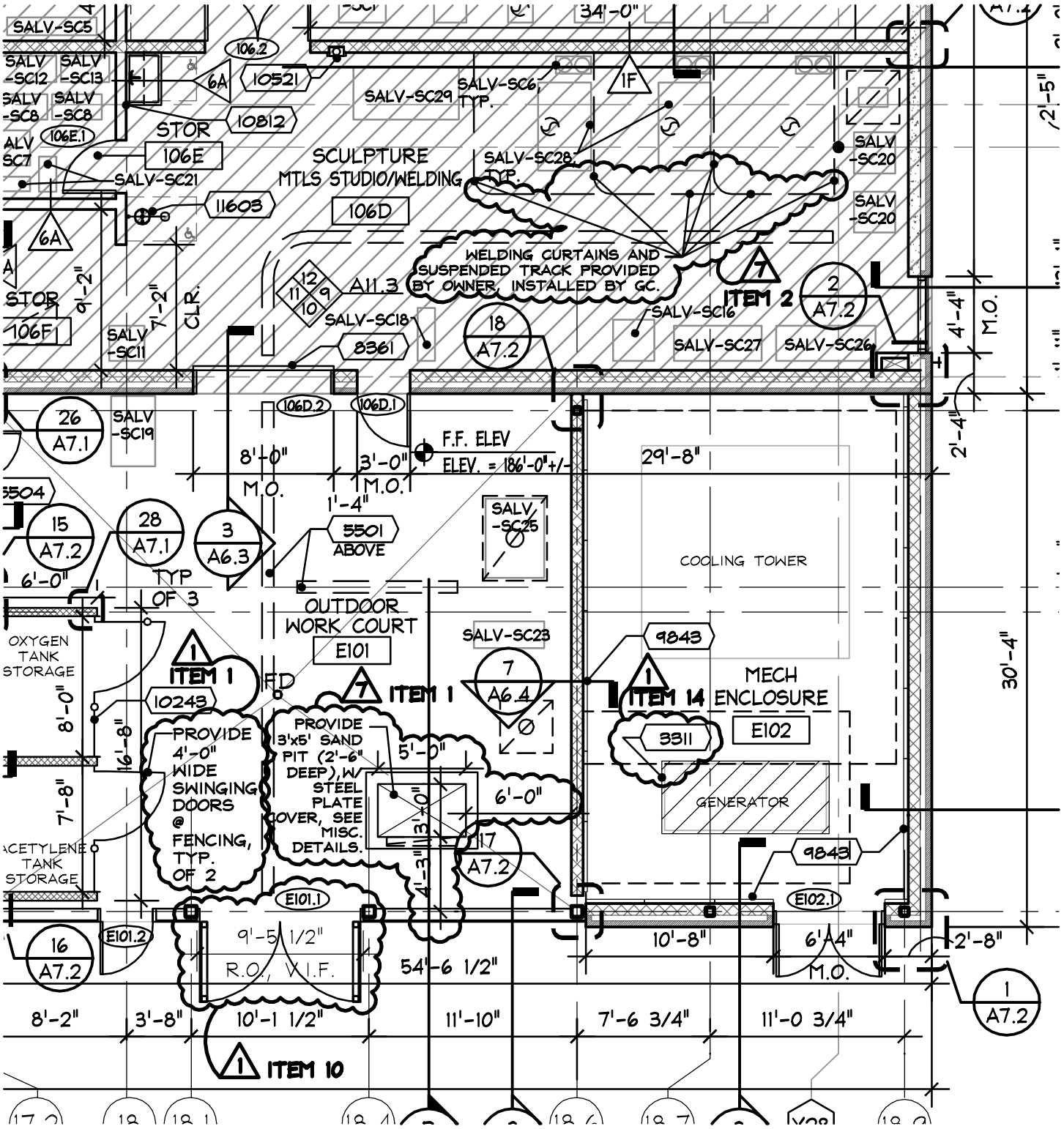
PROJECT NORTH N

Drawn By CS /LHM
Checked By DC/SG
Scale: AS SHOWN
Date: DECEMBER 21, 2011
Professional Seal

DENNIS PINNEY No. 9018 REGISTERED ARCHITECT

PHASING PLAN & CONSTRUCTION PHASING SCHEDULE

PH1.2 7



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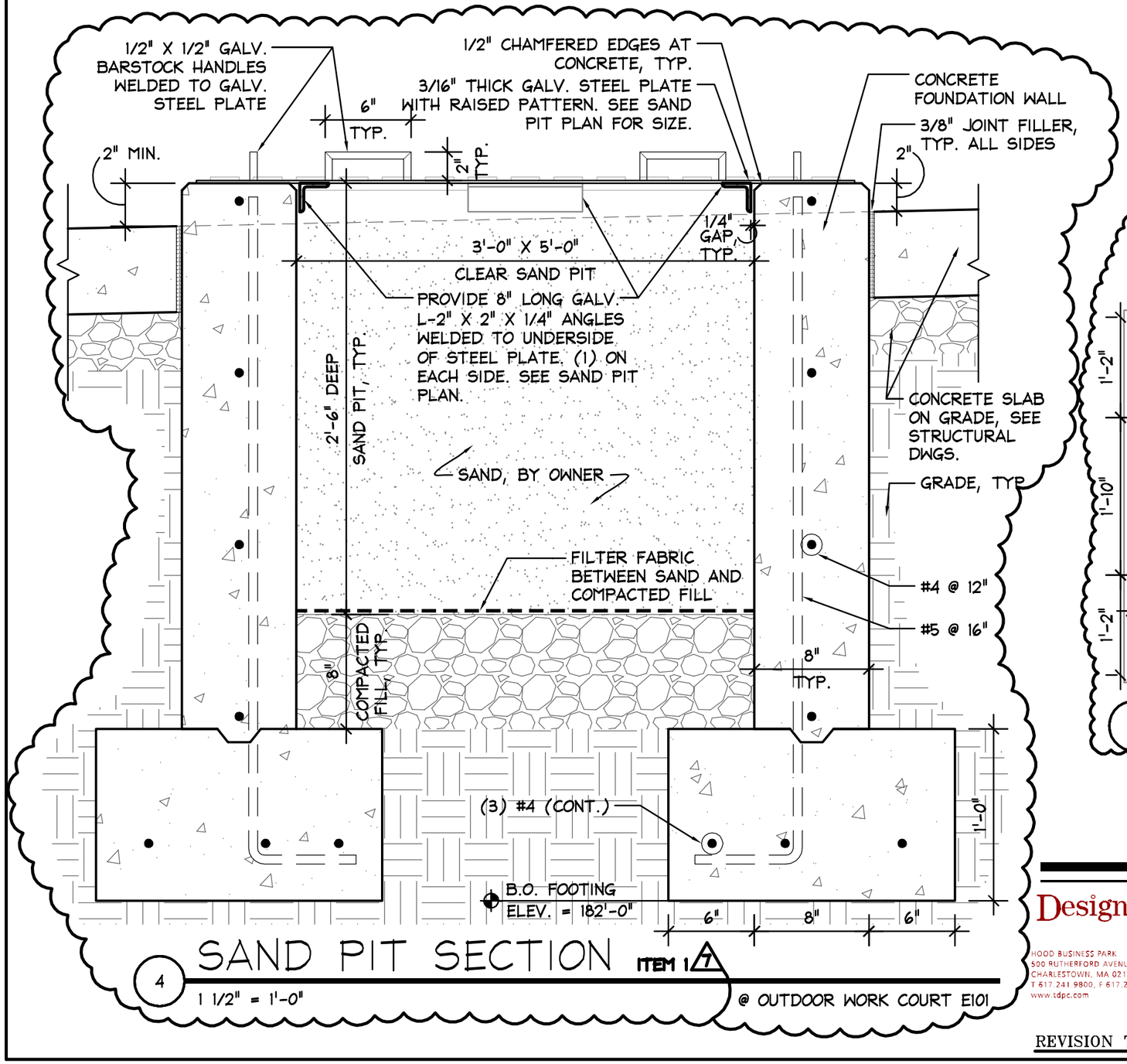
△ *PROVIDENCE, R.I.*

Scale: 1/8"=1'-0"
Date: 02/27/2012
Dwn by: SPG
Title: ADDENDA #7
ITEMS 1&2

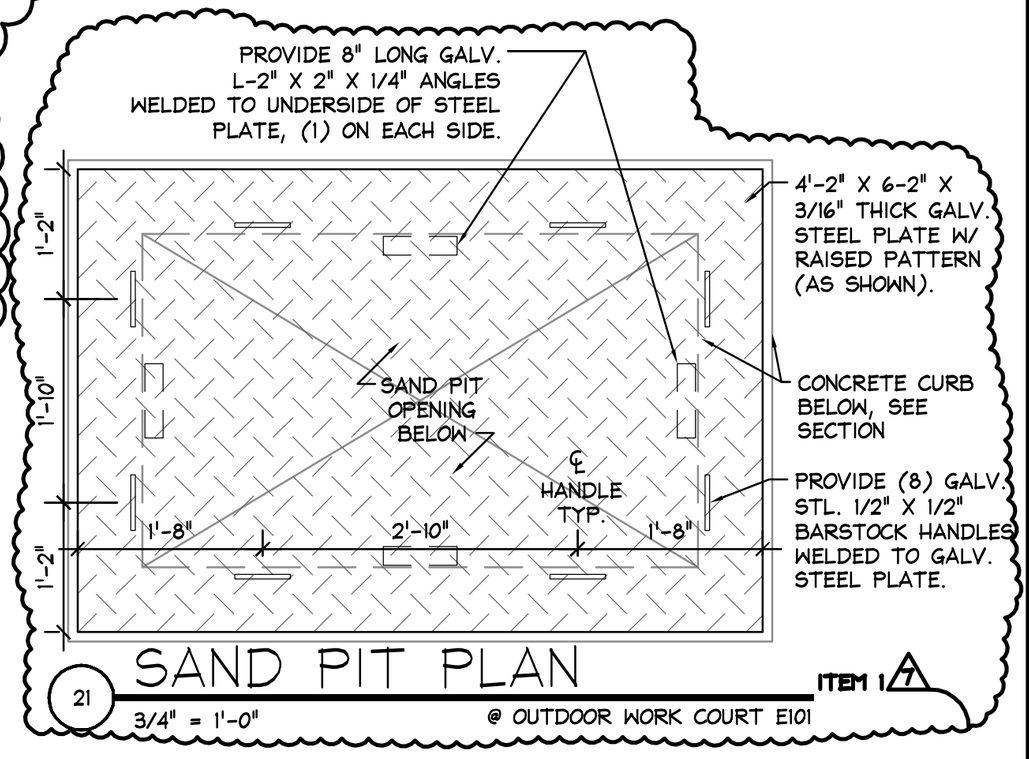
REVISION TO DRAWING A1.2

SKA-A-087



4 SAND PIT SECTION ITEM 1 7

1 1/2" = 1'-0" @ OUTDOOR WORK COURT E101



21 SAND PIT PLAN ITEM 1 7

3/4" = 1'-0" @ OUTDOOR WORK COURT E101

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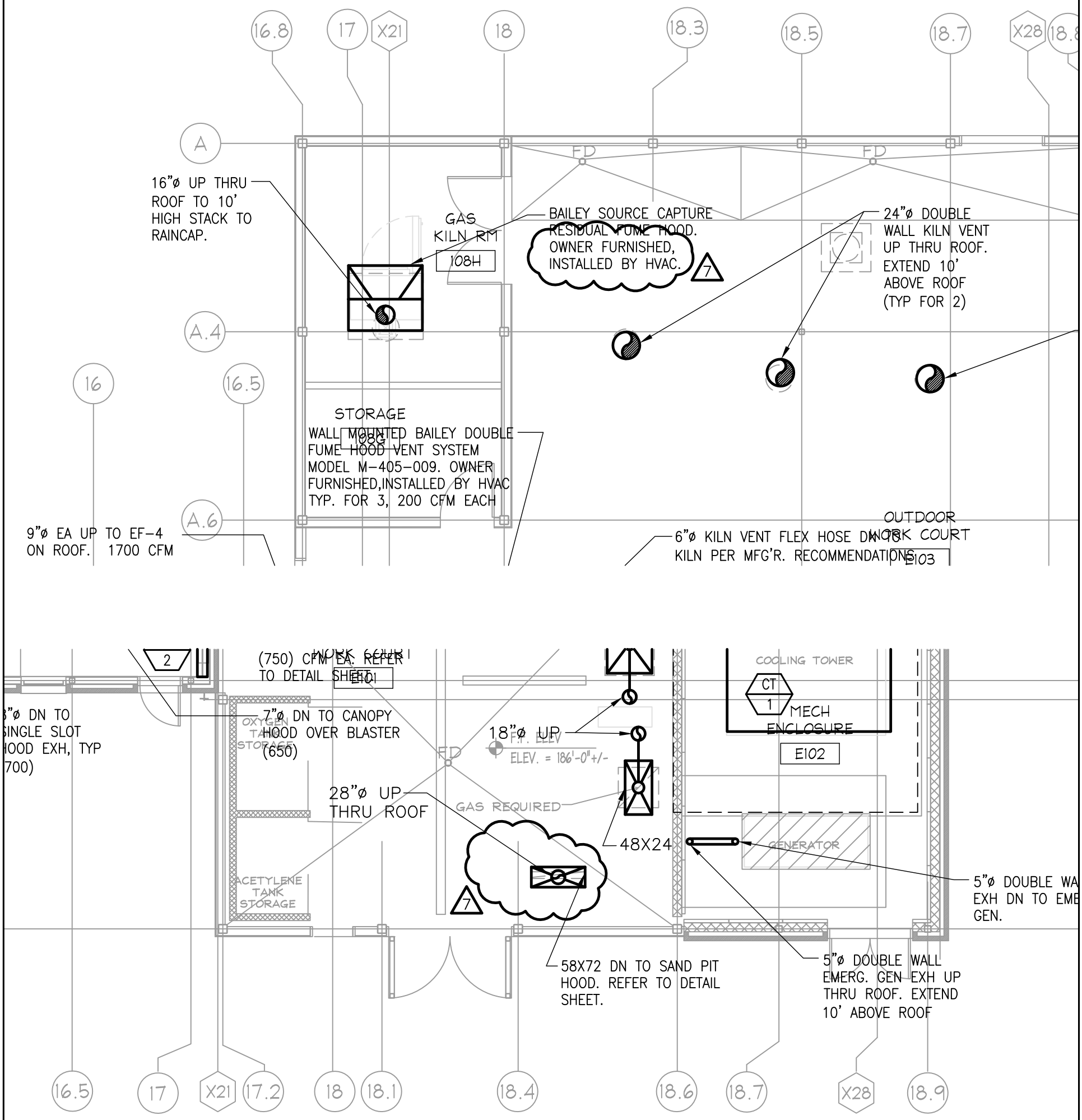
CLARIFICATION SKETCH

Scale: AS NOTED
Date: 02/27/2012
Dwn by: SPG
Title: ADDENDA #7 ITEM 1

REVISION TO DRAWING A9.4

SKA-A-088



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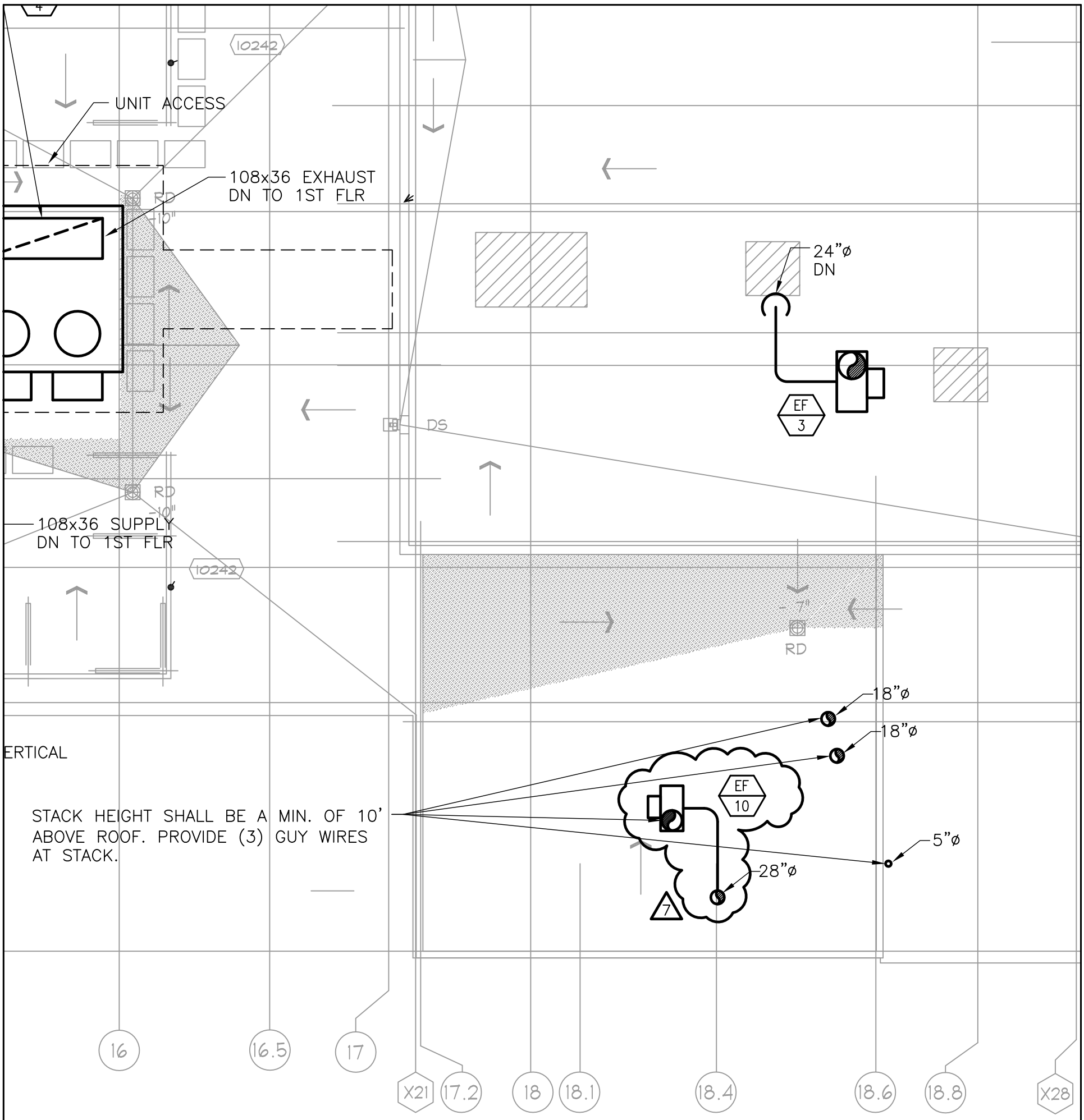
CLARIFICATION SKETCH

Scale:	1/8" =1'
Date:	02/23/2012
Dwn by:	SRB
Title:	FIRST FLOOR DUCTWORK

REVISION TO DRAWING **H2.1**

SKA-H-023



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CLARIFICATION SKETCH

Scale:	1/8" =1'
Date:	02/23/2012
Dwn by:	SRB
Title:	ROOF DUCTWORK

REVISION TO DRAWING **H2.3**

SKA-H-024

EXHAUST/SUPPLY FAN SCHEDULE

EF – SF –

ITEM	MFG'R.	MODEL	SERVICE	LOCATION	DRIVE	CFM	RPM	E.S.P. (in. wc)	ELECTRICAL DATA					APPROX. OPER. WEIGHT (LBS)	NOZZLE DISCHARGE VELOCITY (FPM)	REMARKS
									BHP	HP	V	ø	Hz			
EF–1	COOK	180 CPA–A	P.M. ACID BATH	ROOF	BELT	4000	1549	2.0	1.83	2.0	480	3	60	286	–	1 2 3 4 5 6 7
EF–2	COOK	210 CPA–A	PRINT MAKING STUDIO	ROOF	BELT	6400	1579	3.0	4.32	5.0	480	3	60	353	–	1 2 3 4 5 6 7
EF–3	COOK	165 CPA–A	SCULPTURE WELDING	ROOF	BELT	3200	1766	2.0	1.56	2.0	480	3	60	253	–	1 2 3 4 5 6 7
EF–4	COOK	135 CPA–A	CERAMICS MIXING	ROOF	BELT	1700	1941	2.0	0.75	1.0	480	3	60	191	–	1 2 3 4 5 6 7
EF–5	COOK	135 CPA–A	P.S. BOOTH	ROOF	BELT	1400	1809	2.0	0.59	0.75	480	3	60	191	–	1 2 3 4 5 6 7
EF–6	COOK	135 CPA–A	CERAMICS GLAZING	ROOF	BELT	3200	1766	2.0	1.56	2.0	480	3	60	253	–	1 2 3 4 5 6 7
EF–7	COOK	120 CPA–A	P.S. BOOTH	ROOF	BELT	1200	2091	2.0	0.51	0.75	480	3	60	163	–	1 2 3 4 5 6 7
EF–8	COOK	180 CPA–A	JEWELRY STUDIO	ROOF	BELT	4000	1549	2.0	1.83	3.0	480	3	60	286	–	1 2 3 4 5 6 7
EF–9	COOK	16 CVB	MECH RM	MECH RM	BELT	2400	1701	1.5	1.52	2.0	480	3	60	93	–	1 4 7 8
EF–10	COOK	135 CPA–A	WORK COURT SAND PIT	ROOF	BELT	1400	1809	2.0	0.59	0.75	480	3	60	191	–	1 2 3 4 5 6 7
SF–1	COOK	16 CVB	MECH RM	MECH RM	BELT	1500	1161	0.75	0.46	0.5	480	3	60	93	–	1 4 7 8

1. PROVIDE PREMIUM EFFICIENCY TEFC MOTOR.
2. PROVIDE ALUMINUM DRAIN.
3. PROVIDE ALUMINUM OHSA BG/WEATHERCOVER.
4. PROVIDE CONCENTRICALLY LOCKED BEARINGS.
5. PROVIDE AUTOMATIC DAMPER AND INTERLOCK WITH FAN OPERATION.
6. AIR FOIL FAN.
7. PROVIDE DISCONNECT.
8. PROVIDE VIBRATION ISOLATION.

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CLARIFICATION SKETCH

Scale: **NONE**
Date: **02/23/2012**
Dwn by: **SRB**
Title: **HVAC SCHEDULES**

REVISION TO DRAWING **H8.2**

SKA–H–025

PANEL BOARD SCHEDULE

PANEL# P211 (7) ☒ DOUBLE WIDTH — LOCATION CORR 157 PHASE 2 FIRST FLOOR

SERVICE 120/208 VOLT 3 PHASE 4 WIRE

MAINS BREAKER 100 AMP 3 POLE — LUGS — AMP — POLE — ☒ TOP ☐ BOTTOM

ENCLOSURE NEMA 1 — ☒ FLUSH MOUNTED ☐ SURFACE MOUNTED

CKT	FOR	BREAKER TRIP	BREAKER POLES	BREAKER VOLTS	KVA	CKT	FOR	BREAKER TRIP	BREAKER POLES	BREAKER VOLTS	KVA
33	RECEPTACLES	20	1	120	.360	34	PLUGMOLD	20	1	120	1.5
35	PROJECTION SCREEN	20	1	120	.20	36	PLUGMOLD	20	1	120	1.5
37		20	1	120	.20	38	PLUGMOLD	20	1	120	1.5
39		20	1	120	.20	40	PLUGMOLD (7)	20	1	120	1.5
41		20	1	120	.20	42	PLUGMOLD	20	1	120	1.5
43		20	1	120	.20	44	SPARE	20	1	120	–
45	PROJECTOR SCREEN	20	1	120	.20	46	SPARE	20	1	120	–
47	PROJECTOR	20	1	120	1.5	48	SPARE	20	1	120	–
49	SPARE	20	1	120	–	50	SPARE	20	1	120	–
51	SPARE	20	1	120	–	52	SPARE	20	1	120	–
53	SPARE	20	1	120	–	54	SPARE	20	1	120	–
55	SPARE	20	1	120	–	56	SPARE	20	1	120	–
57	SPARE	20	1	120	–	58	SPARE	20	1	120	–
59	SPARE	20	1	120	–	60	SPARE	20	1	120	–
61	SPARE	20	1	120	–	62	SPARE	20	1	120	–
63	SPARE	20	1	120	–	64	SPARE	20	1	120	–
65	SPARE	20	1	120	–	66	SPARE	20	1	120	–
67	SPARE	20	1	120	–	68	SPARE	20	1	120	–
69	SPARE	20	1	120	–	70	SPARE	20	1	120	–
71	SPARE	20	1	120	–	72	SPARE	20	1	120	–
73	SPARE	20	1	120	–	74	SPARE	20	1	120	–
75	SPARE	20	1	120	–	76	SPARE	20	1	120	–
77	SPARE	20	1	120	–	78	SPARE	20	1	120	–
79	SPARE	20	1	120	–	80	SPARE	20	1	120	–
81	SPARE	20	1	120	–	82	SPARE	20	1	120	–
83	SPARE	20	1	120	–	84	SPARE	20	1	120	–
TOTAL KVA – LEFT SIDE					–	TOTAL KVA – RIGHT SIDE					–

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△ ***PROVIDENCE, R.I.***

CLARIFICATION SKETCH

Scale: NONE
Date: 02/22/2012
Dwn by: AC
Title: ADDENDA #7 ITEM 20

REVISION TO DRAWING E-401

SKA–E–023

CONVENIENCE OUTLETS. UP 18" EXCEPT AS NOTED:

DUPLEX – 20A, 125V, GROUNDING TYPE

DUPLEX – 20A, 125V, GROUNDING TYPE, MTD, ABOVE COUNTER OR 42" A.F.F.

GFI DUPLEX – 20A, 125V, GROUND FAULT INTERRUPTER TYPE

WP DUPLEX – 20A, 125V, WEATHERPROOF TYPE

P PEDESTAL MOUNTED DUPLEX RECEPT, FURNISHED AND INSTALLED BY STA. MFR., WIRED BY E.C.

SINGLE GANG FLOOR BOX WITH SERVICE FITTING & DUPLEX RECEPTACLE

POWER/TELE/DATA FLOOR BOX-FLUSH MOUNTED

7 "F" TABLE TOP "TYPE F" TELE/DATA BOX.

MULTI-OUTLET ASSEMBLY, GROUNDING TYPE 20A RECEPT'S 24" O.C.

SPECIAL PURPOSE RECEPTACLE, REFER TO PLANS FOR DESCRIPTION

MISCELLANEOUS:

7 W TELEPHONE OUTLET, RUN 3/4"C "W" DENOTES WALL MOUNTED.

TELE/DATA OUTLET, TYPE "2" TYPICAL AND DEVICES WITH LETTERS OR NUMBERS DENOTES DIFFERENT TYPE.

H MOTOR, NUMERAL INDICATES HORSEPOWER

CRT OUTLET, RUN 3/4"C WITH PULL WIRE

MAGNETIC MOTOR STARTER

Designpartnership OF CAMBRIDGE INC
HOOD BUSINESS PARK
500 RUTHERFORD AVENUE
CHARLESTOWN, MA 02129
T 617.241.9800, F 617.241.5143
www.tdpc.com

ARCHITECTURE
PROGRAMMING
MASTER PLANNING
INTERIOR DESIGN

△ ***ART CENTER RENOVATION R.I.C.***

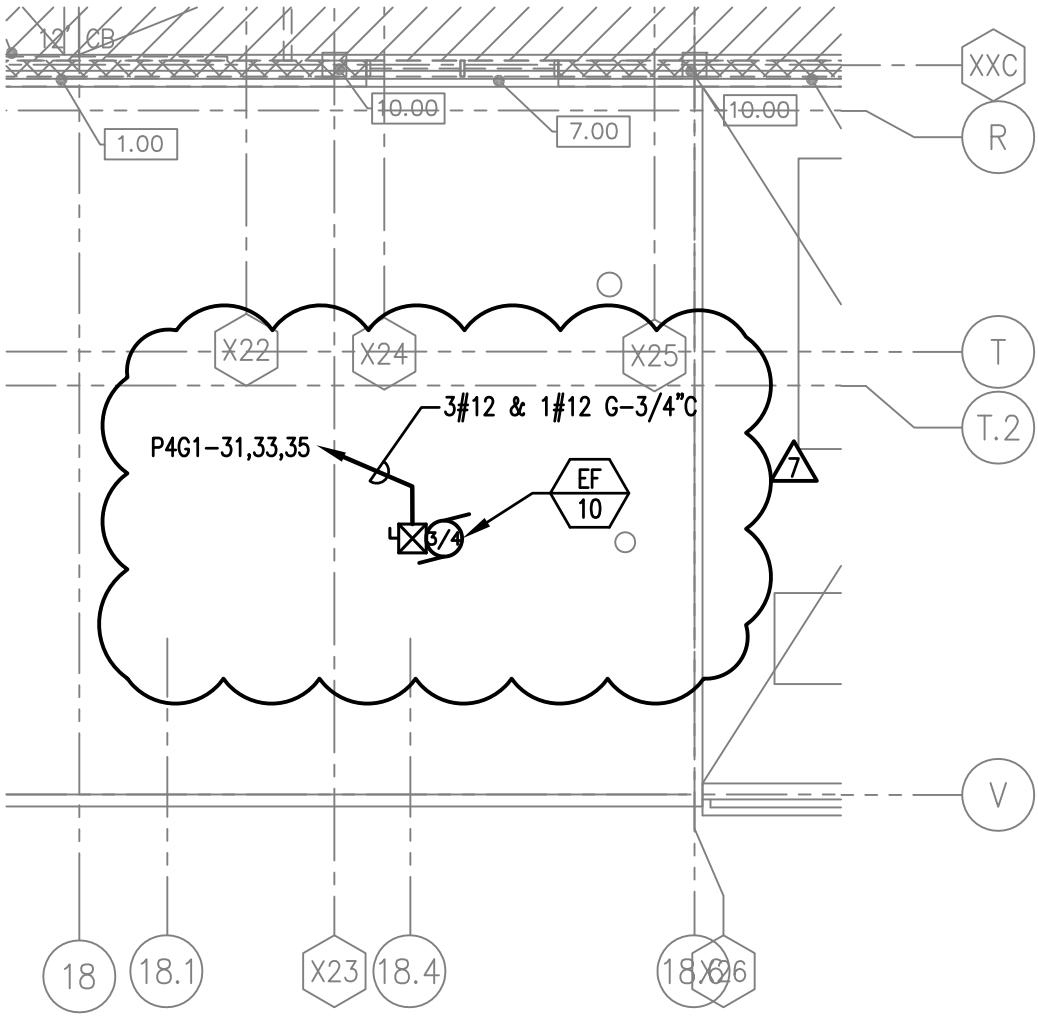
△ ***PROVIDENCE, R.I.***

CLARIFICATION SKETCH

Scale: 1/8" = 1'-0"
Date: 02/22/2012
Dwn by: AC
Title: ADDENDA #7 ITEM 1

REVISION TO DRAWING E-000

SKA-E-024



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CLARIFICATION SKETCH

Scale: 1/8" = 1'-0"
Date: 02/22/2012
Dwn by: AC
Title: ADDENDA #7 ITEM 12

REVISION TO DRAWING E-202

SKA-E-025

ADDENDUM NUMBER 7
TO CONTRACT DOCUMENTS FOR

Art Center Renovation – Rhode Island College
600 Mount Pleasant Avenue
Providence, Rhode Island

Appendix

DOCUMENT 00 4113

BID FORM

BID TO:

The Department of Administration
Division of Purchases
One Capitol Hill
Providence, RI 02908

BID FOR:

Rhode Island College Art Center
600 Mount Pleasant Avenue
Providence, RI 02908-1991

BID FROM: _____

I have received the documents titled "Project Manual for Rhode Island College Art Center Renovation" and all the Drawings prepared by the Architect Design Partnership of Cambridge, Architect's Project Number 1102. I have also received Addenda Nos._____, and have included their provisions in my Bid. I have examined both the documents and the site and submit the following Bid:

AMOUNT: I will construct this project for the lump sum of _____

_____ DOLLARS ($_____)
(In Words) (In Numerals)

ALTERNATES: I will include the following Alternates, if accepted, in accordance with requirements specified in Section 01 2300, "Alternates", for the costs stated:

Alternate No. 1: Heavy Metal Waste Collection	(ADD)	$_____
Alternate No. 2: ATC System	(ADD)	$_____
Alternate No. 3: Projection Screens	(ADD)	$_____
Alternate No. 4: Cover Board	(DEDUCT)	$_____

The Owner reserves the right to include or delete one or more alternates identified herein to/from the scope of the project; provided, however, that said alternates shall only be selected by the Owner in the order in which they are listed in this addendum. Bidders are required to submit a bid price for each and every alternate. Failure to submit a bid price for each and every alternate will result in the entire proposal being deemed to be non-responsive to the solicitation.

Alternates are listed in numerical sequence in order of Owner's priority. In determining the lowest responsive bid the awarding authority shall consider alternates in descending numerical sequence such that no individual alternate shall be considered until every alternate preceding it on the list has been added to or subtracted from the base bid price.

UNIT PRICES: The Base Bid includes the quantities specified under each unit price to be included in the Base Bid in accordance with Section 01 2200 "Unit Prices."

TIME: I will substantially complete the Project within the completion time stipulated in the Document 00 1116, "Invitation to Bid."

TERMS: In submitting this Bid, I agree:

1. To hold my bid open for 60 days subsequent to the date of the Bid Opening.
2. To accept the provisions of the Instructions to Bidders regarding disposition of Bid Security.
3. To enter into and execute a Contract, if awarded on the basis of this bid, and to furnish all bonds and insurance required by the bidding documents.
4. To accomplish the Work in accordance with the Contract Documents.
5. To complete the Work by the time stipulated in the Agreement.

If awarded the Work, I propose to staff and manage the project in the manner described in the attached separate statement.

I have attached the required Bid Security to this Bid.

Date: _____ Firm Name: _____

Signature: _____

Typed: _____

Title: _____

(Seal if Corporation)

SECTION 01 2200

UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:
1. Section 01 2600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
2. Section 02 6100 "Removal and Disposal of Contaminated Soils".

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Excavation quantities shall be measured on a volume basis as computed from original in-place position. Fill quantities shall be measured on a volume basis as computed from in-place position.

C. No removed material shall be calculated against more than one category of allowance.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Unanticipated, Unsuitable Soils Removal and Replacement.
1. Contractor shall include in the Base Bid, **500** cubic yards for the removal of unanticipated, unsuitable soil materials and replacement with approved material compacted in place, as directed herein. The Base Bid shall include all costs related to such excavation, removal off site, and replacement with compacted fill of approved material, overhead, and profit. No amount other than that herein specified will be paid by Owner for excavation herein defined.
   a. If the total quantity of unanticipated unsuitable materials and its replacement with compacted fill exceeds the amount included in the Contract as listed above, the Owner shall pay the excess excavation and replacement at the unit price of $30.00 per cubic yard.
   b. If the total quantity of unanticipated unsuitable material and its replacement with compacted fill is less than the amount included in the contract as listed above, the Contract Sum will be decreased by the difference in excavation and its replacement multiplied by the unit price of $27.00 per cubic yard.

B. Unit Price No. 2: Bulk Rock Excavation.
1. Contractor shall include in the Base Bid, **500** cubic yards of bulk rock excavation and its removal from site.
   a. If the total amount of rock within bulk excavation exceeds the amount included in the Contract hereinabove, the Owner shall pay for the excess amount of rock within bulk excavation at the Unit Price of $60.00 per cubic yard.
   b. If the total amount of rock within bulk excavation is less than the amount included in the Contract hereinabove, the Contract sum will be decreased by the difference in amount multiplied by Unit Price of $54.00 cubic yard.

C. Unit Price No. 3: Trench Rock Excavation.
1. Contractor shall include in his Base Bid, 250 cubic yards of trench rock and its removal from site.
   a. If the total amount of trench rock exceeds the amount included in the Contract hereinabove, Owner shall pay for the excess amount of trench rock at the Unit Price of $155.00 per cubic yard.
   b. If the total amount of trench rock is less than the amount included in the Contract hereinabove, the Contract Sum will be decreased by the difference in trench rock multiplied by the Unit Price of $140.00 per cubic yard.

D. Unit Price No. 4: Testing, Removal and Disposal of Contaminated Soils - Regulated Non-Hazardous.
1. Contractor shall include in the Base Bid, 1,000 cubic yards for the removal and disposal of regulated non-hazardous soil materials, as directed herein. The Base Bid shall include all costs related to such testing (collection of samples and lab analyses), excavation, removal, and legal disposal off site, overhead, and profit. No amount other than that herein specified will be paid by Owner for removal and disposal of contaminated soils - regulated non-hazardous, herein defined.
   a. If the total quantity of removal and disposal of contaminated soils - regulated non-hazardous, exceeds the amount included in the Contract as listed above, the Owner shall pay the excess removal and disposal of

contaminated soils - regulated non-hazardous, at the unit price of $65.00 per cubic yard.

b. If the total quantity of removal and disposal of contaminated soils - regulated non-hazardous, is less than the amount included in the contract as listed above, the Contract Sum will be decreased by the difference in removal and disposal of contaminated soils multiplied by the unit price of $60.00 per cubic yard.

E. Unit Price No. 5: Testing, Removal and Disposal of Contaminated Soils - Regulated Hazardous.

1. Contractor shall include in the Base Bid, 50 cubic yards for the removal and disposal of regulated hazardous soil materials, as directed herein. The Base Bid shall include all costs related to such testing (collection of samples and lab analyses), excavation, removal, and legal disposal off site, overhead, and profit. No amount other than that herein specified will be paid by Owner for removal and disposal of contaminated soils - regulated hazardous, herein defined.

a. If the total quantity of removal and disposal of contaminated soils - regulated hazardous, exceeds the amount included in the Contract as listed above, the Owner shall pay the excess removal and disposal of contaminated soils - regulated hazardous, at the unit price of $510.00 per cubic yard.

b. If the total quantity of removal and disposal of contaminated soils - regulated hazardous, is less than the amount included in the contract as listed above, the Contract Sum will be decreased by the difference in removal and disposal of contaminated soils multiplied by the unit price of $500.00 per cubic yard.

END OF SECTION

SECTION 02 6100

REMOVAL AND DISPOSAL OF CONTAMINATED SOILS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements and procedures for the re-use of contaminated soils on-site, and for the removal, handling, and disposal of contaminated soils, in accordance with the attached Soils Management Plan (SMP) prepared by GZA GeoEnvironmental, Inc.
   1. Test and categorize all soils to be removed from the Site in accordance with the Soils Management Plan (SMP). Classify soils removed from the Site in one of the following three categories:
      a. Regulated Non-Hazardous.
      b. Regulated - Hazardous.
      c. Non-Regulated.
   2. The three categories for soils classification are defined as follows:
      a. Regulated Non-Hazardous: Soil which does not meet Rhode Island Department of Environmental Management (RIDEM) Residential Direct Exposure Criteria (RDEC) for all constituents as listed in Table 1 of the latest published Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations).
      b. Regulated - Hazardous: Any material defined as such waste pursuant to the Rhode Island Rules and Regulations for Hazardous Waste Management and/or as defined under the Resource Conservation and Recovery Act (RCRA).
      c. Non-Regulated: Soil which meets RIDEM Residential Direct Exposure Criteria (RDEC) for all constituents as listed in Table 1 of the Remediation Regulations.

B. The Soils Management Plan for Project, prepared by GZA GeoTechnical, Inc., dated February 2012, consisting of seven (7) pages, is appended to this Section.

C. Related Sections:
   1. Section 01 2200 “Unit Prices.”
   2. Section 02 2110 “Pre- And Post-Construction Survey.”
   3. Section 02 4119 "Selective Demolition" for partial demolition of buildings, structures, and site improvements.
   4. Section 31 0000 “Earthwork.”

1.3 UNIT PRICES

A. Use the unit prices and quantities provided in Section 01 2200 “Unit Prices” for the testing, loading, transport, and disposal of regulated soils. Onsite handling and management of soils shall be included in the Base Bid. The unit prices and estimated quantities shall be used for the purposes of developing an allowance for soils loading, transport, and disposal. These unit

prices shall include the cost of loading, transport, and legal disposal (including all fees) of soils to an offsite location.

1. Submit a list of proposed offsite disposal facilities to the RI College Project Manager for approval. No soils shall leave the site prior to obtaining this approval.
2. For the purposes of soils disposal, RI College shall be listed at the "generator" on all waste disposal manifests and/or bills of lading.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

END OF SECTION

SOILS MANAGEMENT PLAN

RI College Art Center
Providence, Rhode Island

1.00 INTRODUCTION

This *Soils Management Plan* has been prepared by GZA GeoEnvironmental, Inc. (GZA) on behalf of Rhode Island College for the Contractor(s) use during the completion of development/construction activities (including earthwork and landscaping) associated with above-referenced project (Site). It may be subject to modification if additional information is subsequently developed by GZA or any other party.

Analysis of soil samples collected elsewhere on the campus has indicated the presence of the metal arsenic at concentrations above the Residential Direct Exposure Criterion of 7 mg/kg established by the RI Department of Environmental Management.[1] No other contaminants were detected at levels above the applicable regulatory criteria; the elevated arsenic is believed to be the result of natural background conditions. The presence of the regulatory exceedance resulted in RIDEM notification; that required the implementation of a program to properly manage the soil on-site, and the proper reuse and/or disposal of excess soil that was removed from the Site.

The Contractor shall assume that all soils within the project area for the Art Center are similarly impacted, and as such, must be handled as "impacted" unless demonstrated otherwise through analytical testing. Accordingly, no excess soil shall be transported off-site for unrestricted reuse without a formal evaluation by an Environmental Professional.

Note that the handling, transportation, disposal, and re-use of rock materials are not governed by the Remediation Regulations, and therefore are not subject to this plan.

2.00 SOIL MANAGEMENT

This section of the *Soils Management Plan* has been prepared to establish procedures that will be followed during construction/earthwork activities to manage excavated soils generated as part of construction/earthwork activities.

[1] As established in the Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations)

2.10 SOIL MANAGEMENT GUIDELINES

The following soil management guidelines were developed for activities involving soil excavation at the Site. The procedures will apply to soil handling, stockpiling, management, characterization, re-use and disposal during construction/earthwork activities. The disposal procedures detailed below apply only to excess soil which cannot be reused as backfill on Site.

- Soil generated from any excavation conducted at the Site may be placed back into its original excavation for backfill upon completion of the excavation. So as to maintain known exposure scenarios, to the extent practical and feasible, the contractor shall backfill the excavation so that the corresponding depth and location of the backfilled soil resembles the depth and location at which the soil originally existed.

- Excavated soils will be staged and temporarily stored in a designated area of the property for no more than 90 days. Within reason, the storage location will be selected to limit the unauthorized access to the materials (*i.e.*, away from public roadways/walkways).

- Depending on the volume of material involved in the project, soils will be either stockpiled by placing on polyethylene sheeting and/or stored in roll-off type containers. In either case, the material in storage will be covered with secured polyethylene sheeting (6 mil minimum) or tarp at the end of each workday. Stockpiled materials will be maintained with appropriate controls to limit the loss of the cover, and protect against stormwater erosion. Soil stockpiles shall be inspected daily; should tears or punctures be observed in the polyethylene sheeting covering or underlying the piles, repairs shall be made immediately.

- During site/earthwork activities, dust suppression techniques must be initiated and maintained during periods when visible windblown dusts are generated (refer to Section 2.30). All reasonable precautions must be taken to prevent the excessive generation of dust during soil excavation, stockpiling, loading, and other soil handling activities. If excessive dust generation occurs and cannot be reasonably controlled, the activity should be discontinued until conditions improve.

- In the event that unexpected observations or situations involving hazardous materials, hazardous wastes or similar conditions of environmental concern arise during site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves, but will contact the Environmental Consultant and/or RI College Project Manager for further evaluation and direction. See Section 3.00 for contact information.

- Soil excavated from the Site may not be re-used at off-Site properties unless it has been shown, through representative sampling and laboratory testing overseen by an Environmental Professional, that the material meets the Residential Direct Exposure

Criteria (RDEC) for all constituents as listed in Table 1 of the Remediation Regulations. Soil must be sampled, by an Environmental Professional, at a frequency of one sample per 1,000 cubic yards for all constituents. Testing must be performed by a RI Department of Health approved laboratory. In the event that the soil does not meet the RDEC and cannot be reused on-Site, the material must be properly managed and disposed of off-site at an appropriately licensed facility. No soil will leave the Site without the approval of the Environmental Professional and/or the RI College Project Manager.

- The testing program for off-site soil reuse/disposal must be adequate to support the permit requirements of the anticipated receiving facility, but at a minimum should include the following analytes.

Analyte/Parameter	Test Method
Petroleum Hydrocarbons	EPA Method 8100M
Volatile Organic Compounds	EPA Method 8260
Semi-volatile Organic Compounds	EPA Method 8270
Polychlorinated Biphenyls	EPA Method 8081
Total RCRA 8 Metals	EPA Method 6010 & 7471A
Flashpoint	EPA Method 1010M
Corrosivity (pH)	EPA Method 9045C
Reactivity (Sulfide and Cyanide)	EPA Methods SW-846 7.3.3.2/9014 and SW-846 7.3.4.2/376.2

Based on the analytical results, soils to be taken off-Site may fall into the following categories:

  - Non-regulated - results are below the RIDEM Method 1 Residential Direct Exposure Criteria (RDEC). Soils in this category do not require special handling;
  - Regulated – results exceed the RDEC. These soils must be managed properly and taken to a permitted receiving facility for reuse or disposal. (i.e., landfill as daily cover/structural fill or disposed as solid-waste soils);
  - Hazardous Waste – results exceed US EPA RCRA hazardous waste criteria. These soils are subject to US EPA RCRA regulations and must be transported and disposed of at a RCRA-permitted treatment, storage, disposal (TSD) facility in accordance with the regulations.

- Copies of the material shipping records associated with the disposal/recycling of the materials will be provided to the Environmental Professional and/or the RI College Project Manager. This information will be appended to the closure report to be completed by the Environmental Professional and submitted to the RIDEM.

- All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the Site. All vehicles utilized during the work shall be properly decontaminated as appropriate (*e.g.*, remove visible soil from tires using dry brushing techniques) prior to leaving the Site.

- At the completion of Site development work, all disturbed soil areas are required to be capped with one of the engineered controls described below.

2.20 ENGINEERED CONTROLS

Direct contact with impacted soils has been identified as a potential risk at other locations at the Site. Accordingly, the implementation of engineered controls will be required to mitigate direct exposure. The specifications for the placement of each of these controls, with respect to minimum required material thicknesses for direct exposure considerations only, are provided below. In the event it is determined that soils at the Site are not impacted, the following specifications may not apply, unless directed otherwise by the Environmental Professional and/or RI College Project Manager.

- **Asphalt pavement** – Access and parking areas will be completed with a 6-inch gravel base course, and a top course of a minimum of 4 inches of asphalt, laid in 1½- to 2½-inch thick perpendicular lifts to the maximum extent possible.

- **Concrete pavement** – Concrete walkways will be completed with concrete pavement poured at a thickness of 4 inches, over 6 inches of compacted granular fill, over compacted sub-grade. The slab of the buildings will be completed with concrete pavement poured in-place at a minimum thickness of 6 inches.

- **Brick Pavers** – Brick-paved surface areas will be constructed by the placement of a 6-inch compacted lift over the compacted sub-grade. The surface will then be completed by the placement of a 2-inch compact layer of stone dust over which standard (3-inch thick) pavers will be placed.

- **Landscaped areas** – Landscaped areas will be capped by a 2-foot thick layer of clean off-Site soil, or the installation of permeable geosynthetic textile overlain by a 1-foot lift of clean off-Site soil. Based on the guidelines provided by RIDEM, the geotextile material specified below (or approved equivalent) must be used at the Site.

Manufacturer	TC Mirafi
Product Name	N-Series/140-N
Type	Non-woven geotextile
Material of Construction	Polypropylene stable fibers
Apparent Opening Size- ASTM D4751 (US Sieve)	70
Flow Rate - ASTM D4491 (gal/min/ft2)	135 gal/min/ft2
Grab Tensile Strength - ASTM D4632 (lbs)	120 lbs
Mullen Burst Strength -ASTM D3786 (psi)	400 psi
Puncture - ASTM D4833 (lbs)	120 lbs

All clean fill imported to the Site, including sub-grade material and loam from native sources, must be sampled and characterized via laboratory analysis prior to delivery and placement. The samples will be analyzed at a frequency of 1 sample per 500 cubic yards for arsenic, and one sample per 2,000 cubic yards for RCRA 8 metals, total petroleum

hydrocarbons (TPH), and volatile organic compounds (VOCs) using the methods specified above. Laboratory analytical results must be submitted to the Environmental Professional via fax, email or hand-delivery prior to the material being brought on-Site. All soil that is to be utilized on-Site must meet the Residential Direct Exposure Criteria and the GB Leachability Criteria for all constituents. Please also be advised that the *Closure Report/Annual Inspection Report* for the Site must include all original laboratory analytical data and a statement from the facility that provides the clean fill and/or loam attesting to the material's origin and suitability.

2.30 BEST MANAGEMENT PRACTICES

2.30.1 Site Security

During Site development, the Contractor will be responsible for limiting access to the Site during excavation and construction of the building, and for the implementation of standard construction best management practices as appropriate, to reduce the likelihood of uncontrolled exposure to impacted media at and from the Site.

2.30.2 Stormwater Management

The contractor will take measures to control stormwater run-off of impacted soils; these controls will include, but will not be limited to, the establishment of siltation fences and staked hay bales in areas of the Site susceptible to erosion. The Environmental Professional and/or their on-Site field engineer may provide recommendations for the establishment of additional stormwater controls as construction/earthwork activities advance.

2.30.2 Dust Control

The Contractor will prepare a dust and dirt containment plan prior to beginning work. The Contractor will maintain a water truck(s) at the Site to control airborne dust during soil excavation, grading and other site development activities. Initiation of dust control measures will be at the direction of RI College, the Environmental Professional, and/or the Contractor. The water truck shall be outfitted with sprinkler hoses and bars that allow surface watering in the area of the truck. The Contractor shall use the water truck when the Site soils become dry and there is potential for airborne dust. The Contractor shall have a sufficient number of operable water trucks to maintain a moist soil surface at all areas of the Site were exposed soils exist. Additionally, the Contractor shall install and maintain the facilities to fill and maintain the water truck(s).

2.40 OPERATING LOG

An Operating Log, to be developed and maintained by the Contractor, will be readily available at the Site during the period of construction. Subsequent to this period, the log will be retained for a minimum period of three years by RI College. The Operating Log will

include, at a minimum, the following information:

- Dates and time periods during which the remedial components described herein were ongoing;
- Records of any laboratory analysis and field screening performed as part of the remedial action;
- Descriptions of instances under which the Contingency Plan was implemented; and
- Inspection reports detailing compliance with the remedial specifications described herein and the actions taken to address non-compliant practices/conditions.

A copy of the Operating Log will be provided to the RI College Project Manager at the completion of the project. Photographic evidence of the completion of key remedial components (*e.g.*, placement of the geotextile material, the thickness of the final soil cap, and the placement and thickness of the bituminous asphalt and concrete pavement) will be provided to the Environmental Professional.

3.00 CONTINGENCY PLAN

As previously discussed, in the event that unexpected observations or situations involving hazardous materials, hazardous wastes or similar conditions of environmental concern arise during site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves, but will contact the Environmental Consultant and/or RI College Project Manager for further evaluation and direction.

3.10 POINTS OF CONTACT

The following provides a listing of individuals who will be contacted in the event of an unanticipated incident involving hazardous materials.

Firm	Contact	Address	Phone Number
Environmental Professional			
Rhode Island College	Kevin Fitta	600 Mount Pleasant Avenue Providence, RI 02908	(401) 456-9885
RIDEM, Office of Waste Management	Jeffrey Crawford	235 Promenade Street Providence, RI 02903	(401) 222-2797
RIDEM Emergency Response	Jim Ball	235 Promenade Street Providence, RI 02903	(401) 222-2797 x7129 or (401) 222-3070 (non-business hours)

Emergency Response Contractor (TBD)			

3.20 HEALTH AND SAFETY

It is expected that the Contractor will develop a site-specific health plan for the worker under their control. Consideration should be given to include the following guidelines in the development of their plan.

- Persons involved in the excavation and handling of site soils should wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers are advised to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the Site.

- Daily Tailgate Meetings should be performed to make workers aware of Site conditions and any health and safety concerns particular to the work scheduled to be conducted.

- In the event that an unexpected observation or situation arises during Site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves, but will contact the appropriate authority for further direction.

4.00 SHUT-DOWN REQUIREMENTS

The following section has been prepared to address the requirements of Section 9.16 of the Remediation Regulations.

Daily shut-down procedures will include the covering and securing of all stockpiled soils with polyethylene sheeting and, if warranted, the application of water (via the water truck) to exposed surfaces. Additionally, off-hour access to the Site will be controlled by locking the temporary construction fencing. In the event that the development project is cancelled, or if construction activities are suspended for an extended period of time, (*i.e.*, greater than two weeks), the Environmental Professional will be so notified.

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Formed low-slope roof sheet metal fabrications.
2. Formed wall sheet metal fabrications.
3. Formed equipment support flashing.

B. Related Requirements:
1. Section 06 1000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 07 4213.13 “Formed Metal Wall Panels" for sheet metal flashing and trim integral with metal wall panels.
3. Section 07 5419 “Polyvinyl-Chloride (PVC) Roofing" for installation of sheet metal flashing and trim integral with roofing.
4. Section 07 6150 “Sheet Metal Roofing And Siding" for sheet metal flashing and trim integral with sheet metal roofing and siding.
5. Section 07 7100 "Roof Specialties" for manufactured aluminum fasciae, copings, gutters and downspouts, and reglets and counterflashing.
6. Section 07 7200 "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, and other manufactured roof accessory units.
7. Section 07 9500 "Expansion Control" for manufactured sheet metal expansion-joint covers.

1.3 COORDINATION

A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.4 ACTION SUBMITTALS

A. Make Submittals in accordance with Section 01 3300 “Submittal Procedures.”

B. Product Data: For each type of product.
1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

C. Shop Drawings: For sheet metal flashing and trim.
   1. Include plans, elevations, sections, and attachment details.
   2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
   3. Include identification of material, thickness, weight, and finish for each item and location in Project.
   4. Include details for forming, including profiles, shapes, seams, and dimensions.
   5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
   6. Include details of termination points and assemblies.
   7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
   8. Include details of roof-penetration flashing.
   9. Include details of special conditions.
   10. Include details of connections to adjoining work.
   11. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches.

D. Samples for Verification: For each type of exposed finish.
   1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
   2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
   3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.9 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. Sheet Metal Standard for Copper: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

D. Recycled Content of Copper-Sheet Flashing and Trim: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 40 percent.

E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

A. Copper Sheet: ASTM B 370, cold-rolled copper sheet, H00 or H01 temper.
   1. Nonpatinated Exposed Finish: Mill.

B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
   1. Exposed Coil-Coated Finish:
      a. Three-Coat Fluoropolymer: AAMA 620. System consisting of primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent PVDF resin by weight.
      b. Concealed Surface: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

C. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304, dead soft, fully annealed; with smooth, flat surface.
   1. Finish: 2D (dull, cold rolled).

2.3 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.

B. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

2.4 MISCELLANEOUS MATERIALS

A. Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.
   1. Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
   2. Fasteners for Copper Sheet: Copper, hardware bronze or passivated Series 300 stainless steel.
   3. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.

C. Solder:
   1. For Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.

D. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

F. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

G. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

A. Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
   1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
   2. Obtain field measurements for accurate fit before shop fabrication.

3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

G. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

H. Do not use graphite pencils to mark metal surfaces.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

A. Copper Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long sections. Furnish with 6-inch-wide, joint cover plates. Shop fabricate interior and exterior corners.
1. Joint Style: Butted with expansion space and 6-inch-wide, concealed backup plate.
2. Fabricate from the Following Materials (where indicated):
   a. Copper: 20 oz./sq. ft.

B. Base Flashing: Shop fabricate interior and exterior corners. Fabricate from the following materials where indicated:
1. Copper: 20 oz./sq. ft.
2. Aluminum: 0.040 inch thick.

C. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials where indicated:
1. Copper: 16 oz./sq. ft.
2. Aluminum: 0.032 inch thick.

D. Flashing Receivers: Fabricate from the following materials where indicated:
1. Copper: 16 oz./sq. ft.
2. Aluminum: 0.032 inch thick.

E. Roof-Penetration Flashing: Fabricate from the following materials:

1. Stainless Steel: 0.019 inch thick.

2.7 WALL SHEET METAL FABRICATIONS

A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch-long, but not exceeding 12-foot-long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch-high, end dams. Fabricate from the following materials where indicated:
1. Copper: 16 oz./sq. ft.
2. Stainless Steel: 0.016 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

B. Apply slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

3.3 INSTALLATION, GENERAL

A. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.

6. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
   1. Coat concealed side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
   2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
   1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
   2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction.
   1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
   2. Prepare joints and apply sealants to comply with requirements in Section 07 9200 "Joint Sealants."

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
   1. Do not solder aluminum sheet.
   2. Do not use torches for soldering.
   3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
   4. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.

3.4 ROOF FLASHING INSTALLATION

A. Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.

C. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.

D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches. Secure in waterproof manner by means of anchor and washer at 36-inch centers unless otherwise indicated.

E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.5 WALL FLASHING INSTALLATION

A. Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

B. Through-Wall Flashing: Installation of through-wall flashing is specified in Section 04 2000 "Unit Masonry."

3.6 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

RIC - Art Center
Bidding RFI - LOG

RFI #	FROM	RESPONSIBLE	RESPONSE	STATUS
001	Iron Construction Group	DPC	Clarified in **ADDENDA #7.**	<DONE>
002	Delta Mechanical Contractors	TCI	That is correct, 2-1/2" and larger class 20 shall be carbon steel, sch 40 per spec.	<DONE>
003	Iron Construction Group	DPC	Minimum stud thicknesses for cold-formed metal framing and non-structural metal framing are as indicated in the Project Manual in sections 05 4000 and 09 2216 respectively. Exterior conditions for cold-formed metal framing are noted on the drawings and those not noted will be clarified in the Project Manual in **Addenda #7.**	<DONE>
004	Turgeon	DPC	Both questions 1 & 2 will be clarified in **Addenda #7.**	<DONE>
005	Turgeon	DPC	1. Cabinets have hardwood edges as noted on Drawings, unless otherwise noted. 2. Cabinets have 1/4" tempered back panels at locations noted on Drawings. 3. Items on Drawing sheets A9.1 and A9.2 are specified in 11 2700. 4. No, Plastic Paneling does not apply to Wainscot W3, this detail shall be cellulose fiber based wall board as indicated on Drawings and specified in 10 1143. Plastic paneling (indicated as FRP on Drawings) shall apply to locations on Drawings as noted.	<DONE>
006	Turgeon	DPC	The extent and types of window treatments are shown on the ceiling plans, both with key notes for types and graphics of their lengths. All shades shall cover 100% of all glazed areas as specified and as shown on the Drawings.	<DONE>

RFI # 001

From: Melissa Drolet [mjd@icgri.com]
Sent: Wednesday, February 22, 2012 12:59 PM
To: construction@purchasing.ri.gov
Cc: Steven DePasquale
Subject: RFI- 7449435 RIC Art Center

Good Afternoon,

The Following has come to our attention and are looking for some clarification.

**Per Addendum 5 dated Feb 21st , page 2 , the schedule of alternates, are not in the same order as the original bid form. Alternate 1 and Alternate 4 are reversed. Will there be a revised bid form to address this correction?

Please Advise

Sincerely,

Melissa Drolet

Melissa Drolet
Bid Coordinator
IRON CONSTRUCTION GROUP, LLC
875 Centerville Rd.
BLDG 4 Unit 11
Warwick, RI 02886
Tel-401-490-3144
Fax-401-490-3145

RFI #002

State of Rhode Island
Division of Purchases / Department of Administration
One Capitol Hill – 2nd Floor
Providence, RI 02908

Re: RFP# 7449435 – Rhode Island College Art Center

RFI:

The RIC HVAC piping schedule for HW S&R piping calls for "class 20 piping" 21/2" and larger to be GALVANIZED SCREW pipe - is this correct?

Thank you,
Delta Mechanical Contractors, LLC.

RFI #003

From: Melissa Drolet [mjd@icgri.com]
Sent: Thursday, February 23, 2012 11:48 AM
To: construction@purchasing.ri.gov
Cc: Steven DePasquale; Don Pedro
Subject: RFI- 7449435 RIC Art Center

Good Afternoon,

**Regarding Metal Wall Studs: We have reviewed the wall types, section details, and specifications.... Could you please provide the gauge for all interior metal wall studs & exterior metal wall studs.

Sincerely,

Melissa Drolet

Melissa Drolet
Bid Coordinator
IRON CONSTRUCTION GROUP, LLC
875 Centerville Rd.
BLDG 4 Unit 11
Warwick, RI 02886
Tel-401-490-3144
Fax-401-490-3145

REQUEST FOR INFORMATION #: RFI # 004

Turgeon

One Harry Street
Cranston, Rhode Island 02907
Phone: 401.943.0190
Fax: 401.943.0192

PROJECT: Rhode Island College Arts Center Renovation **RFI #:**

TO: John O'Hara
Department of Purchasing
State of Rhode Island

Date: February 27, 2012

SPECIFICATION SECTION(s): 07-5419 Polyvinyl-Chloride (PVC) Roofing
07-6200 Sheet Metal Flashing and Trim

STATEMENT: One of our bidding subcontractors has the following questions:

1. Roofing section 075419-4 Item 2.1A specifies a felt back membrane however there is no other mention of this throughout the specifications and the details do not reflect this. Also the roof systems summary on the roof drawing (A2.1) does not call for a felt back membrane so I need clarification on this.
2. Sheet Metal Flashing and Trim 07-6200-3 Item 2.2B calls for a Zinc-Tin alloy-Coated Copper sheet (Freedom Gray). Revere copper recently went out of business and this product is no longer available so I also need a clarification on this issue.

REQUEST: Please provide clarification.

ANSWER:

Requested by: E. Turgeon Construction Corporation Date: 2/27/12

Signed: Christopher F. Ducharme

Christopher F. Ducharme
Treasurer / Principal

REQUEST FOR INFORMATION # RFI #005

Turgeon
SINCE 1948

One Harry Street
Cranston, Rhode Island 02907
Phone: 401.943.0190
Fax: 401.943.0192

PROJECT: Rhode Island College Arts Center Renovation **RFI #**

TO: John O'Hara
Department of Purchasing
State of Rhode Island

Date: February 27, 2012

SPECIFICATION SECTION(s): 06-4000 Architectural Woodwork

STATEMENT: One of our bidding subcontractors has the following questions:

1. Cabinet details on drawing A12.4 indicate plastic laminate shelving with unfinished HRDWD Edges. However, spec section 06 4000-9, paragraph 2.9, subparagraph C, line item 1a states edges of plastic laminate shelving: PVC 3mm. Please advise
2. Cabinet details drawing A12.4 show open cabinets with 1/4" tempered hardboard back panels; Spec section 06 4000-8, paragraph 2.9, subparagraph B, Laminate cladding for exposed surfaces. Are these back panels to be laminated?
3. Casework and counters shown on drawing A9.1 Photography and 9.2 Printmaking would suggest lab casework. However there are no section details or a spec section for lab casework. Please advise.
4. Wainscot W3, 3/8" cellulose based fiber wall board, Addendum # 4 identifies an addition to spec. section 06-6400 "Plastic Paneling". Is the intent of this new Plastic Paneling spec section to substitute the 3/8" cellulose based fiber wall board as shown in Wainscot Detail W3 on A0.2?

REQUEST: Please provide clarification.

ANSWER:

Requested by: E. Turgeon Construction Corporation

Date: 2/27/12

Signed: Christopher F. Ducharme

Christopher F. Ducharme
Treasurer / Principal

REQUEST FOR INFORMATION # RFI #006

Turgeon

One Harry Street
Cranston, Rhode Island 02907
Phone: 401.943.0190
Fax: 401.943.0192

PROJECT: Rhode Island College Arts Center Renovation **RFI #**

TO: John O'Hara
Department of Purchasing
State of Rhode Island

Date: February 27, 2012

SPECIFICATION SECTION(s): 12-2113 Horizontal Louver Blinds
12-2413 Roller Window Shades

STATEMENT: One of our bidding subcontractors has the following questions:

1. Is there a window treatment schedule for this project? Spec. Section 12-2113-1, paragraph 1.3E states "Window Treatment Schedule: For horizontal louver blinds. Use same designations indicated on drawings." However, we are unable to find designations in plan view and have only been able to locate window treatments in section view. To that extent, (1) which windows receive window treatments and (2) are they to be horizontal louver blinds or roller window shades?

REQUEST: Please provide clarification.

ANSWER:

Requested by: E. Turgeon Construction Corporation

Date: 2/27/12

Signed: Christopher F. Ducharme

Christopher F. Ducharme
Treasurer / Principal

Rhode Island College Art Center
Equipment List

This list of owner-furnished equipment is for contractor coordination and informational purposes only.

Items are furnished and installed by Owner unless otherwise noted on Drawings.

DEPARTMENT	ROOM #	ITEM #	QTY	ROOM/ITEM	Manufacturer	Model	DIMENSIONS			COMMENTS
							Length	Width	Height	
Painting	203			**Painting Studio 1**						
		PA1	3	LIGHT STANDS	Altman	526/5-9 castered stand				
		PA2	1	LIGHT TABLE - COUNTER			30"	42"	34"	
		PA7	1	SMALL PARTS CLEANER						
		PA8	2	FLAMMABLE STORAGE CABINET						
		PA-10	3	PORTABLE STAGING (8' x 4' each)	Sico	1800	8'	12'	16"	
	204			**Painting Studio 2**						
		PA1	3	LIGHT STANDS	Altman	526/5-9 castered stand				
	202			**Spray Booth**						
		PA9	1	SPRAY BOOTH	PAASCHE	EBF-3-1	40"	38"	56"	
Photography	134			**Digital Photography Production**						
		PH15	17	MACINTOSH COMPUTERS						
		PH16	4	INKJET PRINTERS	EPSON	3800	27"	15"	10"	
		PH17	2	FLATBED SCANNERS	EPSON	V750	20"	12"	6"	
		PH18	1	LARGE FORMAT PRINTER	EPSON	9890	74"	27"	48"	
		PH19	1	LIGHT TABLE	JUST	23580	39.5"	31.5"	35.5"	
	134B			**Film Developing**						
	134E			**Print Processing/Finishing**						
		PH9	1	LIGHT TABLE	Porta Trace		48"	16"		
	134H			**Printing Room**						
		PH3	10	BEGINNING ENLARGERS (26"x16")	BESELER	23CIII-XL	26" deep	16"	45"	
		PH3.1	10	50MM LENS - FOR ENGLARGER	BESELER	50MM				
		PH3.2	10	DARKROOM TIMER	TIME-O-LITE					
Printmaking										
	103A			**Printmaking Acid Room**						
		PM14	2	ACID TRAYS						
		PM15	3	VERTICAL ACID TANKS						
Foundations	104			**Design 1**						
		DE2	1	CUTTING TABLE						
	107			**Design 2**						
		DE1	1	LIGHT TABLE						
		DE2	1	CUTTING TABLE						
		DE3	2	PORTABLE VISE	Rockwell Jawhorse	RK9000				
		DE4	6	CEILING MOUNTED RETRACTABLE						
		DE5	1	SCROLLS						
	212			**Open Studio**						
		DE4	4	CEILING MOUNTED RETRACTABLE CORD REAL						
Jewely/Metals	105J			**Jewely/Metals Swarovski**						
		JM30	1	VICE	yost	906-as	24"	7"		
		JM50	1	FLAT BLOCK						
		JM31	12	FLUORESCENT TASK LIGHT AT EACH WORK STATION						
		JM32	1	HIGH SPEED DRILL PRESS	otto frei	134.387	6-3/4"	9.5"	13.5"	
		JM53	12	GAS SOLDERING TORCHES						
	105			**Jewely/Metals Forming Room**						
		JM30	2	BENCH VICES	YOST	906-as	24"			
		JM51	1	LARGE GAS TORCH	otto frei	114-905				
		JM53	2	GAS SOLDERING TORCHES						

Rhode Island College Art Center
Equipment List

DEPARTMENT	ROOM #	ITEM #	QTY	ROOM/ITEM	Manufacturer	Model	DIMENSIONS			COMMENTS
							Length	Width	Height	
	105E			**Jewely/Metals Classroom**						
		JM31	14	FLUORESCENT TASK LIGHT AT EACH WORK STATION						
		JM30	1	VICE	yost	906-as	24"	7"		
		JM53	2	GAS SOLDERING TORCHES W/TIPS	CONTENTI	110-435				
	105C			**Jewely/Metals Machine Room**						
		JM33	1	LARGE DRILL PRESS	Delta	17950L-16 1/2	25.25"	12.75	66"	
		JM34	1	14" BAND SAW	jet	jwbs-14cs	26	19	68	
		JM35	1	BELT SANDER (KNIFE BELT)	Grizzly	G1015	38-3/4	29-1/2	39	
		JM36	1	LATHE	Wholesale Tool	CQ6128				
	105H			**Jewely/Metals Casting/Enamel Room**						
		JM37	1	ENAMELING KILN	Paragon	Xpress-E-12T	22"	14"	20"	
		JM38	1	ENAMELING KILN	Paragon	SC-2	14"	13.25"	15.5"	
		JM39	1	ELECTRIC FURNACE	Thompson Enamel	E-14ALT	22 1/2"	18 3/4"	20 1/2"	
		JM40	1	STEAM DEWAXER	Rio Grande	700677	24 1/2"	14 3/4"	17 1/2"	
		JM41	1	VENTURI CIRCULATING AIR OVEN	Neycraft	703029	17"	15 3/4"	16"	
	105G			**Jewely/Metals Electroforming**						
		JM43	1	10 AMP RECTIFIER	otto frei	145.52				
		JM44	1	CLAMP AND LEAD SET 8 GUAGE WIRES FOR BUS BARS						
		JM45	1	18 GUAGE COPPER WIRE						
		JM46	1	BATH CONTAINING TANK			16"	16"		
		JM47	1	DRAG OUT TANK			16"	8"		
		JM48	1	RINSE TANK			12"	16"		
		JM54	1	SPRAY ETCH						
		JM49	1	SPRAY BOOTH	Paasche	BBF-3	26"	36"	24"	
	105F			**Jewely/Metals Seniors Room**						
		JM31	9	FLUORESCENT TASK LIGHT AT EACH WORK STATION						
Ceramics	108			**Ceramics Studio**						
		CM20	4	SOLDNER POTTERS WHEELS	Sheffield Pottery	S100				http://www.Sheffield-Pottery.com/SOLDNER-S100-POTTERY-WHEEL-p/bls100.htm
		CM21	2	4 PERSON WEDGING TABLES	Bailey Pottery Supply	M-402-22	48"	48"	32"	http://www.baileypottery.com/tables-
		CM22	3	CEILING MOUNTED RETRACTABLE CORD REAL						
	108A			**Ceramics BFA Studio**						
		CM20	6	SOLDNER POTTERS WHEELS	Sheffield Pottery	S100				
		CM22	2	CEILING MOUNTED RETRACTABLE CORD REAL						
		CM40	1	BAT STORAGE RACKS	Sheffield Pottery	Brent Batmobile				http://www.Sheffield-Pottery.com/BRENT-WARE-CART-EX-p/bwcex.htm
	108F			**Ceramics Glazing Room**						
		CM23	1	SPRAY BOOTH	Paasche	FBSL-2-6	38"	34"	72"	http://www.Sheffield - Pottery.com/PAASCHE-FBSL-2-6-Filter-Shelf-Spray-Booth-
		CM24	1	WALL MOUNTED GLAZE MIXER	Ceramic Services					http://ceramicservices.com/products/glaze-mixers/
		CM25	1	SHIMPO SMALL BATCH GLAZE MIXER	Sheffield Pottery		8.3"	13.78"	24.41"	http://Sheffield-Pottery.com/SHIMPO-GLAZE-
		CM26	1	ALPINE BALL MILL	Sheffield Pottery					
		CM27	2	APLINE 1-SIDED STAINLESS STEEL GLAZE TABLE	Sheffield Pottery	ALGFT16BS ALGFT32S	94.5"	22.5"	37"	http://www.Sheffield-Pottery.com/ALPINE-GLAZE-FORMULATING-TABLE-ALGFT16AS-p/algft16as.htm
		CM28	1	HEAVY DUTY STORAGE CABINET	C&H		24"	48"	72"	http://www.chdist.com/storage-products/storage-cabinets/d70196-70196-153823
		CM29	1	LOCKING STORAGE CABINET	C&H		24"	60"	78"	http://www.chdist.com/displayproductdetail.do?skuSearch=5834300&Ntx=mode%2Bmatchallpartial&baseItemOID=70038&itemGro

Rhode Island College Art Center
Equipment List

DEPARTMENT	ROOM #	ITEM #	QTY	ROOM/ITEM	Manufacturer	Model	DIMENSIONS			COMMENTS
							Length	Width	Height	
	108D			**Ceramics Electric Kiln Room**						
		CM30	3	DOUBLE FUME VENT SYSTEM	Bailey	M-405-009				
		CM31	1	NABERTHERM N150 ELECTRIC KILN	Sheffield Pottery	N150				http://www.Sheffield-Pottery.com/NABERTHERM-N150-KILN-p/nn150.htm
		CM32	1	SKUTT TEST KILN	Sheffield Pottery	KM714				http://www.Sheffield-Pottery.com/NABERTHERM-N150-KILN-p/nn150.htm
		CM33	2	BRENT KILN SHELF CARTS	Sheffield Pottery		35"	24"	78"	http://www.sheffield-pottery.com/BRENT-KILN-SHELF-CART-p/bksc.htm
	108H			**Ceramics Gas Kiln Room**						
		CM34	1	GAS KILN FUME HOOD	Bailey					
		CM35	1	SANDBLASTING BOOTH	Harbor Freight		36"	51"	65 3/4"	http://www.harborfreight.com/industrial-blast-cabinet-with-3-doors-94274.html
		CM36	2	HYDRAULIC LIFT TABLE	Harbor Freight		43"	19 3/4"	38 1/4"	http://www.harborfreight.com/1000-lb-capacity-hydraulic-scissor-table-cart-93116.html
	108C			**Ceramics Clay Storage/Mixing**						
		CM37	1	PETER PUGGER MIXER/PUGGER	Sheffield Pottery	PM100				http://www.Sheffield-Pottery.com/PETER-PUGGER-PUGMILL-PM-100-p/ppm100.htm
	108B			**Ceramics Mold Making**						
		CM38	1	CASTING PUMP TABLE	Sugar Creek Industries	WT8-BR				http://www.sugarcreekind.com/ceramic-equipment-one-piece-slip-casting-tabletanks-c-256_266.html
		CM39	1	SLIP MIXING TANK	Sugar Creek Industries	PP-15g				http://www.sugarcreekind.com/ceramic-equipment-slip-casting-equipment-c-256_259.html
	108E			**Ceramics Corridor**						
		CM40	2	BAT STORAGE RACKS	Sheffield Pottery	Brent Batmobile				http://www.Sheffield-Pottery.com/BRENT-WARE-CART-EX-p/bwcex.htm
				Ceramics Outdoor Work Court						
		CM41	1	BOURRY BOX WOOD KILN	Master Kiln Builders http://www.kilnbuilders.com/		117"	59"	84"	
		CM42	1	GEIL SHUTTLE GAS KILN	Geil	DLB82	105"	67"	83"	
		CM43	1	SODA SHUTTLE KILN	Master Kiln Builders http://www.kilnbuilders.com/	24 cubic foot downdraft kiln	89"	63"	84"	
		CM44	1	OLYMPIC LIFT CHAMBER RAKU KILN	Sheffield Pottery	28 RAKU	27"	28.25"		
		CM46	6	BRENT MOBILE WARE CARTS	Sheffield Pottery	Brent Ware Cart				http://www.Sheffield-Pottery.com/BRENT-WARE-CART-EX-p/bwcex.htm
		CM47	72	ADVANCER KILN SHELVES OR NITRIDE BONDED KILN SHELVES	Smith Sharp Fire Brick Supply					

Rhode Island College Art Center
Equipment List

DEPARTMENT	ROOM #	ITEM #	QTY	ROOM/ITEM	Manufacturer	Model	DIMENSIONS			COMMENTS
							Length	Width	Height	
Sculpture	106			**Sculpture Wood Studio**						
		SC41	7	WOOD WORKING VICES	WILTON	126504				
		SC42	2	WOOD STORAGE RACKS			72"	42"		
		SC43	4	CEILING MOUNTED RETRACTABLE CORD REAL						
		SC45	1	FLAMMABLE MATERIALS CABINET						
	106D			**Sculpture Metals Studio**						
		SC6	3	GAS WELDING TANKS						
		SC30	1	PNUEMATIC FORGING HAMMER	Big Blu Hammer Manufacturing Co	Blu Max 65	36"	20"	89"	
		SC31	1	GAS FIRED FORGE	Centaur Forge	NC Whisper Daddy #2	20"	13"	16"	
		SC32	1	BLASTING CABINET	AllSource	41500	24"	48"	58"	
		SC34	3	AIR COMPRESSOR HOSES						
		SC35	3	AIR DRYERS						
		SC43	3	CEILING MOUNTED RETRACTABLE CORD REAL						
		SC37	3	WELDING CURTAINS ON SUSPENDED TRACK	WILSON SPECTRA ORANGE					3 bays
		SC38	1	METAL STORAGE RACK						for bar stock and 4'x8' sheet
		SC44	1	WORK TABLE			60"	36"		
	E101			**Sculpture Outdoor Work Court**						
		SC39	1	CRUCIBLE FURNACE	MCENGLEVAN	C20	29"	48"		
		SC38	1	METAL STORAGE RACK						
Wood Shop	110			**Wood Shop**						
		WS16	1	WOOD STORAGE RACKS						
Spray Booth	109			**Spray Booth**						
		SB1	1	SPRAY BOOTH	Paint-Booths.com	OFB-8	108"	99"	85.5"	
Graphic Design	208			**Graphic Design Computer Lab**						
		GD1	17	MACINTOSH COMPUTERS						
		GD2	2	COLOR PRINTER						
		GD3	1	LASER PRINTERS						
		GD4	1	LIGHT TABLE			36" x 48"			
		GD5	1	CUTTING BOARD			36" x 36"			
		GD6	2	FLATBED SCANNERS						
	207			**Graphic Design Seminar Room**						
		GD1	1	MACINTOSH COMPUTERS						
		GD4	1	LIGHT TABLE			36" x 48"			
		GD5	1	LIGHT TABLE			36" x 36"			
	206			**Media Studies Computer Lab**						
		GD1	17	MACINTOSH COMPUTERS						
		GD2	2	COLOR PRINTERS						
		GD3	1	LASER PRINTERS						
		GD6	2	FLATBED SCANNERS						

Rhode Island College Art Center
Equipment List

DEPARTMENT	ROOM #	ITEM #	QTY	ROOM/ITEM	Manufacturer	Model	DIMENSIONS			COMMENTS
							Length	Width	Height	
Art Education	135			**Art Education Studio 1**						
		AE1	4	MACINTOSH COMPUTERS -all Macs set up with dual boot mode.						
		AE3	2	FLATBED SCANNERS						
		AE4	2	LARGE, HINGED DRYING RACKS	AWT	DR-26-50	27-1/4"W	24-1/4"D	54-1/4or64"	
		AE5	2	WHITE BAORDS						
		AE6	3	CUTTING BOARD						
		AE7	1	SMART BOARD INTERACTIVE WHITE BOARD	SMART Technologies	Model 885ix	78-1/2"W	6-1/2"D	51-1/8"H	
		AE8	1	COLOR PRINTER						
		AE9	1	LASER PRINTER						
		AE10	10	FLAT FILES (5-Drawer Steel Units)	Safco		40-1/2"W	29-1/4"D	16-1/2"H	see http://www.dickblick.com/products/safco-5-drawer-steel-flat-files/
		AE11	5	FLAT FILE BASES	Safco		40-1/2"W	26-3/4"D	6"H	see http://www.dickblick.com/products/safco-5-drawer-steel-flat-files/
		AE18	4	FREE STANDING DISPLAY CASES	Allen Display	WD-891K	48"W		70"H	
		AE13	3	PAPER CUTTERS	Ingento	Classic Maple				two 18" and one 30" Ingento Classic Maple paper cutters
		AE14	1	CAMERA/COPY STAND	Beseler	4211-02	22"W	28"D	44"H	
	136			**Art Education Studio 2**						
		AE1	4	MACINTOSH COMPUTERS -all Macs set up with dual boot mode.						
		AE3	2	FLATBED SCANNERS						
		AE4	~~1~~	LARGE, HINGED DRYING RACKS	AWT	DR-26-50	27-1/4"W	24-1/4"D	54-1/4or64"	free standing AWT Portable Drying Rack
		AE5	2	WHITE BAORDS						
		AE6	3	CUTTING BOARD						
		AE7	1	SMART BOARD INTERACTIVE WHITE BOARD	SMART Technologies	Model 885ix	78-1/2"W	6-1/2"D	51-1/8"H	
		AE8	1	COLOR PRINTER						
		AE9	1	LASER PRINTER						
		AE10	6	FLAT FILES (5-Drawer Steel Units)	Safco		40-1/2"W	29-1/4"D	16-1/2"H	see http://www.dickblick.com/products/safco-5-drawer-steel-flat-files/
		AE11	3	FLAT FILE BASES	Safco		40-1/2"W	26-3/4"D	6"H	see http://www.dickblick.com/products/safco-5-drawer-steel-flat-files/
		AE13	2	PAPER CUTTERS	Ingento	Classic Maple				one 18" and one 24" Ingento Classic Maple paper cutters
		AE14	1	CAMERA/COPY STAND	Beseler	4211-02	22"W	28"D	44"H	
	137			**Art Education Storage Room**						
		AE1	1	MACINTOSH COMPUTERS -all Macs set up with dual boot mode.						
		AE19	3	LOCKABLE FILE CABINETS						
		AE17	1	FLAMMABLE MATERIALS CABINET						
Art History	138			**Lecture Hall**						
		AH1	1	SLIDE PROJECTOR CART						
	144			**Visual Resource Library**						
		AH5	2	COMPUTERS						
		AH6	1	SCANNERS						
		AH7	2	LIGHT TABLES						
	140			**Department Seminar Room**						
		AE1	1	MACINTOSH COMPUTERS -all Macs set up with dual boot mode.						

Rhode Isand College
AV Equipment

This list of owner-furnished A/V equipment is for contractor coordination and informational purposes only.
Items are furnished and installed by Owner unless otherwise noted on the Drawings.

A/V Equipment is classified as Level "0' or Level "2" as noted in the rooms below

Rm No	Name	Level
103	Printmaking Studio	0
104	Foundations Design 1	0
106	Sculpture Wood Studio	0
107	Foundations Design 2	0
117	Foundations Drawing 2	0
121	Foundations Drawing 1	0
105E	Jewelry/Mtl Forming Clr	0
105J	Jewelry/Mtl Swarovski	0
201	Drawing Studio 3	0
212	Open Studio	0

Rm No	Name	Level
108	Ceramics Studio	2
134	Photography Digital Production	2
135	Art Ed Studio	2
134A	Photography Seminar	2
136	Art Ed Studio	2
138	Lecture Room	2
140	Seminar	2
203	Painting 1 Open Studio	2
206	Media Studies Computer Lab	2
207	Graphic Design Classroom	2
208	Graphic Design Computer Lab	2

A/V Equipment in LEVEL 0 rooms

Pole Vault System (complete)
Epson Projector
HDMI 201 Rx
HDMI 201AD Tx
Sonic Alarm
Kensington Lock
Tufnut SLC3 Security Cable(s)

A/V Equipment in LEVEL 2 rooms

Epson Projector
Extron MPS 409 Media Switcher
Extron XPA 1002 Stereo Amplifier
TDB Podium/Rack
Chief Projector Mount (RPA-U)
Chief CMA-440 Ceiling Mount
Furman Line Conditioner (PL8-11)
4 In Ceiling Speakers (hard ceiling)
4 In Ceiling Speakers (drop ceiling)
DVD/VHS Combo Deck
HAE100
IPL 250
TLP 350MV
SMB 303
SMA-1
Computer (No AV)
Sonic Alarm(s)
Kensington Lock
Tufnut SLC3 Security Cable(s)

Smartboard Setups
(1 each at Art Ed Studios 135 & 136 only)