

INTERDEPARTMENTAL MEMORANDUM

TO: Mellanee Walton, Associate Fiscal Administrative Officer
Bidding & Contracts, Room G-35
165 Capitol Avenue, Hartford, CT 06106

FROM: Joel Baranowski, Project Manager
Team Cavacas, Room 463
165 Capitol Avenue, Hartford, CT 06106



DATE: August 3, 2009

SUBJECT: ADDENDUM # 3

PROJECT TITLE: West Campus Development – Phase 2
Norwalk Community College
Norwalk, Connecticut

PROJECT NO.: BI-CTC-406

SCHEDULED BID OPENING: August 12, 2009

Please expedite the attached Addendum # 3.

1. The total number of pages in this addendum is: 37.
2. There are no drawings issued as part of this addendum – **Not Applicable.**
3. See attached Revised “Bid Released” form (55) dated: **Not Applicable.**
4. This addendum responds to questions raised by the bidding community. We do not expect any cost increase as a result of this work.

Attachment

xc: Agency
Team File
Project Manager

**NORWALK COMMUNITY COLLEGE – PHASE 2
WEST CAMPUS DEVELOPMENT
NORWALK, CONNECTICUT
PROJECT: BI- CTC - 406**

BID OPENING	1:00 P.M.	August 12, 2009
ADDENDUM NUMBER THREE	DATE OF ADDENDUM	August 3, 2009

The following clarifications are applicable to drawings and specifications for the project referenced above.

Item 1

New Technical Specification Sections issued by this Addendum:

1. Section 04860 - Stone Masonry

Item 2

New Architectural Sketch Drawings, dated August 3, 2009, and attached:

1. SK-A6.06-A "Detail 10A"

Item 3

Add the following General Note to all MEP Drawings:

"Hangers for pipes, ducts, conduits, panels, transformers, mechanical and plumbing equipment, etc. are intended to be supported by Uni-Struts or clamps or similar devices attached to the structural steel and joists. It is not intended for these hangers to be primarily supported from the floor and roof deck. Do not install hangers directly to the roof deck. Refer to steel decking specification Section 05310 for requirements pertaining to hangers supported by the floor deck."

Item 4

In Specification Section 01019, Article 1.3, Paragraph C, Subparagraph 4, add new subparagraph "f" to read as follows:

- "f. If the verified quantities of allowance Items 5a and 5b below are more or less than the quantities stated in the allowance item, the Contract Sum will be adjusted by Change Order using the Unit Prices included in this Section."

Item 5

In Specification Section 01019, Article 1.3, Paragraph C, Subparagraph 5, revise subparagraphs "a" and "b" to read as follows:

- "a. Section 02219 - "Site Excavation, Filling and Grading": Include the Stipulated sum of \$109,098 for removal of 5,800 cubic yards of unsuitable material beneath the footprint of the new building."
- "b. Section 02219 - "Site Excavation, Filling and Grading": Include the Stipulated sum of \$278,255 for replacement of 5,510 cubic yards of structural fill under the footprint of the new building."

Item 6

Delete Specification Section 02832 in its entirety from the Project Manual and add Section 04860 "Stone Masonry" in lieu thereof.

Item 7

In Specification Section 08010, on Page 4, in the Door Schedule, under Door No. A114, delete "D" under "Frame Type" and leave the box blank.

Item 8

In Specification Section 08010, on Page 4, in the Door Schedule, under Door Nos. S2.1 and S2.2, change "C" under "Frame Type" to "F3".

Item 9

In Specification Section 15901, delete Articles 3.2 through 3.17 in their entirety and replace with the following Articles 3.2 through 3.15 inclusive.

"3.2 STEAM HEATING SYSTEM

- A. Description: System consists of two (2) existing 2600 MBH 15 psig steam boilers and two (2) new 2600 MBH 15 psig steam boilers, and a new packaged combination boiler feed and vacuum unit. All four (4) boilers shall be provided with new dual-fuel burners. Boiler manufacturer and boiler feed unit manufacturer shall provide control panels to operate equipment as specified in Sections 15512 and 15520 and as described in the following sequence. Panels shall be provided with a BMS interface to allow monitor and display of points shown in subparagraphs C & D of this paragraph. Provide any additional devices, wiring and programming to accomplish the following sequence of operation.
- B. Sequence of Operation:
 - 1. Boiler firing rate shall be controlled to maintain a constant steam pressure of 15 psig (adjustable), plus or minus 10%.
 - 2. An alternating firing sequence shall equalize run time for all four boilers.
 - 3. Vacuum pumps shall be cycled to maintain vacuum pressure set point.
 - 4. An alternating sequence will equalize run-time for all three vacuum pumps.
 - 5. Boiler feed water pumps shall operate to maintain boiler water level set point.

6. An alternating sequence will equalize run-time for all three boiler feed water pumps.
- C. The following points shall be adjustable at BMS:
1. Steam operating pressure.
 2. Vacuum pressure set point.
- D. The following points shall be monitored at BMS:
1. On-off status of each boiler.
 2. High pressure cutoff alarm of any boiler.
 3. Low water cutoff alarm of any boiler.
 4. Blocked vent alarm of any boiler.
 5. Rollout safety alarm of any boiler.
 6. On-off status of each vacuum pump.
 7. Vacuum pump failure alarm of any pump.
 8. On-off status of each boiler feed water pump.
 9. Feedwater pump failure alarm of any pump.
 10. High water alarm level at feed water unit.
 11. Boiler feedwater temperature.
 12. Gas and oil consumption at each burner.
 13. All other points available at the boiler panels or packaged vacuum feedwater panel.

3.3 NEW BUILDING HEATING SYSTEM

- A. Description: System consists of two base mounted 100% redundant centrifugal pumps, each rated for 400 gpm and one shell and tube heat exchanger. Pumps shall be provided with variable frequency drives. Provide all devices, wiring and programming to accomplish the following sequence of operation and system monitoring.
- B. Sequence of Operation:
1. System will operate all year to allow reheat in laboratories.
 2. Steam control valve shall modulate to maintain hot water supply temperature set point.
 3. Hot water reset will be provided such that water set points are 180F° @ 20F° outside ambient temperature and 140F° @ 60 F° outside ambient temperature. Reset shall be proportional between these points based on outside ambient temperature.
 4. A differential pressure sensor shall be installed in the hot water supply piping to control speed of pump motors.
 5. A lead-log sequence shall be provided to equalize run time of the pumps.
- C. The following points shall be adjustable at the BMS:
1. Hot water supply temperature.
 2. Start-stop of both circulation pumps.
- D. The following points shall be monitored at the BMS:
1. On-off status of each pump.
 2. Pump failure alarm.
 3. Steam pressure at heat exchanger.

4. Hot water supply and return temperatures.

3.4 NEW BUILDING CHILLED WATER SYSTEM

- A. Description: System consists of one 250 ton air cooler chiller and two (2) base mounted 100% redundant chilled water pumps. Chiller manufacturer shall provide control panel to operate chiller in accordance with Section 15626 of the specifications. Panel will provide a BMS interface to allow monitor and display of all points available at all points available at the local chiller panel. Provide all devices, wiring and programming to accomplish the following sequence of operation:
- B. Sequence of Operation:
 1. Chiller will operate when outside ambient temperature is shown above set points. (60F° adjustable).
 2. Internal chiller controls shall cycle compressors and condensing fans to maintain chilled water supply temperature at 44F° (adjustable and resettable).
 3. Chilled water temperature shall be reset to highest temperature that will maintain AHU-1 & ERU-1 supply air temperatures, and maintain maximum relative humidity levels in AHU-1 return air (60 % adjustable). Maximum chilled water reset point is 50F° (adjustable).
- C. The following point will be adjustable at BMS:
 1. Outside ambient temperature for start-stop of chiller.
 2. Chilled water supply temperature.
 3. Chilled water supply temperature reset limit.
 4. Stop-start of each chilled water pump.
 5. Return air relative humidity set point for chilled water supply water temperature reset cutoff.
- D. The following points will be monitored at the BMS:
 1. All points available at chiller control panel. (See paragraph 2.1.P of Specification Section 15626 for list.)
 2. On-off status of chiller.
 3. On-off status of each circulation pump.
 4. Circulating pump failure alarm.
 5. Chilled water supply and return temperatures.

3.5 NEW BUILDING AIR HANDLING UNIT

- A. Description: System consists of one built-up exterior air handling unit consisting of return air fan, exhaust air section, outside air section, economizer controls, filter section, hot water heating coil, chilled water cooling coil and supply air fan. Supply and return fan motors shall be provided with variable frequency drives. This AHU shall provide conditioned air to the ground and first floor of the new building. Provide all devices, wiring and programming to provide the following sequence of operation.
- B. Sequence of Operation:

1. Occupied-non-occupied mode of operation will determined by BMS through time of day and weekend weekday schedule. Operational mode shall be capable of manual override at the BMS.
2. Occupied schedule
 - a. Supply and return fan will operate continuously.
 - b. Outside air damper will be set to minimum outside air position.
 - c. Differential pressure sensors in the supply air ductwork shall control speed of supply air fan motor through variable frequency drive.
 - d. Return air fan motor speed shall be controlled by tracking CFM supply/return differential to maintain constant differential.
 - e. Economizer controls, chilled water control valve and hot water control valve shall be modulated to maintain supply air temperature set point.
 - f. Economizer controls shall operate as follows:
 - 1) Outside air temperature above supply air temperature set point: Enthalpy based economizer controls shall open outside air dampers and exhaust air dampers to allow 100% outside air, when the outside air enthalpy is below the return air enthalpy. If return enthalpy is below the outside air enthalpy economizer controls shall set outside air dampers and exhaust air dampers to minimum outside air position. If required, the BMS will modulate open the control valve on the cooling coil to maintain supply air set point.
 - 2) Outside air temperature below supply air temperature set point: Outside, return and exhaust dampers shall be modulated between the full outside air to minimum outside air positions to maintain supply air temperature set point. If required BMS will modulate open the two-way control valve on the heating coil to maintain set point (60% adjustable).
 - g. Supply air temperature set point shall be reset to highest temperature that will satisfy zone thermostats with the VAV boxes in the full open to supply air positions. BMS will continuously poll VAV box damper positions to determine this set point. Humidistat in the return air plenum shall over-ride this sequence if relative humidity reaches humidistat set point.
 - h. Heating coil freeze-stat shall signal the BMS if the air temperature downstream of the heating coil falls to 45F°. BMS will open hot water valve to full open position and shut outside air dampers, and signal an alarm condition.
 - i. Return air and outside air ducts shall be provided with smoke dampers to shut down supply and return air fan, and signal an alarm condition. Smoke detectors shall be selected to operate in outside ambient conditions if located in external ductwork.
3. Unoccupied schedule
 - a. Supply and return fans will cycle on only when temperature at any VAV box zone falls below night-setback temperature.
 - b. Outside air dampers shall remain closed.
4. Morning warm-up
 - a. Start of morning warm-up will be determined by optimum start trending.

- b. During morning warm-up, supply and return air fans shall operate, outside air damper shall remain closed, and heating coil control valve shall be at full open position.
 - c. Warm-up mode will cease when all zone thermostats indicate that occupied set points have been achieved.
- C. The following points shall be adjustable at BMS:
- 1. Occupied, non-occupied or morning warm-up.
 - 2. Supply air temperature.
 - 3. On-off status of supply and return air fans.
 - 4. Return air relative humidity set point for supply temperature reset cutoff.
 - 5. Differential pressure sensor setting.
- D. The following points shall be monitored at the BMS:
- 1. Alarms
 - a. Dirty filter
 - b. Damper operator motor failure
 - c. Coil freeze-stat operation
 - d. High and low supply air discharge temperatures
 - e. Unit shut-down by smoke detectors
 - 2. Display
 - a. Outside air flow in CFM.
 - b. Filter pressure drop.
 - c. Return air fan operating status including % speed.
 - d. Heating coil valve, % open.
 - e. Cooling coil valve, % open.
 - f. Supply air fan status, including % speed.
 - g. Return air temperature.
 - h. Return air relative humidity.
 - i. Mixed air temperature, before coils.
 - j. Supply air discharge temperature.

3.6 ENERGY RECOVERY UNIT

- A. Description: System shall consist of a single packaged energy recovery unit, including supply air fan, chilled water cooling coil, hot water heating coil, gas-fired humidifier, heat pipe, filters, sound attenuators and laboratory fume hood exhaust fans. This unit provides air conditioning for the second floor of the new building. Supply and exhaust fans shall be provided with integral VFDs. Provide all devices, wiring and programming to provide the following sequence of operation.
- B. Sequence of Operation:
- 1. System is designed to operate all year, 24 hours a day. It is designed to be integrated with the Laboratory Airflow Control System as described in Section 15902 of the specification.
 - 2. Differential pressure sensor in the supply air duct shall modulate the VFD of the supply air fan motor to maintain set point.
 - 3. Exhaust air fan motors speed shall be controlled by tracking CFM supply/return differential to maintain constant differential.

4. Integral heat pipe controls shall transfer heat from the exhaust air to the supply air in the winter and from the supply air to the exhaust air in the summer. Heating coil control valve and chilled water cooling coil control valve shall be modulated to maintain supply air temperature set point.
5. During economizer mode (when outside air temperature is above supply air temperature set point, the outside air enthalpy is below exhaust air enthalpy) heat pipe controls shall be locked out to prevent heat transfer between the two air streams.
6. Exhaust air humidistat shall operate controls of humidifier to maintain set point (40% adjustable).
7. Smoke detectors located in the supply and exhaust air ductwork shall shutdown supply and exhaust air fans.

C. The following points shall be controlled at the BMS:

1. On-off status of supply and exhaust fans.
2. Supply air temperature.
3. Return (exhaust) air relative humidity.
4. Differential pressure sensor setting.

D. The following points shall be monitored at BMS:

1. Dirty filter alarm.
2. High and low supply air discharge temperature.
3. Unit shut down by smoke detectors.
4. Filter pressure drop.
5. Exhaust air fan status, including % speed.
6. Heating coil, % open.
7. Cooling coil valve, % open.
8. Supply air status, including % speed.
9. Exhaust air temperature, before and after heat recovery coil.
10. Exhaust air relative humidity.
11. Supply air discharge temperature.
12. Outside air temperature, before and after heat recovery coil.

3.7 NEW BUILDING DATA ROOM A/C UNITS

A. Description: System consists of a split system dx-cooled computer air conditioning system, with exterior units located on the roof and wall mounted interior units. Outside unit consists of compressor and condensing fans and interior unit consists of supply air fan, d/x cooling coil, electric reheat coil and electronic humidifier. Unit sections are connected by refrigerant piping. Units shall be provided with integral control panels. Control panels shall operate the computer room unit to maintain computer room temperature and relative humidity. Provide devices, wiring and programming required for the following sequence of operation:

B. Sequence of Operation:

1. System to operate all year, 24 hours a day.
2. Room thermostat shall, through computer room unit controls, maintain room temperature set point (70F°) adjustable.
3. Room humidistat shall, through computer room unit controls, maintain room relative humidity set point (40%) adjustable.

- C. The following points shall be adjustable at BMS.
 1. On-off status of air conditioning unit.
 2. Room temperature set point.
 3. Room relative humidity set point.

- D. The following points shall be monitored at BMS.
 1. On-off status of air conditioning unit.
 2. Room temperature.
 3. Room high temperature alarm.
 4. Room relative humidity.
 5. Room low relative humidity alarm.
 6. Room high relative humidity alarm.

3.8 NEW BUILDING GENERAL AREA EXHAUST FANS

- A. Description: Exhaust fans shall be provided for toilet and locker rooms, elevator machine room and electrical rooms. Fans are located on the roofs, or at the room. Provide devices, wiring and programming required for the following sequence of operations.

- B. Sequence of Operation:
 1. Toilet/locker room exhaust fans will operate continuously during occupied mode (See subparagraph 3.5 above) and shall be off during unoccupied mode.
 2. Elevator machine rooms & electrical room exhaust fans shall be cycled on/off by room thermostat.

- C. The following shall be adjustable at BMS:
 1. On-off status for all fans.
 2. Room temperature set point in elevator machine rooms/electrical rooms.

- D. The following points shall be monitored at BMS:
 1. On-off status of all fans.
 2. Room temperature in elevator machine rooms/electrical rooms.
 3. High room temperature in electric rooms.

3.9 NEW BUILDING UNIT HEATERS

- A. Description – System consist of wall hung and cabinet unit hot water unit heaters, located in the mechanical room, and in the stairwells. Provide devices, wiring and programming required for the following sequence of operation.

- B. Sequence of Operation:
 1. Room thermostat shall modulate hot water control valve and cycle fan on or off to maintain set point.

- C. The following points shall be adjustable at BMS:
 1. Room temperature set point.
 2. On-off status of unit heater fan.

- D. The following points shall be monitored at BMS:
 - 1. Room temperature.
 - 2. Low room temperature alarm.
 - 3. On-off status of unit heater fan.
 - 4. Hot water supply and return temperature at each unit heater.

3.10 NEW BUILDING VAV BOXES

- A. Description: VAV boxes shall be utilized with the new building air handling unit (subparagraph 3.5) serving the ground and first floor of the new building. VAV box shall have controller supplied by ATC contractor to the VAV box manufacturer for factory installation, and a hot water reheat coil. Provide devices, wiring and programming required for the following sequence of operation.
- B. Sequence of Operation:
 - 1. Zone thermostats shall control position of air control damper to maintain zone temperature set point.
 - 2. At minimum air volume, as indicated on the room thermostat shall modulate hot water reheat coil control valve to maintain zone set point temperature.
- C. The following points shall be adjustable at BMS:
 - 1. Zone temperature set point.
- D. The following points shall be monitored at BMS:
 - 1. Zone temperature
 - 2. Damper position (or CFM) of VAV box control damper.
 - 3. Low and high zone temperature alarm.

3.11 COORDINATION WITH LABORATORY AIRFLOW CONTROL SYSTEM

- A. Refer to specification Section 15902, Paragraph 1.5 for required interface with LACS control system.

3.12 EXISTING BUILDING HEATING SYSTEM

- A. Description: Existing steam radiators shall be main source of room heating. Reheat coils in VAV boxes and pre-heat coil in air conditioning units shall be provided with hot water through two base mounted 100% redundant pumps each rated for 120 gpm and one shell and tube heat exchanger. Pumps shall be provided with variable frequency drives. Provide all devices, wiring and programming to accomplish the following sequence of operation.
- B. Sequence of Operation
 - 1. System will operate all year to allow reheat in classrooms.
 - 2. Steam control valve shall modulate to maintain hot water supply temperature set point.
 - 3. Hot water reset will be provided such that water set points are 180F° @ 20F° outside ambient temperature and 140F° @ 60 F° outside ambient

- temperature reset shall be proportional between these points based on outside ambient temperature.
4. A differential pressure sensor shall be installed in the hot water supply piping to control speed of pump motors.
 5. A lead-log sequence shall be provided to equalize run time of the pumps.
- C. The following points shall be adjustable at the BMS:
1. Hot water supply temperature.
 2. Start-stop of both circulation pumps.
- D. The following points shall be monitored at the BMS:
1. On-off status of each pump.
 2. Pump failure alarm.
 3. Steam pressure at heat exchanger.
 4. Hot water supply and return temperatures.

3.13 EXISTING BUILDING AIR CONDITIONING SYSTEM

- A. Description: System shall consist of two (2) nominal 30 ton packaged roof top units, consisting of supply and return air fans with variable frequency drives, refrigeration system, consisting of compressors, condensing coil and fans and d/x cooling coil, hot water heating coil, economizer and controls, filters, exhaust and outdoor air sections, all packaged for a single point electrical connection. Provide control panel to operate refrigeration circuits, economizers and hot water control valves to maintain supply air temperature set point as indicated in Section 15737 of the specification. Provide devices, wiring and programming required to meet the following sequence of operation.
- B. Sequence of Operation:
1. Occupied-non-occupied mode of operation will determined by BMS through time of day and weekend weekday schedule. Operational mode shall be capable of manual override at the BMS.
 2. Occupied schedule
 - a. Supply and return fan will operate continuously.
 - b. Outside air damper will be set to minimum outside air position.
 - c. Differential pressure sensors in the supply air ductwork shall control speed of supply air fan motor through variable frequency drive.
 - d. Return air fan motor speed shall be controlled by tracking CFM supply/return differential to maintain constant differential.
 - e. Economizer controls, refrigeration circuits and hot water control valve shall be modulated to maintain supply air temperature set point.
 - f. Economizer controls shall operate as follows:
 - 1) Outside air temperature above supply air temperature set point: Enthalpy based economizer controls shall open outside air dampers and exhaust air dampers to allow 100% outside air, when the outside air enthalpy is below the return air enthalpy. If return enthalpy is below the outside air enthalpy economizer controls shall set outside

- air dampers and exhaust air dampers to minimum outside air position. If required, the BMS will modulate open the control valve on the cooling coil to maintain supply air set point.
- 2) Outside air temperature below supply air temperature set point: Outside, return and exhaust dampers shall be modulated between the full outside air to minimum outside air positions to maintain supply air temperature set point. If required BMS will modulate open the two-way control valve on the heating coil to maintain set point (60% adjustable).
- g. Supply air temperature set point shall be reset to highest temperature that will satisfy zone thermostats with the VAV boxes in the full open to supply air positions. BMS will continuously poll VAV box damper positions to determine this set point. Humidistat in the return air plenum shall over-ride this sequence if relative humidity reaches humidistat set point (60% adjustable).
 - h. Heating coil freeze-stat shall signal the BMS if the air temperature downstream of the heating coil falls to 45F°. BMS will open hot water valve to full open position and shut outside air dampers, and signal an alarm condition.
 - i. Return air and outside air ducts shall be provided with smoke dampers to shut down supply and return air fan, and signal an alarm condition. Smoke detectors shall be selected to operate in outside ambient conditions if located in external ductwork.
3. Unoccupied schedule
 - a. Supply and return fans will cycle on only when temperature at any VAV box zone falls below night-setback temperature.
 - b. Outside air dampers shall remain closed.
 4. Morning warm-up
 - a. Start of morning warm-up will be determined by optimum start trending.
 - b. During morning warm-up, supply and return air fans shall operate, outside air damper shall remain closed, and heating coil control valve shall be at full open position.
 - c. Warm-up mode will cease when all zone thermostats indicate that occupied set points have been achieved.
 5. Refer to specification Section 15737, Article 2.10 for coordination of this sequence of operation with controls supplied by the air conditioning unit manufacturer.
- C. The following points shall be adjustable at BMS:
1. Occupied, non-occupied or morning warm-up.
 2. Supply air temperature.
 3. On-off status of supply and return air fans.
 4. Return air relative humidity set point for supply temperature reset cutoff.
 5. Differential pressure sensor setting.
- D. The following points shall be monitored at the BMS:
1. Alarms – all alarms available at the air conditioning unit control panel including but not limited to:
 - a. Dirty filter

- b. Damper operator motor failure
 - c. Coil freeze-stat operation
 - d. High and low supply air discharge temperatures
 - e. Unit shut-down by smoke detectors
2. Display - all points available at the air conditioning unit control panel including but not limited to:
- a. Outside air flow in CFM.
 - b. Filter pressure drop.
 - c. Return air fan operating status including % speed.
 - d. Heating coil valve, % open.
 - e. Supply air fan status, including % speed.
 - f. Return air temperature.
 - g. Return air relative humidity.
 - h. Mixed air temperature, before coils.
 - i. Supply air discharge temperature.

3.14 EXISTING BUILDING EXHAUST FANS

- A. Description: Exhaust fans shall be provided for toilet rooms and elevator machine room.
- B. Refer to Article 3.8 for sequence of operation and points adjusted and monitored at the BMS.

3.15 EXISTING BUILDING VAV BOXES

- A. Refer to Article 3.10 for description (similar) and sequence of operation and points adjusted and monitored at the BMS."

Item 10

LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES: SEE ATTACHED

All questions must be in writing (not phone or e-mail) and must be forwarded to the consulting Architect/Engineer, Jan Keane (212) 866-5006 with copies sent to the DPW Project Manager, Joel Baranowski (860) 713-7261 and Construction Administrator, Jeff Fogel (516) 938-5491.

End of Addendum Number Three



Mellanee Walton
Associate Fiscal Administrative Officer
Department of Public Works

ITEM 10 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

1. Q. *Specification Section 01019 - 1.3 - C5 requires three allowances, totaling \$392,353. Reference is made to specification sections 02219 and 02930, yet no mention of these allowances is made in these sections. Please verify these allowances are indeed required.*
A. Yes they are required.
2. Q. *Specification Section 01019 - 1.3 - C1 indicates that "All unloading, handling, labor, installation costs, storage, insurance, overhead and profit and other expenses related to the allowance shall be included in the lump sum bid amount and not in the allowance, unless stated otherwise..." The allowance schedule is not perfectly clear on this issue. Please confirm that the allowance includes labor, insurance and overhead and profit.*
A. The Contractor shall include in its lump sum bid all unloading, handling, labor, installation costs, storage, insurance, overhead and profit and other expenses related to the allowance. The stated allowance establishes the value for the trade cost necessary to perform the work unless stated otherwise.
3. Q. *Regarding allowances in specification section 01019 for removal and replacement of unsuitable materials, are the costs per cubic yard given meant to be used as a unit cost when determining the "actual cost" of the work?*
A. Please see revisions to Section 01019 included in Addendum No. 3.
4. Q. *Please clarify the intent of the base contract amount and allowances for removal and replacement of unsuitable materials.*
A. Information in the contract documents relating to subsurface conditions is from the best sources presently available. The cubic yard quantities described in the allowances for removal and replacement of unsuitable materials were established using these sources. The intent of the allowances is to establish a baseline price for this component of the project which will be the same for all bidders.
5. Q. *Specification section 01010 - 1.3 - A.2 indicates that telecommunication wiring and components will be awarded by DPW under separate contract. Specification section 16741 - 1.3 appears to support this scope delineation. However, specification section 17200 has been issued and listed as a contract document. Please confirm that all telecommunications wiring, devices and equipment is by owner, and this specification section is for coordination only.*
A. Confirmed. Section 17200 deleted by Addendum No. 2.
6. Q. *Note in upper right hand corner of C4.01 indicates that overhead protection and lighting be provided at (6) different egress points, likewise for C1.01, yet some of these egress points are not impacted by construction. Please confirm that overhead protection will only be required where construction activities create a potential hazard.*
A. Overhead protection and lighting will be required at all egress points shown for the duration of the project.
7. Q. *Information provided on existing B & D wing structures is insufficient to determine if there is any need for sheeting, shoring, underpinning, etc. Please advise if any of these should be expected when excavating new foundations adjacent to existing buildings.*

ITEM 10 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

- A. Use the contract documents to establish the need for sheeting, shoring or underpinning of the B and D wings.**
8. Q. *Please refer to drawing A3.01. There is no mounting detail for the light fixtures shown on the east elevation on drawing A3.01 or anywhere in the electrical drawings. Are the electrical boxes for these lights to be surface mounted or are electrical boxes to be recessed into the brick? Please provide mounting details.*
- A. The electrical boxes are to be recessed in the brick and all conduit is to be concealed in the wall.**
9. Q. *The following is in reference to the top of the penthouse / screen wall at the new building. Details 01/A3.00, 01/A3.01, 02/A3.01, and 6A/A6.05 call for the two piece metal fascia at the top of the walls, however details 02/A3.00, 10/A4.02, and 10A/A6.06 show metal coping at this location. Please clarify.*
- A. Please see Sketch SK-A6.06-A included in Addendum No. 3 for clarification.**
10. Q. *The project manual contains specification section 02832 - Segmental Retaining Walls. All retaining walls shown on the drawings reference details 11/L3.00, 12/L3.00, 13/L3.00, 1/L3.01, 2/L3.01, 11/L3.01, and 12/L3.01. These details are for CMU retaining walls with stone veneer, not segmental retaining walls as called out in specification section 02832. Please indicate location of segmental retaining walls if any and provide details.*
- A. Please see new specification Section 04860 which replaces Section 02832 included as part of Addendum No. 3.**
11. Q. *Please refer to the door schedule and interior elevations for the following:*
- a. Numerous openings are scheduled as type AWS door and type HM frame. Should type AWS doors be in type AWS frames, both being supplied by the AWS manufacturer? Or are these doors to be supplied by the architectural wall system manufacturer and installed in a hollow metal frame supplied by others?
- A. Combined AWS frames and HM doors should be as drawn and scheduled.**
- b. Opening H000.3 is scheduled as an AWS door and frame, H000.2 is similar but scheduled as a HM door and frame. Should this door and frame be type AWS to match opening H000.3?
- A. No.**
- c. Openings H201.1, H202.1 and H212.2 are scheduled as type AWS door and type HW frame, however on the interior elevation A7.02 they are shown as type A flush doors. Should these doors be type HM door in type HM frame? Please clarify.
- A. Yes, HM door in HM as drawn.**
- d. Numerous openings are scheduled as type AWS, HM doors and type HM frame while opening H007.1 is scheduled as type AWS, HM door and type AWS frame should all type AWS, HM doors be paired with a type AWS frame? Or should opening H007.1 have a type HM frame?

ITEM 10 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

A. H007.1 is AWS, HM door with AWS frame.

- e. Openings H003.2, H001.1, H003.1, H007.1, H111.1, and H112.1 are scheduled as AWS door and frame however there is no designation on the interior elevations. Please confirm that these openings should be AWS door and frame.

A. Confirmed AWS door and frame.

- f. Openings H103.1 and H103.2 are scheduled as type AWS door and type HM frame however on the elevations and floor plan they are shown as a type H door. Should these openings be type AWS, HM door and type HM frame?

A. Yes, AWS, HM door and HM frame.

- g. Opening H104.1 is scheduled as type HM door with type HM frame this opening is similar to opening H106.1. Should opening H104.1 be type AWS, HM door and type HM frame?

A. No.

- 12. Q. *To date, have any responses to RFI's or RFQ's been published? If so, where can those questions and responses be viewed?*

A. Responses to bid period RFI's have been published as part of Addendum No. 2 and 3.

- 13. Q. *HVAC – Controls, Instrumentation and BMS (Page 25-35) and Drawing (M-6.01 & M-6.02)*
 - a. Boiler Sequence doesn't talk about valve positions as shown on drawing (M-6.02). Is there valve positioning on all boilers?
 - b. Hot Water System on page 25 talks about Boilers (1, 2, 3) but Drawing # (M-6.02) states in a note by the valves typical for all (4) Boilers. Please clarify boiler schedule.
 - c. Where is the sequence of operations for [Packaged Hot Water Heating System and Control]? Is this the Hot water system?
 - d. Also the sequence does not mention anything about the HX-1 or 2 please clarify intent of these units.
 - e. Where is EF-20 as stated in points list under the hot water system?
 - f. It is not in the schedule is this EF-20 really the CAF-1?
 - g. CAF-1 on the schedule states that unit's a VFD motor but, the sequence does not state this. Please clarify.
 - h. If so should I assume the pumps shown are secondary pumps #1A and 2B as stated in points list in specification?
 - i. Refrigerant system flow and control drawing show pump P-1A not as a VFD motor. Please clarify equipment placement and sequence.
 - j. Is there just one chiller as stated on schedule or is there three chillers as in the points list talking about Chiller # 1, 2, and 3?

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- k. Addenda number 1, on drawing number SK-M-3.06 A & B state provide (4) New oil flow meters and (4) New Flow meters to connect to BMS system. Who will be installing, wiring and purchasing these (8) eight flow meters?
 - l. In the specification under KWH Monitoring/Demand Limiting. It is my interpretation that we will be monitoring the KWH through the meter to the BMS system. Did you want a local display on these meters?
- A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.**
14. Q. *Specification Lab Air Flow Control (15902 page 16 of 18)*
- a. Specifications state "BMCS, including standardizes communications protocol software of ModBus." But, Sequence of operations states, "Lab control system will be provided with a BACnet interface gateway." Which is the correct protocol? BACnet or ModBus?
- A. Correct protocol is BACnet.**
- b. Fume hood exhaust fans located on (M-6.01) are attached to ERU-1 which doesn't have a Sequence of operations. The sequence of operations for the fume hoods does not state them having VFD's. Please clarify sequence for fume hoods exhaust?
- A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.**
15. Q. *HVAC Commissioning Requirements (Section 01810)*
- a. How many hours should I designate for commissioning?
- A. Commissioning agent has not been selected; commissioning plan has not been developed. Contractor to provide bid based on previous experience with projects of this size and complexity.**
16. Q. *Hot Water System Sequence of Operations (15901 – pg 25)*
- a. Is boiler loop pump #X and BP pump #X the same pump? As shown in point list. "Boiler loop pump #1 Enable/Disable and BP Pump #1 enable/disable."
 - b. Boiler loop pump #1, 2, 3 Status and Primary Pump # 1, 2, 3 Status. Are these pieces of equipment the same with different names?
 - c. Boiler Sequence talks about flow switch(es) but those points are not in the points list. Is there flow switch(es) in the system or not?
- A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.**
17. Q. *Chilled Water System (15901 – pg 27)*
- a. Sequence talks about CHP #1, 2, 3 and Sec. CHP #1A & #1B. But schedule (M-4.01) shows pumps (P-1, 1a, 2, 2A, 3, 3A) four are for the hot water system and the other two are for AHU-1 and ERU-1. Please Clarify sequence of operations and schedule.
 - b. There are no commands to S/S the pumps or there VFD's. Will the chiller be controlling these pumps or will the BAS be controlling the VFD's and pumps?

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A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.

18. Q. *Cabinet Unit Heaters and Unit Heaters (15901 – pg 31)*
- a. If there will be a wall mounted thermostat to control the CUH's/UH's control valve should the BAS monitor them as well?
 - b. Sequence of operations states that the CUH's and UH's controlled by local thermostat (non-DDC) but the drawing on (M-6.02) show them as controlled by DDC. What is the intent of these units?

A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.

19. Q. *Smoke Control and Sequence of Operations (15901 – pg 30 AHU & 15901 – 33 Smoke and Fire Dampers) Applicable for ERU-1 and AHU-1 and*
- a. Sequence for AHU's doesn't call for BAS to command (DO) close smoke/fire dampers on detection of combustion also Sequence of operations under smoke and fire dampers show (2) DI points just for the BAS to pick up in its system. But, on page M-6.01 shows a (DO) on Isolation smoke dampers. If the BAS is going to control dampers we will need to wire it using the UUKL-864 Smoke listing. Is this the intention of these dampers?
 - b. In sequence of operations talks about a fire alarm system. Does this mean the BAS will only be monitoring positions(s) of dampers or will the BAS be controlling the dampers open/close command and position(s) feedback?

A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3; it is intended that fire alarm system control fire/smoke dampers and BMS to monitor status only.

20. Q. *Rooftop and ERU Sequence*
- a. They are shown on the Schedule (M-4.01) but there is no sequence of operation for these units. Where is the sequence of operations for these?

A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.

21. Q. *Duct Mounted Heating Coils (M-4.02)*
- a. Where is the sequence for these units?

A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.

22. Q. *Air Handling Units*
- a. Sequence of operation doesn't talk about air flow monitoring stations but, on drawing (M-6.01) shows one. What is the intention of using AFMS on AHU-1?
 - b. Also on Drawing (M-6.01) shows AHU-1 having a heating valve but, sequence of operations doesn't talk about a heating valve. Does AHU-1 have a heating valve?

A. Please refer to revised Sequence of Operations issued as part of Addendum No. 3.

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23. Q. *Specification Section 15901 HVAC-Controls, Instrumentation and BMS*
- Question: Smoke/Fire-Smoke Damper Wiring.*
- Drawing E203 Detail 2 shows wiring for smoke dampers and states "All wiring and connections by Division 16 Electrical Contractor."
 - Drawing M6.02 Detail 6 shows wiring for alarm signal and status. (Assume BMS Contractor)
 - Could you clarify the wiring responsibility between the BMS contractor and the project Division 16 Electrical Contractor associated with wiring the smoke dampers?
- A. It is intended that BMS monitor status of fire/smoke damper only.**
24. Q. *There is no specification for the compressed air piping*
- A. Refer to Addendum No. 2, Item 10, new Paragraph "R".**
25. Q. *On drawing P 2.01 there are many notes that state "2" AW DN 1 ½" up to AAV" but there is no AAV piping shown. Will a drawing showing all the acid vent piping be issued?*
- A. AAV indicates an Air Admittance Valve which as specified is approved for acid waste systems. The AAVs indicated at sinks serves as the vent piping. No additional vent piping drawings will be issued.**
26. Q. *The riser on drawing E200 and part plan H015 and EP2.00 show a UPS cabinet. Is there a specification on this and who is furnishing the unit?*
- A. UPS is shown for location only and will be provided under separate contract by the Owner.**
27. Q. *Note #7 on EP2.00 elevator detail "provide VFD soft start elevator". Is this furnished with the elevator package as part of the controller or is it separate and furnished by the electrical contractor?*
- A. The VFD is part of the controller and furnished with the elevator package.**
28. Q. *The riser on E200 shows (2) sets of 3# 600 KCML and 1# 1/0 in 3 ½" to CH-1 circuits #1 & #2. The mechanical equipment schedule on E200 shows (2) sets of 3" 500KCML & 1 #2 in 4". Which should be used?*
- A. Provide (2) sets of 3# 600 KCML and 1# 1/0 in 3 1/2" to CH-1 circuits #1 & #2 as shown on riser.**
29. Q. *Drawing EP 2.00 part plan IT room H015 calls for (1) 4" conduit to building "A" A109 and (2) 4" conduits to CIT building MDF, section 17200 1.11A states each BDF/FDF in the new location will be connected to the MDF in the existing building by two conduits for fiber feeder cable, for a total of (6) conduits. Please verify which should be used in the bid. EP2.00 key notes "R" & "S" call for RGSC conduit to be used. Is this required or can EMT type conduit be used?*

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- A. Section 17200 has been deleted by Addendum No. 2. Provide as shown on EP2.00 with RGSC.**
30. Q. *Drawing E000 symbol list for data/communication outlets for 1 1/4" conduit to 6" above ceiling. Detail #3 on E201 calls for 1" and section 17200 "R" calls for 3/4", which is to be used? The 3/4" conduit meets code requirements of 40% fill and would save money as well.*
- A. Section 17200 has been deleted by Addendum No. 2. Provide 1-1/4" conduit.**
31. Q. *Specification section 10705 exterior sun control devices, item 2.3-C outrigger profile states "as indicated on drawings"*
- Details 19 & D on A6.07 do not indicate the profile. Assume tube or channel outrigger. Please Advise.*
- A. Outrigger shall be comprised of a 2-1/2" x 8" aluminum tube with a 10" high straight plate.**
32. Q. *The 10" airfoil blade design will not fit within the flange of the W10x19, as shown on detail 19/A6.07. Please provide detail for attachment of sun shades to the steel beam.*
- A. Outrigger configuration noted in answer to Question 32 above will facilitate attachment to W10x19 web between the flanges.**
33. Q. *Drawing do not indicate if the exposed W10x19's are to be painted per section 05125. Please advise.*
- A. Exposed W10x19 beams and closure pieces at eyebrow framing between column lines A and Z on Structural Drawing S2.03 shall be AESS and finished per Sections 05125 and 09900.**
34. Q. *Can the AISC Certified Erector requirement be waived? This provide an unfair advantage to the three (3) only certified erectors in the state... but more importantly; the owner is forced to have to pay an additional premium to the cost of the project above and beyond what a non-certified erector would change.*
- A. No, the requirement cannot be waived. This program has been in effect for several years so we do not feel that it is unreasonable. This intent of this program, as created by the American Iron & Steel Institute (AISC), is to provide the Owner with a level of quality assurance in the erectors who will be performing the work.**
24. Q. *Please refer to the door schedule, A7.31A, and interior elevations at A-Wing for the following.*
- a. *On A7.31A, type F5 frames are shown however there are no type F5 frames shown on the A-Wing door schedule, Please clarify.*
- A. Frame Type F5 is not used at A-Wing.**

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- b. A-wing door schedule makes reference to type C and type D frames however there are no type C or type D frames shown on A7.31A, Please clarify. Reference door #'s S2-2, S2-1 and A114.

- A. Provide Frame Type F3 for Door Nos. S2-1 and S2-2. Provide aluminum and glass door and frame assembly as indicated on Exterior Elevation 02/A3.10A and Section 02/A4.01A for Door No. A114.**

####

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes the following applications of stone masonry:
 - 1. Anchored to unit masonry backup.
 - 2. Set in mortar
- B. Related Sections:
 - 1. Section 04810 - Unit Masonry Assemblies: Concealed flashing horizontal joint reinforcement and veneer anchors.
 - 2. Section 07620 - Sheet Metal Flashing and Trim: Exposed sheet metal flashing.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For stone varieties proposed for use on Project, include test data indicating compliance with physical properties required by referenced ASTM standards.
- B. Samples for Initial Selection: For colored mortar and other items involving color selection.
- C. Samples for Verification:
 - 1. For each stone type indicated. Include at least five samples in each set for each type of stone, exhibiting extremes of the full range of color and other visual characteristics expected in completed Work. Samples will establish the standard by which stone provided will be judged.
 - 2. For each color of mortar required. Label Samples to indicate types and amounts of pigments used.
- D. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, sources of supply, and other information as required to identify materials used. Include mix proportions for mortar and source of aggregates.
 - 1. Submittal is for information only. Neither receipt of list nor approval of mockups constitutes approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

- E. Qualification Data: For qualified Installer.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs experienced stonemasons and stone fitters.
- B. Source Limitations for Stone: Obtain stone, regardless of finish, from one quarry, whether specified in this Section or in another Section of the Specifications, with resources to provide materials of consistent quality in appearance and physical properties. Stone must be quarried within 500 miles of project site. Provide architect with quarry address and contact information.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.
- D. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Build mockups for each type of stone masonry in sizes approximately 60 inches long by 48 inches high by full thickness, including face and backup wythes and accessories.
 - a. Include stone coping at top of mockup.
 - b. Include a sealant-filled joint at least 16 inches long in mockup.
 - c. Include through-wall flashing installed for a 24-inch length in corner of mockup approximately 16 inches down from top of mockup, with a 12-inch length of flashing left exposed to view (omit stone masonry above half of flashing).
 - d. Include veneer anchors, flashing, and weep holes in exterior wall mockup.
 - e. Include vertical control joint in exterior wall mockup.
 2. Protect accepted mockups from the elements with weather-resistant membrane.
 3. Approval of mockups is for color, texture, and blending of stone; relationship of mortar and sealant colors to stone colors; tooling of joints; and aesthetic qualities of workmanship.
 - a. Approval of mockups is also for other material and construction qualities Architect specifically approves in writing.
 - b. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- E. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- C. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.
- D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.6 PROJECT CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- B. Stain Prevention: Immediately remove mortar and soil to prevent them from staining the face of stone masonry.
 - 1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on the ground and over the wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace stone masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 degrees F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1.7 COORDINATION

- A. Advise installers of other work about specific requirements for placement of reinforcement, veneer anchors, flashing, and similar items to be built into stone masonry.

PART 2 - PRODUCTS

2.1 FIELDSTONE

- A. Provide sound natural stone as follows:
 - 1. Products: Subject to compliance with requirements, provide the following stone varieties that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fieldstone shall match existing stone walls on site in size, shape, texture, color range, etc.
 - 2. Minimum Compressive Strength per ASTM C 170: 4000 psi.
 - 3. Minimum Flexural Strength per ASTM C 880
 - 4. Minimum Modulus of Rupture per ASTM C 99

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C150, Type I or III, and hydrated lime complying with ASTM C207.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
 - b. Lafarge North America; Eaglebond.
 - c. Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
- D. Mortar Cement: ASTM C1329.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Lafarge North America; Mortar Cement.

- E. Masonry Cement: ASTM C91.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Essroc, Italcementi Group Masonry Cement.
 - b. Holcim (US) Inc Masonry Cement.
 - c. Lafarge North America; Masonry Cement.
 - d. Lehigh Cement Company; Masonry Cement.
- F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in stone masonry mortar.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Davis Colors; True Tone Mortar Colors.
 - b. Lanxess Corporation; Bayferrox Iron Oxide Pigments.
 - c. Solomon Colors; SGS Mortar Colors.
- G. Colored Cement Product: Packaged blend made from portland cement and lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.
1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
 2. Pigments shall not exceed 10 percent of portland cement by weight.
 3. Pigments shall not exceed 5 percent of masonry cement or mortar cement by weight.
 4. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Colored Portland Cement-Lime Mix:
 - 1) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
 - 2) Lafarge North America; Eaglebond.
 - 3) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
 - b. Colored Masonry Cement:
 - 1) Essroc, Italcementi Group; Brixment-in-Color.
 - 2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Masonry Cement.
 - 3) Lafarge North America; Magnolia Masonry Cement.
 - 4) Lehigh Cement Company; Lehigh Custom Color Masonry Cement.
 - c. Colored Mortar Cement:
 - 1) Lafarge North America; Magnolia Superbond Mortar Cement.

H. Aggregate: ASTM C144 and as follows:

1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 sieve.
 2. White Aggregates: Natural white sand or ground white stone.
 3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.
- I. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement mortar bed, and not containing a retarder.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Boiardi Products Corporation.
 - b. Bonsal.
 - c. Bostik Findley Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. DAP Inc.
 - g. Laticrete International, Inc.
 - h. MAPEI Corp.
 - i. Summitville Tiles, Inc.
 - j. TEC Specialty Construction Brands; H. B. Fuller Company.
- J. Water: Potable.

2.3 VENEER ANCHORS

- A. Materials:
1. Hot-Dip Galvanized-Steel Wire: ASTM A82, with ASTM A153, Class B-2.
 2. Hot-Dip Galvanized-Steel Sheet: ASTM A1008, cold-rolled, carbon-steel sheet hot-dip galvanized after fabrication to comply with ASTM A153, Class B-2.
- B. Size: Sufficient to extend at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least 5/8-inch cover on outside face.
- C. Corrugated-Metal Veneer Anchors: Not less than 0.030-inch- thick by 7/8-inch- wide hot-dip galvanized-steel sheet with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch.
- D. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to wood or metal studs, and as follows:
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Dur-O-Wal, a Dayton Superior Company
 - b. Heckmann Building Products Inc.;
 - c. Hohmann & Barnard, Inc.;
 - d. Wire-Bond;
2. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.
- E. Polymer-Coated, Steel Tapping Screws for Concrete Masonry: Self-tapping screws with specially designed threads for tapping and wedging into masonry, with hex washer head and neoprene washer, 3/16-inch diameter by 1-1/2-inch length, and with organic polymer coating with salt-spray resistance to red rust of more than 800 hours per ASTM B 117.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ITW-Buildex; Tapcon.
 - b. Powers Fasteners; Tapper.

2.4 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing, where flashing is exposed or partly exposed and where indicated, complying with SMACNA's "Architectural Sheet Metal Manual Division 07 Section "Sheet Metal Flashing and Trim" and as follows:
1. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 2. Fabricate through-wall flashing with sealant stop unless otherwise indicated. Fabricate by bending metal back on itself 3/4 inch at exterior face of wall and down into joint 3/8 inch to form a stop for retaining sealant backer rod.
 3. Fabricate metal drip edges and sealant stops for ribbed metal flashing from plain metal flashing of same metal as ribbed flashing and extending at least 3 inches into wall with hemmed inner edge to receive ribbed flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam will shed water.
 4. Metal Drip Edges: Fabricate from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 5. Metal Flashing Terminations: Fabricate from stainless steel. Extend at least 3 inches into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 3/8 inch to form a stop for retaining sealant backer rod.
 6. Metal Expansion-Joint Strips: Fabricate from stainless steel to shapes indicated.
- B. Solder and Sealants for Sheet Metal Flashings: As specified in Division 07 Section "Sheet Metal Flashing and Trim."

2.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene urethane or PVC.
- B. Cementitious Dampproofing: Cementitious formulations that are recommended by ILI and that are nonstaining to stone, compatible with joint sealants, and noncorrosive to veneer anchors and attachments.
- C. Asphalt Dampproofing: Cut-back asphalt complying with ASTM D 4479, Type I or asphalt emulsion complying with ASTM D 1227, Type III or IV.
- D. Weep Hole/Vent Products: Use one of the following unless otherwise indicated:
 - 1. Rectangular Plastic Tubing: Clear butyrate, 3/8 by 1-1/2 inches by thickness of stone masonry.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) CavClear/Archovations, Inc.; CavClear Weep Vents.
 - 2) Mortar Net USA, Ltd.; Mortar Net Weep Vents.
 - 2. Vinyl Weep Holes/Vents: One-piece, offset, T-shaped units made from flexible, injection-molded PVC, designed to fit into head joint and consisting of louvered vertical leg, flexible wings to seal against ends of stone units, and top flap to keep mortar out of head joint; in color approved by Architect to match that of mortar.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Hohmann & Barnard, Inc.; #343 Louvered Weep Hole.
 - 2) Williams Products, Inc.; Williams-Goodco Brick Vent.
 - 3) Wire-Bond; Louvered Weepholes.
- E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
 - 1. Provide one of the following configurations:
 - a. Strips, full-depth of cavity and 10 inches wide, with dovetail shaped notches 7 inches deep that prevent mesh from being clogged with mortar droppings.
 - b. Strips, not less than 3/4 inch thick and 10 inches wide, with dimpled surface designed to catch mortar droppings and prevent weep holes from being clogged with mortar.
 - c. Sheets or strips full depth of cavity and installed to full height of cavity.
 - d. Sheets or strips not less than 3/4 inch thick and installed to full height of cavity with additional strips 4 inches high at weep holes and thick enough to fill entire depth of cavity and prevent weep holes from being clogged with mortar.

2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advanced Building Products Inc.
 - b. CavClear/Archovations, Inc.; CavClear Masonry Mat.
 - c. Dur-O-Wal, a Dayton Superior Company; Polytite MortarStop.
 - d. Mortar Net USA, Ltd.; Mortar Net.

2.6 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Diedrich Technologies, Inc.
 - b. Dominion Restoration Products.
 - c. EaCo Chem, Inc.
 - d. Hydrochemical Techniques, Inc.
 - e. Prosoco, Inc.

2.7 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
 1. Do not use calcium chloride.
 2. Limit cementitious materials in mortar to portland cement and lime.
 3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
 4. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Stone Masonry: Comply with ASTM C 270, Property Specification.

1. Mortar for Setting Stone: Type S.
 2. Mortar for Pointing Stone: Type N.
- D. Latex-Modified Portland Cement Setting Mortar: Proportion and mix portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.
- E. Cement-Paste Bond Coat: Mix either neat cement and water or cement, sand, and water to a consistency similar to that of thick cream.
1. For latex-modified portland cement setting-bed mortar, substitute latex admixture for part or all of water, according to latex-additive manufacturer's written instructions.
- F. Mortar for Scratch Coat over Unit Masonry: 1 part portland cement, 1 part lime, 7 parts loose damp sand, and enough water to produce a workable consistency.
- G. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.
1. Pigments shall not exceed 10 percent of portland cement by weight.
 2. Pigments shall not exceed 5 percent of mortar cement by weight.

2.8 FABRICATION

- A. Fabricate stone to comply with sizes, shapes, and tolerances recommended by applicable stone association or, if none, by stone source, for faces, edges, beds, and backs.
1. For granite, comply with recommendations in NBGQA's "Specifications for Architectural Granite."
 2. For limestone, comply with recommendations in ILI's "Indiana Limestone Handbook."
- B. Select stone to produce pieces of thickness, size, and shape indicated, including details on Drawings. Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated.
- C. Cut and drill sinkages and holes in stone for anchors and supports.
- D. Carefully inspect stone at quarry or fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units before shipment.
1. Clean sawed edges of stone to remove rust stains and iron particles.
 2. tool sawed edges of stone that are exposed to view, and create split face or natural cleft appearance. Exposed saw cuts and sawed edges shall be deemed unacceptable.
- E. Thickness of Stone: Provide thickness indicated, but not less than the following:
1. Thickness: 4 inches plus or minus 1/2 inch. Thickness does not include projection of pitched faces.

- F. Shape stone for type of masonry (pattern) as follows:
 - 1. Uncoursed rubble (fieldstone).

- G. Finish exposed faces and edges of stone to comply with requirements indicated for finish and to match approved samples and mockups.
 - 1. Finish: Mixed split face, seam face, and rock face (pitched face).
 - 2. Finish for Copings: Split faces.
 - a. Finish exposed ends of copings same as front and back faces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces indicated to receive stone masonry, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

- B. Examine substrate to verify that dovetail slots, inserts, reinforcement, veneer anchors, flashing, and other items installed in substrates and required for or extending into stone masonry are correctly installed.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Coat concrete and unit masonry backup with asphalt dampproofing.

- B. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

3.3 SETTING OF STONE MASONRY, GENERAL

- A. Perform necessary field cutting and trimming as stone is set.
 - 1. Use hammer and chisel to split stone that is fabricated with split surfaces. Make edges straight and true, matching similar surfaces that were shop or quarry fabricated.
 - 2. Pitch face at field-split edges as needed to match stones that are not field split.

- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.

- C. Arrange stones in coursed rubble pattern with joint widths within tolerances indicated. Insert small stones into spaces between larger stones as needed to produce joints as uniform in width as practical.
- D. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
- E. Set stone to comply with requirements indicated on Drawings. Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
- F. Maintain uniform ½” joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 3/8 inch at narrowest points or more than 5/8 inch at widest points.
- G. Provide sealant joints of widths and at locations indicated.
 - 1. Keep sealant joints free of mortar and other rigid materials.
 - 2. Sealing joints is specified in Division 07 Section "Joint Sealants."
- H. Install metal expansion strips in sealant joints at locations indicated. Build flanges of expansion strips into masonry by embedding in mortar between stone masonry and backup wythe. Lap each joint 4 inches in direction of water flow. Seal joints below grade and at junctures with horizontal expansion joints if any.
- I. Install embedded flashing and weep holes at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
 - 1. At concrete backing, extend flashing through stone masonry, turned up a minimum of 6 inches, and insert in reglet. Reglets are specified Division 07 Section "Sheet Metal Flashing and Trim."
 - 2. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Division 07 Section "Joint Sealants" for application indicated.
 - 3. Install metal drip edges and sealant stops with ribbed sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Division 07 Section "Joint Sealants" for application indicated.
 - 4. Extend sheet metal flashing 1/2 inch beyond face of masonry at exterior and turn flashing down to form a drip.
 - 5. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
- J. Coat limestone with cementitious dampproofing as follows:
 - 1. Stone at Grade: Beds, joints, and back surfaces to at least 12 inches above finish-grade elevations.
 - 2. Stone Extending below Grade: Beds, joints, back surfaces, and face surfaces below grade.

3. Allow cementitious dampproofing formulations to cure before setting dampproofed stone. Do not damage or remove dampproofing in the course of handling and setting stone.

3.4 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- B. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet or 3/4 inch in 40 feet or more.
- C. Measure variation from level, plumb, and position shown in plan as variation of the average plane of the face of each stone from level, plumb, or dimensioned plane.
- D. Variation in Mortar-Joint Thickness: Do not vary from joint size range indicated.
- E. Variation in Plane between Adjacent Stones: Do not exceed one-half of tolerance specified for thickness of stone.

3.5 INSTALLATION OF ANCHORED STONE MASONRY

- A. Anchor stone masonry to concrete with corrugated-metal veneer anchors unless otherwise indicated. Secure anchors by inserting dovetailed ends into dovetail slots in concrete.
- B. Anchor stone masonry to unit masonry with corrugated-metal veneer anchors unless otherwise indicated. Embed anchors in unit masonry mortar joints or grouted cells for distance at least one-half of unit masonry thickness.
- C. Anchor stone masonry to unit masonry with wire anchors unless otherwise indicated. Connect anchors to masonry joint reinforcement with vertical rods inserted through anchors and through eyes of masonry joint reinforcement projecting from unit masonry.
- D. Anchor stone masonry to unit masonry with [adjustable, screw-attached] [seismic] veneer anchors unless otherwise indicated. Fasten anchors to unit masonry with two screws.
- E. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least 5/8-inch cover on outside face.
- F. Space anchors to provide not less than 1 anchor per 2 sq. ft. of wall area. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.
- G. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.

- H. Provide 1-inch 2-inch cavity between stone masonry and backup construction unless otherwise indicated. Keep cavity free of mortar droppings and debris.
 - 1. Place mortar spots in cavity at veneer anchors to maintain spacing.
 - 2. Slope beds toward cavity to minimize mortar protrusions into cavity.
 - 3. Do not attempt to trowel or remove mortar fins protruding into cavity.
- I. Rake out joints for pointing with mortar to depth of not less than 3/4 inch before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

3.6 ADJUSTING AND CLEANING

- A. Remove and replace stone masonry of the following description:
 - 1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
 - 2. Defective joints.
 - 3. Stone masonry not matching approved samples and mockups.
 - 4. Stone masonry not complying with other requirements indicated.
- B. Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
 - 3. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.
 - 4. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised II, using job-mixed detergent solution.

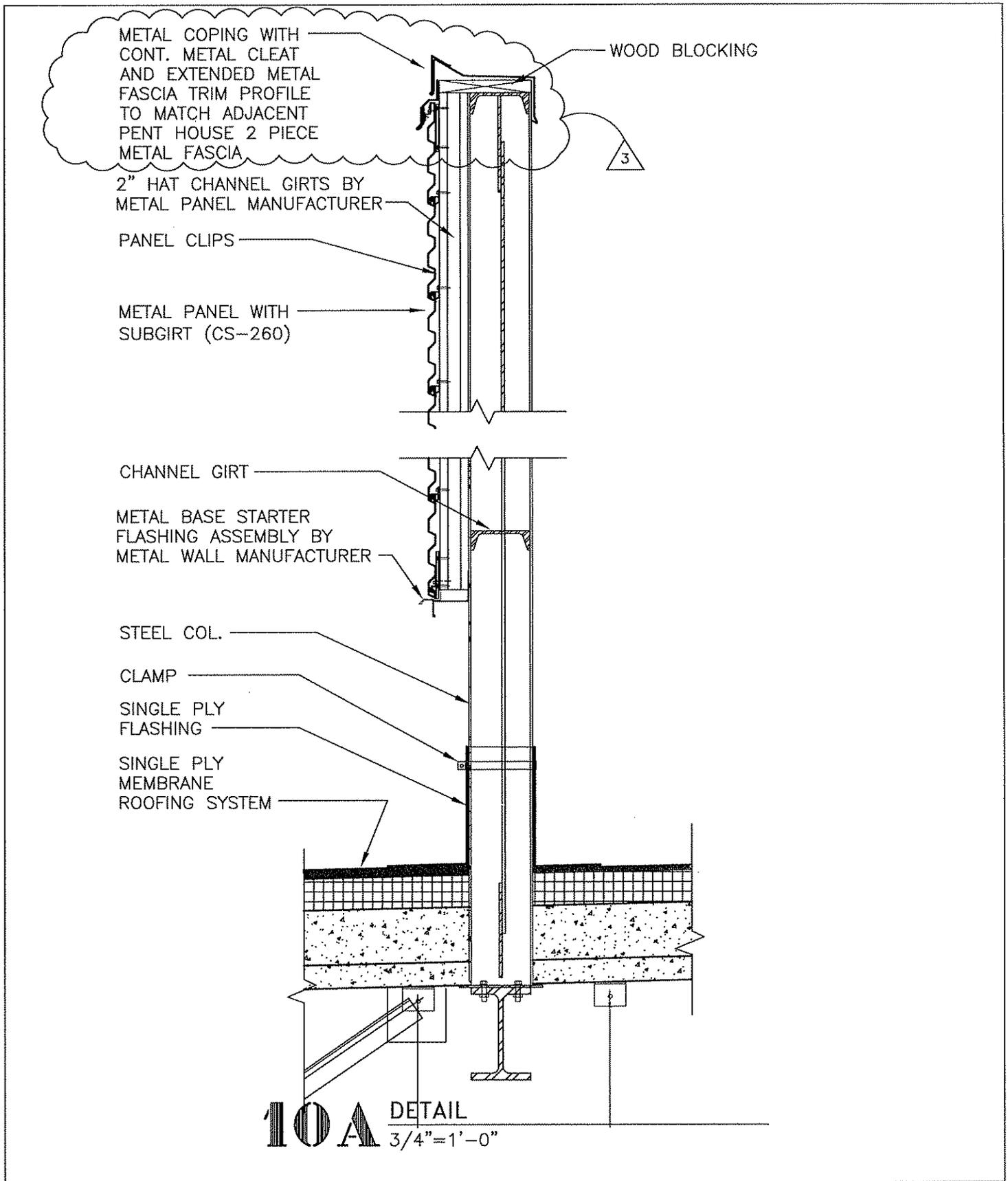
3.7 EXCESS MATERIALS AND WASTE

- A. Excess Stone: Stack excess stone where directed by Owner for Owner's use.
- B. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
 - 1. Crush masonry waste to less than 4 inches in greatest dimension.
 - 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 31 Section "Earth Moving."
 - 3. Do not dispose of masonry waste as fill within 18 inches of finished grade.

- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other waste, and legally dispose of off Owner's property.

END OF SECTION

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SK-A6.06-A

ADDENDUM 3 8/03/09

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

DPW PROJECT NO. BI-CTC-406

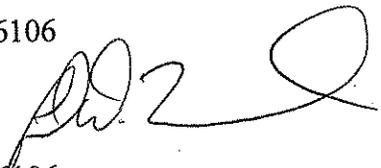
PAGE 37 OF 37

SCALE: 11/2"=1'-0"

INTERDEPARTMENTAL MEMORANDUM

TO: Mellanee Walton, Associate Fiscal Administrative Officer
Bidding & Contracts, Room G-35
165 Capitol Avenue, Hartford, CT 06106

FROM: Joel Baranowski, Project Manager
Team Cavacas, Room 463
165 Capitol Avenue, Hartford, CT 06106



DATE: July 29, 2009

SUBJECT: ADDENDUM # 2

PROJECT TITLE: West Campus Development – Phase 2
Norwalk Community College
Norwalk, Connecticut

PROJECT NO.: BI-CTC-406

SCHEDULED BID OPENING: August 12, 2009

Please expedite the attached Addendum # 2.

1. The total number of pages in this addendum is: **16**.
2. There are no drawings issued as part of this addendum – **Not Applicable**.
3. See attached Revised “Bid Released” form (55) dated: **Not Applicable**.
4. This addendum responds to questions raised by the bidding community. It also incorporates infrastructure work to support the artist’s installation. The Arts Commission has committed to covering any cost increase as a result of this work.

Attachment

xc: Agency
Team File
Project Manager

**NORWALK COMMUNITY COLLEGE – PHASE 2
WEST CAMPUS DEVELOPMENT
NORWALK, CONNECTICUT
PROJECT: BI- CTC - 406**

BID OPENING	1:00 P.M.	August 12, 2009
ADDENDUM NUMBER TWO	DATE OF ADDENDUM	July 30, 2009

The following clarifications are applicable to drawings and specifications for the project referenced above.

Item 1

New Architectural and Mechanical Sketch Drawings, dated July 30, 2009, and attached:

1. SK-L1.00-A "Art Piece Layout and Details"
2. SK-A2.00-B "Ground Floor Addition Plan"
3. SK-A6.00-A "Detail 06-A Detail @ Extruded Alum. Filler"
4. SK-A7.05-A "Detail 08"
5. SK-S301-A "Artwork Foundation"
6. SK-E001-A "Art Piece Electrical Partial Plan"

Item 2

On Drawing L1.00, add Art Piece Layout and Granite Cobble Paving Detail as indicated on attached Sketch SK-L1.00-A dated 30 July 2009.

Item 3

On Drawing A2.00, on Ground Floor Plan: New Building, in Lobby/H013, change wall finish to "W2" as indicated on attached Sketch SK-A2.00-B dated 30 July 2009.

Item 4

On Drawing A6.00, on Plan Details/Exterior Details, add new Detail 06-A as indicated on attached Sketch SK-A6.00-A dated 30 July 2009.

Item 5

On Drawing A7.05, on Interior Details, revise Detail 08 as indicated on attached Sketch SK-A7.05-A dated 30 July 2009.

Item 6

On Drawing S3.01, on Structural Foundation Details, add new Details of Artwork Foundation as indicated on attached Sketch SK-S301-A dated 30 July 2009.

Item 7

On Drawing E001, on Electrical Site Plan, add Artwork electrical information as indicated on attached Sketch SK-E001-A dated 30 July 2009.

Item 8

In Specification Section 00001, on Page 7, under Division 17, delete Section 17200 from the table of contents and add the following in lieu thereof:

"Not Used"

Item 9

In Specification Section 01019, Article 1.3, Paragraph C, Subparagraph 5, add new Subparagraph "d" to read as follows:

- "d. Art Work Water and Drain Piping Allowance: Include the Stipulated sum of \$20,000 for excavation, installation, and backfilling for a one (1) inch insulated water line between B Wing Boiler Room and the art work location as indicated on Sketch SK-L1.00-A dated July 30, 2009. Provide a valve pit for the water line with an automatic valve with tie-in to the new building BMS system. Include cost of excavation, installation, and backfilling for a four (4) inch drain from the valve pit to the sanitary system."

Item 10

In Specification Section 15410, Article 2.1, add new Paragraphs "R", "S", and "T" to read as follows:

- "R. Copper Medical Gas Tube: ASTM B819, Type L, seamless, drawn temper that has been manufacturer cleaned, purged, and sealed for vacuum service.
1. General Requirements for Copper Fittings: Manufacturer cleaned, purged, and bagged for vacuum service according to CGA G-4.1.
 2. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type or MSS SP-73, with dimensions for brazed joints.
 3. Copper Unions: ASME B16.22 or MSS SP-123, wrought copper or cast-copper alloy.
 4. Press-Type Fittings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:
 - 1) Viega; Plumbing and Heating Systems.
 - 2) Victaulic.
 - b. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
 - c. NPS 2-1/2 to NPS 4: Bronze fitting with stainless-steel grip ring and EPDM O-ring seal in each end."
- "S. Copper Water Tube: ASTM B88, Type M, seamless, drawn temper.
1. Cast-Copper Fittings: ASME B16.18, solder-joint pressure type.
 2. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type.
 3. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150.
 4. Copper Unions: ASME B16.22 or MSS SP-123, wrought copper or cast-copper alloy.
 5. Press-Type Fittings:

- a. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:
 - 1) Viega; Plumbing and Heating Systems.
- b. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
- c. NPS 2-1/2 to NPS 4: Bronze fitting with stainless-steel grip ring and EPDM O-ring seal in each end."

"T. Joining Materials:

- 1. Solder Filler Metals: ASTM B32, lead-free alloys. Include water-flushable flux according to ASTM B813.
- 2. Brazing Filler Metals: AWS A5.8, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated."

Item 11

In Specification Section 15901, Article 1.10, Paragraph B, add new Subparagraph "6" to read as follows:

"6. Siemens Building Technologies, Inc."

Item 12

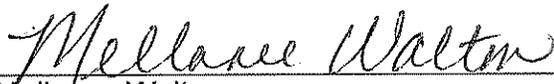
Delete Specification Section 17200 in its entirety from the Project Manual and delete any references to this section in other specification sections. Work of this section will be contracted separately.

Item 13

LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES: SEE ATTACHED

All questions must be in writing (not phone or e-mail) and must be forwarded to the consulting Architect/Engineer, Jan Keane (212) 866-5006 with copies sent to the DPW Project Manager, Joel Baranowski (860) 713-7261 and Construction Administrator, Jeff Fogel (516) 938-5491.

End of Addendum Number Two



Mellahee Walton
Associate Fiscal Administrative Officer
Department of Public Works

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ITEM 13 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

1. Q. *Fire Alarm Specification, Division 16721, 2.3. The specification calls for a Notifier fire alarm panel to be connected to the existing fire alarm control panel. The building currently has two existing Simplex 4100U fire alarm panels fully capable of handling the devices in the renovated space. Therefore shouldn't the specification reflect add to existing Simplex system? Please clarify.*
A. The new addition is a stand alone building with its own power service and fire alarm panel. The F.A. Panel shall be connected to the main system. Refer to Addendum No. 2 for changes to Section 16721 regarding this question.
2. Q. *Curtain glass: Please confirm that both silicone butt joints and caps are required.*
A. Confirmed.
3. Q. *Hollow metal doors & doors with the circular glass: Will glass subs be supplying glass for these doors? Will glass sub be supplying & installing the doors in the curtain wall and wall systems?*
A. General Contractors, not the design team, are responsible for scoping out the various trades required to complete the project.
4. Q. *Storefront finish: What type of finish? Should sub price out as bone white (as curtain wall)?*
A. Refer to Section 08411, Article 2.9 for finish and color of storefront framing.
5. Q. *Details 06/A6.00 & 09/A6.00 Extruded aluminum infill by window manufacturer: What is the infill? Can more details re: caps/inserts for curtain walls be provided?*
A. See attached Sketch SK-A6.00-A.
6. Q. *Extended mullion cover for curtain wall: Does not look like a standard option. What kind of extended face cover is the Architect looking for?*
A. Refer to Section 08911, Article 2.3, Paragraph N. Custom 1600 System 1 Exterior Cover manufactured by Kawneer.
7. Q. *Is the color of the composite panels to match the color of the curtain wall?*
A. Refer to Section 07415, Article 2.3, Paragraph B.
8. Q. *What is the color of the Architectural Wall System? The color options are "as selected by Architect". Color choices are needed to price out appropriately.*
A. Colors for the Architectural wall System are custom colors as described on A7.04
9. Q. *Drawing M2.11, the 8x8 duct from storage room to pipe tunnel – does this duct vent in to the pipe tunnel or does it connect to an existing duct?*
A. Duct vents into the pipe tunnel.

ITEM 13 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

10. Q. *According to the construction documents there is work being done in the B wing boiler room, the fire pump room, in rooms A104, A119, A122, A121, A120, A124, and A125 and room A220. Question: Code Compliance plans indicate these areas are outside scope of renovation. Have these areas been reviewed for code compliance?*
- A. **Yes, these rooms have been reviewed for code compliance to the extent necessary to complete the project.**
11. Q. *Drawing A2.11A, Storage Room A124 shows an opening on the north wall. Drawing A10.1A demo doesn't, is this a new or existing opening?*
- A. **Opening is existing.**
12. Q. *Drawing A2.11A shows double door, wall and window frame along with angled wall at vestibule A111 and corridor A1112. Is there new construction at this area? Is the wall squared off as shown on drawing A2.11A? If so please provide a new drawing of this area.*
- A. **We are unclear as to the area of the project that the question is referring to.**
13. Q. *Drawing A2.11A, are doors to alcoves A113 and A212 new or existing?*
- A. **Doors are existing.**
14. Q. *Drawing A1.02A and A2.12A. Rooms A200, A215, and A216 show relocated marker boards and projection screens. What room are they relocated from?*
- A. **Marker board and projection screen in Room A215 is to be relocated from First Floor Classroom, refer to Drawing A1.0A for location.**
- Marker board and projection screen in Room A216 are to be new to match existing relocated boards and screens.**
- Marker board in Room A200 is to be new; projection screen is existing to remain.**
15. Q. *Division 10 – Specialties. Please confirm if both interior and exterior signage will be provided by Owner.*
- A. **All signage is to be provided and installed by the contractor.**
16. Q. *Division 10 – Specialties. Please advise which sun control device specification section we are to use, specification section 08911 Glazed Aluminum Curtain Wall, or 10705 Exterior Sun Control Devices.*
- A. **Use both sections. Refer to Section 08911, Article 2.2, Paragraph A and Section 10705, Article 2.3, Paragraph A for locations of use for each type of sunshade.**
17. Q. *Division 15 – Mechanical. Drawing M2.14 calls out existing boilers to receive new combination gas and oil burners, typical of two (2). Please provide the manufacturer and model numbers of the existing boilers in order to properly size the requirements for the new burners.*
- A. **Boilers are the same as the new boilers. Refer to Boiler Schedule on Drawing M4.01.**

ITEM 13 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

18. Q. *Drawing A7.00. Elevations indicates ceramic tile on the walls in Lobby H013; Drawing A2.00 Floor Plans indicates impact resistant gyp on the wall. If the walls have ceramic tile, which tile, A-W1 or A-W2?*
- A. **The walls in lobby H013 have both impact resistant gyp and ceramic tile as indicated on the elevations on A7.00. Both tile colors T1 and T2 are required in this space- see A7.04 for locations of each.**
19. Q. *Drawing A7.00 elevation 4, wall from outside corner to door H000.3 (wall with display case). Should this wall be ceramic tile?*
- A. **This wall is impact resistant gyp.**
20. Q. *Section 02081 paragraph D states that "any damages caused during the performance of abatement contractors shall be repaired by the contractor". Will the Phase 1 abatement contractor be repairing any areas outside the demolition areas shown on drawings A1.01A and A1.02A prior to building A turnover to the general contractor?*
- A. **No, the Phase 1 abatement contractor will not be performing any repairs.**
21. Q. *On drawing S2.00 the footing at column line D/5 is listed as an F12L type. There is no F12L footing in the footing schedule. Footing type F11 is listed on the footing schedule however, not found on the foundation plan.*
- A. **See the note at the bottom of the footing schedule box on drawing S2.00 for information regarding the L designation. There are no type F11 footings but there are type F11L footings and the information on the type F11 footing is required to understand what a type F11L footing is.**
22. Q. *The note on drawing L3.01 states that the contractor is to contact the client to identify the original sign manufacturer for the campus entry sign. Are we to assume we are to contact DPW for this information? If this is not correct, please provide contact person, phone, and email and or fax number(s). We also assume that this is not a lighted sign. Please confirm which sign type(s) are to be provided by the owner and which are to be provided by the contractor. Also, who will be installing the owner supplied signs, owner or contractor?*
- A. **The sign manufacturer is: American Sign, Inc., 614 Ferry Street, New Haven, CT 06513, Telephone: 203-624-2991. This sign is not a lighted sign. All signs on the contract documents are to be provided and installed by the Contractor.**
23. Q. *Section 01010 Summary of work C.1. Reads "upon completion of phase 2A - interior asbestos abatement, the contractor shall commence phase 2B - exterior asbestos abatement work." Please advise if these (2) operations may occur concurrently.*
- A. **No**
24. Q. *On the equipment schedule: will the flammable storage cabinets and acid cabinets need to be vented.*
- A. **No, the flammable storage cabinets and acid cabinets do not need to be vented.**

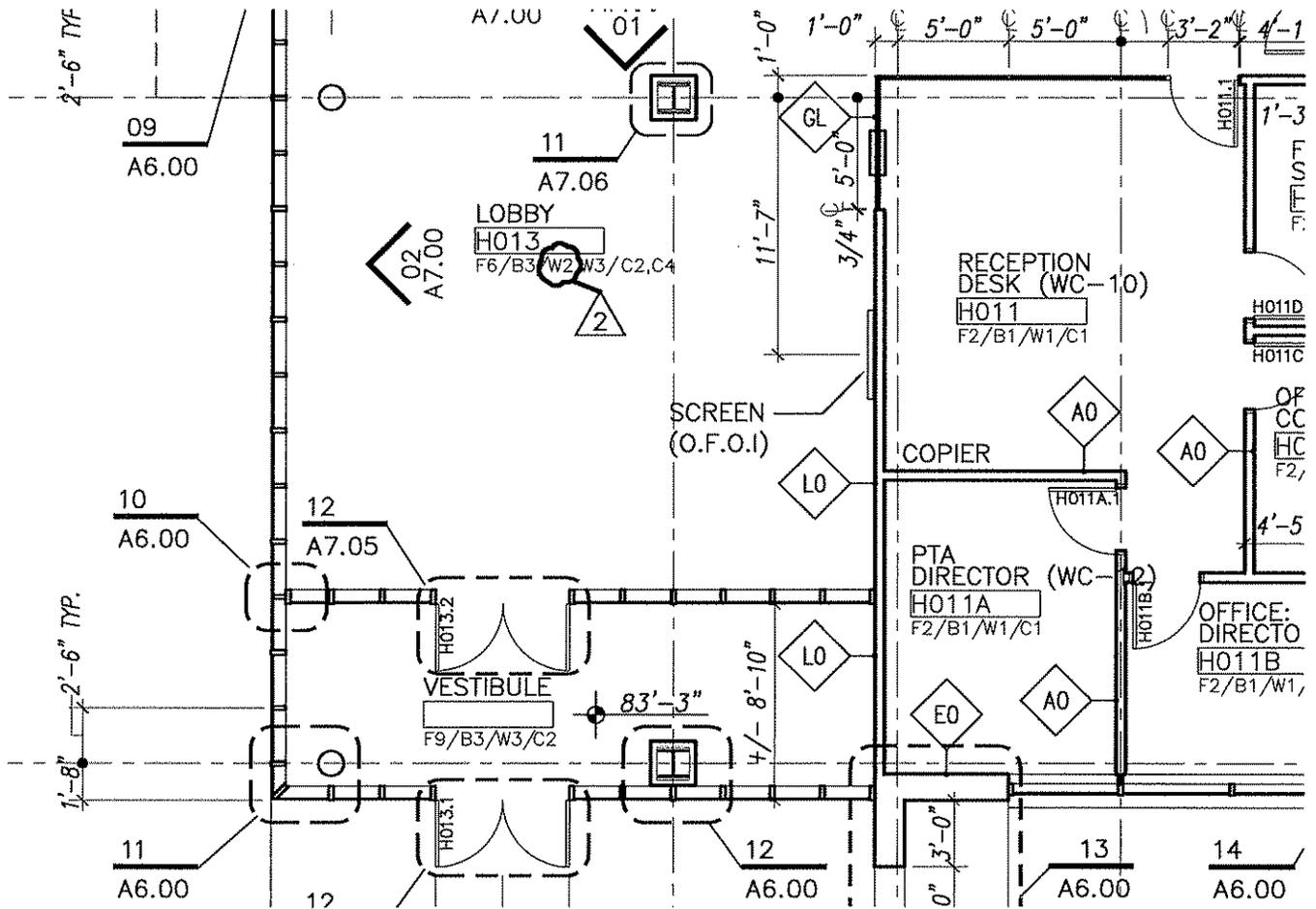
ITEM 13 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

25. Q. On the equipment schedule: are there power requirements for the hospital beds? Are their power requirements for the treadmills, upright and recumbent cycles, steppers, upper body ergometer, gauntlet and the ellipticals?
- A. **The power requirements for this equipment are incorporated into the documents.**
26. Q. *Drawing EP2.01, there is no "R" in the key notes*
- A. **"R" = Flush floor box with double duplex convenience receptacle and double data outlets.**
27. Q. *Drawing EP2.02, there is no "P" in the key notes*
- A. **"P" = Outlet box for emergency gas shut-off and key switch reset.**
28. Q. *Drawing A4.01 Sections 7 & 8 are incomplete. Please provide revised details.*
- A. **Use Section 6 for continuation of detailing at Sections 7 and 8. The intent was to show the full building height in Section 6 and to only show variations from Section 6 below the second floor in Sections 7 and 8.**
29. Q. *Drawings A4.01 sections 6 & 7 calls out column line B1. There is no column line B1 shown on the architectural or structural drawings. Please advise.*
- A. **Section 6 Column Line B1 is correct. See Drawing A2.03 Architectural Roof Plan. Delete Column B1 designation on Section 7. This center line dimension designates the center line of the beam.**
30. Q. *Drawing E001 shows a partial courtyard lighting layout with a type "AA1" light. This light is not in the spec. Please specify type, make and quantity.*
- A. **Hubbell Model No. VE8D-70MH-277-FL/SP-C-YK-WM. Quantity as indicated on Drawings.**
31. Q. *Detail 9/S3.01 and 01A/A4.00A show a foundation wall extension at Wing A. However, the limits of this work is not clear. Please clarify.*
- A. **Refer to drawings S2.11A and A2.11A. The detail applies at the new curtain wall on line XJ in the area of grids X12 and X10 as shown. The wall is approximately 32' long.**
32. Q. *Please submit a scaled version of CIT-Wing with electrical main distribution location and Tel/Data I.T. Location*
- A. **Please refer to Drawing E001.**
33. Q. *Drawing A2.11A references detail 1/A4.01A on the east wall of Corridor A114. Does this detail only apply to the areas that require a new duct shaft, or is this detail required along the entire corridor, on both sides and both floors?*
- A. **Detail only applies to the area that requires a new duct shaft, on one side of corridor and goes from the second floor up to the roof as indicated on Detail 1/A4.01A.**

ITEM 13 - LIST OF BIDDING REQUESTS FOR INFORMATION AND RESPONSES

34. Q. *There is no specification for the vacuum piping. Are the pipe sizes correct for the vacuum piping?*
- A. **Refer to Addendum No. 2 for vacuum piping specification. The pipe sizes are correct as indicated on the Drawings.**
35. Q. *On the above referenced project, spec section 12346 2.2 D.1 & E.1 calls for Select Clear White Oak Quarter sliced Veneer, Face Grade AA, with minimum six inch veneer leaves on Exposed Exterior components of cabinetry. Although available, this material carries a high premium due to the six inch minimum requirement on leaf width. (Industry standard on white oak quarter sawn is four to five inch widths). Please confirm that this is the design intent and required.*
- A. **4" minimum veneer leafs are acceptable.**

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SK-A2.00-B

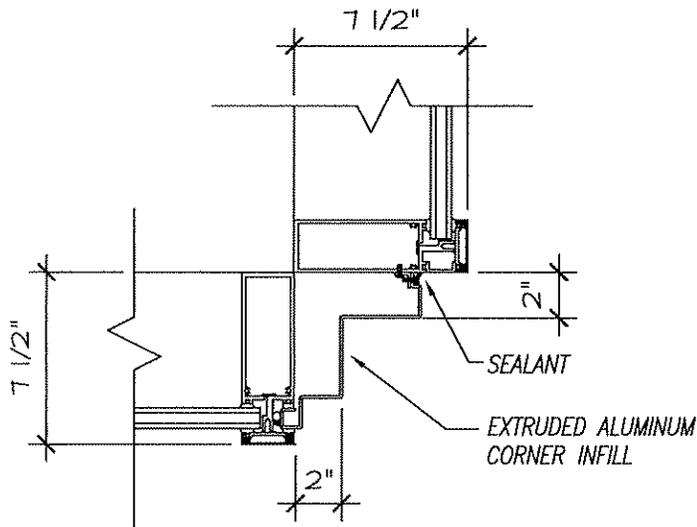
ADDENDUM 2: 7/30/09

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

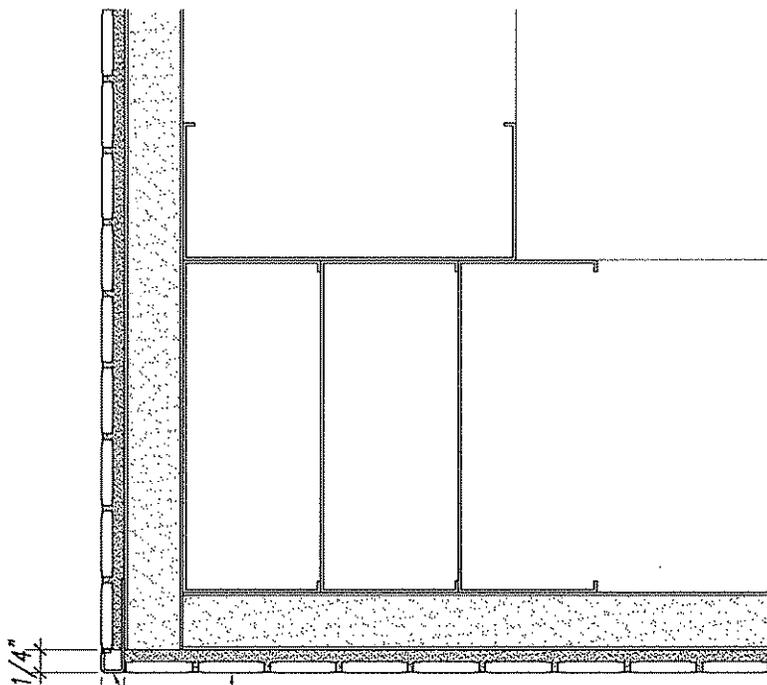
DPW PROJECT NO. BI-CTC-406

PAGE 11 OF 16

SCALE: 1/8" = 1'-0"

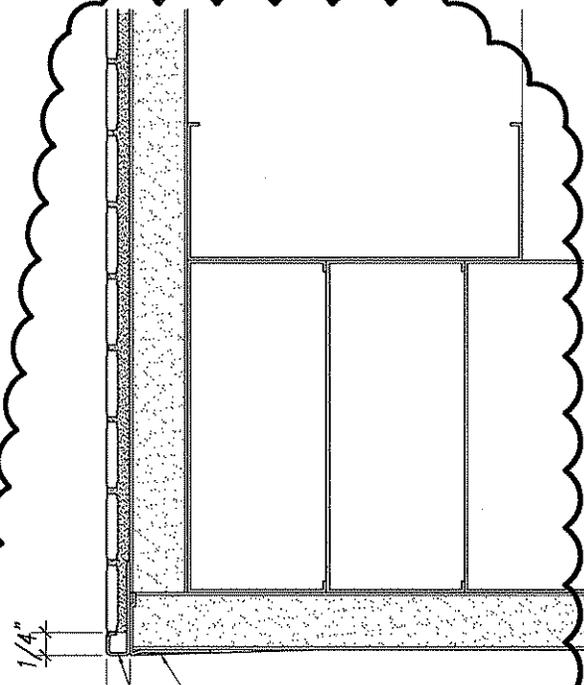


06-A DETAIL © EXTRUDED ALUM. FILLER
 1 1/2" = 1'-0"



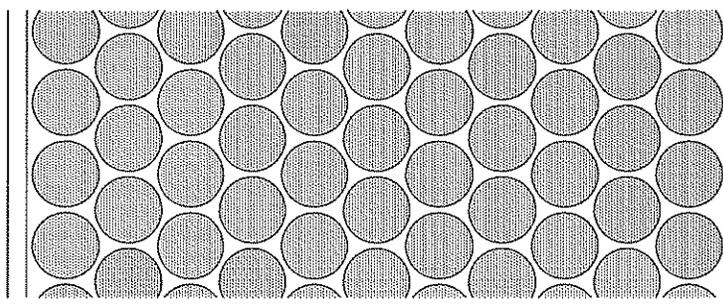
1/4"
1/4"
PENNY TILE, SEE ELEVATIONS
STAINLESS STEEL CORNER TRIM

TILE-TILE CORNER



1/4"
1/4"
MUD TO L-BEAD AT GYP.BD. CORNER, ALIGN CORNER TRIM TO FINISH EDGE OF GYP.BD.
STAINLESS STEEL CORNER TRIM

TILE-GYP CORNER



DETAIL PLAN SECTION: TYP TILE OUTSIDE CORNERS
6" = 1'-0"

040400-1137-AP

SK-A7.05-A

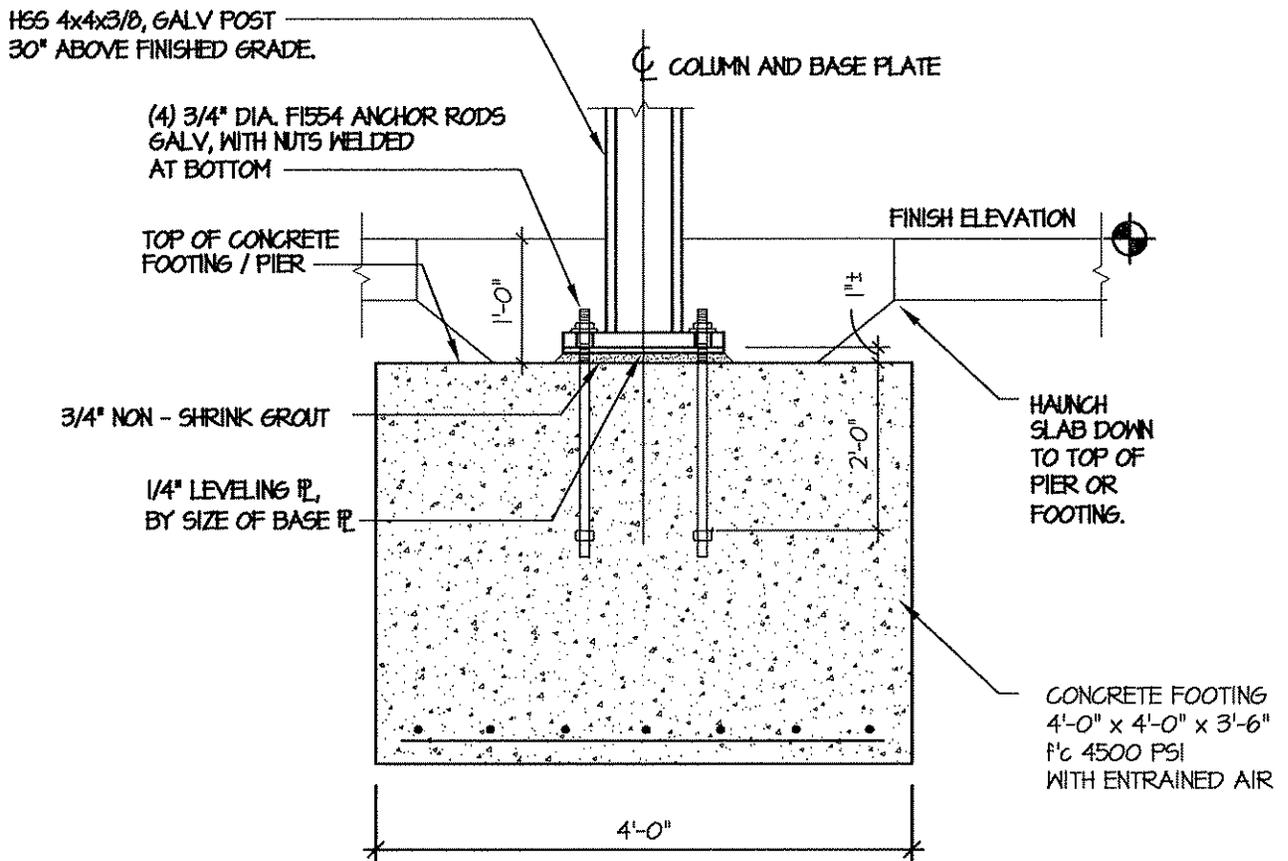
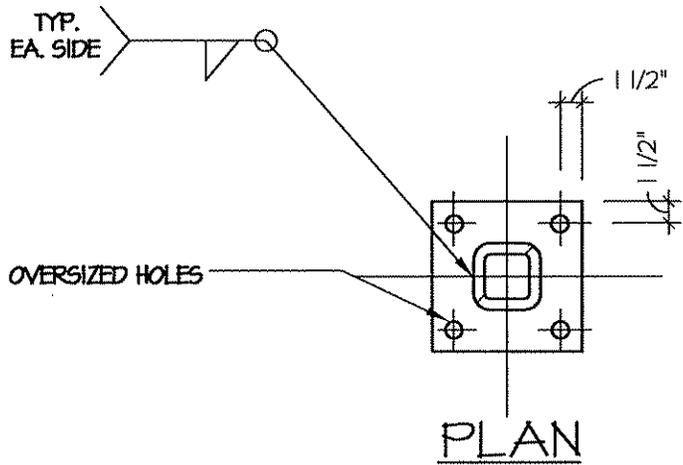
ADDENDUM 2: 7/30/09

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

DPW PROJECT NO. BI-CTC-406

PAGE 13 OF 16

SCALE: 6" = 1'-0"



ARTWORK FOUNDATION

SK-S301-A

ADDENDUM 2 7/30/09

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

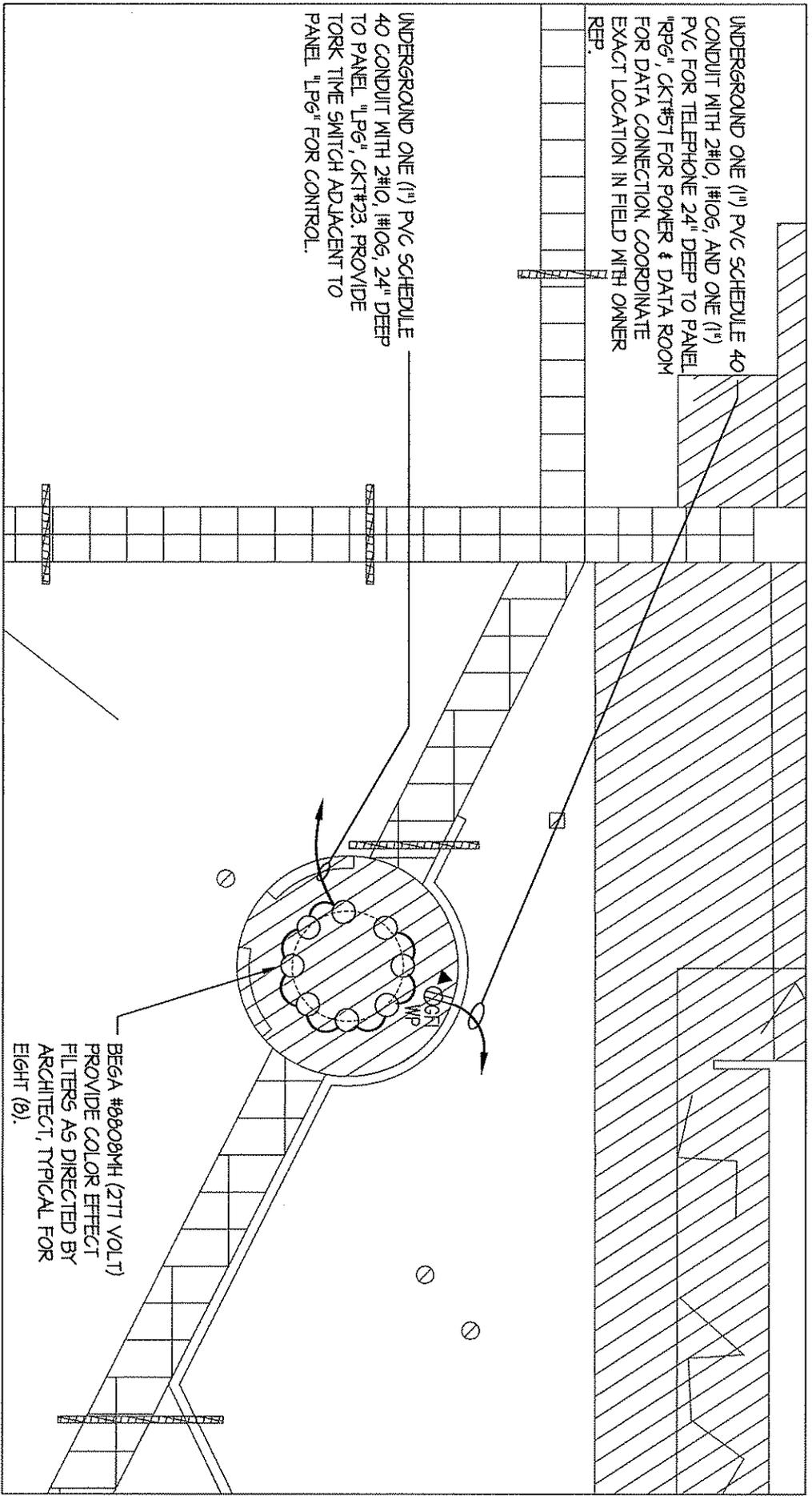
DPW PROJECT NO. BI-CTC-406

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SCALE: 3/4" = 1'-0"

UNDERGROUND ONE (1") PVC SCHEDULE 40
 CONDUIT WITH 2#10, #10G, AND ONE (1")
 PVC FOR TELEPHONE 24" DEEP TO PANEL
 #1P6#, CKT#51 FOR POWER & DATA ROOM
 FOR DATA CONNECTION. COORDINATE
 EXACT LOCATION IN FIELD WITH OWNER
 REP.

UNDERGROUND ONE (1") PVC SCHEDULE
 40 CONDUIT WITH 2#10, #10G, 24" DEEP
 TO PANEL #1P6#, CKT#23. PROVIDE
 TORK TIME SWITCH ADJACENT TO
 PANEL #1P6# FOR CONTROL.



ART PIECE ELECTRICAL PARTIAL PLAN

SK-E001-A

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT
 DPW PROJECT NO. GFSDFG

ADDENDUM 2: 7/30/09

SCALE: 1" = 20'-0"

SK-L1.00-A

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

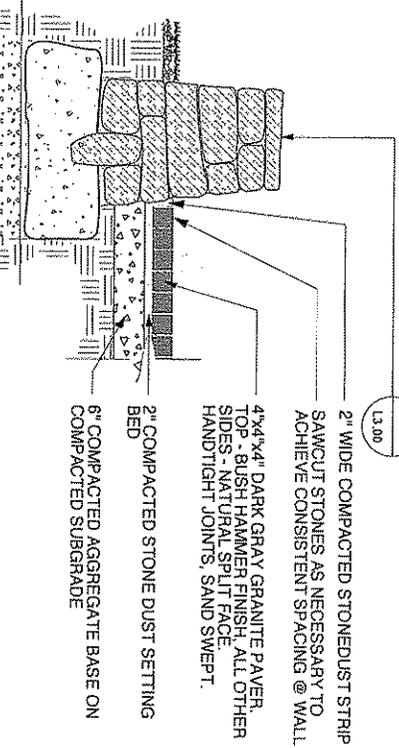
DPW PROJECT NO. BR-CTC-4106

PAGE 16 OF 16

APPENDUM 2: 7/30/09
SCALE: VARIES

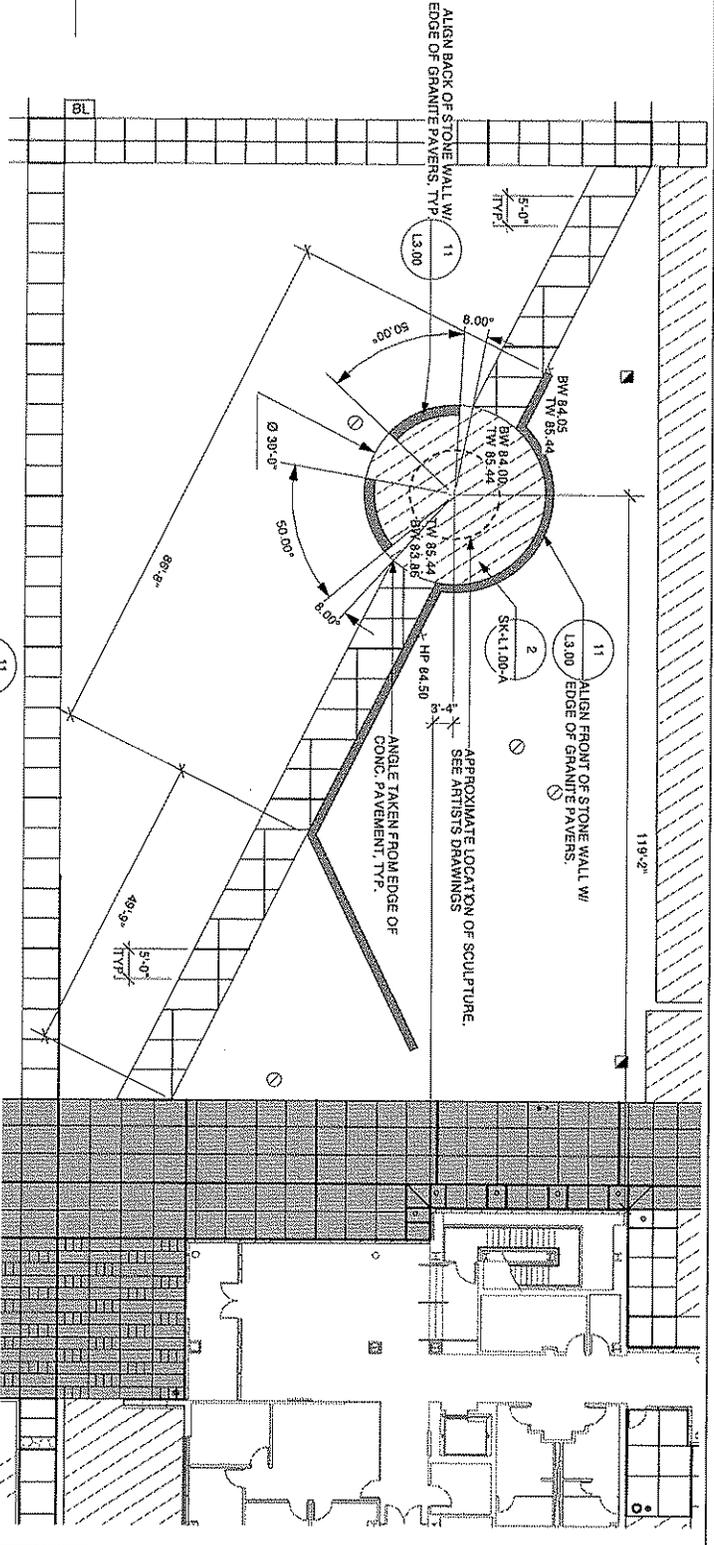
2 GRANITE COBBLE PAVING DETAIL

SK-L1.00-A 1/2" = 1'-0"



1 ART PIECE LAYOUT

SK-L1.00-A 1" = 20'-0"



INTERDEPARTMENTAL MEMORANDUM

TO: Mellanee Walton, Associate Fiscal Administrative Officer
Bidding & Contracts, Room G-35
165 Capitol Avenue, Hartford, CT 06106

FROM: Joel Baranowski, Project Manager
Team Quimby, Room 463
165 Capitol Avenue, Hartford, CT 06106

DATE: July 14, 2009

SUBJECT: ADDENDUM # 1

PROJECT TITLE: West Campus Development – Phase 2
Norwalk Community College
Norwalk, Connecticut

PROJECT NO.: BI-CTC-406

SCHEDULED BID OPENING: August 12, 2009

Please expedite the attached Addendum # 1

1. The total number of pages in this addendum is: 23
2. There are no drawings issued as part of this addendum – Not applicable.
3. See attached Revised “Bid Released” form (55) dated: Not Applicable
4. Addendum #1 clarifies a few items identified as a result of code reviews and includes pre-bid conference sign-in sheet which was requested by the bidders. These clarifications should have no impact on the cost of the work.

Attachment

xc: Lenell Kittlitz, Board of Trustees, Community-Technical Colleges (Agency)
Team File
Project Manager - Baranowski

**NORWALK COMMUNITY COLLEGE – PHASE 2
WEST CAMPUS DEVELOPMENT
NORWALK, CONNECTICUT
PROJECT: BI- CTC - 406**

BID OPENING	1:00 P.M.	August 12, 2009
ADDENDUM NUMBER ONE	DATE OF ADDENDUM	July 15, 2009

The following clarifications are applicable to drawings and specifications for the project referenced above.

Item 1

New Technical Specification Sections issued by this Addendum:

1. Section 16269 - Variable-Frequency Motor Controllers

Item 2

New Architectural and Mechanical Sketch Drawings, dated July 15, 2009, and attached:

1. SK-A2.00-A "Ground Floor Addition Plan"
2. SK-A7.40-A "Type M Plaque Sign"
3. SK-A8.03-A "Ground Floor Flooring Pattern-New Building"
4. SK-M3.06-A "Gas Train Piping Diagram"
5. SK-M3.06-B "#2 Oil Piping Diagram"

Item 3

Attached is Pre-bid Meeting List of Attendees consisting of 3 pages inclusive for your use and information.

Item 4

On Drawing M2.01, delete references to Key Notes 4 & 11 and corresponding symbols.

Item 5

On Drawing M4.01, under AIR HANDLING UNITS, change Note 8 to the following:

"VFDs for this equipment will be provided by the mechanical equipment supplier, in accordance with the requirements of Specification Section 16269, and shall be installed and wired by the Electrical Contractor."

Item 6

On Drawing M4.01, under ENERGY RECOVERY UNITS, change Note 8 to the following:

“VFDs for this equipment will be provided by the mechanical equipment supplier, in accordance with the requirements of Specification Section 16269, and shall be installed and wired by the Electrical Contractor.”

Item 7

On Drawing M4.01, under ROOFTOP AIR CONDITIONING UNITS, change Note 8 to the following:

“VFDs for this equipment will be provided by the mechanical equipment supplier, in accordance with the requirements of Specification Section 16269, and shall be installed and wired by the Electrical Contractor.”

Item 8

On Drawing M4.01, under PUMPS, add Note 5:

“VFDs for this equipment will be provided by the mechanical equipment supplier, in accordance with the requirements of Specification Section 16269, and shall be installed and wired by the Electrical Contractor.”

Item 9

On Drawing M4.01, under BOILERS, change Note 3 to the following:

“For Boiler sequence of operation see Specification Section 15901.”

Item 10

On Drawing M4.02, under the FAN SCHEDULE, change Note 3 to read as follows:

“Motor starters shall be provided under Division 16. Coordinate location of starters with the Electrical Contractor.”

Item 11

On Drawing E2.00, in the Mechanical Equipment Schedule, add Combustion Air Fan CAF-1 located in the Wing “B” Boiler Room, 1-HP motor, 208V, 3PH, 3#12, 1#12G in 3/4-inch conduit, and 30A3P disconnect switch. The fan is located as indicated on Drawing EP2.11 and is fed as per Drawing E402 Panel “PB”.

Item 12

On Drawing EP2.11, under KEYED NOTES, change Note Q to read as follows:

“VFDs for this equipment will be provided by the mechanical equipment supplier, in accordance with the requirements of Specification Section 16269, and shall be installed and wired by the Electrical Contractor.”



LiRo Program and
Construction Management, P.C.

Norwalk Community College
Phase II West Campus Development

Pre-bid Meeting

June 30, 2009

Attendees

NAME		COMPANY	E-MAIL	TELEPHONE	FAX
PRINT	SIGN				
Jeff Fogel	<i>[Signature]</i>	LIRO	FogelJ@LIRO.com	646-996-1883	203-276-5375
Stephen Connelly	<i>[Signature]</i>	Fun/Univ/Emvish	S.Connelly@emvish.com	860-646-7469	860-649-6883
Carl Goodwin	<i>[Signature]</i>	NEC FOUNDATION	CTGOODWIN@NEC.COM		
John Doherty	<i>[Signature]</i>	MICHELLE MURPHY ARCH	DOHERTY@MICHELLEMURPHY.COM	212-863-4000	212-866-5006
John Mann	<i>[Signature]</i>	OBG INC	johnmann@obg.net	860-496-9267	-4227
Debra Nichols	<i>[Signature]</i>	FRAND FRIE	DNICHOLS@FRANDFRIE.COM	860-405-0017	860-405-0008
Jim Cowkin	<i>[Signature]</i>	KOE BUILDING	JCOWKIN@KOEBUILDING.COM	860-284-7460	860-284-7860
Mike Carabona	<i>[Signature]</i>	KOE BUILDING	MICARABONA@KOEBUILDING.COM	860-284-7630	
LARRY BRUNDI	<i>[Signature]</i>	LANCE BRUNDI	L.BRUNDI@L.B.COM	860-676-9908	676-0455
Chris Powers	<i>[Signature]</i>	The National Truss Co.	CHRIS.POWERS@NATIONALTRUSSCO.COM	203-581-5700	800-789-8776
Pio Bonvicini - Rizzo Corporation - T. 203 731 3131 Fx 203 7313138 - pbonvicini@rizzocorporation.com					
Robert Denton	<i>[Signature]</i>	Gen's Carpentry		203-213-7370	
Brian Labate	<i>[Signature]</i>	JR. VINGEO Corp	Patricio@vingo.com	401-943-2100	401-647-5841
David Semak	<i>[Signature]</i>	A. Secondino Inc	david@secondino.com	203-481-3496	203-483-8804
Javed Choudhry	<i>[Signature]</i>	A Prete Const	Jchoudhry@prete.com	203-469-1397	203-468-2037
Tim Hendon	<i>[Signature]</i>	HUNTER ROBERTS	THENDON@HUNTERROBERTS.COM	212-921-6919	212-921-6993
Michael Workshop	<i>[Signature]</i>	Flara Construction	MWORKSHOP@FLARA.COM	212-848-4776	212-849-4875



LiRo Program and
Construction Management, P.C.

Norwalk Community College
Phase II West Campus Development

2

June 30, 2009

Pre-bid Meeting

Attendees

NAME		COMPANY	E-MAIL	TELEPHONE	FAX
PRINT	SIGN				
CHRIS NANCE	<i>[Signature]</i>	FIP CONSTRUCTION	nancic@fipconstruction.com	203-271-0556	272-5073
Chris Nance	<i>[Signature]</i>	BISMARCK CONSTRUCTION	EMRAUCCI@BISMARCKCONSTRUCTION.COM	203-526-8531	603-826-2448
MIKE FLAHERTY	<i>[Signature]</i>	GAR-SAN CORP.	MFLAHERTY@GARSAN.COM	800-277-5574	860-274-2118
James Urquiza	<i>[Signature]</i>	GAR-SAN CORP.	JURKSE@GARSAN.COM	860-274-8874	860-274-2118
Marco Fajardo	<i>[Signature]</i>	Dinorazo Mechanical	marco@dinorazomechanical.com	203-397-0887	203-387-7873
DAVID SCHUNTER	<i>[Signature]</i>	ANDRON CONSTRUCTION	dschunter@andron.com	914-232-7531	914-232-4105
MIKE PELZARE	<i>[Signature]</i>	L'APALUCCIO INC	mikepelz@lapaluccio.com	203-775-1437	740-9985
Anthony Cincio	<i>[Signature]</i>	Arzo Corp	ACINCIO@ARZOCORP.COM	203-731-3134	203-731-8747
Sam Walters	<i>[Signature]</i>	Quality Welding	sam@qualitywelding.com	860-585-1121	860-940-6193
Jose M Pylecki	<i>[Signature]</i>	L.M. Company	Mike@LMCo.com	914-937-080	
MONTERUSSO	<i>[Signature]</i>	ABJ CONSTRUCTION	MONTE@ABJCONSTRUCTION.COM	203-775-1385	203-775-5816
Steven Vincent	<i>[Signature]</i>	CABLE SYSTEMS OF CONNECTICUT	STEVEN@CABLESYSTEMSOFCT.COM	203-234-1250	203-234-7430
Ed Hickey	<i>[Signature]</i>	Acme Elect. Co.	Manlyvatti@acmeelect.com	348 0116	803 334 6057
BRIAN HERON	<i>[Signature]</i>	ASSOCIATED CONST	bheron@accg.com	860 296-4114	860 296-7206
MIKE HENRY	<i>[Signature]</i>	MOORE CONST	mh@mooreconst.com	860-797-8788	203-771-2515
Bill O'Donnell	<i>[Signature]</i>	A.C. Fencing	www.acfencing.com	203-624-9282	203-674-1903
Jonathan Spore	<i>[Signature]</i>	Newfield Construction	jonsp@newfieldconstruction.com	860-509-3000	860-953-1605
Gas Pappalardo	<i>[Signature]</i>	A.Texco	gas@atexco.com	203-535-0201	203-535-0201



LiRo Program and
Construction Management, P.C.

Norwalk Community College
Phase II West Campus Development

Pre-bid Meeting

June 30, 2009

Attendees

NAME		COMPANY	E-MAIL	TELEPHONE	FAX
PRINT	SIGN				
MIKE REILLY	<i>M. Reilly</i>	A I de	MIKER@AIGLABOR.COM	203-938-9639	203-931-8786
Tom Wodah	<i>Tom Wodah</i>	ATP Construction	twodah@atpconstruction.com	203-388-1129	203-359-0202
Joel Baranowski	<i>Joel Baranowski</i>	Public Works	(860) 713-5612		
David Surprenant	<i>David Surprenant</i>	DPW	860-713-5754		
JERRY COHEN	<i>Jerry Cohen</i>	LIRO	cohenj@liro.com	947-728-9476	
PAUL WEBER	<i>Paul Weber</i>	Fletcher	FWEI@FLETCHER.COM	203-225-6576	
JOE BENSON	<i>Joe Benson</i>	"	JBENSON@FIRE.COM	203-225-6500	
James Lepore	<i>James Lepore</i>	SEHY ASSOCIATES, P.C.	SLHORN@SEHYASSOCIATES.COM	203-656-6456	203-656-4468
ADAM KESSLER	<i>Adam Kessler</i>	Process Assoc.	AKESSLER@PROCESSASSOCIATES.COM	633-8341	
RICH SANTORO	<i>Rich Santoro</i>	VT ASSOC	RSANTORO@VTASSOCIATES.COM	516-932-1010	
BRAND KRONEBERGER	<i>Brand Kroneberger</i>	KRONEBERGER & SONS	BRAND@KRONEBERGERSONS.COM	860-347-4400	860-343-0300
RON GOODIN	<i>Ron Goodin</i>	DPMCT	rgoodin@dpw-norwalk.com	860-882-5608	
PETER RAZZ	<i>Peter Razz</i>			203-229-0544	203-229-0526
Hector Ayubi	<i>Hector Ayubi</i>	OSCAR'S Neighborhood	hoyubi@oscarsneighborhood.com	860-896-7450	860-747-7417
Ken Brown	<i>Ken Brown</i>	CHALKER INT.	KBROWN@CHALKERINT.COM	860-417-1085	860-417-1086
Kevin Thompson	<i>Kevin Thompson</i>	DPW		860-713-5613	
Victor Osilla	<i>Victor Osilla</i>	DPW		203-913-3648	
Peter Miesoli	<i>Peter Miesoli</i>	EEP	PMIESOLI@EPPMOR-K-01.COM	913-823-1445	

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 SECTION INCLUDES

- A. Solid-state, PWM, VFCs for speed control of three-phase, squirrel-cage induction motors.

1.3 RELATED SECTIONS

- A. Section 16478 - Transient-Voltage Suppression for Low-Voltage Electrical Power Circuits: Low-voltage power, control, and communication surge suppressors.

1.4 DEFINITIONS

- A. BMS: Building management system.
- B. IGBT: Integrated gate bipolar transistor.
- C. LAN: Local area network.
- D. PID: Control action, proportional plus integral plus derivative.
- E. PWM: Pulse-width modulated.
- F. VFC: Variable frequency controller.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300
- B. Product Data: For each type of VFC. Include dimensions, mounting arrangements, location for conduit entries, shipping and operating weights, and manufacturer's technical data on features, performance, electrical ratings, characteristics, and finishes.
- C. Shop Drawings: For each VFC.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings. Include the following:
 - a. Each installed unit's type and details.
 - b. Nameplate legends.
 - c. Short-circuit current rating of integrated unit.
 - d. Listed and labeled for series rating of overcurrent protective devices in combination controllers by an NRTL acceptable to authorities having jurisdiction.
 - e. Features, characteristics, ratings, and factory settings of each motor-control center unit.
 2. Wiring Diagrams: Power, signal, and control wiring for VFCs. Provide schematic wiring diagram for each type of VFC.
- D. Coordination Drawings: Floor plans, drawn to scale, showing dimensioned layout, required working clearances, and required area above and around VFCs where pipe and ducts are prohibited. Show VFC layout and relationships between electrical components and adjacent structural and mechanical elements. Show support locations, type of support, and weight on each support. Indicate field measurements.
- E. Manufacturer Seismic Qualification Certification: Submit certification that VFCs, accessories, and components will withstand seismic forces defined in Section 16071. Include the following:
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
 - b. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- F. Qualification Data: For [manufacturer] [testing agency] [manufacturer and testing agency].
- G. Field quality-control test reports.
- H. Operation and Maintenance Data: For VFCs, all installed devices, and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 01730, include the following:
1. Routine maintenance requirements for VFCs and all installed components.
 2. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.

- I. Load-Current and Overload-Relay Heater List: Compile after motors have been installed and arrange to demonstrate that selection of heaters suits actual motor nameplate full-load currents.
- J. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed and arrange to demonstrate that dip switch settings for motor running overload protection suit actual motor to be protected.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer. Maintain, within 100 miles of project site, a service center capable of providing training, parts, and emergency maintenance and repairs.
- B. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
 - 1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.
- C. Source Limitations: Obtain VFCs of a single type through one (1) source from a single manufacturer.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- E. Comply with NFPA 70.
- F. Product Selection for Restricted Space: Drawings indicate maximum dimensions for VFCs, minimum clearances between VFCs, and adjacent surfaces and other items. Comply with indicated maximum dimensions and clearances.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver VFCs in shipping splits of lengths that can be moved past obstructions in delivery path as indicated.
- B. Store VFCs indoors in clean, dry space with uniform temperature to prevent condensation. Protect VFCs from exposure to dirt, fumes, water, corrosive substances, and physical damage.
- C. If stored in areas subject to weather, cover VFCs to protect them from weather, dirt, dust, corrosive substances, and physical damage. Remove loose packing and flammable materials from inside controllers; install electric heating of sufficient wattage to prevent condensation.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation, capable of driving full load without derating, under the following conditions, unless otherwise indicated:
 - 1. Ambient Temperature: 0 to 40 degrees C.
 - 2. Humidity: Less than 90 percent (non-condensing).
 - 3. Altitude: Not exceeding 3300 feet.

- B. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:
 - 1. Notify Construction Manager no fewer than two (2) days in advance of proposed interruption of electrical service.
 - 2. Indicate method of providing temporary electrical service.
 - 3. Do not proceed with interruption of electrical service without Construction Manager's written permission.

- C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for VFCs, including clearances between VFCs, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

1.9 COORDINATION

- A. Coordinate layout and installation of VFCs with other construction including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

- B. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Section 003300.

- C. Coordinate installation of roof curbs, equipment supports, and roof penetrations. These items are specified in Section 07720.

- D. Coordinate features of VFCs, installed units, and accessory devices with pilot devices and control circuits to which they connect.

- E. Coordinate features, accessories, and functions of each VFC and each installed unit with ratings and characteristics of supply circuit, motor, required control sequence, and duty cycle of motor and load.

1.10 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Spare Fuses: Furnish one (1) spare for every five (5) installed, but no fewer than one set of three (3) of each type and rating.
2. Indicating Lights: Two (2) of each type installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:
1. Eaton Corporation; Cutler-Hammer Products.
 2. General Electric Company; GE Industrial Systems.
 3. Square D.

2.2 VARIABLE FREQUENCY CONTROLLERS

- A. Description: NEMA ICS 2, IGBT, PWM, VFC; listed and labeled as a complete unit and arranged to provide variable speed of an NEMA MG 1, Design B, 3-phase induction motor by adjusting output voltage and frequency.
1. Provide unit suitable for operation of premium-efficiency motor as defined by NEMA MG 1.
- B. Design and Rating: Match load type such as fans, blowers, and pumps; and type of connection used between motor and load such as direct or through a power-transmission connection.
- C. Output Rating: 3-phase; 6 to 60 Hz, with voltage proportional to frequency throughout voltage range.
- D. Unit Operating Requirements:
1. Input ac voltage tolerance of 208 V, plus or minus 5 380 to 500 V, plus or minus 10 percent.
 2. Input frequency tolerance of 50/60 Hz, plus or minus 6 percent.
 3. Minimum Efficiency: 96 percent at 60 Hz, full load.
 4. Minimum Displacement Primary-Side Power Factor: 96 percent.
 5. Overload Capability: 1.1 times the base load current for 60 seconds; 2.0 times the base load current for 3 seconds.
 6. Starting Torque: 100 percent of rated torque or as indicated.
 7. Speed Regulation: Plus or minus one (1) percent.
- E. Isolated control interface to allow controller to follow control signal over an 11:1 speed range.
1. Electrical Signal: 4 to 20 mA at 24 V.
- F. Internal Adjustability Capabilities:

1. Minimum Speed: Five (5) to 25 percent of maximum rpm.
 2. Maximum Speed: 80 to 100 percent of maximum rpm.
 3. Acceleration: Two (2) to a minimum of 22 seconds.
 4. Deceleration: Two (2) to a minimum of 22 seconds.
 5. Current Limit: 50 to a minimum of 110 percent of maximum rating.
- G. Self-Protection and Reliability Features:
1. Under- and overvoltage trips; inverter overtemperature, overload, and overcurrent trips.
 2. Motor Overload Relay: Adjustable and capable of NEMA ICS 2, Class 10 performance.
 3. Notch filter to prevent operation of the controller-motor-load combination at a natural frequency of the combination.
 4. Instantaneous line-to-line and line-to-ground overcurrent trips.
 5. Loss-of-phase protection.
 6. Reverse-phase protection.
 7. Short-circuit protection.
 8. Motor overtemperature fault.
- H. Automatic Reset/Restart: Attempts three (3) restarts after controller fault or on return of power after an interruption and before shutting down for manual reset or fault correction. Bidirectional autospeed search shall be capable of starting into rotating loads spinning in either direction and returning motor to set speed in proper direction, without damage to controller, motor, or load.
- I. Power-Interruption Protection: To prevent motor from re-energizing after a power interruption until motor has stopped.
- J. Torque Boost: Automatically varies starting and continuous torque to at least 1.5 times the minimum torque to ensure high-starting torque and increased torque at slow speeds.
- K. Motor Temperature Compensation at Slow Speeds: Adjustable current fall-back based on output frequency for temperature protection of self-cooled, fan-ventilated motors at slow speeds.
- L. Input Line Conditioning:
1. Do not exceed harmonic voltage and current distortion limits at point of common coupling (PCC) for general system applications, as recommended and defined by IEEE 519, unless specified otherwise in contract drawings.
 2. If the calculations determine that the harmonic distortion levels are higher than the voltage and current specified, the drive manufacturer shall provide either line reactors, isolation transformers, multi-pulse drives or trap filters to meet the intent of IEEE 519.
- M. VFC Output Filtering: As required by IEEE 519.
- N. Status Lights: Door-mounted LED indicators shall indicate the following conditions:
1. Power on.
 2. Run.

3. Overvoltage.
 4. Line fault.
 5. Overcurrent.
 6. External fault.
- O. Panel-Mounted Operator Station: Start-stop and auto-manual selector switches with manual speed control potentiometer and elapsed time meter.
- P. Indicating Devices: Meters or digital readout devices and selector switch, mounted flush in controller door and connected to indicate the following controller parameters:
1. Output frequency (Hz).
 2. Motor speed (rpm).
 3. Motor status (running, stop, fault).
 4. Motor current (amperes).
 5. Motor torque (percent).
 6. Fault or alarming status (code).
 7. PID feedback signal (percent).
 8. DC-link voltage (VDC).
 9. Set-point frequency (Hz).
 10. Motor output voltage (V).
- Q. Control Signal Interface:
1. Electric Input Signal Interface: A minimum of two (2) analog inputs (0 to 10 V or 0/4-20 mA) and six (6) programmable digital inputs.
 2. Remote Signal Inputs: Capability to accept any of the following speed-setting input signals from the BMS or other control systems:
 - a. 0 to 10-V dc.
 - b. 0-20 or 4-20 mA.
 - c. Potentiometer using up/down digital inputs.
 - d. Fixed frequencies using digital inputs.
 - e. RS485.
 - f. Keypad display for local hand operation.
 3. Output Signal Interface:
 - a. A minimum of one (1) analog output signal (0/4-20 mA), which can be programmed to any of the following:
 - 1) Output frequency (Hz).
 - 2) Output current (load).
 - 3) DC-link voltage (VDC).
 - 4) Motor torque (percent).
 - 5) Motor speed (rpm).
 - 6) Set-point frequency (Hz).

4. Remote Indication Interface: A minimum of two (2) dry circuit relay outputs (120-V ac, 1 A) for remote indication of the following:
 - a. Motor running.
 - b. Set-point speed reached.
 - c. Fault and warning indication (overtemperature or overcurrent).
 - d. PID high- or low-speed limits reached.

- R. Communications: Provide an RS485 interface allowing VFC to be used with an external system within a multi-drop LAN configuration. Interface shall allow all parameter settings of VFC to be programmed via BMS control. Provide capability for VFC to retain these settings within the nonvolatile memory.

- S. Manual Bypass: Magnetic contactor arranged to safely transfer motor between controller output and bypass controller circuit when motor is at zero speed. Controller-off-bypass selector switch sets mode, and indicator lights give indication of mode selected. Unit shall be capable of stable operation (starting, stopping, and running), with motor completely disconnected from controller (no load).

- T. Bypass Controller: NEMA ICS 2, full-voltage, non-reversing enclosed controller with across-the-line starting capability in manual-bypass mode. Provide motor overload protection under both modes of operation with control logic that allows common start-stop capability in either mode.

- U. Integral Disconnecting Means: NEMA AB 1, instantaneous-trip circuit breaker with lockable handle.

- V. Isolating Switch: Non-load-break switch arranged to isolate VFC and permit safe troubleshooting and testing, both energized and de-energized, while motor is operating in bypass mode.

- W. Remote Indicating Circuit Terminals: Mode selection, controller status, and controller fault.

2.3 ENCLOSURES

1. Provide front access enclosures with top or bottom cable entry. Enclosure shall conform to the following National Electrical Code Standards.
 - a. 5 through 60 horsepower: NEMA 1, wall mounted.
 - b. Over 60 horsepower: NEMA 1, wall or floor mounted.
2. Provide on the door of each AFC unit:
 - a. Input circuit breaker or fused disconnect.
 - b. Manual speed control.
 - c. Three position mode switch marked as follows: Hand-Off-Automatic.
 - d. A "Power On" light.
 - e. A speed indicating meter.
 - f. Drive fault indication

2.4 ACCESSORIES

- A. Devices shall be factory installed in controller enclosure, unless otherwise indicated.
- B. Push-Button Stations, Pilot Lights, and Selector Switches: NEMA ICS 2, heavy-duty type.
- C. Stop and Lockout Push-Button Station: Momentary-break, push-button station with a factory-applied hasp arranged so padlock can be used to lock push button in depressed position with control circuit open.
- D. Control Relays: Auxiliary and adjustable time-delay relays.
- E. Standard Displays:
 - 1. Output frequency (Hz).
 - 2. Set-point frequency (Hz).
 - 3. Motor current (amperes).
 - 4. DC-link voltage (VDC).
 - 5. Motor torque (percent).
 - 6. Motor speed (rpm).
 - 7. Motor output voltage (V).
- F. Historical Logging Information and Displays:
 - 1. Real-time clock with current time and date.
 - 2. Running log of total power versus time.
 - 3. Total run time.
 - 4. Fault log, maintaining last four (4) faults with time and date stamp for each.
- G. Current-Sensing, Phase-Failure Relays for Bypass Controller: Solid-state sensing circuit with isolated output contacts for hard-wired connection; arranged to operate on phase failure, phase reversal, current unbalance of from 30 to 40 percent, or loss of supply voltage; with adjustable response delay.

2.5 FACTORY FINISHES

- A. Finish: Manufacturer's standard [Insert color] paint applied to factory-assembled and -tested VFCs before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, surfaces, and substrates to receive VFCs for compliance with requirements, installation tolerances, and other conditions affecting performance.

- B. Examine roughing-in for conduit systems to verify actual locations of conduit connections before VFC installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

- A. Select features of each VFC to coordinate with ratings and characteristics of supply circuit and motor; required control sequence; and duty cycle of motor, controller, and load.
- B. Select horsepower rating of controllers to suit motor controlled.

3.3 INSTALLATION

- A. Anchor each VFC assembly to steel-channel sills arranged and sized according to manufacturer's written instructions. Attach by bolting. Level and grout sills flush with mounting surface.
- B. Install VFCs on concrete bases.
- C. Comply with mounting and anchoring requirements specified in Section 26 05 29.
- D. Controller Fuses: Install fuses in each fusible switch. Comply with requirements in Section 26 28 13.

3.4 CONCRETE BASES

- A. Coordinate size and location of concrete bases. Verify structural requirements with structural engineer.
- B. Concrete base is specified in Section 26 05 00, and concrete materials and installation requirements are specified in Division 03.

3.5 IDENTIFICATION

- A. Identify VFCs, components, and control wiring according to Section 16075.
- B. Operating Instructions: Frame printed operating instructions for VFCs, including control sequences and emergency procedures. Fabricate frame of finished metal, and cover instructions with clear acrylic plastic. Mount on front of VFC units.

3.6 CONTROL WIRING INSTALLATION

- A. Install wiring between VFCs and remote devices according to Section 16123.

- B. Bundle, train, and support wiring in enclosures.
- C. Connect hand-off-automatic switch and other automatic-control devices where applicable.
 - 1. Connect selector switches to bypass only manual- and automatic-control devices that have no safety functions when switch is in hand position.
 - 2. Connect selector switches with control circuit in both hand and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor overload protectors.

3.7 CONNECTIONS

- A. Conduit installation requirements are specified in other Division 16 sections. Drawings indicate general arrangement of conduit, fittings, and specialties.
- B. Ground equipment according to Section 16060.

3.8 FIELD QUALITY CONTROL

- A. Prepare for acceptance tests as follows:
 - 1. Test insulation resistance for each enclosed controller element, bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to perform the following:
 - 1. Inspect controllers, wiring, components, connections, and equipment installation. Test and adjust controllers, components, and equipment.
 - 2. Assist in field testing of equipment including pretesting and adjusting of solid-state controllers.
 - 3. Report results in writing.
- C. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- D. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:
- E. Perform the following field tests and inspections and prepare test reports:
 - 1. Perform each electrical test and visual and mechanical inspection, except optional tests, stated in NETA ATS. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

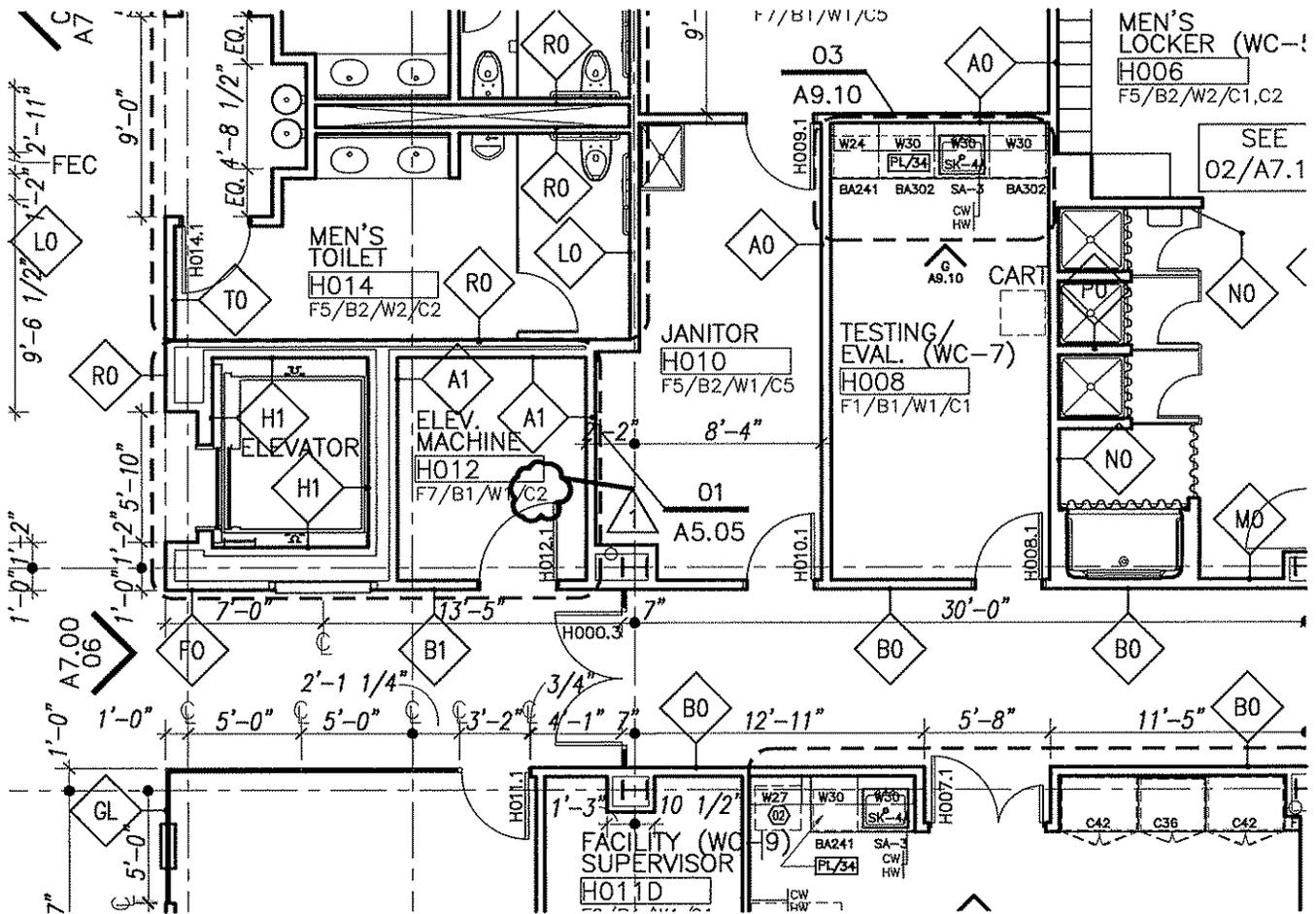
3.9 ADJUSTING

- A. Set field-adjustable switches and circuit-breaker trip ranges.

3.10 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain variable frequency controllers. Refer to Section 01730.

END OF SECTION



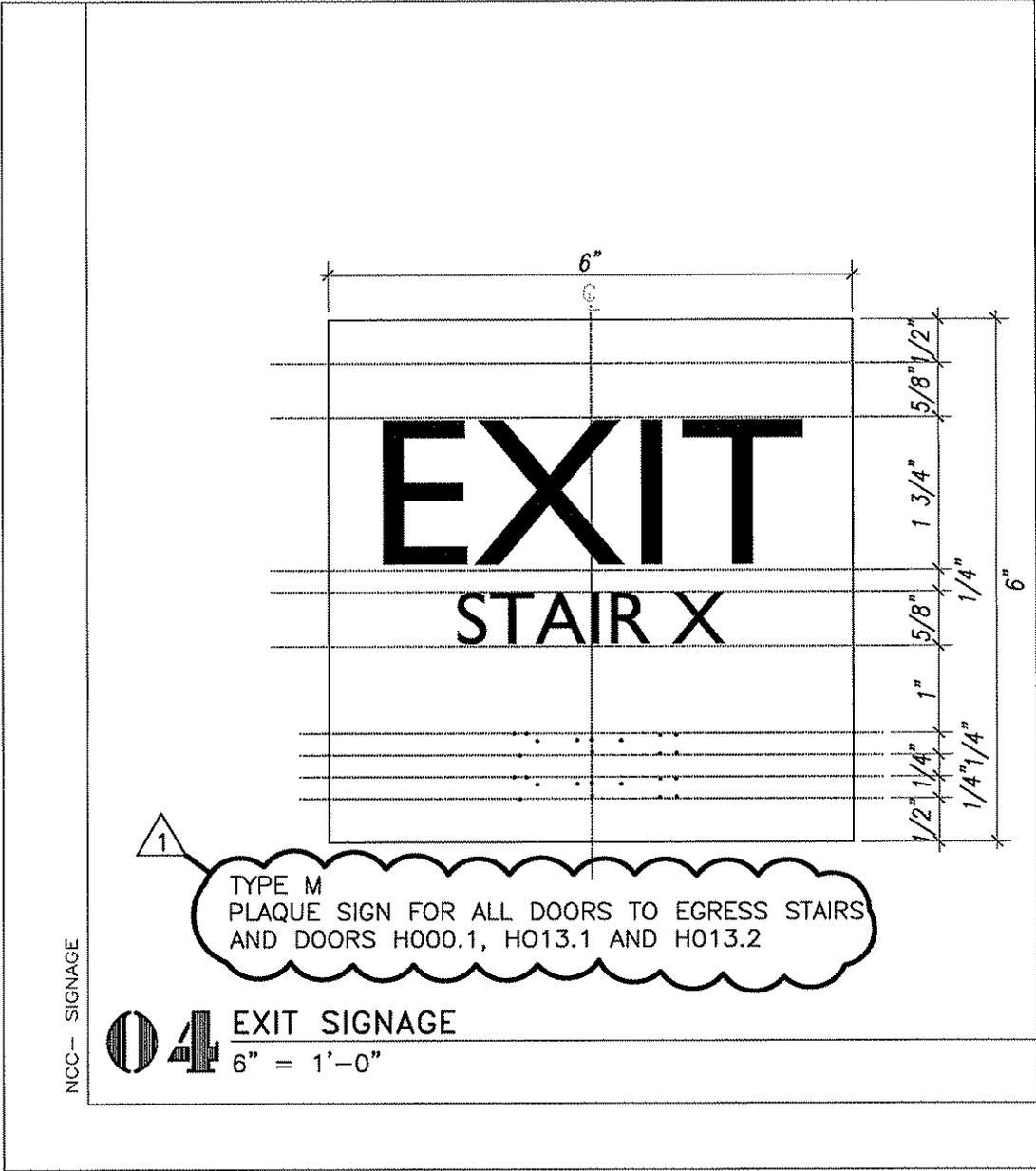
SK-A2.00-A

ADDENDUM 1: 7/15/09

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

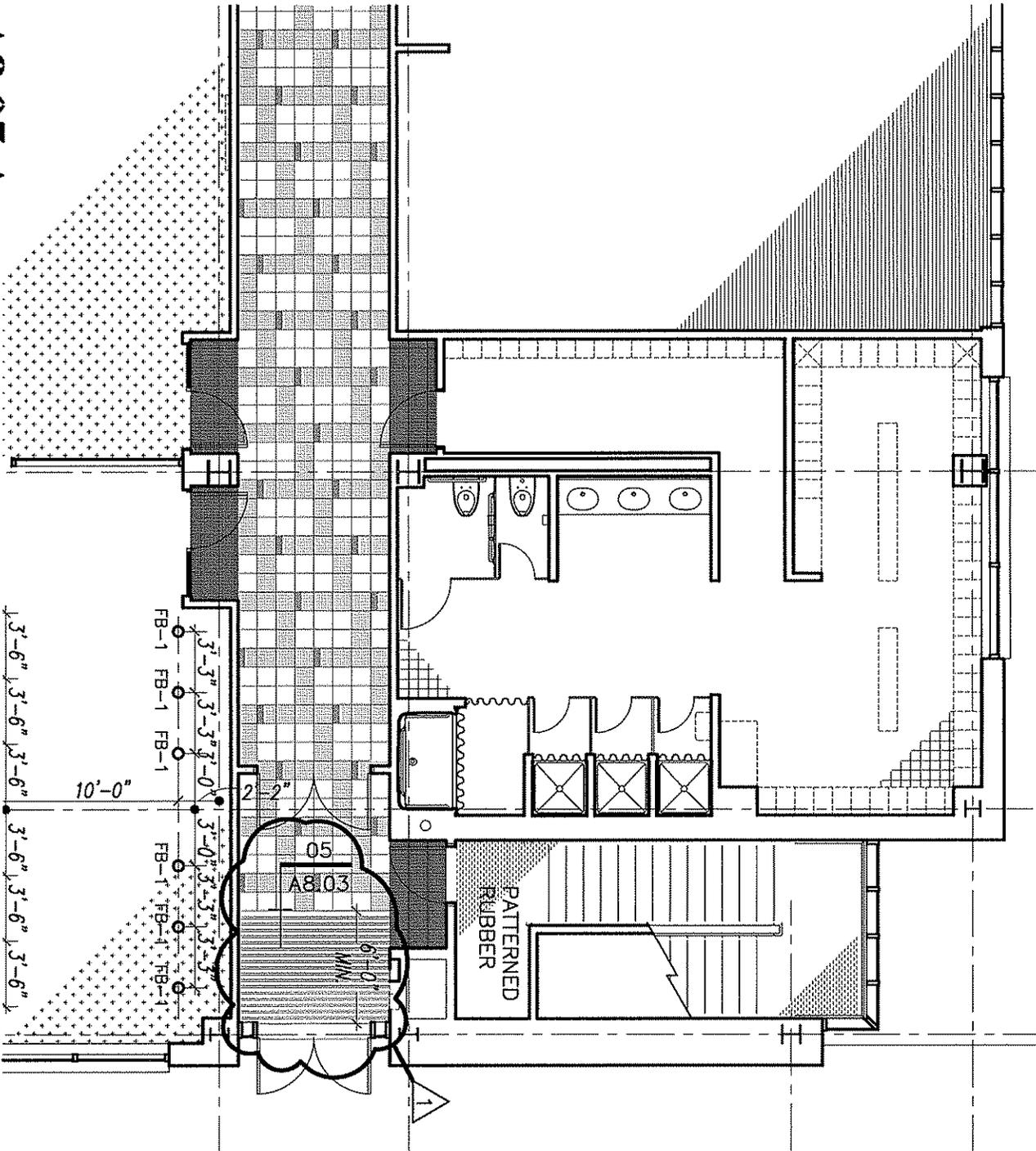
DPW PROJECT NO. BI-CTC-406

SCALE: 1/8" = 1'-0"



NCC - SIGNAGE

4 EXIT SIGNAGE
6" = 1'-0"



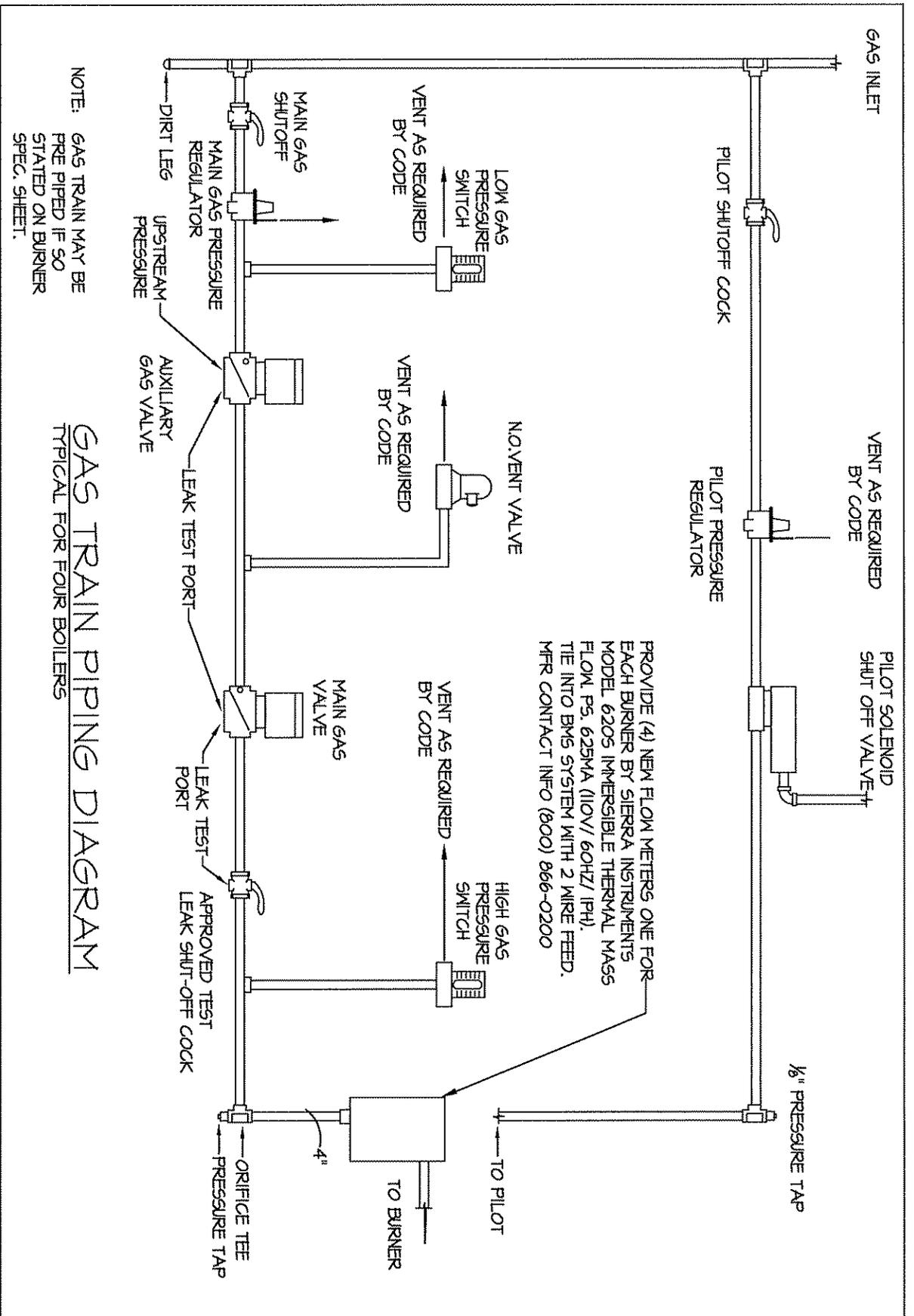
SK-A8.03-A

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

DPW PROJECT NO. BI-CTC-406

APPENDUM 1: 7/15/09

SCALE: 1/8" = 1'-0"



GAS TRAIN PIPING DIAGRAM
 TYPICAL FOR FOUR BOILERS

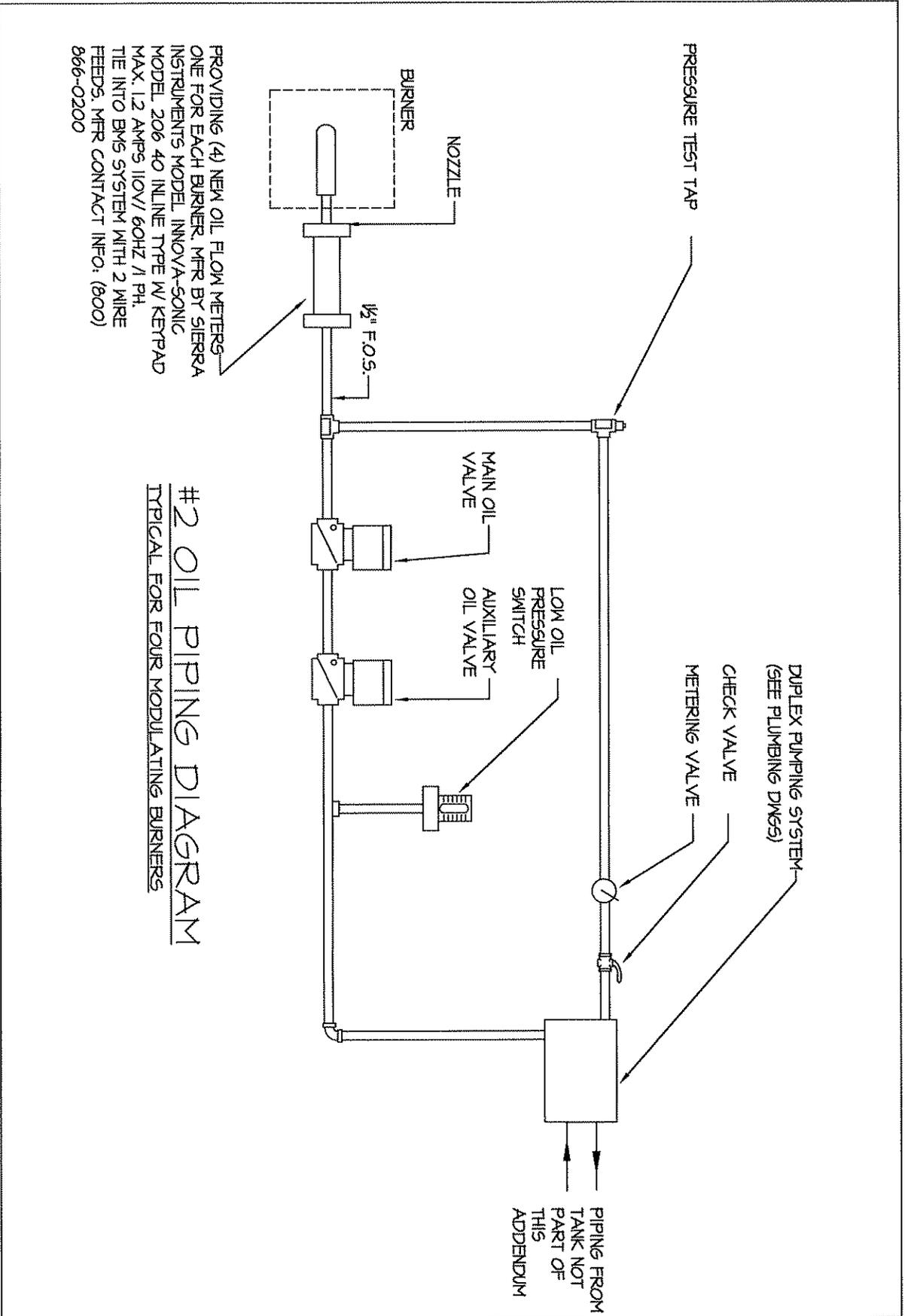
SK-M3.06-A

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

ADDENDUM 1: 7/15/09

SCALE: NTS

DPW PROJECT NO. BI-CTC-406



PROVIDING (4) NEW OIL FLOW METERS
 ONE FOR EACH BURNER. MFR BY SIERRA
 INSTRUMENTS MODEL INNOVA-50NIC
 MODEL 206 40 INLINE TYPE W/ KEYPAD
 MAX. 1.2 AMPS 110V/ 60HZ /1 PH.
 TIE INTO BMS SYSTEM WITH 2 WIRE
 FEEDS. MFR CONTACT INFO: (800)
 866-0200

#2 OIL PIPING DIAGRAM
 TYPICAL FOR FOUR MODULATING BURNERS

SK-M3.06-B

NORWALK COMMUNITY COLLEGE: WEST CAMPUS DEVELOPMENT

DPW PROJECT NO. BI-CTC-406

ADDENDUM 1: 7/15/09

SCALE: NTS

INVITATION TO BID

FOR PROJECTS ESTIMATED TO COST MORE THAN \$500,000.00

INCLUDING ASBESTOS

ADV. NO.: 09-12

ADV. DATE: June 12, 2009

SEALED BIDS FROM CONTRACTORS WHO HAVE BEEN PREQUALIFIED IN THE DAS CLASSIFICATION NOTED BELOW SHALL BE ADDRESSED TO THE DEPARTMENT OF PUBLIC WORKS - STATE OF CONNECTICUT FOR:

Project Title:	Norwalk Community College – Phase II West Campus Development Norwalk, CT
Project Number:	BI-CTC-406
DAS Classification:	Group B – General Building Construction
Special Requirement:	This project includes Asbestos Abatement
Cost Estimate Range:	\$22,943,500. – \$25,358,600.
Plans & Specs Ready Date:	June 17, 2009
A NON-REFUNDABLE FEE OF PER SET IS REQUIRED	\$185.00 Checks should be made payable to “TREASURER, STATE OF CONNECTICUT” and should include the prospective bidder’s correct mailing address, telephone and fax numbers of where addendum(a) should be submitted. USE A SEPARATE CHECK FOR EACH PROJECT.
Examination or Purchase of Plans & Specs	Plans and specifications are available during the hours of 7:30 A.M. to 5:00 P.M. (Monday-Friday) and must be ordered from JOSEPH MERRITT, 650 FRANKLIN AVENUE, HARTFORD, CT 06114. Please phone Joseph Merritt when planning to purchase at 860-296-2500.
Pre-Bid Conference:	All prospective bidders are encouraged to attend a pre-bid conference
Pre-Bid Conference Time	to be held AT 10:30 A.M.
Pre-Bid Conference Date	ON June 30, 2009
Pre-Bid Conference Location	AT Norwalk Community College, 188 Richards Avenue, Norwalk, CT, West Campus Cafeteria
Pre-Bid Conference Contact	Rose Ellis, Dean of Administration, (203) 857-7202
BID OPENING DATE:	August 12, 2009
Receipt of Bid Package	Bids will be received at the State Office Building, 165 Capitol Avenue, Hartford, CT, 06106 in Room No. G-36 UNTIL 1:00 P.M. on the date shown above and thereafter publicly opened and read aloud in Room No. G-32.

Bid Results:	Bid results are posted on the DPW Website in approximately two (2) days after the bid opening date.
Set-Aside Participation	25%
Including MBE/WBE	6.25%
Gift And Campaign Contribution Certification	If awarded the subject contract and the contract has a value of \$50,000 or more the contractor will be required to sign and submit, at the time of contract execution, a Gift And Campaign Contribution Certification. See the DPW home page, http://www.ct.gov/dpw , click on Affidavits. For the purposes of signing the Certification, the "date DPW began planning" the subject project or services is such date noted below.
Date DPW Began Planning the Subject Project:	5/29/03
Summary and Affidavit Regarding State Ethics	Any one seeking a contract with a value of more than \$500,000 shall provide with their bid an Ethics Affidavit <i>located</i> at CT DPW Website (www.ct.gov/dpw). Failure to provide this affidavit with the bid proposal shall result in rejection of the bid.
Bid Security	As <i>security</i> , each bid must be accompanied by a CERTIFIED CHECK made payable to "Treasurer, State of Connecticut," or the bid must be accompanied by a BID BOND, in the form required by the awarding authority and having surety thereto such Surety Company or Companies as are authorized to do business in this State and/or accepted by the Commissioner of the Department of Public Works for an amount not less than 10% of the bid.
Bidders are advised that <i>both</i> the DEPARTMENT OF ADMINISTRATIVE SERVICES PREQUALIFICATION CERTIFICATE and UPDATE STATEMENT <u>must</u> accompany the <i>bid</i> proposal for projects <i>estimated</i> to <i>exceed</i> Five Hundred Thousand Dollars (\$500,000.00) (C.G.S. 4b-91 as amended). <i>Failure to supply them with the bid will result in rejection of the bid</i>	
Department of Administrative Services (DAS) Contractor Prequalification Program: http://www.das.state.ct.us/busopp.asp	
To access Executive Orders http://www.ct.gov/governorrell/cwp/browse.asp?a=1719&bc=0&c=18433	
To access the Department of Public Works Web Site: http://www.ct.gov/dpw	

Performance and Labor and Material Bonds to be furnished by the bidder awarded the contract shall be an amount not less than 100% of the contract price.

The awarding authority reserves the right to waive technical defects or to reject any and all bids.

Nonresident contractors: At the time of contract signing a certificate from the Commissioner of Revenue Services must be provided which evidences that C.G.S. 12-430 for non-resident contractors has been met. For details call the Department of Revenue Services at (860) 541-3280, ext. 7.

EXECUTIVE ORDERS:

The Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Client Agency shall provide a copy of these orders to the Contractor. The Contract may also be subject to Executive Order No. 7C of Governor M. Jodi Rell, promulgated July 13, 2006, concerning contracting reforms and Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services, in accordance with their respective terms and conditions.

This contract is subject to the provisions of the Department of Public Works Sexual Harassment Policy ("Policy") and, as such, the contract may be canceled, terminated, or suspended by DPW for violation of or noncompliance with said Policy. Said document is hereby incorporated herein by reference and made a part hereof as though fully set forth herein. This policy may be found at the Department of Public Works Website at <http://www.ct.gov/dpw>, click Publications and scroll to Sexual Harassment Policy.

All technical questions must be in writing (not phoned or emailed) and faxed to the Architect/Engineer with a copy to the DPW Project Manager listed below.

Architect/Engineer/ Consultant:	Jan Keane Mitchell/Giurgola Architects, LLP 630 Ninth Avenue, Suite 711 New York, NY 10036	Fax No: 212-866-5006
	Fletcher-Thompson, Inc. 3 Corporate Drive Shelton, CT 06484	Fax No: 203-225-6800
Asbestos Abatement Consultant	Fuss & O'Neill EnviroScience, LLC 146 Hartford Road Manchester, CT 06040	Fax No. 860-649-6883
Construction Administrator	Jeff Fogel LiRo Program & Construction Management, P.C. 3 Aerial Way Syosset, NY 11791	Fax No: 516-996-1883
DPW Project Manager:	Joel Baranowski 165 Capitol Avenue, Rm. 463 Hartford, CT 06106	Fax No: 860-713-7261

All bid questions should be addressed to the Purchasing Officer listed below.

Associates Fiscal Mellanee Walton Fax No: (860) 713-7395
Administrative Officer:

Contract Time Allowed: 910 Calendar Days

Liquidated Damages: \$ 3,593.00 Per Calendar Day beyond Substantial Completion
\$ 2,493.00 Per Calendar Day beyond ninety (90) days after Substantial Completion

Prevailing Wage Rates: Prevailing wages are required on this project, in accordance with the schedule provided in the bid documents, pursuant to Connecticut General Statutes Section 31-53 (a) through (h), as amended.

Each contractor who is awarded a contract on or after October 1, 2002 shall be subject to provisions of the Connecticut General Statutes, Section 31-55a concerning annual adjustments to prevailing wages.

Wage Rates will be posted each July 1st on the Department of Labor website: www.ctdol.state.ct.us . Such prevailing wage adjustment shall not be considered a matter for any contract amendment.

The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in subsection (h) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day.

Procurement
Department of Public Works