



STATE OF NEW YORK
OFFICE OF GENERAL SERVICES
DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242



ADDENDUM NO. 2 TO PROJECT NO. 43707

**ELEVATOR, ELECTRICAL & PLUMBING WORK
PROVIDE STAGE & DRESSER LIFT
GNARESP THE EGG
EMPIRE STATE PLAZA
ALBANY, NEW YORK**

October 31, 2013

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual.
Acknowledge receipt of this Addendum in the space provided on the Bid Form.

ELEVATOR SPECIFICATIONS

1. Page 007305-1, Article 13.3: Change "\$1,500" to read "\$1,000" in the third line.

ELECTRICAL SPECIFICATIONS

2. Page 000110 -2: Delete "262817 Enclosed Circuit Breakers"
3. Page 000110 -2: Change "262413 "Switchboards" to "Modifications/Additions to Existing Emergency Metal-Enclosed Switchboard"
4. Page 263623-9, Paragraph 3.01 D: Delete this paragraph in its entirety.

PLUMBING SPECIFICATIONS

5. Page 000110 -2:
 - a. Change "220553 Pipe and Valve Identification" to "220553 Pipe Identification"
 - b. Change "220577 Floor and Area Drains" to "220577 Floor Drains"
 - c. Delete "220700 Piping Insulation"
 - d. Delete "221429 Sump Pump, Submersible"
 - e. Add "DIVISION 21 - FIRE PROTECTION

Section Number and Title

210529 Pipe Hangers and Supports

211300 Sprinkler Piping

211313 Sprinkler Systems

6. Add the following attached specification sections to the project manual:

- a. 210529 PIPE HANGERS AND SUPPORTS: (210529- 1 thru 210529- 4).
 - b. 211300 SPRINKLER PIPING: (211300 – 1 thru 211300- 5).
 - c. 211313 SPRINKLER SYSTEMS: (211313 – 1 thru 211313 – 5).
7. Page 220529 - 1: Paragraph 2.01 A: Delete paragraph in its entirety.
 8. Page 220529 - 2: Paragraph 2.01 B: Delete paragraph in its entirety.
 9. Page 220529 - 2: Paragraph 2.01 C: Delete paragraph in its entirety.
 10. Page 220529 - 7: Article 3.05: Delete article in its entirety.
 11. Page 220529 – 7, Article 3.06: Delete article in its entirety.
 12. Page 220553 – 2, Article 2.04: Delete article in its entirety.
 13. Page 220553 – 2, Article 2.05: Delete article in its entirety.
 14. Page 220553 – 3, Article 3.04: Delete article in its entirety.
 15. Page 220576 – 2, Revise Article 2.04 to Read:
"2.04 OIL INTERCEPTOR
 - A. 50 gpm Steel interceptor with Gray Duco coating inside and outside and flow control fitting.
 - B. Two 3" NPT vent connections, plugs not furnished.
 - C. Provide minimum 1 minute drainage period.
 - D. No-hub adaptors.
 - E. Adjustable gravity draw-off with sediment bucket.
 - F. Lock and lift ring on non-skid cover with cleanout.
 - G. Jay R. Smith 8550, or approved equal."
 16. Page 220577 – 1, Article 2.03: Delete article in its entirety.
 17. Page 220577 – 2, Article 2.04: Delete article in its entirety.
 18. Pages 220700 – 1 thru 220700 -7: Delete PIPING INSULATION section in its entirety.
 19. Page 220800 – 2, Paragraph 3.02 B: Delete paragraph in its entirety.
 20. Page 220800 – 2, Paragraph 3.02 C: Delete paragraph in its entirety.
 21. Page 220800 – 2, Article 3.04: Delete article in its entirety.
 22. Page 221100 – 1, Paragraph 2.01 A: Delete paragraph in its entirety.
 23. Page 221100 – 1, Paragraph 2.01 B: Delete paragraph in its entirety.

24. Page 221100 – 2, Paragraph 2.01 C: Delete paragraph in its entirety.
25. Page 221100 – 3, Paragraph 2.03 C: Delete paragraph in its entirety.
26. Page 221100 – 3, Paragraph 2.03 D: Delete paragraph in its entirety.
27. Page 221100 – 5, Article 3.03: Delete article in its entirety.
28. Page 221100 – 6, Paragraph 3.04 G: Delete paragraph in its entirety.
29. Page 221100 – 8, Paragraph 3.07 B: Delete paragraph in its entirety.
30. Pages 221429 – 1 thru 221429 -2: Delete SUMP PUMP, SUBMERSIBLE section in its entirety.

ELECTRICAL DRAWINGS

31. Drawing No. E-001:
 - a. PANELBOARD SCHEDULE: Revise panelboard schedule to reflect Panelboard DP-HV-5 is to contain circuit breaker frame in lieu of switch rating and circuit breaker trip in lieu of fuses. Refer to sketch SKE-001 (attached).
32. Drawing No. E-101:
 - a. Detail 1: Revise source of feeder HV-SU5 to DP-HV-5 in lieu of DP-HW-5. Refer to sketch SKE-002 (attached).
33. Drawing No. E-102:
 - a. Part Floor Plan 103'-9" P1 Level Elevator Pit Lighting: Revise installation note for fixture type WM. Refer to sketch SKE-003 (attached).
34. Drawing E-601:
 - a. Power One Line Riser Diagram - Switchboards 'U','V' & Emergency Board: Revise scope to eliminate work for Elevators 1, 2, 3, & 4. Refer to sketch SKE-004 (attached).
35. Drawing E-701:
 - a. Detail 1: Revise fire alarm work. Refer to sketch SKE-005 (attached).
 - b. Detail 4: Revise fire alarm work. Refer to sketch SKE-005 (attached).
 - c. Detail 5: Revise to include circuiting for receptacles. Refer to sketch SKE-006 (attached).
 - d. Detail 5: Revise fire alarm work. Refer to sketch SKE-005 (attached).
36. Drawing E-704:
 - a. Detail 1: Revise to reflect new fire alarm work. Refer to sketch SKE-007 (attached).

PLUMBING DRAWINGS

37. Drawing No. P-101:

- a. Detail 1: Revise oil interceptor discharge to continuous 3" drain line to IW receptor.
ADD pipe cleanout.

38. Drawing No. P-101:

- a. Detail 1: Remove 1-1/2" AAV at oil interceptor. Add 3" AAV at the oil interceptor and 2" AAV at the flow control fitting.

39. Drawing No. P-102:

- a. Detail 3: Revise note to read "New 4"x8" reducing flange."

40. Drawing No. P-102:

- a. Detail 5: Replace butterfly valve with gate valve. Add check valve between flow switch and pressure gauge, upstream of test and drain connection.

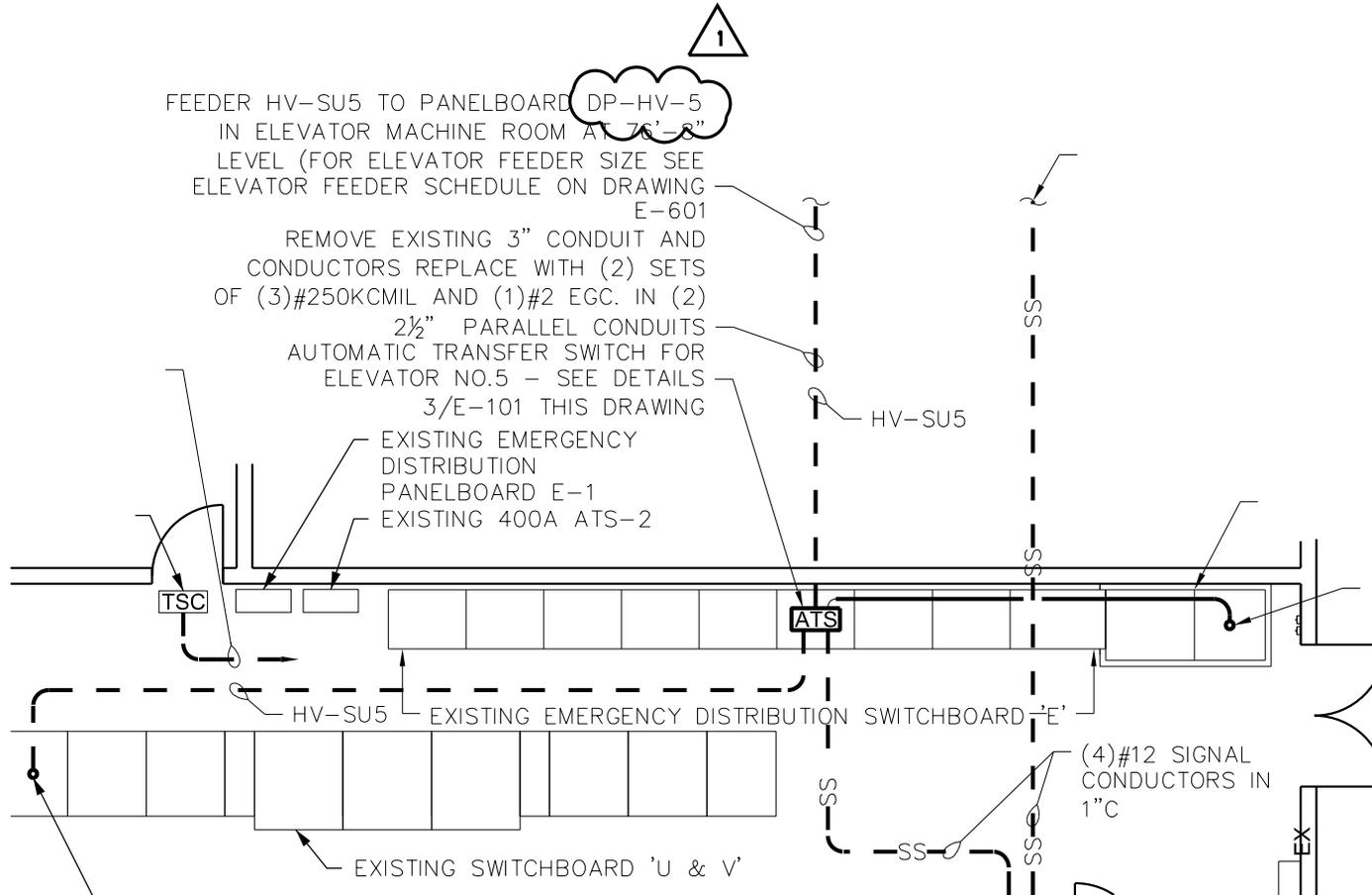
41. Drawing No. P-102

- a. Detail 2: Refer to sketches SKP-001 and SKP-002 for revisions (attached).
- b.

END OF ADDENDUM

James Dirolf, P.E.
Director of Design

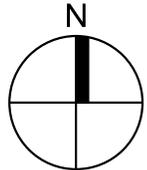
The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



ELEVATION AT EXISTING AUTOMATIC TRANSFER SWITCH FOR ELEVATOR NO. 5 AT EMERGENCY SWITCHBOARD "E"

1
SKE-002

NTS



Architectural Resources
505 Franklin Street
Buffalo, NY 14202
303 West 13th Street
New York, NY 10014
716-883-5566 716-883-5569 fax

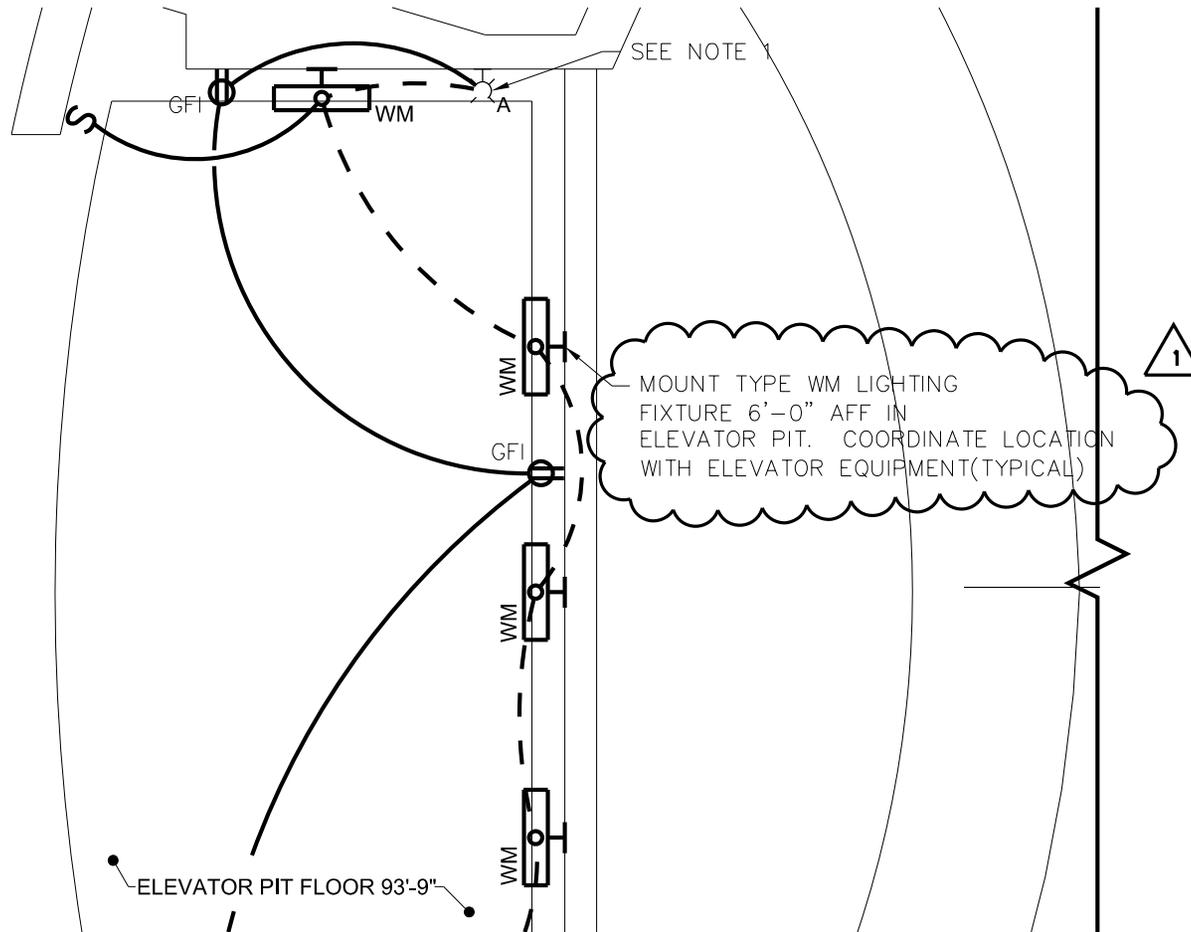
M/E
ENGINEERING, P.C.
MECHANICAL/ELECTRICAL
ENGINEERING CONSULTANTS
CAPITAL DISTRICT - BUFFALO - SYRACUSE - ROCHESTER
433 STATE STREET, SUITE 410
SCHEMECTADY, NEW YORK 12305

CONTRACT: ELECTRICAL
PROVIDE STAGE & DRESSER LIFT
GNARESP THE EGG
EMPIRE STATE PLAZA
ALBANY, NY
RE-BID PACKAGE - 09/06/2013

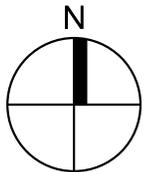
OGS PROJECT #	43707-E
PROJECT #	285.02.05
DRAWN BY	JD
DATE	10/30/13
SCALE	1/8" = 1'-0"
Addendum 2	

LEVEL P-1 PART FLOOR PLAN - SWITCHBOARD ROOM - AND DETAILS
REF. SHEET: E-101
SHEET # SKE-002

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



1 PART PLAN AT 103'-9" P1 LEVEL
 SKE-003 1/4"=1'-0"



OGS
 NYS OFFICE OF GENERAL SERVICES
 Serving New York

Architectural Resources
 505 Franklin Street
 Buffalo, NY 14202
 303 West 13th Street
 New York, NY 10014
 716-883-5566 716-883-5569 fax

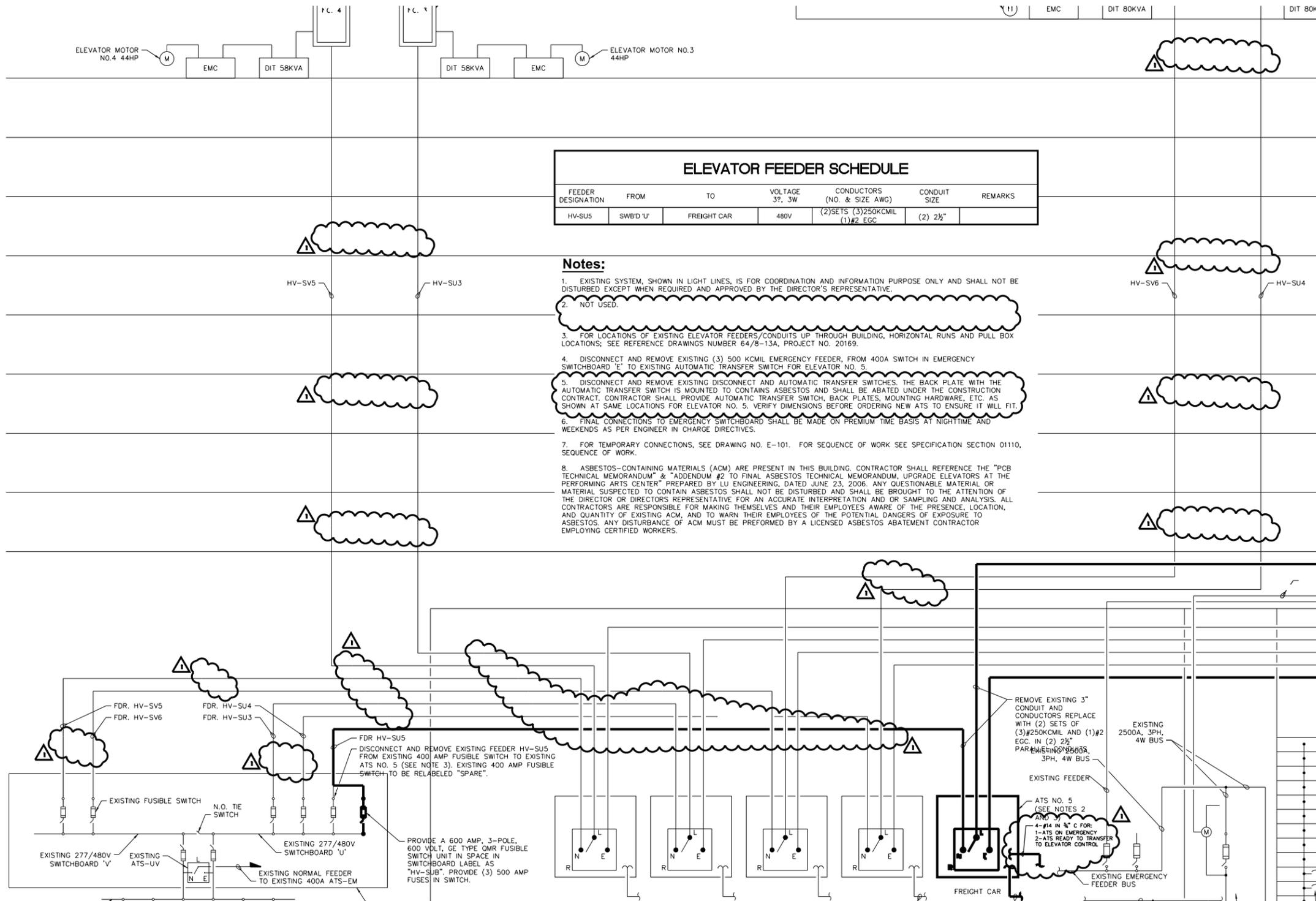
M/E
 ENGINEERING, P.C.
 MECHANICAL/ELECTRICAL
 ENGINEERING CONSULTANTS
 CAPITAL DISTRICT - BUFFALO - SYRACUSE - ROCHESTER
 433 STATE STREET, SUITE 410
 SCHEMECTADY, NEW YORK 12305

CONTRACT: ELECTRICAL
PROVIDE STAGE & DRESSER LIFT
 GNARESP THE EGG
 EMPIRE STATE PLAZA
 ALBANY, NY
 RE-BID PACKAGE - 09/06/2013

OGS PROJECT #	43707-E
PROJECT #	285.02.05
DRAWN BY	JD
DATE	10/30/13
SCALE	1/8" = 1'-0"
Addendum 2	

PART FLOOR PLAN 103'-9" P1 LEVEL ELEVATOR PIT LIGHTING
 REF. SHEET: E-102
 SHEET # **SKE-003**

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



**POWER ONE LINE DIAGRAM
SWITCHBOARDS 'U' AND 'V' AND EMERGENCY SWITCHBOARD**

1
SKE-004 NTS



NYS OFFICE OF GENERAL SERVICES

Serving New York

Architectural Resources

505 Franklin Street
Buffalo, New York 14202

303 West 13th Street
New York, New York 10014

716-883-5566 716-883-5569 fax



ENGINEERING, P.C.

MECHANICAL/ELECTRICAL
ENGINEERING CONSULTANTS

CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER

433 STATE STREET, SUITE 410
SCHENECTADY, NEW YORK 12305

**PROVIDE STAGE &
DRESSER LIFT**

**GNARESP THE EGG
EMPIRE STATE PLAZA
ALBANY, NY**

RE-BID PACKAGE - 09/06/2013

CONTRACT:
ELECTRICAL

**POWER ONE LINE DIAGRAM
- SWITCHBOARDS 'U', 'V' &
EMERGENCY BOARD
REF. SHEET: E-601**

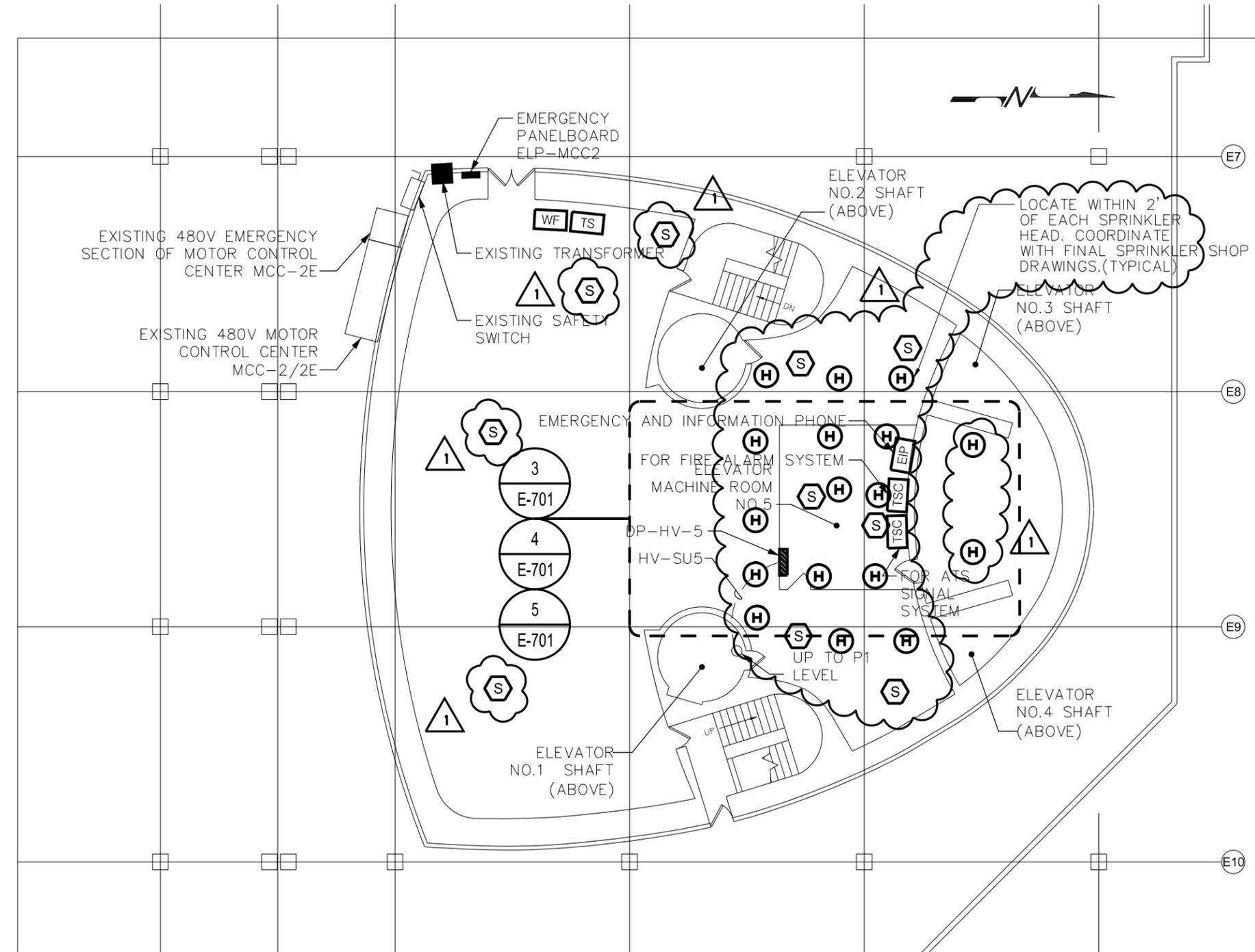
DASNY PROJECT #	43707-E
PROJECT #	285.02.05
DRAWN BY	JD
DATE	10/30/13
SCALE	NTS

Addendum 2

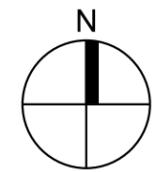
SHEET #

SKE-004

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



1 LEVEL P0 (76'-8") - PARTIAL FLOOR PLAN
E-701 1/16"=1'-0"



Architectural Resources
505 Franklin Street
Buffalo, New York 14202
303 West 13th Street
New York, New York 10014
716-883-5566 716-883-5569 fax

M/E
ENGINEERING, P.C.
MECHANICAL/ELECTRICAL
ENGINEERING CONSULTANTS
CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER
433 STATE STREET, SUITE 410
SCHENECTADY, NEW YORK 12305

PROVIDE STAGE & DRESSER LIFT

**GNARESP THE EGG
EMPIRE STATE PLAZA
ALBANY, NY**

RE-BID PACKAGE - 09/06/2013

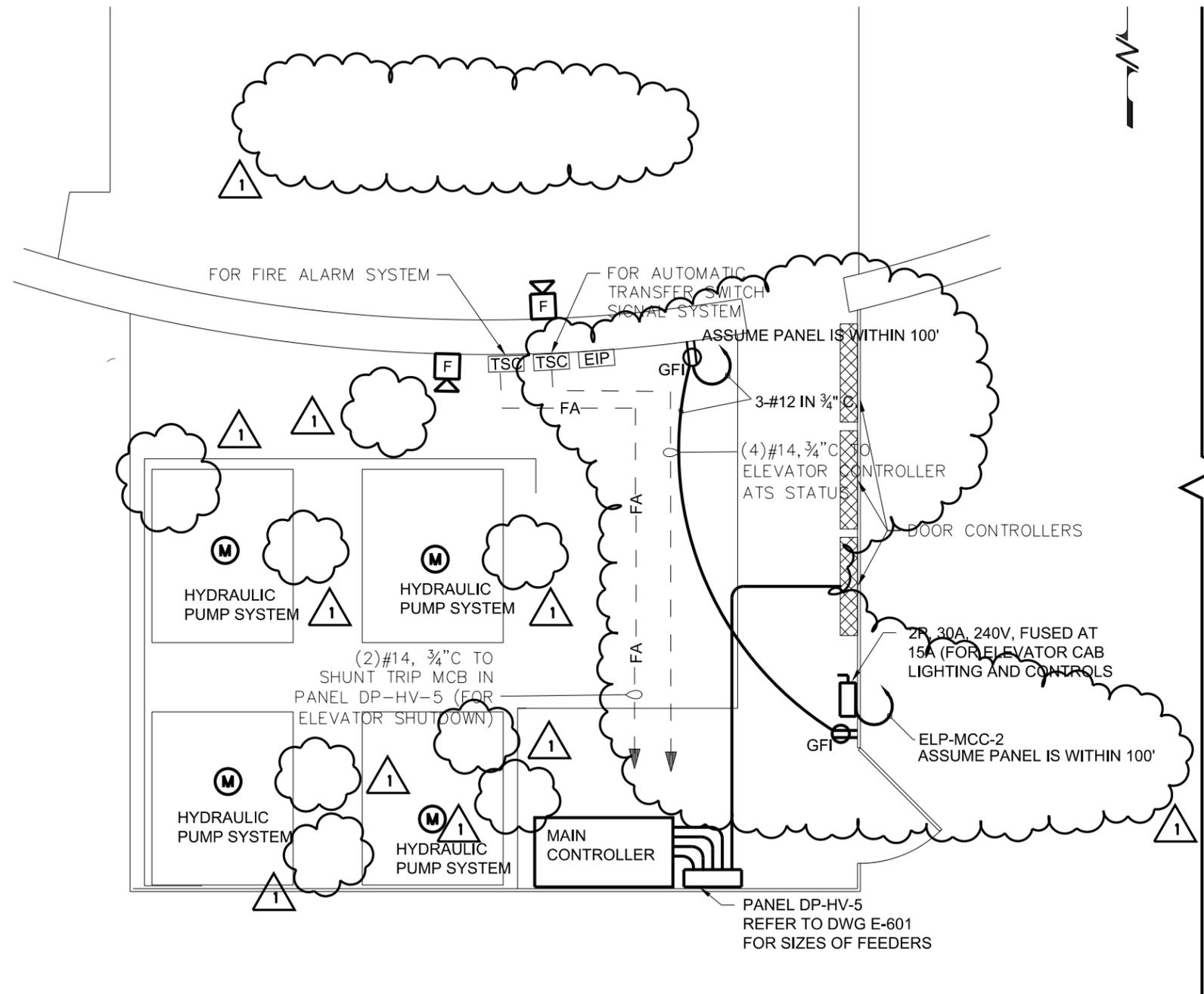
CONTRACT:
ELECTRICAL

**ELEVATOR MACHINE ROOM
FLOOR PLANS- POWER
LIGHTING AND SYSTEMS
REF. SHEET: E-701**

DASNY PROJECT #	43707-E
PROJECT #	285.02.05
DRAWN BY	JD
DATE	10/30/13
SCALE	1/16" = 1'-0"

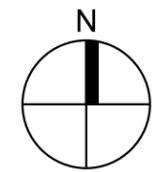
Addendum 2
SHEET #
SKE-005

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



**ENLARGED MACHINE ROOM FLOOR PLAN
ELEVATOR NO. 5 (76'-8") - POWER AND SYSTEMS**

5
E-701 1/4"=1'-0"



Architectural Resources
505 Franklin Street
Buffalo, New York 14202
303 West 13th Street
New York, New York 10014
716-883-5566 716-883-5569 fax

M/E
ENGINEERING, P.C.
MECHANICAL/ELECTRICAL
ENGINEERING CONSULTANTS
CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER
433 STATE STREET, SUITE 410
SCHENECTADY, NEW YORK 12305

**PROVIDE STAGE &
DRESSER LIFT**

**GNARESP THE EGG
EMPIRE STATE PLAZA
ALBANY, NY**

RE-BID PACKAGE - 09/06/2013

CONTRACT:
ELECTRICAL

**ELEVATOR MACHINE ROOM
FLOOR PLANS- POWER
LIGHTING AND SYSTEMS
REF. SHEET: E-701**

DASNY PROJECT #	43707-E
PROJECT #	285.02.05
DRAWN BY	JD
DATE	10/30/13
SCALE	1/16" = 1'-0"

Addendum 2

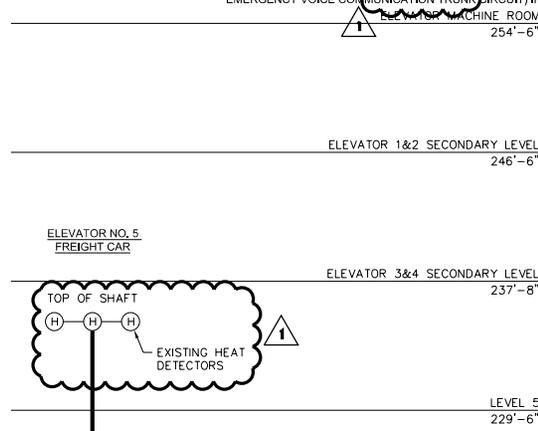
SHEET #

SKE-006

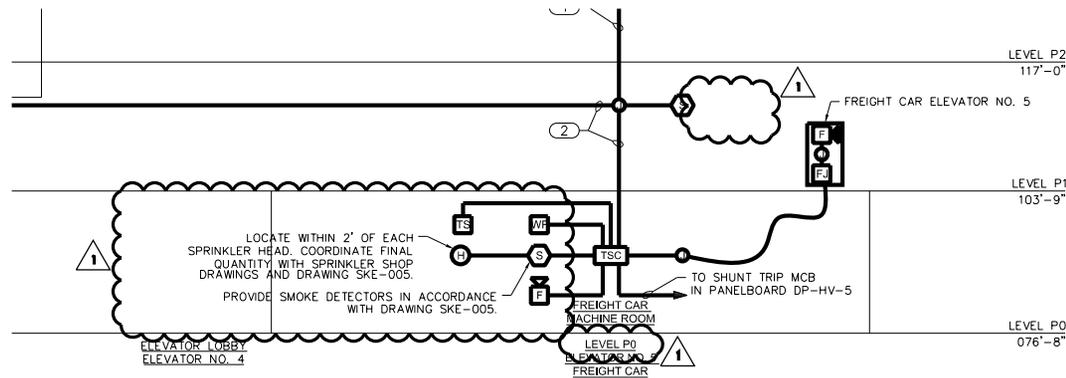
The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.

NOTATION AND
 MAKING
 N, AND
 TENTIAL
 3E
 YING

- ③ PROVIDE 3 SETS OF (2)#16 TYPE C1 CABLE (1 DATA COMMUNICATION, 1 AUDIBLE ALARM NOTIFICATION, 1 FIRE SERVICE TELEPHONE) AND ONE SET OF (2)#14 TP FOR SHUNT TRIP ELEVATOR POWER SHUTDOWN IN 1/4" C
- ④ PROVIDE 4 SETS OF (2)#16 TYPE C1 CABLE (1 DATA COMMUNICATION, 1 AUDIBLE ALARM NOTIFICATION, 1 FIRE SERVICE TELEPHONE, AND 1 EMERGENCY VOICE COMMUNICATION TRUNK CIRCUIT) IN 1/4" C



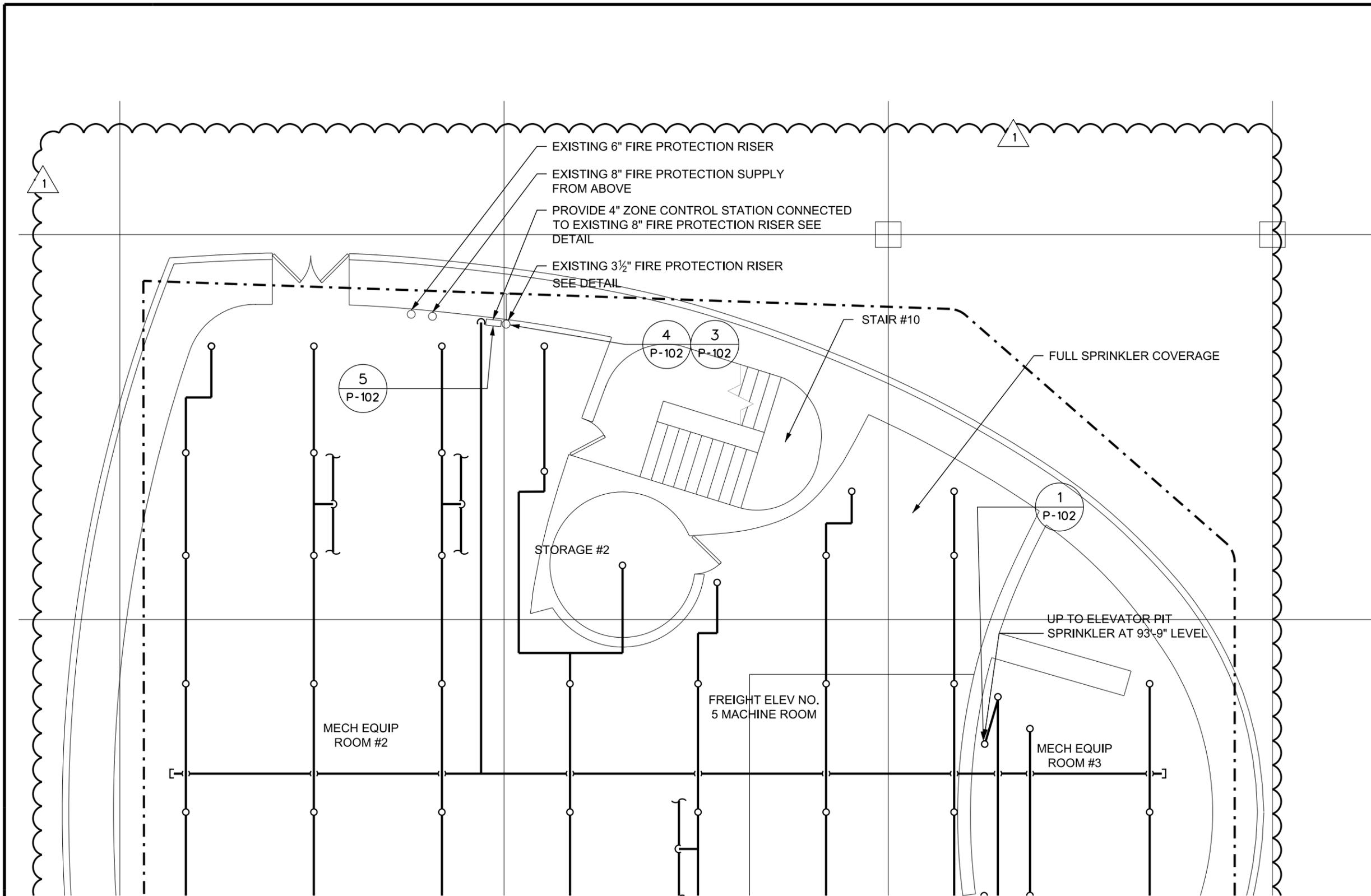
2 FIRE ALARM SYSTEM ONE LINE RISER DIAGRAM
 SKE-007 NTS



2 FIRE ALARM SYSTEM ONE LINE RISER DIAGRAM
 SKE-007 NTS

 OGS <small>NY'S OFFICE OF GENERAL SERVICES</small> <i>Serving New York</i>	Architectural Resources 505 Franklin Street Buffalo, NY 14202 303 West 13th Street New York, NY 10014 716-883-5566 716-883-5569 fax	 ENGINEERING, P.C. <small>MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS CAPITAL DISTRICT - BUFFALO - SYRACUSE - ROCHESTER 433 STATE STREET, SUITE 410 SCENECTADY, NEW YORK 12305</small>	CONTRACT: ELECTRICAL PROVIDE STAGE & DRESSER LIFT GNARESP THE EGG EMPIRE STATE PLAZA ALBANY, NY RE-BID PACKAGE - 09/06/2013	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>OGS PROJECT #</td><td style="text-align: right;">43707-E</td></tr> <tr><td>PROJECT #</td><td style="text-align: right;">285.02.05</td></tr> <tr><td>DRAWN BY</td><td style="text-align: right;">JD</td></tr> <tr><td>DATE</td><td style="text-align: right;">10/30/13</td></tr> <tr><td>SCALE</td><td style="text-align: right;">NTS</td></tr> <tr><td>Addendum 2</td><td></td></tr> </table>	OGS PROJECT #	43707-E	PROJECT #	285.02.05	DRAWN BY	JD	DATE	10/30/13	SCALE	NTS	Addendum 2		FIRE ALARM SYSTEM ONE LINE RISER DIAGRAM REF. SHEET: E-704 SHEET # SKE-007
	OGS PROJECT #	43707-E															
	PROJECT #	285.02.05															
	DRAWN BY	JD															
	DATE	10/30/13															
SCALE	NTS																
Addendum 2																	

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



1 ELEVATOR PO (76'-8") - PARTIAL FLOOR PLAN
 SKP-001 NTS



Serving New York

Architectural Resources

505 Franklin Street
 Buffalo, New York 14202

303 West 13th Street
 New York, New York 10014

716-883-5566 716-883-5569 fax



ENGINEERING, P.C.

MECHANICAL/ELECTRICAL
 ENGINEERING CONSULTANTS
 CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER
 433 STATE STREET, SUITE 410
 SCHENECTADY, NEW YORK 12305

PROVIDE STAGE & DRESSER LIFT

**GNARESP THE EGG
 EMPIRE STATE PLAZA
 ALBANY, NY**

RE-BID PACKAGE - 09/06/2013

CONTRACT:

PLUMBING

REF. SHEET: **P-102**

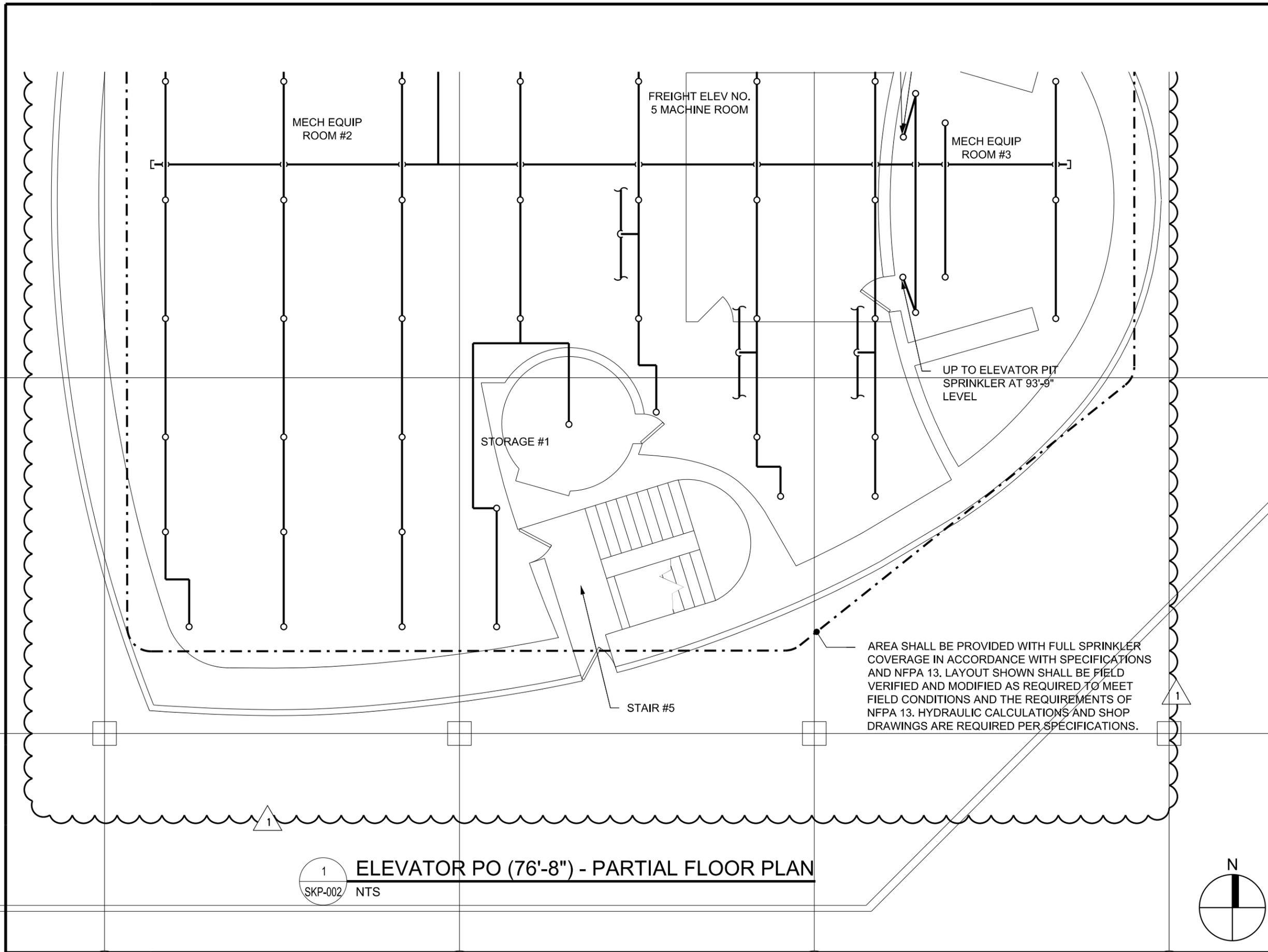
DASNY PROJECT #	43707-P
PROJECT #	285.02.05
DRAWN BY	IRL
DATE	10/30/13
SCALE	1/8" = 1'-0"

Addendum 2

SHEET #

SKP-001

The design concepts, construction drawings and details presented herein are the sole property of the Architect. Any reproduction or other use of this information without the written consent of the Architect is expressly prohibited. All rights reserved.



1 SKP-002 NTS **ELEVATOR PO (76'-8") - PARTIAL FLOOR PLAN**



Architectural Resources
 505 Franklin Street
 Buffalo, New York 14202
 303 West 13th Street
 New York, New York 10014
 716-883-5566 716-883-5569 fax

M/E
ENGINEERING, P.C.
 MECHANICAL/ELECTRICAL
 ENGINEERING CONSULTANTS
 CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER
 433 STATE STREET, SUITE 410
 SCHENECTADY, NEW YORK 12305

PROVIDE STAGE & DRESSER LIFT

**GNARESP THE EGG
 EMPIRE STATE PLAZA
 ALBANY, NY**

RE-BID PACKAGE - 09/06/2013

CONTRACT:
PLUMBING

REF. SHEET: **P-102**

DASNY PROJECT #	43707-P
PROJECT #	285.02.05
DRAWN BY	IRL
DATE	10/30/13
SCALE	1/8" = 1'-0"

Addendum 2

SHEET #

SKP-002

SECTION 210529

PIPE HANGERS AND SUPPORTS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Sprinkler Piping: Section 211300
- B. Sprinkler Systems: Section 211313

1.02 SUBMITTALS

- A. Product Data: Catalog sheets, specifications and installation instructions for each item specified except fasteners.

1.03 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with the applicable requirements of the ASME B31 Piping Codes.
 - 2. Unless otherwise shown or specified, comply with the requirements of the Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS) Standards SP-58, and SP-69.
 - 3. Materials for use in Sprinkler Systems shall comply with the requirements of NFPA 13 as applicable.

PART 2 PRODUCTS

2.01 PIPE HANGERS AND SUPPORTS

- A. Pipe Hangers: Height adjustable standard duty clevis type, with cross bolt and nut.
 - 1. Swivel ring type hangers will be allowed for sprinkler piping up to a maximum of 2 inches in size.
- B. Adjustable Floor Rests and Base Flanges: Steel.
- C. Hanger Rods: Mild, low carbon steel, fully threaded or threaded at each end, with two nuts at each end for positioning rod and hanger, and locking each in place.
- D. Riser Clamps: Malleable iron or steel.

2.02 ANCHORS AND ATTACHMENTS

- A. Sleeve Anchors (Group II, Type 3, Class 3): Molly's Div./USM Corp. Parasleeve Series, Ramset's Dynabolt Series, or Red Head/Phillips AN, HN, or FS Series.

- B. Wedge Anchors (Zinc Plated, Group II, Type 4, Class 1): Hilti's Kwik Bolt Series, Molly's Div./USM Corp. Parabolt PB Series, Ramset's Trubolt T Series, or Red Head/Phillips WS Series.
- C. Self-Drilling Anchors (Group III, Type 1): Ramset's RD Series, or Red Head/Phillips S Series.
- D. Non-Drilling Anchors (Group VIII, Type 1): Ramset's Dynaset DS Series, Hilti's HDI Series, or Red Head/Phillips J Series.
- E. Stud Anchors (Group VIII, Type 2): Red Head/Phillips JS Series.
- F. Beam Clamps: Forged steel beam clamp, with weldless eye nut (right hand thread), steel tie rod, nuts, and washers, Grinnell's Fig No. 292 (size for load, beam flange width, and rod size required).
- G. Metal Deck Ceiling Bolts: B-Line Systems' Fig. B3019.
- H. Continuous Slotted Type Concrete Insert, Galvanized:
 - 1. Load Rating 800 lbs/ft: Kindorf's D-986.
 - 2. Load Rating 1500 lbs/ft: Kindorf's D-980.
 - 3. Load Rating 3000 lbs/ft: Hohmann & Barnard's Inc. Type CS-H.
 - 4. Load Rating 4500 lbs/ft: Hohmann & Barnard's Inc. Type CS-HD.
- I. Threaded Type Concrete Insert: Galvanized ferrous castings, internally threaded to receive 3/4 inch diameter machine bolts.
- J. Wedge Type Concrete Insert: Galvanized box-type ferrous castings, designed to accept 3/4 inch diameter bolts having special wedge shaped heads.

2.03 FASTENERS

- A. Bolts, Nuts, Washers, Lags, and Screws: Medium carbon steel; size and type to suit application; galvanized for high humidity locations, and treated wood; plain finish for other interior locations. Except where shown otherwise on the Drawings, furnish type, size, and grade required for proper installation of the Work.

2.04 SHOP PAINTING AND PLATING

- A. Hangers, supports, rods, inserts and accessories used for pipe supports, unless chromium plated, cadmium plated or galvanized shall be shop coated with metal primer paint.

PART 3 EXECUTION

3.01 PREPARATORY WORK

- A. Place inserts into construction form work expeditiously, so as not to delay the Work.

3.02 INSTALLATION

- A. Do not hang or support one pipe from another or from ductwork.
 - 1. Do not bend threaded rod.
- B. Space hangers or supports for horizontal piping on maximum center distances as required by NFPA 13.
 - 1. For Directional Changes: Install a hanger or support close to the point of change of direction of all pipe runs in either a horizontal or vertical plane.
 - 2. For Concentrated Loads: Install additional hangers or supports, spaced as required and directed, at locations where concentrated loads such as in-line pumps, valves, fittings or accessories occur, to support the concentrated loads.
 - 3. For Branch Piping Runs and Runouts Over 5 feet In Length: Install a minimum of one hanger, and additional hangers if required by the hanger spacing schedules.
- C. Minimum Hanger Rod Size: Provide in accordance with NFPA 13.

3.03 UPPER HANGER ATTACHMENTS

- A. General:
 - 1. Secure upper hanger attachments to overhead structural steel, steel bar joists, or other suitable structural members.
 - 2. Do not attach hangers to steel decks that are not to receive concrete fill.
 - 3. Do not attach hangers to precast concrete plank decks less than 2-3/4 inches thick.
 - 4. Do not use flat bars or bent rods as upper hanger attachments.
- B. Attachment to Steel Frame Construction: Provide intermediate structural steel members where required by pipe support spacing. Select steel members for use as intermediate supports based on a minimum safety factor of five.
 - 1. Do not use drive-on beam clamps.
 - 2. Do not support piping over 4 inches in size from steel bar joists. Secure upper hanger attachments to steel bar joists at panel points of joists.
 - 3. Do not drill holes in main structural steel members.
 - 4. Beam clamps, with tie rods as specified, may be used as upper hanger attachments for the support of piping, subject to clamp manufacturer's recommended limits.
- C. Attachment to Existing Cast-In-Place Concrete:
 - 1. For piping up to a maximum of 4 inches in size, secure hangers to overhead construction with self-drilling type expansion shields and machine bolts.
 - 2. Secure hangers to wall or floor construction with single unit expansion shields or self-drilling type expansion shields and machine bolts.
- D. Attachment to Cored Precast Concrete Decks (Flexicore, Dox Plank, Spancrete, etc.): Toggle bolts may be installed in cells for the support of piping up to a maximum of 2-1/2 inches in size.

- E. Attachment to Hollow Block or Hollow Tile Filled Concrete Decks:
 - 1. Existing Construction: Break out block or tile to access, and install machine bolt anchors at highest practical point on side of web.

- F. Attachment to Waffle Type Concrete Decks:
 - 1. Existing Construction: Install machine bolt expansion anchors at highest practical point on side of web.

- G. Attachment to Precast Concrete Tee Construction:
 - 1. Existing Construction: Dual unit expansion shields in webs of tees. Install shields as high as possible in the webs.
 - a. Exercise extreme care in the field drilling of holes to avoid damage to reinforcing.
 - b. Do not use powder driven fasteners.

END OF SECTION

SECTION 211300
SPRINKLER PIPING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Through Penetration Firestops: Section 078400.
- B. Pipe Hangers and Supports: Section 210529.
- C. Sprinkler Systems: Section 211313.

1.02 REFERENCES

- A. NFPA 13 - Standard for the Installation of Sprinkler Systems.

1.03 SUBMITTALS

- A. Product Data:
 - 1. Catalog sheets and specifications indicating manufacturer name, type, applicable reference standard, schedule, or class for specified pipe and fittings.
 - 2. Material Schedule: Itemize pipe and fitting materials for each specified application in Pipe and Fittings Schedule in Part 3 of this Section. Where optional materials are specified indicate option selected.

PART 2 PRODUCTS

2.01 STEEL PIPE AND FITTINGS

- A. Steel Pipe for Threading: Standard weight, Schedule 40, black or galvanized; ASTM A 53 or ASTM A 135.
- B. Steel Pipe for Roll Grooving: Standard weight, Schedule 40, black or galvanized; ASTM A 53, Grade B, Type F for sizes 3/4 inch to 1-1/2 inch, and Type E or S for sizes 2 inch to 24 inch, or ASTM A 135.
- C. Cast Iron Fittings:
 - 1. Drainage Pattern, Threaded: ASME B16.12.
 - 2. Steam Pattern, Threaded: ASME B16.4.
 - a. Standard Weight: Class 125.
 - 3. Flanged Fittings and Threaded Flanges: ASME B16.1.
 - a. Standard Weight: Class 125.
- D. Unions: Malleable iron, 250 lb class, brass to iron or brass to brass seats.

- E. Couplings: Same material and pressure rating as adjoining pipe, conforming to standards for fittings in such pipe. Use taper tapped threaded type in screwed pipe systems operating in excess of 15 psig.
- F. Nipples: Same material and strength as adjoining pipe, except nipples having a length of less than one inch between threads shall be extra heavy.

2.02 COUPLINGS AND FITTINGS FOR GROOVED END PIPE

- A. Couplings: Grinnell Corp.'s Rigidlok Fig. 7401, or Victaulic Co.'s Style 107, having minimum pressure rating of:
 - 1. 750 psi from 1-1/2 inch to 4 inch.
 - 2. 700 psi for 6 inch.
 - 3. 600 psi for 8 inch.
- B. Fittings: By same manufacturer as couplings, having pressure ratings equal to or greater than couplings. Comply with the following standards:
 - 1. Steel: ASTM A 53 or A 106, Grade B.
 - 2. Malleable Iron: ASTM A 47.

2.03 BOLTED MECHANICAL BRANCH CONNECTION

- A. Victaulic Co.'s 920 Mechanical T.

2.04 JOINING AND SEALANT MATERIALS

- A. Thread Sealant:
 - 1. LA-CO Industries' Slic-Tite Paste with Teflon.
 - 2. Loctite Corp.'s No. 565 Thread Sealant.
 - 3. Thread sealants for potable water shall be NSF approved.
- B. Joint Packing:
 - 1. Oiled Oakum: Manufactured by Nupak of New Orleans, Inc., 931 Daniel St., Kenner, LA 70062, (504) 466-1484.
- C. Gaskets For Use With Grooved End Pipe and Fittings: Type and materials as recommended and furnished by the fitting manufacturer, for the service of piping system in which installed.
- D. Anti-Seize Lubricant: Bostik Inc.'s Never Seez or Dow Corning Corp.'s Molykote 1000.

2.05 DIELECTRIC CONNECTORS

- A. Dielectric Fitting: Bronze ball valve with end connections and pressure rating to match associated piping.
 - 1. Nipples with inert non-corrosive thermoplastic linings are not acceptable.

- B. Flange Electrical Insulation Kit: Consisting of dielectric sleeves and washers, and dielectric gasket.
 - 1. Rated 150 psi at 250 degrees F: ANSI Class 150, full faced neoprene gasket with bolt holes, double phenolic washers, and mylar sleeves; Model 150 by APS, Lafayette, LA 70596, (337) 233-6116.

2.06 PIPE SLEEVES

- A. Type A: Schedule 40 steel pipe.
- B. Type B: No. 16 gage galvanized sheet steel.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install piping at approximate locations indicated, and at maximum height.
- B. Install piping clear of door swings, and above sash heads.
- C. Make allowances for expansion and contraction.
- D. Allow for a minimum of one inch free air space around pipe or pipe covering, unless otherwise specified.
- E. Install horizontal piping with a constant pitch, and without sags or humps.
- F. Install vertical piping plumb.
- G. Use fittings for offsets and direction changes.
- H. Cut pipe and tubing ends square; ream before joining.
- I. Threading: Use American Standard Taper Pipe Thread Dies.

3.02 FIRE SPRINKLER PIPING SYSTEM

- A. Install piping to be completely drainable.

3.03 PIPE JOINT MAKE-UP

- A. Threaded Joint: Make up joint with a pipe thread compound applied in accordance with manufacturer's printed application instructions for the intended service.
- B. Grooved Pipe Joint: Roll groove pipe ends, make up joint with grooved end fittings and couplings, in conformance with the manufacturer's printed installation instructions.
 - 1. Cut grooved end piping is not acceptable.

- C. Mechanical Joint: Make up joint in conformance with the manufacturer's printed installation instructions, with particular reference to tightening of bolts.
- D. Dissimilar Pipe Joint:
 - 1. Joining Bell and Spigot and Threaded Pipe: Install a half coupling on the pipe or tube end to form a spigot, and calk into the cast iron bell.
 - 2. Joining Dissimilar Threaded Piping: Make up connection with a threaded coupling or with companion flanges.
 - 3. Joining Dissimilar Non-Threaded Piping: Make up connection with adapters recommended by the manufacturers of the piping to be joined.
 - 4. Joining Galvanized Steel Pipe and Copper Tubing: Make up connection with a dielectric connector.

3.04 PIPING PENETRATIONS

- A. Sleeve Schedule: Unless otherwise shown, comply with the following schedule for the type of sleeve to be used where piping penetrates wall or floor construction:

CONSTRUCTION	SLEEVE TYPE
1. Frame construction.	None Required
2. Non-waterproof interior walls.	B*
3. Non-waterproof interior floors not on metal decks.	B*
4. Floors not on grade having a floor drain.	A
5. Floors over mechanical equipment, steam service, machine, and boiler rooms.	A

*Core drilling is permissible in lieu of sleeves where marked with asterisks.

- B. Diameter of Sleeves and Core Drilled Holes:
 - 1. Unless otherwise specified, size holes thru floors and walls in accordance with the through penetration fire stopping system being used.
 - 2. Size holes for sprinkler and fire standpipe piping in accordance with NFPA 13.
- C. Length of Sleeves (except as shown otherwise on Drawings):
 - 1. Walls and Partitions: Equal in length to total finished thickness of wall or partition.
- D. Packing of Sleeves and Core Drilled Holes:
 - 1. Unless otherwise specified, pack sleeves or cored drilled holes in accordance with Section 078400 - FIRESTOPPING.

3.05 PIPE AND FITTING SCHEDULE

- A. Where options are given, choose only one option for each piping service. No deviations from the selected option will be allowed.

B. Sprinkler:

1. Option No. 1: Standard weight black steel pipe, with standard weight cast iron fittings, and threaded joints.
2. Option No. 2: Standard weight black steel pipe, with roll grooved ends, grooved pipe fittings, and couplings.

END OF SECTION

SECTION 211313

SPRINKLER SYSTEMS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Pipe Hangers and Supports: Section 210529.
- B. Sprinkler Piping: Section 211300.

1.02 REFERENCES

- A. NFPA 13 - National Fire Protection Association Standard for the Installation of Sprinkler Systems.

1.03 SYSTEM DESCRIPTION

- A. Type of System:
 - 1. Wet Sprinkler System.
- B. Occupancy Classification:
 - 1. Ordinary Hazard Occupancy.

1.04 SUBMITTALS

- A. Shop Drawings:
 - 1. Complete sprinkler system layout indicating the locations of sprinkler heads, devices, and accessories. Include separate details of special or not easily visualized piping arrangements.
 - 2. Hydraulic calculations shall be complete and cross referenced to the appropriate drawing sheets.
 - 3. Layout of any proposed deviation from the Contract Drawings.
- B. Product Data: Catalog sheets, specifications, and installation instructions. Indicate UL or FM approval for each product. Include the following additional information:
 - 1. Electrical Devices: Complete description of intended use, wiring diagrams, data plate information and, in the case of switching devices, whether normally on, or normally off. Include motor test data.
 - 2. Mechanical Devices: Complete description of intended use, including normal operating capacities and working pressures.
- C. Quality Control Submittals:
 - 1. Design Data: The portions of the sprinkler system not sized on the Contract Drawings shall be sized in accordance with NFPA requirements for Hydraulically Designed Systems. Submit drawings and hydraulic calculations for approval.
 - 2. Certificates: As required under Quality Assurance Article.
 - 3. Installers Qualification Data:

- a. Name of each person who will be performing the Work.
 - b. Upon request, furnish names and addresses of the required number of similar projects that each person has worked on which meet the experience criteria.
- 4. Material approvals in writing, from New York City Board of Standards and Appeals.
- D. Contract Closeout Submittals:
 - 1. Operation and Maintenance Data. Deliver 2 copies to the Director's Representative:
 - a. Instruction manual describing the operation and maintenance of the system.
 - b. Parts list for each mechanical and electrical device.
 - c. Publication NFPA 25, Inspection, Testing, and Maintenance of Water Based Fire Protection Systems.

1.05 QUALITY ASSURANCE

- A. Qualifications: The persons employed to perform the Work of this Section and their supervisor shall be personally experienced in sprinkler work and shall have been regularly performing such work for a minimum of 5 years while in the employ of a company or companies engaged in the installation of sprinkler systems.
 - 1. Upon request, furnish to the Director the names and addresses of five similar projects which the foregoing people have worked on during the past 3 years.
- B. Regulatory Requirements:
 - 1. Materials for the Work of this Section shall be Underwriter's Laboratories listed, and/or Factory Mutual approved.
 - a. Comply with New York City Board of Standards and Appeal's requirements pertaining to materials.
- C. Certification: NFPA Contractor's Material and Test Certificate.

1.06 MAINTENANCE

- A. Spare Parts: Furnish the following items and deliver to the Director's Representative for storage in existing spare sprinkler head cabinets:
 - 1. Two (2) spare sprinklers of each provided type of sprinkler.
 - 2. One sprinkler head wrench to fit each type sprinkler.

PART 2 PRODUCTS

2.01 VALVES AND ACCESSORIES

- A. Gate Valves (175 psig non-shock working pressure):
 - 1. 2-1/2 inch and larger: IBBM, OS & Y indicating type; double or wedge disc with end connections as required to suit the piping system. Provide tamper switch.

- B. Inspector's Test and Drain Outlet Valve: Ball type, bronze body, Type 316 stainless steel ball and stem, teflon seats and stem packing, 400 psi WOG.
- C. Check Valves: IBBM, single clapper swing check with metal to metal or rubber faced checks, suitable for horizontal and vertical installation; end connections as required to suit the piping system; 175 psig non-shock working pressure.
- D. Pressure Gages: Range of 2 times system working pressure at point where installed. Equip with gage cock and provisions for draining.

2.02 SPRINKLER HEADS AND APPURTENANCES

- A. Sprinkler Heads: Brass or bronze, with standard 1/2 inch orifice, and deflector:
 1. Upright or Pendent Type: Deflector designed to distribute water downward in a uniform hemispherical spray pattern.
 2. Sidewall Type: Horizontal or vertical sprinklers with special deflectors designed to discharge most of the water away from nearby wall in a pattern resembling 1/4 of a sphere with a small portion of discharge directed at wall behind sprinkler.
 3. Markings: Stamp sprinkler type on deflector in addition to NFPA's color code requirements covering temperature classification.
 4. Finish: Rough brass.
- B. Sprinkler Guards For Exposed Piping: Welded steel wire cage with cast or pressed steel base plate and suitable retaining clamps.
 1. Finish: Paint to match sprinkler piping.

2.03 WATER FLOW ALARM DEVICE

- A. Vane Type Waterflow Switch: Autocall Div., Federal Signal Corp.'s 4160, Potter Electric Signal Co.'s VSR-F, or Reliable's Model A., having:
 1. Corrosion-resistant vane.
 2. Splash/dust resistant enclosure with anti-tamper switch.
 3. Adjustable pneumatic retard.
 4. Screw type wiring terminals.
 5. Switch rated minimum 7.0 amps at 125 V ac and 0.25 amps at 125 V dc.

2.04 VALVE SUPERVISORY SWITCHES

- A. Mechanically actuated, designed to close contacts and sound an alarm when supervised valve is closed and when switch cover removed.
 1. For Gate Valves: Potter Electric Signal Co.'s OSYSU-A, or Grinnell's F640.

2.05 SIGNS

- A. Steel with vitreous enamel finish, lettering on contrasting background to identify and indicate the function of:
 1. Control valves.

2. Drain and test valves.
3. Hydraulic Design Nameplate Data: Size approx. 9 x 12 inches, inscribed with the following:
 - a. SPRINKLER SYSTEM HYDRAULICALLY DESIGNED (in block letters).
 - b. Location and area of hydraulically designed section.
 - c. Discharge density over designed area in gallons per minute.
 - d. Residual pressure at base of riser supplying water to designed section.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Testing Existing System: Prior to installing the new system, test the existing system, as prescribed for new systems in accordance with NFPA 13, to ascertain its operating condition.
 1. Prepare a written report for the Director's Representative indicating the repairs required, if any, to make the existing system function properly.
 2. Repairs to the existing system are not included in the Work unless requested by Order on Contract.

3.02 PREPARATION

- A. Existing Sprinkler System Shutdown:
 1. Before shutting down the sprinkler system to perform the Work, notify the Director's Representative in writing, and the local fire department that the system is to be shut down temporarily. Give schedule which states date and time of proposed shut down and the approximate length of time that the system will be out of service. Request instructions for precautions that should be taken during the shut down period.
 2. Do not shut down the system until schedule is approved by the Director's Representative.
 3. Return the existing system to pre-shutdown operation immediately after the Work has been completed. Give written notice to the Director's Representative that the system has been returned to pre-shutdown operation.

3.03 INSTALLATION

- A. Unless otherwise shown or specified, install the Work of this section in accordance with NFPA 13, and the item manufacturer's installation instructions.
- B. Signs: Install signs identifying the following:
 1. Valves: One for each size, type and function.
 2. Hydraulically Designed System.

3.04 FIELD QUALITY CONTROL

- A. Tests: Unless otherwise shown or specified, perform tests in accordance with NFPA 13.
 - 1. Flushing: In addition to the requirements of the Standard, flush new piping before making final connection to existing systems and before performing hydrostatic test. Flush at rates of flow prescribed in the Contractor's Material and Test Certificate. After making final connections, flush entire system and assure that debris is removed from piping and there are no stoppages or obstructions in the system.
 - 2. System Tests:
 - a. Test all new Work.
 - b. Notify the Director's Representative when the Work of this Section is ready for testing.
 - c. Perform the tests when directed, and in the Director's Representatives presence.

END OF SECTION