

ADDENDUM NO. 2
SLOSS FURNACE VISITOR CENTER

BIDS RECEIVED:
2:00 p.m.
September 6, 2011
Room 215 City Hall

ARCHITECTURAL DIVISION
DEPT. OF PLANNING, ENG. & PERMITS
ANDRE V. BITTAS, DIRECTOR

THIS ADDENDUM IS DIRECTED TO ALL PRIME BIDDERS, AND ALL OTHERS TO WHOM DRAWINGS AND SPECIFICATIONS HAVE BEEN ISSUED.

THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS. THE FOLLOWING CONDITIONS TAKE PRECEDENCE OVER ANY CONFLICTING CONDITIONS IN THE DRAWINGS AND SPECIFICATIONS. THE DRAWINGS AND SPECIFICATIONS ARE HEREBY AMENDED IN THE FOLLOWING PARTICULARS.

GENERAL

1. The Bid Date shall be postponed until 2:00 p.m., Tuesday September 6, 2011.

SPECIFICATIONS

1. Delete Section 00010, TABLE OF CONTENTS and substitute Section 00010-REVISED PER ADDENDA #02 TABLE OF CONTENTS (attached, 5 pages)
2. Insert Section 07431, METAL COMPOSITE MATERIAL WALL PANELS (attached, 7 pages)

DRAWINGS

1. Revised Sheets E0.2 and E1.2 issued herewith (2 sheets)
2. Revised Sheet C4.0 issued herewith (1 sheet)
3. Revised Sheet S2.3 issued herewith (1 sheet)

END OF ADDENDUM #2

SECTION 00010-REVISED PER ADDENDA #02

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SECTION 07431-REVISED PER ADDENDA 02**METAL COMPOSITE MATERIAL WALL PANELS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Exterior cladding consisting of formed metal composite material (MCM) sheet, secondary supports, and anchors to structure, attached to solid backup.

1.02 RELATED REQUIREMENTS

- A. Section 05400 - Cold Framed Metal Framing: Panel support framing.
- B. Section 07260 - Weather Barriers: Weather barrier behind rainscreen wall system.
- C. Section 07620 - Sheet Metal Flashing and Trim: Metal flashing components integrated with this wall system.

1.03 REFERENCE STANDARDS

- A. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2008.
- B. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2009.
- C. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- D. ASTM A 276 - Standard Specification for Stainless Steel Bars and Shapes; 2008a.
- E. ASTM A 480/A 480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 2009b.
- F. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.
- G. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2003.
- H. ASTM A 792/A 792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2009a.
- I. ASTM D 523 - Standard Test Method for Specular Gloss; 2008.
- J. ASTM D 1781 - Standard Test Method for Climbing Drum Peel for Adhesives; 1998 (Reapproved 2004).
- K. ASTM D 1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 1996 (Reapproved 2001).
- L. ASTM D 2244 - Standard Practice for Calculation of Color Differences from Instrumentally Measured Color Coordinates; 2009b.
- M. ASTM D 4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films; 2007.
- N. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Wall System Manufacturer Qualifications.
- C. Product Data - MCM Sheets: Manufacturer's data sheets on each product to be used, including thickness, physical characteristics, and finish, and:
 - 1. Finish manufacturer's data sheet showing physical and performance characteristics.
 - 2. Storage and handling requirements and recommendations.

3. Fabrication instructions and recommendations.
 4. Specimen warranty for finish, as specified herein.
- D. Product Data - Wall System: Manufacturer's data sheets on each product to be used, including:
1. Physical characteristics of components shown on shop drawings.
 2. Storage and handling requirements and recommendations.
 3. Installation instructions and recommendations.
 4. Specimen warranty for wall system, as specified herein.
- E. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, flashings, and accessories.
1. Indicate panel numbering system.
 2. Differentiate between shop and field fabrication.
 3. Indicate substrates and adjacent work with which the wall system must be coordinated.
 4. Include large-scale details of anchorages and connecting elements.
 5. Include large-scale details or schematic, exploded or isometric diagrams to fully explain flashing at a scale of not less than 1-1/2 inches per 12 inches (1:10).
 6. Include design engineer's stamp or seal on shop drawings for attachments and anchors.
- F. Design Data: Submit structural calculations stamped by design engineer, for Architect's information and project record.
- G. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.
- H. Maintenance Data: Care of finishes and warranty requirements.
- I. Executed Warranty: Submit warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Design Engineer's Qualifications: Design structural supports and anchorages under direct supervision of a Structural Engineer experienced in design of this type of Work and licensed in the State in which the Project is located.
- B. Wall System Manufacturer Qualifications: Company specializing in manufacturing products specified in this section.
- C. Mock-Up: Provide a mock-up for evaluation of fabrication workmanship.
1. Locate where directed.
 2. Provide panels finished as specified.
 3. Mock-up may remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
1. Protect finishes by applying heavy duty removable plastic film during production.
 2. Package for protection against transportation damage.
 3. Provide markings to identify components consistently with drawings.
 4. Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.
- B. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
1. Store in well ventilated space out of direct sunlight.

2. Protect from moisture and condensation with tarpaulins or other suitable weather tight covering installed to provide ventilation.
3. Store at a slope to ensure positive drainage of any accumulated water.
4. Do not store in any enclosed space where ambient temperature can exceed 120 degrees F (49 degrees C).
5. Avoid contact with any other materials that might cause staining, denting, or other surface damage.

1.07 WARRANTY

- A. Wall System Warranty: Provide joint written warranty by manufacturer and installer, agreeing to correct defects in manufacturing or installation within a two year period after Date of Substantial Completion.
- B. MCM Sheet Manufacturer's Finish Warranty: Provide manufacturer's written warranty stating that the finish will perform as follows for minimum of 5 years:
 1. Chalking: No more than that represented by a No.8 rating based on ASTM D 4214.
 2. Color Retention: No fading or color change in excess of 5 Hunter color difference units, calculated in accordance with ASTM D 2244.
 3. Gloss Retention: Minimum of 30 percent gloss retention, when tested in accordance with ASTM D 523.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Composite Material Sheet Manufacturers:
 1. 3A Composites USA; Alucobond: www.alucobondusa.com.
 2. Alcoa, Inc; _____: www.alcoa.com.
- B. Wall Panel System Manufacturers:
 1. Firestone Metal Products, LLC; _____: www.unaclad.com.
 2. Substitutions: See Section 01600 - Product Requirements.

2.02 WALL PANEL SYSTEM

- A. Wall Panel System: Metal panels, fasteners, and anchors designed to be supported by framing or other substrate provided by others; provide installed panel system capable of maintaining specified performance without defects, damage or failure.
 1. Provide structural design by or under direct supervision of a Structural Engineer licensed in the State in which the Project is located.
 2. Provide panel jointing and weatherseal using reveal joints and gaskets but no sealant.
 3. Anchor panels to supporting framing without exposed fasteners.
- B. Performance Requirements:
 1. Thermal Movement: Provide for free and noiseless vertical and horizontal thermal movement due to expansion and contraction under material temperature range of minus 20 degrees F (minus 29 degrees C) to 180 degrees F (82 degrees C) without buckling, opening of joints, undue stress on fasteners, or other detrimental effects; allow for ambient temperature at time of fabrication, assembly, and erection procedures.
- C. Panels: One inch (2.5 mm) deep pans formed of metal composite material sheet by routing back edges of sheet, removing corners, and folding edges.
 1. Reinforce corners with riveted aluminum angles.
 2. Provide concealed attachment to supporting structure by adhering attachment members to back of panel; attachment members may also function as stiffeners.
 3. Maintain maximum panel bow of 0.8 percent of panel dimension in width and length; provide stiffeners of sufficient size and strength to maintain panel flatness without showing local stresses or read-through on panel face.
 4. Secure members to back face of panels using structural silicone sealant approved by MCM sheet manufacturer.
 5. Fabricate panels under controlled shop conditions.
 6. Where final dimensions cannot be established by field measurement before

commencement of manufacturing, make allowance for field adjustments without requiring field fabrication of panels.

7. Fabricate as indicated on drawings and as recommended by MCM sheet manufacturer.
 - a. Make panel lines, breaks, curves and angles sharp and true.
 - b. Keep plane surfaces free from warp or buckle.
 - c. Keep panel surfaces free of scratches or marks caused during fabrication.
8. Provide joint details providing a watertight and structurally sound wall panel system that allows no uncontrolled water penetration on inside face of panel system.
9. For "dry" jointing, secure extrusions to returned pan edges with stainless steel rivets; provide means of concealed drainage with baffles and weeps for water that might accumulate in members of system.

2.03 MATERIALS

- A. Metal Composite Material (MCM) Sheet: One sheet of aluminum (interior) sandwiching a solid core of extruded thermoplastic material with one sheet of Corten Steel (exterior) formed in a continuous process with no glues or adhesives between dissimilar materials; core material free of voids and spaces; no foamed insulation material content.
 1. Overall Sheet Thickness: 4 mm.
 2. Face Sheet Thickness: 0.019 inches (0.50 mm), minimum.
 3. Alloy: Manufacturer's standard, selected for best appearance and finish durability.
 4. Bond and Peel Strength: No adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below 22.4 inch-pound/inch (100 N-mm/mm) with no degradation in bond performance, when tested in accordance with ASTM D 1781, simulating resistance to panel delamination, after 8 hours of submersion in boiling water and after 21 days of immersion in water at 70 degrees F (21 degrees C).
 5. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E 84.
 6. Flammability: Self-ignition temperature of 650 degrees F (343 degrees C) or greater, when tested in accordance with ASTM D 1929.
- B. Metal Framing Members: Include all sub-girts, zee-clips, base and sill angles and channels, hat-shaped and rigid channels, and furring channels required for complete installation.
 1. Provide material strength, dimensions, configuration as required to meet the applied loads applied and in compliance with applicable building code.
 2. Sheet Steel Components: ASTM A 653/A 653M galvanized to G90/Z275 or zinc-iron alloy-coated to A60/ZF180; or ASTM A 792/A 792M aluminum-zinc coated to AZ60/AZM180.
 3. Stainless Steel Sheet Components: ASTM A 480/A 480M.
- C. Anchors, Clips and Accessories: Use one of the following:
 1. Stainless steel complying with ASTM A 480/A480M, ASTM A 276 or ASTM A 666.
 2. Steel complying with ASTM A 36/A 36M and hot-dipped galvanized to ASTM A153/A153M.
 3. Steel complying with ASTM A 36/A 36M and hot-dipped galvanized to ASTM A123/A123M Coating Grade 10.
- D. Fasteners:
 1. Exposed fasteners: Stainless steel; permitted only where absolutely unavoidable and subject to prior approval of the Architect.
 2. Screws: Self-drilling or self-tapping Type 410 stainless steel or zinc-alloy steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of metal wall panels.
 3. Bolts: Stainless steel.
- E. Provide panel system manufacturer's and installer's standard corrosion resistant accessories, including fasteners, clips, anchorage devices and attachments.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify dimensions, tolerances, and interfaces with other work.
- B. Verify substrate on-site to determine that conditions are acceptable for product installation in accordance with manufacturers written instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. Notify Architect in writing of conditions detrimental to proper and timely completion of work. Do not proceed with erection until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Protect adjacent work areas and finish surfaces from damage during installation.

3.03 INSTALLATION

- A. Do not install products that are defective, including warped, bowed, dented, and broken members, and members with damaged finishes.
- B. Comply with instructions and recommendations of MCM sheet manufacturer and wall system manufacturer, as well as with approved shop drawings.
- C. Install wall system securely allowing for necessary thermal and structural movement; comply with wall system manufacturer's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- E. Do not form panels in field unless required by wall system manufacturer and approved by the Architect; comply with MCM sheet manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.
- G. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
 - 1. Variation From Plane or Location: 1/2 inch in 30 feet (10 mm in 10 m) of length and up to 3/4 inch in 300 feet (20 mm in 100 m), maximum.
 - 2. Deviation of Vertical Member From True Line: 0.1 inch in 25 feet (3 mm in 9 m) run, maximum.
 - 3. Deviation of Horizontal Member From True Line: 0.1 inch in 25 feet (3 mm in 9 m) run, maximum.
 - 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 0.03 inch (0.75 mm), maximum.
- H. Replace damaged products.

3.04 CLEANING

- A. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.
- B. Remove protective film after installation of joint sealers, after cleaning of adjacent materials, and immediately prior to completion of work.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Clean installed products in accordance with manufacturer's instructions.

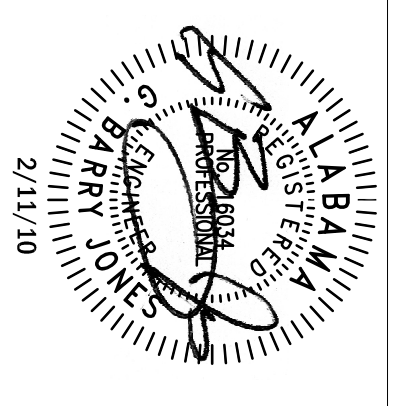
3.05 TREATMENT

- A. Refer to Alternate # 6 for surface applied vinyl graphics and corten steel patina accelerant.

3.06 PROTECTION

- A. Protect installed panel system from damage during construction.

END OF SECTION



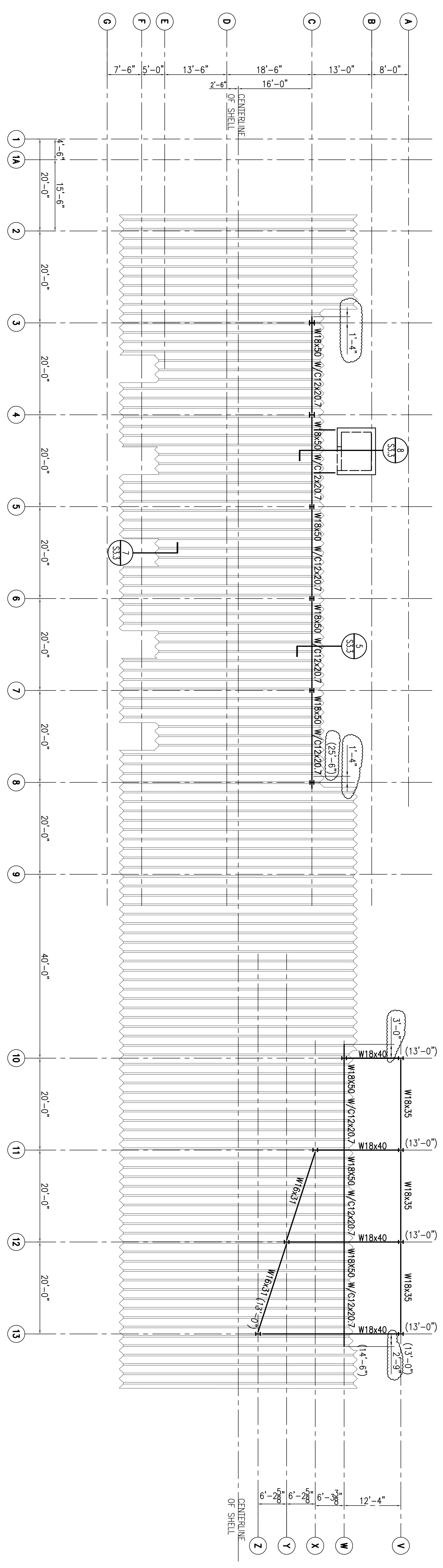
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 ISSUED FOR
 CONSTRUCTION

CITY of BIRMINGHAM
 710 20th STREET NORTH
 BIRMINGHAM, ALABAMA 35203

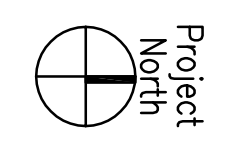
Keith DESIGN
 architecture
 TWO NORTH 20TH STREET, SUITE 1120
 BIRMINGHAM, AL 35203 | 205.320.2175

ROOF
 FRAMING
 PLAN

PROJECT NO:	09104
DATE:	06/10/2011
DRAWN:	JAC
CHECKED:	JAC / GBU
S	2.3



ROOF FRAMING PLAN
 SCALE: 3/32"=1'-0"
 1. ROOF CONSTRUCTION:
 PRE-ENGINEERED, LIGHTGAGE CORRUGATED ROLLED STEEL SHELL.
 2. TOP OF STEEL BEAM ELEVATION NOTES AS (X'-X")



Scheme	Description	Automation Scenario	Data	Schedule Input
A	OFFICE	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF		BAS SCHEDULE PER GROUP
B	EXTERIOR	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF	DARK-2FC	
C		<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF		
D	LOBBY	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF		
E	PARKING	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF	DARK-10FC	
F	EMERGENCY	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF	WITH EMERGENCY OVERRIDE VIA VOLTAGE SENSING RELAY	
G	EXHIBIT	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF		
H	MULTI-PURPOSE	<input type="checkbox"/> SCHEDULED ON/OFF <input type="checkbox"/> MANUAL UNSCHEDULED OFF <input type="checkbox"/> ASTRO (DARK) ON/OFF <input type="checkbox"/> ASTRO (DARK) UNSCHEDULED OFF		

Scenario
 Data Required
 Scheduled ON/OFF
 Manual ON/OFF Sched OFF
 Dark ON/OFF
 Dark ON/OFF Sched OFF

MARK	QTY	LAMPS	VOLTS	DESCRIPTION	SPECIAL OPTIONS & NOTES	MANUFACTURER	CATALOG NUMBER
HATE	1	L150/DX/MED	120	HIGH PRESSURE SODIUM DECORATIVE POST TOP LUMINAIRE. TYPE V VERTICAL DISTRIBUTION. 20" STRAIGHT ROUND STEEL POLE. FINISH TO BE TIGER DRYLAC POWDER COATINGS.		HOLOPHANE	55WV 15AHP S 55/RAL3000 49/33120
HFIE	1	L150/DX/MED	120	HIGH PRESSURE SODIUM FLOODLIGHT, VERTICAL FLOOD DISTRIBUTION. FINISH TO BE SELECTED BY ARCHITECT.		GARCOO KIM HYRELL	DF7-SP-VFL-150HPS
HFIN	1	L1400	120	HIGH PRESSURE SODIUM FLOODLIGHT, NEMA 798 DISTRIBUTION. FINISH TO BE SELECTED BY ARCHITECT.		HUBBELL G.E. LITHONIA	MM-4095-205
HFXB	1	L150/DX/MED	120	HIGH PRESSURE SODIUM FLOODLIGHT, TIGHT SPOT DISTRIBUTION. FINISH TO BE SELECTED BY ARCHITECT.		GARCOO KIM HYRELL	DF7-SP-NSP-50HPS
HJTB	1	L170/DX/MED	120	HIGH PRESSURE SODIUM FLUSH IN-GRADE UPLIGHT, MEDIUM FLOOD DISTRIBUTION.		HYRELL	M0720-A-70S-MFL
MFIB	1	MP70/DX/MED	120	METAL HALIDE FLOODLIGHT, VERTICAL FLOOD DISTRIBUTION. MOUNTED TO WALL SURFACE/STRUCTURE. FINISH TO BE SELECTED BY ARCHITECT.		GARCOO KIM HYRELL	DF7-J-VFL-70MH
XA	WITH UNIT		120	DOUBLE FACE CEILING MOUNTED LED EDGE LIT SELF POWERED EXIT SIGN, RED LETTERS, WHITE BACKGROUND, DIRECTIONAL CHEVRONS AS INDICATED ON DRAWINGS, VERIFY FINISH WITH ARCHITECT.		SURELITES EMERGLITE LITHONIA PRESCOLITE	ELX-7-2-70-RW
XB	WITH UNIT		120	SINGLE FACE UNIVERSAL MOUNTED LED EDGE LIT SELF POWERED EXIT SIGN, RED LETTERS, WHITE BACKGROUND, DIRECTIONAL CHEVRONS AS INDICATED ON DRAWINGS, VERIFY FINISH WITH ARCHITECT.		SURELITES EMERGLITE LITHONIA PRESCOLITE	ELX-7-1-70-RW
GRPC	1	CF042W/G240/REB30	120	RECESSED COMPACT FLUORESCENT SHOWER LIGHT, DEAD FRONT CONSTRUCTION, HIGH POWER FACTOR, HORIZONTAL LAMP.	PROVIDE WITH MVOLT BALLAST.	KIRLIN OMEGA GOTHAM	FRR-05032
FE4	4	F3278/REB35	120	FLUORESCENT RECESSED STAINLESS LUMINAIRE, 2' x 4' LAY-IN, FLAT STEEL DOOR, 0.125" CLEAR ACRYLIC A-12 PRISMATIC LENS.	PROVIDE WITH MVOLT BALLAST.	COLUMBIA LITHONIA DAYBRITE	4PS-24-G-FS-A12
FLV2	2	F3278/REB35	120	FLUORESCENT SURFACE MOUNTED HIGH ABUSE LUMINAIRE WITH ACRYLIC LENS, WHITE FINISH.	FLV2 SIMILAR EVC2 SIMILAR WITH BATTERY BALLAST.	KENALL FALL SAFE LITHONIA	N1048-C-2-32
ITV	1		120	TRACK LIGHTING SYSTEM, SPEC GRADE EXTRUDED ALUMINUM HOUSING, COPPER CONDUCTOR, SURFACE-MTD. IN LENGTHS/PATTERNS AS SHOWN ON DRAWINGS, MULTI CIRCUIT WITH INTEGRAL DEDICATED MOUNTING BRACKET.	ITV SIMILAR TO "IT" EXCEPT PENDANT MOUNTED. FURNISH WITH 1/2" DIA. 1/4" LONG TRACK FIXTURE CONNECTORS FOR 3RD PARTY FIXTURES.	TELILAB EDISON-PRICE LIST TIMES SQUARE ALTMAN	MTD-S-MB
LVT		050MR16/NFL	120	LOW VOLTAGE RAIL SYSTEM TRACK, LENGTH AS INDICATED ON DRAWINGS, FINISH SELECTED PER ARCHITECT, WITH ADJUSTABLE WIRE LAMPHOLDER FIXTURES.	REMOTE 300 VA TRANSFORMER PER FEED, ADJUSTABLE SUSPENSION CABLE/STANDOFFS, FIXTURES PROVIDED ONE PER 3 FT OF TRACK	BRUCK LIGHTING LBL TECH LIGHTING	V/A SYSTEM W/ MICROS SPOT

MARK	QTY	LAMPS	VOLTS	DESCRIPTION	SPECIAL OPTIONS & NOTES	MANUFACTURER	CATALOG NUMBER
ITT	1	SEE NOTE 17	120	INCANDESCENT TRACK MOUNTED LUMINAIRE, BLACK FINISH.	FURNISH QTY = 200 FURNISH WITH MULTI CELL LOUVER	TELILAB EDISON-PRICE LIST TIMES SQUARE ALTMAN	L138-5A
LTTB	1	SEE NOTE 17	120	LOW-VOLTAGE INCANDESCENT TRACK LUMINAIRE W/ INTEGRAL 120V-12V TRANSFORMER, BLACK FINISH.	FURNISH QTY = 40 SEE NOTE 18	TELILAB EDISON-PRICE LIST TIMES SQUARE ALTMAN	LPB-516-5A
LTTE	1	SEE NOTE 17	120	LOW-VOLTAGE INCANDESCENT TRACK LUMINAIRE W/ INTEGRAL 120V-12V TRANSFORMER, BLACK FINISH, FOR USE WITH 75 WATT AR 111 LAMP.	FURNISH QTY = 20 SEE NOTE 18.	TELILAB EDISON-PRICE LIST TIMES SQUARE ALTMAN	LPB-111-5A
MZTY	1	CDM150/76/830	120	METAL HALIDE THEATRICAL FRAMING SPOTLIGHT, YOKE MTD, INTEGRAL ELECTRONIC BALLAST, FOUR STAINLESS STEEL FRAMING SHUTTERS, GOBO HOLDER & COLOR LENS FRAME, UNISTRUT ADAPTER & 3 WIRE CORD FOR TRACK OR PLUG CONNECTOR, BLACK FINISH.	FURNISH QTY = 4	TELILAB EDISON-PRICE LIST TIMES SQUARE ALTMAN	MC150FB-B-USI-CC18

RELAY NO.	VOLTS	PANEL & CKT NO.	AREA BEING CONTROLLED	GROUP	SCHEME	NOTES
1	120	RP-1B2: 1	TEMP. EXHIBIT TRACK			
2	120	RP-1B2: 2	TEMP. EXHIBIT TRACK			
3	120	RP-1B2: 3	TEMP. EXHIBIT TRACK			
4	120	RP-1B2: 4	TEMP. EXHIBIT TRACK			
5	120	RP-1B2: 5	TEMP. EXHIBIT TRACK			
6	120	RP-1B2: 6	TEMP. EXHIBIT TRACK			
7	120	RP-1B2: 7	TEMP. EXHIBIT TRACK			
8	120	RP-1B2: 8	TEMP. EXHIBIT TRACK			
9	120	RP-1B2: 9	TEMP. EXHIBIT TRACK			
10	120	RP-1B2: 10	TEMP. EXHIBIT TRACK			
11	120	RP-1B2: 11	TEMP. EXHIBIT TRACK			
12	120	RP-1B2: 12	TEMP. EXHIBIT TRACK			
13	120	RP-1B2: 13	TEMP. EXHIBIT TRACK			
14	120	RP-1B2: 14	MEN & WOMEN RESTROOM			NOTE 1.
15	120	RP-1B2: 15	TEMP. EXHIBIT TRACK			
16	120	RP-1B2: 16	TEMP. EXHIBIT WORKLIGHT/EMERGENCY			NOTE 1.
17	120	RP-1B2: 17	RECEPTION			
18	120	RP-1B2: 18	GIFT SHOP/CATERING/STORAGE			
19	120	RP-1B2: 19	OUTSIDE FLOODLIGHTS			NOTE 2.
20	120	RP-1B2: 20	OUTSIDE WALKWAY			NOTE 1,3.
21	120	RP-1B2: 21	MULTI PURPOSE			NOTE 1.
22	120	RP-2B2: 1	OUTSIDE BALCONIES			NOTE 2,4.
23	120	RP-2B2: 2	OFFICE			NOTE 4
24	120	RP-2B2: 3	OFFICE/CONFERENCE			NOTE 4
25	120	RP-2B2: 4	OFFICE RECEPTION			NOTE 4
26	120	RP-2B2: 5	OFFICE			NOTE 4
27	120	RP-2B2: 6	OFFICE			NOTE 4
28	120	RP-2B2: 7	OUTSIDE WALKWAY			NOTE 1,3,4.
29	120	RP-2B2: 8	OUTSIDE WALKWAY			NOTE 1,3,4.
30	120	RP-2B2: 9	OUTSIDE WALKWAY			NOTE 1,3,4.
31	120	RP-2B2: 10	OUTSIDE FLOODLIGHTS			NOTE 2,4.
32	120		SPARE			
33	120		SPARE			
34	120		SPARE			
35	120		SPARE			
36	120		SPARE			

RELAY NO.	VOLTS	PANEL & CKT NO.	AREA BEING CONTROLLED	GROUP	SCHEME	NOTES
1	120	RP-1A2: 1	EXHIBIT (TBD)			
2	120	RP-1A2: 2	EXHIBIT (TBD)			
3	120	RP-1A2: 3	EXHIBIT (TBD)			
4	120	RP-1A2: 4	EXHIBIT (TBD)			
5	120	RP-1A2: 5	EXHIBIT (TBD)			
6	120	RP-1A2: 6	EXHIBIT (TBD)			
7	120	RP-1A2: 7	EXHIBIT (TBD)			
8	120	RP-1A2: 8	EXHIBIT (TBD)			
9	120	RP-1A2: 9	EXHIBIT (TBD)			
10	120	RP-1A2: 10	EXHIBIT (TBD)			
11	120	RP-1A2: 11	EXHIBIT (TBD)			
12	120	RP-1A2: 12	EXHIBIT (TBD)			
13	120	RP-1A2: 13	EXHIBIT (TBD)			
14	120	RP-1A2: 14	EXHIBIT (TBD)			
15	120	RP-1A2: 15	EXHIBIT (TBD)			
16	120	RP-1A2: 16	EXHIBIT (TBD)			
17	120	RP-1A2: 17	EXHIBIT (TBD)			
18	120	RP-1A2: 18	EXHIBIT (TBD)			
19	120	RP-1A2: 19	EXHIBIT (TBD)			
20	120	RP-1A2: 20	EXHIBIT (TBD)			
21	120	RP-1A2: 21	EXHIBIT (TBD)			
22	120	RP-1A2: 22	EXHIBIT (TBD)			
23	120	RP-1A2: 23	EXHIBIT (TBD)			
24	120	RP-1A2: 24	EXHIBIT (TBD)			
25	120	RP-1A2: 25	EXHIBIT (TBD)			
26	120	RP-1A2: 26	OUTSIDE WALKWAY			NOTE 1,3,4
27	120	RP-1A2: 27	EXHIBIT (TBD)			
28	120	RP-1A2: 28	ELECTRICAL/MECHANICAL/STORAGE			
29	120	RP-1A2: 29	EXHIBIT (TBD)			
30	120	RP-1A2: 30	EXHIBIT WORKLIGHT/EGRESS			NOTE 1.
31	120	RP-1A2: 31	OUTSIDE FLOODLIGHTS			NOTE 3.
32	120	RP-1A2: 32	SPARE			
33	120	RP-1A2: 33	SPARE			
34	120	RP-1A2: 34	SPARE			
35	120	RP-1A2: 35	SPARE			
36	120	RP-1A2:	EXTERIOR SITE LIGHTING			

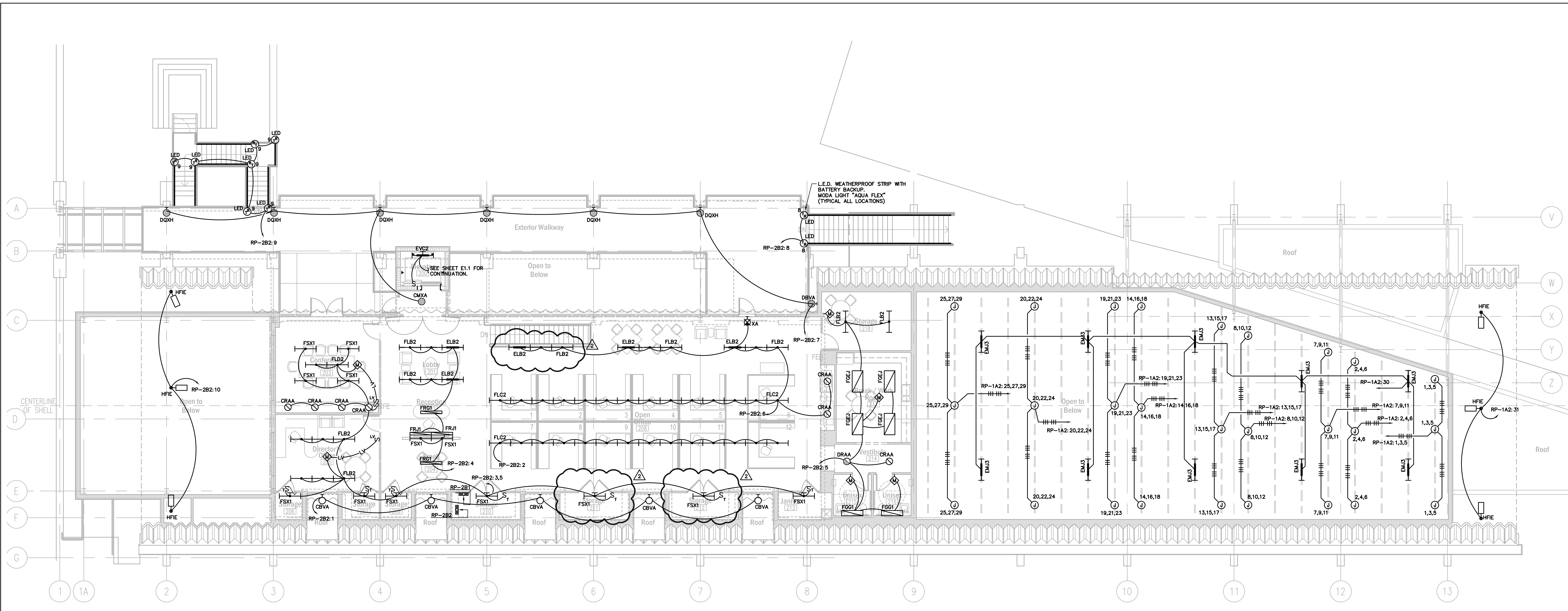
LIGHTING CONTROL NOTES:
 1. WORK LIGHTS & EGRESS LIGHTS REQUIRE AN UNSWITCHED "HOT" CONDUCTOR TO EACH FIXTURE FOR EMERGENCY BALLAST OPERATION.
 2. PHOTOCELL TURNS LIGHTS ON, PROGRAMMED SCHEDULE TURNS OFF.
 3. PHOTOCELL TURNS LIGHTS ON & OFF.
 4. PROVIDE REMOTE RELAY PACK FOR PANEL RP-2B2 CIRCUITS.


MARK	QTY	LAMPS	VOLTS	DESCRIPTION	SPECIAL OPTIONS & NOTES	MANUFACTURER	CATALOG NUMBER
CBVA	1	CFM42/G240/REB30	120	COMPACT FLUORESCENT WALL-MTD VAPORTIGHT LUMINAIRE, W/ ACRYLIC LENS AND CAST ALUMINUM HOUSING AND GUARD, WET LOCATION LISTED, FINISH TO BE SELECTED.		EXCELLINE	RLW2HFLGC-1-FS
CSAA	1	CFM42/G240/REB30	120	COMPACT FLUORESCENT SURFACE-MTD SCENCE	CSAA TO BE SELECTED BY ARCHITECT, PROVIDE MATERIAL ALLOWANCE OF \$400 FOR CSAA	ARTEMIDE	BLISS 13
DMXA	1	CFM42/G240/REB30	120	COMPACT FLUORESCENT SURFACE-MTD SHALLOW CYLINDER LUMINAIRE, ACRYLIC LENS, STEEL HOUSING, WHITE FINISH.	PROVIDE WITH MVOLT BALLAST.	KIRLIN	FSR-12057
DOXA	1	CFM42/G240/REB30	120	COMPACT FLUORESCENT WALL-MTD, AREA LIGHT CAST ALUMINUM BODY WITH CUTOFF DISTRIBUTION, BRONZE FINISH.	WITH PHOTOCELL TYPE DOXA IS SIMILAR WITH EMERGENCY BALLAST (OPTION B84C)	GARCOO BEGA LITHONIA	111FT-42TRF-120-BRP-PCB
DOXH	2	CFM42/G240/REB30	120	COMPACT FLUORESCENT STEP LIGHT, SURFACE MTD CAST ALUMINUM HOUSING, CAST ALUMINUM LOUVER FACE, NATURAL ALUMINUM FINISH.	TYPE DOXH IS SIMILAR WITH EMERGENCY BALLAST	COLE	SF2156-2
DRRA	1	CFM42W/G240/REB30	120	RECESSED COMPACT FLUORESCENT DOWNLIGHT, 8" DIA. APERTURE, CLEAR ALZAK REFLECTOR, SELF FLANGE TRIM, HIGH POWER FACTOR, HORIZONTAL LAMP.	TYPE DRRA SIMILAR WITH EMERGENCY BALLAST.	KIRLIN LITHONIA	RR80705
DRWA	1	CFM42W/G240/REB30	120	RECESSED COMPACT FLUORESCENT WALL WASHER, 8" DIA. APERTURE, CLEAR ALZAK REFLECTOR, SELF FLANGE TRIM, HIGH POWER FACTOR, HORIZONTAL LAMP.	PROVIDE WITH MVOLT BALLAST.	KIRLIN LITHONIA	RR80754
CYEA	1	CFM42W/G240/REB30	120	COMPACT FLUORESCENT BOLLARD LIGHT, 8" DIA. ALUMINUM HOUSING, WITH OVERLAY FOR DIFFUSER, BALLAST ACCESS FINISH TO BE SELECTED BY ARCHITECT.	PROVIDE WITH MVOLT BALLAST.	KIM LIGHTING	VR61-42PL120
FBC2	2	F3278/REB35	120	FLUORESCENT WALL BRACKET 4"-0" DIE FORMED STEEL HOUSING, UP AND DOWN LIGHT, WHITE FINISH.	PROVIDE WITH MVOLT BALLAST.	PRUDENTIAL PEERLESS PAL	P-69-0316/1TB-BLA-03
FG2	2	FP28/REB35	120	FLUORESCENT RECESSED "VOLUMETRIC" LUMINAIRE, 2' x 4' LAY-IN, WITH OVERLAY FOR DIFFUSER, BALLAST ACCESS SHALL BE FROM BELOW.	PROVIDE WITH MVOLT BALLAST. FIELD SIMILAR WITH 16-100K ELECTRONIC 3-WIRE DIMMING BALLAST	LITHONIA COLUMBIA LEDALITE	2RT5-28T5-MVOLT-BBZ
FG1	1	FP28/REB35	120	FLUORESCENT RECESSED "VOLUMETRIC" LUMINAIRE, 1' x 4' LAY-IN, WITH OVERLAY FOR DIFFUSER, BALLAST ACCESS SHALL BE FROM BELOW.	PROVIDE WITH MVOLT BALLAST.	LITHONIA COLUMBIA LEDALITE	RT5-28T5-MVOLT-BBZ
FM43	3	F3278/REB35	120	FLUORESCENT SURFACE MOUNTED LUMINAIRE, 1' x 4' STEEL HOUSING, 3" DEEP 9-CELL ANODIZED CLEAR SEMI-SPECULAR ALUMINUM PARABOLIC LOUVER, WITH BLACK FINISH.	WITH SPECULAR INTERNAL REFLECTOR TYPE EMJ3 SIMILAR WITH EMERGENCY BALLAST.	LITHONIA MIDWEST	FMX3-332-109-SSR SNIP-9-332-MWS
FHX1	1	F3278/REB35	120	UNDERCOUNTER FLUORESCENT LUMINAIRE, 4"-0" L, 20 GAUGE STEEL HOUSING WITH SOLID FRONT, BAKED WHITE ENAMEL FINISH.		ALCKO KENALL	SF215-S
FLB2	2	F3278/REB35	120	FLUORESCENT LINEAR INDIRECT LUMINAIRE, PERFORATED STEEL HOUSING, LENGTH AS SHOWN ON DRAWINGS, WITH AIRCRAFT CABLE SUSPENSION, WHITE FINISH.	SUSPEND 18" FROM CEILING. TYPE ELB2 SIMILAR WITH EMERGENCY BALLAST. TYPE FLB2B SIMILAR WITH INTEGRATED DAYLIGHT SENSOR & ENERGY MGMT DIMMING BALLAST.	PEERLESS ALERA LEDALITE	100RM3-MWR-ACC
FLC2	2	F3278/REB35	120	FLUORESCENT LINEAR DIRECT/INDIRECT LUMINAIRE, PERFORATED STEEL HOUSING W/ LOUVER BAFFLE, LENGTH AS SHOWN, WITH AIRCRAFT CABLE SUSPENSION, WHITE FINISH.	TYPE FLC2 SIMILAR WITH INTEGRATED DAYLIGHT SENSOR & ENERGY MGMT DIMMING BALLAST.	PEERLESS ALERA LEDALITE	100B-40/60-OPD-ACC
FLD2	2	F3278/REB35	120	FLUORESCENT LINEAR DIRECT/INDIRECT LUMINAIRE, PERFORATED STEEL HOUSING W/ LOUVER BAFFLE, LENGTH AS SHOWN, WITH AIRCRAFT CABLE SUSPENSION, WHITE FINISH.	TYPE FLD2 SIMILAR WITH INTEGRATED DAYLIGHT SENSOR & ENERGY MGMT DIMMING BALLAST.	PEERLESS ALERA LEDALITE	100B-232-SBP
FSK2	2	F3278/REB35	120	FLUORESCENT CEILING MOUNTED STRIP LUMINAIRE, 4' LENGTH BAKED WHITE ENAMEL FINISH.	WITH WIRE GUARD ES22 IS SIMILAR WITH EMERGENCY BALLAST. FSK1 SIMILAR WITH ONE(1) LAMP.	COLUMBIA LITHONIA DAYBRITE WILLIAMS	CS4-232
FRT1	1	F3278/REB35	120	FLUORESCENT RECESSED WALLWASH LUMINAIRE, 6" x 4' FLANGE 2" DEEP PARABOLIC LOUVER, SEMI-SPECULAR CLEAR FINISH, CONTINUOUS ROW TRIM, LENGTH OF ROW AS SHOWN.	PROVIDE WITH MVOLT BALLAST.	PEERLESS SELUX	LAR9-SSB
FR1	1	F3278/REB35	120	FLUORESCENT RECESSED MOUNTED LUMINAIRE, 6" x 4' FLANGE 2" DEEP PARABOLIC LOUVER, SEMI-SPECULAR CLEAR FINISH, CONTINUOUS ROW TRIM, LENGTH OF ROW AS SHOWN.	PROVIDE WITH MVOLT BALLAST.	PEERLESS SELUX	LSR9

LUMINAIRE SCHEDULE NOTES

- MANUFACTURER CATALOG NUMBERS ARE SHOWN FOR GENERAL DESCRIPTIVE PURPOSES AND TO ESTABLISH STANDARD OF QUALITY ONLY. CONTRACTOR SHALL PROVIDE LUMINAIRES COMPLETE WITH ALL OPTIONS AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION. ALL PRODUCTS SHALL BE UL LISTED.
- PROVIDE PROPER LAMP FOR REFLECTOR ASSEMBLY SPECIFIED AND AS RECOMMENDED BY LUMINAIRE MANUFACTURER.
- LINEAR FLUORESCENT LAMPS/ELECTRONIC BALLAST.
 - FURNISH SOLID STATE HIGH FREQUENCY RAPID OR INSTANT START BALLAST FOR LINEAR FLUORESCENT LUMINAIRES. BALLAST SHALL HAVE FIVE (5) YEAR MANUFACTURER'S WARRANTY.
 - BALLAST SHALL BE HIGH FREQUENCY (20KHz OR GREATER), OPERATE WITHOUT DETECTABLE FLICKER, AND SHALL PROVIDE FULL LIGHT OUTPUT. BALLAST SHALL BE UL CLASS P RATED FOR THERMAL PROTECTION AND RATED AT 50 DEGREES F STARTING TEMPERATURE. BALLAST SHALL NOT CONTAIN PCB TYPE MATERIAL.
 - BALLAST SHALL COMPLY WITH FCC AND NEMA LIMITS GOVERNING EMI AND RFI AND SHALL NOT INTERFERE WITH OPERATION OF OTHER NORMAL ELECTRICAL EQUIPMENT. TOTAL HARMONIC DISTORTION SHALL BE LESS THAN 20%. BALLAST SHALL BE SOUND RATED A AND SHALL HAVE A CREST FACTOR OF 1.7 OR LESS.
- SYSTEM OF LAMPS AND BALLAST (IN ENCLOSED FLUORESCENT FIXTURE) SHALL PROVIDE THE FOLLOWING WHEN USED TOGETHER.

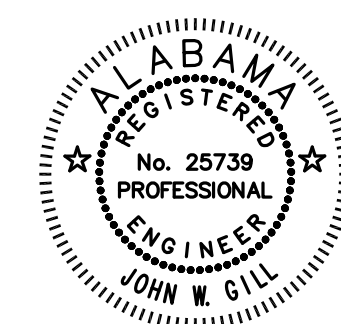
CONFIGURATION	BALLAST FACTOR	BALLAST EFFICACY
2-LAMP	.88	1.46
3-LAMP	.88	1.00
4-LAMP	.85	0.75
- ACCEPTABLE BALLAST MANUFACTURER: ADVANCE, OSRAM/SYLVANIA, HOWARD INDUSTRIES, UNIVERSAL, VALMONT.
- COMPACT FLUORESCENT LAMPS/ELECTRONIC BALLAST.
 - COMPACT FLUORESCENT LUMINAIRES WITH RAPID START LAMPS (> 13 WATT) SHALL BE FURNISHED WITH PROGRAMMED RAPID START ELECTRONIC BALLAST.
 - BALLAST SHALL BE UNIVERSAL VOLTAGE (120 OR 277V) AND OPERATE 26, 32 OR 42 WATT COMPACT FLUORESCENT LAMPS, IN ONE OR TWO LAMP CONFIGURATIONS, WITHOUT CHANGING BALLAST WIRING.
 - BALLAST SHALL BE HIGH ACCURACY, RAPID START, AND OPERATE LAMP WITHOUT DETECTABLE FLICKER. BALLAST SHALL BE HIGH POWER FACTOR (PF > 0.95), THD < 10%, AND BALLAST FACTOR > 0.95. BALLAST SHALL INCORPORATE AN END-OF-LIFE PROTECTIVE LAMP CIRCUIT.
 - ACCEPTABLE BALLAST MANUFACTURER: ADVANCE, OSRAM/SYLVANIA, ROBERTSON, UNIVERSAL
- PROVIDE FUSES FOR UNGROUNDED CONDUCTORS SUPPLYING FLUORESCENT AND H.I.D. BALLASTS. FLUORESCENT: GM/HLR H.I.D.: HEB/KTK. PROVIDE FUSE SIZES FOR RATINGS OF BALLAST.
- ACCEPTABLE LAMP MANUFACTURERS: FLUORESCENT & INCANDESCENT: GE, OSRAM/SYLVANIA, PHILIPS HLD AND QUARTZ-HALOGEN LAMPS: OSRAM/SYLVANIA, PHILIPS, VENTURE, USHIO
- VERIFY CONSTRUCTION OF CEILINGS BEING INSTALLED AND PROVIDE THE LUMINAIRES SPECIFIED IN APPROPRIATE CONFIGURATION WITH ALL HARDWARE AND ACCESSORIES REQUIRED FOR COMPATIBLE INSTALLATION.
- PROVIDE LUMINAIRES WITH JOINING PLATES, END CAPS, CANOPIES, MOUNTING HARDWARE, ETC., AS REQUIRED FOR COMPLETE INSTALLATION.
- EXIT LIGHTS SHALL BE PROVIDED WITH COLOR OF LETTERS REQUIRED BY LOCAL CODE AUTHORITY. FURNISH WITH CHEVRON DIRECTIONAL INDICATORS AS INDICATED AND REQUIRED.
- PROVIDE DEVICES FOR SECURING LAY-IN TYPE LUMINAIRES TO CEILING GRID TO COMPLY WITH ARTICLE 410 OF THE NATIONAL ELECTRICAL CODE.
- FURNISH LINEAR LUMINAIRES IN CONTINUOUS ROWS OR PATTERNS AS INDICATED ON DRAWINGS. PROVIDE WITH CORNER, ANGLE, AND END PIECES AS REQUIRED FOR A COMPLETE FINISHED INSTALLATION.
- FURNISH LUMINAIRES IN MECHANICAL SPACES COMPLETE WITH PENDANT STEMS OR CHAIN HANGERS AS REQUIRED TO MOUNT BELOW PIPING, DUCT, CONDUIT, ETC., MAINTAIN MINIMUM 7"-6" UNIFORM MOUNTING HEIGHT FOR ALL LUMINAIRES THROUGHOUT EACH AREA




SECOND FLOOR LIGHTING
 0 2 4 6 8 16
 SCALE: 1/8" = 1'-0"

- NOTES:
1. ALL LIGHTING CIRCUITS SHALL HOMERUN TO PANEL VIA CONTROL RELAY IN LIGHTING CONTROL PANEL UNLESS OTHERWISE NOTED. CIRCUITS TO PANEL RP-2B2 USE RELAYS IN PANEL LVLP-1B2.
 2. EXIT LIGHTS AND EGRESS LIGHTING WITH INTEGRAL BATTERY/BALLAST REQUIRE UN-SWITCHED "HOT" CONDUCTOR. PROVIDE SEPARATE UN-SWITCHED HOT CONDUCTOR IN HOMERUN & BYPASS CONTROL RELAY.

VISITOR CENTER
 for
 SLOSS FURNACES
 NATIONAL HISTORIC
 LANDMARK
 BIRMINGHAM, ALABAMA



100% SET
 ISSUED FOR
 CONSTRUCTION



CITY of BIRMINGHAM
 710 20th STREET NORTH
 BIRMINGHAM, ALABAMA 35203

ADDENDUM 1	8-24-11
ADDENDUM 2	8-26-11

No: ISSUE: DATE:

Keith DESIGN
architecture
 TWO NORTH 20TH STREET, SUITE 1120
 BIRMINGHAM, AL 35203 | 205.320.2175

ELECTRICAL
 LIGHTING
 SECOND FLOOR

PROJECT NO:	09104
DATE:	06/10/2011
DRAWN:	DJH
CHECKED:	JWG
E	1.2